TIMKEN



TIMKEN® TAPERED ROLLER BEARING CATALOG



ABOUT THE TIMKEN COMPANY

The leading authority on tapered roller bearings, Timken today applies its deep knowledge of metallurgy, tribology and mechanical power transmission across a variety of bearings and related systems to improve reliability and efficiency of machinery and equipment all around the world. Timken (NYSE: TKR; www.timken.com) engineers, manufactures and markets bearings, gear drives, belts, chain and related products, and offers a spectrum of powertrain rebuild and repair services.

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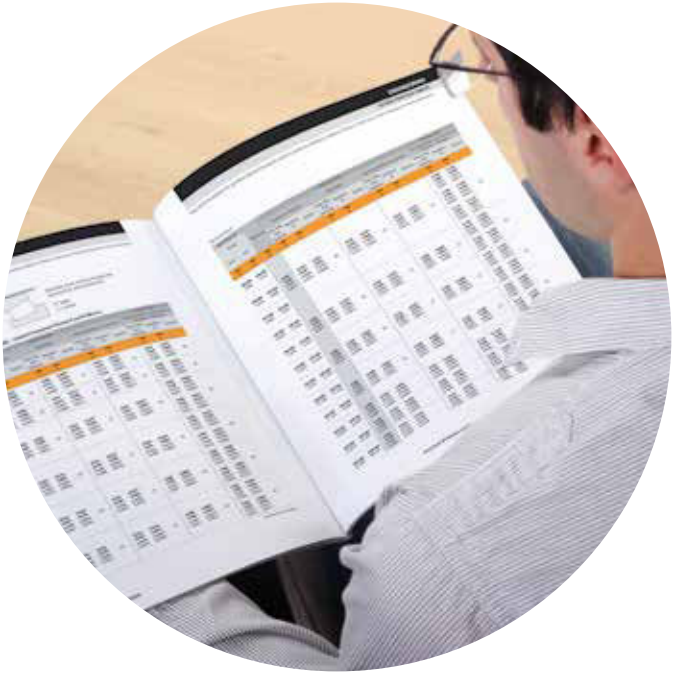
TIMKEN® TAPERED ROLLER BEARINGS - RELIABILITY, VERSATILITY, CHOICE

Demanding applications call for reliable solutions. Improve your equipment's performance and reduce your downtime and maintenance costs by turning to Timken tapered roller bearings. When you purchase a Timken bearing, you're investing in a product that's designed with you in mind.

Reliability. Expert craftsmanship, well-equipped production facilities and an ongoing investment in technology ensure our products are synonymous with quality and reliability. Our tapered roller bearings stand up to extreme situations, including high-corrosive, high-temperature, vacuum or low-lubrication environments.

Versatility. Use Timken tapered roller bearings to help your equipment excel when it faces combined radial and thrust loads. Our bearings are uniquely designed to manage both types of loads on rotating shafts and in housings.

Choice. From single- to double- to four-row configurations to thrust, choose from nearly 26,000 product combinations to find the right bearing for your application.



DESIGN FEATURES

Each tapered roller bearing contains four interdependent components: the cone (inner ring), the cup (outer ring), tapered rollers (rolling elements) and the cage (roller retainer).

Tapered angles allow our bearings to efficiently control a combination of radial and thrust loads. The steeper the outer ring angle, the greater ability the bearing has to handle thrust loads. To provide a true rolling motion of the rollers on the raceways, the extensions of the raceways and the tapered surfaces of the rollers come together at a common point, the apex, on the axis of rotation.



HOW TO USE THIS CATALOG

We designed this catalog to help you find the Timken bearings best suited to your equipment needs and specifications.

The product tables list many of the bearing types that are specifically used in thrust positions. For other bearing types, please refer to the respective Timken product catalog reference.

Timken offers an extensive range of bearings and accessories in both imperial and metric sizes. For your convenience, size ranges are indicated in millimeters and inches. Contact your Timken engineer to learn more about our complete line for the special needs of your application.

This publication contains dimensions, tolerances and load ratings, as well as engineering sections describing mounting and fitting practices for shafts and housings, internal clearances, materials and other bearing features. It provides valuable assistance in the initial consideration of the type and characteristics of the bearings that may best suit your particular needs.

ISO and ANSI/ABMA, as used in this publication, refer to the International Organization for Standardization and the American National Standards Institute/American Bearing Manufacturers Association.

SHELF LIFE AND STORAGE OF GREASE-LUBRICATED BEARINGS AND COMPONENTS

To help you get the most value from our products, Timken provides guidelines for the shelf life of grease-lubricated ball and roller bearings, components and assemblies. Shelf life information is based on Timken and industry test data and experience.

SHELF LIFE

Shelf life should be distinguished from lubricated bearing/component design life as follows:

Shelf life of the grease-lubricated bearing/component represents the period of time prior to use or installation.

The shelf life is a portion of the anticipated aggregate design life. It is impossible to accurately predict design life due to variations in lubricant bleed rates, oil migration, operating conditions, installation conditions, temperature, humidity and extended storage.

TIMKEN IS NOT RESPONSIBLE FOR THE SHELF LIFE OF ANY BEARING/COMPONENT LUBRICATED BY ANOTHER PARTY.

European REACH compliance

Timken lubricants, greases and similar products sold in standalone containers or delivery systems are subject to the European REACH (Registration, Evaluation, Authorization and Restriction of CHemicals) directive. For import into the European Union, Timken can sell and provide only those lubricants and greases that are registered with ECHA (European CHemical Agency). For further information, please contact your Timken engineer.

STORAGE

Timken suggests the following storage guidelines for our finished products (bearings, components and assemblies, referred to as "products"):

- Unless directed otherwise by Timken, products should be kept in their original packaging until they are ready to be placed into service.
- Do not remove or alter any labels or stencil markings on the packaging.
- Products should be stored in such a way that the packaging is not pierced, crushed or otherwise damaged.
- After a product is removed from its packaging, it should be placed into service as soon as possible.
- When removing a product that is not individually packaged from a bulk pack container, the container should be resealed immediately after the product is removed.
- The storage area temperature should be maintained between 0° C (32° F) and 40° C (104° F); temperature fluctuations should be minimized.
- The relative humidity should be maintained below 60 percent and the surfaces should be dry.
- The storage area should be kept free from airborne contaminants such as, but not limited to, dust, dirt, harmful vapors, etc.
- The storage area should be isolated from undue vibration.
- Extreme conditions of any kind should be avoided.

Due to the fact that Timken is not familiar with your particular storage conditions, we strongly suggest following these guidelines. However, you may be required by circumstances or applicable government requirements to adhere to stricter storage requirements.

Most bearing components typically ship protected with a corrosion-preventive compound that is not a lubricant. These components may be used in oil-lubricated applications without removal of the corrosion-preventive compound. When using some specialized grease lubrications, we advise you to remove the corrosion-preventive compound before packing the bearing components with suitable grease.

Be careful in selecting lubrication, however, since different lubricants are often incompatible.

When you receive a bearing shipment, do not remove products from their packaging until they are ready for mounting so they do not become corroded or contaminated.

Store bearings and bearing housings in an appropriate atmosphere so they remain protected for the intended period.

⚠WARNING
Failure to observe the following warnings could create a risk of death or serious injury.

Never spin a bearing with compressed air.
The components may be forcefully expelled.

Proper maintenance and handling practices are critical.
Always follow installation instructions and
maintain proper lubrication

Warnings for this product line are in this catalog and posted on http://www.timken.com/en-us/products/warnings/Pages/default.aspx

This information is not intended to substitute for the specific recommendations of your equipment suppliers.

Every reasonable effort has been made to ensure the accuracy of the information contained in this writing, but no liability is accepted for errors, omissions or for any other reason.

DISCLAIMER

This catalog is provided solely to give you analysis tools and data to assist you in your product selection. Product performance is affected by many factors beyond the control of Timken. Therefore, you must validate the suitability and feasibility of all product selections.

Timken products are sold subject to Timken terms and conditions of sale, which include our limited warranty and remedy. You can find these at http://www.timken.com/en-us/purchase/Pages/TermsandConditionsofSale.aspx.

Please consult with your Timken engineer for more information and assistance. Every reasonable effort has been made to ensure the accuracy of the information in this writing, but no liability is accepted for errors, omissions or for any other reason.





ENGINEERING

The following topics are covered within this engineering section:

- Tapered roller bearing design types.
- Cage design types.
- Fitting practice and mounting recommendations.
- Lubrication recommendations.

This engineering section is not intended to be comprehensive, but does serve as a useful guide in tapered roller bearing selection.

To view the complete engineering catalog, please visit www.timken.com. To order the catalog, please contact your Timken engineer and request a copy of the Timken Engineering Manual, order number 10424.

To view more Timken catalogs, go to www.timken.com/catalogs for interactive versions, or to download a catalog app for your smart phone or mobile device scan the QR code or go to timkencatalogs.squawqr.com.

TAPERED ROLLER BEARINGS TYPES AND CAGES

SINGLE-ROW BEARINGS

TS - SINGLE-ROW

This is the basic and the most widely used type of tapered roller bearing. It consists of the inner-ring assembly and the outer ring. It is usually fitted as one of an opposing pair. During equipment assembly, single-row bearings can be "set" to the required clearance (endplay) or preload condition to optimize performance.



Fig. 1. Single-row TS bearing.

TSF - SINGLE-ROW, WITH FLANGED OUTER RING

The TSF type is a variation on the basic single-row bearing. TSF bearings have a flanged outer ring to facilitate axial location and accurately aligned seats in a through-bored housing.



Fig. 2. Single-row TSF bearing with flanged outer ring.

DOUBLE-ROW BEARINGS

TDO - DOUBLE OUTER RING

This has a one-piece (double) outer ring and two single inner rings. It is usually supplied complete with an inner-ring spacer as a pre-set assembly. This configuration gives a wide effective bearing spread and is frequently chosen for applications where overturning moments are a significant load component. TDO bearings can be used in fixed (locating) positions or allowed to float in the housing bore, for example, to compensate for shaft expansion. TDOCD outer rings also are available in most sizes. These outer rings have holes in the O.D. that permit the use of pins to prevent outer ring rotation in the housing.



Fig. 3. Double-row TDO bearing.

TDI - DOUBLE INNER RING

TDIT - DOUBLE INNER RING WITH TAPERED BORE

Both comprise a one-piece (double) inner ring and two single outer rings. They are usually supplied complete with an outer-ring spacer as a pre-set assembly. TDI and TDIT bearings can be used at fixed (locating) positions on rotating shaft applications. For rotating housing applications, the double inner ring of type TDI can be used to float on the stationary shaft. Type TDIT has a tapered bore to facilitate removal when an interference fit is essential, yet regular removal is required.



TDI **TDIT**

Fig. 4. Double-row, double-inner-ring bearings.

TNA - NON-ADJUSTABLE

TNASW - NON-ADJUSTABLE WITH LUBRICANT SLOTS

TNASWE - NON-ADJUSTABLE WITH LUBRICANT SLOTS AND EXTENDED BACK FACE RIB

These three bearing types are similar to the TDO with a one-piece (double) outer ring and two single inner rings. The inner-ring front faces are extended so they abut, eliminating the need for a separate inner-ring spacer. Supplied with a built-in clearance to give a standard setting range, these bearings provide a solution for many fixed or floating bearing applications where optimum simplicity of assembly is required.

Types TNASW and TNASWE are variations having chamfers and slots on the front face of the inner ring to provide lubrication through the shaft. Type TNASWE have extended back face ribs on the inner rings which are ground on the O.D. to allow for the use of a seal or stamped closure. These designs are typically used on stationary shaft applications.



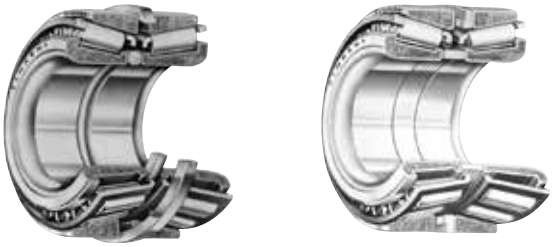
TNA TNASW TNASWE

Fig. 5. Double-row, non-adjustable bearings.

SPACER ASSEMBLIES

Any two single-row bearings (type TS) can be supplied as a double-row, pre-set, ready-to-fit assembly by the addition of spacers, machined to pre-determined dimensions and tolerances.

Spacer assemblies are provided in two types: "2S" and "SR". This concept can be applied to produce custom-made double-row bearings to suit specific applications. In addition to providing a bearing that automatically gives a pre-determined setting at assembly without the need for a manual setting, it is possible to modify the assembly width to suit an application, simply by varying the spacer widths.



2S SR

Fig. 6. Spacer assemblies.

2S - TWO SINGLE-ROW ASSEMBLY

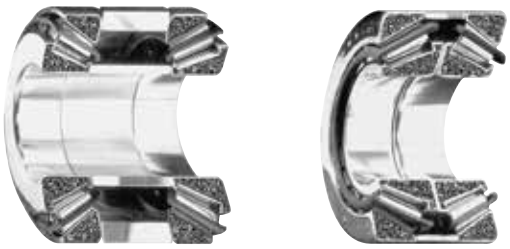
Often referred to as snap-ring assemblies, type 2S consist of two basic single-row bearings (type TS). They are supplied complete with inner-ring and outer-ring spacers to give a pre-determined bearing setting when assembled. Type 2S have a specified setting range to suit the duty of the application. They have an inner-ring spacer and a snap-ring, which also serves as the outer-ring spacer, to give axial location in a through-bored housing.

SR - SET-RIGHT™ ASSEMBLY

Type SR are made to a standard setting range, based on Timken's SET-RIGHT™ automated setting technique suitable for most industrial applications. They have two spacers and an optional snap-ring that may be used for axial location. Because both types are made up of popular sizes of single-row bearings, they provide a low-cost option for many applications.

There are two basic mounting arrangements for spacer assemblies.

- **Type 2TS-IM (indirect mounting)**
  These consist of two single-row bearings with an inner-ring and outer-ring spacer. In some applications, the outer-ring spacer is replaced by a shoulder in the bearing housing.
- **Type 2TS-DM (direct mounting)**
  These consist of two single-row bearings, with inner rings abutting and an outer-ring spacer. They are generally used at fixed (locating) positions on rotating shaft applications.



2TS-IM 2TS-DM

Fig. 7. Basic spacer assemblies.

TAPERED ROLLER BEARING CAGES

STAMPED-STEEL CAGES

The most common type of cage used for tapered roller bearings is the stamped-steel cage. These cages are mass produced from low-carbon sheet steel using a series of cutting, forming and punching operations. These cages can be used in high temperature and harsh lubricant environments.



Fig. 8. Stamped-steel cage.

POLYMER CAGES

Cages for tapered roller bearings made of polymer material are used primarily for pre-greased and sealed package designs. The most common polymer materials used are Nylon thermoplastics with glass reinforcement. Polymer cages can be mass produced in large quantities and offer more design flexibility than stamped-steel types. Polymer cages are lightweight and easy to assemble. In some instances, increased bearing rating can be achieved by allowing one or two extra rollers in the bearing complement. Care should be exercised when using aggressive lubricants with EP (extreme-pressure) additives in combination with elevated temperatures greater than 107° C (225° F).

MACHINED CAGES

Machined cages for tapered roller bearings are robust in design and are suited for high-speed and high-load applications. Machined cages use alloy steels and are produced through milling and broaching operations. Assembly does not require a close-in operation and rollers can be retained using nibs or staking. Oil holes also can be easily added for extra lubrication for demanding applications. Some designs are silver plated for special applications.

PIN-TYPE CAGES

Tapered roller bearing pin-type cages retain the rolling elements by the use of a pin located through an axial hole in the center of the roller. Pin-type cages for tapered roller bearings consist of two rings with roller pins attached by screw threads at one end and welding at the other end. These types of cages are primarily used for larger tapered roller bearing designs (greater than 400 mm [15.7480 in.] O.D.). Pin-type cages are machined out of steel and typically allow for an increased number of rolling elements. Pin-type cages are restricted to low-speed applications (less than 20 m/sec [4000 ft/min] rib speed).

METRIC SYSTEM TOLERANCES

Tapered bearings are manufactured to a number of specifications with each having classes that define tolerances on dimensions such as bore, O.D., width and runout. Metric bearings have been manufactured to corresponding standard negative tolerances.

Boundary dimension tolerances for tapered roller bearing usage are listed in the following tables. These tolerances are provided for use in selecting bearings for general applications in conjunction with the bearing mounting and fitting practices offered in later sections.

The following table summarizes the different specifications and classes for tapered roller bearings.

TABLE 1. BEARING SPECIFICATIONS AND CLASSES

System	Specification	Bearing Type	Standard Bearing Class		Precision Bearing Class			
Metric	Timken	Tapered Roller Bearings	K	N	C	B	A	AA
	ISO/DIN	All Bearing Types	P0	P6	P5	P4	P2	-
	ABMA	Tapered Roller Bearings	K	N	C	B	A	-
Inch	Timken	Tapered Roller Bearings	4	2	3	0	00	000
	ABMA	Tapered Roller Bearings	4	2	3	0	00	-

DETERMINATION OF APPLIED LOADS AND BEARING ANALYSIS

SUMMARY OF SYMBOLS USED TO DETERMINE APPLIED LOADS AND BEARING ANALYSIS

Symbol	Description	Units (Metric/Inch System)
a	Axial Distance from Inner Ring Backface to Effective Load Center	mm, in.
a_1	Reliability Life Factor	unitless
a_2	Material Life Factor	unitless
a_3	Operating Condition Life Factor	unitless
a_{3d}	Debris Life Factor	unitless
a_{3k}	Load Zone Life Factor	unitless
a_{3l}	Lubrication Life Factor	unitless
a_{3p}	Low-Load Life Factor	unitless
a_e	Effective Bearing Spread	mm, in.
A, B, …	Bearing Position (used as subscripts)	unitless
B	Outer Ring Width	mm, in.
B_1	Inner Ring Width	mm, in.
b	Tooth Length	mm, in.
c_1, c_2	Linear Distance (positive or negative).	mm, in.
C	Basic Dynamic Radial Load Rating of a Double-Row Bearing for an L_{10} of One Million Revolutions	N, lbf
C_{a90}	Basic Dynamic Thrust Load Rating of a Single-Row Bearing for an L_{10} of 90 Million Revolutions or 3000 Hours at 500 RPM	N, lbf
C_o	Basic Static Radial Load Rating	N, lbf
C_{oa}	Basic Static Axial Load Rating	N, lbf
C_{90}	Basic Dynamic Radial Load Rating of a Single-Row Bearing for an L_{10} of 90 Million Revolutions	N, lbf
$C_{90(2)}$	Basic Dynamic Radial Load Rating of a Double-Row Bearing for an L_{10} of 90 Million Revolutions	N, lbf
C_a	Basic Dynamic Axial Load Rating	N, lbf
C_g	Geometry Factor (used in a_{3l} equation)	unitless
C_l	Load Factor (used in a_{3l} equation)	unitless
C_j	Load Zone Factor (used in a_{3l} equation)	unitless
C_s	Speed Factor (used in a_{3l} equation)	unitless
C_v	Viscosity Factor (used in a_{3l} equation)	unitless
C_{gr}	Grease Lubrication Factor (used in a_{3l} equation)	unitless
Cp	Specific Heat of Lubricant	J/(Kg - °C), BTU/(lbf - °F)
C_t	Basic Thrust Dynamic Load Rating	N, lbf
d	Bearing Bore Diameter	mm, in.
d	Ball Diameter	mm, in.
d_1	Spherical Diameter	mm, in.
d_a	Shaft Shoulder Diameter	mm, in.
d_0	Mean Inner Ring Diameter	mm, in.
dc	Distance Between Gear Centers	mm, in.
dm	Mean Bearing Diameter	mm, in.
d_{si}	Shaft Inside Diameter	mm, in.
D	Bearing Outside Diameter	mm, in.
D_0	Tapered Roller Bearing Outer Ring Mean Raceway Diameter	mm, in.
Dh	Housing Outside Diameter	mm, in.
Dm	Mean Diameter or Effective Working Diameter of a Sprocket, Pulley, Wheel or Tire	mm, in.
Dm	Tapered Roller Mean Large Rib Diameter	mm, in.
Dm_G	Mean or Effective Working Diameter of the Gear	mm, in.
Dm_P	Effective Working Diameter of the Pinion	mm, in.
Dm_W	Effective Working Diameter of the Worm	mm, in.
Dp_G	Pitch Diameter of the Gear	mm, in.
Dp_P	Pitch Diameter of the Pinion	mm, in.
Dp_W	Pitch Diameter of the Worm	mm, in.
e	Life Exponent	unitless
e	Limiting Value of F_a/F_r for the Applicability of Different Values of Factors X and Y	unitless
E	Free Endplay	mm, in.
f	Lubricant Flow Rate	L/min, U.S. pt/min
f_0	Viscous Dependent Torque Coefficient	unitless
f_1	Load Dependent Torque Coefficient	unitless
f_b	Belt or Chain Pull	N, lbf
f_n	Speed Factor	unitless
f_2	Combined Load Factor	unitless
f_3	Combined Load Factor	unitless
F	General Term for Force	N, lbf
F_1, F_2, …, F_n	Magnitudes of Applied Force During a Loading Cycle	N, lbf
F_a	Applied Thrust (Axial) Load	N, lbf
F_{ai}	Induced Thrust (Axial) Load Due to Radial Loading	N, lbf
F_{ac}	Induced Thrust (Axial) Load Due to Centrifugal Loading	N, lbf
F_{aG}	Thrust Force on Gear	N, lbf
F_{aP}	Thrust Force on Pinion	N, lbf
F_{aW}	Thrust Force on Worm	N, lbf
F_{az}	Allowable Axial Load	N, lbf
F_b	Belt or Chain Pull	N, lbf
F_β	Load Term for Torque Equation	N, lbf
Fc	Centrifugal Force	N, lbf
F_r	Applied Radial Load	N, lbf
F_{rh}	Resultant Horizontal Force	N, lbf
F_{RS}	Resultant Separating Force	N, lbf
F_{RV}	Resultant Vertical Force	N, lbf
F_S	Separating Force on Gear	N, lbf
Fs_G	Separating Force on Gear	N, lbf
Fs_P	Separating Force on Pinion	N, lbf
Fs_W	Separating Force on Worm	N, lbf
F_t	Tangential Force	N, lbf
F_{te}	Tractive Effort on Vehicle Wheels	N, lbf
F_{tG}	Tangential Force on Gear	N, lbf
F_{tP}	Tangential Force on Pinion	N, lbf
F_{tW}	Tangential Force on Worm	N, lbf
F_W	Force of Unbalance	N, lbf
F_{WB}	Weighted Average Load	N, lbf
G	Gear (used as subscript)	unitless
G_1	Geometry Factor from Bearing Data Tables	unitless
G_2	Geometry Factor from Bearing Data Tables	unitless
H	Power	kW, hp
H_s	Housing Shoulder Inner Diameter	mm, in.
HFs	Static Load Rating Adjustment Factor for Raceway Hardness	unitless
i	Number of Rows of Rollers in a Bearing	unitless

Symbol	Description	Units (Metric/Inch System)
i_B	Number of Bearing Rows Taking Load	unitless
k	Centrifugal Force Constant	lbf/RPM^2
k_1	Bearing Torque Constant	unitless
k_4, k_5, k_6	Dimensional Factor to Calculate Heat Generation	unitless
K	Tapered Roller Bearing K-factor; ratio of basic dynamic radial load rating to basic dynamic thrust rating in a single-row bearing	unitless
K	Ball Bearing Constant Based on Geometry	
K_1, K_2	Super Precision K-Factors	unitless
K_{ea}	Radial Runout of Outer Ring Assembly	mm, in.
K_o	Outer Ring Contour Radius Expressed as a Decimal Fraction of the Ball Diameter	decimal fraction
K_i	Inner Ring Contour Radius Expressed as a Decimal Fraction of the Ball Diameter	decimal fraction
Kia	Radial Runout of Inner Ring Assembly	mm, in.
K_N	K-factor for Bearing #n	unitless
K_T	Relative Thrust Load Factor – Ball Bearings	unitless
L_H	Lead – Axial Advance of a Helix for One Complete Revolution	mm, in.
L	Distance Between Bearing Geometric Center Lines	mm, in.
L_{10}	Bearing Life	revolutions or hours
L_f	Life Factor	unitless
m	Gearing Ratio	unitless
M	Bearing Operating Torque	N-m, N-mm, lb.-in.
M_0	Moment	N-m, N-mm, lb.-in.
n	Bearing Operating Speed or General Term for Speed	rot/min, RPM
n_1, n_2,…, n_n	Rotation Speeds During a Loading Cycle	rot/min, RPM
N_A	Reference Speed	rot/min, RPM
n_G	Gear Operating Speed	rot/min, RPM
n_P	Pinion Operating Speed	rot/min, RPM
n_W	Worm Operating Speed	rot/min, RPM
N_c	Number of Rotations of the Ball and Cage Assembly	unitless
N_i	Number of Rotations of the Inner Ring	unitless
N_G	Number of Teeth in the Gear	unitless
N_P	Number of Teeth in the Pinion	unitless
N_S	Number of Teeth in the Sprocket	unitless
N_f	Speed Factor	unitless
P	Pinion (used as subscript)	unitless
P_o	Static Equivalent Load	N, lbf
P_{oa}	Static Equivalent Thrust (Axial)	N, lbf
P_{or}	Static Equivalent Radial Load	N, lbf
P_a	Dynamic Equivalent Axial Load	N, lbf
P_r	Dynamic Equivalent Radial Load	N, lbf
P_{eq}	Equivalent Dynamic Load	N, lbf
Q	Generated Heat or Heat Dissipation Rate	W, BTU/min
Q_{gen}	Generated Heat	W, BTU/min
Q_{oil}	Heat Dissipated by a Circulating Oil System	W, BTU/min
r	Radius to Center of Mass	mm, in.
R	Percent Reliability, Used in the Calculation of the a_1 Factor	unitless
RIC	Radial Internal Clearance	mm, in.

Symbol	Description	Units (Metric/Inch System)
S	Shaft Diameter	mm, in.
s	Shaft (used as subscript)	unitless
S_d	Inner Ring Reference Face Runout	mm, in.
S_D	Outside Cylindrical Surface Runout	mm, in.
S_{ea}	Axial Runout of Outer Ring Assembly	mm, in.
S_{ia}	Axial Runout of Inner Ring Assembly	mm, in.
t_1, t_2, …, t_N	Fractions of Time During a Loading Cycle	unitless
T	Applied Thrust (Axial) Load	N, lbf
T_E	Equivalent Thrust Load	N, lbf
v	Vertical (used as subscript)	unitless
V	Linear Velocity or Speed	km/h, mph
V_{BS}	Inner Ring Width Variation	mm, in.
V_{CS}	Outer Ring Width Variation	mm, in.
Vr	Rubbing, Surface or Tapered Roller Bearing Rib Velocity	m/s, fpm
W	Worm (used as subscript)	unitless
X	Dynamic Radial Load Factor	unitless
X_0	Static Radial Load Factor	unitless
Y, Y_1, Y_2, ...	Dynamic Thrust (Axial) Load Factor	unitless
Y_0	Static Thrust (Axial) Load Factor	unitless
Z	Number of Rolling Elements	unitless
α_T	Coefficient of Linear Expansion	mm/mm/°C, in./in./°F
α_o	Tapered Roller Bearing Half Included Outer Ring Raceway Angle	deg.
α	Ball Bearing Nominal Contact Angle	deg.
ΔT	Temperature Difference Between Shaft/Inner Ring/ Rollers and Housing/Outer Ring	°C, °F
Δ_{Bs}	Inner Ring Width Deviation	mm, in.
Δ_{Cs}	Outer Ring Width Deviation	mm, in.
Δ_{dmp}	Deviation of Mean Bore Diameter in a Single Plane	mm, in.
Δ_{Dmp}	Deviation of Mean Outside Diameter in a Single Plane	mm, in.
δs	Interference Fit of Inner Ring on Shaft	mm, in.
δh	Interference Fit of Outer Ring in Housing	mm, in.
η	Efficiency, Decimal Fraction	
θ_1, θ_2, θ_3	Gear Mesh Angles Relative to the Reference Plane	deg., rad
θi, θo	Oil Inlet or Outlet Temperature	°C, °F
λ	Worm Gear Lead Angle	deg.
μ	Coefficient of Friction	unitless
μ	Lubricant Dynamic Viscosity	cP
v	Lubricant Kinematic Viscosity	cSt
σ_o	Approximate Maximum Contact Stress	MPa, psi
Φ_G	Normal Tooth Pressure Angle for the Gear	deg.
Φ_P	Normal Tooth Pressure Angle for the Pinion	deg.
Ψ_G	Helix (Helical) or Spiral Angle for the Gear	deg.
Ψ_P	Helix (Helical) or Spiral Angle for the Pinion	deg.
ρ	Lubricant Density	kg/m^3, lb./ft^3
Υ_G	Bevel Gearing – Gear Pitch Angle	deg.
	Hypoid Gearing – Gear Root Angle	deg.
Υ_P	Bevel Gearing – Pinion Pitch Angle	deg.
	Hypoid Gearing – Pinion Face Angle	deg.

METRIC SYSTEM BEARINGS (ISO AND J PREFIX PARTS)

Timken manufactures metric system bearings to six tolerance classes. Classes K and N are often referred to as standard classes. Class N has more closely controlled width tolerances than K. Classes C, B, A and AA are precision classes. These tolerances lie within those currently specified in ISO 492 with the exception of a small number of dimensions indicated in the tables. The differences normally have an insignificant effect on the mounting and performance of tapered roller bearings.

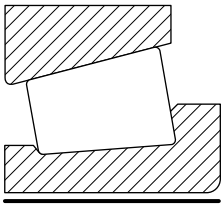
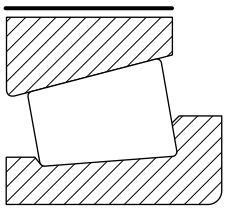


TABLE 2. TAPERED ROLLER BEARING TOLERANCES – INNER RING BORE (Metric)

Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			K		N		C		B		A		AA	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF SR[1]	**10.000** 0.3937	**18.000** 0.7087	**0.000** 0.0000	**-0.012** -0.00047	**0.000** 0.0000	**-0.012** -0.00047	**0.000** 0.0000	**-0.007** -0.0002	**0.000** 0.0000	**-0.005** -0.0001	**0.000** 0.0000	**-0.005** -0.0001	**0.000** 0.0000	**-0.005** -0.0001
	18.000 0.7087	**30.000** 1.1811	**0.000** 0.0000	**-0.012** -0.0005	**0.000** 0.0000	**-0.012** -0.0005	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.006** -0.0002	**0.000** 0.0000	**-0.006** -0.0002	**0.000** 0.0000	**-0.006** -0.0002
	30.000 1.1811	**50.000** 1.9685	**0.000** 0.0000	**-0.012** -0.0005	**0.000** 0.0000	**-0.012** -0.0005	**0.000** 0.0000	**-0.010** -0.0004	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	50.000 1.9685	**80.000** 3.1496	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.012** -0.0005	**0.000** 0.0000	**-0.009** -0.0004	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	80.000 3.1496	**120.000** 4.7244	**0.000** 0.0000	**-0.020** -0.00079	**0.000** 0.0000	**-0.020** -0.00079	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.010** -0.0004	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	120.000 4.7244	**180.000** 7.0886	**0.000** 0.0000	**-0.025** -0.00098	**0.000** 0.0000	**-0.025** -0.00098	**0.000** 0.0000	**-0.018** -0.0007	**0.000** 0.0000	**-0.013** -0.0005	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	180.000 7.0866	**250.000** 9.8425	**0.000** 0.0000	**-0.030** -0.0012	**0.000** 0.0000	**-0.030** -0.0012	**0.000** 0.0000	**-0.022** -0.0009	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	250.000 9.8425	**265.000** 10.4331	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.022** -0.0009	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	265.000 10.4331	**315.000** 12.4016	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.022** -0.0009	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	315.000 12.4016	**400.000** 15.7480	**0.000** 0.0000	**-0.040** -0.0016	**0.000** 0.0000	**-0.040** -0.0016	**0.000** 0.0000	**-0.025** -0.0010	– –	– –	– –	– –	– –	– –
	400.000 15.7480	**500.000** 19.6850	**0.000** 0.0000	**-0.045** -0.0018	**0.000** 0.0000	**-0.045** -0.0018	**0.000** 0.0000	**-0.025** -0.0010	– –	– –	– –	– –	– –	– –
	500.000 19.6850	**630.000** 24.8031	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.030** -0.0012	– –	– –	– –	– –	– –	– –
	630.000 24.8031	**800.000** 31.4961	**0.000** 0.0000	**-0.080** -0.0031	– –	– –	**0.000** 0.0000	**-0.040** -0.0014	– –	– –	– –	– –	– –	– –
	800.000 31.4961	**1000.000** 39.3701	**0.000** 0.0000	**-0.100** -0.0040	– –	– –	**0.000** 0.0000	**-0.050** -0.0020	– –	– –	– –	– –	– –	– –
	1000.000 39.3701	**1200.000** 47.2441	**0.000** 0.0000	**-0.130** -0.0051	– –	– –	**0.000** 0.0000	**-0.060** -0.0024	– –	– –	– –	– –	– –	– –
	1200.000 47.2441	**1600.000** 62.9921	**0.000** 0.0000	**-0.150** -0.0065	– –	– –	**0.000** 0.0000	**-0.080** -0.0031	– –	– –	– –	– –	– –	– –
	1600.000 **62.9921**	**2000.000** **78.7402**	**0.000** **0.0000**	**-0.200** **-0.0079**	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
	2000.000 78.7402	– –	**0.000** 0.0000	**-0.250** -0.0098	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –

[1]SR assemblies are manufactured to tolerance class N only.

TABLE 3. TAPERED ROLLER BEARING TOLERANCES – OUTER RING OUTSIDE DIAMETER (Metric)



Bearing Type	O.D.		Standard Bearing Class				Precision Bearing Class							
			K		N		C		B		A		AA	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF SR[1]	**10.000** 0.3937	**18.000** 0.7087	**0.000** 0.0000	- -	- -		- -	- -	- -	- -	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	18.000 0.7087	**30.000** 1.1811	**0.000** 0.0000	**-0.012** -0.00047	**0.000** 0.0000	**-0.012** -0.00047	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.0006** -0.0002	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	30.000 1.1811	**50.000** 1.9685	**0.000** 0.0000	**-0.014** -0.0005	**0.000** 0.0000	**-0.014** -0.0005	**0.000** 0.0000	**-0.009** -0.0004	**0.000** 0.0000	**-0.007** -0.0003	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	50.000 1.9685	**80.000** 3.1496	**0.000** 0.0000	**-0.016** -0.0006	**0.000** 0.0000	**-0.016** -0.0006	**0.000** 0.0000	**-0.011** -0.0004	**0.000** 0.0000	**-0.009** -0.0004	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	80.000 3.1496	**120.000** 4.7244	**0.000** 0.0000	**-0.018** -0.0007	**0.000** 0.0000	**-0.018** -0.0007	**0.000** 0.0000	**-0.013** -0.0005	**0.000** 0.0000	**-0.010** -0.0004	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	120.000 4.7244	**150.000** 5.9055	**0.000** 0.0000	**-0.020** -0.00079	**0.000** 0.0000	**-0.020** -0.00079	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.011** -0.0004	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	150.000 5.9055	**180.000** 7.0866	**0.000** 0.0000	**-0.025** -0.00098	**0.000** 0.0000	**-0.025** -0.00098	**0.000** 0.0000	**-0.018** -0.0007	**0.000** 0.0000	**-0.013** -0.0005	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	180.000 7.0866	**250.000** 9.8425	**0.000** 0.0000	**-0.030** -0.0012	**0.000** 0.0000	**-0.030** -0.0012	**0.000** 0.0000	**-0.020** -0.0008	**0.000** 0.0000	**-0.015** -0.0006	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	250.000 9.8425	**265.000** 10.4331	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.025** -0.0010	**0.000** 0.0000	**-0.018** -0.0007	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	265.000 10.4331	**315.000** 12.4016	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.035** -0.0014	**0.000** 0.0000	**-0.025** -0.0010	**0.000** 0.0000	**-0.018** -0.0007	**0.000** 0.0000	**-0.008** -0.0003	**0.000** 0.0000	**-0.008** -0.0003
	315.000 12.4016	**400.000** 15.7480	**0.000** 0.0000	**-0.040** -0.0016	**0.000** 0.0000	**-0.040** -0.0016	**0.000** 0.0000	**-0.028** -0.0011	**0.000** 0.0000	**-0.020** -0.0008	– –	– –	– –	– –
	400.000 15.7480	**500.000** 19.6850	**0.000** 0.0000	**-0.045** -0.0018	**0.000** 0.0000	**-0.045** -0.0018	**0.000** 0.0000	**-0.030** -0.0012	– –	– –	– –	– –	– –	– –
	500.000 19.6850	**630.000** 24.8031	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.035** -0.0014	– –	– –	– –	– –	– –	– –
	630.000 24.8031	**800.000** 31.4961	**0.000** 0.0000	**-0.075** -0.0030	– –	– –	**0.000** 0.0000	**-0.040** *0.0016	– –	– –	– –	– –	– –	– –
	800.000 31.4961	**1000.000** 39.3701	**0.000** 0.0000	**-0.100** -0.0040	– –	– –	**0.000** 0.0000	**-0.050** -0.0020	– –	– –	– –	– –	– –	– –
	1000.000 39.3701	**1200.000** 47.2441	**0.000** 0.0000	**-0.130** -0.0051	– –	– –	**0.000** 0.0000	**-0.060** -0.0024	– –	– –	– –	– –	– –	– –
	1200.000 **47.2441**	**1600.000** **62.9921**	**0.000** **0.0000**	**-0.165** **-0.0065**	– –	– –	**0.000** 0.0000	**-0.080** -0.0031	– –	– –	– –	– –	– –	– –
	1600.000 62.9921	**2000.000** 78.7402	**0.000** 0.0000	**-0.200** -0.0079	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
	2000.000 78.7402	– –	**0.000** 0.0000	**-0.250** -0.0098	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –

[1]SR assemblies are manufactured to tolerance class N only.

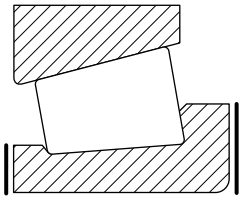


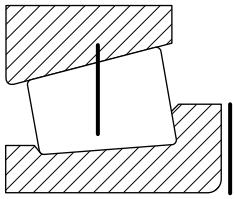
TABLE 4. TAPERED ROLLER BEARING TOLERANCES – INNER RING WIDTH (Metric)

Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			K		N		C		B		A		AA	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF	**10.000** 0.3937	**50.000** 1.9685	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.200** -0.0079
	50.000 1.9685	**120.000** 4.7244	**0.000** 0.0000	**-0.150** -0.0059	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118
	120.000 4.7244	**180.000** 7.0866	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118
	180.000 7.0866	**250.000** 9.8425	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138
	250.000 **9.8425**	**265.000** **10.4331**	**0.000** **0.0000**	**-0.200** **-0.0079**	**0.000** **0.0000**	**-0.050** **-0.0020**	**0.000** **0.0000**	**-0.350** **-0.0138**	**0.000** **0.0000**	**-0.350** **-0.0138**	**0.000** **0.0000**	**-0.350** **-0.0138**	**0.000** **0.0000**	**-0.350** **-0.0138**
	265.000 10.4331	**315.000** 12.4016	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138
	315.000 12.4016	**500.000** 19.6850	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	– –	– –	– –	– –
	500.000 19.6850	**630.000** 24.8031	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	– –	– –	– –	– –
	630.000 24.8031	**1200.000** 47.2441	**0.000** 0.0000	**-0.300** -0.0118	– –	– –	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	– –	– –	– –	– –
	1200.000 47.2441	**1600.000** 62.9921	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	– –	– –	– –	– –
	1600.000 62.9921	– –	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –

TABLE 5. TAPERED ROLLER BEARING TOLERANCES – INNER RING STAND (Metric)

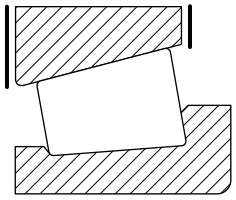
Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			K		N		C		B		A		AA	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF	**10.000** 0.3937	**80.000** 3.1496	**+0.100** +0.0039	**0.000** 0.0000	**+0.050** +0.0020	**0.000** 0.0000	**+0.100** +0.0039	**-0.100** -0.0039						
	80.000 3.1496	**120.000** 4.7244	**+0.100** +0.0039	**-0.100** -0.0039	**+0.050** +0.0020	**0.000** 0.0000	**+0.100** +0.0039	**-0.100** -0.0039						
	120.000 4.7244	**180.000** 7.0866	**+0.150** +0.0059	**-0.150** -0.0059	**+0.050** +0.0020	**0.000** 0.0000	**+0.100** +0.0039	**-0.100** -0.0039			(1)	(1)	(1)	(1)
	180.000 7.0866	**250.000** 9.8425	**+0.150** +0.0059	**-0.150** -0.0059	**+0.050** +0.0020	**0.000** 0.0000	**+0.100** +0.0039	**-0.150** -0.0059	(1)	(1)				
	250.000 9.8425	**265.000** 10.4331	**+0.150** +0.0059	**-0.150** -0.0059	**+0.100** +0.0039	**0.000** 0.0000	**+0.100** +0.0039	**-0.150** -0.0059						
	265.000 10.4331	**315.000** 12.4016	**+0.150** +0.0059	**-0.150** -0.0059	**+0.100** +0.0039	**0.000** 0.0000	**+0.100** +0.0039	**-0.150** -0.0059			– –	– –	– –	– –
	315.000 12.4016	**400.000** 15.7480	**+0.200** +0.0079	**-0.200** -0.0079	**+0.100** +0.0039	**0.000** 0.0000	**+0.150** +0.0059	**-0.150** -0.0059	– –	– –	– –	– –	– –	– –
	400.000 15.7480	– –	(1)	(1)	(1)	(1)	(1)	(1)	– –	– –	– –	– –	– –	– –

(1)These sizes manufactured as matched assemblies only.



Inner Ring Stand. Inner Ring stand is a measure of the variation in Inner Ring raceway size, taper and roller diameter. This is checked by measuring the axial location of the reference surface of a master outer ring or other type gauge with respect to the reference Inner Ring face.

TABLE 6. TAPERED ROLLER BEARING TOLERANCES – OUTER RING WIDTH (Metric)



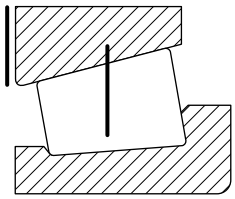
Bearing Types	O.D.		Standard Bearing Class				Precision Bearing Class							
			K		N		C		B		A		AA	
	Over	Incl.	Max.	Min.[1]	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF	**10.000** 0.3937	**80.000** 3.1496	**0.000** 0.0000	**-0.150** -0.0059	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.150** -0.0059	**0.000** 0.0000	**-0.150** -0.0059	**0.000** 0.0000	**-0.150** -0.0059	**0.000** 0.0000	**-0.150** -0.0059
	80.000 3.1496	**150.000** 5.9055	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.200** -0.0079
	150.000 5.9055	**180.000** 7.0866	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.250** -0.0098
	180.000 7.0866	**250.000** 9.8425	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.250** -0.0098
	250.000 **9.8425**	**265.000** **10.4331**	**0.000** **0.0000**	**-0.250** **-0.0098**	**0.000** **0.0000**	**-0.100** **-0.0040**	**0.000** **0.0000**	**-0.300** **-0.0118**	**0.000** **0.0000**	**-0.300** **-0.0118**	**0.000** **0.0000**	**-0.300** **-0.0118**	**0.000** **0.0000**	**-0.300** **-0.0118**
	265.000 10.4331	**315.000** 12.4016	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118
	315.000 12.4016	**400.000** 15.7480	**0.000** 0.0000	**-0.250** -0.0098	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.300** -0.0118	– –	– –	– –	– –
	400.000 15.7480	**500.000** 19.6850	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	– –	– –	– –	– –
	500.000 19.6850	**800.000** 31.4961	**0.000** 0.0000	**-0.300** -0.0118	**0.000** 0.0000	**-0.100** -0.0040	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	– –	– –	– –	– –
	800.000 31.4961	**1200.000** 47.2441	**0.000** 0.0000	**-0.350** -0.0138	– –	– –	**0.000** 0.0000	**-0.400** -0.0157	– –	– –	– –	– –	– –	– –
	1200.000 47.2441	**1600.000** 62.9921	**0.000** 0.0000	**-0.400** -0.0157	– –	– –	**0.000** 0.0000	**-0.400** -0.0157	– –	– –	– –	– –	– –	– –
	1600.000 62.9921	– –	**0.000** 0.0000	**-0.400** -0.0157	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –

[1]These differ slightly from tolerances in ISO 492. These differences normally have an insignificant effect on the mounting and performance of tapered roller bearings. The 30000 series ISO bearings also are available with the above parameter according to ISO 492.

TABLE 7. TAPERED ROLLER BEARING TOLERANCES – OUTER RING STAND (Metric)

Bearing Types	O.D.		Standard Bearing Class				Precision Bearing Class							
			K		N		C		B		A		AA	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF[1]	**10.000** 0.3937	**18.000** 0.7087	**+0.100** +0.0039	**0.000** 0.0000	**+0.050** +0.0020	**0.000** 0.0000	**+0.100** +0.0039	**-0.100** -0.0039						
	18.000 0.7087	**80.000** 3.1496	**+0.100** +0.0039	**0.000** 0.0000	**+0.050** +0.0020	**0.000** 0.0000	**+0.100** +0.0039	**-0.100** -0.0039						
	80.000 3.1496	**120.000** 4.7244	**+0.100** +0.0039	**-0.100** -0.0039	**+0.050** +0.0020	**0.000** 0.0000	**+0.100** +0.0039	**-0.100** -0.0039			(2)	(2)	(2)	(2)
	120.000 4.7244	**265.000** 10.4331	**+0.200** +0.0079	**-0.100** -0.0039	**+0.100** +0.0039	**0.000** 0.0000	**+0.100** +0.0039	**-0.150** -0.0059	(2)	(2)				
	265.000 10.4331	**315.000** 12.4016	**+0.200** +0.0079	**-0.100** -0.0039	**+0.100** +0.0039	**0.000** 0.0000	**+0.100** +0.0039	**-0.150** -0.0059						
	315.000 12.4016	**400.000** 15.7480	**+0.200** +0.0079	**-0.200** -0.0079	**+0.100** +0.0039	**0.000** 0.0000	**+0.100** +0.0039	**-0.150** -0.0059			– –	– –	– –	– –
	315.000 12.4016	**400.000** 15.7480	**+0.200** +0.0079	**-0.200** -0.0079	**+0.100** +0.0040	**0.000** 0.0000	**+0.150** +0.0059	**-0.150** -0.0059	– –	– –	– –	– –	– –	– –
	400.000 15.7480	– –	(2)	(2)	(2)	(2)	(2)	(2)	– –	– –	– –	– –	– –	– –

[1]Stand for flanged outer ring is measured from flange backface (seating face).
[2]These sizes manufactured as matched assemblies only.



Outer Ring Stand. Outer ring stand is a measure of the variation in outer ring I.D. size and taper. This is checked by measuring the axial location of the reference surface of a master plug or other type gauge with respect to the reference face of the outer ring.

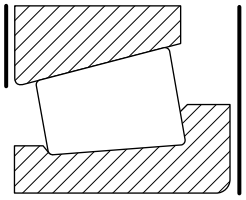


TABLE 8. TAPERED ROLLER BEARING TOLERANCES – OVERALL BEARING WIDTH (Metric)

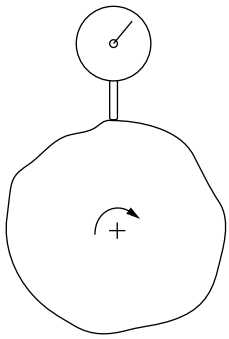
Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			K		N		C		B		A		AA	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF[1]	**10.000** 0.3937	**80.000** 3.1496	**+0.200** +0.0078	**0.000** 0.0000	**+0.100** +0.0039	**0.000** 0.0000	**+0.200** +0.0078	**-0.200** -0.0078	**+0.200** +0.0078	**-0.200** -0.0078	**+0.200** +0.0078	**-0.200** -0.0078	**+0.200** +0.0078	**-0.200** -0.0078
	80.000 3.1496	**120.000** 4.7244	**+0.200** +0.0078	**-0.200** -0.0078	**+0.100** +0.0039	**0.000** 0.0000	**+0.200** +0.0078	**-0.200** -0.0078	**+0.200** +0.0078	**-0.200** -0.0078	**+0.200** +0.0078	**-0.200** -0.0078	**+0.200** +0.0078	**-0.200** -0.0078
	120.000 4.7244	**180.000** 7.0866	**+0.350** +0.0137	**-0.250** -0.0098	**+0.150** +0.0059	**0.000** 0.0000	**+0.350** +0.0137	**-0.250** -0.0098	**+0.200** +0.0078	**-0.250** -0.0098	**+0.200** +0.0078	**-0.250** -0.0098	**+0.200** +0.0078	**-0.250** -0.0098
	180.000 7.0866	**250.000** 9.8425	**+0.350** +0.0137	**-0.250** -0.0098	**+0.150** +0.0059	**0.000** 0.0000	**+0.350** +0.0137	**-0.250** -0.0098	**+0.200** +0.0078	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118
	250.000 9.8425	**265.000** 10.4331	**+0.350** +0.0137	**-0.250** -0.0098	**+0.200** +0.0078	**0.000** 0.0000	**+0.350** +0.0137	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118
	265.000 10.4331	**315.000** 12.4016	**+0.350** +0.0137	**-0.250** -0.0098	**+0.200** +0.0078	**0.000** 0.0000	**+0.350** +0.0137	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118	**+0.200** +0.0078	**-0.300** -0.0118
	315.000 12.4016	**500.000** 19.6850	**+0.400** +0.0157	**-0.400** -0.0157	**+0.200** +0.0078	**0.000** 0.0000	**+0.350** +0.0137	**-0.300** -0.0118	– –	– –	– –	– –	– –	– –
	500.000 19.6850	**800.000** 31.4961	**+0.400** +0.0157	**-0.400** -0.0157	– –	– –	**+0.350** +0.0137	**-0.400** -0.0157	– –	– –	– –	– –	– –	– –
	800.000 31.4961	**1000.000** 39.3701	**+0.450** +0.0177	**-0.450** -0.0177	– –	– –	**+0.350** +0.0137	**-0.400** -0.0157	– –	– –	– –	– –	– –	– –
	1000.000 39.3701	**1200.000** 47.2441	**+0.450** +0.0177	**-0.450** -0.0177	– –	– –	**+0.350** +0.0137	**-0.450** -0.0177	– –	– –	– –	– –	– –	– –
	1200.000 47.2441	**1600.000** 62.9921	**+0.450** +0.0177	**-0.450** -0.0177	– –	– –	**+0.350** +0.0137	**-0.500** -0.0196	– –	– –	– –	– –	– –	– –
	1600.000 62.9921		**+0.450** +0.0177	**-0.450** -0.0177	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
SR[2]	**180.000** 7.0866	**250.000** 9.8425	**0.000** 0.0000	**-0.200** -0.0079	**0.000** 0.0000	**-0.050** -0.0020	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138	**0.000** 0.0000	**-0.350** -0.0138

[1]For bearing type TSF, the tolerance applies to the dimension T_1. Refer to the TSF data in this catalog.
[2]SR assemblies are manufactured to tolerance class N only.

TABLE 9. TAPERED ROLLER BEARING TOLERANCES – RADIAL RUNOUT (Metric)

Bearing Types	O.D. Over	O.D. Incl.	Standard Bearing Class K	Standard Bearing Class N	Precision Bearing Class C	Precision Bearing Class B	Precision Bearing Class A	Precision Bearing Class AA
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF SR[1]	**10.000** 0.3937	**18.000** 0.7087	– –	– –	– –	– –	**0.002** 0.00008	**0.001** 0.00004
	18.000 0.7087	**30.000** 1.1811	**0.018** 0.0007	**0.018** 0.0007	**0.005** 0.0002	**0.003** 0.0001	**0.002** 0.00008	**0.001** 0.00004
	30.000 1.1811	**50.000** 1.9685	**0.020** 0.0008	**0.020** 0.0008	**0.006** 0.0002	**0.003** 0.0001	**0.002** 0.00008	**0.001** 0.00004
	50.000 1.9685	**80.000** 3.1496	**0.025** 0.0010	**0.025** 0.0010	**0.006** 0.0002	**0.004** 0.0002	**0.002** 0.00008	**0.001** 0.00004
	80.000 3.1496	**120.000** 4.7244	**0.035** 0.0014	**0.035** 0.0014	**0.006** 0.0002	**0.004** 0.0002	**0.002** 0.00008	**0.001** 0.00004
	120.000 4.7244	**150.000** 5.9055	**0.040** 0.0016	**0.040** 0.0016	**0.007** 0.0003	**0.004** 0.0002	**0.002** 0.00008	**0.001** 0.00004
	150.000 5.9055	**180.000** 7.0866	**0.045** 0.0018	**0.045** 0.0018	**0.008** 0.0003	**0.004** 0.0002	**0.002** 0.00008	**0.001** 0.00004
	180.000 7.0866	**250.000** 9.8425	**0.050** 0.0020	**0.050** 0.0020	**0.010** 0.0004	**0.005** 0.0002	**0.002** 0.00008	**0.001** 0.00004
	250.000 9.8425	**265.000** 10.4331	**0.060** 0.0024	**0.060** 0.0024	**0.011** 0.0004	**0.005** 0.0002	**0.002** 0.00008	**0.001** 0.00004
	265.000 10.4331	**315.000** 12.4016	**0.060** 0.0024	**0.060** 0.0024	**0.011** 0.0004	**0.005** 0.0002	**0.002** 0.00008	**0.001** 0.00004
	315.000 12.4016	**400.000** 15.7480	**0.070** 0.0028	**0.070** 0.0028	**0.013** 0.0005	**0.005** 0.0002	– –	– –
	400.000 15.7480	**500.000** 19.6850	**0.080** 0.0031	**0.080** 0.0031	– –	– –	– –	– –
	500.000 19.6850	**630.000** 24.8031	**0.100** 0.0039	– –	– –	– –	– –	– –
	630.000 24.8031	**800.000** 31.4961	**0.120** 0.0047	– –	– –	– –	– –	– –
	800.000 31.4961	**1000.000** 39.3701	**0.140** 0.0055	– –	– –	– –	– –	– –
	1000.000 39.3701	**1200.000** 47.2441	**0.160** 0.0063	– –	– –	– –	– –	– –
	1200.000 47.2441	**1600.000** 62.9921	**0.180** 0.0071	– –	– –	– –	– –	– –
	1600.000 62.9921	**2000.000** 78.7402	**0.200** 0.0079	– –	– –	– –	– –	– –
	2000.000 78.7402	– –	**0.200** 0.0079	– –	– –	– –	– –	– –

[1]SR assemblies are manufactured to tolerance class N only.



Runout. Runout is a measure of rotational accuracy expressed by Total Indicator Reading (T.I.R.). Total displacement is measured by an instrument sensing against a moving surface, or moved with respect to a fixed surface. A radial runout measurement includes both roundness errors and the centering error of the surface that the instrument head senses against.

INCH SYSTEM TOLERANCES

Inch system bearings are manufactured to a number of tolerance classes. Classes 4 and 2 are often referred to as standard classes. Classes 3, 0, 00 and 000 are precision classes. Inch system bearings conform to ABMA standard 19.2.

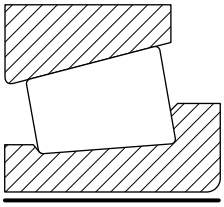


TABLE 10. TAPERED ROLLER BEARING TOLERANCES – INNER RING BORE (Inch)

Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			4		2		3		0		00		000	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF TSL[1] TDI TDIT TDO TNA	**0.000** 0.0000	**76.200** 3.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000
	76.200 3.0000	**304.800** 12.0000	**+0.025** +0.0010	**0.000** 0.0000	**+0.025** +0.0010	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000
	304.800 12.0000	**609.600** 24.0000	– –	– –	**+0.051** +0.0020	**0.000** 0.0000	**+0.025** +0.0010	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
	609.600 24.0000	**914.400** 36.0000	**+0.076** +0.0030	**0.000** 0.0000	– –	– –	**+0.038** +0.0015	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
	914.400 36.0000	**1219.200** 48.0000	**+0.102** +0.0040	**0.000** 0.0000	– –	– –	**+0.051** +0.0020	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
	1219.200 48.0000	– –	**+0.127** +0.0050	**0.000** 0.0000	– –	– –	**+0.076** +0.0030	**0.000** 0.0000	– –	– –	– –	– –	– –	– –

[1]For TSL bearings these are the normal tolerances of inner ring bore. However, bore size can be slightly reduced at large end due to tight fit assembly of the seal on the rib. This should not have any effect on the performance of the bearing.

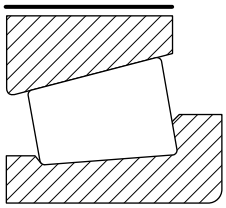
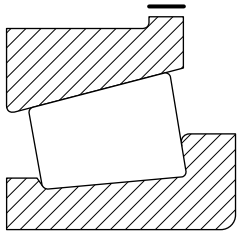


TABLE 11. TAPERED ROLLER BEARING TOLERANCES – OUTER RING OUTSIDE DIAMETER (Inch)

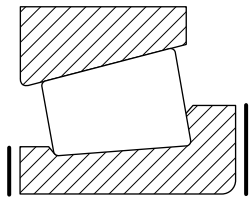
Bearing Types	O.D.		Standard Bearing Class				Precision Bearing Class							
			4		2		3		0		00		000	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF TSL TDI TDIT TDO TNA TNASW TNASWE	**0.000** 0.0000	**304.800** 12.0000	**+0.025** +0.0010	**0.000** 0.0000	**+0.025** +0.0010	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000
	304.800 12.0000	**609.600** 24.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.025** +0.0010	**0.000** 0.0000	**+0.013** +0.0005	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000	**+0.008** +0.0003	**0.000** 0.0000
	609.600 24.0000	**914.400** 36.0000	**+0.076** +0.0030	**0.000** 0.0000	**+0.076** +0.0030	**0.000** 0.0000	**+0.038** +0.0015	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
	914.400 36.0000	**1219.200** 48.0000	**+0.102** +0.0040	**0.000** 0.0000	– –	– –	**+0.051** +0.0020	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
	1219.200 48.0000	– –	**+0.127** +0.0050	**0.000** 0.0000	– –	– –	**+0.076** +0.0030	**0.000** 0.0000	– –	– –	– –	– –	– –	– –

TABLE 12. TAPERED ROLLER BEARING TOLERANCES – OUTER RING FLANGE (Inch)



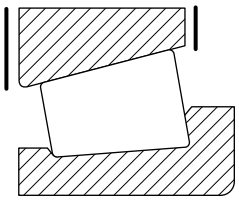
Bearing Types	O.D.		Standard Bearing Class				Precision Bearing Class							
			4		2		3		0		00		000	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TSF	**0.000** 0.0000	**304.800** 12.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.052** +0.0020	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000
	304.800 12.0000	**609.600** 24.0000	**+0.076** +0.0030	**0.000** 0.0000	**+0.076** +0.0030	**0.000** 0.0000	**+0.076** +0.0030	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000	**+0.051** +0.0020	**0.000** 0.0000
	609.600 24.0000	**914.400** 36.0000	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
	914.400 36.0000	– –	**+0.127** +0.0050	**0.000** 0.0000	– –	– –	**+0.127** +0.0050	**0.000** 0.0000	– –	– –	– –	– –	– –	– –

TABLE 13. TAPERED ROLLER BEARING TOLERANCES – INNER RING WIDTH (Inch)



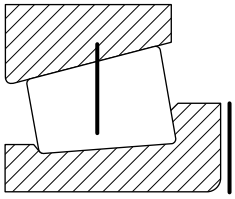
Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			4		2		3		0		00		000	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF TSL 2S TDI TDIT TDO	All Sizes		**+0.076** +0.0030	**-0.254** -0.0100	**+0.076** +0.0030	**-0.254** -0.0100	**+0.076** +0.0030	**-0.254** -0.0100	**+0.076** +0.0030	**-0.254** -0.0100	**+0.076** +0.0030	**-0.254** -0.0100	**+0.076** +0.0030	**-0.254** -0.0100

TABLE 14. TAPERED ROLLER BEARING TOLERANCES – OUTER RING WIDTH (Inch)



Bearing Types	O.D.		Standard Bearing Class				Precision Bearing Class							
			4		2		3		0		00		000	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
All Types	All Sizes		**+0.051** +0.0020	**-0.254** -0.0100	**+0.051** +0.0020	**-0.254** -0.0100	**+0.051** +0.0020	**-0.254** -0.0100	**+0.051** +0.0020	**-0.254** -0.0100	**+0.051** +0.0020	**-0.254** -0.0100	**+0.051** +0.0020	**-0.254** -0.0100

TABLE 15. TAPERED ROLLER BEARING TOLERANCES – INNER RING STAND (Inch)

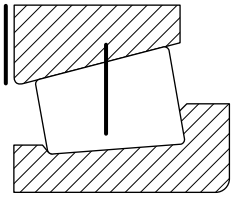


Inner Ring Stand. Inner Ring stand is a measure of the variation in Inner Ring raceway size, taper and roller diameter. This is checked by measuring the axial location of the reference surface of a master outer ring or other type gauge with respect to the reference Inner Ring face.

Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			4		2		3		0		00		000	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF TSL 2S TDI[1] TDIT[1] TDO	**0.000** 0.0000	**101.600** 4.0000	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**-0.102** -0.0040			(2)	(2)	(2)	(2)
	101.600 4.0000	**266.700** 10.5000	**+0.152** +0.0060	**-0.152** -0.0060	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**+0.102** -0.0040	(2)	(2)				
	266.700 10.5000	**304.800** 12.0000	**+0.152** +0.0060	**-0.152** -0.0060	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**-0.102** -0.0040			– –	– –	– –	– –
	304.800 12.0000	**406.400** 16.0000	– –	– –	**+0.178** +0.0070	**-0.178** -0.0070	**+0.178** +0.0070	**-0.178** -0.0070	– –	– –	– –	– –	– –	– –
	406.400 16.0000	– –	(2)	(2)	(2)	(2)	(2)	(2)	– –	– –	– –	– –	– –	– –

[1]For class 2, TDI and TDIT bearings with an inner ring bore of 101.600 to 304.800 mm (4.0000 to 12.0000 in.), the inner ring stand is ±0.102 mm (±0.0040 in.).
[2]These sizes manufactured as matched assemblies only.

TABLE 16. TAPERED ROLLER BEARING TOLERANCES – OUTER RING STAND (Inch)



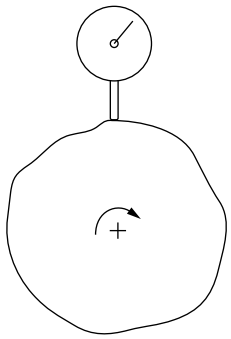
Outer Ring Stand. Outer ring stand is a measure of the variation in outer ring I.D. size and taper. This is checked by measuring the axial location of the reference surface of a master plug or other type gauge with respect to the reference face of the outer ring.

Bearing Types	Bore		Standard Bearing Class				Precision Bearing Class							
			4		2		3		0		00		000	
	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF[1] TSL TDI TDIT	**0.000** 0.0000	**101.600** 4.0000	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**-0.102** -0.0040			(2)	(2)	(2)	(2)
	101.600 4.0000	**266.700** 10.5000	**+0.203** +0.0080	**-0.102** -0.0040	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**-0.102** -0.0040	(2)	(2)				
	266.700 10.5000	**304.800** 12.0000	**+0.203** +0.0080	**-0.102** -0.0040	**+0.102** +0.0040	**0.000** 0.0000	**+0.102** +0.0040	**-0.102** -0.0040			– –	– –	– –	– –
	304.800 12.0000	**406.400** 16.0000	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080	– –	– –	– –	– –	– –	– –
	406.400 16.0000	– –	(2)	(2)	(2)	(2)	(2)	(2)	– –	– –	– –	– –	– –	– –

[1]Stand for flanged outer ring is measured from flange backface (seating face).
[2]These sizes manufactured as matched assemblies only.

TABLE 17. TAPERED ROLLER BEARING TOLERANCES – RADIAL RUNOUT (Inch)

Bearing Types	O.D.		Standard Bearing Class		Precision Bearing Class			
	Over	Incl.	4	2	3	0	00	000
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF TSL 2S TDI TDIT TDO TNA TNASW TNASWE	**0.000** 0.0000	**266.700** 10.5000	**0.051** 0.0020	**0.038** 0.0015	**0.008** 0.0003	**0.004** 0.00015	**0.002** 0.000075	**0.001** 0.000040
	266.700 10.5000	**304.800** 12.0000	**0.051** 0.0020	**0.038** 0.0015	**0.008** 0.0003	**0.004** 0.00015	**0.002** 0.000075	**0.001** 0.000040
	304.800 12.0000	**609.600** 24.0000	**0.051** 0.0020	**0.038** 0.0015	**0.018** 0.0007	– –	– –	– –
	609.600 24.0000	**914.400** 36.0000	**0.076** 0.0030	**0.051** 0.0020	**0.051** 0.0020	– –	– –	– –
	914.400 36.0000	– –	**0.076** 0.0030	– –	**0.076** 0.0030	– –	– –	– –



Runout. Runout is a measure of rotational accuracy expressed by Total Indicator Reading (T.I.R.). Total displacement is measured by an instrument sensing against a moving surface, or moved with respect to a fixed surface. A radial runout measurement includes both roundness errors and the centering error of the surface that the instrument head senses against.

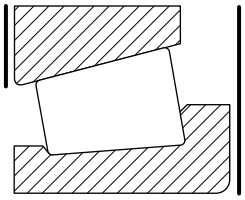
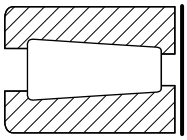


TABLE 18. TAPERED ROLLER BEARING TOLERANCES – OVERALL BEARING WIDTH (Inch)

Bearing Types	Bore		O.D.		Standard Bearing Class				Precision Bearing Class							
					4		2		3		0		00		000	
	Over	Incl.	Over	Incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
TS TSF[1] TSL	**0.000** 0.0000	**101.600** 4.0000	– –	– –	**+0.203** +0.0080	**0.000** 0.0000	**+0.203** +0.0080	**0.000** 0.0000	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080
	101.600 4.0000	**304.800** 12.0000	– –	– –	**+0.356** +0.0140	**-0.254** -0.0100	**+0.203** +0.0080	**0.000** 0.0000	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080	**+0.203** +0.0080	**-0.203** -0.0080
	304.800 12.0000	**609.600** 24.0000	**0.000** 0.0000	**508.000** 20.0000	– –	– –	**+0.381** +0.0150	**-0.381** -0.0150	**+0.203** +0.0080	**-0.203** -0.0080	– –	– –	– –	– –	– –	– –
	304.800 12.0000	**609.600** 24.0000	**508.000** 20.0000	– –	– –	– –	**+0.381** +0.0150	**-0.381** -0.0150	**+0.381** +0.0150	**-0.381** -0.0150	– –	– –	– –	– –	– –	– –
	609.600 24.0000	– –	– –	– –	**+0.381** +0.0150	**-0.381** -0.0150	– –	– –	**+0.381** +0.0150	**-0.381** -0.0150	– –	– –	– –	– –	– –	– –
TNA TNASW TNASWE	**0.000** 0.0000	**127.000** 5.0000	– –	– –	– –	– –	**+0.254** +0.0100	**0.000** 0.0000	**+0.254** +0.0100	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
	127.000 5.0000	– –	– –	– –	– –	– –	**+0.762** +0.0300	**0.000** 0.0000	**+0.762** +0.0300	**0.000** 0.0000	– –	– –	– –	– –	– –	– –
TDI TDIT TDO	**0.000** 0.0000	**101.600** 4.0000	– –	– –	**+0.406** +0.0160	**0.000** 0.0000	**+0.406** +0.0160	**0.000** 0.0000	**+0.406** +0.0160	**-0.406** -0.0160	**+0.406** +0.0160	**-0.406** -0.0160	**+0.406** +0.0160	**-0.406** -0.0160	**+0.406** +0.0160	**-0.406** -0.0160
	101.600 4.0000	**304.800** 12.0000	– –	– –	**+0.711** +0.0280	**-0.508** -0.0200	**+0.406** +0.0160	**-0.203** -0.0080	**+0.406** +0.0160	**-0.406** -0.0160	**+0.406** +0.0160	**-0.406** -0.0160	**+0.406** +0.0160	**-0.406** -0.0160	**+0.406** +0.0160	**-0.406** -0.0160
	304.800 12.0000	**609.600** 24.0000	**0.000** 0.0000	**508.000** 20.0000	– –	– –	**+0.762** +0.0300	**-0.762** -0.0300	**+0.406** +0.0160	**-0.406** -0.0160	– –	– –	– –	– –	– –	– –
	304.800 12.0000	**609.600** 24.0000	**508.000** 20.0000	– –	– –	– –	**+0.762** +0.0300	**-0.762** -0.0300	**+0.762** +0.0300	**-0.762** -0.0300	– –	– –	– –	– –	– –	– –
	609.600 24.0000	– –	– –	– –	**+0.762** +0.0300	**-0.762** -0.0300	– –	– –	**+0.762** +0.0300	**-0.762** -0.0300	– –	– –	– –	– –	– –	– –
2S	**0.000** 0.0000	**101.600** 4.0000	– –	– –	**+0.457** +0.0180	**-0.051** -0.0020	**+0.457** +0.0180	**-0.051** -0.0020	– –	– –	– –	– –	– –	– –	– –	– –

[1]For bearing type TSF, the tolerance applies to the dimension T_1. Refer to the TSF data tables in this catalog.

TABLE 19. THRUST TAPERED ROLLER BEARING TOLERANCES – BORE (Inch)



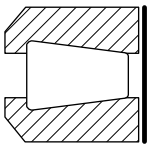
TTHD, TTHDFL, TTVS

TTHD, TTHDFL, TTVS

Bore		Bearing Class			
Range		Precision 2		Precision 3	
Over	Incl.	Over	Incl.	Max.	Min.
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
0.000 0.0000	304.800 12.0000	+0.025 +0.0010	0.000 0.0000	+0.013 +0.0005	0.000 0.0000
304.800 12.0000	609.600 24.0000	+0.051 0.0020	0.000 0.0000	+0.025 +0.0010	0.000 0.0000
609.600 24.0000	914.400 36.0000	+0.076 +0.0030	0.000 0.0000	+0.038 +0.0015	0.000 0.0000
914.400 36.0000	1219.200 48.0000	+0.102 +0.0040	0.000 0.0000	+0.051 0.0020	0.000 0.0000
1219.200 48.0000	– –	+0.127 +0.0050	0.000 0.0000	+0.076 +0.030	0.000 0.0000

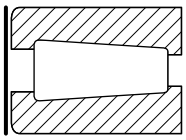
TTC, TTSP – CLASS 4

Bore		Deviation	
Range		Precision 4	
Over	Incl.	Over	Incl.
mm in.	mm in.	mm in.	mm in.
0.000 0.0000	25.400 1.0000	+0.076 +0.0030	-0.076 -0.0030
25.400 1.0000	76.200 3.0000	+0.102 +0.0040	-0.102 -0.0040
76.200 3.0000	– –	+0.127 +0.0050	-0.127 -0.0050



TTC, TTSP

TABLE 20. THRUST TAPERED ROLLER BEARING TOLERANCES – OUTSIDE DIAMETER (Inch)



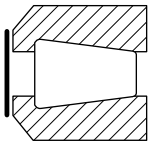
TTHD, TTHDFL, TTVS

TTHD, TTHDFL, TTVS

Outside Diameter		Bearing Class			
Range		Precision 2		Precision 3	
Over	Incl.	Over	Incl.	Max.	Min.
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
0.000 0.0000	304.800 12.0000	+0.025 +0.0010	0.000 0.0000	+0.013 +0.0005	0.000 0.0000
304.800 12.0000	609.600 24.0000	+0.051 0.0020	0.000 0.0000	+0.025 +0.0010	0.000 0.0000
609.600 24.0000	914.400 36.0000	+0.076 +0.0030	0.000 0.0000	+0.038 +0.0015	0.000 0.0000

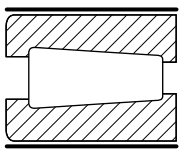
TTC, TTSP – CLASS 4

Outside Diameter		Deviation	
Range		Precision 4	
Over	Incl.	Over	Incl.
mm in.	mm in.	mm in.	mm in.
0.000 0.0000	127.000 5.0000	+0.254 +0.0100	0.000 0.0000
127.000 5.0000	203.200 8.0000	+0.381 +0.0150	0.000 0.0000
203.200 8.0000	– –	+0508 +0.200	0.000 0.0000



TTC, TTSP

TABLE 21. THRUST TAPERED ROLLER BEARING TOLERANCES – WIDTH (Inch)



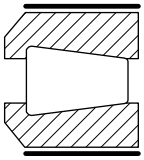
TTHDFL

TTHD, TTHDFL, TTVS

Width		Bearing Class			
Range		Precision 2		Precision 3	
Over	Incl.	Over	Incl.	Max.	Min.
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
All Sizes		+0.381 +0.0150	-0.381 -0.0150	+0.203 +0.0080	-0.203 -0.0080

TTC, TTSP – CLASS 4

Width		Deviation	
Range		Precision 4	
Over	Incl.	Over	Incl.
mm in.	mm in.	mm in.	mm in.
0.000 0.0000	76.200 3.0000	+0.254 +0.0100	-0.254 -0.0100
76.200 3.0000	127.000 5.0000	+0.381 +0.0150	-0.381 -0.0150
127.000 5.0000	– –	+0508 +0.200	-0.508 -0.0200



TTC, TTSP

TAPERED ROLLER BEARING MOUNTING, FITTING AND SETTING

MOUNTING

Tapered roller bearings are designed to take both radial and thrust loading. Under radial loads, a force is generated in the axial direction that must be counteracted. As a result, tapered roller bearings are normally adjusted against a second bearing. They can be mounted in either a direct or indirect mounting arrangement shown in fig. 9. For applications where a direct mounting arrangement is used and the outer ring is used to adjust the bearing setting, the outer ring is usually set in position by an outer-ring follower or mounted in an outer-ring carrier. See fig. 10.

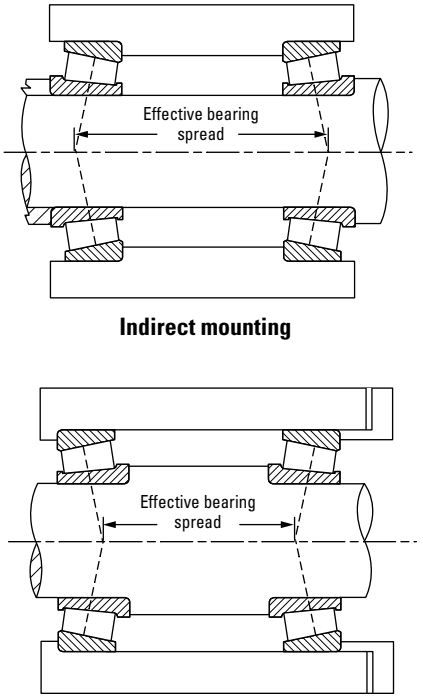


Fig. 9. Comparison of mounting stability between indirect and direct mountings.

For indirect mountings, bearing setting is typically achieved by clamping against one of the inner rings. Various designs, including locknuts, stakenuts and end plates as shown in fig. 11 can be used. For applications requiring precision-class bearings, a special precision nut can be used.

Backing shoulder diameters are listed for tapered roller bearings in the product data sections in this catalog.

FITTING PRACTICE

General industrial application fitting practice standards for inner rings and outer rings are shown in the tables starting on page 32. These tables apply to solid or heavy-sectioned steel shafts, heavy-sectioned ferrous housings and normal operating conditions. To use the tables, it is necessary to determine if the member is rotating or stationary, the magnitude, direction and type of loading, and the shaft finish.

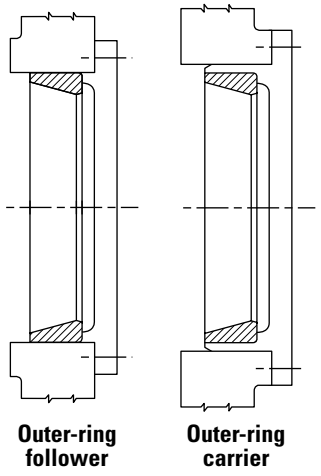


Fig. 10. Bearing setting devices - direct mounting.

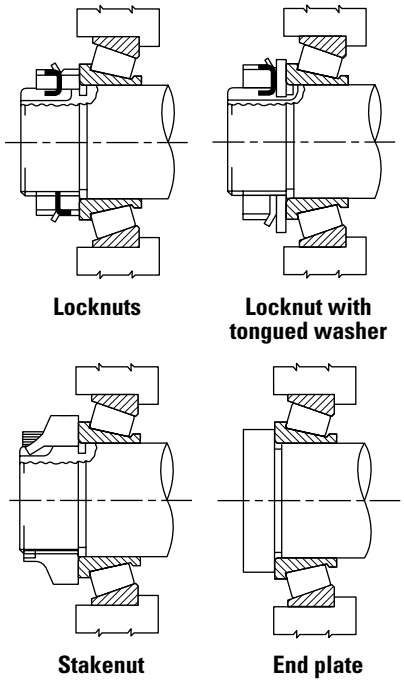


Fig. 11. Bearing setting devices – indirect mounting.

Certain table fits may not be adequate for light shaft and housing sections, shafts other than steel, nonferrous housings, critical operation conditions such as high speed, unusual thermal or loading conditions or a combination thereof. Also, assembly procedures and the means and ease of obtaining the bearing setting may require special fits. In these cases, experience should be used as a guideline or your Timken engineer should be consulted for review and suggestions.

Rotating inner rings generally should be applied with an interference fit. In special cases, loose fits may be considered if it has been determined by test or experience they will perform satisfactorily. The term "rotating inner ring" describes a condition in which the inner ring rotates relative to the load. This may occur with a rotating inner ring under a stationary load or a stationary inner ring with a rotating load. Loose fits will permit the inner rings to creep and wear the shaft and the backing shoulder. This may result in excessive bearing looseness and possible bearing and shaft damage.

Stationary inner ring fitting practice depends on the application. Under conditions of high speed, heavy loads or shock, interference fits using heavy-duty fitting practices should be used. With inner rings mounted on unground shafts subjected to moderate loads (no shock) and moderate speeds, a metal-to-metal or near zero average fit is used. In sheave and wheel applications using unground shafts, or in cases using ground shafts with moderate loads (no shock), a minimum fit near zero to a maximum looseness that varies with the inner ring bore size is suggested. In stationary inner ring applications requiring hardened and ground spindles, a slightly looser fit may be satisfactory. Special fits also may be necessary on installations such as multiple sheave crane blocks.

Rotating outer ring applications where the outer ring rotates relative to the load should always use an interference fit.

Stationary, non-adjustable and fixed single-row outer ring applications should be applied with a tight fit wherever practical. Generally, adjustable fits may be used where the bearing setup is obtained by sliding the outer ring axially in the housing bore. However, in certain heavy-duty, high-load applications, tight fits are necessary to prevent pounding and plastic deformation of the housing. Tightly fitted outer rings mounted in carriers can be used. Tight fits should always be used when the load rotates relative to the outer ring.

To permit through-boring when the outside diameters of single-row bearings mounted at each end of a shaft are equal, and one is adjustable and the other fixed, it is suggested that the same adjustable fit be used at both ends. However, tight fits should be used if outer rings are backed against snap rings to prevent excessive dishing of snap rings, groove wear and possible loss of ring retention. Only outer rings with a maximum housing fillet radius requirement of 1.3 mm (0.05 in.) or less should be considered for a snap ring backing.

Double-row stationary double outer rings are generally mounted with loose fits to permit assembly and disassembly. The loose fit also permits float when a floating bearing is mounted in conjunction with an axially fixed bearing on the other end of the shaft.

Fitting practice tables 22-32 on pages 32-46, have been prepared for both metric and inch dimensions.

For the inch system bearings, classes 4 and 2 (standard) have been included.

The metric system bearings that have been included are: classes K and N (metric system standard bearings).

Fit effect[1]

Solid shaft/heavy section housing

Setting Reduction/Width Increase for Single Inner Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{d}{d_o}\right) \delta_S$$

Setting Reduction/Width Increase for Single Outer Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{D_o}{D}\right) \delta_H$$

Hollow shaft/thin-wall section

Shaft Reduction/Width Increase for Single Inner Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{d}{d_o}\right) \left[\frac{1 - \left(\frac{d_{si}}{d}\right)^2}{1 - \left(\frac{d_{si}}{d_o}\right)^2}\right] \delta_S$$

Shaft Reduction/Width Increase for Single Outer Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{D_o}{D}\right) \left[\frac{1 - \left(\frac{D}{D_H}\right)^2}{1 - \left(\frac{D_o}{D_H}\right)^2}\right] \delta_H$$

[1]These equations apply only to ferrous shaft and housing.

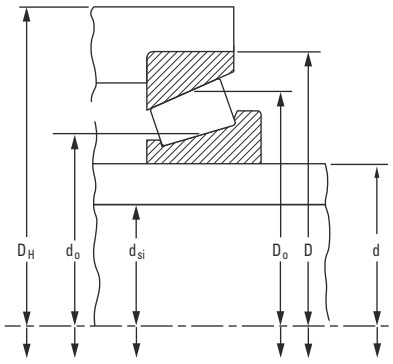


Fig. 15. Dimensional parameters affecting fit and temperature effects on setting.

SETTING

Setting is defined as the axial clearance between roller and raceway. Establishing the setting at the time of assembly is an inherent advantage of tapered roller bearings. They can be set to provide optimum performance in almost any application. Fig. 13 gives an example of the relationship between fatigue life and bearing setting. Unlike some types of anti-friction bearings, tapered roller bearings do not rely strictly on housing or shaft fits to obtain a certain bearing setting. One ring can be moved axially relative to the other to obtain the desired bearing setting.

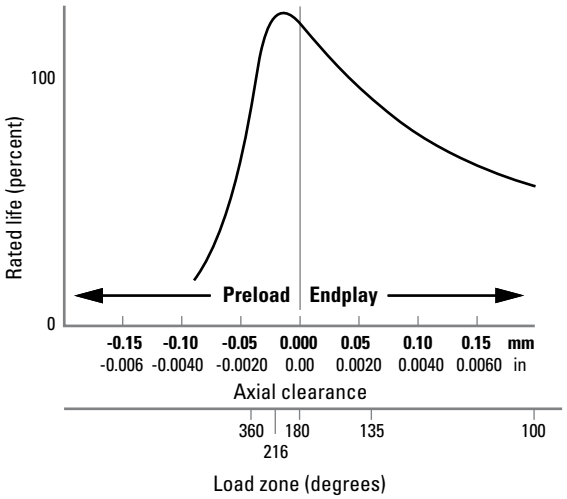


Fig. 13. Typical life vs. setting curve.

At assembly, the conditions of bearing setting are defined as:

- **Endplay (EP)** – An axial clearance between rollers and raceways producing a measurable axial shaft movement when a small axial force is applied – first in one direction then in the other, while oscillating or rotating the shaft. See fig. 14.
- **Preload (PL)** – An axial interference between rollers and raceways such that there is no measurable axial shaft movement when a small axial force is applied – in both directions – while oscillating or rotating the shaft.
- **Line-to-line** – A zero setting condition: the transitional point between endplay and preload.

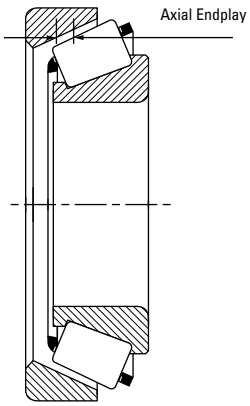


Fig. 14. Internal clearance – endplay.

Bearing setting obtained during initial assembly and adjustment is the cold or ambient bearing setting, and is established before the equipment is subjected to service.

Bearing setting during operation is known as the operating bearing setting, and is a result of changes in the ambient bearing setting due to thermal expansion and deflections encountered during service.

The ambient bearing setting necessary to produce the optimum operating bearing setting varies with the application. Application experience or testing generally determines optimum settings. Frequently, however, the exact relationship of ambient to operating bearing setting is unknown and an educated estimate has to be made. To determine a suggested ambient bearing setting for a specific application, contact your Timken engineer.

Generally, the ideal operating bearing setting is near zero to maximize bearing life (fig. 13). Most bearings are set with endplay at assembly to reach the desired near-zero setting at operating temperature.

There is an ideal bearing setting value for every application. To achieve this condition, the bearing setting must take into account deflection under load (radial + axial) as well as thermal expansions and material used.

1. Standard mounting

Operating setting = mounted setting ± temperature effect + deflection

2. Pre-set assemblies

Mounted EP or PL = bench EP or bench PL – effect of fits

Operating setting = mounted EP or PL (MEP or MPL) + deflection ± temperature effect

The temperature and fit effects will depend upon the type of mounting, bearing geometry and size, shaft and housing sizes, and material as defined in the following sections. Dimensional parameters affecting bearing setting are noted in fig. 15.

Fit effect[1]

Solid shaft/heavy section housing

Setting Reduction/Width Increase for Single Inner Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{d}{d_o}\right) \delta_S$$

Setting Reduction/Width Increase for Single Outer Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{D}{D_o}\right) \delta_H$$

Hollow shaft/thin-wall section

Shaft Reduction/Width Increase for Single Inner Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{d}{d_o}\right) \left[\frac{1 - \left(\frac{d_{si}}{d}\right)^2}{1 - \left(\frac{d_{si}}{d_o}\right)^2}\right] \delta_S$$

Shaft Reduction/Width Increase for Single Outer Ring

$$= 0.5 \left(\frac{K}{0.39}\right)\left(\frac{D_o}{D}\right) \left[\frac{1 - \left(\frac{D}{D_H}\right)^2}{1 - \left(\frac{D_o}{D_H}\right)^2}\right] \delta_H$$

[1]These equations apply only to ferrous shaft and housing.

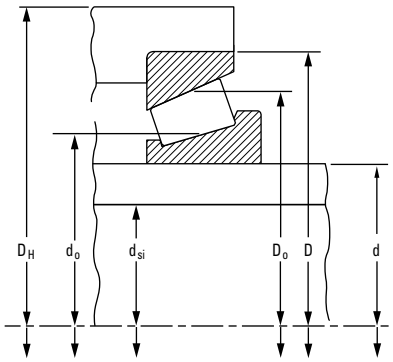


Fig. 15. Dimensional parameters affecting fit and temperature effects on setting.

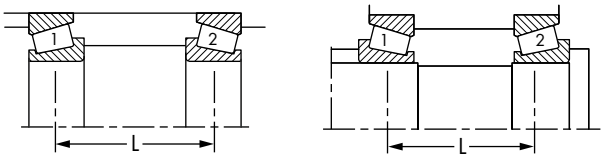
Temperature effect

Direct mounting - setting change due to temperature

$$= \alpha_T \Delta T \left[\left(\frac{K_1}{0.39} \right) \left(\frac{D_{o1}}{2} \right) + \left(\frac{K_2}{0.39} \right) \left(\frac{D_{o2}}{2} \right) + L \right]$$

Indirect mounting - setting change due to temperature

$$= \alpha_T \Delta T \left[\left(\frac{K_1}{0.39} \right) \left(\frac{D_{o1}}{2} \right) + \left(\frac{K_2}{0.39} \right) \left(\frac{D_{o2}}{2} \right) - L \right]$$



Direct mounting **Indirect mounting**

Fig. 16. Direct and indirect mounting.

Setting methods

Upper and lower limits of bearing setting values are determined by consideration of the following factors:

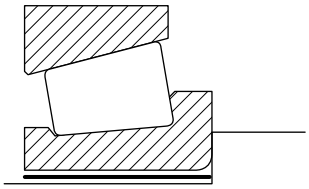
- Application type.
- Duty cycle/loading.
- Operational features of adjacent mechanical drive elements.
- Changes in bearing setting due to temperature differentials and deflections.
- Size of bearing and method of obtaining bearing setting.
- Lubrication method.
- Housing and shaft material.

The setting value to be applied during assembly will depend on any changes that may occur during operation. In the absence of experience with bearings of similar size and operating conditions, a bearing setting range suggestion should be obtained from your Timken engineer.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

FITTING PRACTICE TABLES
TAPERED ROLLER BEARINGS

INNER RING – Industrial Equipment Classes K and N (Metric)



Deviation from nominal (maximum) bearing bore and resultant fit.

T= Tight
L = Loose

TABLE 22. TAPERED ROLLER BEARINGS – INNER RING
Industrial Equipment Classes K and N (Metric)

Inner Ring Bore			Rotating Inner Ring			Rotating or Stationary Inner Ring		
			Ground Seat			Unground Seat or Ground Seat		
Range		Tolerance	Constant Loads With Moderate Shock			Heavy Loads, High Speed or Shock		
Over	Incl.		Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.	**mm** in.	
10.000 0.3937	**18.000** 0.7087	**-0.012** **0.000** -0.0005 0.0000	**+0.018** **+0.007** +0.0007 +0.0003	**0.030T** **0.007T** 0.0012T 0.0003T	m6	**+0.023** **+0.012** +0.0009 +0.0005	**0.035T** **0.012T** 0.0014T 0.0005T	n6
18.000 0.7087	**30.000** 1.1811	**-0.012** **0.000** -0.0005 0.0000	**+0.021** **+0.008** +0.0008 +0.0003	**0.033T** **0.008T** 0.0013T 0.0003T	m6	**+0.028** **+0.015** +0.0011 +0.0006	**0.040T** **0.015T** 0.0016T 0.0006T	n6
30.000 1.1811	**50.000** 1.9685	**-0.012** **0.000** -0.0005 0.0000	**+0.025** **+0.009** +0.0010 +0.0004	**0.037T** **0.009T** 0.0015T 0.0004T	m6	**+0.033** **+0.017** +0.0013 +0.0007	**0.045T** **0.017T** 0.0018T 0.0007T	n6
50.000 1.9685	**80.000** 3.1496	**-0.015** **0.000** -0.0006 0.0000	**+0.030** **+0.011** +0.0012 +0.0004	**0.045T** **0.011T** 0.0018T 0.0005T	m6	**+0.039** **+0.020** +0.0015 +0.0008	**0.054T** **0.020T** 0.0021T 0.0008T	n6
80.000 3.1496	**120.000** 4.7244	**-0.020** **0.000** -0.0008 0.0000	**+0.035** **+0.013** +0.0014 +0.0005	**0.055T** **0.013T** 0.0022T 0.0005T	m6	**+0.045** **+0.023** +0.0019 +0.0010	**0.065T** **0.023T** 0.0027T 0.0010T	n6
120.000 4.7244	**180.000** 7.0866	**-0.025** **0.000** -0.0010 0.0000	**+0.052** **+0.027** +0.0020 +0.0011	**0.077T** **0.027T** 0.0030T 0.0011T	n6	**+0.068** **+0.043** +0.0027 +0.0017	**0.093T** **0.043T** 0.0037T 0.0017T	p6
180.000 7.0866	**200.000** 7.8740	**-0.030** **0.000** -0.0012 0.0000	**+0.060** **+0.031** +0.0024 +0.0012	**0.090T** **0.031T** 0.0035T 0.0012T	n6	**+0.106** **+0.077** +0.0042 +0.0030	**0.136T** **0.077T** 0.0054T 0.0030T	r6
200.000 7.8740	**225.000** 8.8583					**+0.109** **+0.080** +0.0043 +0.0031	**0.139T** **0.080T** 0.0055T 0.0031T	
225.000 8.8583	**250.000** 9.8425					**+0.113** **+0.084** 0.0044 +0.0033	**0.143T** **0.084T** 0.0056T 0.0033T	
250.000 9.8425	**280.000** 11.0236	**-0.035** **0.000** -0.0014 0.0000	**+0.066** **+0.033** +0.0026 +0.0013	**0.101T** **0.033T** 0.0040T 0.0013T	n6	**+0.146** **+0.094** +0.0057 +0.0037	**0.181T** **0.094T** 0.0071T 0.0037T	r7
280.000 11.0236	**315.000** 12.4016					**+0.150** **+0.098** +0.0059 +0.0039	**0.185T** **0.098T** 0.0073T 0.0039T	

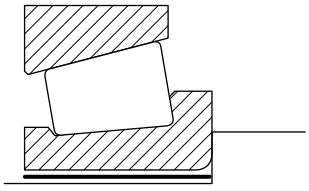
These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

Stationary Inner Ring											
Unground Seat			Ground Seat			Unground Seat			Hardened and Ground Seat		
Moderate Loads, No Shock			Moderate Loads, No Shock			Sheaves, Wheels, Idlers			Wheel Spindles		
Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol
mm in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	
0.000 **-0.011** 0.0000 -0.0004	**0.012T** **0.011L** 0.0005T 0.0004L	h6	**-0.006** **-0.017** -0.0002 -0.0007	**0.006T** **0.017L** 0.0002T 0.0007L	g6	**-0.006** **-0.017** -0.00025 -0.00065	**0.006T** **0.017L** -0.00025T 0.00065L	g6	**-0.016** **-0.027** -0.0006 -0.0011	**0.004L** **0.027L** 0.0002L 0.0011L	f6
0.000 **-0.013** 0.0000 -0.0005	**0.012T** **0.013L** 0.0005T 0.0005L	h6	**-0.007** **-0.020** -0.0003 -0.0008	**0.005T** **0.020L** 0.0002T 0.0008L	g6	**-0.007** **-0.020** -0.0003 -0.0008	**0.005T** **0.020L** 0.0002T 0.0008L	g6	**-0.020** **-0.033** -0.0008 -0.0013	**0.008L** **0.033L** 0.0003L 0.0013L	f6
0.000 **-0.016** 0.0000 -0.0006	**0.012T** **0.016L** 0.0005T 0.0006L	h6	**-0.009** **-0.025** -0.0004 -0.0010	**0.003T** **0.025L** 0.0001T 0.0010L	g6	**-0.009** **-0.025** -0.0004 -0.0010	**0.003T** **0.025L** 0.0001T 0.0010L	g6	**-0.025** **-0.041** -0.0010 -0.0016	**0.013L** **0.041L** 0.0005L 0.0016L	f6
0.000 **-0.019** 0.0000 -0.0007	**0.015T** **0.019L** 0.0006T 0.0007L	h6	**-0.010** **-0.029** -0.0004 -0.0011	**0.005T** **0.029L** 0.0002T 0.0011L	g6	**-0.010** **-0.029** -0.0004 -0.0011	**0.005T** **0.029L** 0.0002T 0.0011L	g6	**-0.030** **-0.049** -0.0012 -0.0019	**0.015L** **0.049L** 0.0006L 0.0019L	f6
0.000 **-0.022** 0.0000 -0.0009	**0.020T** **0.022L** 0.0008T 0.0009L	h6	**-0.012** **-0.034** -0.0005 -0.0014	**0.008T** **0.034L** 0.0003T 0.0014L	g6	**-0.012** **-0.034** -0.0005 -0.0014	**0.008T** **0.034L** 0.0003T 0.0014L	g6	**-0.036** **-0.058** -0.0014 -0.0023	**0.016L** **0.058L** 0.0006L 0.0023L	f6
0.000 **-0.025** 0.0000 -0.0010	**0.025T** **0.025L** 0.0010T 0.0010L	h6	**-0.014** **-0.039** -0.0006 -0.0016	**0.011T** **0.039L** 0.0004T 0.0016L	g6	**-0.014** **-0.039** -0.0006 -0.0016	**0.011T** **0.039** 0.0004T 0.0016L	g6	**-0.043** **-0.068** -0.0016 -0.0026	**0.018L** **0.068L** 0.0006L 0.0026L	f6
0.000 **-0.029** 0.0000 -0.0011	**0.030T** **0.029L** 0.0012T 0.0011L	h6	**-0.015** **-0.044** -0.0006 -0.0017	**0.015T** **0.044L** 0.0006T 0.0017L	g6	**-0.015** **-0.044** -0.0006 -0.0017	**0.015T** **0.044L** 0.0006T 0.0017L	g6	**-0.050** **-0.079** -0.0020 -0.0031	**0.020L** **0.079L** 0.0008L 0.0031L	f6
0.000 **-0.032** 0.0000 -0.0012	**0.035T** **0.032L** 0.0014T 0.0012L	h6	**-0.017** **-0.049** -0.0007 -0.0019	**0.018T** **0.049L** 0.0007T 0.0019L	g6	**-0.017** **-0.049** -0.0007 -0.0019	**0.018T** **0.049L** 0.0007T 0.0019L	g6	**-0.056** **-0.068** -0.0022 -0.0027	**0.021L** **0.088L** 0.0008L 0.0035L	f6

Continued on next page.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

INNER RING – Industrial Equipment Classes K and N (Metric)



Deviation from nominal (maximum) bearing bore and resultant fit.

T= Tight
L = Loose

Table 22 continued.

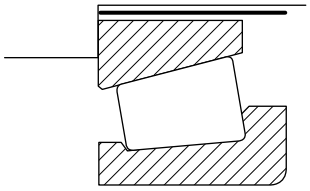
Inner Ring Bore		Tolerance	Rotating Inner Ring			Rotating or Stationary Inner Ring		
			Ground Seat			Unground Seat or Ground Seat		
Range			Constant Loads With Moderate Shock			Heavy Loads, High Speed or Shock		
Over	Incl.		Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.	**mm** in.	
315.000 12.4016	**355.000** 13.9764	**-0.040** **0.000** -0.0016 0.0000	**+0.073** **+0.037** +0.0029 +0.0015	**0.113T** **0.037T** 0.0044T 0.0015T	n6	**+0.165** **+0.108** +0.0065 +0.0043	**0.205T** **0.108T** 0.0081T 0.0043T	r7
355.000 13.9764	**400.000** 15.7480					**+0.171** **+0.114** +0.0067 +0.0045	**0.211T** **0.114T** 0.0083T 0.0045T	
400.000 15.7580	**450.000** 17.7165	**-0.045** **0.000** -0.0018 0.0000	**+0.080** **+0.040** +0.0031 +0.0016	**0.0125T** **0.040T** 0.0049T 0.0016T	n6	**+0.189** **+0.126** +0.0074 +0.0092	**0.234T** **0.126T** 0.0092T 0.0050T	r7
450.000 17.7165	**500.000** 19.6850					**+0.195** **+0.132** +0.0077 +0.0052	**0.240T** **0.132T** 0.0094T 0.0052T	
500.000 29.6850	**630.000** 24.8032	**-0.050** **0.000** -0.0020 0.0000	**+0.100** **+0.050** +0.0039 +0.0020	**0.150T** **0.050T** 0.0059T 0.0020T	–	**+0.200** **+0.125** +0.0079 +0.0049	**0.250T** **0.125T** 0.0098T 0.0049T	–
630.000 24.8032	**800.000** 31.4961	**-0.080** **0.000** -0.0031 0.0000	**+0.125** **+0.050** +0.0049 +0.0020	**0.205T** **0.050T** 0.0081T 0.0020T	–	**+0.225** **+0.150** +0.0089 +0.0059	**0.305T** **0.105T** 0.0102T 0.0041T	–
800.000 31.4961	**1000.000** 39.3701	**-0.100** **0.000** -0.0039 0.0000	**+0.150** **+0.050** +0.0059 +0.0020	**0.250T** **0.050T** 0.0098T 0.0020T	–	**+0.275** **+0.175** +0.0108 +0.0069	**0.375T** **0.175T** 0.0148T 0.0069T	–

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

Stationary Inner Ring											
Unground Seat			Ground Seat			Unground Seat			Hardened and Ground Seat		
Moderate Loads, No Shock			Moderate Loads, No Shock			Sheaves, Wheels, Idlers			Wheel Spindles		
Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol	Inner Ring Seat Deviation	Resultant Fit	Symbol
mm in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	
0.000 **-0.036** 0.0000 -0.0014	**0.040T** **0.036L** 0.0016T 0.0014L	h6	**-0.018** **-0.075** -0.0007 -0.0030	**0.022T** **0.075L** 0.0009T 0.0030L	g7	**-0.018** **-0.075** -0.0007 -0.0029	**0.022T** **0.075L** 0.0009T 0.0029L	g7	–	–	–
0.000 **-0.040** 0.0000 -0.0020	**0.045T** **0.040L** 0.0018T 0.0016L	h6	**-0.020** **-0.083** -0.0008 -0.0033	**0.025T** **0.083L** 0.0008T 0.0033L	g7	**-0.020** **-0.083** -0.0008 -0.0033	**0.025T** **0.083L** **0.0008T** 0.0033L	g7	–	–	–
0.000 **-0.050** 0.0000 -0.0020	**0.050T** **0.050L** 0.0020T 0.0020L	–	**-0.050** **-0.100** -0.0020 -0.0039	**0.000** **0.100L** 0.0000 0.0039L	–	**-0.050** **-0.100** -0.0020 -0.0039	**0.000** **0.100L** 0.0000 0.0039L	–	–	–	–
0.000 **-0.075** 0.0000 -0.0030	**0.080T** **0.075L** 0.0031T 0.0030L	–	**-0.080** **-0.150** -0.0031 -0.0059	**0.000** **0.150L** 0.0000 0.0059L	–	**-0.080** **-0.150** -0.0031 -0.0059	**0.000** **0.150L** 0.0000 0.0059L	–	–	–	–
0.000 **-0.100** 0.0000 -0.0039	**0.100T** **0.100L** 0.0039T 0.0039L	–	**-0.100** **-0.200** -0.0039 -0.0079	**0.000** **0.200L** 0.0000 0.0079L	–	**-0.100** **-0.200** -0.0039 -0.0079	**0.000** **0.200L** 0.0000 0.0079L	–	–	–	–

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

OUTER RING – Industrial Equipment Classes K and N (Metric)



Deviation from nominal (maximum) bearing O.D. and resultant fit.

T= Tight
L = Loose

TABLE 23. TAPERED ROLLER BEARINGS – OUTER RING – Industrial Equipment Classes K and N (Metric)

Outer Ring O.D. Range Over	Outer Ring O.D. Range Incl.	Tolerance	Stationary Cup: Floating or Clamped — Outer Ring Seat Deviation	Stationary Cup: Floating or Clamped — Resultant Fit	Stationary Cup: Floating or Clamped — Symbol	Stationary Cup: Adjustable — Outer Ring Seat Deviation	Stationary Cup: Adjustable — Resultant Fit	Stationary Cup: Adjustable — Symbol	Stationary Cup: Nonadjustable or in Carriers — Outer Ring Seat Deviation	Stationary Cup: Nonadjustable or in Carriers — Resultant Fit	Stationary Cup: Nonadjustable or in Carriers — Symbol	Rotating Cup: Nonadjustable or in Carriers or Sheaves - Clamped — Outer Ring Seat Deviation	Rotating Cup: Nonadjustable or in Carriers or Sheaves - Clamped — Resultant Fit	Rotating Cup: Nonadjustable or in Carriers or Sheaves - Clamped — Symbol
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	
18.000 0.7087	**30.000** 1.1811	**0.000** **-0.012** 0.0000 -0.0005	**+0.007** **+0.028** +0.0003 +0.0011	**0.007L** **0.040L** 0.0003L 0.0016L	G7	**-0.009** **+0.012** -0.0004 +0.0005	**0.009T** **0.024L** 0.0004T 0.0009L	J7	**-0.035** **-0.014** -0.0014 -0.0005	**0.035T** **0.002T** 0.0014T 0.0001T	P7	**-0.041** **-0.020** -0.0016 -0.0009	**0.041T** **0.008T** 0.0016T 0.0003T	R7
30.000 1.1811	**50.000** 1.9685	**0.000** **-0.014** 0.0000 -0.0006	**+0.009** **+0.034** +0.0004 +0.0013	**0.009L** **0.048L** 0.0004L 0.0019L	G7	**-0.011** **+0.014** -0.0004 +0.0006	**0.011T** **0.028L** 0.0004T 0.0011L	J7	**-0.042** **-0.017** -0.0017 -0.0007	**0.042T** **0.003T** 0.0017T 0.0001T	P7	**-0.050** **-0.025** -0.0020 -0.0010	**0.050T** **0.011T** 0.0020T 0.0004T	R7
50.000 1.9685	**65.000** 2.5591	**0.000** **-0.016** 0.0000 -0.0006	**+0.010** **+0.040** +0.0004 +0.0016	**0.010L** **0.056L** 0.0004L 0.0022L	G7	**-0.012** **+0.018** -0.0005 +0.0007	**0.012T** **0.034L** 0.0005T 0.0013L	J7	**-0.051** **-0.021** -0.0020 -0.0008	**0.051T** **0.005T** 0.0020T 0.0002T	P7	**-0.060** **-0.030** -0.0024 -0.0012	**0.060T** **0.014T** 0.0024T 0.0006T	R7
65.000 2.5591	**80.000** 3.1496											**-0.062** **-0.032** -0.0021 -0.0013	**0.062T** **0.016T** 0.0024T 0.0006T	
80.000 3.1496	**100.000** 3.9370	**0.000** **-0.018** 0.0000 -0.0007	**+0.012** **+0.047** +0.0005 +0.0019	**0.012L** **0.065L** 0.0005L 0.0026L	G7	**-0.013** **+0.022** -0.0005 +0.0009	**0.013T** **0.040L** 0.0005T 0.0016L	J7	**-0.059** **-0.024** -0.0023 -0.0009	**0.059T** **0.006T** 0.0023T 0.0002T	P7	**-0.073** **-0.038** -0.0029 -0.0015	**0.073T** **0.020T** 0.0029T 0.0008T	R7
100.000 3.9370	**120.000** 4.7244											**-0.076** **-0.041** -0.0030 -0.0016	**0.076T** **0.023T** 0.0030T 0.0009T	
120.000 4.7244	**140.000** 5.5188	**0.000** **-0.020** 0.0000 -0.0008	**+0.014** **+0.054** +0.0006 +0.0021	**0.014L** **0.074L** 0.0006L 0.0029L	G7	**-0.014** **+0.026** -0.0006 +0.0010	**0.014T** **0.046L** 0.0006T 0.0018L	J7	**-0.068** **-0.028** -0.0027 -0.0011	**0.068T** **0.074T** 0.0027T 0.0003T	P7	**-0.088** **-0.048** -0.0035 -0.0019	**0.088T** **0.028T** 0.0035T 0.0011T	R7
140.000 5.5188	**150.000** 5.9055											**-0.090** **-0.050** -0.0035 -0.0020	**0.090T** **0.030T** 0.0035T 0.0012T	
150.000 5.9055	**160.000** 6.2992	**0.000** **-0.025** 0.0000 -0.0010	**+0.014** **+0.054** +0.0006 +0.0021	**0.014L** **0.079L** 0.0006L 0.0031L	G7	**-0.014** **+0.026** -0.0006 +0.0010	**0.014L** **0.051L** 0.0006T 0.0020L	J7	**-0.068** **-0.028** -0.0027 -0.0011	**0.068T** **0.003T** 0.0027T 0.0001T	P7	**-0.090** **-0.050** -0.0035 -0.0020	**0.090T** **0.025T** 0.0035T 0.0010T	R7
160.000 6.2992	**180.000** 7.0866											**-0.093** **-0.053** -0.0037 -0.0021	**0.093T** **0.028T** 0.0037T 0.0011T	

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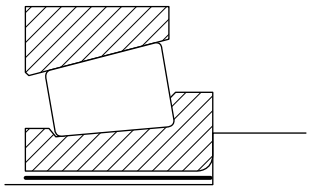
These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

Table 23 continued.

Outer Ring O.D.		Tolerance	Stationary Cup									Rotating Cup		
Range			Floating or Clamped			Adjustable			Nonadjustable or in Carriers			Nonadjustable or in Carriers or Sheaves - Clamped		
Over	Incl.		Outer Ring Seat Deviation	Resultant Fit	Symbol	Outer Ring Seat Deviation	Resultant Fit	Symbol	Outer Ring Seat Deviation	Resultant Fit	Symbol	Outer Ring Seat Deviation	Resultant Fit	Symbol
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	
180.000 7.0866	**200.000** 7.8740											**-0.106** **-0.060** -0.0042 -0.0024	**0.106T** **0.030T** 0.0042T 0.0012T	
200.000 7.8740	**225.000** 8.8583	**0.000** **-0.030** 0.0000 -0.0012	**+0.015** **+0.061** +0.0006 +0.0024	**0.015L** **0.091L** 0.0006L 0.0036L	G7	**-0.016** **+0.030** -0.00076 +0.0012	**0.016T** **0.060L** 0.0006T 0.0024L	J7	**-0.079** **-0.033** -0.0031 -0.0014	**0.079T** **0.003T** 0.0031T 0.0001T	P7	**-0.109** **-0.063** -0.0043 -0.0025	**0.109T** **0.033T** 0.0043T 0.0013T	R7
225.000 8.8583	**250.000** 9.8425											**-0.113** **-0.067** -0.0044 -0.0026	**0.113T** **0.037T** 0.0044T 0.0015T	
250.000 9.8425	**280.000** 11.0236	**0.000** **-0.035** 0.0000 -0.0014	**+0.017** **+0.069** +0.0007 +0.0027	**0.017L** **0.104L** 0.0007L 0.0041L	G7	**-0.016** **+0.036** -0.0006 +0.0013	**0.016T** **0.071L** 0.0006T 0.0028L	J7	**-0.088** **-0.036** -0.0035 -0.0014	**0.088T** **0.001T** 0.0035T 0.0000	P7	**-0.126** **-0.074** -0.0050 -0.0029	**0.126T** **0.039T** 0.0050T 0.0015T	R7
280.000 11.0236	**315.000** 12.4016											**-0.130** **-0.078** -0.0051 -0.0031	**0.130T** **0.043T** 0.0051T 0.0017T	
315.000 12.4016	**355.000** 13.9764	**0.000** **-0.040** 0.0000 -0.0016	**+0.062** **+0.098** +0.0024 +0.0039	**0.062L** **0.138L** 0.0024L 0.0054L	F6	**-0.018** **+0.039** -0.0007 +0.0015	**0.018T** **0.079L** 0.0007T 0.0031L	J7	**-0.098** **-0.041** -0.0039 -0.0016	**0.098T** **0.001T** 0.0039T 0.0001T	P7	**-0.144** **-0.087** -0.0057 -0.0034	**0.144T** **0.047T** 0.0057T 0.0019T	R7
355.000 13.9764	**400.000** 15.7480											**-0.150** **-0.093** -0.0059 -0.0037	**0.150T** **0.053T** 0.0059T 0.0021T	
400.000 15.7480	**450.000** 17.7165	**0.000** **-0.045** 0.0000 -0.0018	**+0.068** **+0.095** +0.0027 +0.0037	**0.068L** **0.140L** 0.0027L 0.0055L	F5	**-0.020** **+0.043** -0.0008 +0.0017	**0.020T** **0.088L** 0.0008T 0.0035L	J7	**-0.108** **-0.045** -0.0043 -0.0018	**0.108T** **0.000** 0.0043T 0.0000	P7	**-0.166** **-0.103** -0.0065 -0.0041	**0.166T** **0.058T** 0.0065T 0.0023T	R7
450.000 17.7165	**500.000** 19.6850											**-0.172** **-0.109** -0.0068 -0.0043	**0.172T** **0.064T** 0.0068T 0.0025T	
500.000 19.6850	**630.000** 24.8032	**0.000** **-0.050** 0.0000 -0.0020	**+0.065** **+0.115** +0.0026 +0.0045	**0.065L** **0.165L** 0.0026L 0.0065L	–	**-0.022** **+0.046** -0.0009 +0.0018	**0.022T** **0.096L** 0.0009T 0.0038L	–	**-0.118** **-0.050** -0.0046 -0.0020	**0.118T** **0.000** 0.0046T 0.0000	–	**-0.190** **-0.120** -0.0075 -0.0047	**0.190T** **0.070T** 0.0075T 0.0028T	R7
630.000 24.8032	**800.000** 31.4961	**0.000** **-0.080** 0.0000 -0.0031	**+0.075** **+0.150** +0.0030 +0.0059	**0.075L** **0.225L** 0.0030L 0.0089L	–	**-0.025** **+0.050** -0.0098 +0.0020	**0.025T** **0.130L** 0.0098T 0.0051L	–	**-0.150** **-0.075** -0.0059 -0.0030	**0.150T** **0.000** 0.0059T 0.0000	–	–	–	R7
800.000 31.4961	**1000.000** 39.3701	**0.000** **-0.100** 0.0000 -0.0039	**+0.075** **+0.175** +0.0030 +0.0069	**0.075L** **0.275L** 0.0030L 0.0108L	–	**-0.025** **+0.075** -0.0098 +0.0030	**0.025T** **0.175L** 0.0098T 0.0069L	–	**-0.200** **-0.100** -0.0079 -0.0039	**0.200T** **0.000** 0.0079T 0.0000	–	–	–	R7

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

INNER RING – Industrial Equipment Classes 4 and 2 (Inch)



Deviation from nominal (minimum) bearing bore and resultant fit.

T= Tight
L = Loose

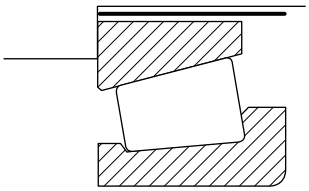
TABLE 24. TAPERED ROLLER BEARINGS – INNER RING – Industrial Equipment Classes 4 and 2 (Inch)

Inner Ring Bore			Rotating Inner Ring		Rotating or Stationary Inner Ring		Stationary Inner Ring							
Range		Tolerance[1]	Ground Seat		Unground or Ground Seat		Unground Seat		Ground Seat		Unground Seat		Hardened and Ground Seat	
			Constant Loads With Moderate Shock		Heavy Loads, or High Speed Or Shock		Moderate Loads, No Shock		Moderate Loads, No Shock		Sheaves, Wheels, Idlers		Wheel Spindles	
Over	Incl.		Inner Ring Seat Deviation	Resultant Fit	Inner Ring Seat Deviation	Resultant Fit	Inner Ring Seat Deviation	Resultant Fit	Inner Ring Seat Deviation	Resultant Fit	Inner Ring Seat Deviation	Resultant Fit	Inner Ring Seat Deviation	Resultant Fit
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
0.000 0.0000	**76.200** 3.0000	**0.000** **+0.013** 0.0000 +0.0005	**+0.038**[2] **+0.026** +0.0015 +0.0010	**0.038T** **0.012T** 0.0015T 0.0005T	**+0.064** **+0.038** +0.0025 +0.0015	**0.064T** **0.025T** 0.0025T 0.0010T	**+0.013** **0.000** +0.0005T 0.0000	**0.013T** **0.013L** 0.0005T 0.0005L	**0.000** **-0.013** 0.0000 -0.0005	**0.000** **0.026L** 0.0000 0.0010L	**0.000** **-0.013** 0.0000 -0.0005	**0.000** **0.026L** 0.0000 0.0010L	**-0.005** **-0.018** -0.0002 -0.0007	**0.005L** **0.031L** 0.0002L 0.0012L
76.200 3.0000	**304.800** 12.0000	**0.000** **+0.025** 0.0000 +0.0010	**+0.064** **+0.038** +0.0025 +0.0015	**0.064T** **0.013T** 0.0025T 0.0005T	Use Average Tight Inner Ring Fit of 0.0005 mm/mm (0.0005in./in.) of Inner Ring Bore[3]		**+0.025** **0.000** +0.0010 0.0000	**0.025T** **0.025L** 0.0010T 0.0010L	**0.000** **-0.025** 0.0000 -0.0010	**0.000** **0.051L** 0.0000 0.0020L	**0.000** **-0.025** 0.0000 -0.0010	**0.000** **0.051L** 0.0000 0.0020L	**-0.005** **-0.031** -0.0002 -0.0012	**0.005L** **0.056L** 0.0002L 0.0022L
304.800 12.0000	**609.600** 24.0000	**0.000** **+0.051** 0.0000 +0.0020	**+0.127** **+0.076** +0.0050 +0.0030	**0.127T** **0.025T** 0.0050T 0.0010T			**+0.051** **0.000** +0.0020 0.0000	**0.051T** **0.051L** 0.0020T 0.0020L	**0.000** **-0.051** 0.0000 -0.0020	**0.000** **0.102L** 0.0000 0.0040L	**0.000** **-0.051** 0.0000 -0.0020	**0.000** **0.102L** 0.0000 0.0040L	–	–
609.600 24.0000	**914.400** 36.0000	**0.000** **+0.076** 0.0000 +0.0030	**+0.191** **+0.114** +0.0075 +0.0015T				**+0.076** **0.000** +0.0030 0.0000	**0.076T** **0.076L** 0.0030T 0.0030L	**0.000** **-0.076** 0.0000 -0.0030	**0.000** **0.152L** 0.0000 0.0060L	**0.000** **-0.076** 0.0000 -0.0030	**0.000** **0.152L** 0.0000 0.0060L	–	–

[1]Does not apply to TNASW and TNASWE type bearings.
[2]Example: If the minimum inner ring bore is 76.200 mm (3.0000 in.) the suggested shaft size = 76.238 mm (3.0015 in.) to 76.225 mm (3.0010 in.) for an inner ring fit of 0.038 mm (0.0015 in.) tight to 0.012 mm (0.0005 in.) tight.
[3]For inner ring bores between 76.200 mm (3.0000 in.) and 101.600 mm (4.0000 in.) use a minimum fit of 0.025 mm (0.0001 in.) tight.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

OUTER RING – Industrial Equipment Classes 4 and 2 (Inch)



Deviation from nominal (minimum) bearing O.D. and resultant fit.

T= Tight
L = Loose

TABLE 25. TAPERED ROLLER BEARINGS – OUTER RING – Industrial Equipment Classes 4 and 2 (Inch)

Outer Ring O.D.		Tolerance	Stationary Outer Ring				Stationary Or Rotating Outer Ring		Rotating Outer Ring	
Range			Floating or Clamped		Adjustable		Non-adjustable or In Carriers, Sheaves - Clamped		Sheaves - Unclamped[1]	
Over	Incl.		Outer Ring Seat Deviation	Resultant Fit	Outer Ring Seat Deviation	Resultant Fit	Outer Ring Seat Deviation	Resultant Fit	Outer Ring Seat Deviation	Resultant Fit
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
0.000 0.0000	**76.200** 3.0000	**+0.025** **0.000** +0.0010 0.0000	**+0.050** **+0.076** +0.0020 +0.0030	**0.026L** **0.076L** 0.0010L 0.0030L	**0.000** **+0.025** 0.0000 +0.0010	**0.025T** **0.025L** 0.0010T 0.0010L	**-0.039** **-0.013** -0.0015 -0.0005	**0.064T** **0.013T** 0.0025T 0.0005T	**-0.077** **-0.051** -0.0030 -0.0020	**0.102T** **0.051T** 0.0040T 0.0020T
76.200 3.0000	**127.000** 5.0000	**+0.025** **0.000** +0.0010 0.0000	**+0.050** **+0.076** +0.0020 +0.0030	**0.026L** **0.076L** 0.0010L 0.0030L	**0.000** **+0.025** 0.0000 +0.0010	**0.025T** **0.025L** 0.0010T 0.0010L	**-0.051** **-0.025** -0.0020 -0.0010	**0.076T** **0.025T** 0.0030T 0.0010T	**-0.077** **-0.051** -0.0030 -0.0020	**0.102T** **0.051T** 0.0040T 0.0020T
127.000 5.0000	**304.800** 12.0000	**+0.025** **0.000** +0.0010 0.0000	**+0.050** **+0.076** +0.0020 +0.0030	**0.026L** **0.076L** 0.0010L 0.0030L	**0.000** **+0.051** 0.0000 +0.0020	**0.025T** **0.051L** 0.0010T 0.0020L	**-0.051** **-0.025** -0.0020 -0.0010	**0.076T** **0.025T** 0.0030T 0.0010T	**-0.077** **-0.051** -0.0030 -0.0020	**0.102T** **0.051T** 0.0040T 0.0020T
304.800 12.0000	**609.600** 24.0000	**+0.051** **0.000** +0.0020 0.0000	**+0.102** **+0.152** +0.0040 +0.0060	**0.051L** **0.152L** 0.0020L 0.0060L	**+0.026** **+0.076** +0.0010 +0.0030	**0.025T** **0.076L** 0.0010T 0.0030L	**-0.076** **-0.025** -0.0030 -0.0010	**0.127T** **0.025T** 0.0050T 0.0010T	**-0.102** **-0.051** -0.0040 -0.0020	**0.153T** **0.051T** 0.0060T 0.0020T
609.600 24.0000	**914.400** 36.0000	**+0.076** **0.000** +0.0030 0.0000	**+0.152** **+0.229** +0.0060 +0.0090	**0.076L** **0.229L** 0.0030L 0.0090L	**+0.051** **+0.127** +0.0020 +0.0050	**0.025T** **0.0127L** 0.0010T 0.0050L	**-0.102** **-0.025** -0.0040 -0.0010	**0.178T** **0.025T** 0.0070T 0.0010T	–	–

[1]Unclamped outer ring design is applicable only to sheaves with negligible fleet angle.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

INNER RING – Automotive Equipment Class 4 and 2 (Inch)

Deviation from nominal (minimum) bearing bore and resultant fit.

T= Tight
L = Loose

TABLE 26. TAPERED ROLLER BEARINGS – INNER RING
Automotive Equipment Classes 4 and 2 (Inch)

Shaft O.D.								
Inner Ring Bore		Tolerance	Stationary Inner Ring		Rotating Inner Ring			
			Front Wheels Rear Wheel (Full-Floating Axles) Trailer Wheels		Rear Wheels (Semi-Floating Axles)		Rear Wheels (Unit-Bearing) (Semi-Floating Axles)	
			Non-adjustable					
Over	Incl.		Shaft O.D. Deviation	Resultant Fit	Shaft O.D. Deviation	Resultant Fit	Shaft O.D. Deviation	Resultant Fit
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
0.000 0.0000	**76.200** 3.0000	**0.000** **+0.0013** 0.0000 +0.0005	**-0.005** **-0.018** -0.0002 -0.0007	**0.005L** **0.031L** 0.0002L 0.0012L	**+0.051** **+0.038** +0.0020 +0.0015	**0.051T** **0.025T** 0.0020T 0.0010T	**+0.056** **+0.038** +0.0022 +0.0015	**0.056T** **0.025T** 0.0022T 0.0010T
76.200 3.0000	**304.800** 12.0000	**0.000** **+0.0025** 0.0000 +0.0010	**-0.0013** **-0.038** -0.0050 -0.0015	**0.013L** **0.063L** 0.0005L 0.0025L	**+0.076** **+0.051** +0.0030 +0.0020	**0.076T** **0.026T** 0.0030T 0.0010T	–	–

OUTER RING – Automotive Equipment Classes 4 and 2 (Inch)

TABLE 27. TAPERED ROLLER BEARINGS – OUTER RING
Automotive Equipment Classes 4 and 2 (Inch)

Housing Bore				
Outer Ring O.D.		Tolerance	Rotating Outer Ring	
			Front Wheels	Rear Wheels (Full-Floating Trailer Wheels)
			Non-adjustable	
Over	Incl.		Housing Bore Deviation	Resultant Fit
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
0.000 0.0000	**76.200** 3.0000	**+0.025** **0.000** +0.0010 0.0000	**-0.051** **-0.013** -0.0020 -0.0005	**0.076T** **0.013T** 0.0030T 0.0005T
76.200 3.0000	**127.000** 5.0000	**+0.025** **0.000** +0.0010 0.0000	**-0.077** **-0.025** -0.0030 -0.0010	**0.102T** **0.025T** 0.0040T 0.0010T
127.000 5.0000	**304.800** 12.0000	**+0.025** **0.000** +0.0010 0.0000	**-0.077** **-0.025** -0.0030 -0.0010	**0.102T** **0.025T** 0.0040T 0.0010T

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

Shaft O.D.									
Rotating Inner Ring									
Pinion						Differential		Transaxles Transmissions Transfer Cases Cross Shafts	
Clamped		Collapsible Spacer		Non-adjustable		Non-adjustable		Non-adjustable	
Shaft O.D. Deviation	Resultant Fit	Shaft O.D. Deviation	Resultant Fit	Shaft O.D. Deviation	Resultant Fit	Shaft O.D. Deviation	Resultant Fit	Shaft O.D. Deviation	Resultant Fit
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
+0.025 **+0.013** +0.0010 +0.0005	**0.025T** **0.000** 0.0010T 0.0000	**+0.030** **+0.018** +0.0012 +0.0007	**0.030T** **0.005T** 0.0012T 0.0002T	**+0.051** **+0.038** +0.0020 +0.0015	**0.051T** **0.025T** 0.0020T 0.0010T	**+0.102** **+0.064** +0.0040 +0.0025	**0.102T** **0.051T** 0.0040T 0.0020T	**+0.038** **+0.025** +0.0015 +0.0010	**0.038T** **0.012T** 0.0015T 0.0005T
+0.038 **+0.013** +0.0015 +0.0005	**0.038T** **0.012T** 0.0015T 0.0005T	–	–	**+0.076** **+0.051** +0.0030 +0.0020	**0.076T** **0.026T** 0.0030T 0.0010T	**+0.102** **+0.076** +0.0040 +0.0025	**0.102T** **0.051T** 0.0040T 0.0020T	**+0.064** **+0.038** +0.0025 +0.0015	**0.064T** **0.013T** 0.0025T 0.0005T

Housing Bore									
Stationary Outer Ring									
Rear Wheels	(Semi-Floating Axles)	Differential	(Split Seat)	Transmissions		Transfer Cases Cross Shafts		Pinion (Solid Seat) Transmission	Differential Transaxles Transfer Cases
Adjustable (TS) Clamped (TSU)		Adjustable		Adjustable				Non-adjustable	
Housing Bore Deviation	Resultant Fit	Housing Bore Deviation	Resultant Fit	Housing Bore Deviation		Resultant Fit		Housing Bore Deviation	Resultant Fit
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.		**mm** in.	**mm** in.
+0.038 **+0.076** +0.0015 +0.0030	**0.013L** **0.076L** 0.0005L 0.0030L	**+0.025** **+0.051** +0.0010 +0.0020	**0.000** **0.051L** 0.0000 0.0020L	**0.000** **+0.025** 0.000 +0.0010		**0.025T** **0.025L** 0.0010T 0.0010L		**-0.038** **-0.013** -0.0015 -0.0005	**0.063T** **0.013T** 0.0025T 0.0005T
+0.038 **+0.076** +0.0015 +0.0030	**0.013L** **0.076L** 0.0005L 0.0030L	**+0.025** **+0.051** +0.0010 +0.0020	**0.000** **0.051L** 0.0000 0.0020L	**0.000** **+0.025** 0.0000 +0.0010		**0.025T** **0.025L** 0.0010T 0.0010L		**-0.051** **-0.025** -0.0020 -0.0010	**0.076T** **0.025T** 0.0030T 0.0010T
–	–	**0.000** **+0.051** 0.0000 +0.0020	**0.025T** **0.051L** 0.0010T 0.0020L	**0.000** **+0.051** 0.0000 +0.0020		**0.025T** **0.051L** 0.0010T 0.0020L		**-0.077** **-0.025** -0.0030 -0.0010	**0.102T** **0.025T** 0.0040T 0.0010T

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

INNER RING – Automotive Equipment
Classes K and N (Metric)

TABLE 28. TAPERED ROLLER BEARINGS – INNER RING – Automotive Equipment Classes K and N (Metric)

Shaft O.D.												
Inner Ring Bore		Tolerance	Stationary Inner Ring			Rotating Inner Ring					
			Front Wheels Rear Wheel (Full-Floating Axles) Trailer Wheels			Rear Wheels (Semi-Floating Axles)			Rear Wheels (Unit-Bearing) (Semi-Floating Axles)		
			Non-adjustable			Non-adjustable			Non-adjustable		
Over	Incl.		Shaft O.D. Deviation	Resultant Fit	Symbol	Shaft O.D. Deviation	Resultant Fit	Symbol	Shaft O.D. Deviation	Resultant Fit	Symbol
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	
18.000 0.7087	**30.000** 1.1811	**-0.012** **0.000** -0.0005 0.0000	**-0.020** **-0.033** -0.0008 -0.0013	**0.008L** **0.033L** 0.0003L 0.0013L	f6	**+0.035** **+0.022** +0.0013 +0.0008	**0.047T** **0.022T** 0.0018T 0.0008T	p6	**+0.035** **+0.022** +0.0013 +0.0008	**0.047T** **0.022T** 0.0018T 0.0008T	p6
30.000 1.1811	**50.000** 1.9685	**-0.012** **0.000** -0.0005 0.0000	**-0.025** **-0.041** -0.0010 -0.0016	**0.013L** **0.041L** 0.0005L 0.0016L	f6	**+0.042** **+0.026** +0.0016 +0.0010	**0.054T** **0.026T** 0.0021T 0.0010T	p6	**+0.042** **+0.026** +0.0016 +0.0010	**0.054T** **0.026T** 0.0021T 0.0010T	p6
50.000 1.9685	**80.000** 3.1496	**-0.015** **0.000** -0.0006 0.0000	**-0.030** **-0.049** -0.0012 -0.0019	**0.015L** **0.049L** 0.0006L 0.0019L	f6	**+0.051** **+0.032** +0.0021 +0.0014	**0.066T** **0.032T** 0.0027T 0.0014T	p6	–	–	–
80.000 3.1496	**120.000** 4.7244	**-0.020** **0.000** -0.0008 0.0000	**-0.035** **-0.058** -0.0014 -0.0023	**0.016L** **0.058L** 0.0006L 0.0023L	f6	**+0.045** **+0.023** +0.0019 +0.0010	**0.065T** **0.023T** 0.0027T 0.0010T	n6	–	–	–
120.000 4.7244	**180.000** 7.0866	**-0.025** **0.000** -0.0010 0.0000	**-0.043** **-0.068** -0.0016 -0.0026	**0.018L** **0.068L** 0.0006L 0.0026L	f6	**+0.052** **+0.027** +0.0022 +0.0012	**0.077T** **0.029T** 0.0032T 0.0012T	n6	–	–	–

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

Shaft O.D.												
Rotating Inner Ring												
Pinion									Differential		Transaxles, Transmissions Transfer Cases, Cross Shafts	
Clamped			Collapsible Spacer			Non-adjustable			Non-adjustable		Non-adjustable	
Shaft O.D. Deviation	Resultant Fit	Symbol	Shaft O.D. Deviation	Resultant Fit	Symbol	Shaft O.D. Deviation	Resultant Fit	Symbol	Shaft O.D. Deviation	Resultant Fit	Shaft O.D. Deviation	Resultant Fit	Symbol
mm in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	**mm** in.	**mm** in.	
+0.015 **+0.002** +0.0006 +0.0001	**0.027T** **0.002T** 0.0011T 0.0001T	k6	**+0.015** **+0.002** +0.0006 +0.0001	**0.027T** **0.002T** 0.0011T 0.0001T	k6	**+0.035** **+0.022** +0.0013 +0.0009	**0.047T** **0.022T** 0.0018T 0.0009T	p6	**+0.056** **+0.035** +0.0022 +0.0014	**0.068T** **0.035T** 0.0027T 0.0014T	**+0.021** **+0.008** +0.0008 +0.0003	**0.033T** **0.008T** 0.0013T 0.0003T	m6
+0.018 **+0.002** +0.0007 +0.0001	**0.030T** **0.002T** 0.0012T 0.0001T	k6	**+0.018** **+0.002** +0.0007 +0.0001	**0.030T** **0.002T** 0.0012T 0.0001T	k6	**+0.042** **+0.026** +0.0016 +0.0010	**0.054T** **0.026T** 0.0021T 0.0010T	p6	**+0.068** **+0.043** +0.0028 +0.0018	**0.080T** **0.043T** 0.0033T 0.0018T	**+0.025** **+0.009** +0.0010 +0.0004	**0.037T** **0.009T** 0.0015T 0.0004T	m6
+0.021 **+0.002** +0.0008 -0.0001	**0.036T** **0.002T** 0.0014T 0.0001L	k6	**+0.021** **+0.002** +0.0008 +0.0001	**0.036T** **0.002T** 0.0014T 0.0001L	k6	**+0.051** **+0.032** +0.021 +0.014	**0.066T** **0.032T** 0.0027T 0.0014T	p6	**+0.0089** **+0.059** +0.0034 +0.0022	**0.104T** **0.059T** 0.0040T 0.0022T	**+0.030** **+0.011** +0.0012 +0.0004	**0.045T** **0.011T** 0.0018T 0.0004T	m6
+0.013 **-0.009** +0.0005 -0.0004	**0.033T** **0.009L** 0.0013T 0.0004L	j6	–	–	–	**+0.045** **+0.023** +0.0019 +0.0010	**0.065T** **0.023T** 0.0027T 0.0010T	n6	**+0.114** **+0.079** +0.0044 +0.0030	**0.134T** **0.079T** 0.0052T 0.0030T	**+0.035** **+0.013** +0.0014 +0.0005	**0.055T** **0.013T** 0.0022T 0.0005T	m6
+0.014 **-0.011** +0.0006 -0.0004	**0.039T** **0.011L** 0.0016T 0.0004L	j6	–	–	–	**+0.052** **+0.028** +0.0022 +0.0012	**0.077T** **0.029T** 0.0032T 0.0012T	n6	**+0.140** **+0.100** +0.0056 +0.0040	**0.165T** **0.100T** 0.0066T 0.0040T	**+0.040** **+0.015** +0.0016 +0.0006	**0.066T** **0.015T** 0.0026T 0.0006T	–

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

OUTER RING – Automotive Equipment Classes K and N (Metric)

Deviation from nominal (maximum) bearing bore and resultant fit.

T= Tight
L = Loose

TABLE 29. TAPERED ROLLER BEARINGS – OUTER RING – Automotive Equipment Classes K and N (Metric)

Housing Bore																	
Outer Ring O.D.		Tolerance	Rotating Outer Ring			Stationary Outer Ring											
			Front Wheels Rear Wheels (Full-Floating Trailer Wheels)			Rear Wheels (Semi-Floating Axles)			Differential (Split Seat)			Transmissions Transfer Cases Cross Shafts			Pinion Differential (Solid Seat) Transaxles Transmission[1] Transfer Cases		
			Non-adjustable			Adjustable (TS) Clamped (TSU)			Adjustable			Adjustable			Non-adjustable		
Over	Incl.		Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	
30.000 1.1811	**50.000** 1.9685	**0.000** **-0.014** 0.0000 -0.0006	**-0.050** **-0.025** -0.0020 -0.0010	**0.050T** **0.011T** 0.0020T 0.0004T	R7	**+0.009** **+0.034** +0.0004 +0.0014	**0.009L** **0.048L** 0.0004L 0.0020L	G7	**0.000** **+0.025** 0.0000 +0.0010	**0.000** **0.039L** 0.0000 0.0016L	H7	**-0.013** **+0.003** -0.0005 +0.0001	**0.013T** **0.017L** 0.0005T 0.0007L	K6	**-0.050** **-0.025** -0.0020 -0.0010	**0.050T** **0.011T** 0.0020T 0.0004T	R7
50.000 1.9685	**65.000** 2.5591	**0.000** **-0.016** 0.0000 -0.0006	**-0.060** **-0.030** -0.0023 -0.0011	**0.060T** **0.014T** 0.0023T 0.0005T	R7	**+0.010** **+0.040** +0.0004 +0.0016	**0.010L** **0.056L** 0.0004L 0.0022L	G7	**0.000** **+0.030** 0.0000 +0.0012	**0.000** **0.046L** 0.0000 0.0018L	H7	**-0.015** **+0.004** -0.0006 +0.0001	**0.015T** **0.020L** 0.0006T 0.0007L	K6	**-0.060** **-0.030** -0.0023 -0.0011	**0.060** **0.014T** 0.0023T 0.0005T	R7
65.000 2.5591	**80.000** 3.1496	**0.000** **-0.016** 0.0000 -0.0006	**-0.062** **-0.032** -0.0023 -0.0011	**0.062T** **0.016T** 0.0023T 0.0005T											**-0.062** **-0.032** -0.0023 -0.0011	**0.062T** **0.016T** 0.0023T 0.0005T	
80.000 3.1496	**100.000** 3.9370	**0.000** **-0.018** 0.0000 -0.0007	**-0.073** **-0.038** -0.0029 -0.0015	**0.073T** **0.020T** 0.0029T 0.0008T	R7	**+0.012** **+0.047** +0.0005 +0.0029	**0.012L** **0.065L** 0.0005L 0.0026L	G7	**0.000** **+0.035** 0.0000 +0.0014	**0.000** **0.053L** 0.0000 0.0021L	H7	**-0.018** **+0.004** -0.0007 +0.0002	**0.018T** **0.022L** 0.0007T 0.0009L	K6	**-0.073** **-0.038** -0.0029 -0.0015	**0.073T** **0.020T** 0.0029T 0.0008T	R7
100.000 3.9370	**120.000** 4.7244	**0.000** **-0.018** 0.0000 -0.0007	**-0.076** **-0.041** -0.0029 -0.0015	**0.076T** **0.023T** 0.0029T 0.0008T											**-0.076** **-0.041** -0.0029 -0.0015	**0.076T** **0.023T** 0.0029T 0.0008T	
120.000 4.7244	**140.000** 5.5118	**0.000** **-0.020** 0.0000 -0.0008	**-0.088** **-0.048** -0.0035 -0.0019	**0.088T** **0.028T** 0.0035T 0.0011T	R7	**+0.014** **+0.054** +0.0006 +0.0022	**0.014L** **0.074L** 0.0006L 0.0030L	G7	**-0.014** **+0.026** -0.0006 +0.0010	**0.014T** **0.046L** 0.0006L 0.0018L	J7	**-0.021** **+0.004** -0.0008 +0.0002	**0.021T** **0.024L** 0.0008T 0.0010L	K6	**-0.088** **-0.048** -0.0035 -0.0019	**0.088T** **0.028T** 0.0035T 0.0011T	R7
140.000 5.5118	**150.000** 5.9055	**0.000** **-0.020** 0.0000 -0.0008	**-0.090** **-0.050** -0.0035 -0.0019	**0.090T** **0.030T** 0.0035T 0.0011T											**-0.090** **-0.050** -0.0035 -0.0019	**0.090T** **0.030T** 0.0035T 0.0011T	
150.000 5.9055	**160.000** 6.2992	**0.000** **-0.025** 0.0000 -0.0010	**-0.090** **-0.050** -0.0035 -0.0019	**0.090T** **0.025T** 0.0035T 0.0009T	R7	**+0.014** **+0.054** +0.0006 +0.0022	**0.014L** **0.079L** 0.0006L 0.0032L	G7	**-0.014** **+0.026** -0.0006 +0.0010	**0.014T** **0.051L** 0.0006T 0.0020L	J7	**-0.021** **+0.004** -0.0008 +0.0002	**0.021T** **0.029L** 0.0008T 0.0012L	K6	**-0.090** **-0.050** -0.0035 -0.0019	**0.090T** **0.025T** 0.0035T 0.0009T	R7
160.000 6.2992	**180.000** 7.0866	**0.000** **-0.025** 0.0000 -0.0010	**-0.093** **-0.053** -0.0035 -0.0019	**0.093T** **0.028T** 0.0035T 0.0009T											**-0.093** **-0.053** -0.0035 -0.0019	**0.093T** **0.028T** 0.0035T 0.0009T	

[1]Aluminum housings min. fit of 0.025 mm (0.001 in.) per inch of outer ring O.D. Magnesium housing min. fit of 0.038 mm (0.0015 in.) per inch of outer ring O.D.

Continued on next page.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

Table 29 continued.

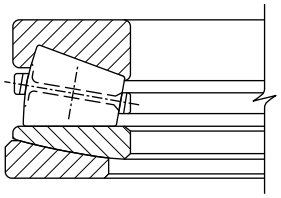
Housing Bore																	
Outer Ring O.D.		Tolerance	Rotating Outer Ring			Stationary Outer Ring											
			Front Wheels Rear Wheels (Full-Floating Trailer Wheels)			Rear Wheels (Semi-Floating Axles)			Differential (Split Seat)			Transmissions Transfer Cases Cross Shafts			Pinion Differential (Solid Seat) Transaxles Transmission[1] Transfer Cases		
			Non-adjustable			Adjustable (TS) Clamped (TSU)			Adjustable			Adjustable			Non-adjustable		
Over	Incl.		Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol	Housing Bore Deviation	Resultant Fit	Symbol
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.		**mm** in.	**mm** in.	
180.000 7.0866	**200.000** 7.8740	**0.000** **-0.030** 0.0000 -0.0012	**-0.106** **-0.060** -0.0042 -0.0024	**0.106T** **0.030T** 0.0042T 0.0012T											**-0.106** **-0.060** -0.0042 -0.0024	**0.106T** **0.030T** 0.0042T 0.0012T	
200.000 7.8740	**225.000** 8.8583	**0.000** **-0.030** 0.0000 -0.0012	**-0.109** **-0.063** -0.0042 -0.0024	**0.109T** **0.033T** 0.0042T 0.0012T	R7	–	–	–	**-0.016** **+0.030** -0.0007 +0.0011	**0.016T** **0.060L** 0.0007T 0.0023L	J7	**-0.016** **+0.030** -0.0007 +0.0011	**0.016T** **0.060L** 0.0007T 0.0023L	J7	**-0.109** **-0.063** -0.0042 -0.0024	**0.109T** **0.033T** 0.0042T 0.0012T	R7
225.000 8.8583	**250.000** 9.8425	**0.000** **-0.030** 0.0000 -0.0012	**-0.113** **-0.067** -0.0042 -0.0024	**0.113T** **0.037T** 0.0042T 0.0012T											**-0.113** **-0.067** -0.0042 -0.0024	**0.113T** **0.037T** 0.0042T 0.0012T	
250.000 9.8425	**280.000** 11.0236	**0.000** **-0.035** 0.0000 -0.0014	**-0.126** **-0.074** -0.0047 -0.0027	**0.126T** **0.039T** 0.0047T 0.0013T	R7	–	–	–	**-0.016** **+0.036** -0.0007 +0.0013	**0.016T** **0.071L** 0.0007T 0.0027L	J7	**-0.016** **+0.036** -0.0007 +0.0014	**0.016T** **0.071L** 0.0007T 0.0027L	J7	**-0.126** **-0.074** -0.0047 -0.0027	**0.126T** **0.039T** 0.0047T 0.0013T	R7
280.000 11.0236	**315.000** 12.4016	**0.000** **-0.035** 0.0000 -0.0014	**-0.130** **-0.078** -0.0047 -0.0027	**0.130T** **0.043T** 0.0047T 0.0013T											**-0.130** **-0.078** -0.0047 -0.0027	**0.130T** **0.043T** 0.0047T 0.0013T	

[1]Aluminum housings min. fit of 0.025 mm (0.001 in.) per inch of outer ring O.D. Magnesium housing min. fit of 0.038 mm (0.0015 in.) per inch of outer ring O.D.

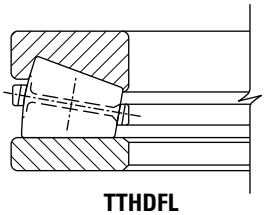
These charts are guidelines for specifying shaft and housing fits related to particular operating conditions. Please contact your Timken engineer for more information.

THRUST TAPERED ROLLER BEARINGS

Tolerances for housing bore and shaft diameters are shown as variance from nominal bearing dimension. When one ring is piloted by the housing, sufficient clearances must be allowed at the outside diameter of the other ring as well as at the bore of both rings to prevent cross-loading of the rollers. For most applications, this clearance is approximately 1⁄16 in. (1.588 mm, 0.0625 in.).



TTVS



TTHDFL

TABLE 30. THRUST TAPERED ROLLER BEARINGS TYPE TTVS AND TTHDFL – SHAFT DIAMETERS

Bearing Bore Nominal (Min.)		Shaft Diameter
Over	Incl.	Min.[1]
mm in.	**mm** in.	**mm** in.
0.000 0.0000	**304.800** 12.0000	**-0.051** -0.0020
304.800 12.0000	**508.000** 20.0000	**-0.051** -0.0020
508.000 20.0000	**711.200** 28.0000	**-0.076** -0.0030
711.200 28.0000	**1219.200** 48.0000	**-0.102** -0.0040
1219.200 48.0000	**1727.200** 68.0000	**-0.127** -0.0050

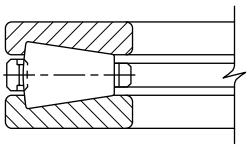
[1]Tolerance range is from +0 to value listed.

TABLE 31. THRUST TAPERED ROLLER BEARINGS TYPE TTVS AND TTHDFL – HOUSING DIAMETERS

Bearing Bore Nominal (Min.)		Housing Bore	
Over	Incl.	Max.	Min.
mm in.	**mm** in.	**mm** in.	**mm** in.
161.925 6.3750	**265.113** 10.4375	**+0.060** +0.0025	**+0.025** +0.0010
265.113 10.3475	**317.500** 12.5000	**+0.076** +0.0030	**+0.025** +0.0010
317.500 12.5000	**482.600** 19.0000	**+0.102** +0.0040	**+0.051** +0.0020
482.600 19.0000	**603.250** 23.7500	**+0.113** +0.0045	**+0.051** +0.0020
603.250 23.7500	**711.200** 28.0000	**+0.152** +0.0060	**+0.076** +0.0030
711.200 28.0000	**838.200** 33.0000	**+0.178** +0.0070	**+0.076** +0.0030

TABLE 32. THRUST TAPERED ROLLER BEARINGS – TTHD BEARINGS – FITTING GUIDELINES

Bore		Rotating Ring						Stationary Ring	
			Class 2			Class 3			
Over	Incl.	Tolerance	Shaft O.D. Deviation	Resultant Fit	Tolerance	Shaft O.D. Deviation	Resultant Fit	Class 2 and 3	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.		
0.000 0.0000	**304.800** 12.0000	**0.000** **+0.025** 0.0000 +0.0010	**+0.076** **+0.050** +0.0030 +0.0020	**0.076T** **0.025T** 0.0030T 0.0010T	**0.000** **+0.013** 0.0000 +0.0005	**+0.051** **+0.038** +0.0020 +0.0015	**0.051T** **0.025T** 0.0020T 0.0010T	All sizes	Provide a minimum radial clearance of 2.5 mm (0.1 in.) between ring bore and shaft O.D.
304.800 12.0000	**609.600** 24.0000	**0.000** **+0.051** 0.0000 +0.0020	**+0.152** **+0.102** +0.0060 +0.0040	**0.152T** **0.051T** 0.0060T 0.0020T	**0.000** **+0.025** 0.0000 +0.0010	**+0.102** **+0.076** +0.0040 +0.0030	**0.102T** **0.051T** 0.0040T 0.0020T		
609.600 24.0000	**914.400** 36.0000	**0.000** **+0.076** 0.0000 +0.0030	**+0.204** **+0.127** +0.0080 +0.0050	**0.204T** **0.051T** 0.0080T 0.0020T	**0.000** **+0.038** 0.0000 +0.0015	**+0.127** **+0.089** +0.0050 +0.0035	**0.127T** **0.051T** 0.0050T 0.0020T		
914.400 36.0000	**1219.200** 48.0000	**0.000** **+0.102** 0.0000 +0.0040	**+0.254** **+0.153** +0.0100 +0.0060	**0.254T** **0.051T** 0.0100T 0.0020T	**0.000** **+0.051** 0.0000 +0.0020	**+0.153** **+0.102** +0.0060 +0.0040	**0.153T** **0.051T** 0.0060T 0.0020T		
1219.200 48.0000		**0.000** **+0.127** 0.0000 +0.0050	**+0.305** **+0.178** +0.0120 +0.0070	**0.305T** **0.051T** 0.0120T 0.0020T	**0.000** **+0.076** 0.0000 +0.0030	**+0.204** **+0.127** +0.0080 +0.0050	**0.204T** **0.051T** 0.0080T 0.0020T		



TTHD

- Rotating ring O.D. must have a minimum radial clearance of 2.5 mm (0.1 in.).
- TTHD stationary ring O.D. must have a minimum loose fit of 0.25 to 0.37 mm (0.01 to 0.015 in.).
- TTHDFL ring when stationary may be loose fit on its O.D. (same as the TTHD) or may be 0.025 to 0.076 mm (0.001 to 0.003 in.) tight.

OPERATING TEMPERATURES

Bearings operate in a wide range of applications and environments. In most cases, bearing operating temperature is not an issue. Some applications, however, operate at extreme speeds or in extreme temperature environments. In these cases, care must be taken not to exceed the temperature limits of the bearing. Minimum temperature limits are primarily based on lubricant capability. Maximum temperature limits are most often based on material and/or lubricant constraints, but also may be based on accuracy requirements of the equipment that the bearings are built into. These constraints/limitations are discussed below.

BEARING MATERIAL LIMITATIONS

Standard bearing steels with a standard heat treatment cannot maintain a minimum hardness of 58 HRC much above 120° C (250° F).

Dimensional stability of Timken bearings is managed through the proper selection of an appropriate heat-treat process. Standard Timken tapered roller and ball bearings are dimensionally stabilized from -54° C (-65° F) up to 120° C (250° F), while standard spherical roller bearings are dimensionally stabilized up to 200° C (392° F) and standard cylindrical roller bearings are stabilized up to 150° C (302° F). Upon request, these bearings can be ordered to higher levels of stability as listed below. These designations are in agreement with DIN Standard 623.

TABLE 33.

Stability Designation	Maximum Operating Temperature	
	°C	°F
S0	**150**	302
S1	**200**	392
S2	**250**	482
S3	**300**	572
S4	**350**	662

With dimensionally stabilized product, there still may be some changes in dimensions during service as a result of microstructural transformations. These transformations include the continued tempering of martensite and decomposition of retained austenite. The magnitude of change depends on the operating temperature, the time at temperature and the composition and heat-treatment of the steel.

Temperatures exceeding the limits shown in table 33 require special high-temperature steel. Consult your Timken engineer for availability of specific part numbers for non-standard heat stability or high-temperature steel grades.

Suggested materials for use in balls, rings and rollers at various operating temperatures are listed in table 34. Also listed are chemical composition recommendations, hardness recommendations and dimensional stability information.

Operating temperature affects lubricant film thickness and setting, both of which directly influence bearing life. Extremely high temperatures can result in a reduced film thickness that can lead to asperity contact between contacting surfaces.

Operating temperature also can affect performance of cages, seals and shields, which in turn can affect bearing performance. Materials for these components and their operating temperature ranges are shown in table 35.

LUBRICATION LIMITATIONS

Starting torque in grease-lubricated applications typically increases significantly at cold temperatures. Starting torque is not primarily a function of the consistency or channel properties of the grease. Most often, it is a function of the rheological properties of the grease.

The high-temperature limit for greases is generally a function of the thermal and oxidation stability of the base oil in the grease and the effectiveness of the oxidation inhibitors.

See the LUBRICATION AND SEALS section on page 55 for more information on lubrication limitations.

EQUIPMENT REQUIREMENTS

The equipment designer must evaluate the effects of temperature on the performance of the equipment being designed. Precision machine tool spindles, for example, can be very sensitive to thermal expansions. For some spindles, it is important that the temperature rise over ambient be held to 20° C to 35° C (36° F to 45° F).

Most industrial equipment can operate at considerably higher temperatures. Thermal ratings on gear drives, for example, are based on 93° C (200° F). Equipment such as gas turbines operates continuously at temperatures above 100° C (212° F). Running at high temperatures for extended periods of time, however, may affect shaft and housing fits, if the shaft and housing are not machined and heat-treated properly.

Although bearings can operate satisfactorily up to 120° C (250° F),

an upper temperature limit of 80° C to 95° C (176° F to 203° F) is more practical. Higher operating temperatures increase the risk of damage from transient temperature spikes. Prototype testing of the application can help define the operating temperature range and should be conducted if possible. It is the responsibility of the equipment designer to weigh all relevant factors and make the final determination of satisfactory operating temperature.

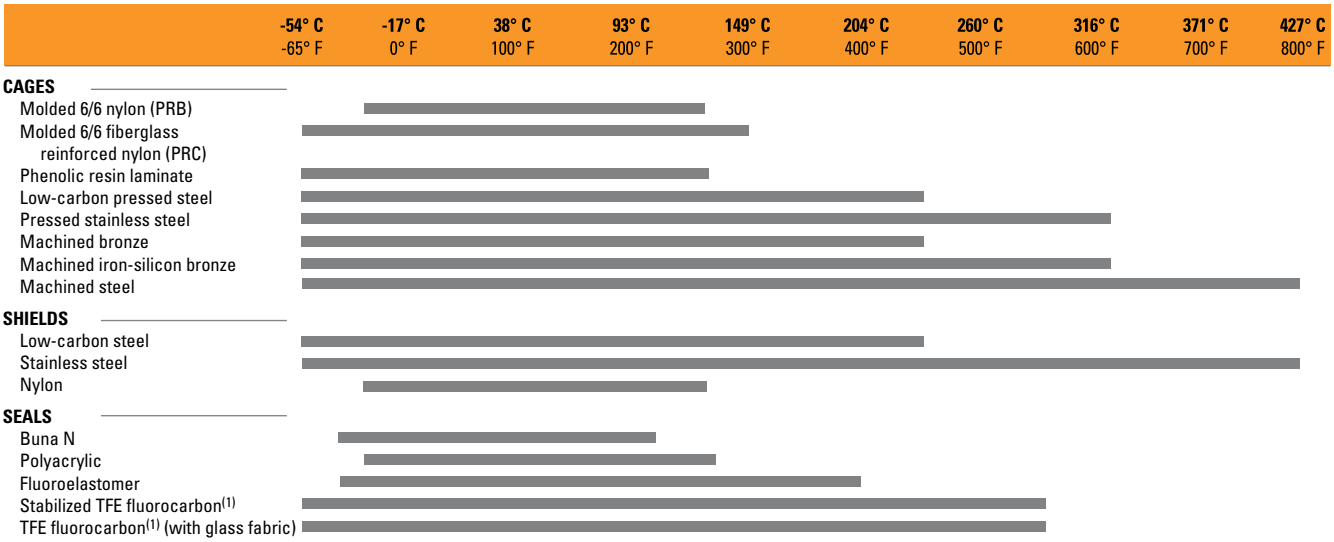
Tables 34 and 35 provide standard operating temperatures for common bearing component materials. They should be used for reference purposes only. Other bearing component materials are available on request. Contact your Timken engineer for more information.

TABLE 34. OPERATING TEMPERATURES FOR BEARING COMPONENT MATERIALS

Material	Approximate Chemical Analysis %	Temp. °F	Hardness HRC	-73° C -100° F	-54° C -65° F	-17° C 0° F	38° C 100° F	93° C 200° F	121° C 250° F	149° C 300° F	204° C 400° F	260° C 500° F	316° C 600° F	371° C 700° F	427° C 800° F
Low-alloy carbon-chromium bearing steels. 52100 and others per ASTM A295	1C 0.5–1.5Cr 0.35Mn	70	60	STANDARD DIMENSIONAL STABILIZATION <0.0001 in./in dimensional change in 2500 hours at 100° C (212° F). Good oxidation resistance.											
Low-alloy carbon-chromium bearing steels. 52100 and others per ASTM A295	1C 0.5–1.5Cr 0.35Mn	70 350 450	58 56 54	Heat stabilized per FS136, <0.0001in./in dimensional change in 2500 hours at 149° C (300° F). When given a stabilizing heat treatment, A295 steel is suitable for many applications in the 177°-232° C (350-450° F) range; however, it is not as dimensionally stable as it is at temperatures below 177° C (350° F). If utmost stability is required, use materials in the 316° C (600° F) group below.										
Deep-hardening steels for heavy sections per ASTM A485	1C 1–1.8Cr 1–1.5Mn .06Si	70 450 600	58 55 52	As heat-treated and tempered, it is stabilized, <0.0001 in./in dimensional change in 2500 hours at 149° C (300° F).											
Carburizing steels per ASTM A534 a) low alloy 4118, 8X19, 5019, 8620 (Ni-Moly grades) b) high nickel 3310	Ni-Moly: 0.2C, 0.4-2.0Mn, 0.3-0.8Cr, 0-2.0Ni, 0-0.3Mo .0.1C, 1.5Cr, 0.4Mn, 3.5Ni	70	58	Nickel-Moly grades of steel frequently used to achieve extra ductility in inner rings for locking device bearings. 3311 and others used for extra-thick-section rings.											
Corrosion-resistant 440C stainless steel per ASTM A756	1C 18Cr	70	58	Excellent corrosion resistance.											
Corrosion-resistant 440C stainless steel per ASTM A756	1C 18Cr	70 450 600	58 55 52	As heat stabilized for maximum hardness at high temperatures (FS238). Good oxidation resistance at higher temperatures. Note load capacity drops off more rapidly at higher temperatures than M50 shown below, which should be considered if loads are high, <0.0001 in./in dimensional change in 1200 hours.											
M-50 medium high speed	4Cr 4Mo 1V 0.8C	70 450 600	60 59 57	Suggested where stable high hardness at elevated temperature is required, <0.0001 in./in dimensional change in 1200 hours at 316° C (600° F).											

Note: Dimensional stability data shown above is the permanent metallurgical growth and/or shrinkage only. Thermal expansion effects are not included. For operating temperatures above 427° C (800° F), consult your Timken engineer.

TABLE 35. OPERATING TEMPERATURES FOR BEARING COMPONENT MATERIALS



(1)Limited life above these temperatures.

HEAT GENERATION AND DISSIPATION

Bearing operating temperature is dependent upon a number of factors, including heat generation of all contributing heat sources, heat flow rate between sources and the ability of the system to dissipate the heat. Heat sources include such things as bearings, seals, gears, clutches and oil supply. Heat dissipation is affected by many factors, including shaft and housing materials and designs, lubricant circulation and external environmental conditions. These and other factors are discussed in the following sections.

HEAT GENERATION

Under normal operating conditions, most of the torque and heat generated by the bearing is caused by the elastohydrodynamic losses at the roller/ring contacts.

Heat generation is the product of bearing torque and speed. The following equation is used to calculate the heat generated.

$$Q_{gen} = k_4 n M$$

If the bearing is tapered, the torque can be calculated using the following equation.

$$M = k_1 G_1 (n\mu)^{0.62} (P_{eq})^{0.3}$$

Where:

k_1 = bearing torque constant
= 2.56×10^{-6} for M in N-m
= 3.54×10^{-5} for M in lbf-in.

k_4 = 0.105 for Q_{gen} in W when M in N-m
= 6.73 x 10-4 for Q_{gen} in Btu/min when M in lbf-in.

HEAT DISSIPATION

The problem of determining the heat flow from a bearing in a specific application is rather complex. In general, it can be said that factors affecting the rate of heat dissipation include the following:

1. Temperature gradient from the bearing to the housing. This is affected by size configuration of the house and any external cooling such as fans, water cooling or fan action of the rotating components.
2. Temperature gradient from the bearing to the shaft. Any other heat sources, such as gears and additional bearings and their proximity to the bearing considered, will influence the temperature of the shaft.
3. The heat carried away by a circulating oil system.

To what extent nos. 1 and 2 can be controlled will depend on the application. The heat-dissipation modes include conduction through the system, convection along the inside and outside surfaces of the system, as well as radiation exchange to and from neighboring structures. In many applications, overall heat dissipation can be divided into two categories – heat removed by circulating oil and heat removed through the structure.

Heat dissipation by circulating oil

The amount of heat removed by the lubricant can be controlled more easily. In a splash lubrication system, cooling coils may be used to control the bulk oil temperature.

The amount of heat carried away in a circulating oil system by the lubricant can be approximated from the following equations.

$$Q_{oil} = k_6 C_p \rho f (\theta_o - \theta_i)$$

Where:

k_6 = 1.67×10^{-5} for Q_{oil} in W
= 1.67×10^{-2} for Q_{oil} in Btu/min

If the circulating lubricant is petroleum oil, the heat removed is further approximated by the following:

$$Q_{oil} = k_5 f (\theta_o - \theta_i)$$

The following factors apply to the heat generation and dissipation equations listed on this page.

Where:

k_5 = 28 for Q_{oil} in W when f in L/min and θ in °C
= 0.42 for Q_{oil} in Btu/min when f in U.S. pt/min and θ in °F

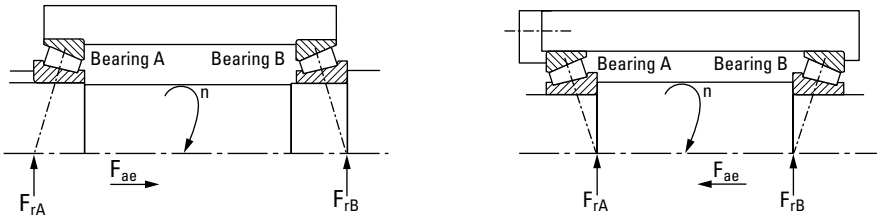
TORQUE

TAPERED ROLLER BEARINGS

RUNNING TORQUE-M

The rotational resistance of a rolling bearing depends on load, speed, lubrication conditions and internal bearing characteristics.

The following formulas yield approximations to values of bearing running torque. The formulas apply to bearings lubricated by oil. For bearings lubricated by grease or oil mist, torque is usually lower, although for grease lubrication this depends on amount and consistency of the grease. The formulas also assume the bearing running torque has stabilized after an initial period referred to as running-in.



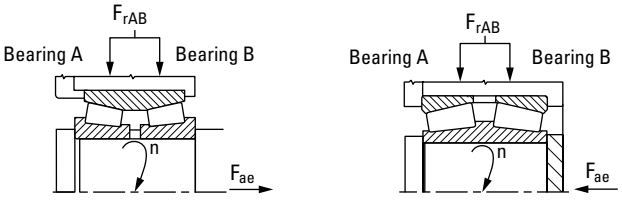
Design (external thrust, F_{ae}, onto bearing A)

Fig. 17. Single-row tapered roller bearing.

TABLE 36. VALUE APPROXIMATIONS OF BEARING RUNNING TORQUE

Thrust Condition	Net Bearing Thrust Load	
$\frac{0.47\,F_{rA}}{K_A} \le \frac{0.47\,F_{rB}}{K_B} + F_{ae}$	$F_{aA} = \frac{0.47\,F_{rB}}{K_B} + F_{ae}$ $F_{aB} = \frac{0.47\,F_{rB}}{K_B}$	$M = k_1 G_1 (n\mu)^{0.62} \left(\frac{f_3 F_r}{K}\right)^{0.3}$ $n_{min} = \frac{k_2}{G_2 \mu} \left(\frac{f_2 F_r}{K}\right)^{2/3}$
$\frac{0.47\,F_{rA}}{K_A} > \frac{0.47\,F_{rB}}{K_B} + F_{ae}$	$F_{aA} = \frac{0.47\,F_{rA}}{K_A}$ $F_{aB} = \frac{0.47\,F_{rA}}{K_A} - F_{ae}$	

The torque equations will be underestimated if operating speed, n, is less than n_{min}. For values of f_1 and f_2, refer to fig. 20 on page 53.



Design (external thrust, F_{ae}, onto bearing A)

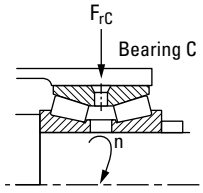
Fig. 18. Double-row tapered roller bearing.

TABLE 37. FIXED POSITION

Load Condition	Radial Load on Each Row F_r	
$F_{ae} > \frac{0.47\ F_{rAB}}{K_A}$	Bearing B is unloaded $F_{rA} = F_{rAB}$ $F_{aA} = F_{ae}$	$M = k_1\ G_1\ (n\mu)^{0.62} \left(\frac{f_3\ F_{rAB}}{K} \right)^{0.3}$ $n_{min} = \frac{k_2}{G_2 \mu} \left(\frac{f_2\ F_{rAB}}{K} \right)^{2/3}$
$F_{ae} \leq \frac{0.47\ F_{rAB}}{K_A}$	$F_{rA} = \frac{F_{rAB}}{2} + 1.06\ K\ F_{ae}$ $F_{rB} = \frac{F_{rAB}}{2} - 1.06\ K\ F_{ae}$	$M = k_1\ G_1\ (n\mu)^{0.62} \left(\frac{0.060}{K} \right)^{0.3} (F_{rA}^{0.3} + F_{rB}^{0.3})$ $n_{minA} = \frac{k_2}{G_2 \mu} \left(\frac{1.78 F_{rA}}{K} \right)^{2/3}$; $n_{minB} = \frac{k_2}{G_2 \mu} \left(\frac{1.78 F_{rB}}{K} \right)^{2/3}$

$$M = 2\ k_1\ G_1\ (n\mu)^{0.62} \left(\frac{0.030\ F_{rC}}{K} \right)^{0.3}$$

$$n_{min} = \frac{k_2}{G_2 \mu} \left(\frac{0.890\ F_r}{K} \right)^{2/3}$$

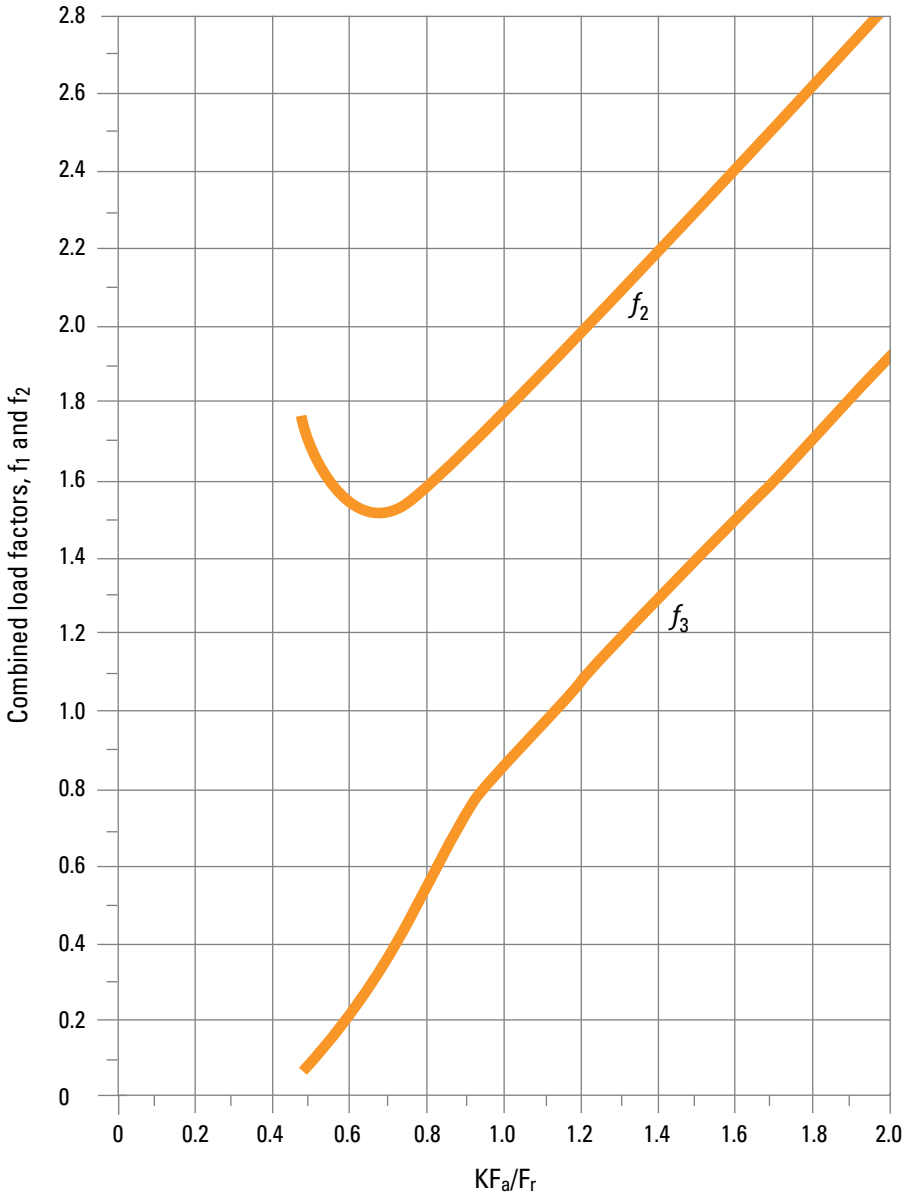


Floating bearing

The torque equations will be underestimated if operating speed, n, is less than n_{min}.
For values of f_1 and f_2, refer to fig. 20 on page 53.

Fig. 19. Floating position.

k_1 = 2.56 x 10^{-6} (metric) or 3.54 x 10^{-5} (inch)
k_2 = 625 (metric) or 1700 (inch)
μ = lubricant dynamic viscosity at operating temperature centipoise
For grease, use the base oil viscosity.
f_3 = combined load factor, see fig. 20 on page 53
f_2 = combined load factor, see fig. 20 on page 53



Load Condition	f_3 and f_2
$KF_a/F_r > 2.0$	$f_3 = KF_a/F_r$ $f_2 = f_3 + 0.8$
$0.47 \le KF_a/F_r \le 2.0$	Use graph above
$KF_a/F_r < 0.47$	$f_3 = 0.06$ $f_3 = 1.78$

Fig. 20. Determination of combined load factors f_3 and f_2.



LUBRICATION

To help maintain a bearing's antifriction characteristics, lubrication is needed to:

- Minimize rolling resistance due to deformation of the rolling elements and raceway under load by separating the mating surfaces.
- Minimize sliding friction occurring between rolling elements, raceways and cage.
- Transfer heat (with oil lubrication).
- Protect from corrosion and, with grease lubrication, from contaminant ingress.



LUBRICATION

The wide range of bearing types and operating conditions precludes any simple, all-inclusive statement or guideline allowing the selection of the proper lubricant. At the design level, the first consideration is whether oil or grease is best for the particular operation. The advantages of oil and grease are outlined in the table below. When heat must be carried away from the bearing, oil must be used. It is almost always preferred for very high-speed applications.

TABLE 38. ADVANTAGES OF OIL AND GREASE

Oil	Grease
Carries heat away from the bearings	Simplifies seal design and acts as a sealant
Carries away moisture and particulate matter	Permits prelubrication of sealed or shielded bearings
Easily controlled lubrication	Generally requires less frequent lubrication

European REACH compliance

Timken-branded lubricants, greases and similar products sold in stand-alone containers or delivery systems are subject to the European REACH (**R**egistration, **E**valuation, **A**uthorization and Restriction of **CH**emicals) directive. For import into the European Union, Timken can sell and provide only those lubricants and greases that are registered with ECHA (**E**uropean **CH**emical **A**gency). For further information, please contact your Timken engineer.

OIL LUBRICATION

Oils used for bearing lubrication should be high-quality mineral oils or synthetic oils with similar properties. Selection of the proper type of oils depends on bearing speed, load, operating temperature and lubrication method. Some features and advantages of oil lubrication, in addition to the above are:

- Oil is a better lubricant for high speeds or high temperatures. It can be cooled to help reduce bearing temperature.
- It is easier to handle and control the amount of lubricant reaching the bearing. It is harder to retain in the bearing. Lubricant losses may be higher than with grease.
- Oil can be introduced to the bearing in many ways, such as drip-feed, wick-feed, pressurized circulating systems, oil bath or air-oil mist. Each is suited for certain types of applications.
- Oil is easier to keep clean for recirculating systems.

Oil may be introduced to the bearing housing in many ways. The most common systems are:

- **Oil bath.** The housing is designed to provide a sump through which the rolling elements of the bearing will pass. Generally, the oil level should be no higher than the center point of the lowest rolling element. If speed is high, lower oil levels should be used to reduce churning. Gages or controlled elevation drains are used to achieve and maintain the proper oil level.
- **Circulating system.** This system has the advantages of:
  - An adequate supply of oil for both cooling and lubrication.
  - Metered control of the quantity of oil delivered to each bearing.
  - Removal of contaminants and moisture from the bearing by flushing action.
  - Suitability for multiple bearing installations.
  - Large reservoir, which reduces deterioration. Increased lubricant life provides economical efficiency.
  - Incorporation of oil-filtering devices.
  - Positive control to deliver the lubricant where needed.
  - A typical circulating oil system consists of an oil reservoir, pump, piping and filter. A heat exchange may be required.
- **Oil-mist lubrication**. Oil-mist lubrication systems are used in high-speed, continuous-operation applications. This system permits close control of the amount of lubricant reaching the bearings. The oil may be metered, atomized by compressed air and mixed with air, or it may be picked up from a reservoir using a venturi effect. In either case, the air is filtered and supplied under sufficient pressure to assure adequate lubrication of the bearings. Control of this type of lubrication system is accomplished by monitoring the operating temperatures of the bearings being lubricated. The continuous passage of the pressurized air and oil through the labyrinth seals used in the system prevents the entrance of contaminants from the atmosphere to the system.

  The successful operation of this type of system is based upon the following factors:
  - Proper location of the lubricant entry ports in relation to the bearings being lubricated.
  - Avoidance of excessive pressure drops across void spaces within the system.
  - Proper air pressure and oil quantity ratio to suit the particular application.
  - Adequate exhaust of the air-oil mist after lubrication has been accomplished.

To ensure "wetting" of the bearings, and to prevent possible damage to the rolling elements and rings, it is imperative that the oil-mist system be turned on for several minutes before the equipment is started. The importance of "wetting" the bearing before starting cannot be overstated, and it also has particular significance for equipment that has been idled for extended periods of time.

Lubricating oils are commercially available in many forms for automotive, industrial, aircraft and other uses. Oils are classified as either petroleum types (refined from crude oil) or synthetic types (produced by chemical synthesis).

PETROLEUM OILS

Petroleum oils are made from a petroleum hydrocarbon derived from crude oil, with additives to improve certain properties. Petroleum oils are used for nearly all oil-lubricated applications of bearings.

SYNTHETIC OILS

Synthetic oils cover a broad range of categories and include polyalphaolefins, silicones, polyglycols and various esters. In general, synthetic oils are less prone to oxidation and can operate at extreme hot or cold temperatures. Physical properties, such as pressure-viscosity coefficients, tend to vary between oil types; use caution when making oil selections.

The polyalphaolefins (PAO) have a hydrocarbon chemistry that parallels petroleum oil both in chemical structures and pressure-viscosity coefficients. Therefore, PAO oil is mostly used in the oil-lubricated applications of bearings when severe temperature environments (hot and cold) are encountered or when extended lubricant life is required.

The silicone, ester and polyglycol oils have an oxygen-based chemistry that is structurally quite different from petroleum oils and PAO oils. This difference has a profound effect on its physical properties where pressure-viscosity coefficients can be lower compared to mineral and PAO oils. This means that these types of synthetic oils may actually generate a smaller elastohydrodynamic (EHD) film thickness than a mineral or PAO oil of equal viscosity at operating temperature. Reductions in bearing fatigue life and increases in bearing wear could result from this reduction of lubricant film thickness.

VISCOSITY

The selection of oil viscosity for any bearing application requires consideration of several factors: load, speed, bearing setting, type of oil and environmental factors. Since oil viscosity varies inversely with temperature, a viscosity value must always be stated with the temperature at which it was determined. High-viscosity oil is used for low-speed or high-ambient-temperature applications. Low-viscosity oil is used for high-speed or low-ambient-temperature applications.

There are several classifications of oils based on viscosity grades. The most familiar are the Society of Automotive Engineers (SAE) classifications for automotive engine and gear oils. The American Society for Testing and Materials (ASTM) and the International Organization for Standardization (ISO) have adopted standard viscosity grades for industrial fluids. Fig. 21 shows the viscosity comparisons of ISO/ASTM with SAE classification systems at 40° C (104° F).

VISCOSITY CLASSIFICATION COMPARISON

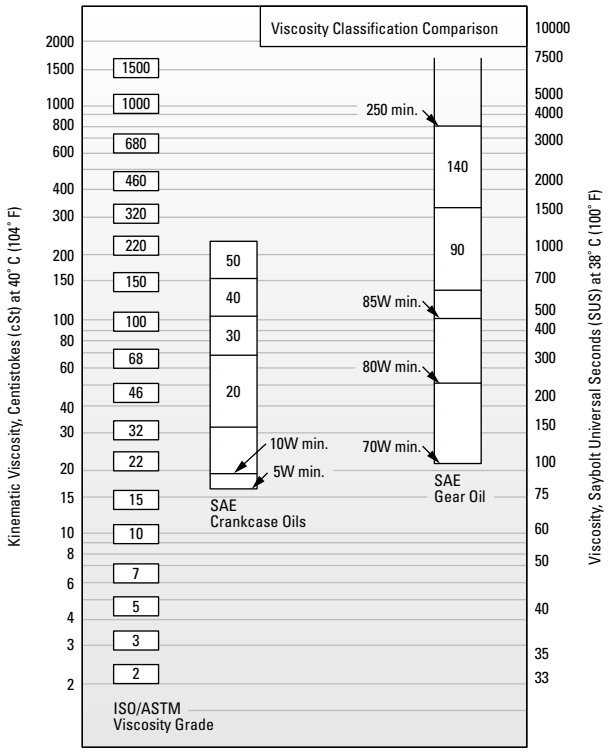


Fig. 21. Comparison between ISO/ASTM grades (ISO 3448/ASTM D2442) and SAE grades (SAE J 300-80 for crankcase oils, SAE J 306-81 for axle and manual transmission oils).

The ASTM/ISO viscosity grade system for industrial oils is depicted below.

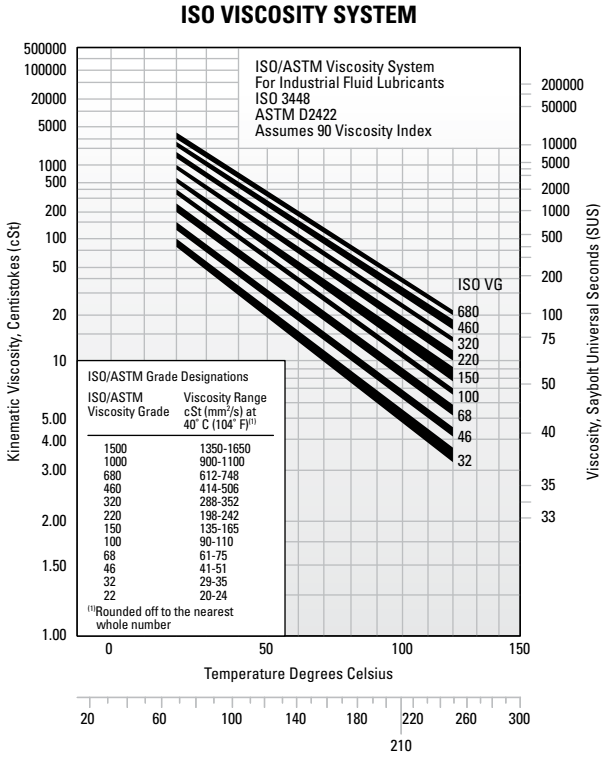


Fig. 22. Viscosity grade system for industrial oils.

TYPICAL BEARING LUBRICATION OILS

In this section, the properties and characteristics of lubricants for typical roller bearing applications are listed. These general characteristics are derived from successful performance in applications across all industries.

General-purpose rust and oxidation lubricating oil

General-purpose rust and oxidation (R&O) inhibited oils are the most common type of industrial lubricant. They are used to lubricate Timken® bearings in all types of industrial applications where conditions requiring special considerations do not exist.

TABLE 39. SUGGESTED GENERAL PURPOSE R&O LUBRICATING OIL PROPERTIES

	Properties
Base stock	Solvent-refined, high-viscosity-index petroleum oil
Additives	Corrosion and oxidation inhibitors
Viscosity index	80 min.
Pour point	-10° C max. (14° F)
Viscosity grades	ISO/ASTM 32 through 220

Some low-speed and/or high-ambient-temperature applications require the higher viscosity grades. High-speed and/or low-temperature applications require the lower viscosity grades.

Industrial extreme-pressure (EP) gear oil

Extreme-pressure gear oils are used to lubricate Timken bearings in most types of heavily loaded industrial equipment. They should be capable of withstanding abnormal shock loads that are common in heavy-duty equipment.

TABLE 40. SUGGESTED INDUSTRIAL EP GEAR OIL PROPERTIES

	Properties
Base stock	Solvent-refined, high-viscosity-index petroleum oil
Additives	Corrosion and oxidation inhibitors Extreme-pressure (EP) additive(1) - 15.8 kg (35 lb.) min.
Viscosity index	80 min.
Pour point	-10° C max. (14° F)
Viscosity grades	ISO/ASTM 100, 150, 220, 320, 460

(1) ASTM D 2782

Industrial EP gear oils should be composed of a highly refined petroleum oil-based stock plus appropriate inhibitors and additives. They should not contain materials that are corrosive or abrasive to bearings. The inhibitors should provide long-term protection from oxidation and protect the bearing from corrosion in the presence of moisture. The oils should resist foaming in service and have good water-separation properties. An EP additive protects against scoring under boundary-lubrication conditions. The viscosity grades suggested represent a wide range. High-temperature and/or slow-speed applications generally require the higher viscosity grades. Low temperatures and/or high speeds require the use of lower viscosity grades.

GREASE LUBRICATION

Grease lubrication is generally applicable to low-to-moderate speed applications that have operating temperatures within the limits of the grease. There is no universal anti-friction bearing grease. Each grease has limiting properties and characteristics.

Greases consist of a base oil, a thickening agent and additives. Conventionally, bearing greases have consisted of petroleum base oils thickened to the desired consistency by some form of metallic soap. More recently synthetic base oils have been used with organic and inorganic thickeners. Table 41 summarizes the composition of typical lubricating greases.

TABLE 41. COMPOSITION OF GREASES

Base Oil	Thickening Agents	Additives	Lubricating Grease
Mineral oil Synthetic hydrocarbon Esters Perfluorinated oil Silicone	Soaps and complex soaps lithium, aluminum, barium, calcium Non-Soap (inorganic) microgel (clay), carbon black, silica-gel, PTFE Non-Soap (organic) Polyurea compounds	Rust inhibitors Dyes Tactifiers Metal deactivates Oxidation inhibitors Anti-wear EP	

Calcium- and aluminum-based greases have excellent water resistance and are used in industrial applications where water ingress is an issue. Lithium-based greases are multi-purpose and are used in industrial applications and wheel bearings.

Synthetic base oils such as esters, organic esters and silicones used with conventional thickeners and additives typically have higher maximum operating temperatures than petroleum-based greases. Synthetic greases can be designed to operate in temperatures from -73° C (-100° F) to 288° C (550° F).

Below are the general characteristics of common thickeners used with petroleum base oils.

TABLE 42. GENERAL CHARACTERISTICS OF THICKENERS USED WITH PETROLEUM BASE OILS

Thickener	Typical Dropping Point		Maximum Temperature		Typical Water Resistance
	°C	°F	°C	°F	
Lithium soap	**193**	380	**121**	250	Good
Lithium complex	**260+**	500+	**149**	300	Good
Aluminum complex	**249**	480	**149**	300	Excellent
Calcium sulfonate	**299**	570	**177**	350	Excellent
Polyurea	**260**	500	**149**	300	Good

Use of the thickeners in table 42 with synthetic hydrocarbon or ester base oils increases the maximum operating temperature by approximately 10° C (50° F).

Using polyurea as a thickener for lubricating fluids is one of the most significant lubrication developments in more than 30 years. Polyurea grease performance is outstanding in a wide range of bearing applications and, in a relatively short time, it has gained acceptance as a factory-packed lubricant for ball bearings.

LOW TEMPERATURES

Starting torque in a grease-lubricated bearing at low temperatures can be critical. Some greases may function adequately as long as the bearing is operating, but resistance to initial movement may be excessive. In certain smaller machines, starting may be impossible when very cold. Under such operating circumstances, greases containing low-temperature characteristic oils are generally required.

If the operating temperature range is wide, synthetic greases offer advantages. Synthetic greases are available to provide very low starting and running torque at temperatures as low as -73° C (-100° F). In certain instances, these greases perform better in this respect than oil.

An important point concerning lubricating greases is that the starting torque is not necessarily a function of the consistency or the channel properties of the grease. Starting torque is more a function of the individual rheological properties of a particular grease and is best evaluated by application experience.

HIGH TEMPERATURES

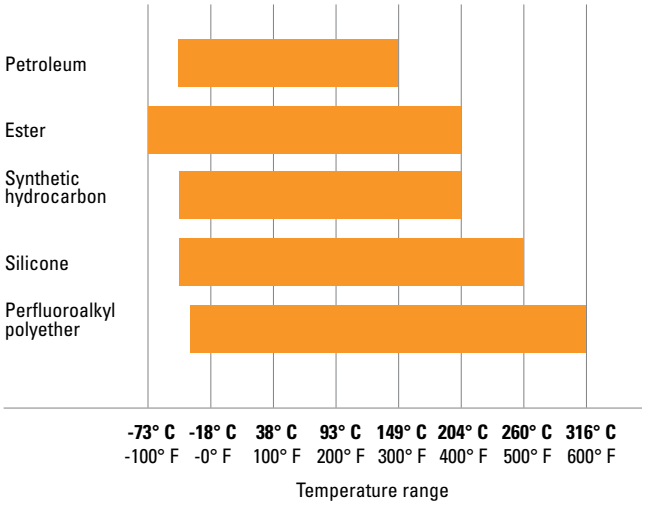
The high temperature limit for lubricating greases is generally a function of the thermal and oxidation stability of the fluid and the effectiveness of the oxidation inhibitors. Grease temperature ranges are defined by both the dropping point of the grease thickener and composition of the base oil. Table 43 shows the temperature ranges of various base oils used in grease formulations.

A rule of thumb, developed from years of testing grease-lubricated bearings, indicates that grease life is halved for every 10° C (50° F) increase in temperature. For example, if a particular grease provides 2000 hours of life at 90° C (194° F), by raising the temperature to 100° C (212° F), reduction in life to approximately 1000 hours would result. On the other hand, 4000 hours could be expected by lowering the temperature to 80° C (176° F).

Thermal stability, oxidation resistance and temperature limitations

must be considered when selecting greases for high-temperature applications. In non-relubricatable applications, highly refined mineral oils or chemically stable synthetic fluids are required as the oil component of greases for operation at temperatures above 121° C (250° F).

TABLE 43. TEMPERATURE RANGES FOR BASE OILS USED IN LUBRICATING GREASES



CONTAMINATION

Abrasive Particles

When roller bearings operate in a clean environment, the primary cause of damage is the eventual fatigue of the surfaces where rolling contact occurs. However, when particle contamination enters the bearing system, it is likely to cause damage such as bruising, which can shorten bearing life.

When dirt from the environment or metallic wear debris from some component in the application are allowed to contaminate the lubricant, wear can become the predominant cause of bearing damage. If bearing wear becomes significant, changes will occur to critical bearing dimensions that could adversely affect machine operation.

Bearings operating in a contaminated lubricant exhibit a higher initial rate of wear than those running in an uncontaminated lubricant. With no further contaminant ingress, this wear rate quickly diminishes. The contamination particles are reduced in size as they pass through the bearing contact area during normal operation.

Water

Water and moisture can be particularly conducive to bearing damage. Lubricating greases may provide a measure of protection from this contamination. Certain greases, such as calcium and aluminum-complex, are highly water-resistant.

Sodium-soap greases are water-soluble and should not be used in applications involving water.

Either dissolved or suspended water in lubricating oils can exert a detrimental influence on bearing fatigue life. Water can cause bearing etching that also can reduce bearing fatigue life. The exact mechanism by which water lowers fatigue life is not fully understood. It has been suggested that water enters micro-cracks in the bearing rings that are caused by repeated stress cycles. This leads to corrosion and hydrogen embrittlement in the micro-cracks, reducing the time required for these cracks to propagate to an unacceptable-sized spall.

Water-based fluids, such as water glycol and invert emulsions, also have shown a reduction in bearing fatigue life. Although water from these sources is not the same as contamination, the results support the previous discussion concerning water-contaminated lubricants.

GREASE SELECTION

The successful use of bearing grease depends on the physical and chemical properties of the lubricant as well as application and environmental conditions. Because the choice of grease for a particular bearing under certain service conditions is often difficult to make, you should consult with your lubricant supplier or equipment maker for specific questions about lubrication requirements for your application. You also can contact your Timken engineer for general lubrication guidelines for any application.

Grease must be carefully selected with regard to its consistency at operating temperature. It should not exhibit thickening, separation of oil, acid formation or hardening to any marked degree. It should be smooth, non-fibrous and entirely free from chemically active ingredients. Its dropping point should be considerably higher than the operating temperature.

Timken® application-specific lubricants were developed by leveraging our knowledge of tribology and anti-friction bearings, and how these two elements affect overall system performance. Timken lubricants help bearings and related components operate effectively in demanding industrial operations. High-temperature, anti-wear and water-resistant additives offer superior protection in challenging environments. Table 44 provides an overview of the Timken greases available for general applications. Contact your Timken engineer for a more detailed publication on Timken lubrication solutions.

TABLE 44. GREASE LUBRICATION SELECTION GUIDE

ENVIRONMENT		APPLICATION
High Wear • Moderate Loads Moderate Speeds Moderate Temperatures	Timken Premium All-Purpose Industrial Grease	Agriculture • Bushings/Ball Joints Truck and Auto Wheel Bearings Heavy-Duty Industrial
Extreme Heat • Heavy Loads High Sliding Wear Dirty Environments Slow Speeds • Shock Loading	Timken Construction and Off-Highway Grease	Agriculture/Mining • Cement Plants Construction/Off Road • Rock Quarry Earth-Moving Equipment Fleet Equipment • Heavy Industry Pivot Pins/Splined Shafts
Wet and Corrosive Conditions Quiet Environments • Light Loads Moderate to High Speeds Moderate Temperatures Light Load Moderate Water	Timken Ball Bearing Pillow Block Grease	Lightly Loaded Pillow Blocks Idler Pulleys • Oven Conveyors Electric Motors • Fans • Pumps Alternators • Generators
Corrosive Media • Extreme Heat Heavy Loads • Wet Conditions Slow to Moderate Speeds	Timken Mill Grease	Aluminum Mills • Paper Mills Steel Mills • Offshore Rigs Power Generation
Incidental Food Contact Hot and Cold Temperatures Moderate to High Speeds Medium Loads	Timken Food Safe Grease	Food and Beverage Industries Pharmaceuticals
Extreme Low and High Temperatures Severe Loads Corrosive Media Slow to Moderate Speeds	Timken Synthetic Industrial Grease	Wind Energy Main Bearing Pulp and Paper Machines General Heavy Industry Marine Applications Centralized Grease Systems
Moderate Speeds Light to Moderate Loads Moderate Temperatures Moderate Water	Timken Multi-Use Lithium Grease	General Industrial Applications Pins and Bushings • Track Rollers Water Pumps Plain and Anti-friction Bearings

This selection guide is not intended to replace the specifications by the equipment builder, who is responsible for its performance.

Many bearing applications require lubricants with special properties or lubricants formulated specifically for certain environments, such as:

- Friction oxidation (fretting corrosion).
- Chemical and solvent resistance.
- Food handling.
- Quiet running.
- Space and/or vacuum.
- Electrical conductivity.

For assistance with these or other areas requiring special lubricants, consult your Timken engineer.

GREASE USE GUIDELINES

It is important to use the proper amount of grease in the application. In typical industrial applications, the bearing cavity should be kept approximately one-third to one-half full. Less grease may result in the bearing being starved for lubrication. More grease may result in churning. Both conditions may result in excessive heat generation. As the grease temperature rises, viscosity decreases and the grease becomes thinner. This can reduce the lubricating effect and increase leakage of the grease from the bearing. It also may cause the grease components to separate, leading to a general breakdown of the lubricant properties. As the grease breaks down, bearing torque increases. In the case of excess grease resulting in churning, torque may also increase due to the resistance caused by the grease.

For best results, there should be ample space in the housing to allow room for excess grease to be thrown from the bearing. However, it is equally important that the grease be retained all around the bearing. If a large void exists between the bearings, grease closures should be used to prevent the grease from leaving the bearing area.

Only in low-speed applications may the housing be entirely filled with grease. This method of lubrication is a safeguard against the entry of foreign matter, where sealing provisions are inadequate for exclusion of contaminants or moisture.

During periods of non-operation, it is often wise to completely fill the housings with grease to protect the bearing surfaces. Prior to restarting operation, remove the excess grease and restore the proper level.

Applications utilizing grease lubrication should have a grease fitting and a vent at opposite ends of the housing near the top. A drain plug should be located near the bottom of the housing to allow the old grease to purge from the bearing.

Bearings should be relubricated at regular intervals to help prevent damage. Relubrication intervals are difficult to determine. If plant practice or experience with other applications is not available, consult your lubricant supplier.

Timken offers a range of lubricants to help bearings and related components operate effectively in demanding industrial operations. High-temperature, anti-wear and water-resistant additives offer greater protection in challenging environments. Timken also offers a line of single- and multi-point lubricators to simplify grease delivery.



Fig. 23. Grease can easily be packed by hand.



Fig. 24. Mechanical grease packer.

Grease application methods

Grease, in general, is easier to use than oil in industrial bearing lubrication applications. Most bearings that are initially packed with grease require periodic relubrication to operate efficiently.

Grease should be packed into the bearing so that it gets between the rolling elements – the rollers or balls. For tapered roller bearings, forcing grease through the bearing from the large end to the small end will ensure proper distribution.

Grease can be easily packed into small- and medium-size bearings by hand (fig. 23). In shops where bearings are frequently regreased, a mechanical grease packer that forces grease through the bearing under pressure may be appropriate (fig. 24). Regardless of the method, after packing the internal areas of the bearing, a small amount of grease also should be smeared on the outside of the rollers or balls.

The two primary considerations that determine the relubrication cycle are operating temperature and sealing efficiency. High-operating-temperature applications generally require more frequent regreasing. The less efficient the seals, the greater the grease loss and the more frequently grease must be added.

Grease should be added any time the amount in the bearing falls below the desired amount. The grease should be replaced when its lubrication properties have been reduced through contamination, high temperature, water, oxidation or any other factors. For additional information on appropriate regreasing cycles, consult with the equipment manufacturer or your Timken engineer.

Prelubricated bearings

Prelubricated shielded and sealed bearings are successfully used in applications where:

- Grease might be injurious to other parts of the mechanism.
- Cost and space limitations preclude the use of a grease-filled housing.
- Housings cannot be kept free of dirt and grit, water or other contaminants.
- Relubrication is impossible or would be a hazard to satisfactory use.

Prelubricated bearings are pre-packed with greases that have chemical and mechanical stability, and they have demonstrated long-life characteristics in rotating bearings. Greases are filtered several times to remove all harmful material, and they are accurately metered so that each bearing receives the proper amount of grease.

CONSISTENCY

Greases may vary in consistency from semi-fluids that are hardly thicker than a viscous oil to solid grades almost as hard as a soft wood.

Consistency is measured by a penetrometer in which a standard weighted cone is dropped into the grease. The distance the cone penetrates (measured in tenths of a millimeter in a specific time) is the penetration number.

The National Lubricating Grease Institute (NLGI) classification of grease consistency is shown below:

TABLE 45. NLGI CLASSIFICATIONS

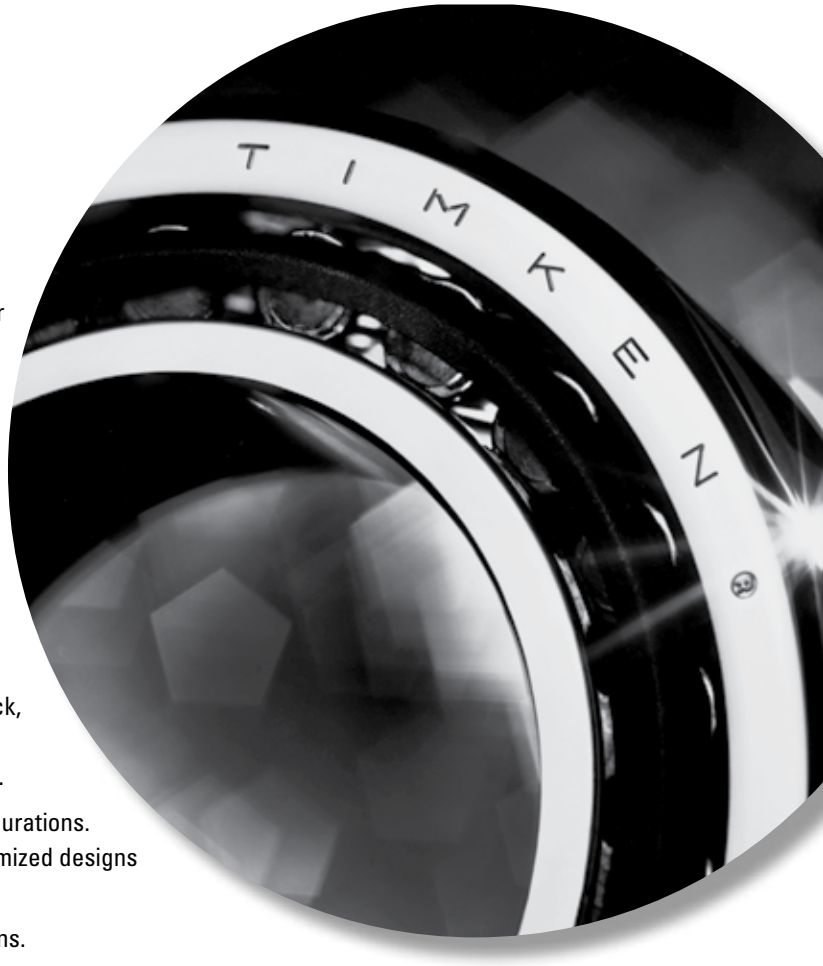
NLGI Grease Grades	Penetration Number
0	355-385
1	310-340
2	265-295
3	220-250
4	175-205
5	130-160
6	85-115

Grease consistency is not fixed; it normally becomes softer when sheared or “worked.” In the laboratory, this “working” is accomplished by forcing a perforated plate up and down through a closed container of grease. This “working” does not compare with the violent shearing action that takes place in a bearing and does not necessarily correlate with actual performance.

TABLE 46. GREASE COMPATIBILITY CHART

= Best Choice
= Compatible
= Borderline
= Incompatible

	Aluminum Complex	Barium Complex	Calcium Stearate	Calcium 12 Hydroxy	Calcium Complex	Calcium Sulfonate	Clay Non-Soap	Lithium Stearate	Lithium 12 Hydroxy	Lithium Complex	Polyurea Conventional	Polyurea Shear Stable
Aluminum Complex	■	■	■	□	■	□	■	■	■	□	■	□
Timken Food Safe Grease	■	■	■	□	■	□	■	■	■	□	■	□
Barium Complex	■	■	■	□	■	□	■	■	■	■	■	□
Calcium Stearate	■	■	■	□	■	□	□	□	□	□	■	□
Calcium 12 Hydroxy	□	□	□	■	□	□	□	□	□	□	■	□
Calcium Complex	■	■	■	□	■	■	■	■	■	□	□	□
Calcium Sulfonate	□	□	□	□	■	■	■	□	□	□	■	□
Timken Construction and Off-Highway Grease	□	□	□	□	■	■	■	□	□	□	■	□
Timken Mill Grease	□	□	□	□	■	■	■	□	□	□	■	□
Clay Non-Soap	■	■	□	□	■	■	■	■	■	■	■	□
Lithium Stearate	■	■	□	□	■	□	■	■	□	□	■	□
Lithium 12 Hydroxy	■	■	□	□	■	□	■	□	■	□	■	□
Timken Multi-Use	■	■	□	□	■	□	■	□	■	□	■	□
Lithium Complex	□	■	□	□	□	□	■	□	□	■	■	□
Timken All -Purpose Timken Synthetic	□	■	□	□	□	□	■	□	□	■	■	□
High Performance Roller Housed Unit Grease	□	■	□	□	□	□	■	□	□	■	■	□
Timken Premium All Purpose Industrial LC-2 Grease	□	■	□	□	□	□	■	□	□	■	■	□
Polyurea Conventional	■	■	■	■	□	■	■	■	■	■	■	□
Polyurea Shear Stable	□	□	□	□	□	□	□	□	□	□	□	■
Timken Pillow Block	□	□	□	□	□	□	□	□	□	□	□	■



TAPERED ROLLER BEARINGS

Timken offers the most extensive line of tapered roller bearings in the world. Tapered roller bearings consist of four interdependent components: the cone (inner ring), the cup (outer ring), the tapered rollers (rolling elements) and the cage (roller retainer). Tapered roller bearings are uniquely designed to manage both thrust and radial loads between a rotating and non-rotating member. The steeper the cup angle, the greater the ability of the bearing to handle thrust loads.

- **Sizes:** 8 mm (0.315 in.) bore to 3000 mm (118 in.) outside diameter (O.D.).
- **Industries:** Aerospace, agriculture, automotive, heavy truck, cement, aggregate, coal, oil and gas, construction, gear drives, machine tools, mining, paper, metals, rail and wind.
- **Features:** Available in single-, double- and four-row configurations. Refer to www.timken.com for four-row information. Customized designs and features are available upon request.
- **Benefits:** Enhanced performance in demanding applications.

TAPERED ROLLER BEARINGS

Part-Numbering Systems 66

Radial Roller Bearings

Single-Row

TS 81
Metric 393
TSF 433
TSL 505

Double-Row

TDO 509
TDI 609
TDIT 640
TNA 647
TNASW 659
TNASWE 664
2TS-IM 670
2TS-DM 698
2S 722
SR 726

Tapered Roller Thrust Bearings

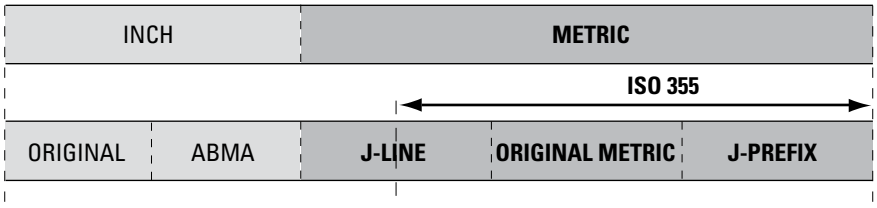
Part-Numbering Systems 736
TTHD 737
TTHDFL 738
TTVS 740
TTSP 741
TTC, TTCS, TCL 744

Auxiliary Parts 747

PART-NUMBERING SYSTEMS FOR RADIAL TAPERED ROLLER BEARINGS

HOW TO IDENTIFY YOUR PART NUMBER

The part-numbering systems for single-row radial tapered roller bearings (type TS) are internationally recognized. Several part-numbering systems have been developed that can be classified according to metric or inch systems. Inch system bearings are normally assigned individual part numbers for the inner ring and for the outer ring, whereas ISO (metric) bearings are assigned a unique part number for the bearing assembly as a whole, which includes both inner and outer ring.



NOTE: ISO 355 is a dimensional plan for metric tapered roller bearings. See page 72 for more details on ISO 355.

Fig. 25. Part-numbering standards.

BEARING SERIES

In all the part-numbering systems, the term bearing series is used to describe bearings having the same basic internal geometry (e.g. roller size, inner-ring and outer-ring angles). Any inner ring (including roller set) can be matched with any outer ring within the same series providing that the same type of bearing is being used.

INCH PART-NUMBERING SYSTEMS

ORIGINAL INCH PART-NUMBERING SYSTEM

The original system developed by The Timken Company was based on a family of bearings designed around a common roller. Varying the number of rollers and the angle of the raceways allows different bearings to be designed for predominantly radial loads (shallow angle) or thrust loads (steep angle).

For example, all the tapered roller bearings in the 500 family use the same roller. However, the 595 Series has a steep angle and 24 rollers while the 525 Series has a shallow angle and 15 rollers.

Individual part numbers are assigned to the inner and outer rings. Although there are exceptions, the general rule is that the outer ring has a part number that is lower than that of the inner ring.

ABMA INCH PART-NUMBERING SYSTEM

The current inch part-numbering system was developed by the American Bearing Manufacturers Association (ABMA) to address the expansion in the number of new applications and tapered roller-bearing designs. This part-numbering system has become the international standard for inch-sized bearings.

The ABMA part-numbering system has been applied only to new bearing series designed after its introduction. Other part-numbering systems also are in use including those based on the original numbering system and proprietary part numbers for special bearings.

The ABMA part number is divided into five alphanumeric sections, which are described in fig. 26.

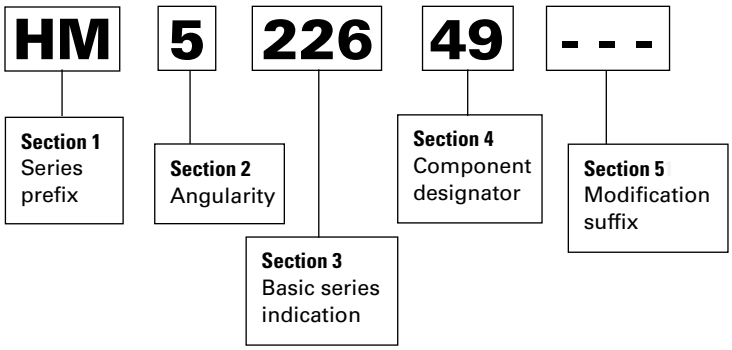


Fig. 26. ABMA inch part-numbering system nomenclature.

Section 1 - Series prefix

The series prefix consists of one or two letters that designate the duty class for which the bearing is designed. Additional prefix letters are available in table 49 on page 74.

TABLE 47. COMMON PREFIX LETTERS

Prefix	Class Designation	Prefix	Class Designation
EL	Extra light	HM	Heavy medium
LL	Lighter than light	H	Heavy
L	Light	HH	Heavier than heavy
LM	Light medium	EH	Extra heavy
M	Medium	T	Thrust only

Section 2 - Angularity designator

The first digit following the prefix represents the angle coding as determined by the included angle of the outer ring.

TABLE 48. ANGULARITY DESIGNATOR

Included Outer-Ring Angle	Code
0° to 23° 59′ 59.99 in.	1
24° to 25° 29′ 59.99 in.	2
25° 30′ to 26° 59′ 59.99 in.	3
27° to 28° 29′ 59.99 in.	4
28° 30′ to 30° 29′ 59.99 in.	5
30° 30′ to 32° 29′ 59.99 in.	6
32° 30′ to 35° 59′ 59.99 in.	7
36° to 44° 59′ 59.99 in.	8
45° and over; excluding thrust	9

Section 3 - Basic series indication

The two or three digits following the angularity designator are reserved for the basic series indication. Refer to ABMA standard 19.2 for more information.

Section 4 - Component designator

The last two numerical digits indicate the component number.

Section 5 - Modification suffix letters

The suffix may consist of one to three letters in pre-arranged combinations, indicating modifications in external form or internal arrangement. Table 49 on page 74 lists the most common prefix and suffix designations.

METRIC PART-NUMBERING SYSTEMS

J-LINE PART NUMBERS

Some ABMA (inch) part numbers are designed with metric envelope dimensions. The J prefix letter is used in conjunction with the ABMA part-numbering system to identify metric-dimensioned and toleranced inner rings and outer rings. The J-prefix is shown before the ABMA prefix letters. J-Line bearings are referred to as inch bearings in metric bore, O.D. and width.

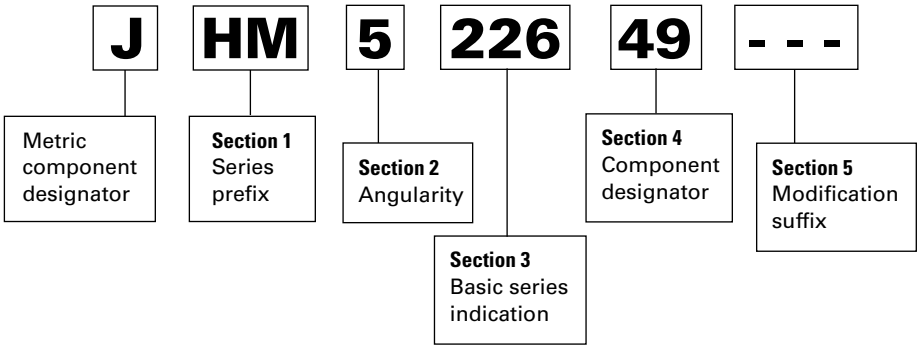


Fig. 27. J-Line part-numbering system nomenclature.

J-PREFIX

A range of metric bearings originally designed by The Timken Company also were included in the ISO 355 plan. These bearings are specifically application-oriented and are designed for optimum performance. Depending on application and type of load, thrust and/or radial, the bearing with the optimum angle and section can be selected. For example, pinion bearings have a steep angle, whereas bearings for machine tools are generally designed with a shallow angle and a light section. Fig. 29 demonstrates this feature for 55 mm (2.1654 in.) bore bearings.

These bearings also are identified with a J-prefix, which indicates a metric dimensioned and toleranced bearing.

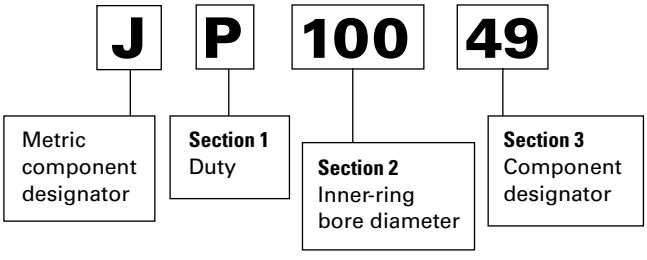


Fig. 28. J-prefix part-numbering system nomenclature.

Section 1 - Duty

Indicates application type:

C, D & F	= general purpose
N	= combination of general purpose and pinion
P	= high speed
S & T	= pinions
W	= high axial loads

Section 2 - Inner-ring bore

The inner-ring bore metric diameter is included in the part-number designation of both the inner ring and outer rings.

Section 3 - Component designator

Same identification as in the ABMA part-numbering system.

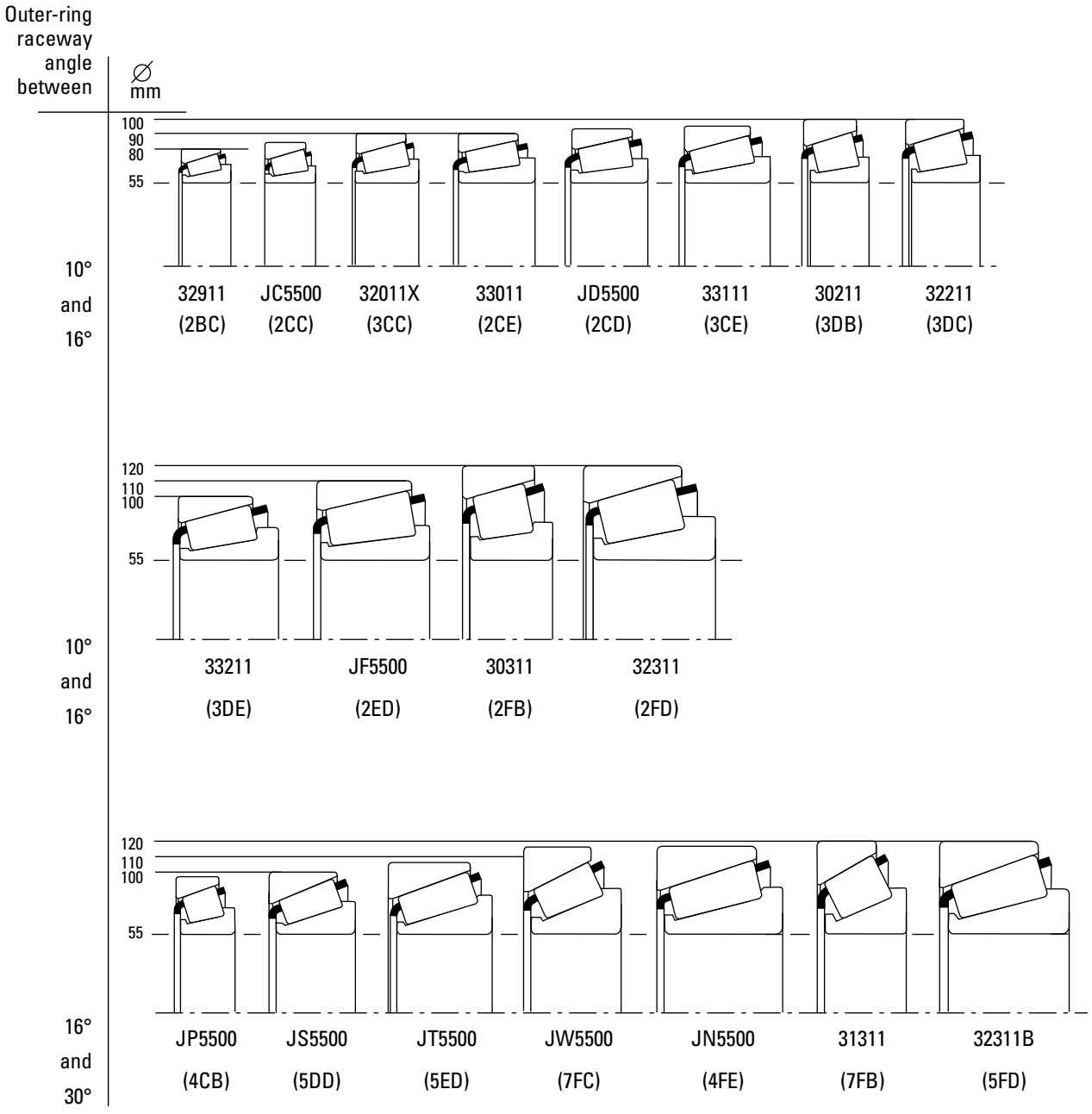


Fig. 29. Comparison of metric bearing designs for 55 mm (2.1654 in.) bore.

ORIGINAL METRIC (ISO) PART-NUMBERING SYSTEM

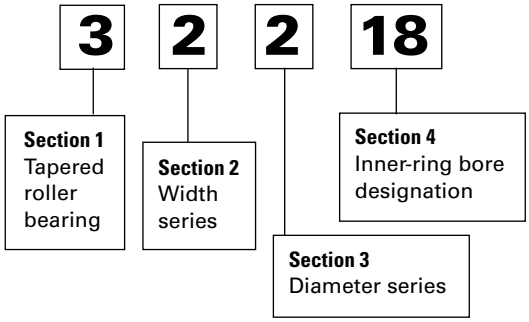


Fig. 30. Original ISO part-numbering system nomenclature.

The original metric part-numbering system for tapered roller bearings was based on the ISO 15 dimensional plan for radial bearings. A five-digit part number commencing with numeral 3 describes the bearing assembly (inner rings and outer rings).

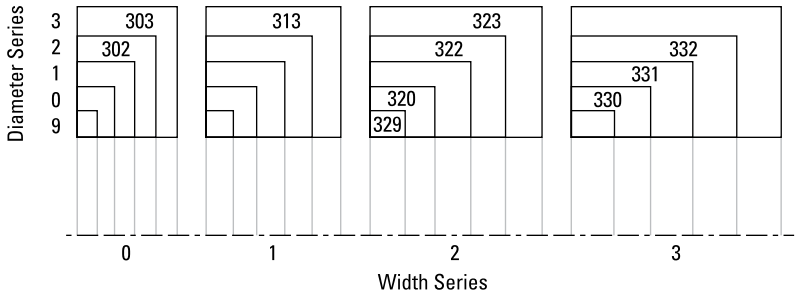


Fig. 31. Original ISO part-numbering system.

Section 1 - Symbol for bearing type

3 always applies to tapered roller bearings.

Section 2 - Width series

The bearing width is classified as 9 and 0 through 3 in increasing order of width.

Section 3 - Diameter series

The bearing section height is classified as 9 and 0 through 3 in increasing order of O.D. for a given bore size.

Section 4 - Inner-ring bore designation

The last two digits multiplied by five yield the inner-ring bore diameter in millimeters.

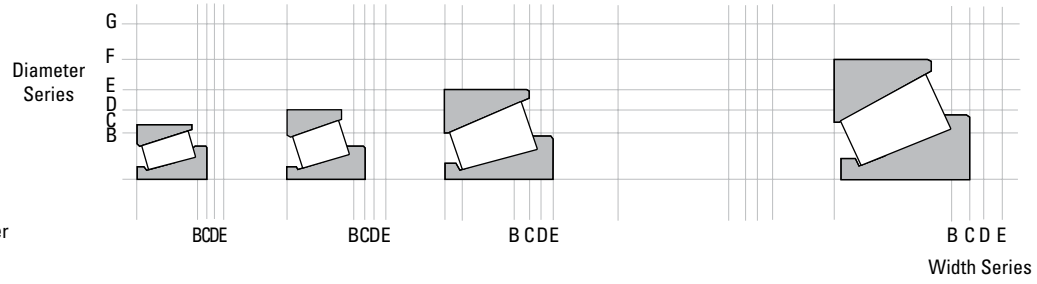
There are two exceptions to this rule:

1. Small bearings where: 02 = 15 mm
   03 = 17 mm
2. Where the last two digits are preceded by a forward slash (/), the last two digits show the actual bore size in millimeters. Examples:

   32218 = 90 mm bore
   30203 = 17 mm bore
   329/28 = 28 mm bore

ISO 355 PART NUMBERING

As dimensions given by the ISO 15 general plan were not found to be optimal for tapered roller bearings, ISO introduced a new numbering system for tapered roller bearings in ISO 355. The numbering system of ISO 355 uses three alphanumeric fields to define a dimension series. The bearing part number is then defined by adding the inner-ring diameter in mm after the dimension series. Although the original metric part numbers were assigned a new designation in the ISO 355 plan, the original part number is still used.



α = One-half included outer ring angle
D = Bearing outside diameter
d = Bearing bore diameter
T = Bearing width

T 4 C B 100

Symbol for tapered roller bearings (optional)

Angle Series Designation	α	
	Over	Incl.
1		Reserved for future use
2	10°	13° 52′
3	13° 52′	15° 59′
4	15° 59′	18° 55′
5	18° 55′	23°
6	23°	27°
7	27°	30°

Diameter Series Designation	$\frac{D}{d^{0.77}}$	
	Over	Incl.
A		Reserved for future use
B	3.4	3.8
C	3.8	4.4
D	4.4	4.7
E	4.7	5
F	5	5.6
G	5.6	7

Width Series Designation	$\frac{T}{(D-d)^{0.95}}$	
	Over	Incl.
A		Reserved for future use
B	0.5	0.68
C	0.68	0.8
D	0.8	0.88
E	0.88	1

Bearing bore diameter (mm)

Fig. 32. ISO 355 part-numbering system.

BEARING ASSEMBLY NUMBERS

The nomenclature for a bearing assembly consists of the inner-ring part number followed by a five-digit alphanumeric code, e.g. LM48548-902A7. The assembly nomenclature describes the bill of material of the assembly.

An assembly number is assigned on receipt of the first order for new applications. It is very important for correct function of the bearing in a given application that the same assembly number is quoted for all subsequent orders. A Timken engineer should be consulted if additional information is required on the assembly number.

HISTORICAL PART-NUMBERING SYSTEMS

This historical nomenclature is for reference purposes only. Contact your Timken engineer with questions or for more information.

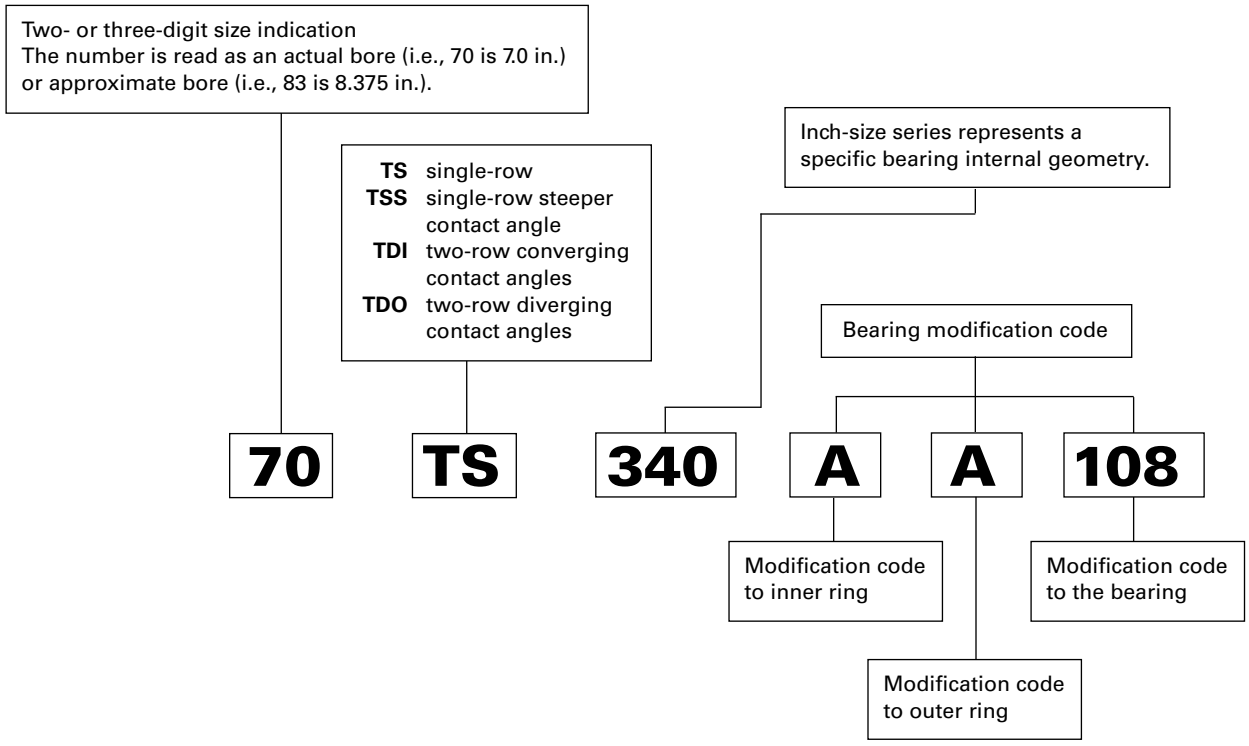


Fig. 33. Historical radial tapered roller bearing nomenclature.

For further explanation of prefix and suffix symbols or proprietary part numbers of special bearings, consult your Timken engineer.

PREFIXES AND SUFFIXES

The following are some of the symbols used by The Timken Company and prefixes and suffixes that are part of the ABMA part numbering standard:

TABLE 49. PREFIXES AND SUFFIXES

Prefix	Suffix	Inner Ring or Outer Ring	Explanation
A		Inner ring & outer ring	Standard basic series part number.
	A	Inner ring	Different radius from basic part number.
	A	Inner ring	Different bore from basic part number.
	A	Inner ring	Different complement of rollers.
	A	Outer ring	Different O.D. from basic part number.
	A	Outer ring	Different radius from basic part number.
	A	Outer ring	Different width from basic part number.
	AA	Inner ring & outer ring	Different bore, O.D., width or radius from basic part number.
	AB	Inner ring	Different bore, width or radius from basic part number, assembled with brass cage.
	AB	Outer ring	Flanged outer ring. Non-interchangeable with basic part number.
	AC	Inner ring	Different bore or radius, different internal geometry.
	AC	Outer ring	Different O.D., width or radius from basic part number.
	AD	Outer ring	Double outer ring. Non-interchangeable with basic part number.
	ADW	Inner ring	Double inner ring. Pilots and slots each end, holes in large rib.
	AH	Inner ring	Assembled with special cage, rollers, and/or internal geometry.
	AL	Inner ring	Assembled with DUO-FACE seal.
	ARB	Outer ring	Single outer ring with snap ring groove in O.D.
	AS	Inner ring & outer ring	Different bore, O.D., width, or radius from basic part number.
	ASB	Inner ring	Single inner ring, different bore or width from basic part number, assembled with brass cage.
	AV	Inner ring & outer ring	Made of special steel.
	AW	Inner ring & outer ring	Keyway or slotted inner ring or outer ring.
	AX	Inner ring & outer ring	Different bore, O.D., width, or radius from basic part number.
	AXB	Inner ring	Different bore, width, or radius from basic part number, assembled with brass cage.
	AXD	Outer ring	ISO outer ring - double outer ring without oil holes or groove.
	AXV	Inner ring & outer ring	Different O.D., width, or radius from basic part number. Made of special steel.
	AXX	Inner ring & outer ring	Different O.D., width, or radius from basic part number. Made of special steel.
	B	Outer ring	Flanged outer ring. Non-interchangeable with basic part number.
	B	Inner ring	Inner ring using brass cage.
	B	Inner ring & outer ring	ISO bearing with same boundary dimensions as basic part number, but with different internal geometry, steeper included outer-ring angle.
	BA	Outer ring	Flanged outer ring. Non-interchangeable with basic part number.
	BNA	Inner ring	ISO inner ring used in assemblies with two inner rings mated with double outer ring to form a double-row, non-adjusting bearing. Non-interchangeable with other inner rings having the same basic part numbers, which may vary in bore or width dimensions.
	BR	Outer ring	Single outer ring with groove in O.D. for snap ring.
	BS	Outer ring	Flanged outer ring. Non-interchangeable with basic part number.
	BW	Outer ring	Flanged outer ring with slot. Non-interchangeable with basic part number.
	BX	Outer ring	Flanged outer ring. Non-interchangeable with basic part number.
	BXX	Outer ring	Flanged single outer ring. Made of special steel.
	C	Inner ring	Single inner ring, envelope dimensions same as basic part number, different internal geometry.
	C	Outer ring	Dimensionally different from basic part number. Non-interchangeable.
	CA	Inner ring	Single inner ring, envelope dimensions same as basic part number, different internal geometry.
	CB	Inner ring	Single inner ring, dimensionally different from basic part number.
	CD	Outer ring	Double outer ring with oil holes and groove. One hole counterbored for locking pin.
	CE	Outer ring	Dimensionally different from basic part number. Non-interchangeable.
CN		Outer ring	Neoprene-cushioned outer ring.

Prefix	Suffix	Inner Ring or Outer Ring	Explanation
	CP	Inner ring & outer ring	Flash-chrome plated. Otherwise, interchangeable with basic part number.
	CP	Inner ring & outer ring	Envelope dimensions same as basic part number, different internal geometry, customized for performance.
	CR	Inner ring & outer ring	Ribbed outer-ring bearing series.
	CS	Inner ring & outer ring	Dimensionally different from basic part number. Non-interchangeable.
	CX	Inner ring	Dimensionally different from basic part number. Non-interchangeable.
	D	Inner ring & outer ring	Double inner ring or double outer ring. Non-interchangeable with basic part number.
	DA	Inner ring	Double inner ring. Non-interchangeable with inner rings having same basic part number.
	DA	Outer ring	Spherical O.D. double outer ring. Non-interchangeable with basic part number or other double outer rings having same basic numbers.
	DB	Outer ring	Double outer ring with flange. Non-interchangeable with basic part number or double outer rings having same basic numbers.
	DB	Inner ring	Double inner ring assembled with brass cages.
	DD	Inner ring & outer ring	Special long double inner ring or outer ring. Non-interchangeable with basic part number or other double parts having same basic numbers.
	DE	Inner ring & outer ring	Double inner ring or double outer ring having different dimensions or other characteristics from single and double parts identified with same basic part number.
	DF	Outer ring	Double outer ring with oil holes and groove. Snap ring groove on O.D.
	DG	Inner ring	Double inner ring with pressure-removal groove or helical groove in bore.
	DGA	Inner ring	Double inner ring with pressure-removal groove or helical groove in bore. Non-interchangeable with basic part number.
	DGE	Inner ring	Double inner ring with pressure-removal groove or helical groove in bore. Non-interchangeable with basic part number.
	DGH	Inner ring	Double inner ring with pressure-removal groove or helical groove in bore and with special cage, rollers, and/or internal geometry.
	DGW	Inner ring	Double inner ring with pressure-removal groove or helical groove in bore, and having face slots.
	DH	Inner ring	Double inner ring with special cage, rollers, and/or internal geometry.
	DP	Inner ring	Double inner ring with puller groove.
	DR	Outer ring	Double outer ring for ribbed outer-ring series. Non-interchangeable with single and double outer rings identified with same basic part number.
	DRB	Outer ring	Double outer ring with snap-ring groove.
	DS	Outer ring	Crowned O.D. double outer ring. Non-interchangeable with other outer rings having same basic part numbers.
	DT	Outer ring	Tapered O.D. double outer ring. Non-interchangeable with other outer rings having same basic part numbers.
	DV	Inner ring & outer ring	Double inner ring or double outer ring made of special steel.
	DVH	Inner ring	Double inner ring, special steel, and/or internal geometry.
	DW	Inner ring & outer ring	Double inner ring or double outer ring with keyway or slot. Non-interchangeable with inner rings or outer rings identified with same basic part numbers.
	DWA	Inner ring	Double inner ring with one end extended and with oil slots in extended end (asymmetrical).
	DWH	Inner ring	Double inner ring with oil slots, assembled with special cage, rollers, and/or internal geometry.
	DWV	Inner ring & outer ring	Double inner ring or double outer ring with keyway or slot. Non-interchangeable with inner rings or outer rings identified with same basic part numbers. Made of special steel.
DX		Inner ring & outer ring	DuraSpexx power rating series.
	DX	Outer ring	Adaptor for spherical or straight O.D. outer ring.
	DX	Outer ring	Threaded O.D. double outer ring. Non-interchangeable with outer rings identified with same basic part numbers.
	DXX	Inner ring & outer ring	Double inner ring or double outer ring made of special steel.
	E	Inner ring & outer ring	Inner rings or outer rings having special characteristics differing from and non-interchangeable with other inner rings or outer rings identified with the same basic part numbers.
	ED	Outer ring	Double outer rings. Non-interchangeable with other outer rings identified with same basic part numbers.
	EDC	Outer ring	Double outer rings, special hole in O.D. for locking pin.
EE		Inner ring	Large and small ribs - close-guided rollers. Non-interchangeable with other inner rings identified with same basic part numbers.
EH		Inner ring & outer ring	Extra-heavy series.

Prefix	Suffix	Inner Ring or Outer Ring	Explanation
EL		Inner ring & outer ring	Extra light series.
EX		Inner ring & outer ring	Experimental.
	EXX	Inner ring & outer ring	Inner rings or outer rings having special characteristics differing from and non-interchangable with other inner rings or outer rings identified with the same basic part numbers. Made of special steel.
	F	Inner ring	Assembled with polymer cage.
FL		Inner ring & outer ring	Free lateral series, no large or small ribs.
FX		Inner ring & outer ring	Factory identification number only.
	G	Inner ring	Cage groove in bore.
H		Inner ring & outer ring	Heavy series. Non-interchangeable with other inner rings and outer rings identified with same basic part numbers.
	H	Inner ring	Assembled with special cage, rollers, and/or internal geometry.
	HV	Inner ring	Assembled with special cage, rollers, and/or internal geometry. Made of special steel.
HH		Inner ring & outer ring	Heavy-heavy series. Non-interchangeable with other inner rings and outer rings identified with same basic part numbers.
HM		Inner ring & outer ring	Heavy-medium series. Non-interchangeable with other inner rings or outer rings identified with same basic part numbers.
	HP	Inner ring	Assembled with special cage and/or roller, different internal geometry. Customized for performance.
	HR	Outer ring	Special outer ring used in Hydra-Rib bearing.
J		Inner ring & outer ring	Used alone or with other prefix letters to indicate metric bore and/or O.D.
JC		Inner ring & outer ring	Metric series.
JD		Inner ring & outer ring	Metric series.
JE		Inner ring & outer ring	Metric series.
JF		Inner ring & outer ring	Metric series.
JG		Inner ring & outer ring	Metric series.
JN		Inner ring & outer ring	Metric series.
JP		Inner ring & outer ring	Metric series.
JR		Inner ring & outer ring	Metric series.
JRM		Inner ring & outer ring	Metric series, UNIPAC bearing.
JS		Inner ring & outer ring	Metric series.
JT		Inner ring & outer ring	Metric series.
JU		Inner ring & outer ring	Metric series.
JW		Inner ring & outer ring	Metric series.
K		Outer ring	Double outer ring with heavy section. May have unusual features such as flange, tapered O.D., etc.
K		Inner ring & outer ring	Through-hardened components, non-DIN 720 part numbers.
K		Miscellaneous	K prefix with five or six digits following also used for miscellaneous components (seals, bolts, filler rings, etc.).
	KP	Thrust bearing	Cadmium plated.
L		Inner ring & outer ring	Light series. Non-interchangeable with other inner rings and outer rings identified with same basic part numbers.
	L	Inner ring	Inner ring assembled with DUO-FACE seal.
	L	Outer ring	Loose rib. Part of unit-bearing.
	LA	Inner ring	Inner ring assembled with DUO-FACE-PLUS seal.
	LA, LB, LC, etc.	Seal	These suffixes are used on a basic DUO-FACE-PLUS seal number to identify the assembly resulting from the use of the seal with various inner rings in the series.
LL		Inner ring & outer ring	Light-light series.
LM		Inner ring & outer ring	Light-medium series.
M		Inner ring & outer ring	Medium series.
	M	Inner ring & outer ring	Through-hardened components, DIN 720 part numbers, IsoClass part numbers.
N		Inner ring	Bock- or Gilliam-type bearings.
NA	NA	Inner ring	Two inner rings mated with double outer ring to form double-row non-adjustable bearing. Non-interchangeable with other inner rings having same basic part numbers which may vary in bore, O.D., and width dimensions.
	NA	Outer ring	Etched electric pencil on double outer rings mated with two NA-type single inner rings to form double-row non-adjustable bearings.

Prefix	Suffix	Inner Ring or Outer Ring	Explanation
	NAV	Inner ring	NA inner ring made of special steel.
	NC	Outer ring	Cushioned outer ring (usually neoprene.)
	NI	Inner ring	Tapered or threaded bore.
NP		Inner ring & outer ring	Used with random numbers for product differentiation.
	NR	Inner ring	NA-type ribless inner ring for ribbed outer-ring series.
	NW	Inner ring	NA-type inner ring with slotted front face.
	NWV	Inner ring	NA-type inner ring with slotted front face. Made of special steel.
	NX	Inner ring	Lapped front face.
	P	Inner ring	Puller groove.
	P	Inner ring & outer ring	Customized for performance.
R		Inner ring & outer ring	Gilliam replacement series. Non-interchangeable with other inner rings and outer rings identified with same basic numbers.
	R	Inner ring & outer ring	Special feature bearing. Non-interchangeable with bearings having the same basic part numbers.
	R	Inner ring & outer ring	Bock-type bearing.
	R	Inner ring	Basic part number with polymer lubricant.
	RB	Outer ring	Snap ring on O.D.
RC		Inner ring & outer ring	Special ribbed outer-ring bearing.
	RN	Various	Used with random numbers, not to exceed six digits, for purchased items that are distributed by Timken.
	RR	Inner ring & outer ring	Relieved ring.
	S	Inner ring & outer ring	Special feature bearing. Non-interchangeable with bearings having same basic part numbers.
	SA	Inner ring & outer ring	Special feature bearing. Non-interchangeable with bearings having same basic part numbers.
	SB	Inner ring	Assembled with brass cage.
	SB	Outer ring	Flanged outer ring.
	SC	Inner ring	With square bore.
	SD	Inner ring & outer ring	Double inner ring with square bore or double outer ring.
	SH	Inner ring	Special feature bearing, with special cage, rollers, and/or internal geometry. Non-interchangeable with bearings having same basic part numbers.
	SL	Thrust bearing	Basic part number with polymer lubricant.
	SR	Inner ring	Different radius from basic part numbers.
	SW	Inner ring & outer ring	Slot or keyway. Non-interchangeable with bearings having same basic part numbers.
	SWB	Inner ring	Slot or keyway assembled with brass cage. Non-interchangeable with bearings having same basic part numbers.
	SWV	Inner ring	Slot or keyway made of special steel. Non-interchangeable with bearings having same basic part numbers.
	SX	Outer ring	Special feature bearing. Non-interchangeable with bearings having same basic part numbers.
T		Rings	Thrust bearing assemblies.
T		Outer rings	Double outer ring with heavy section. May have unusual feature such as flange, tapered O.D., etc.
	T	Inner ring	Tapered bore.
	T	Outer ring	Tapered O.D.
	TA	Inner ring	Tapered bore NA-type inner ring.
	TA	Outer ring	Tapered O.D.
	TB	Inner ring	Tapered-bore inner ring with brass cage.
TC		Rings	Thrust bearing assemblies.
	TC	Inner rings	Tapered bore.
	TD	Inner ring	Double with tapered bore.
	TDB	Inner ring	Double with tapered bore, assembled with brass cages.
	TDE	Inner ring	Double with tapered bore and extended rib.
	TDG	Inner ring	Double with tapered bore, pressure-removal groove or spiral groove in bore.
	TDGV	Inner ring	Double with tapered bore, pressure-removal groove or spiral groove in bore. Made of special steel.
	TDH	Inner ring	Double with tapered bore, special cage, rollers or internal geometry.
	TDL	Inner ring	Double with tapered bore, interlock feature.
	TDV	Inner ring	Double with tapered bore. Made of special steel.

Prefix	Suffix	Inner Ring or Outer Ring	Explanation
	TDW	Inner ring	Double with tapered bore and slots or keys.
	TDXX	Inner ring	Double with tapered bore. Made of special steel.
	TE	Inner ring	Single, tapered bore, extended large rib.
	TEV	Inner ring	Single, tapered bore, extended large rib. Made of special steel.
	TL	Inner ring	Tapered-bore with interlock feature.
	TLE	Inner ring	Tapered-bore with interlock feature and extended rib.
	TP	Inner ring	Tapered-bore inner ring with puller groove.
	TPE	Inner ring	Tapered-bore inner ring with puller groove, extended inner-ring large rib.
	TV	Inner ring & outer ring	Tapered-bore inner ring or outer ring O.D. Made of special steel.
	TW	Inner ring & outer ring	Tapered-bore inner ring or outer ring O.D. with slots or keys.
	TWE	Inner ring & outer ring	Tapered-bore inner ring or outer ring O.D. with locking keyway in front face, extended inner ring large rib or outer ring width.
	TXX	Inner ring	Tapered bore. Made of special steel.
U		Inner ring & outer ring	Basic series part number, unitized, self-contained.
	U	Inner ring & outer ring	Basic series part number, unitized, self-contained.
	US	Inner ring & outer ring	Special close stand.
V		Inner ring & outer ring	Special close stand.
	V	Inner ring & outer ring	Made of special steel.
	VC	Inner ring	Special internal geometry. Made of special steel.
	VH	Inner ring	Special cage, rollers, and/or internal geometry. Made of special steel.
	W	Inner ring & outer ring	Slot(s) or keyway(s).
	W	Thrust bearing	Oil holes in retainer.
	WA	Inner ring & outer ring	Slot(s) or keyway(s).
	WB	Inner ring	Slot(s) or keyway(s) with brass cage.
	WC	Inner ring & outer ring	Slot(s) or keyway(s).
	WD	Inner ring & outer ring	Double inner ring or outer ring with slot(s) or keyway(s).
	WE	Inner ring & outer ring	Extended face with slot(s) or keyway(s).
	WS	Inner ring & outer ring	Slot(s) or keyway(s).
WV		Inner ring & outer ring	Slot(s) or keyway(s). Made of special steel.
	WXX	Inner ring & outer ring	Slot(s) or keyway(s). Made of special steel.
X		Inner ring	ISO part number.
	X	Inner ring	Slot(s) or keyway(s).
	X	Inner ring & outer ring	Special feature bearing. Non-interchangeable with bearings having the same basic part number.
	X	Inner ring & outer ring	ISO bearing with same boundary dimensions as basic part number but with different internal geometry, yielding increased rating.
	XA	Inner ring & outer ring	Special feature bearing. Non-interchangeable with bearings having the same basic part number.
XAA		Inner ring	ISO single inner ring. Non-interchangeable with bearings having the same basic part number.
XAB		Inner ring	ISO single inner ring. Non-interchangeable with bearings having the same basic part number.
	XB	Inner ring	Different bore, width, or radius, from basic part number. Assembled with brass cage.
	XB	Outer ring	Special feature flanged outer ring. Non-interchangeable with bearings having the same basic part number.
XC		Inner ring & outer ring	Limited production bearings to which standard series part numbers have not been assigned.
	XD	Outer ring	Double outer ring, no oil holes or groove.
	XD	Inner ring	Double inner ring, different bore or width from basic part numbers.
	XD	Inner ring	Double inner ring, oil holes in large rib.
	XDXP	Outer ring	Double outer ring, no oil holes or groove, special material and process.
	XE	Outer ring	Different bore, width, or radius from basic part number.
XGA		Inner ring	ISO single inner ring. Non-interchangeable with bearings having the same basic part number.
XGB		Inner ring	ISO single inner ring. Non-interchangeable with bearings having the same basic part number.
	XP	Inner ring	Special steel and process.
XR		Inner ring & outer ring	Crossed roller bearings.
	XS	Inner ring & outer ring	Different bore, O.D., width, or radius from basic part number.

Prefix	Suffix	Inner Ring or Outer Ring	Explanation
	XV	Inner ring & outer ring	Special feature inner ring or outer ring made of special steel.
	XW	Inner ring	Slotted.
	XX	Inner ring & outer ring	Single inner ring or single outer ring. Made of special steel.
Y		Outer ring	ISO part number.
	YD	Outer ring	Double outer ring with oil holes, no groove.
	YDA	Outer ring	Double outer ring with oil holes, no groove. Non-interchangeable with bearings having the same basic part number.
	YDV	Outer ring	Double outer ring with oil holes, no groove. Made of special steel.
	YDW	Inner ring	Double outer ring with oil holes, no groove. Slots or keyways in faces.
YKA		Outer ring	ISO single outer ring. Non-interchangeable with bearings having the same basic part number.
YKB		Outer ring	ISO single outer ring. Non-interchangeable with bearings having the same basic part number.
YSA		Outer ring	ISO single outer ring. Non-interchangeable with bearings having the same basic part number.
	Z	Inner ring & outer ring	Close stand part.

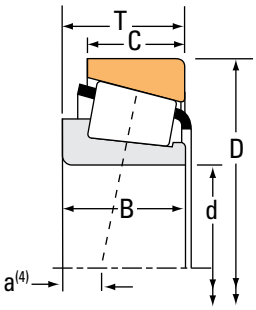


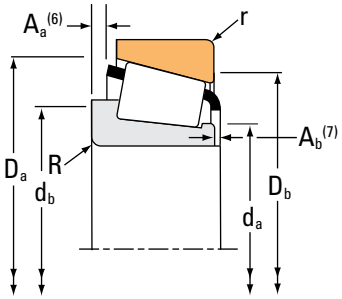
TYPE TS

- TS style is the most widely used tapered roller bearing.
- Part numbers give the widest possible choice from the comprehensive range of metric and inch sizes available from The Timken Company. See page 393 for metric (ISO series and J-prefix) part numbers.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective solution.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
7.937 0.3125	**31.991** 1.2595	**10.008** 0.3940	**10800** 2430	0.41	1.48	**2800** 630	**1940** 437	1.44	**9230** 2070	A2031	A2126
9.525 0.3750	**31.991** 1.2595	**10.008** 0.3940	**10800** 2430	0.41	1.48	**2800** 630	**1940** 437	1.44	**9230** 2070	A2037	A2126
11.112 0.4375	**34.988** 1.3775	**10.998** 0.4330	**13200** 2960	0.45	1.32	**3410** 767	**2640** 594	1.29	**11500** 2580	A4044	A4138
11.987 0.4719	**31.991** 1.2595	**10.008** 0.3940	**10800** 2430	0.41	1.48	**2800** 630	**1940** 437	1.44	**9230** 2070	A2047	A2126
12.680 0.4992	**34.988** 1.3775	**10.998** 0.4330	**13200** 2960	0.45	1.32	**3410** 767	**2640** 594	1.29	**11500** 2580	A4049	A4138
12.700 0.5000	**34.988** 1.3775	**10.998** 0.4330	**13200** 2960	0.45	1.32	**3410** 767	**2640** 594	1.29	**11500** 2580	A4050	A4138
12.700 0.5000	**38.100** 1.5000	**13.495** 0.5313	**20900** 4690	0.28	2.18	**5410** 1220	**2550** 574	2.12	**17100** 3840	00050	00150
14.989 0.5901	**34.988** 1.3775	**10.998** 0.4330	**13200** 2960	0.45	1.32	**3410** 767	**2640** 594	1.29	**11500** 2580	A4059	A4138
15.875 0.6250	**34.988** 1.3775	**10.998** 0.4330	**14300** 3230	0.32	1.88	**3720** 836	**2030** 456	1.83	**13900** 3130	L21549	L21511
15.875 0.6250	**39.992** 1.5745	**12.014** 0.4730	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6062	A6157
15.875 0.6250	**41.275** 1.6250	**14.288** 0.5625	**24000** 5400	0.31	1.93	**6230** 1400	**3310** 745	1.88	**21300** 4780	03062	03162
15.875 0.6250	**42.862** 1.6875	**14.288** 0.5625	**18800** 4230	0.70	0.85	**4870** 1100	**5860** 1320	0.83	**17400** 3920	11590	11520
15.875 0.6250	**42.862** 1.6875	**16.670** 0.6563	**31400** 7070	0.33	1.81	**8150** 1830	**4620** 1040	1.76	**29200** 6560	17580	17520
15.875 0.6250	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05062	05185
15.875 0.6250	**49.225** 1.9380	**19.845** 0.7813	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09062	09195
15.875 0.6250	**49.225** 1.9380	**23.020** 0.9063	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09062	09194
15.875 0.6250	**53.975** 2.1250	**22.225** 0.8750	**55100** 12400	0.59	1.02	**14300** 3210	**14400** 3250	0.99	**42500** 9560	21063	21212

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

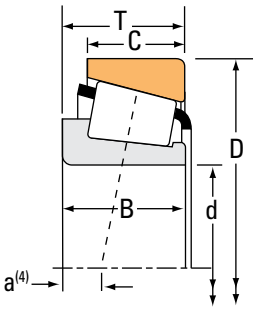
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
10.785 0.4246	**7.938** 0.3125	**-3.0** -0.12	**0.5** 0.02	**12.5** 0.49	**13.0** 0.51	**1.3** 0.05	**29.0** 1.14	**26.0** 1.02	**-0.3** -0.01	**1.5** 0.06	1.7	3.2	0.0308	**0.05** 0.10
10.785 0.4246	**7.938** 0.3125	**-3.0** -0.12	**1.3** 0.05	**13.5** 0.53	**15.0** 0.59	**1.3** 0.05	**29.0** 1.14	**26.0** 1.02	**-0.3** -0.01	**1.5** 0.06	1.7	3.2	0.0308	**0.05** 0.10
10.988 0.4326	**8.730** 0.3437	**-2.5** -0.10	**1.3** 0.05	**15.5** 0.61	**17.5** 0.69	**1.3** 0.05	**32.0** 1.26	**29.0** 1.14	**0.1** 0.00	**1.2** 0.05	2.3	4.1	0.0355	**0.05** 0.13
10.785 0.4246	**7.938** 0.3125	**-3.0** -0.12	**0.8** 0.03	**15.5** 0.61	**16.5** 0.65	**1.3** 0.05	**29.0** 1.14	**26.0** 1.02	**-0.3** -0.01	**1.5** 0.06	1.7	3.2	0.0308	**0.04** 0.09
10.988 0.4326	**8.730** 0.3437	**-2.5** -0.10	**0.8** 0.03	**17.5** 0.69	**17.5** 0.69	**1.3** 0.05	**32.0** 1.26	**29.0** 1.14	**0.1** 0.00	**1.2** 0.05	2.3	4.1	0.0355	**0.05** 0.12
10.988 0.4326	**8.730** 0.3437	**-2.5** -0.10	**1.3** 0.05	**17.0** 0.67	**18.5** 0.73	**1.3** 0.05	**32.0** 1.26	**29.0** 1.14	**0.1** 0.00	**1.2** 0.05	2.3	4.1	0.0355	**0.05** 0.12
14.072 0.5540	**11.112** 0.4375	**-5.1** -0.20	**1.5** 0.06	**16.5** 0.65	**19.0** 0.75	**0.8** 0.03	**34.0** 1.34	**33.0** 1.30	**-0.4** -0.02	**1.3** 0.06	3.1	2.9	0.0329	**0.08** 0.18
10.988 0.4326	**8.730** 0.3437	**-2.5** -0.10	**0.8** 0.03	**19.0** 0.75	**19.5** 0.77	**1.3** 0.05	**32.0** 1.26	**29.0** 1.14	**0.1** 0.00	**1.2** 0.05	2.3	4.1	0.0355	**0.04** 0.11
10.998 0.4330	**8.712** 0.3430	**-3.3** -0.13	**1.3** 0.05	**19.5** 0.77	**21.5** 0.85	**1.3** 0.05	**32.5** 1.28	**29.0** 1.14	**-0.3** -0.02	**1.4** 0.06	3.0	5.4	0.0348	**0.06** 0.11
11.153 0.4391	**9.525** 0.3750	**-1.5** -0.06	**1.3** 0.05	**20.5** 0.81	**22.0** 0.87	**1.3** 0.05	**37.0** 1.46	**34.0** 1.34	**0.5** 0.02	**1.6** 0.07	2.9	5.6	0.0404	**0.08** 0.16
14.681 0.5780	**11.112** 0.4375	**-5.1** -0.20	**1.3** 0.05	**20.0** 0.79	**21.5** 0.85	**2.0** 0.08	**37.5** 1.48	**34.0** 1.34	**0.3** 0.01	**1.4** 0.06	4.2	4.0	0.0384	**0.09** 0.21
14.288 0.5625	**9.525** 0.3750	**-1.3** -0.05	**1.5** 0.06	**22.5** 0.89	**24.5** 0.96	**1.5** 0.06	**39.5** 1.56	**34.5** 1.36	**1.5** 0.05	**0.7** 0.03	3.4	4.6	0.0465	**0.10** 0.22
16.670 0.6563	**13.495** 0.5313	**-5.8** -0.23	**1.5** 0.06	**21.0** 0.83	**23.0** 0.91	**1.5** 0.06	**39.0** 1.54	**36.5** 1.44	**0.4** 0.01	**1.9** 0.08	5.3	4.5	0.0423	**0.12** 0.27
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.5** 0.06	**21.0** 0.83	**23.5** 0.93	**1.3** 0.05	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.14** 0.29
21.539 0.8480	**14.288** 0.5625	**-9.1** -0.36	**0.8** 0.03	**21.5** 0.85	**22.0** 0.87	**1.3** 0.05	**44.5** 1.75	**42.0** 1.65	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.19** 0.44
21.539 0.8480	**17.462** 0.6875	**-9.1** -0.36	**0.8** 0.03	**21.5** 0.85	**22.0** 0.87	**3.5** 0.14	**44.5** 1.75	**39.0** 1.54	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.21** 0.47
21.839 0.8598	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**26.4** 1.03	**29.0** 1.14	**2.3** 0.09	**50.0** 1.97	**43.0** 1.69	**1.3** 0.05	**2.0** 0.08	7.0	4.1	0.0558	**0.25** 0.57

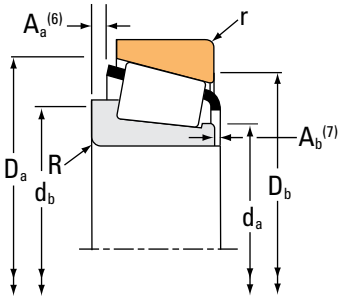
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
15.987 0.6294	**46.975** 1.8494	**21.000** 0.8268	**40100** 9020	0.55	1.10	**10400** 2340	**9720** 2190	1.07	**39300** 8840	HM81649	HM81610
16.993 0.6690	**39.982** 1.5741	**12.014** 0.4730	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6067	A6157A
16.993 0.6690	**39.992** 1.5745	**12.014** 0.4730	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6067	A6157
16.993 0.6690	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05066	05185
17.455 0.6872	**36.525** 1.4380	**11.112** 0.4375	**13000** 2930	0.49	1.23	**3380** 760	**2820** 634	1.20	**11600** 2600	A5069	A5144
17.462 0.6875	**39.878** 1.5700	**13.843** 0.5450	**29400** 6600	0.29	2.10	**7610** 1710	**3730** 838	2.04	**23400** 5260	LM11749	LM11710
17.462 0.6875	**44.450** 1.7500	**12.700** 0.5000	**20300** 4550	0.48	1.25	**5250** 1180	**4310** 969	1.22	**20600** 4640	4C	6
17.462 0.6875	**44.450** 1.7500	**15.494** 0.6100	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05068	05175
17.987 0.7082	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05070XS	05185-S
18.000 0.7087	**47.000** 1.8504	**14.381** 0.5662	**24700** 5560	0.36	1.68	**6420** 1440	**3920** 881	1.64	**25400** 5720	05070X	05185-S
19.004 0.7482	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1774	1729
19.004 0.7482	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1774	1729X
19.050 0.7500	**39.992** 1.5745	**12.014** 0.4730	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6075	A6157
19.050 0.7500	**41.275** 1.6250	**11.905** 0.4687	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6075	A6162
19.050 0.7500	**44.450** 1.7500	**12.700** 0.5000	**20300** 4550	0.48	1.25	**5250** 1180	**4310** 969	1.22	**20600** 4640	4A	6
19.050 0.7500	**45.237** 1.7810	**15.494** 0.6100	**39100** 8800	0.30	2.00	**10100** 2280	**5220** 1170	1.94	**32000** 7200	LM11949	LM11910
19.050 0.7500	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05075	05185

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

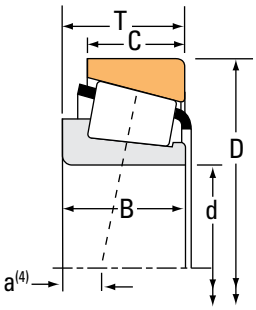
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.000 0.8268	**16.000** 0.6299	**-6.1** -0.24	**1.0** 0.04	**23.0** 0.90	**27.5** 1.08	**2.0** 0.08	**43.0** 1.69	**37.5** 1.48	**1.4** 0.05	**1.4** 0.06	6.1	4.6	0.0526	**0.20** 0.42
11.153 0.4391	**9.525** 0.3750	**-1.5** -0.06	**0.8** 0.03	**21.0** 0.83	**22.0** 0.87	**1.3** 0.05	**36.5** 1.44	**34.0** 1.34	**0.5** 0.02	**1.6** 0.07	2.9	5.6	0.0404	**0.08** 0.16
11.153 0.4391	**9.525** 0.3750	**-1.5** -0.06	**0.8** 0.03	**21.0** 0.83	**22.0** 0.87	**1.3** 0.05	**37.0** 1.46	**34.0** 1.34	**0.5** 0.02	**1.6** 0.07	2.9	5.6	0.0404	**0.08** 0.16
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.5** 0.06	**22.0** 0.87	**24.5** 0.96	**1.3** 0.05	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.14** 0.28
11.112 0.4375	**7.938** 0.3125	**-2.0** -0.08	**1.5** 0.06	**21.5** 0.84	**23.5** 0.93	**1.5** 0.06	**33.5** 1.32	**30.0** 1.18	**0.0** 0.00	**1.4** 0.06	2.5	4.6	0.0376	**0.05** 0.11
14.605 0.5750	**10.668** 0.4200	**-5.1** -0.20	**1.3** 0.05	**22.0** 0.87	**24.0** 0.94	**1.3** 0.05	**37.0** 1.46	**34.0** 1.34	**0.4** 0.01	**0.7** 0.03	4.8	4.7	0.0392	**0.09** 0.18
11.908 0.4688	**9.525** 0.3750	**-1.8** -0.07	**1.5** 0.06	**22.0** 0.87	**24.5** 0.96	**1.5** 0.06	**41.0** 1.61	**38.0** 1.50	**0.8** 0.03	**1.6** 0.07	4.6	2.6	0.0456	**0.09** 0.21
14.381 0.5662	**11.430** 0.4500	**-4.1** -0.16	**0.8** 0.03	**22.5** 0.89	**23.0** 0.91	**1.5** 0.06	**42.0** 1.65	**38.0** 1.50	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.12** 0.25
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**2.0** 0.08	**22.5** 0.89	**26.0** 1.02	**1.5** 0.06	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.27
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.5** 0.06	**22.5** 0.89	**25.0** 0.98	**1.5** 0.06	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.28
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**1.5** 0.06	**25.0** 0.98	**27.0** 1.06	**1.3** 0.05	**51.0** 2.01	**49.0** 1.93	* *	* *	10.6	5.4	0.0521	**0.26** 0.59
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**1.5** 0.06	**25.0** 0.98	**27.0** 1.06	**1.5** 0.06	**51.0** 2.01	**49.0** 1.93	* *	* *	10.6	5.4	0.0521	**0.26** 0.59
11.153 0.4391	**9.525** 0.3750	**-1.5** -0.06	**1.0** 0.04	**23.0** 0.91	**24.0** 0.94	**1.3** 0.05	**37.0** 1.46	**34.0** 1.34	**0.5** 0.02	**1.6** 0.07	2.9	5.6	0.0404	**0.07** 0.14
11.153 0.4391	**8.730** 0.3437	**-1.5** -0.06	**1.0** 0.04	**23.0** 0.91	**24.0** 0.94	**1.3** 0.05	**37.0** 1.46	**34.5** 1.36	**0.5** 0.02	**1.6** 0.07	2.9	5.6	0.0404	**0.07** 0.15
11.908 0.4688	**9.525** 0.3750	**-1.8** -0.07	**1.5** 0.06	**23.5** 0.93	**25.5** 1.00	**1.5** 0.06	**41.0** 1.61	**38.0** 1.50	**0.8** 0.03	**1.6** 0.07	4.6	2.6	0.0456	**0.09** 0.20
16.637 0.6550	**12.065** 0.4750	**-5.6** -0.22	**1.3** 0.05	**23.5** 0.93	**25.0** 0.98	**1.3** 0.05	**41.5** 1.63	**39.5** 1.56	**0.2** 0.01	**0.8** 0.03	6.6	5.5	0.0441	**0.12** 0.28
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.3** 0.05	**23.5** 0.93	**25.0** 0.98	**1.3** 0.05	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.27

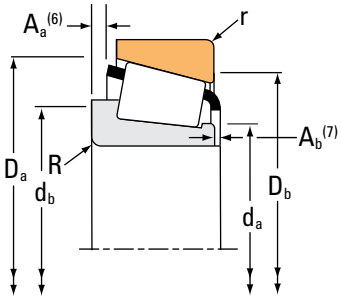
(4)Negative value indicates effective center inside cone (inner-ring) backface.
(5)These maximum fillet radii will be cleared by the bearing corners.
(6)Negative value indicates cage extends beyond cone (inner-ring) backface.
(7)Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*)Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
19.050 0.7500	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05075X	05185-S
19.050 0.7500	**49.225** 1.9380	**18.034** 0.7100	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09067	09195
19.050 0.7500	**49.225** 1.9380	**19.845** 0.7813	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09078	09195
19.050 0.7500	**49.225** 1.9380	**19.845** 0.7813	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09074	09195
19.050 0.7500	**49.225** 1.9380	**21.209** 0.8350	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09067	09194
19.050 0.7500	**49.225** 1.9380	**21.209** 0.8350	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09067	09196
19.050 0.7500	**49.225** 1.9380	**23.020** 0.9063	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09074	09194
19.050 0.7500	**49.225** 1.9380	**23.020** 0.9063	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09074	09196
19.050 0.7500	**49.225** 1.9380	**23.020** 0.9063	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09078	09194
19.050 0.7500	**49.225** 1.9380	**23.020** 0.9063	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09078	09196
19.050 0.7500	**50.800** 2.0000	**20.637** 0.8125	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09074	09201
19.050 0.7500	**52.800** 2.0787	**18.034** 0.7100	**39100** 8800	0.30	2.00	**10100** 2280	**5220** 1170	1.94	**32000** 7200	LM11949	LM11919
19.050 0.7500	**52.883** 2.0820	**18.430** 0.7256	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09067	09194-S
19.050 0.7500	**52.883** 2.0820	**20.241** 0.7969	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09074	09194-S
19.050 0.7500	**53.975** 2.1250	**22.225** 0.8750	**55100** 12400	0.59	1.02	**14300** 3210	**14400** 3250	0.99	**42500** 9560	21075	21212
19.050 0.7500	**53.975** 2.1250	**22.225** 0.8750	**55100** 12400	0.59	1.02	**14300** 3210	**14400** 3250	0.99	**42500** 9560	21075	21213
19.050 0.7500	**53.975** 2.1250	**22.225** 0.8750	**55100** 12400	0.59	1.02	**14300** 3210	**14400** 3250	0.99	**42500** 9560	21075A	21212

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

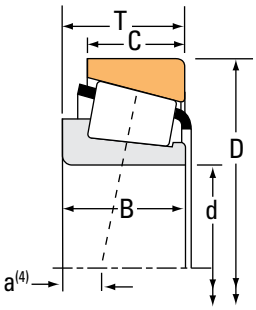
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.5** 0.06	**23.5** 0.93	**25.4** 1.00	**1.5** 0.06	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.27
19.050 0.7500	**14.288** 0.5625	**-7.4** -0.29	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**1.3** 0.05	**44.5** 1.75	**42.0** 1.65	**0.4** 0.01	**1.3** 0.05	8.0	4.0	0.0452	**0.17** 0.39
21.539 0.8480	**14.288** 0.5625	**-9.1** -0.36	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**1.3** 0.05	**44.5** 1.75	**42.0** 1.65	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.17** 0.41
21.539 0.8480	**14.288** 0.5625	**-9.1** -0.36	**1.5** 0.06	**24.0** 0.94	**26.0** 1.02	**1.3** 0.05	**44.5** 1.75	**42.0** 1.65	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.17** 0.40
19.050 0.7500	**17.462** 0.6875	**-7.4** -0.29	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**3.5** 0.14	**44.5** 1.75	**39.0** 1.54	**0.4** 0.01	**1.3** 0.05	8.0	4.0	0.0452	**0.19** 0.42
19.050 0.7500	**17.462** 0.6875	**-7.4** -0.29	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**1.5** 0.06	**44.5** 1.75	**41.5** 1.63	**0.4** 0.01	**1.3** 0.05	8.0	4.0	0.0452	**0.19** 0.43
21.539 0.8480	**17.462** 0.6875	**-9.1** -0.36	**1.5** 0.06	**24.0** 0.94	**26.0** 1.02	**3.5** 0.14	**44.5** 1.75	**39.0** 1.54	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.19** 0.43
21.539 0.8480	**17.462** 0.6875	**-9.1** -0.36	**1.5** 0.06	**24.0** 0.94	**26.0** 1.02	**1.5** 0.06	**44.5** 1.75	**41.5** 1.63	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.19** 0.45
21.539 0.8480	**17.462** 0.6875	**-9.1** -0.36	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**3.5** 0.14	**44.5** 1.75	**39.0** 1.54	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.19** 0.44
21.539 0.8480	**17.462** 0.6875	**-9.1** -0.36	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**1.5** 0.06	**44.5** 1.75	**41.5** 1.63	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.19** 0.45
21.539 0.8480	**17.462** 0.6875	**-9.1** -0.36	**1.5** 0.06	**24.0** 0.94	**26.0** 1.02	**0.5** 0.02	**45.5** 1.79	**44.0** 1.73	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.20** 0.47
16.637 0.6550	**14.605** 0.5750	**-5.6** -0.22	**1.3** 0.05	**23.5** 0.93	**25.0** 0.98	**1.3** 0.05	**45.5** 1.79	**42.0** 1.65	**0.2** 0.01	**0.8** 0.03	6.6	5.5	0.0441	**0.20** 0.44
19.050 0.7500	**14.684** 0.5781	**-7.4** -0.29	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**3.3** 0.13	**46.5** 1.83	**42.0** 1.65	**0.4** 0.01	**1.3** 0.05	8.0	4.0	0.0452	**0.21** 0.45
21.539 0.8480	**14.684** 0.5781	**-9.1** -0.36	**1.5** 0.06	**24.0** 0.94	**26.0** 1.02	**3.3** 0.13	**46.5** 1.83	**42.0** 1.65	**2.2** 0.09	**0.7** 0.03	8.0	4.0	0.0452	**0.21** 0.47
21.839 0.8598	**15.875** 0.6250	**-5.8** -0.23	**1.5** 0.06	**26.0** 1.03	**31.5** 1.24	**2.3** 0.09	**50.0** 1.97	**43.0** 1.69	**3.3** 0.13	**1.8** 0.07	7.0	4.1	0.0558	**0.24** 0.54
21.839 0.8598	**15.875** 0.6250	**-5.8** -0.23	**1.5** 0.06	**26.0** 1.03	**31.5** 1.24	**0.5** 0.02	**50.0** 1.97	**44.5** 1.75	**3.3** 0.13	**1.8** 0.07	7.0	4.1	0.0558	**0.25** 0.55
21.839 0.8598	**15.875** 0.6250	**-5.8** -0.23	**1.5** 0.06	**26.0** 1.03	**31.5** 1.24	**2.3** 0.09	**50.0** 1.97	**43.0** 1.69	**3.3** 0.13	**1.8** 0.07	7.0	4.1	0.0558	**0.24** 0.54

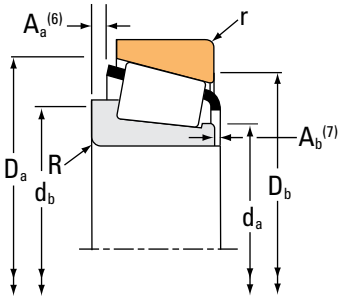
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
19.050 0.7500	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1775	1729
19.987 0.7869	**46.982** 1.8497	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05079	05185A
19.987 0.7869	**46.990** 1.8500	**15.250** 0.6004	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05079	05186
19.987 0.7869	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05079	05185
19.987 0.7869	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05079	05185-S
19.987 0.7869	**51.994** 2.0470	**15.011** 0.5910	**27000** 6060	0.40	1.49	**6990** 1570	**4810** 1080	1.45	**29600** 6650	07079X	07204
20.000 0.7874	**51.994** 2.0470	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07079	07204
20.627 0.8121	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1778	1729
20.637 0.8125	**49.225** 1.9380	**19.845** 0.7813	**43600** 9810	0.32	1.86	**11300** 2540	**6260** 1410	1.81	**43200** 9720	12580	12520
21.430 0.8437	**50.005** 1.9687	**17.526** 0.6900	**52200** 11700	0.28	2.16	**13500** 3040	**6440** 1450	2.10	**43500** 9780	M12649	M12610
21.987 0.8656	**45.237** 1.7810	**15.494** 0.6100	**38600** 8680	0.31	1.96	**10000** 2250	**5250** 1180	1.91	**35300** 7930	LM12749	LM12710
21.987 0.8656	**45.975** 1.8100	**15.494** 0.6100	**38600** 8680	0.31	1.96	**10000** 2250	**5250** 1180	1.91	**35300** 7930	LM12749	LM12711
22.225 0.8750	**42.070** 1.6563	**11.176** 0.4400	**16600** 3730	0.40	1.51	**4300** 966	**2920** 655	1.47	**16800** 3770	LL52549	LL52510
22.225 0.8750	**50.005** 1.9687	**13.495** 0.5313	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07087	07196
22.225 0.8750	**50.005** 1.9687	**13.495** 0.5313	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07087X	07196
22.225 0.8750	**50.005** 1.9687	**17.526** 0.6900	**52200** 11700	0.28	2.16	**13500** 3040	**6440** 1450	2.10	**43500** 9780	M12648	M12610
22.225 0.8750	**50.005** 1.9687	**17.526** 0.6900	**52200** 11700	0.28	2.16	**13500** 3040	**6440** 1450	2.10	**43500** 9780	M12648A	M12610

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

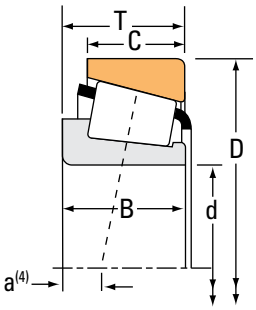
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**1.5** 0.06	**25.0** 0.98	**27.0** 1.06	**1.3** 0.05	**51.0** 2.01	**49.0** 1.93	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.26** 0.59
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.5** 0.06	**24.0** 0.94	**26.5** 1.04	**1.5** 0.06	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.26
14.381 0.5662	**12.000** 0.4724	**-4.1** -0.16	**1.5** 0.06	**24.0** 0.94	**26.5** 1.04	**1.5** 0.06	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.27
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.5** 0.06	**24.0** 0.94	**26.5** 1.04	**1.3** 0.05	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.26
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**1.5** 0.06	**24.0** 0.94	**26.5** 1.04	**1.5** 0.06	**42.5** 1.67	**40.5** 1.59	**0.2** 0.00	**1.3** 0.05	5.8	5.5	0.0448	**0.13** 0.26
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**26.0** 1.02	**27.5** 1.08	**1.3** 0.05	**48.0** 1.89	**45.0** 1.77	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.16** 0.36
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**26.0** 1.02	**27.5** 1.08	**1.3** 0.05	**48.0** 1.89	**45.0** 1.77	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.16** 0.36
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**0.8** 0.03	**26.0** 1.02	**27.0** 1.06	**1.3** 0.05	**51.0** 2.01	**49.0** 1.93	* *	* *	10.6	5.4	0.0521	**0.26** 0.57
19.845 0.7813	**15.875** 0.6250	**-7.1** -0.28	**1.5** 0.06	**26.0** 1.02	**28.5** 1.12	**1.5** 0.06	**45.5** 1.79	**42.5** 1.67	**0.8** 0.03	**1.2** 0.05	8.6	6.2	0.0495	**0.18** 0.40
18.288 0.7200	**13.970** 0.5500	**-6.4** -0.25	**1.3** 0.05	**27.5** 1.08	**29.5** 1.16	**1.3** 0.05	**46.0** 1.81	**44.0** 1.73	**0.3** 0.01	**1.2** 0.05	9.1	5.6	0.0479	**0.17** 0.37
16.637 0.6550	**12.065** 0.4750	**-5.3** -0.21	**1.3** 0.05	**26.0** 1.02	**27.5** 1.08	**1.3** 0.05	**42.0** 1.65	**39.5** 1.56	**0.5** 0.02	**0.5** 0.02	8.2	7.4	0.0480	**0.12** 0.26
16.637 0.6550	**12.065** 0.4750	**-5.3** -0.21	**1.3** 0.05	**26.0** 1.02	**27.5** 1.08	**1.3** 0.05	**42.5** 1.67	**40.0** 1.57	**0.5** 0.02	**0.5** 0.02	8.2	7.4	0.0480	**0.12** 0.27
11.176 0.4400	**8.636** 0.3400	**-1.8** -0.07	**1.3** 0.05	**26.0** 1.02	**27.5** 1.08	**1.3** 0.05	**39.5** 1.56	**36.5** 1.44	**-0.2** -0.01	**1.2** 0.05	4.7	8.6	0.0431	**0.06** 0.15
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**1.3** 0.05	**27.0** 1.06	**28.5** 1.12	**1.0** 0.04	**47.0** 1.85	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.12** 0.28
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**1.5** 0.06	**27.0** 1.06	**29.0** 1.14	**1.0** 0.04	**47.0** 1.85	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.12** 0.28
18.288 0.7200	**13.970** 0.5500	**-6.4** -0.25	**1.3** 0.05	**26.5** 1.04	**28.5** 1.12	**1.3** 0.05	**46.0** 1.81	**44.0** 1.73	**0.3** 0.01	**1.2** 0.05	9.1	5.6	0.0479	**0.16** 0.36
18.288 0.7200	**13.970** 0.5500	**-6.4** -0.25	**0.4** 0.02	**26.5** 1.04	**26.5** 1.04	**1.3** 0.05	**46.0** 1.81	**44.0** 1.73	**0.3** 0.01	**1.2** 0.05	9.1	5.6	0.0479	**0.16** 0.36

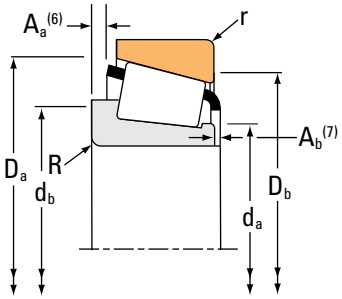
(4)Negative value indicates effective center inside cone (inner-ring) backface.
(5)These maximum fillet radii will be cleared by the bearing corners.
(6)Negative value indicates cage extends beyond cone (inner-ring) backface.
(7)Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*)Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
22.225 0.8750	**51.994** 2.0470	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07087	07204
22.225 0.8750	**52.000** 2.0472	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07087X	07205
22.225 0.8750	**52.388** 2.0625	**19.368** 0.7625	**47900** 10800	0.29	2.05	**12400** 2790	**6200** 1390	2.00	**48300** 10900	1380	1328
22.225 0.8750	**53.975** 2.1250	**19.368** 0.7625	**47900** 10800	0.29	2.05	**12400** 2790	**6200** 1390	2.00	**48300** 10900	1380	1329
22.225 0.8750	**53.975** 2.1250	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1755	1730
22.225 0.8750	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1755	1729
22.225 0.8750	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1755	1729X
22.225 0.8750	**57.150** 2.2500	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1975	1922
22.225 0.8750	**57.150** 2.2500	**22.225** 0.8750	**55300** 12400	0.35	1.73	**14300** 3230	**8510** 1910	1.69	**55100** 12400	1280	1220
22.225 0.8750	**58.738** 2.3125	**19.050** 0.7500	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1975	1932
22.225 0.8750	**60.325** 2.3750	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1975	1931
22.225 0.8750	**61.912** 2.4375	**36.512** 1.4375	**88600** 19900	0.28	2.13	**23000** 5160	**11100** 2500	2.07	**89800** 20200	3655	3620
22.225 0.8750	**62.000** 2.4409	**17.983** 0.7080	**48200** 10800	0.24	2.48	**12500** 2810	**5170** 1160	2.42	**49200** 11100	246X	242
22.225 0.8750	**66.421** 2.6150	**23.813** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2684	2631
22.606 0.8900	**47.000** 1.8504	**15.500** 0.6102	**35100** 7900	0.47	1.27	**9110** 2050	**7380** 1660	1.24	**33000** 7420	LM72849	LM72810
23.812 0.9375	**50.005** 1.9687	**13.495** 0.5313	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07093	07196
23.812 0.9375	**50.292** 1.9800	**14.224** 0.5600	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	L44640	L44610

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

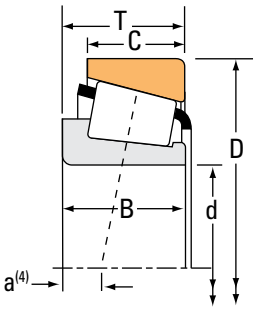
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.3** 0.05	**27.0** 1.06	**28.5** 1.12	**1.3** 0.05	**48.0** 1.89	**45.0** 1.77	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.15** 0.34
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**27.0** 1.06	**29.0** 1.14	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.15** 0.34
20.168 0.7940	**14.288** 0.5625	**-7.6** -0.30	**1.5** 0.06	**27.0** 1.06	**29.5** 1.16	**1.5** 0.06	**48.5** 1.91	**45.0** 1.77	**1.3** 0.05	**1.1** 0.05	10.3	5.2	0.0508	**0.20** 0.45
20.168 0.7940	**14.288** 0.5625	**-7.6** -0.30	**1.5** 0.06	**27.0** 1.06	**29.5** 1.16	**1.5** 0.06	**49.0** 1.93	**46.0** 1.81	**1.3** 0.05	**1.1** 0.05	10.3	5.2	0.0508	**0.21** 0.48
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**1.3** 0.05	**27.5** 1.08	**29.0** 1.14	**0.8** 0.03	**50.0** 1.97	**48.5** 1.91	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.22** 0.49
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**1.3** 0.05	**27.5** 1.08	**29.0** 1.14	**1.3** 0.05	**51.0** 2.01	**49.0** 1.93	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.25** 0.56
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**1.3** 0.05	**27.5** 1.08	**29.0** 1.14	**1.5** 0.06	**51.0** 2.01	**49.0** 1.93	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.25** 0.55
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**29.5** 1.16	**30.5** 1.20	**1.5** 0.06	**53.5** 2.11	**51.0** 2.01	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.26** 0.57
22.225 0.8750	**17.462** 0.6875	**-6.9** -0.27	**0.8** 0.03	**29.0** 1.14	**29.5** 1.16	**1.5** 0.06	**52.0** 2.05	**49.0** 1.93	* *	* *	11.4	5.5	0.0556	**0.28** 0.63
19.355 0.7620	**15.080** 0.5937	**-5.8** -0.23	**0.8** 0.03	**29.5** 1.16	**30.5** 1.20	**1.3** 0.05	**54.0** 2.13	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.27** 0.60
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**29.5** 1.16	**30.5** 1.20	**1.3** 0.05	**55.0** 2.17	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.29** 0.65
38.354 1.5100	**23.812** 0.9375	**-19.8** -0.78	**0.3** 0.01	**30.5** 1.20	**30.5** 1.20	**3.3** 0.13	**58.0** 2.27	**52.0** 2.05	**9.8** 0.38	**0.2** 0.01	17.0	6.4	0.0592	**0.52** 1.12
19.000 0.7480	**16.002** 0.6300	**-6.1** -0.24	**3.5** 0.14	**30.0** 1.18	**34.5** 1.36	**2.0** 0.08	**57.0** 2.24	**55.0** 2.17	**0.0** 0.00	**0.8** 0.03	12.8	8.2	0.0509	**0.29** 0.63
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.5** 0.06	**32.0** 1.26	**34.0** 1.34	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.46** 1.02
15.500 0.6102	**12.000** 0.4724	**-3.0** -0.12	**1.5** 0.06	**28.0** 1.10	**30.0** 1.18	**1.0** 0.04	**44.0** 1.73	**40.5** 1.59	**0.6** 0.02	**0.9** 0.04	7.5	9.0	0.0538	**0.13** 0.28
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**1.5** 0.06	**28.5** 1.12	**30.5** 1.20	**1.0** 0.04	**47.0** 1.85	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.12** 0.27
14.732 0.5800	**10.668** 0.4200	**-3.3** -0.13	**1.5** 0.06	**28.5** 1.12	**30.5** 1.20	**1.3** 0.05	**47.0** 1.85	**44.5** 1.75	**0.8** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.14** 0.29

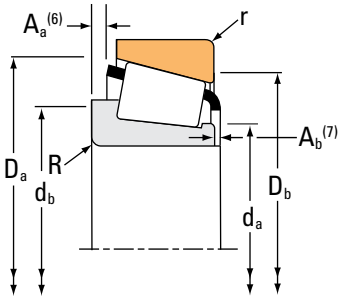
(4)Negative value indicates effective center inside cone (inner-ring) backface.
(5)These maximum fillet radii will be cleared by the bearing corners.
(6)Negative value indicates cage extends beyond cone (inner-ring) backface.
(7)Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*)Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
23.812 0.9375	**50.800** 2.0000	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07093	07210X
23.812 0.9375	**51.994** 2.0470	**15.012** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07093	07204
23.812 0.9375	**53.975** 2.1250	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1779	1730
23.812 0.9375	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1779	1729
23.812 0.9375	**61.912** 2.4375	**28.575** 1.1250	**88600** 19900	0.28	2.13	**23000** 5160	**11100** 2500	2.07	**89800** 20200	3659	3620
23.812 0.9375	**65.088** 2.5625	**22.225** 0.8750	**54600** 12300	0.73	0.82	**14200** 3180	**17700** 3990	0.80	**55800** 12500	23092	23256
23.812 0.9375	**66.421** 2.6150	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2685	2631
24.000 0.9449	**55.000** 2.1654	**25.000** 0.9842	**79500** 17900	0.35	1.70	**20600** 4630	**12500** 2800	1.65	**71000** 16000	JHM33449	JHM33410
24.384 0.9600	**79.375** 3.1250	**25.400** 1.0000	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43096	43312
24.981 0.9835	**50.005** 1.9687	**13.495** 0.5313	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07098	07196
24.981 0.9835	**51.994** 2.0470	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07098	07204
24.981 0.9835	**52.000** 2.0472	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07098	07205
24.981 0.9835	**61.981** 2.4402	**16.002** 0.6300	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17098	17244A
24.981 0.9835	**62.000** 2.4409	**16.002** 0.6300	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17098	17244
25.000 0.9843	**50.005** 1.9687	**13.495** 0.5313	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07097	07196
25.000 0.9843	**51.994** 2.0470	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07097	07204
25.000 0.9843	**52.000** 2.0472	**14.224** 0.5600	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	JL44642A	JL44615

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

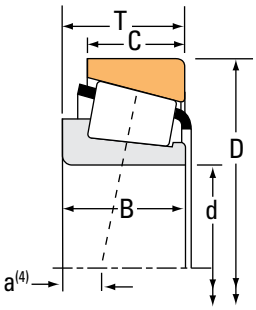
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**28.5** 1.12	**30.5** 1.20	**1.5** 0.06	**47.5** 1.87	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.14** 0.30
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**28.5** 1.12	**30.5** 1.20	**1.3** 0.05	**48.0** 1.89	**45.0** 1.77	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.15** 0.33
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**0.8** 0.03	**28.5** 1.12	**29.5** 1.16	**0.8** 0.03	**50.0** 1.97	**48.5** 1.91	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.21** 0.47
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**0.8** 0.03	**28.5** 1.12	**29.5** 1.16	**1.3** 0.05	**51.0** 2.01	**49.0** 1.93	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.24** 0.54
30.417 1.1975	**23.812** 0.9375	**-11.9** -0.47	**2.3** 0.09	**31.5** 1.24	**35.5** 1.40	**3.3** 0.13	**58.0** 2.27	**52.0** 2.05	**1.9** 0.07	**0.2** 0.01	17.0	6.4	0.0592	**0.44** 0.96
21.463 0.8450	**15.875** 0.6250	**-2.3** -0.09	**1.5** 0.06	**34.5** 1.36	**38.5** 1.52	**1.5** 0.06	**63.0** 2.48	**53.0** 2.09	**3.7** 0.14	**2.1** 0.08	11.3	6.6	0.0700	**0.36** 0.81
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**0.8** 0.03	**30.0** 1.18	**31.0** 1.22	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.44** 0.99
25.000 0.9843	**21.000** 0.8268	**-8.9** -0.35	**2.0** 0.08	**30.0** 1.18	**35.0** 1.38	**2.0** 0.08	**52.0** 2.05	**47.0** 1.85	**0.4** 0.01	**1.8** 0.07	13.3	5.8	0.0592	**0.29** 0.65
24.074 0.9478	**17.462** 0.6875	**-2.0** -0.08	**0.8** 0.03	**39.5** 1.56	**40.5** 1.59	**1.5** 0.06	**74.0** 2.91	**67.0** 2.64	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.65** 1.42
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**1.0** 0.04	**47.0** 1.85	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.11** 0.26
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**1.3** 0.05	**48.0** 1.89	**45.0** 1.77	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.14** 0.31
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.14** 0.31
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**1.5** 0.06	**30.5** 1.20	**33.0** 1.30	**1.5** 0.06	**57.0** 2.24	**54.0** 2.13	**0.2** 0.01	**1.9** 0.08	11.8	7.5	0.0579	**0.25** 0.56
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**1.5** 0.06	**30.5** 1.20	**33.0** 1.30	**1.5** 0.06	**57.0** 2.24	**54.0** 2.13	**0.2** 0.01	**1.9** 0.08	11.8	7.5	0.0579	**0.27** 0.60
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**1.0** 0.04	**47.0** 1.85	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.11** 0.26
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**1.3** 0.05	**48.0** 1.89	**45.0** 1.77	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.14** 0.31
14.732 0.5800	**10.668** 0.4200	**-3.3** -0.13	**1.3** 0.05	**30.0** 1.18	**32.0** 1.26	**1.3** 0.05	**48.0** 1.89	**45.5** 1.79	**0.8** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.14** 0.31

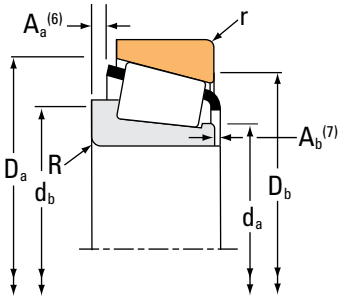
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
25.000 0.9843	**52.000** 2.0472	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07097	07205
25.000 0.9843	**61.912** 2.4375	**21.018** 0.8275	**48200** 10800	0.24	2.48	**12500** 2810	**5170** 1160	2.42	**49200** 11100	247	244X
25.400 1.0000	**50.005** 1.9687	**13.495** 0.5313	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07100-S	07196
25.400 1.0000	**50.292** 1.9800	**14.224** 0.5600	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	L44643	L44610
25.400 1.0000	**50.292** 1.9800	**14.224** 0.5600	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	L44642	L44610
25.400 1.0000	**50.800** 2.0000	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07100-S	07210X
25.400 1.0000	**50.800** 2.0000	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07100-SA	07210X
25.400 1.0000	**51.986** 2.0467	**15.011** 0.5910	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	L44643	L44613
25.400 1.0000	**52.000** 2.0472	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07100-SA	07205
25.400 1.0000	**52.000** 2.0472	**15.011** 0.5910	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07100-S	07205
25.400 1.0000	**53.975** 2.1250	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1780	1730
25.400 1.0000	**56.896** 2.2400	**19.368** 0.7625	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1780	1729
25.400 1.0000	**57.150** 2.2500	**17.462** 0.6875	**54500** 12300	0.35	1.73	**14100** 3180	**8380** 1880	1.69	**50100** 11300	15578	15520
25.400 1.0000	**57.150** 2.2500	**19.431** 0.7650	**48500** 10900	0.55	1.10	**12600** 2830	**11800** 2640	1.07	**52900** 11900	M84548	M84510
25.400 1.0000	**57.150** 2.2500	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1986	1922
25.400 1.0000	**57.150** 2.2500	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1994X	1922
25.400 1.0000	**57.150** 2.2500	**20.218** 0.7960	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1780	1738X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

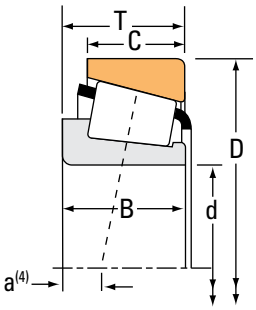
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.14** 0.31
19.000 0.7480	**17.462** 0.6875	**-6.1** -0.24	**2.0** 0.08	**30.0** 1.18	**33.5** 1.32	**3.3** 0.13	**57.0** 2.24	**52.0** 2.05	**0.0** 0.00	**0.8** 0.03	12.8	8.2	0.0509	**0.28** 0.63
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**1.5** 0.06	**29.5** 1.16	**31.5** 1.24	**1.0** 0.04	**47.0** 1.85	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.11** 0.25
14.732 0.5800	**10.668** 0.4200	**-3.3** -0.13	**1.3** 0.05	**30.0** 1.18	**32.0** 1.26	**1.3** 0.05	**47.0** 1.85	**44.5** 1.75	**0.7** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.13** 0.28
14.732 0.5800	**10.668** 0.4200	**-3.3** -0.13	**3.5** 0.14	**29.5** 1.16	**36.0** 1.42	**1.3** 0.05	**47.0** 1.85	**44.5** 1.75	**0.8** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.13** 0.27
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**29.5** 1.16	**31.5** 1.24	**1.5** 0.06	**47.5** 1.87	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.13** 0.29
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**3.3** 0.13	**29.5** 1.16	**35.0** 1.38	**1.5** 0.06	**47.5** 1.87	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.13** 0.28
14.732 0.5800	**12.700** 0.5000	**-3.3** -0.13	**1.3** 0.05	**30.0** 1.18	**32.0** 1.26	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.7** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.15** 0.32
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**3.3** 0.13	**29.5** 1.16	**35.0** 1.38	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.14** 0.30
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**1.5** 0.06	**29.5** 1.16	**31.5** 1.24	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.2** 0.01	**1.5** 0.06	7.6	7.1	0.0509	**0.14** 0.31
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**0.8** 0.03	**30.0** 1.18	**30.5** 1.20	**0.8** 0.03	**50.0** 1.97	**48.5** 1.91	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.20** 0.45
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**0.8** 0.03	**30.0** 1.18	**30.5** 1.20	**1.3** 0.05	**51.0** 2.01	**49.0** 1.93	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.23** 0.52
17.462 0.6875	**13.495** 0.5313	**-5.1** -0.20	**1.3** 0.05	**30.5** 1.20	**32.5** 1.28	**1.5** 0.06	**53.0** 2.09	**51.0** 2.01	**0.5** 0.02	**1.9** 0.08	12.7	10.3	0.0577	**0.22** 0.48
19.431 0.7650	**14.732** 0.5800	**-3.0** -0.12	**1.5** 0.06	**33.0** 1.30	**38.5** 1.52	**1.5** 0.06	**54.0** 2.13	**48.5** 1.91	**1.1** 0.04	**1.3** 0.05	11.3	7.4	0.0644	**0.25** 0.53
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**1.3** 0.05	**32.0** 1.26	**34.0** 1.34	**1.5** 0.06	**53.5** 2.11	**51.0** 2.01	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.25** 0.53
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**30.5** 1.20	**37.0** 1.46	**1.5** 0.06	**53.5** 2.11	**51.0** 2.01	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.24** 0.52
19.837 0.7810	**17.550** 0.6910	**-6.9** -0.27	**0.8** 0.03	**30.0** 1.18	**30.5** 1.20	**2.3** 0.09	**51.0** 2.01	**48.5** 1.91	**1.8** 0.07	**0.4** 0.02	10.6	5.4	0.0521	**0.25** 0.55

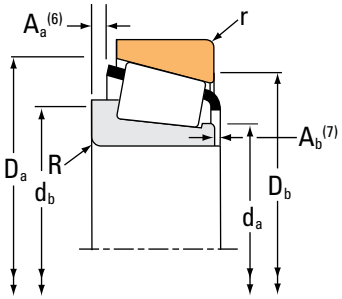
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
25.400 1.0000	**58.738** 2.3125	**19.050** 0.7500	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1986	1932
25.400 1.0000	**59.530** 2.3437	**23.368** 0.9200	**58100** 13100	0.55	1.10	**15100** 3390	**14100** 3170	1.07	**63300** 14200	M84249	M84210
25.400 1.0000	**60.325** 2.3750	**19.842** 0.7812	**54500** 12300	0.35	1.73	**14100** 3180	**8380** 1880	1.69	**50100** 11300	15578	15523
25.400 1.0000	**60.325** 2.3750	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1986	1931
25.400 1.0000	**60.325** 2.3750	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1994X	1931
25.400 1.0000	**62.000** 2.4409	**18.161** 0.7150	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15100-SR	15245
25.400 1.0000	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15101	15245
25.400 1.0000	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15100	15245
25.400 1.0000	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15102	15245
25.400 1.0000	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15100	15244
25.400 1.0000	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15101	15244
25.400 1.0000	**63.100** 2.4843	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2687	2630
25.400 1.0000	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15100	15250
25.400 1.0000	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15101	15250
25.400 1.0000	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15101	15250X
25.400 1.0000	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15102	15250
25.400 1.0000	**63.500** 2.5000	**20.638** 0.8125	**54600** 12300	0.73	0.82	**14200** 3180	**17700** 3990	0.80	**55800** 12500	23101X	23250X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

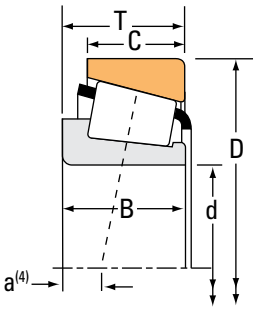
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
19.355 0.7620	**15.080** 0.5937	**-5.8** -0.23	**1.3** 0.05	**32.0** 1.26	**34.0** 1.34	**1.3** 0.05	**54.0** 2.13	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.26** 0.56
23.114 0.9100	**18.288** 0.7200	**-5.1** -0.20	**0.8** 0.03	**32.5** 1.27	**36.0** 1.42	**1.5** 0.06	**56.0** 2.20	**49.5** 1.95	**1.3** 0.05	**1.7** 0.07	12.7	7.6	0.0670	**0.33** 0.71
17.462 0.6875	**15.875** 0.6250	**-5.1** -0.20	**1.3** 0.05	**30.5** 1.20	**32.5** 1.28	**1.5** 0.06	**54.0** 2.13	**51.0** 2.01	**0.5** 0.02	**1.9** 0.08	12.7	10.3	0.0577	**0.27** 0.60
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**1.3** 0.05	**32.0** 1.26	**34.0** 1.34	**1.3** 0.05	**55.0** 2.17	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.28** 0.61
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**30.5** 1.20	**37.0** 1.46	**1.3** 0.05	**55.0** 2.17	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.27** 0.60
19.050 0.7500	**14.288** 0.5625	**-4.8** -0.19	**1.3** 0.05	**32.5** 1.28	**33.5** 1.32	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**0.3** 0.01	**1.8** 0.07	14.6	10.0	0.0606	**0.29** 0.63
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**31.5** 1.24	**32.5** 1.28	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.30** 0.65
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**3.5** 0.14	**31.5** 1.24	**38.0** 1.50	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.65
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**1.5** 0.06	**31.5** 1.24	**34.0** 1.34	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.30** 0.65
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**31.5** 1.24	**38.0** 1.50	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.30** 0.67
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**31.5** 1.24	**32.5** 1.28	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.31** 0.68
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.3** 0.05	**31.5** 1.24	**33.5** 1.32	**0.8** 0.03	**59.0** 2.32	**57.0** 2.24	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.38** 0.86
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**31.5** 1.24	**38.0** 1.50	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.32** 0.72
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**31.5** 1.24	**32.5** 1.28	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.33** 0.72
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**31.5** 1.24	**32.5** 1.28	**1.5** 0.06	**59.0** 2.32	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.33** 0.72
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**1.5** 0.06	**31.5** 1.24	**34.0** 1.34	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.33** 0.72
20.650 0.8130	**14.681** 0.5780	**-1.3** -0.05	**2.3** 0.09	**34.6** 1.36	**40.5** 1.59	**2.3** 0.09	**60.0** 2.36	**52.0** 2.05	**2.6** 0.10	**1.8** 0.07	11.3	6.6	0.0700	**0.31** 0.70

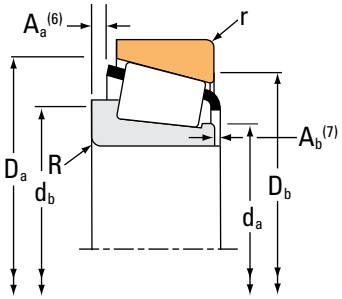
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
25.400 1.0000	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15100-S	15250X
25.400 1.0000	**65.088** 2.5625	**22.225** 0.8750	**54600** 12300	0.73	0.82	**14200** 3180	**17700** 3990	0.80	**55800** 12500	23100	23256
25.400 1.0000	**66.421** 2.6150	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2687	2631
25.400 1.0000	**68.262** 2.6875	**22.225** 0.8750	**67600** 15200	0.34	1.77	**17500** 3940	**10200** 2290	1.72	**73300** 16500	2473	2420
25.400 1.0000	**68.262** 2.6875	**22.225** 0.8750	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02473	02420
25.400 1.0000	**68.262** 2.6875	**22.225** 0.8750	**59600** 13400	0.55	1.10	**15500** 3470	**14400** 3250	1.07	**77400** 17400	M88036	M88010
25.400 1.0000	**69.723** 2.7450	**19.050** 0.7500	**58800** 13200	0.36	1.67	**15200** 3420	**9390** 2110	1.62	**60100** 13500	26100	26274
25.400 1.0000	**72.233** 2.8438	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88630	HM88610A
25.400 1.0000	**72.233** 2.8438	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88630	HM88610
25.400 1.0000	**72.625** 2.8593	**24.608** 0.9688	**82600** 18600	0.60	1.00	**21400** 4820	**22100** 4960	0.97	**64100** 14400	41100	41286
25.400 1.0000	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3189	3120
25.400 1.0000	**73.025** 2.8750	**26.543** 1.0450	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88630	HM88612
25.987 1.0231	**51.986** 2.0467	**15.011** 0.5910	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	L44645	L44613
25.987 1.0231	**57.150** 2.2500	**17.462** 0.6875	**46000** 10300	0.35	1.73	**11900** 2680	**7070** 1590	1.69	**50100** 11300	15579X	15520
26.157 1.0298	**61.912** 2.4375	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15103	15243
26.157 1.0298	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15103	15245
26.162 1.0300	**61.912** 2.4375	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15103-S	15243

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

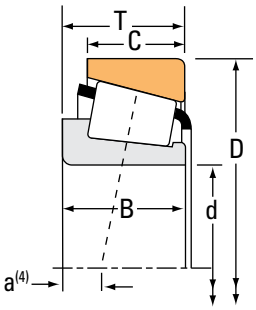
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**1.3** 0.05	**31.5** 1.24	**33.5** 1.32	**1.5** 0.06	**59.0** 2.32	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.33** 0.72
21.463 0.8450	**15.875** 0.6250	**-2.3** -0.09	**1.5** 0.06	**34.5** 1.36	**39.0** 1.54	**1.5** 0.06	**63.0** 2.48	**53.0** 2.09	**3.7** 0.14	**2.1** 0.08	11.3	6.6	0.0700	**0.35** 0.79
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.3** 0.05	**31.5** 1.24	**33.5** 1.32	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.43** 0.97
23.812 0.9375	**17.462** 0.6875	**-6.6** -0.26	**0.8** 0.03	**32.5** 1.28	**33.5** 1.32	**1.5** 0.06	**63.0** 2.48	**60.0** 2.36	**0.9** 0.03	**0.3** 0.01	18.8	10.5	0.0652	**0.44** 0.96
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**0.8** 0.03	**33.5** 1.32	**34.5** 1.36	**1.5** 0.06	**63.0** 2.48	**59.0** 2.32	**1.1** 0.04	**0.9** 0.04	17.5	8.5	0.0681	**0.43** 0.94
22.225 0.8750	**17.462** 0.6875	**-2.8** -0.11	**0.8** 0.03	**36.5** 1.44	**37.0** 1.46	**1.5** 0.06	**65.0** 2.56	**58.0** 2.28	**1.7** 0.06	**1.0** 0.04	19.4	10.0	0.0771	**0.44** 0.97
18.923 0.7450	**19.050** 0.7500	**-4.1** -0.16	**1.5** 0.06	**32.5** 1.28	**34.5** 1.36	**1.5** 0.06	**64.9** 2.56	**61.0** 2.40	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.39** 0.88
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**0.8** 0.03	**39.5** 1.56	**39.5** 1.56	**0.8** 0.03	**69.0** 2.72	**61.0** 2.40	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.58** 1.29
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**0.8** 0.03	**39.5** 1.56	**39.5** 1.56	**2.3** 0.09	**69.0** 2.72	**60.0** 2.36	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.57** 1.28
24.257 0.9550	**17.462** 0.6875	**-4.1** -0.16	**2.3** 0.09	**36.5** 1.44	**41.0** 1.61	**1.5** 0.06	**68.0** 2.68	**61.0** 2.40	**3.0** 0.12	**2.3** 0.09	13.0	5.8	0.0686	**0.50** 1.09
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**35.0** 1.38	**35.5** 1.40	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	* *	* *	23.4	8.8	0.0697	**0.66** 1.43
25.400 1.0000	**20.985** 0.8262	**-4.6** -0.18	**0.8** 0.03	**39.5** 1.56	**39.5** 1.56	**2.3** 0.09	**69.0** 2.72	**60.0** 2.36	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.61** 1.35
14.732 0.5800	**12.700** 0.5000	**-3.3** -0.13	**3.5** 0.14	**30.0** 1.18	**36.5** 1.44	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.8** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.14** 0.30
17.462 0.6875	**13.495** 0.5313	**-5.1** -0.20	**3.5** 0.14	**31.0** 1.22	**37.5** 1.48	**1.5** 0.06	**53.0** 2.09	**51.0** 2.01	* *	* *	12.7	10.3	0.0577	**0.21** 0.46
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**32.5** 1.28	**33.0** 1.30	**2.0** 0.08	**58.0** 2.28	**54.0** 2.13	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.64
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**32.5** 1.28	**33.0** 1.30	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.64
19.939 0.7850	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**33.5** 1.32	**33.5** 1.32	**2.0** 0.08	**58.0** 2.28	**54.0** 2.13	**1.2** 0.04	**1.7** 0.07	14.6	10.0	0.0606	**0.29** 0.64

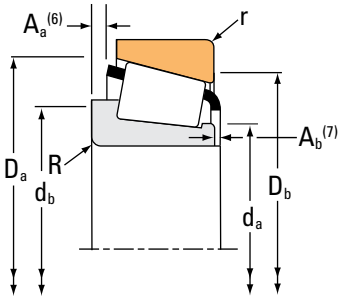
(4)Negative value indicates effective center inside cone (inner-ring) backface.
(5)These maximum fillet radii will be cleared by the bearing corners.
(6)Negative value indicates cage extends beyond cone (inner-ring) backface.
(7)Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*)Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
26.162 1.0300	**66.421** 2.6150	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2682	2631
26.975 1.0620	**58.738** 2.3125	**19.050** 0.7500	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1987	1932
26.975 1.0620	**60.325** 2.3750	**19.355** 0.7620	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1987	1931
26.987 1.0625	**50.292** 1.9800	**14.224** 0.5600	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	L44649	L44610
26.987 1.0625	**51.986** 2.0467	**15.011** 0.5910	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400	L44649	L44613
26.987 1.0625	**57.150** 2.2500	**17.462** 0.6875	**46000** 10300	0.35	1.73	**11900** 2680	**7070** 1590	1.69	**50100** 11300	15580	15520
26.987 1.0625	**57.150** 2.2500	**19.431** 0.7650	**48500** 10900	0.55	1.10	**12600** 2830	**11800** 2640	1.07	**52900** 11900	M84549	M84510
26.987 1.0625	**57.150** 2.2500	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1997X	1922
26.987 1.0625	**60.325** 2.3750	**19.842** 0.7812	**46000** 10300	0.35	1.73	**11900** 2680	**7070** 1590	1.69	**50100** 11300	15580	15523
26.987 1.0625	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15106	15245
26.987 1.0625	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15106	15250X
26.987 1.0625	**66.421** 2.6150	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2688	2631
26.987 1.0625	**72.625** 2.8593	**24.608** 0.9688	**82600** 18600	0.60	1.00	**21400** 4820	**22100** 4960	0.97	**64100** 14400	41106	41286
27.000 1.0630	**59.131** 2.3280	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	JLM67042	LM67010
27.987 1.1019	**66.987** 2.6373	**20.500** 0.8071	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02473X	02419
28.000 1.1024	**57.150** 2.2500	**17.462** 0.6875	**54500** 12300	0.35	1.73	**14100** 3180	**8380** 1880	1.69	**50100** 11300	J15585	15520
28.575 1.1250	**56.896** 2.2400	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1985	1930

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

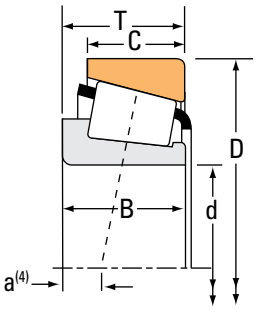
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.5** 0.06	**32.0** 1.26	**34.5** 1.36	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.43** 0.95
19.355 0.7620	**15.080** 0.5937	**-5.8** -0.23	**0.8** 0.03	**31.5** 1.24	**32.5** 1.28	**1.3** 0.05	**54.0** 2.13	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.25** 0.54
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**31.5** 1.24	**32.5** 1.28	**1.3** 0.05	**55.0** 2.17	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.27** 0.59
14.732 0.5800	**10.668** 0.4200	**-3.3** -0.13	**3.5** 0.14	**31.0** 1.22	**37.5** 1.48	**1.3** 0.05	**47.0** 1.85	**44.5** 1.75	**0.7** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.12** 0.26
14.732 0.5800	**12.700** 0.5000	**-3.3** -0.13	**3.5** 0.14	**31.0** 1.22	**37.5** 1.48	**2.0** 0.08	**48.0** 1.89	**44.5** 1.75	**0.7** 0.03	**0.6** 0.03	8.9	8.9	0.0526	**0.14** 0.30
17.462 0.6875	**13.495** 0.5313	**-5.1** -0.20	**3.5** 0.14	**32.0** 1.26	**38.5** 1.52	**1.5** 0.06	**53.0** 2.09	**51.0** 2.01	**0.5** 0.02	**1.9** 0.08	12.7	10.3	0.0577	**0.21** 0.45
19.431 0.7650	**14.732** 0.5800	**-3.0** -0.12	**1.5** 0.06	**33.0** 1.30	**38.5** 1.52	**1.5** 0.06	**54.0** 2.13	**48.5** 1.91	**1.1** 0.04	**1.3** 0.05	11.3	7.4	0.0644	**0.24** 0.51
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**3.3** 0.13	**31.5** 1.24	**37.5** 1.48	**1.5** 0.06	**53.5** 2.11	**51.0** 2.01	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.23** 0.50
17.462 0.6875	**15.875** 0.6250	**-5.1** -0.20	**3.5** 0.14	**32.0** 1.26	**38.5** 1.52	**1.5** 0.06	**54.0** 2.13	**51.0** 2.01	**0.5** 0.02	**1.9** 0.08	12.7	10.3	0.0577	**0.26** 0.57
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**33.0** 1.30	**33.5** 1.32	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.63
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**33.0** 1.30	**33.5** 1.32	**1.5** 0.06	**59.0** 2.32	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.32** 0.70
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.5** 0.06	**33.0** 1.30	**35.0** 1.38	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.42** 0.94
24.257 0.9550	**17.462** 0.6875	**-4.1** -0.16	**2.3** 0.09	**36.5** 1.44	**42.0** 1.65	**1.5** 0.06	**68.0** 2.68	**61.0** 2.40	**3.0** 0.12	**2.3** 0.09	13.0	5.8	0.0686	**0.49** 1.07
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**0.5** 0.02	**33.0** 1.30	**33.5** 1.32	**1.3** 0.05	**56.0** 2.20	**52.0** 2.05	**0.7** 0.02	**0.8** 0.03	12.8	9.7	0.0612	**0.21** 0.47
20.500 0.8071	**16.000** 0.6299	**-5.1** -0.20	**0.8** 0.03	**35.5** 1.40	**36.5** 1.44	**1.5** 0.06	**62.0** 2.44	**59.0** 2.32	**1.1** 0.04	**2.7** 0.11	17.5	8.5	0.0681	**0.36** 0.80
17.462 0.6875	**13.495** 0.5313	**-5.1** -0.20	**3.5** 0.14	**32.5** 1.28	**39.0** 1.54	**1.5** 0.06	**53.0** 2.09	**51.0** 2.01	* *	* *	12.7	10.3	0.0577	**0.20** 0.44
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**33.5** 1.32	**34.0** 1.34	**0.8** 0.03	**54.0** 2.11	**51.0** 2.01	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.22** 0.48

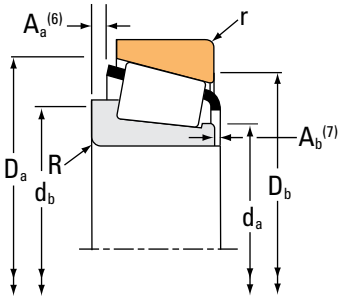
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
28.575 1.1250	**57.150** 2.2500	**17.462** 0.6875	**46000** 10300	0.35	1.73	**11900** 2680	**7070** 1590	1.69	**50100** 11300	15590	15520
28.575 1.1250	**57.150** 2.2500	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1985	1922
28.575 1.1250	**58.738** 2.3125	**19.050** 0.7500	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1985	1932
28.575 1.1250	**59.131** 2.3280	**15.875** 0.6250	**36500** 8210	0.41	1.46	**9460** 2130	**6680** 1500	1.42	**44600** 10000	LM67043	LM67010
28.575 1.1250	**60.325** 2.3750	**19.845** 0.7813	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1985	1931
28.575 1.1250	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15113	15245
28.575 1.1250	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15112	15245
28.575 1.1250	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15112	15244
28.575 1.1250	**63.100** 2.4843	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2689	2630
28.575 1.1250	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15112	15250
28.575 1.1250	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15113	15250
28.575 1.1250	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15112	15250X
28.575 1.1250	**64.292** 2.5312	**21.433** 0.8438	**60200** 13500	0.55	1.10	**15600** 3510	**14600** 3280	1.07	**71700** 16100	M86647	M86610
28.575 1.1250	**66.421** 2.6150	**19.050** 0.7500	**55900** 12600	0.34	1.77	**14500** 3260	**8420** 1890	1.72	**55200** 12400	24112	24261
28.575 1.1250	**66.421** 2.6150	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2689	2631
28.575 1.1250	**68.262** 2.6875	**22.225** 0.8750	**67600** 15200	0.34	1.77	**17500** 3940	**10200** 2290	1.72	**73300** 16500	2474	2420
28.575 1.1250	**68.262** 2.6875	**22.225** 0.8750	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02474	02420

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

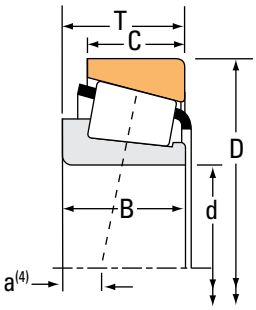
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
17.462 0.6875	**13.495** 0.5313	**-5.1** -0.20	**3.5** 0.14	**33.5** 1.32	**39.5** 1.56	**1.5** 0.06	**53.0** 2.09	**51.0** 2.01	**0.5** 0.02	**1.9** 0.08	12.7	10.3	0.0577	**0.20** 0.43
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**33.5** 1.32	**34.0** 1.34	**1.5** 0.06	**53.5** 2.11	**51.0** 2.01	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.23** 0.49
19.355 0.7620	**15.080** 0.5937	**-5.8** -0.23	**0.8** 0.03	**33.5** 1.32	**34.0** 1.34	**1.3** 0.05	**54.0** 2.13	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.24** 0.51
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**0.0** 0.00	**35.0** 1.38	**41.5** 1.63	**1.3** 0.05	**56.0** 2.20	**52.0** 2.05	**0.7** 0.02	**0.8** 0.03	12.8	9.7	0.0612	**0.20** 0.44
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**33.5** 1.32	**34.0** 1.34	**1.3** 0.05	**55.0** 2.17	**52.0** 2.05	**0.7** 0.03	**1.2** 0.05	12.5	6.3	0.0565	**0.26** 0.57
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**34.0** 1.34	**34.5** 1.36	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.28** 0.61
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**3.5** 0.14	**34.0** 1.34	**40.0** 1.57	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.27** 0.60
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**34.0** 1.34	**40.0** 1.57	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.28** 0.62
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.3** 0.05	**36.0** 1.42	**37.5** 1.48	**0.8** 0.03	**59.0** 2.32	**57.0** 2.24	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.36** 0.80
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**34.0** 1.34	**40.0** 1.57	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.30** 0.67
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**34.0** 1.34	**34.5** 1.36	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.31** 0.68
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**34.0** 1.34	**40.0** 1.57	**1.5** 0.06	**59.0** 2.32	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.30** 0.67
21.433 0.8438	**16.670** 0.6563	**-3.3** -0.13	**1.5** 0.06	**31.0** 1.50	**40.0** 1.57	**1.5** 0.06	**60.0** 2.36	**54.0** 2.13	**1.3** 0.05	**1.3** 0.05	16.8	7.4	0.0736	**0.35** 0.77
18.974 0.7470	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**34.0** 1.34	**36.0** 1.42	**1.5** 0.06	**61.0** 2.40	**58.0** 2.28	**0.3** 0.01	**1.5** 0.06	14.0	8.3	0.0589	**0.31** 0.69
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.3** 0.05	**36.0** 1.42	**37.5** 1.48	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.41** 0.91
23.812 0.9375	**17.462** 0.6875	**-6.6** -0.26	**0.8** 0.03	**35.0** 1.38	**36.0** 1.42	**1.5** 0.06	**63.0** 2.48	**60.0** 2.36	**0.9** 0.03	**0.3** 0.01	18.8	10.5	0.0652	**0.42** 0.90
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**0.8** 0.03	**36.0** 1.42	**36.5** 1.44	**1.5** 0.06	**63.0** 2.48	**59.0** 2.32	**1.1** 0.04	**0.9** 0.04	17.5	8.5	0.0681	**0.41** 0.89

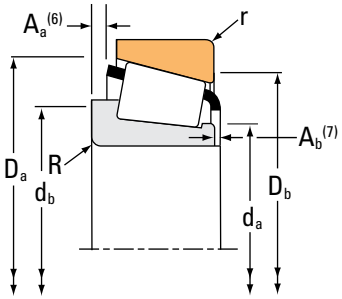
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
28.575 1.1250	**69.723** 2.7450	**19.050** 0.7500	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26112	26274
28.575 1.1250	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2578	2523
28.575 1.1250	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2578	2523-S
28.575 1.1250	**72.000** 2.8346	**19.000** 0.7480	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26112	26283
28.575 1.1250	**72.625** 2.8593	**24.608** 0.9688	**82600** 18600	0.60	1.00	**21400** 4820	**22100** 4960	0.97	**64100** 14400	41125	41286
28.575 1.1250	**72.625** 2.8593	**24.608** 0.9688	**82600** 18600	0.60	1.00	**21400** 4820	**22100** 4960	0.97	**64100** 14400	41126	41286
28.575 1.1250	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3192	3120
28.575 1.1250	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3198	3120
28.575 1.1250	**73.025** 2.8750	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02872	02820
28.575 1.1250	**73.025** 2.8750	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02872	02830
28.575 1.1250	**76.200** 3.0000	**19.000** 0.7480	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26112	26300
28.575 1.1250	**76.200** 3.0000	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3198	3129
28.575 1.1250	**79.375** 3.1250	**25.400** 1.0000	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43112	43312
29.000 1.1417	**50.292** 1.9800	**14.224** 0.5600	**35500** 7980	0.37	1.62	**9200** 2070	**5820** 1310	1.58	**36200** 8130	L45449	L45410
29.367 1.1562	**66.421** 2.6150	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2691	2631
29.367 1.1562	**66.421** 2.6150	**23.812** 0.9375	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2690	2631
29.987 1.1806	**61.981** 2.4402	**16.002** 0.6300	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17118	17244A

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

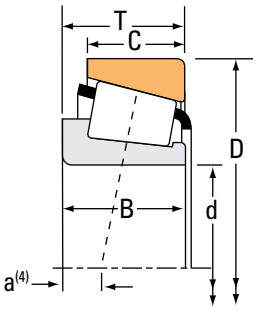
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
18.923 0.7450	**19.050** 0.7500	**-4.1** -0.16	**1.5** 0.06	**35.0** 1.38	**37.0** 1.46	**1.5** 0.06	**64.9** 2.56	**61.0** 2.40	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.37** 0.83
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**2.3** 0.09	**35.0** 1.38	**39.0** 1.54	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.48** 1.06
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**2.3** 0.09	**35.0** 1.38	**39.0** 1.54	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.48** 1.06
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**1.5** 0.06	**35.0** 1.38	**37.0** 1.46	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.39** 0.87
24.257 0.9550	**17.462** 0.6875	**-4.1** -0.16	**4.8** 0.19	**36.5** 1.44	**48.0** 1.89	**1.5** 0.06	**68.0** 2.68	**61.0** 2.40	**3.0** 0.12	**2.3** 0.09	13.0	5.8	0.0686	**0.47** 1.02
24.257 0.9550	**17.462** 0.6875	**-4.1** -0.16	**1.5** 0.06	**36.5** 1.44	**41.5** 1.63	**1.5** 0.06	**68.0** 2.68	**61.0** 2.40	**3.0** 0.12	**2.3** 0.09	13.0	5.8	0.0686	**0.47** 1.04
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**37.0** 1.46	**43.5** 1.71	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.62** 1.35
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**1.3** 0.05	**37.0** 1.46	**39.0** 1.54	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.63** 1.36
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**0.8** 0.03	**37.0** 1.46	**37.5** 1.48	**3.3** 0.13	**68.0** 2.68	**62.0** 2.44	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.47** 1.05
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**0.8** 0.03	**37.0** 1.46	**37.5** 1.48	**0.8** 0.03	**68.0** 2.68	**64.0** 2.52	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.48** 1.07
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**1.5** 0.06	**35.0** 1.38	**37.0** 1.46	**1.5** 0.06	**66.0** 2.60	**64.0** 2.52	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.45** 1.00
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**1.3** 0.05	**37.0** 1.46	**39.0** 1.54	**0.8** 0.03	**69.0** 2.72	**65.0** 2.56	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.71** 1.55
24.074 0.9478	**17.462** 0.6875	**-2.0** -0.08	**0.8** 0.03	**41.5** 1.63	**42.5** 1.67	**1.5** 0.06	**74.0** 2.91	**67.0** 2.64	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.62** 1.35
14.732 0.5800	**10.668** 0.4200	**-3.3** -0.13	**3.5** 0.14	**33.5** 1.32	**40.0** 1.57	**1.3** 0.05	**48.0** 1.89	**44.5** 1.75	**0.5** 0.02	**0.8** 0.04	10.8	12.4	0.0559	**0.11** 0.25
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**0.8** 0.03	**36.5** 1.44	**37.5** 1.48	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.40** 0.89
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**3.5** 0.14	**35.0** 1.38	**41.0** 1.61	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.7** 0.03	**0.8** 0.04	19.3	8.0	0.0598	**0.39** 0.88
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**1.5** 0.06	**36.0** 1.42	**38.5** 1.52	**1.5** 0.06	**57.0** 2.24	**54.0** 2.13	**0.2** 0.01	**1.9** 0.08	11.8	7.5	0.0579	**0.22** 0.50

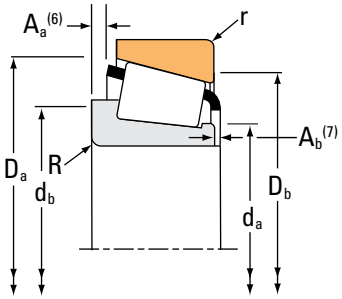
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
29.987 1.1806	**62.000** 2.4409	**16.002** 0.6300	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17118	17244
29.987 1.1806	**62.000** 2.4409	**18.161** 0.7150	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15115	15245
29.987 1.1806	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15117	15245
29.987 1.1806	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15117	15244
29.987 1.1806	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15117	15244X
29.987 1.1806	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15117	15250
29.987 1.1806	**68.262** 2.6875	**21.000** 0.8268	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02474A	02420A
29.987 1.1806	**69.012** 2.7170	**19.845** 0.7813	**64700** 14500	0.38	1.57	**16800** 3770	**11000** 2470	1.53	**61700** 13900	14118AS	14276
29.987 1.1806	**72.000** 2.8346	**19.000** 0.7480	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26118	26283
29.987 1.1806	**76.200** 3.0000	**19.000** 0.7480	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26118	26300
29.987 1.1806	**76.200** 3.0000	**24.608** 0.9688	**77600** 17500	0.67	0.90	**20100** 4520	**23000** 5170	0.87	**76200** 17100	43117	43300
30.000 1.1811	**62.000** 2.4409	**16.002** 0.6300	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17118-S	17244
30.000 1.1811	**68.956** 2.7148	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14117A	14274A
30.000 1.1811	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14118	14276
30.000 1.1811	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14117A	14276
30.000 1.1811	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14118	14274
30.000 1.1811	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14118A	14274

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

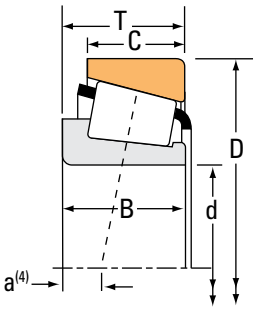
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**1.5** 0.06	**36.0** 1.42	**38.5** 1.52	**1.5** 0.06	**57.0** 2.24	**54.0** 2.13	**0.2** 0.01	**1.9** 0.08	11.8	7.5	0.0579	**0.24** 0.54
19.050 0.7500	**14.288** 0.5625	**-4.8** -0.19	**1.3** 0.05	**36.5** 1.44	**38.5** 1.52	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**0.3** 0.01	**1.8** 0.07	14.6	10.0	0.0606	**0.26** 0.56
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**1.3** 0.05	**35.0** 1.38	**36.5** 1.44	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.27** 0.58
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**1.3** 0.05	**35.0** 1.38	**36.5** 1.44	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.28** 0.61
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**1.3** 0.05	**35.0** 1.38	**36.5** 1.44	**1.5** 0.06	**58.0** 2.28	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.28** 0.61
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**1.3** 0.05	**35.0** 1.38	**36.5** 1.44	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.30** 0.65
22.225 0.8750	**16.238** 0.6393	**-5.1** -0.20	**0.8** 0.03	**38.5** 1.52	**39.5** 1.56	**1.5** 0.06	**63.0** 2.48	**59.0** 2.32	**1.1** 0.04	**0.9** 0.04	17.5	8.5	0.0681	**0.39** 0.84
19.202 0.7560	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**37.0** 1.46	**37.5** 1.48	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.9** 0.08	18.0	13.3	0.0668	**0.36** 0.80
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**1.5** 0.06	**36.0** 1.42	**38.0** 1.50	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.38** 0.85
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**1.5** 0.06	**36.0** 1.42	**38.0** 1.50	**1.5** 0.06	**66.0** 2.60	**64.0** 2.52	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.44** 0.98
24.074 0.9478	**16.670** 0.6563	**-2.0** -0.08	**1.5** 0.06	**42.1** 1.66	**44.5** 1.75	**3.3** 0.13	**73.0** 2.87	**64.0** 2.52	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.53** 1.16
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**1.5** 0.06	**34.5** 1.36	**37.0** 1.46	**1.5** 0.06	**57.0** 2.24	**54.0** 2.13	**0.2** 0.01	**1.9** 0.08	11.8	7.5	0.0579	**0.24** 0.54
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**41.0** 1.61	**44.0** 1.73	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.34** 0.78
19.202 0.7560	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**36.5** 1.44	**37.0** 1.46	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.9** 0.08	18.0	13.3	0.0668	**0.35** 0.79
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**41.0** 1.61	**44.0** 1.73	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.35** 0.79
19.202 0.7560	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**36.5** 1.44	**37.0** 1.46	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.9** 0.08	18.0	13.3	0.0668	**0.35** 0.78
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**37.0** 1.46	**43.0** 1.69	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.36** 0.78

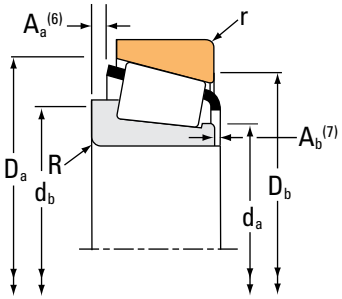
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
30.000 1.1811	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2586	2523
30.000 1.1811	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2560X	2523-S
30.000 1.1811	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2560X	2523
30.000 1.1811	**72.000** 2.8346	**19.000** 0.7480	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26118-S	26283-S
30.000 1.1811	**72.000** 2.8346	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2560X	2526X
30.000 1.1811	**72.000** 2.8346	**29.370** 1.1563	**87000** 19600	0.55	1.10	**22600** 5070	**21100** 4740	1.07	**111000** 24900	JHM88540	JHM88513
30.000 1.1811	**72.022** 2.8355	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2586	2525
30.000 1.1811	**72.034** 2.8360	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3190	3126
30.000 1.1811	**72.085** 2.8380	**22.385** 0.8813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14117A	14283
30.000 1.1811	**72.085** 2.8380	**22.385** 0.8813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14118	14283
30.112 1.1855	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15116	15245
30.112 1.1855	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15116	15250
30.162 1.1875	**58.738** 2.3125	**14.684** 0.5781	**31700** 7130	0.47	1.27	**8220** 1850	**6670** 1500	1.23	**35000** 7880	08118	08231
30.162 1.1875	**58.788** 2.3145	**14.684** 0.5781	**31700** 7130	0.47	1.27	**8220** 1850	**6670** 1500	1.23	**35000** 7880	08118	08237
30.162 1.1875	**62.000** 2.4409	**16.002** 0.6300	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17119	17244
30.162 1.1875	**64.292** 2.5312	**21.433** 0.8438	**60200** 13500	0.55	1.10	**15600** 3510	**14600** 3280	1.07	**71700** 16100	M86649	M86610
30.162 1.1875	**66.421** 2.6150	**19.050** 0.7500	**55900** 12600	0.34	1.77	**14500** 3260	**8420** 1890	1.72	**55200** 12400	24118	24261

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

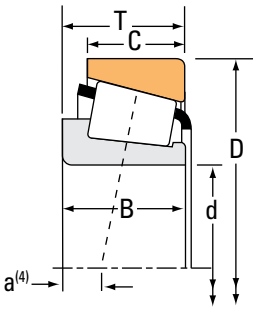
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**3.5** 0.14	**36.0** 1.42	**42.5** 1.67	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.47** 1.02
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**2.0** 0.08	**36.0** 1.42	**39.5** 1.56	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.47** 1.03
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**2.0** 0.08	**36.0** 1.42	**39.5** 1.56	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.47** 1.03
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**1.5** 0.06	**36.0** 1.42	**38.0** 1.50	**2.0** 0.08	**65.0** 2.56	**62.0** 2.44	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.38** 0.84
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**2.0** 0.08	**36.0** 1.42	**39.5** 1.56	**2.0** 0.08	**65.0** 2.56	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.50** 1.11
27.783 1.0938	**23.020** 0.9063	**-5.6** -0.22	**1.3** 0.05	**42.5** 1.67	**44.5** 1.75	**3.3** 0.13	**69.0** 2.72	**58.0** 2.28	**1.9** 0.07	**1.8** 0.08	26.3	8.7	0.0857	**0.60** 1.34
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**3.5** 0.14	**36.0** 1.42	**42.5** 1.67	**0.8** 0.03	**65.0** 2.56	**63.0** 2.48	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.50** 1.10
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**38.0** 1.50	**44.5** 1.75	**2.8** 0.11	**67.0** 2.64	**61.0** 2.40	* *	* *	23.4	8.8	0.0697	**0.60** 1.30
19.583 0.7710	**18.415** 0.7250	**-4.3** -0.17	**3.5** 0.14	**41.0** 1.61	**44.0** 1.73	**2.3** 0.09	**65.0** 2.56	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.43** 0.96
19.202 0.7560	**18.415** 0.7250	**-4.3** -0.17	**0.8** 0.03	**36.5** 1.44	**37.0** 1.46	**2.3** 0.09	**65.0** 2.56	**60.0** 2.36	**1.0** 0.04	**1.9** 0.08	18.0	13.3	0.0668	**0.43** 0.96
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**35.5** 1.40	**36.0** 1.42	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.26** 0.58
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**35.5** 1.40	**36.0** 1.42	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.65
15.080 0.5937	**10.716** 0.4219	**-1.3** -0.05	**3.5** 0.14	**35.0** 1.38	**41.5** 1.63	**1.0** 0.04	**55.0** 2.17	**52.0** 2.05	**0.8** 0.03	**1.1** 0.05	10.7	10.6	0.0601	**0.18** 0.38
15.080 0.5937	**10.716** 0.4219	**-1.3** -0.05	**3.5** 0.14	**35.0** 1.38	**41.5** 1.63	**1.0** 0.04	**55.0** 2.17	**52.0** 2.05	**0.8** 0.03	**1.1** 0.05	10.7	10.6	0.0601	**0.18** 0.38
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**1.5** 0.06	**34.5** 1.36	**37.0** 1.46	**1.5** 0.06	**57.0** 2.24	**54.0** 2.13	**0.2** 0.01	**1.9** 0.08	11.8	7.5	0.0579	**0.24** 0.53
21.433 0.8438	**16.670** 0.6563	**-3.3** -0.13	**1.5** 0.06	**38.0** 1.50	**44.0** 1.73	**1.5** 0.06	**60.0** 2.36	**54.0** 2.13	**1.3** 0.05	**1.3** 0.05	16.8	7.4	0.0736	**0.34** 0.74
18.974 0.7470	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**35.0** 1.38	**37.5** 1.48	**1.5** 0.06	**61.0** 2.40	**58.0** 2.28	**0.3** 0.01	**1.5** 0.06	14.0	8.3	0.0589	**0.30** 0.67

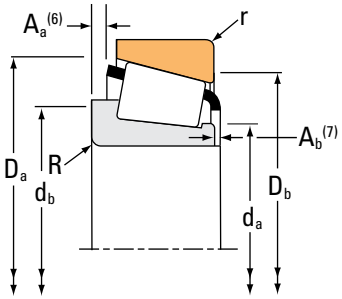
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
30.162 1.1875	**66.421** 2.6150	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2558	2530
30.162 1.1875	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2558	2523
30.162 1.1875	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2558	2523-S
30.162 1.1875	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3191	3120
30.162 1.1875	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3187	3120
30.162 1.1875	**76.200** 3.0000	**20.638** 0.8125	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28118	28300
30.162 1.1875	**76.200** 3.0000	**24.608** 0.9688	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43118	43300
30.162 1.1875	**79.375** 3.1250	**25.400** 1.0000	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43118	43312
30.162 1.1875	**80.000** 3.1496	**21.006** 0.8270	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28118	28315
30.175 1.1880	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15120A	15245
30.213 1.1895	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15118	15244
30.213 1.1895	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15120	15244
30.213 1.1895	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15118	15250X
30.213 1.1895	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15119	15250
30.213 1.1895	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15120	15250
30.213 1.1895	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15118	15250
30.213 1.1895	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15119	15249

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

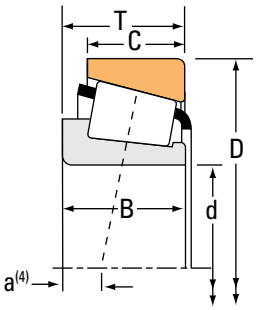
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.357 0.9983	**20.638** 0.8125	**-8.6** -0.34	**2.3** 0.09	**36.5** 1.44	**40.0** 1.57	**0.8** 0.03	**62.5** 2.46	**59.9** 2.36	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.43** 0.94
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**2.3** 0.09	**36.5** 1.44	**40.0** 1.57	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.47** 1.03
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**2.3** 0.09	**36.5** 1.44	**40.0** 1.57	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.47** 1.03
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	* *	* *	23.4	8.8	0.0697	**0.60** 1.32
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**38.5** 1.52	**39.0** 1.54	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	* *	* *	23.4	8.8	0.0697	**0.61** 1.33
20.940 0.8244	**15.507** 0.6105	**-4.8** -0.19	**1.5** 0.06	**37.5** 1.48	**40.0** 1.57	**1.3** 0.05	**71.0** 2.80	**68.0** 2.68	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.47** 1.04
24.074 0.9478	**16.670** 0.6563	**-2.0** -0.08	**1.5** 0.06	**42.1** 1.65	**45.0** 1.77	**3.3** 0.13	**73.0** 2.87	**64.0** 2.52	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.53** 1.16
24.074 0.9478	**17.462** 0.6875	**-2.0** -0.08	**1.5** 0.06	**42.1** 1.65	**45.0** 1.77	**1.5** 0.06	**74.0** 2.91	**67.0** 2.64	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.60** 1.31
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**37.5** 1.48	**40.0** 1.57	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.53** 1.17
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.5** 0.02	**35.5** 1.40	**35.5** 1.40	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.26** 0.58
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**36.5** 1.44	**43.0** 1.69	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.27** 0.60
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**35.5** 1.40	**36.0** 1.42	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.27** 0.61
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**36.5** 1.44	**43.0** 1.69	**1.5** 0.06	**59.0** 2.32	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.64
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**1.5** 0.06	**35.5** 1.40	**37.5** 1.48	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	* *	* *	14.6	10.0	0.0606	**0.29** 0.65
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**35.5** 1.40	**36.0** 1.42	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.65
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**36.5** 1.44	**43.0** 1.69	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.29** 0.64
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**1.5** 0.06	**35.5** 1.40	**37.5** 1.48	**1.5** 0.06	**59.0** 2.32	**55.0** 2.17	* *	* *	14.6	10.0	0.0606	**0.29** 0.64

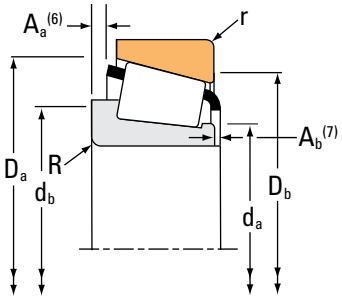
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
30.213 1.1895	**66.421** 2.6150	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2561X	2520
30.213 1.1895	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2561X	2523
30.213 1.1895	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2561X	2523-S
30.226 1.1900	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14116	14276
30.955 1.2187	**64.292** 2.5312	**21.432** 0.8438	**60200** 13500	0.55	1.10	**15600** 3510	**14600** 3280	1.07	**71700** 16100	M86648A	M86610
31.623 1.2450	**66.675** 2.6250	**20.638** 0.8125	**52500** 11800	0.37	1.62	**13600** 3060	**8650** 1950	1.57	**57900** 13000	1674	1620
31.750 1.2500	**58.738** 2.3125	**14.684** 0.5781	**31700** 7130	0.47	1.27	**8220** 1850	**6670** 1500	1.23	**35000** 7880	08125	08231
31.750 1.2500	**59.131** 2.3280	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67048	LM67010
31.750 1.2500	**59.131** 2.3280	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67047	LM67010
31.750 1.2500	**59.131** 2.3280	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67049A	LM67010
31.750 1.2500	**59.131** 2.3280	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67045	LM67010
31.750 1.2500	**61.986** 2.4404	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67048	LM67014
31.750 1.2500	**61.986** 2.4404	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67049A	LM67014
31.750 1.2500	**61.986** 2.4404	**15.875** 0.6250	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67045	LM67014
31.750 1.2500	**62.000** 2.4409	**18.161** 0.7150	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15123	15245
31.750 1.2500	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15126	15245
31.750 1.2500	**62.000** 2.4409	**19.050** 0.7500	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15125	15245

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

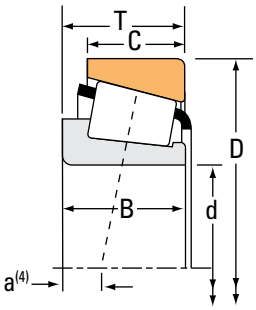
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
24.714 0.9730	**20.638** 0.8125	**-8.6** -0.34	**2.3** 0.09	**36.5** 1.44	**40.0** 1.57	**3.3** 0.13	**62.5** 2.46	**56.9** 2.24	**0.8** 0.03	**1.5** 0.06	23.6	9.6	0.0656	**0.41** 0.91
24.714 0.9730	**19.050** 0.7500	**-8.6** -0.34	**2.3** 0.09	**36.5** 1.44	**40.0** 1.57	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**1.5** 0.06	23.6	9.6	0.0656	**0.46** 1.02
24.714 0.9730	**19.050** 0.7500	**-8.6** -0.34	**2.3** 0.09	**36.5** 1.44	**40.0** 1.57	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**1.5** 0.06	23.6	9.6	0.0656	**0.46** 1.02
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**38.0** 1.50	**38.5** 1.52	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.36** 0.80
21.433 0.8438	**16.670** 0.6563	**-3.3** -0.13	**1.5** 0.06	**38.0** 1.50	**42.0** 1.65	**1.5** 0.06	**60.0** 2.36	**54.0** 2.13	**1.3** 0.05	**1.3** 0.05	16.8	7.4	0.0736	**0.33** 0.73
20.638 0.8125	**15.875** 0.6250	**-5.3** -0.21	**1.5** 0.06	**37.0** 1.46	**39.5** 1.56	**1.5** 0.06	**61.0** 2.40	**58.0** 2.28	**1.5** 0.06	**1.1** 0.05	16.6	8.7	0.0644	**0.33** 0.72
15.080 0.5937	**10.716** 0.4219	**-1.3** -0.05	**1.0** 0.04	**36.0** 1.42	**37.5** 1.48	**1.0** 0.04	**55.0** 2.17	**52.0** 2.05	**0.8** 0.03	**1.1** 0.05	10.7	10.6	0.0601	**0.17** 0.37
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**3.5** 0.14	**36.0** 1.42	**42.5** 1.67	**1.3** 0.05	**56.0** 2.20	**52.0** 2.05	**0.7** 0.02	**0.8** 0.03	12.8	9.7	0.0612	**0.18** 0.39
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**2.3** 0.09	**36.0** 1.42	**40.0** 1.57	**1.3** 0.05	**56.0** 2.20	**52.0** 2.05	**0.7** 0.02	**0.8** 0.03	12.8	9.7	0.0612	**0.18** 0.41
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**0.8** 0.03	**36.0** 1.42	**37.0** 1.46	**1.3** 0.05	**56.0** 2.20	**52.0** 2.05	**0.7** 0.02	**0.8** 0.03	12.8	9.7	0.0612	**0.18** 0.41
18.500 0.7283	**11.811** 0.4650	**-3.0** -0.12	**2.0** 0.08	**36.0** 1.42	**39.5** 1.56	**1.3** 0.05	**56.0** 2.20	**52.0** 2.05	**0.7** 0.03	**-1.0** -0.04	12.8	9.7	0.0612	**0.19** 0.42
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**3.5** 0.14	**36.0** 1.42	**42.5** 1.67	**1.3** 0.05	**57.0** 2.24	**54.0** 2.13	**0.7** 0.02	**0.8** 0.03	12.8	9.7	0.0612	**0.21** 0.44
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**0.8** 0.03	**36.0** 1.42	**37.0** 1.46	**1.3** 0.05	**57.0** 2.24	**54.0** 2.13	**0.7** 0.02	**0.8** 0.03	12.8	9.7	0.0612	**0.21** 0.46
18.500 0.7283	**11.811** 0.4650	**-3.0** -0.12	**2.0** 0.08	**36.0** 1.42	**39.5** 1.56	**1.3** 0.05	**57.0** 2.24	**54.0** 2.13	**0.7** 0.03	**-1.0** -0.04	12.8	9.7	0.0612	**0.22** 0.47
19.050 0.7500	**14.288** 0.5625	**-4.8** -0.19	**3.5** 0.14	**38.0** 1.50	**44.0** 1.73	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**0.3** 0.01	**1.8** 0.07	14.6	10.0	0.0606	**0.23** 0.51
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**0.8** 0.03	**38.0** 1.50	**38.5** 1.52	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.25** 0.55
20.638 0.8125	**14.288** 0.5625	**-5.8** -0.23	**3.5** 0.14	**36.5** 1.44	**42.5** 1.67	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.25** 0.54

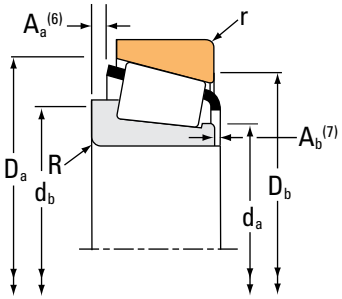
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
31.750 1.2500	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15125	15244
31.750 1.2500	**62.000** 2.4409	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15126	15244
31.750 1.2500	**63.500** 2.5000	**19.748** 0.7775	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15123	15250
31.750 1.2500	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15125	15250
31.750 1.2500	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15126	15250
31.750 1.2500	**63.500** 2.5000	**20.638** 0.8125	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15126	15250X
31.750 1.2500	**66.421** 2.6150	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2580	2520
31.750 1.2500	**66.421** 2.6150	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2580	2530
31.750 1.2500	**66.421** 2.6150	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2580	2520A
31.750 1.2500	**66.421** 2.6150	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2580A	2520A
31.750 1.2500	**68.262** 2.6875	**21.000** 0.8268	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02476	02420A
31.750 1.2500	**68.262** 2.6875	**22.225** 0.8750	**67600** 15200	0.34	1.77	**17500** 3940	**10200** 2290	1.72	**73300** 16500	2475	2420
31.750 1.2500	**68.262** 2.6875	**22.225** 0.8750	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02475	02420
31.750 1.2500	**68.262** 2.6875	**22.225** 0.8750	**66700** 15000	0.28	2.18	**17300** 3890	**8150** 1830	2.12	**77900** 17500	16579	16522
31.750 1.2500	**68.262** 2.6875	**22.225** 0.8750	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02476	02420
31.750 1.2500	**68.262** 2.6875	**22.225** 0.8750	**76300** 17100	0.55	1.10	**19800** 4450	**18500** 4160	1.07	**77400** 17400	M88046	M88010
31.750 1.2500	**68.262** 2.6875	**26.988** 1.0625	**80700** 18100	0.35	1.71	**20900** 4700	**12600** 2830	1.66	**91000** 20500	23491	23420

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

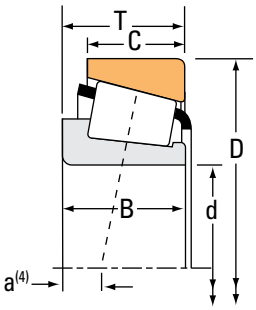
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**36.5** 1.44	**42.5** 1.67	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.26** 0.57
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**38.0** 1.50	**38.5** 1.52	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.26** 0.58
19.050 0.7500	**15.875** 0.6250	**-4.8** -0.19	**3.5** 0.14	**38.0** 1.50	**44.0** 1.73	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**0.3** 0.01	**1.8** 0.07	14.6	10.0	0.0606	**0.26** 0.58
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**36.5** 1.44	**42.5** 1.67	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.2** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.28** 0.61
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**38.0** 1.50	**38.5** 1.52	**1.3** 0.05	**59.0** 2.32	**56.0** 2.20	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.28** 0.62
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**38.0** 1.50	**38.5** 1.52	**1.5** 0.06	**59.0** 2.32	**55.0** 2.17	**1.1** 0.04	**1.1** 0.05	14.6	10.0	0.0606	**0.28** 0.62
25.357 0.9983	**20.638** 0.8125	**-8.6** -0.34	**0.8** 0.03	**37.5** 1.48	**38.5** 1.52	**3.3** 0.13	**62.5** 2.46	**56.9** 2.24	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.40** 0.89
25.357 0.9983	**20.638** 0.8125	**-8.6** -0.34	**0.8** 0.03	**37.5** 1.48	**38.5** 1.52	**0.8** 0.03	**62.5** 2.46	**59.9** 2.36	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.41** 0.91
25.357 0.9983	**20.638** 0.8125	**-8.6** -0.34	**0.8** 0.03	**37.5** 1.48	**38.5** 1.52	**1.5** 0.06	**62.0** 2.44	**58.9** 2.32	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.41** 0.91
25.357 0.9983	**20.638** 0.8125	**-8.6** -0.34	**1.3** 0.05	**39.5** 1.56	**41.5** 1.63	**1.5** 0.06	**62.0** 2.44	**58.9** 2.32	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.41** 0.91
22.225 0.8750	**16.238** 0.6393	**-5.1** -0.20	**0.8** 0.03	**38.5** 1.52	**39.0** 1.54	**1.5** 0.06	**63.0** 2.48	**59.0** 2.32	**1.1** 0.04	**0.9** 0.04	17.5	8.5	0.0681	**0.37** 0.81
23.812 0.9375	**17.462** 0.6875	**-6.6** -0.26	**3.5** 0.14	**37.5** 1.48	**44.0** 1.73	**1.5** 0.06	**63.0** 2.48	**60.0** 2.36	**0.9** 0.03	**0.3** 0.01	18.8	10.5	0.0652	**0.38** 0.83
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**1.5** 0.06	**63.0** 2.48	**59.0** 2.32	**1.1** 0.04	**0.9** 0.04	17.5	8.5	0.0681	**0.38** 0.82
22.225 0.8750	**17.462** 0.6875	**-7.4** -0.29	**1.5** 0.06	**37.5** 1.48	**39.5** 1.56	**0.8** 0.03	**63.0** 2.48	**61.0** 2.40	**0.6** 0.02	**1.6** 0.06	22.7	13.0	0.0650	**0.39** 0.85
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**0.8** 0.03	**38.5** 1.52	**39.0** 1.54	**1.5** 0.06	**63.0** 2.48	**59.0** 2.32	**1.1** 0.04	**0.9** 0.04	17.5	8.5	0.0681	**0.38** 0.83
22.225 0.8750	**17.462** 0.6875	**-2.8** -0.11	**1.5** 0.06	**40.5** 1.59	**43.0** 1.69	**1.5** 0.06	**65.0** 2.56	**58.0** 2.28	**1.7** 0.06	**1.0** 0.04	19.4	10.0	0.0771	**0.39** 0.87
26.988 1.0625	**22.225** 0.8750	**-8.6** -0.34	**1.5** 0.06	**39.0** 1.54	**41.0** 1.61	**1.5** 0.06	**64.0** 2.52	**59.0** 2.32	**1.6** 0.06	**0.7** 0.03	21.9	10.4	0.0697	**0.46** 1.02

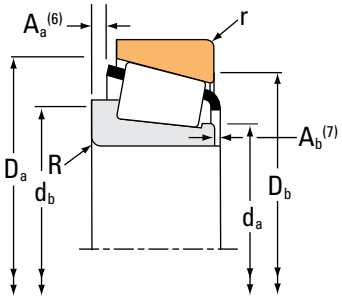
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
31.750 1.2500	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14125A	14274
31.750 1.2500	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14124	14276
31.750 1.2500	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14125A	14276
31.750 1.2500	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14124	14274
31.750 1.2500	**69.012** 2.7170	**22.385** 0.8813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14124	14277
31.750 1.2500	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2582	2523
31.750 1.2500	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2580	2523
31.750 1.2500	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2580	2523-S
31.750 1.2500	**71.996** 2.8345	**19.002** 0.7481	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14124	14282
31.750 1.2500	**72.022** 2.8355	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2582	2525
31.750 1.2500	**72.233** 2.8438	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88644	HM88610
31.750 1.2500	**72.625** 2.8593	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88644	HM88611AS
31.750 1.2500	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3193	3120
31.750 1.2500	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3188	3120
31.750 1.2500	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3199	3120
31.750 1.2500	**73.025** 2.8750	**22.225** 0.8750	**73200** 16400	0.37	1.63	**19000** 4260	**12000** 2690	1.59	**83800** 18800	2875	2820
31.750 1.2500	**73.025** 2.8750	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02875	02820

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

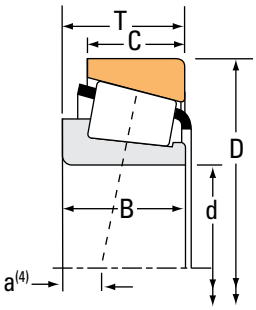
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.34** 0.75
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**39.0** 1.54	**39.5** 1.56	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.34** 0.77
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.34** 0.77
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**39.0** 1.54	**39.5** 1.56	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.34** 0.76
19.583 0.7710	**18.415** 0.7250	**-4.3** -0.17	**0.8** 0.03	**39.0** 1.54	**39.5** 1.56	**2.3** 0.09	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.37** 0.83
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**3.5** 0.14	**37.5** 1.48	**44.0** 1.73	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.45** 0.99
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**0.8** 0.03	**37.5** 1.48	**38.5** 1.52	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.45** 1.00
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**0.8** 0.03	**37.5** 1.48	**38.5** 1.52	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.45** 0.99
19.583 0.7710	**15.032** 0.5918	**-4.3** -0.17	**0.8** 0.03	**39.0** 1.54	**39.5** 1.56	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.37** 0.84
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**3.5** 0.14	**37.5** 1.48	**44.0** 1.73	**0.8** 0.03	**65.0** 2.56	**63.0** 2.48	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.48** 1.07
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**2.3** 0.09	**69.0** 2.72	**60.0** 2.36	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.51** 1.15
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**3.3** 0.13	**69.0** 2.72	**59.0** 2.32	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.52** 1.16
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**39.5** 1.56	**45.5** 1.79	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.59** 1.28
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**39.5** 1.56	**40.0** 1.57	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.59** 1.29
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**2.3** 0.09	**39.5** 1.56	**43.0** 1.69	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	**0.0** 0.00	**0.0** 0.00	23.4	8.8	0.0697	**0.59** 1.28
23.812 0.9375	**17.462** 0.6875	**-5.6** -0.22	**3.5** 0.14	**38.5** 1.52	**45.0** 1.77	**3.3** 0.13	**68.0** 2.68	**63.0** 2.48	**0.9** 0.03	**0.2** 0.01	23.1	12.4	0.0718	**0.45** 1.01
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**3.5** 0.14	**39.5** 1.56	**45.5** 1.79	**3.3** 0.13	**68.0** 2.68	**62.0** 2.44	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.44** 0.97

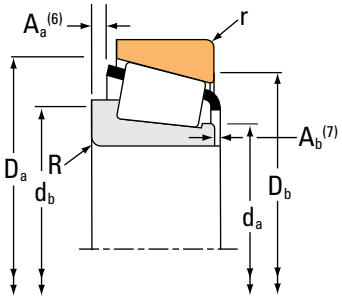
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
31.750 1.2500	**73.025** 2.8750	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02876	02820
31.750 1.2500	**73.025** 2.8750	**22.225** 0.8750	**73200** 16400	0.37	1.63	**19000** 4260	**12000** 2690	1.59	**83800** 18800	2879	2820
31.750 1.2500	**73.025** 2.8750	**26.988** 1.0625	**89400** 20100	0.37	1.62	**23200** 5210	**14700** 3300	1.58	**102000** 22900	23685	23620
31.750 1.2500	**73.025** 2.8750	**29.370** 1.1563	**103000** 23200	0.55	1.10	**26700** 6010	**25000** 5620	1.07	**111000** 24900	HM88542	HM88510
31.750 1.2500	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2783	2720
31.750 1.2500	**76.200** 3.0000	**24.608** 0.9688	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43125	43300
31.750 1.2500	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89440	HM89410
31.750 1.2500	**76.200** 3.0000	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3193	3129
31.750 1.2500	**76.200** 3.0000	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3188	3129
31.750 1.2500	**79.375** 3.1250	**25.400** 1.0000	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43125	43312
31.750 1.2500	**79.375** 3.1250	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3476	3420
31.750 1.2500	**80.000** 3.1496	**24.175** 0.9518	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	346	332A
31.750 1.2500	**80.167** 3.1562	**26.988** 1.0625	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	346	3320
31.987 1.2593	**66.987** 2.6373	**20.500** 0.8071	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02476X	02419
31.987 1.2593	**71.973** 2.8336	**27.000** 1.0630	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88638	HM88611
32.000 1.2598	**72.000** 2.8346	**19.000** 0.7480	**58800** 13200	0.36	1.67	**15200** 3420	**9390** 2110	1.62	**60100** 13500	26126X	26283
32.004 1.2600	**72.000** 2.8346	**19.000** 0.7480	**58800** 13200	0.36	1.67	**15200** 3420	**9390** 2110	1.62	**60100** 13500	26126	26283

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

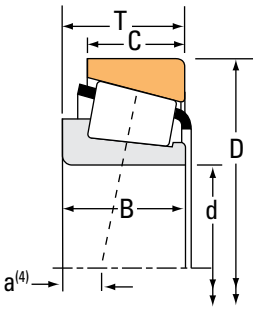
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**0.8** 0.03	**39.5** 1.56	**40.0** 1.57	**3.3** 0.13	**68.0** 2.68	**62.0** 2.44	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.44** 0.99
23.812 0.9375	**17.462** 0.6875	**-5.6** -0.22	**0.8** 0.03	**38.5** 1.52	**39.5** 1.56	**3.3** 0.13	**68.0** 2.68	**63.0** 2.48	**0.9** 0.03	**0.2** 0.01	23.1	12.4	0.0718	**0.46** 1.02
26.975 1.0620	**22.225** 0.8750	**-8.1** -0.32	**3.5** 0.14	**40.0** 1.57	**46.0** 1.81	**1.5** 0.06	**68.0** 2.68	**63.0** 2.48	**1.7** 0.06	**0.8** 0.03	24.4	10.7	0.0734	**0.55** 1.22
27.783 1.0938	**23.020** 0.9063	**-5.6** -0.22	**1.3** 0.05	**42.6** 1.68	**45.5** 1.79	**3.3** 0.13	**70.0** 2.76	**59.0** 2.32	**1.9** 0.07	**1.8** 0.08	26.3	8.7	0.0857	**0.61** 1.35
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**38.5** 1.52	**41.0** 1.61	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.57** 1.25
24.074 0.9478	**16.670** 0.6563	**-2.0** -0.08	**1.5** 0.06	**41.5** 1.63	**44.0** 1.73	**3.3** 0.13	**73.0** 2.87	**64.0** 2.52	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.52** 1.12
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**44.5** 1.75	**45.5** 1.79	**3.3** 0.13	**73.0** 2.87	**62.0** 2.44	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.68** 1.50
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**39.5** 1.56	**45.5** 1.79	**0.8** 0.03	**69.0** 2.72	**65.0** 2.56	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.67** 1.47
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**39.5** 1.56	**40.0** 1.57	**0.8** 0.03	**69.0** 2.72	**65.0** 2.56	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.67** 1.48
24.074 0.9478	**17.462** 0.6875	**-2.0** -0.08	**1.5** 0.06	**41.5** 1.63	**44.0** 1.73	**1.5** 0.06	**74.0** 2.91	**67.0** 2.64	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.59** 1.28
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**1.3** 0.05	**41.0** 1.61	**43.0** 1.69	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.74** 1.64
22.403 0.8820	**21.000** 0.8268	**-6.4** -0.25	**0.8** 0.03	**39.5** 1.56	**40.0** 1.57	**2.3** 0.09	**75.0** 2.95	**71.0** 2.80	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.59** 1.31
22.403 0.8820	**23.812** 0.9375	**-6.4** -0.25	**0.8** 0.03	**39.5** 1.56	**40.0** 1.57	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.62** 1.38
20.500 0.8071	**16.000** 0.6299	**-5.1** -0.20	**0.8** 0.03	**38.5** 1.52	**39.5** 1.56	**1.5** 0.06	**62.0** 2.44	**59.0** 2.32	**1.1** 0.04	**2.7** 0.11	17.5	8.5	0.0681	**0.33** 0.73
25.400 1.0000	**21.443** 0.8442	**-4.6** -0.18	**3.3** 0.13	**42.5** 1.67	**48.5** 1.91	**1.5** 0.06	**68.0** 2.68	**61.0** 2.40	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.54** 1.21
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**2.0** 0.08	**37.5** 1.48	**40.5** 1.59	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.37** 0.81
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**1.5** 0.06	**37.5** 1.48	**39.5** 1.56	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.37** 0.81

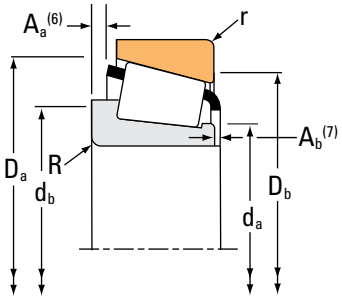
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
32.532 1.2808	**69.850** 2.7500	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2584	2523
33.337 1.3125	**66.421** 2.6150	**25.400** 1.0000	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2585	2520
33.337 1.3125	**66.675** 2.6250	**20.638** 0.8125	**52500** 11800	0.37	1.62	**13600** 3060	**8650** 1950	1.57	**57900** 13000	1680	1620
33.337 1.3125	**66.675** 2.6250	**20.638** 0.8125	**62400** 14000	0.35	1.70	**16200** 3640	**9770** 2200	1.66	**72800** 16400	M38545	M38510
33.337 1.3125	**68.262** 2.6875	**22.225** 0.8750	**66700** 15000	0.28	2.18	**17300** 3890	**8150** 1830	2.12	**77900** 17500	16582	16522
33.337 1.3125	**68.262** 2.6875	**22.225** 0.8750	**76300** 17100	0.55	1.10	**19800** 4450	**18500** 4160	1.07	**77400** 17400	M88048	M88010
33.337 1.3125	**68.262** 2.6875	**22.225** 0.8750	**76300** 17100	0.55	1.10	**19800** 4450	**18500** 4160	1.07	**77400** 17400	M88048	M88012
33.337 1.3125	**68.262** 2.6875	**22.225** 0.8750	**76300** 17100	0.55	1.10	**19800** 4450	**18500** 4160	1.07	**77400** 17400	M88048A	M88010
33.337 1.3125	**68.262** 2.6875	**22.225** 0.8750	**76300** 17100	0.55	1.10	**19800** 4450	**18500** 4160	1.07	**77400** 17400	M88048-S	M88010
33.338 1.3125	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14130	14274
33.338 1.3125	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14131	14276
33.338 1.3125	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14131	14274
33.338 1.3125	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14130	14276
33.337 1.3125	**69.723** 2.7450	**19.050** 0.7500	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26132	26274
33.337 1.3125	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2585	2523
33.337 1.3125	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2581	2523
33.337 1.3125	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2585	2523-S

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

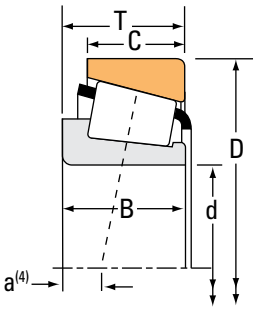
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
26.944 1.0608	**19.050** 0.7500	**-10.2** -0.40	**5.0** 0.20	**38.0** 1.50	**47.5** 1.87	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**2.4** 0.09	**0.8** 0.04	23.6	9.6	0.0656	**0.45** 0.98
25.357 0.9983	**20.638** 0.8125	**-8.6** -0.34	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**3.3** 0.13	**62.5** 2.46	**56.9** 2.24	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.39** 0.85
20.638 0.8125	**15.875** 0.6250	**-5.3** -0.21	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**1.5** 0.06	**61.0** 2.40	**58.0** 2.28	* *	* *	16.6	8.7	0.0644	**0.31** 0.68
20.638 0.8125	**16.670** 0.6563	**-5.6** -0.22	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**2.3** 0.09	**62.0** 2.44	**58.0** 2.28	**0.4** 0.01	**2.4** 0.10	20.3	12.9	0.0680	**0.32** 0.71
22.225 0.8750	**17.462** 0.6875	**-7.4** -0.29	**1.5** 0.06	**38.5** 1.52	**41.0** 1.61	**0.8** 0.03	**63.0** 2.48	**61.0** 2.40	**0.6** 0.02	**1.6** 0.06	22.7	13.0	0.0650	**0.38** 0.82
22.225 0.8750	**17.462** 0.6875	**-2.8** -0.11	**0.8** 0.03	**41.2** 1.62	**42.5** 1.67	**1.5** 0.06	**65.0** 2.56	**58.0** 2.28	**1.4** 0.05	**1.0** 0.04	19.4	10.0	0.0771	**0.38** 0.84
22.225 0.8750	**17.462** 0.6875	**-2.8** -0.11	**0.8** 0.03	**41.2** 1.62	**42.5** 1.67	**0.8** 0.03	**64.0** 2.52	**59.0** 2.32	**1.4** 0.05	**1.0** 0.04	19.4	10.0	0.0771	**0.39** 0.84
22.225 0.8750	**17.462** 0.6875	**-2.8** -0.11	**1.3** 0.05	**41.2** 1.62	**43.5** 1.71	**1.5** 0.06	**65.0** 2.56	**58.0** 2.28	**1.4** 0.05	**1.0** 0.04	19.4	10.0	0.0771	**0.38** 0.84
22.225 0.8750	**17.462** 0.6875	**-2.8** -0.11	**4.0** 0.16	**41.2** 1.62	**49.5** 1.95	**1.5** 0.06	**65.0** 2.56	**58.0** 2.28	**1.4** 0.05	**1.0** 0.04	19.4	10.0	0.0771	**0.37** 0.83
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**40.0** 1.57	**46.5** 1.83	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.33** 0.74
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**40.0** 1.57	**41.0** 1.61	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.33** 0.75
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**0.8** 0.03	**40.0** 1.57	**41.0** 1.61	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.33** 0.73
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**40.0** 1.57	**46.5** 1.83	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.33** 0.76
18.923 0.7450	**19.050** 0.7500	**-4.1** -0.16	**1.5** 0.06	**38.5** 1.52	**40.5** 1.59	**1.5** 0.06	**64.9** 2.56	**61.0** 2.40	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.34** 0.76
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.44** 0.96
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**0.8** 0.03	**39.0** 1.54	**39.5** 1.56	**1.3** 0.05	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.44** 0.96
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.44** 0.95

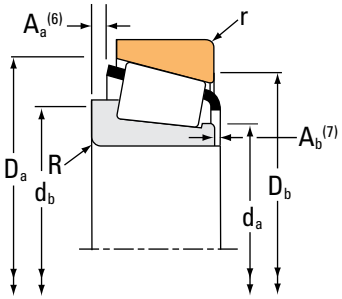
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
33.337 1.3125	**69.850** 2.7500	**23.812** 0.9375	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2581	2523-S
33.338 1.3125	**71.996** 2.8345	**19.002** 0.7481	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14130	14282
33.337 1.3125	**72.000** 2.8346	**19.000** 0.7480	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26131	26283
33.337 1.3125	**72.000** 2.8346	**19.000** 0.7480	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26131	26283-S
33.337 1.3125	**72.238** 2.8440	**20.638** 0.8125	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16131	16284
33.337 1.3125	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3197	3120
33.337 1.3125	**72.625** 2.8593	**30.162** 1.1875	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3196	3120
33.337 1.3125	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2790	2735X
33.337 1.3125	**73.025** 2.8750	**29.370** 1.1563	**103000** 23200	0.55	1.10	**26700** 6010	**25000** 5620	1.07	**111000** 24900	HM88547	HM88510
33.337 1.3125	**73.025** 2.8750	**29.370** 1.1563	**103000** 23200	0.55	1.10	**26700** 6010	**25000** 5620	1.07	**111000** 24900	HM88547	HM88511
33.337 1.3125	**73.812** 2.9060	**29.370** 1.1563	**103000** 23200	0.55	1.10	**26700** 6010	**25000** 5620	1.07	**111000** 24900	HM88547	HM88512
33.337 1.3125	**76.200** 3.0000	**22.225** 0.8750	**76300** 17100	0.55	1.10	**19800** 4450	**18500** 4160	1.07	**77400** 17400	M88048	M88022
33.337 1.3125	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2790	2729
33.337 1.3125	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2785	2729
33.337 1.3125	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2790	2720
33.337 1.3125	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2785	2720
33.337 1.3125	**76.200** 3.0000	**29.370** 1.1563	**94700** 21300	0.40	1.49	**24600** 5520	**16900** 3800	1.45	**107000** 24100	31590	31520

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

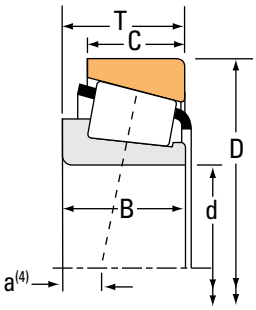
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**0.8** 0.03	**39.0** 1.54	**39.5** 1.56	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**0.8** 0.03	**0.8** 0.04	23.6	9.6	0.0656	**0.44** 0.96
19.583 0.7710	**15.032** 0.5918	**-4.3** -0.17	**3.5** 0.14	**40.0** 1.57	**46.5** 1.83	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.36** 0.82
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.35** 0.78
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**2.0** 0.08	**65.0** 2.56	**62.0** 2.44	**0.5** 0.02	**1.1** 0.05	16.1	10.1	0.0630	**0.35** 0.78
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**3.5** 0.14	**39.5** 1.56	**46.0** 1.81	**1.3** 0.05	**67.0** 2.64	**63.0** 2.48	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.39** 0.87
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**40.5** 1.59	**41.5** 1.63	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	* *	* *	23.4	8.8	0.0697	**0.57** 1.25
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**40.5** 1.59	**47.0** 1.85	**3.3** 0.13	**67.0** 2.64	**61.0** 2.40	**1.5** 0.06	**0.6** 0.02	23.4	8.8	0.0697	**0.57** 1.23
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**40.0** 1.57	**42.0** 1.65	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.51** 1.12
27.783 1.0938	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**42.6** 1.68	**45.5** 1.79	**3.3** 0.13	**70.0** 2.76	**59.0** 2.32	**1.9** 0.07	**1.8** 0.08	26.3	8.7	0.0857	**0.60** 1.31
27.783 1.0938	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**42.6** 1.68	**45.5** 1.79	**0.8** 0.03	**70.0** 2.76	**62.0** 2.44	**1.9** 0.07	**1.8** 0.08	26.3	8.7	0.0857	**0.60** 1.32
27.783 1.0938	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**42.6** 1.68	**45.5** 1.79	**3.3** 0.13	**70.0** 2.76	**60.0** 2.36	**1.9** 0.07	**1.8** 0.08	26.3	8.7	0.0857	**0.61** 1.34
22.225 0.8750	**17.462** 0.6875	**-2.8** -0.11	**0.8** 0.03	**41.2** 1.62	**42.5** 1.67	**0.8** 0.03	**68.0** 2.68	**62.0** 2.44	**1.4** 0.05	**1.0** 0.04	19.4	10.0	0.0771	**0.51** 1.11
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**40.0** 1.57	**42.0** 1.65	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.57** 1.24
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**40.0** 1.57	**46.0** 1.81	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.56** 1.23
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**40.0** 1.57	**42.0** 1.65	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.56** 1.22
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**40.0** 1.57	**46.0** 1.81	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.55** 1.21
28.575 1.1250	**23.812** 0.9375	**-7.6** -0.30	**0.8** 0.03	**42.5** 1.67	**43.0** 1.69	**3.3** 0.13	**72.0** 2.83	**64.0** 2.52	**1.6** 0.06	**1.3** 0.05	26.3	9.1	0.0773	**0.64** 1.41

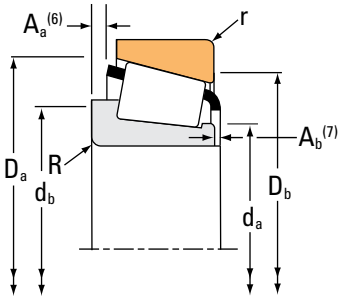
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
33.337 1.3125	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89443	HM89410
33.337 1.3125	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89444	HM89410
33.337 1.3125	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89443	HM89411
33.337 1.3125	**79.375** 3.1250	**25.400** 1.0000	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43131	43312
33.337 1.3125	**79.375** 3.1250	**25.400** 1.0000	**92000** 20700	0.67	0.90	**23900** 5360	**27300** 6130	0.87	**76200** 17100	43132	43312
33.337 1.3125	**79.375** 3.1250	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3477	3420
33.337 1.3125	**79.375** 3.1250	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3483	3420
33.337 1.3125	**80.000** 3.1496	**21.000** 0.8268	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	335-S	332
33.337 1.3125	**80.167** 3.1562	**26.988** 1.0625	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	335-S	3320
33.337 1.3125	**88.500** 3.4843	**25.400** 1.0000	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44131	44348
34.925 1.3750	**65.088** 2.5625	**18.034** 0.7100	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200	LM48548	LM48510
34.925 1.3750	**65.088** 2.5625	**18.034** 0.7100	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200	LM48549X	LM48510
34.925 1.3750	**65.088** 2.5625	**18.034** 0.7100	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200	LM48549	LM48510
34.925 1.3750	**65.088** 2.5625	**18.034** 0.7100	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200	LM48548A	LM48510
34.925 1.3750	**65.088** 2.5625	**21.082** 0.8300	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200	LM48548A	LM48511A
34.925 1.3750	**65.088** 2.5625	**21.082** 0.8300	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200	LM48548	LM48511A
34.925 1.3750	**65.987** 2.5979	**20.638** 0.8125	**62400** 14000	0.35	1.70	**16200** 3640	**9770** 2200	1.66	**72800** 16400	M38549	M38511

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

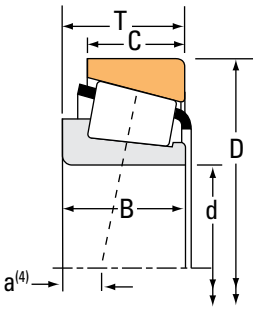
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**44.5** 1.75	**46.5** 1.83	**3.3** 0.13	**73.0** 2.87	**62.0** 2.44	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.66** 1.46
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**3.8** 0.15	**44.5** 1.75	**53.0** 2.09	**3.3** 0.13	**73.0** 2.87	**62.0** 2.44	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.65** 1.45
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**44.5** 1.75	**46.5** 1.83	**0.8** 0.03	**73.0** 2.87	**65.0** 2.56	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.67** 1.48
24.074 0.9478	**17.462** 0.6875	**-2.0** -0.08	**3.5** 0.14	**42.1** 1.65	**51.0** 2.01	**1.5** 0.06	**74.0** 2.91	**67.0** 2.64	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.57** 1.24
24.074 0.9478	**17.462** 0.6875	**-2.0** -0.08	**2.0** 0.08	**42.1** 1.65	**48.0** 1.89	**1.5** 0.06	**74.0** 2.91	**67.0** 2.64	**3.4** 0.13	**2.4** 0.10	16.8	7.6	0.0774	**0.57** 1.25
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**3.5** 0.14	**42.5** 1.67	**49.0** 1.93	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.71** 1.58
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**0.8** 0.03	**42.5** 1.67	**43.0** 1.69	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.72** 1.59
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**0.8** 0.03	**40.5** 1.59	**41.0** 1.61	**1.3** 0.05	**75.0** 2.95	**73.0** 2.87	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.54** 1.20
22.403 0.8820	**23.812** 0.9375	**-6.4** -0.25	**0.8** 0.03	**40.5** 1.59	**41.0** 1.61	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.61** 1.35
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**2.0** 0.08	**48.0** 1.89	**51.0** 2.01	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.8** 0.15	**2.7** 0.11	22.9	8.7	0.0899	**0.76** 1.67
18.288 0.7200	**13.970** 0.5500	**-3.6** -0.14	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**1.3** 0.05	**61.0** 2.40	**58.0** 2.28	**0.7** 0.02	**1.3** 0.05	18.0	10.6	0.0666	**0.25** 0.54
18.288 0.7200	**13.970** 0.5500	**-3.6** -0.14	**2.3** 0.09	**40.0** 1.57	**43.5** 1.71	**1.3** 0.05	**61.0** 2.40	**58.0** 2.28	**0.8** 0.03	**1.1** 0.05	18.0	10.6	0.0666	**0.26** 0.55
18.288 0.7200	**13.970** 0.5500	**-3.6** -0.14	**1.5** 0.06	**40.0** 1.57	**42.0** 1.65	**1.3** 0.05	**61.0** 2.40	**58.0** 2.28	**0.8** 0.03	**1.1** 0.05	18.0	10.6	0.0666	**0.26** 0.56
18.288 0.7200	**13.970** 0.5500	**-3.6** -0.14	**0.8** 0.03	**42.2** 1.66	**40.5** 1.59	**1.3** 0.05	**61.0** 2.40	**58.0** 2.28	**0.7** 0.02	**1.3** 0.05	18.0	10.6	0.0666	**0.26** 0.56
18.288 0.7200	**17.018** 0.6700	**-3.6** -0.14	**0.8** 0.03	**42.2** 1.66	**40.5** 1.59	**1.5** 0.06	**61.0** 2.40	**58.0** 2.28	**0.7** 0.02	**1.3** 0.05	18.0	10.6	0.0666	**0.28** 0.61
18.288 0.7200	**17.018** 0.6700	**-3.6** -0.14	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**1.5** 0.06	**61.0** 2.40	**58.0** 2.28	**0.7** 0.02	**1.3** 0.05	18.0	10.6	0.0666	**0.27** 0.59
20.638 0.8125	**16.670** 0.6563	**-5.6** -0.22	**3.5** 0.14	**40.0** 1.57	**46.5** 1.83	**2.3** 0.09	**62.0** 2.44	**58.0** 2.28	**0.4** 0.01	**2.4** 0.10	20.3	12.9	0.0680	**0.30** 0.66

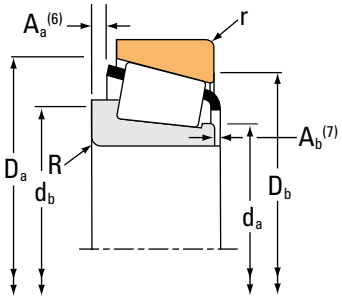
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
34.925 1.3750	**66.675** 2.6250	**20.638** 0.8125	**62400** 14000	0.35	1.70	**16200** 3640	**9770** 2200	1.66	**72800** 16400	M38549	M38510
34.925 1.3750	**68.262** 2.6875	**18.034** 0.7100	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200	LM48548	LM48514
34.925 1.3750	**68.262** 2.6875	**20.638** 0.8125	**59200** 13300	0.35	1.70	**15400** 3450	**9270** 2080	1.66	**68100** 15300	14585	14525
34.925 1.3750	**68.262** 2.6875	**20.638** 0.8125	**62400** 14000	0.35	1.70	**16200** 3640	**9770** 2200	1.66	**72800** 16400	M38549	M38514
34.925 1.3750	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14138A	14274
34.925 1.3750	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14137A	14276
34.925 1.3750	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14138A	14276
34.925 1.3750	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14137A	14274
34.925 1.3750	**69.012** 2.7170	**22.385** 0.8813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14138A	14277
34.925 1.3750	**69.850** 2.7500	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14137A	14275A
34.925 1.3750	**71.973** 2.8336	**27.000** 1.0630	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88649	HM88611
34.925 1.3750	**72.233** 2.8438	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88649	HM88610
34.925 1.3750	**72.233** 2.8438	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88649A	HM88610
34.925 1.3750	**72.238** 2.8440	**20.638** 0.8125	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16137	16284
34.925 1.3750	**72.625** 2.8593	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88649	HM88611AS
34.925 1.3750	**73.025** 2.8750	**22.225** 0.8750	**73200** 16400	0.37	1.63	**19000** 4260	**12000** 2690	1.59	**83800** 18800	2877	2820
34.925 1.3750	**73.025** 2.8750	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02877	02820

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

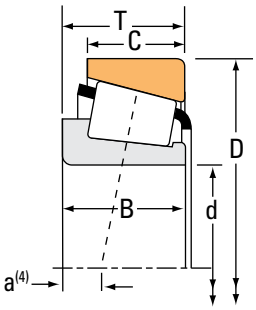
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
20.638 0.8125	**16.670** 0.6563	**-5.6** -0.22	**3.5** 0.14	**40.0** 1.57	**46.5** 1.83	**2.3** 0.09	**62.0** 2.44	**58.0** 2.28	**0.4** 0.01	**2.4** 0.10	20.3	12.9	0.0680	**0.31** 0.68
18.288 0.7200	**13.970** 0.5500	**-3.6** -0.14	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**1.3** 0.05	**63.0** 2.48	**59.0** 2.32	**0.7** 0.02	**1.3** 0.05	18.0	10.6	0.0666	**0.28** 0.62
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**3.5** 0.14	**40.0** 1.57	**46.0** 1.81	**2.3** 0.09	**63.0** 2.48	**59.0** 2.32	**0.7** 0.03	**2.2** 0.09	19.5	12.3	0.0670	**0.32** 0.71
20.638 0.8125	**16.670** 0.6563	**-5.6** -0.22	**3.5** 0.14	**40.0** 1.57	**46.5** 1.83	**2.3** 0.09	**63.0** 2.48	**59.0** 2.32	**0.4** 0.01	**2.4** 0.10	20.3	12.9	0.0680	**0.33** 0.73
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.32** 0.70
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.5** 0.06	**41.5** 1.63	**43.5** 1.71	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.32** 0.72
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.32** 0.71
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.5** 0.06	**41.5** 1.63	**43.5** 1.71	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.32** 0.70
19.583 0.7710	**18.415** 0.7250	**-4.3** -0.17	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**2.3** 0.09	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.35** 0.77
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.5** 0.06	**41.5** 1.63	**43.5** 1.71	**1.5** 0.06	**64.0** 2.52	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.33** 0.74
25.400 1.0000	**21.443** 0.8442	**-4.6** -0.18	**2.3** 0.09	**42.5** 1.68	**48.5** 1.91	**1.5** 0.06	**68.0** 2.68	**61.0** 2.40	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.51** 1.14
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**2.3** 0.09	**42.5** 1.68	**48.5** 1.91	**2.3** 0.09	**69.0** 2.72	**60.0** 2.36	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.48** 1.08
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**3.5** 0.14	**43.0** 1.69	**51.0** 2.01	**2.3** 0.09	**69.0** 2.72	**60.0** 2.36	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.48** 1.07
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**3.5** 0.14	**40.5** 1.59	**47.0** 1.85	**1.3** 0.05	**67.0** 2.64	**63.0** 2.48	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.38** 0.84
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**2.3** 0.09	**42.5** 1.68	**48.5** 1.91	**3.3** 0.13	**69.0** 2.72	**59.0** 2.32	**1.6** 0.06	**1.7** 0.07	23.4	9.4	0.0822	**0.49** 1.08
23.812 0.9375	**17.462** 0.6875	**-5.6** -0.22	**3.5** 0.14	**41.0** 1.61	**47.5** 1.87	**3.3** 0.13	**68.0** 2.68	**63.0** 2.48	**0.9** 0.03	**0.2** 0.01	23.1	12.4	0.0718	**0.42** 0.94
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**3.5** 0.14	**42.0** 1.65	**48.5** 1.91	**3.3** 0.13	**68.0** 2.68	**62.0** 2.44	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.41** 0.91

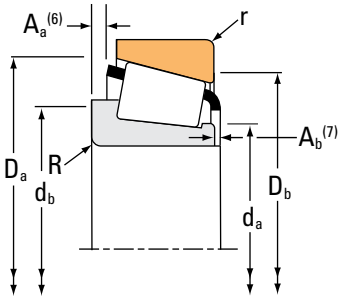
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
34.925 1.3750	**73.025** 2.8750	**22.225** 0.8750	**73200** 16400	0.37	1.63	**19000** 4260	**12000** 2690	1.59	**83800** 18800	2878	2820
34.925 1.3750	**73.025** 2.8750	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02878	02830
34.925 1.3750	**73.025** 2.8750	**22.225** 0.8750	**73200** 16400	0.37	1.63	**19000** 4260	**12000** 2690	1.59	**83800** 18800	2878	2821
34.925 1.3750	**73.025** 2.8750	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02878	02820
34.925 1.3750	**73.025** 2.8750	**23.812** 0.9375	**85100** 19100	0.29	2.07	**22100** 4960	**11000** 2460	2.01	**97400** 21900	25877	25820
34.925 1.3750	**73.025** 2.8750	**23.812** 0.9375	**85100** 19100	0.29	2.07	**22100** 4960	**11000** 2460	2.01	**97400** 21900	25877	25821
34.925 1.3750	**73.025** 2.8750	**23.812** 0.9375	**85100** 19100	0.29	2.07	**22100** 4960	**11000** 2460	2.01	**97400** 21900	25878	25821
34.925 1.3750	**73.025** 2.8750	**23.812** 0.9375	**85100** 19100	0.29	2.07	**22100** 4960	**11000** 2460	2.01	**97400** 21900	25878	25820
34.925 1.3750	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2793	2735X
34.925 1.3750	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2786	2735X
34.925 1.3750	**73.025** 2.8750	**23.812** 0.9375	**85100** 19100	0.29	2.07	**22100** 4960	**11000** 2460	2.01	**97400** 21900	25877A	25821
34.925 1.3750	**73.025** 2.8750	**26.988** 1.0625	**89400** 20100	0.37	1.62	**23200** 5210	**14700** 3300	1.58	**102000** 22900	23690	23620
34.925 1.3750	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2793	2720
34.925 1.3750	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2786	2729
34.925 1.3750	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2786	2720
34.925 1.3750	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2793	2729
34.925 1.3750	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2796	2729

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

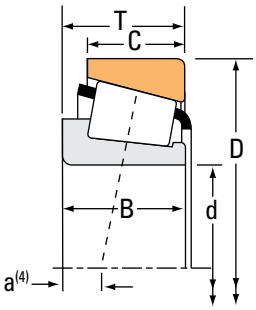
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
23.812 0.9375	**17.462** 0.6875	**-5.6** -0.22	**0.8** 0.03	**41.0** 1.61	**42.0** 1.65	**3.3** 0.13	**68.0** 2.68	**63.0** 2.48	**0.9** 0.03	**0.2** 0.01	23.1	12.4	0.0718	**0.43** 0.96
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**0.8** 0.03	**68.0** 2.68	**64.0** 2.52	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.42** 0.94
23.812 0.9375	**17.462** 0.6875	**-5.6** -0.22	**0.8** 0.03	**41.0** 1.61	**42.0** 1.65	**0.8** 0.03	**68.0** 2.68	**65.0** 2.56	**0.9** 0.03	**0.2** 0.01	23.1	12.4	0.0718	**0.44** 0.97
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**3.3** 0.13	**68.0** 2.68	**62.0** 2.44	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.41** 0.92
24.608 0.9688	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**40.5** 1.59	**43.0** 1.69	**2.3** 0.09	**68.0** 2.68	**64.0** 2.52	**0.9** 0.03	**1.6** 0.07	26.4	10.9	0.0695	**0.47** 1.03
24.608 0.9688	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**40.5** 1.59	**43.0** 1.69	**0.8** 0.03	**68.0** 2.68	**65.0** 2.56	**0.9** 0.03	**1.6** 0.07	26.4	10.9	0.0695	**0.48** 1.04
24.608 0.9688	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**40.5** 1.59	**47.0** 1.85	**0.8** 0.03	**68.0** 2.68	**65.0** 2.56	**0.9** 0.03	**1.6** 0.07	26.4	10.9	0.0695	**0.47** 1.03
24.608 0.9688	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**40.5** 1.59	**47.0** 1.85	**2.3** 0.09	**68.0** 2.68	**64.0** 2.52	**0.9** 0.03	**1.6** 0.07	26.4	10.9	0.0695	**0.46** 1.02
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**0.8** 0.03	**41.0** 1.61	**42.0** 1.65	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.49** 1.08
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**5.0** 0.20	**41.0** 1.61	**51.0** 2.01	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.48** 1.05
24.608 0.9688	**19.050** 0.7500	**-8.1** -0.32	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**0.8** 0.03	**68.0** 2.68	**65.0** 2.56	* *	* *	26.4	10.9	0.0695	**0.48** 1.04
26.975 1.0620	**22.225** 0.8750	**-8.1** -0.32	**3.5** 0.14	**42.1** 1.65	**49.0** 1.93	**1.5** 0.06	**68.0** 2.68	**63.0** 2.48	**1.7** 0.06	**0.8** 0.03	24.4	10.7	0.0734	**0.52** 1.14
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**0.8** 0.03	**41.0** 1.61	**42.0** 1.65	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.54** 1.18
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**5.0** 0.20	**41.0** 1.61	**51.0** 2.01	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.54** 1.17
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**5.0** 0.20	**41.0** 1.61	**51.0** 2.01	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.53** 1.15
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**0.8** 0.03	**41.0** 1.61	**42.0** 1.65	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.55** 1.20
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**41.0** 1.61	**47.5** 1.87	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.55** 1.20

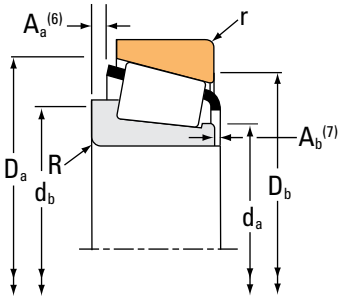
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
34.925 1.3750	**76.200** 3.0000	**29.370** 1.1563	**99900** 22500	0.35	1.71	**25900** 5820	**15500** 3490	1.67	**111000** 24900	36137	36300
34.925 1.3750	**76.200** 3.0000	**29.370** 1.1563	**94700** 21300	0.40	1.49	**24600** 5520	**16900** 3800	1.45	**107000** 24100	31593	31520
34.925 1.3750	**76.200** 3.0000	**29.370** 1.1563	**94700** 21300	0.40	1.49	**24600** 5520	**16900** 3800	1.45	**107000** 24100	31593	31521
34.925 1.3750	**76.200** 3.0000	**29.370** 1.1563	**94700** 21300	0.40	1.49	**24600** 5520	**16900** 3800	1.45	**107000** 24100	31594	31520
34.925 1.3750	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89446	HM89410
34.925 1.3750	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89446A	HM89410
34.925 1.3750	**79.325** 3.1230	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3482	3426
34.925 1.3750	**79.375** 3.1250	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3478	3420
34.925 1.3750	**79.375** 3.1250	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3482	3420
34.925 1.3750	**80.000** 3.1496	**21.000** 0.8268	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	335	332
34.925 1.3750	**80.000** 3.1496	**24.175** 0.9518	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	335	332A
34.925 1.3750	**80.035** 3.1510	**21.433** 0.8438	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28137	28317
34.925 1.3750	**80.035** 3.1510	**24.608** 0.9688	**78000** 17500	0.56	1.07	**20200** 4550	**19400** 4370	1.04	**91100** 20500	27875	27820
34.925 1.3750	**80.035** 3.1510	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3379	3339
34.925 1.3750	**80.167** 3.1562	**26.988** 1.0625	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	335	3320
34.925 1.3750	**80.167** 3.1562	**29.367** 1.1562	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3379	3320
34.925 1.3750	**80.962** 3.1875	**22.225** 0.8750	**65700** 14800	0.45	1.32	**17000** 3830	**13200** 2980	1.29	**74900** 16800	02877	02831

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

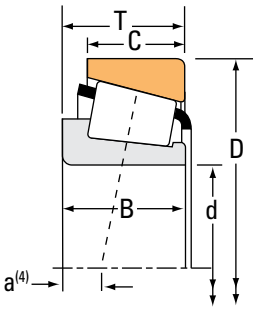
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.845 1.1750	**23.812** 0.9375	**-9.1** -0.36	**1.5** 0.06	**42.5** 1.67	**45.0** 1.77	**3.3** 0.13	**71.0** 2.80	**66.0** 2.60	* *	* *	26.7	10.5	0.0741	**0.62** 1.37
28.575 1.1250	**23.812** 0.9375	**-7.6** -0.30	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**3.3** 0.13	**72.0** 2.83	**64.0** 2.52	**1.6** 0.06	**1.3** 0.05	26.3	9.1	0.0773	**0.61** 1.35
28.575 1.1250	**23.812** 0.9375	**-7.6** -0.30	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**1.3** 0.05	**72.0** 2.83	**66.0** 2.60	**1.6** 0.06	**1.3** 0.05	26.3	9.1	0.0773	**0.62** 1.37
28.575 1.1250	**23.812** 0.9375	**-7.6** -0.30	**1.5** 0.06	**43.5** 1.71	**46.0** 1.81	**3.3** 0.13	**72.0** 2.83	**64.0** 2.52	**1.6** 0.06	**1.3** 0.05	26.3	9.1	0.0773	**0.62** 1.36
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**3.5** 0.14	**44.5** 1.75	**56.0** 2.20	**3.3** 0.13	**73.0** 2.87	**62.0** 2.44	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.64** 1.42
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**44.5** 1.75	**47.5** 1.87	**3.3** 0.13	**73.0** 2.87	**62.0** 2.44	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.64** 1.42
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**0.8** 0.03	**43.5** 1.71	**44.0** 1.73	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.70** 1.55
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.69** 1.54
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**0.8** 0.03	**43.5** 1.71	**44.0** 1.73	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.70** 1.55
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**0.8** 0.03	**41.5** 1.63	**42.5** 1.67	**1.3** 0.05	**75.0** 2.95	**73.0** 2.87	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.52** 1.17
22.403 0.8820	**21.000** 0.8268	**-6.4** -0.25	**0.8** 0.03	**41.5** 1.63	**42.5** 1.67	**2.3** 0.09	**75.0** 2.95	**71.0** 2.80	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.56** 1.25
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**41.0** 1.61	**43.5** 1.71	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.49** 1.09
23.698 0.9330	**18.512** 0.7288	**-2.5** -0.10	**0.8** 0.03	**44.5** 1.75	**45.5** 1.79	**1.5** 0.06	**75.0** 2.95	**68.0** 2.68	**3.2** 0.12	**1.5** 0.06	24.6	12.6	0.0839	**0.59** 1.31
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**1.5** 0.06	**74.8** 2.94	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.71** 1.59
22.403 0.8820	**23.812** 0.9375	**-6.4** -0.25	**0.8** 0.03	**41.5** 1.63	**42.5** 1.67	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.59** 1.31
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.71** 1.58
22.225 0.8750	**17.462** 0.6875	**-3.8** -0.15	**3.5** 0.14	**42.0** 1.65	**48.5** 1.91	**0.8** 0.03	**72.0** 2.83	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	20.6	10.1	0.0740	**0.55** 1.22

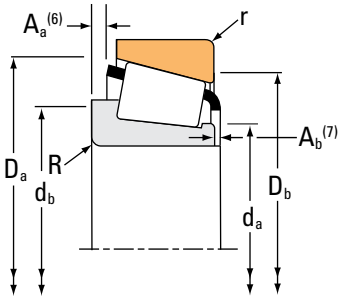
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
34.925 1.3750	**81.755** 3.2187	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3379	3329
34.925 1.3750	**84.138** 3.3125	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3379	3328
34.925 1.3750	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3872	3821
34.925 1.3750	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3872A	3820
34.925 1.3750	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3872	3820
34.925 1.3750	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3581	3525
34.925 1.3750	**88.500** 3.4843	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	417	414
34.925 1.3750	**90.488** 3.5625	**39.688** 1.5625	**199000** 44700	0.28	2.11	**51500** 11600	**25100** 5640	2.05	**204000** 45900	4368	4335
34.925 1.3750	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	449	432
34.976 1.3770	**68.000** 2.6772	**16.019** 0.6307	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138	19267X
34.976 1.3770	**68.262** 2.6875	**15.875** 0.6250	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138	19268
34.976 1.3770	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14139	14274
34.976 1.3770	**69.012** 2.7170	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14139	14276
34.976 1.3770	**71.996** 2.8345	**19.002** 0.7481	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14139	14282
34.976 1.3770	**72.000** 2.8346	**17.018** 0.6700	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138	19283
34.976 1.3770	**72.085** 2.8380	**22.385** 0.8813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14139	14283
34.976 1.3770	**76.200** 3.0000	**20.625** 0.8120	**63500** 14300	0.40	1.49	**16500** 3700	**11300** 2550	1.45	**68900** 15500	28138	28300X

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

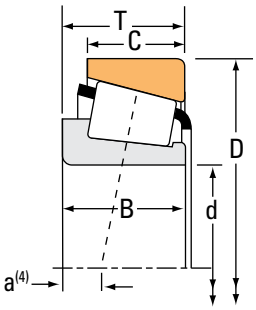
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**3.3** 0.13	**75.0** 2.95	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.75** 1.66
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**3.3** 0.13	**76.0** 2.99	**72.0** 2.83	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.80** 1.79
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**46.0** 1.81	**53.0** 2.09	**1.3** 0.05	**81.0** 3.19	**75.0** 2.95	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.90** 1.98
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**46.0** 1.81	**47.0** 1.85	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.89** 1.96
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**46.0** 1.81	**53.0** 2.09	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.89** 1.96
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.92** 2.00
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.88** 1.92
40.386 1.5900	**33.338** 1.3125	**-15.0** -0.59	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**3.3** 0.13	**85.0** 3.35	**77.0** 3.03	**2.2** 0.09	**0.6** 0.03	52.9	14.3	0.0872	**1.36** 3.01
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**0.8** 0.03	**43.5** 1.71	**44.0** 1.73	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**1.08** 2.38
16.520 0.6504	**12.000** 0.4724	**-1.5** -0.06	**1.5** 0.06	**40.5** 1.59	**42.5** 1.67	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.26** 0.57
16.520 0.6504	**11.908** 0.4688	**-1.5** -0.06	**1.5** 0.06	**40.5** 1.59	**42.5** 1.67	**1.5** 0.06	**65.0** 2.56	**61.0** 2.40	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.26** 0.58
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.3** 0.05	**41.5** 1.63	**43.5** 1.71	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.32** 0.70
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.3** 0.05	**41.5** 1.63	**43.5** 1.71	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.32** 0.72
19.583 0.7710	**15.032** 0.5918	**-4.3** -0.17	**1.3** 0.05	**41.5** 1.63	**43.5** 1.71	**1.5** 0.06	**65.0** 2.56	**62.0** 2.44	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.35** 0.78
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**1.5** 0.06	**40.5** 1.59	**42.5** 1.67	**1.5** 0.06	**66.0** 2.60	**63.0** 2.48	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.32** 0.70
19.583 0.7710	**18.415** 0.7250	**-4.3** -0.17	**1.3** 0.05	**41.5** 1.63	**43.5** 1.71	**2.3** 0.09	**65.0** 2.56	**60.0** 2.36	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.40** 0.88
20.940 0.8244	**15.494** 0.6100	**-4.8** -0.19	**1.5** 0.06	**41.0** 1.61	**43.5** 1.71	**1.5** 0.06	**71.0** 2.80	**68.0** 2.68	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.43** 0.95

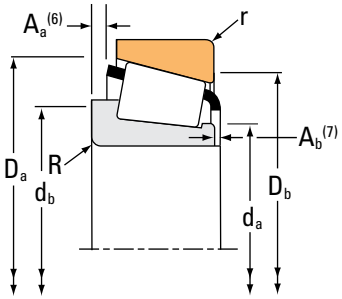
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
34.976 1.3770	**80.000** 3.1496	**21.005** 0.8270	**63500** 14300	0.40	1.49	**16500** 3700	**11300** 2550	1.45	**68900** 15500	28138	28315
34.987 1.3775	**59.131** 2.3280	**15.875** 0.6250	**45500** 10200	0.42	1.44	**11800** 2650	**8400** 1890	1.40	**48700** 11000	L68149	L68110
34.987 1.3775	**59.975** 2.3612	**15.875** 0.6250	**45500** 10200	0.42	1.44	**11800** 2650	**8400** 1890	1.40	**48700** 11000	L68149	L68111
34.987 1.3775	**61.973** 2.4399	**16.700** 0.6575	**42500** 9560	0.44	1.35	**11000** 2480	**8380** 1880	1.31	**52400** 11800	LM78349	LM78310A
34.987 1.3775	**61.973** 2.4399	**16.701** 0.6575	**50400** 11300	0.44	1.35	**13100** 2940	**9940** 2230	1.31	**52400** 11800	LM78349A	LM78310A
34.987 1.3775	**61.973** 2.4399	**18.001** 0.7087	**42500** 9560	0.44	1.35	**11000** 2480	**8380** 1880	1.31	**52400** 11800	LM78349	LM78310C
34.987 1.3775	**61.973** 2.4399	**18.001** 0.7087	**50400** 11300	0.44	1.35	**13100** 2940	**9940** 2230	1.31	**52400** 11800	LM78349A	LM78310C
34.987 1.3775	**65.987** 2.5979	**20.638** 0.8125	**62400** 14000	0.35	1.70	**16200** 3640	**9770** 2200	1.66	**72800** 16400	M38547	M38511
35.000 1.3780	**70.000** 2.7559	**24.000** 0.9949	**66600** 15000	0.55	1.10	**17300** 3880	**16100** 3630	1.07	**84900** 19100	JS-3549A	JS-3510
35.000 1.3780	**72.000** 2.8346	**17.018** 0.6700	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138X	19283
35.000 1.3780	**72.000** 2.8346	**17.018** 0.6700	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138X	19283X
35.000 1.3780	**73.025** 2.8750	**26.988** 1.0625	**89400** 20100	0.37	1.62	**23200** 5210	**14700** 3300	1.58	**102000** 22900	23691	23620
35.000 1.3780	**73.025** 2.8750	**26.988** 1.0625	**89400** 20100	0.37	1.62	**23200** 5210	**14700** 3300	1.58	**102000** 22900	23691	23621
35.000 1.3780	**75.311** 2.9650	**19.845** 0.7813	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14139X	14274-S
35.000 1.3780	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26883	26822
35.000 1.3780	**80.000** 3.1496	**21.000** 0.8268	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	339	332
35.000 1.3780	**80.000** 3.1496	**23.813** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26883	26824

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

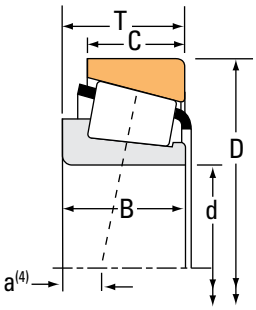
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**41.0** 1.61	**43.5** 1.71	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.49** 1.08
16.764 0.6600	**11.938** 0.4700	**-2.5** -0.10	**3.5** 0.14	**39.0** 1.54	**45.5** 1.79	**1.3** 0.05	**56.0** 2.20	**53.0** 2.09	**0.8** 0.03	**0.8** 0.03	15.7	14.7	0.0657	**0.17** 0.37
16.764 0.6600	**11.938** 0.4700	**-2.5** -0.10	**3.5** 0.14	**39.0** 1.54	**45.5** 1.79	**1.3** 0.05	**56.0** 2.20	**53.0** 2.09	**0.8** 0.03	**0.8** 0.03	15.7	14.7	0.0657	**0.17** 0.38
17.000 0.6693	**13.600** 0.5354	**-2.5** -0.10	**3.5** 0.14	**40.0** 1.57	**46.0** 1.81	**1.5** 0.06	**59.0** 2.32	**54.0** 2.13	**0.7** 0.02	**1.2** 0.05	16.1	15.9	0.0678	**0.19** 0.44
17.000 0.6693	**13.600** 0.5354	**-2.5** -0.10	**1.5** 0.06	**39.5** 1.56	**42.0** 1.65	**1.5** 0.06	**59.0** 2.32	**54.0** 2.13	**0.7** 0.02	**1.2** 0.05	16.1	15.9	0.0678	**0.20** 0.47
17.000 0.6693	**15.000** 0.5906	**-2.5** -0.10	**3.5** 0.14	**40.0** 1.57	**46.0** 1.81	**1.5** 0.06	**59.0** 2.32	**56.0** 2.20	**0.7** 0.02	**1.2** 0.05	16.1	15.9	0.0678	**0.20** 0.46
17.000 0.6693	**15.000** 0.5906	**-2.5** -0.10	**1.5** 0.06	**39.5** 1.56	**42.0** 1.65	**1.5** 0.06	**59.0** 2.32	**56.0** 2.20	**0.7** 0.02	**1.2** 0.05	16.1	15.9	0.0678	**0.21** 0.49
20.638 0.8125	**16.670** 0.6563	**-5.6** -0.22	**3.5** 0.14	**40.5** 1.59	**46.5** 1.83	**2.3** 0.09	**62.0** 2.44	**58.0** 2.28	**0.4** 0.01	**2.4** 0.10	20.3	12.9	0.0680	**0.30** 0.66
23.500 0.9252	**19.000** 0.7480	**-3.6** -0.14	**2.0** 0.08	**42.0** 1.65	**47.0** 1.85	**1.5** 0.06	**66.5** 2.62	**60.0** 2.36	**1.5** 0.06	**1.6** 0.07	20.7	11.0	0.0789	**0.41** 0.91
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**2.0** 0.08	**40.5** 1.59	**43.5** 1.71	**1.5** 0.06	**66.0** 2.60	**63.0** 2.48	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.32** 0.70
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**2.0** 0.08	**40.5** 1.59	**43.5** 1.71	**2.0** 0.08	**66.0** 2.60	**62.0** 2.44	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.32** 0.70
26.975 1.0620	**22.225** 0.8750	**-8.1** -0.32	**3.5** 0.14	**42.1** 1.65	**49.0** 1.93	**1.5** 0.06	**68.0** 2.68	**63.0** 2.48	**1.7** 0.06	**0.8** 0.03	24.4	10.7	0.0734	**0.52** 1.14
26.975 1.0620	**22.225** 0.8750	**-8.1** -0.32	**3.5** 0.14	**42.1** 1.65	**49.0** 1.93	**0.8** 0.03	**68.0** 2.68	**63.0** 2.48	**1.7** 0.06	**0.8** 0.03	24.4	10.7	0.0734	**0.52** 1.14
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**41.0** 1.61	**47.0** 1.85	**3.3** 0.13	**66.0** 2.60	**61.0** 2.40	**1.0** 0.04	**1.5** 0.06	18.0	13.3	0.0668	**0.40** 0.89
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.60** 1.33
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**0.8** 0.03	**41.5** 1.63	**42.5** 1.67	**1.3** 0.05	**75.0** 2.95	**73.0** 2.87	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.52** 1.17
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**1.3** 0.05	**74.0** 2.91	**70.0** 2.76	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.62** 1.36

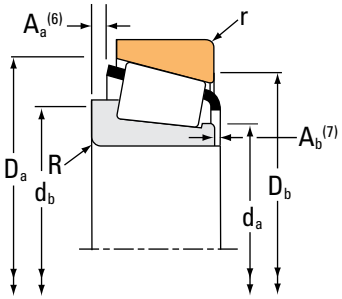
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
35.000 1.3780	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26883	26820
35.000 1.3780	**80.167** 3.1562	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3480	3422
35.000 1.3780	**82.550** 3.2500	**28.575** 1.1250	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	421	412A
35.000 1.3780	**88.500** 3.4843	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	421	414
35.306 1.3900	**73.025** 2.8750	**22.225** 0.8750	**73200** 16400	0.37	1.63	**19000** 4260	**12000** 2690	1.59	**83800** 18800	2880	2820
35.717 1.4062	**72.233** 2.8438	**25.400** 1.0000	**76800** 17300	0.55	1.10	**19900** 4480	**18600** 4180	1.07	**94200** 21200	HM88648	HM88610
36.487 1.4365	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2794	2735X
36.487 1.4365	**73.025** 2.8750	**23.812** 0.9375	**85100** 19100	0.29	2.07	**22100** 4960	**11000** 2460	2.01	**97400** 21900	25880	25821
36.487 1.4365	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2780	2735X
36.487 1.4365	**73.025** 2.8750	**23.812** 0.9375	**85100** 19100	0.29	2.07	**22100** 4960	**11000** 2460	2.01	**97400** 21900	25880	25820
36.487 1.4365	**74.612** 2.9375	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2780	2736
36.487 1.4365	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2794	2720
36.487 1.4365	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2780	2720
36.487 1.4365	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2780	2729
36.487 1.4365	**79.375** 3.1250	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2780	2731
36.512 1.4375	**68.262** 2.6875	**15.875** 0.6250	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19143	19268
36.512 1.4375	**69.012** 2.7170	**19.050** 0.7500	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13682	13621

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

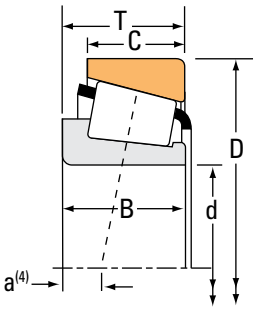
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.63** 1.39
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**1.5** 0.06	**43.5** 1.71	**46.0** 1.81	**3.3** 0.13	**74.0** 2.91	**68.0** 2.68	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.72** 1.59
29.083 1.1450	**23.812** 0.9375	**-9.7** -0.38	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**1.5** 0.06	**77.7** 3.06	**73.9** 2.91	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.76** 1.65
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**0.8** 0.03	**42.0** 1.65	**42.5** 1.67	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.88** 1.92
23.812 0.9375	**17.462** 0.6875	**-5.6** -0.22	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**3.3** 0.13	**68.0** 2.68	**63.0** 2.48	**0.9** 0.03	**0.2** 0.01	23.1	12.4	0.0718	**0.42** 0.93
25.400 1.0000	**19.842** 0.7812	**-4.6** -0.18	**3.5** 0.14	**42.5** 1.67	**54.0** 2.13	**2.3** 0.09	**69.0** 2.72	**60.0** 2.36	**1.6** 0.06	**1.8** 0.07	23.4	9.4	0.0822	**0.47** 1.05
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**42.5** 1.67	**49.0** 1.93	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.47** 1.03
24.608 0.9688	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**42.0** 1.65	**44.0** 1.73	**0.8** 0.03	**68.0** 2.68	**65.0** 2.56	**0.9** 0.03	**1.6** 0.07	26.4	10.9	0.0695	**0.46** 1.00
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.47** 1.04
24.608 0.9688	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**42.0** 1.65	**44.0** 1.73	**2.3** 0.09	**68.0** 2.68	**64.0** 2.52	**0.9** 0.03	**1.6** 0.07	26.4	10.9	0.0695	**0.45** 0.99
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**0.8** 0.03	**70.0** 2.76	**67.0** 2.64	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.50** 1.10
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**42.5** 1.67	**49.0** 1.93	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.52** 1.13
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.52** 1.14
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.53** 1.16
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**3.3** 0.13	**72.0** 2.83	**67.0** 2.64	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.58** 1.27
16.520 0.6504	**11.908** 0.4688	**-1.5** -0.06	**1.5** 0.06	**41.5** 1.63	**44.0** 1.73	**1.5** 0.06	**65.0** 2.56	**61.0** 2.40	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.25** 0.55
19.050 0.7500	**15.083** 0.5938	**-3.0** -0.12	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**2.3** 0.09	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.29** 0.65

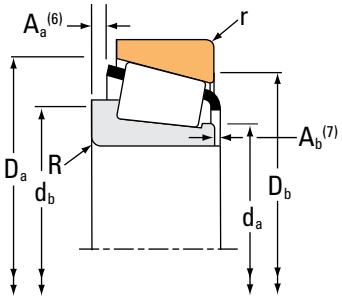
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
36.512 1.4375	**72.000** 2.8346	**17.018** 0.6700	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19143	19283X
36.512 1.4375	**72.000** 2.8346	**17.018** 0.6700	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19143	19283
36.512 1.4375	**72.000** 2.8346	**19.000** 0.7480	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16143	16282
36.512 1.4375	**72.238** 2.8440	**20.638** 0.8125	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16143	16284
36.512 1.4375	**76.200** 3.0000	**29.370** 1.1563	**94700** 21300	0.40	1.49	**24600** 5520	**16900** 3800	1.45	**107000** 24100	31597	31521
36.512 1.4375	**76.200** 3.0000	**29.370** 1.1563	**94700** 21300	0.40	1.49	**24600** 5520	**16900** 3800	1.45	**107000** 24100	31597	31520
36.512 1.4375	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89449	HM89410
36.512 1.4375	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89449	HM89411
36.512 1.4375	**76.200** 3.0000	**29.370** 1.1563	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89448	HM89410
36.512 1.4375	**79.375** 3.1250	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3479	3420
36.512 1.4375	**79.375** 3.1250	**29.370** 1.1563	**126000** 28200	0.55	1.10	**32600** 7320	**30400** 6840	1.07	**121000** 27200	HM89249	HM89210
36.512 1.4375	**80.000** 3.1496	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26877	26824
36.512 1.4375	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26877	26820
36.512 1.4375	**80.167** 3.1562	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3479	3422
36.512 1.4375	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25570	25520
36.512 1.4375	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3878	3820
36.512 1.4375	**88.500** 3.4843	**25.400** 1.0000	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44143	44348

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

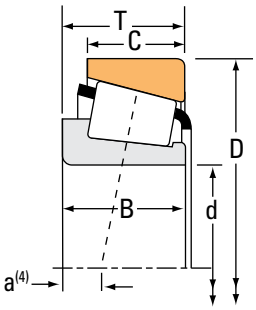
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**1.5** 0.06	**41.5** 1.63	**44.0** 1.73	**2.0** 0.08	**66.0** 2.60	**62.0** 2.44	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.31** 0.68
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**1.5** 0.06	**41.5** 1.63	**44.0** 1.73	**1.5** 0.06	**66.0** 2.60	**63.0** 2.48	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.31** 0.68
20.638 0.8125	**14.237** 0.5605	**-4.1** -0.16	**3.5** 0.14	**42.0** 1.65	**48.5** 1.91	**1.5** 0.06	**67.0** 2.64	**63.0** 2.48	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.34** 0.76
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**3.5** 0.14	**42.0** 1.65	**48.5** 1.91	**1.3** 0.05	**67.0** 2.64	**63.0** 2.48	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.36** 0.81
28.575 1.1250	**23.812** 0.9375	**-7.6** -0.30	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**1.3** 0.05	**72.0** 2.83	**66.0** 2.60	**1.6** 0.06	**1.3** 0.05	26.3	9.1	0.0773	**0.60** 1.33
28.575 1.1250	**23.812** 0.9375	**-7.6** -0.30	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**3.3** 0.13	**72.0** 2.83	**64.0** 2.52	**1.6** 0.06	**1.3** 0.05	26.3	9.1	0.0773	**0.59** 1.31
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**3.5** 0.14	**44.5** 1.75	**57.0** 2.24	**3.3** 0.13	**73.0** 2.87	**62.0** 2.44	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.62** 1.37
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**3.5** 0.14	**44.5** 1.75	**57.0** 2.24	**0.8** 0.03	**73.0** 2.87	**65.0** 2.56	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.63** 1.39
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**0.8** 0.03	**44.5** 1.75	**48.5** 1.91	**3.3** 0.13	**73.0** 2.87	**62.0** 2.44	**1.9** 0.07	**1.4** 0.06	28.9	9.9	0.0883	**0.62** 1.38
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**0.8** 0.03	**44.5** 1.75	**45.5** 1.79	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.68** 1.51
28.829 1.1350	**22.664** 0.8923	**-5.8** -0.23	**3.5** 0.14	**44.0** 1.73	**55.0** 2.17	**3.3** 0.13	**75.0** 2.95	**66.0** 2.60	**2.3** 0.09	**2.6** 0.10	27.0	11.1	0.0861	**0.70** 1.53
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**0.8** 0.03	**43.0** 1.69	**44.0** 1.73	**1.3** 0.05	**74.0** 2.91	**70.0** 2.76	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.60** 1.32
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**0.8** 0.03	**43.0** 1.69	**44.0** 1.73	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.61** 1.36
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**0.8** 0.03	**44.5** 1.75	**45.5** 1.79	**3.3** 0.13	**74.0** 2.91	**68.0** 2.68	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.70** 1.55
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**45.0** 1.77	**51.0** 2.01	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.66** 1.45
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**47.0** 1.85	**48.0** 1.89	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.87** 1.92
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**2.3** 0.09	**50.0** 1.97	**54.0** 2.13	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.8** 0.15	**2.7** 0.11	22.9	8.7	0.0899	**0.73** 1.60

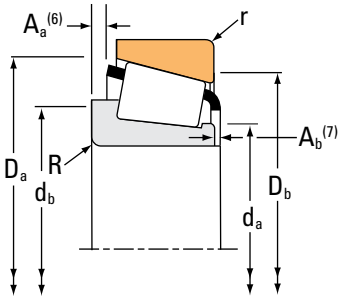
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
36.512 1.4375	**93.662** 3.6875	**31.750** 1.2500	**129000** 29100	0.40	1.49	**33500** 7540	**23100** 5190	1.45	**158000** 35500	46143	46368
38.000 1.4961	**63.000** 2.4803	**17.000** 0.6693	**51000** 11500	0.42	1.44	**13200** 2970	**9410** 2120	1.40	**55000** 12400	JL69349	JL69310
38.000 1.4961	**63.000** 2.4803	**17.000** 0.6693	**51000** 11500	0.42	1.44	**13200** 2970	**9410** 2120	1.40	**55000** 12400	JL69349A	JL69310
38.000 1.4961	**63.000** 2.4803	**17.000** 0.6693	**51000** 11500	0.42	1.44	**13200** 2970	**9410** 2120	1.40	**55000** 12400	JL69348	JL69310
38.000 1.4961	**63.000** 2.4803	**17.000** 0.6693	**51000** 11500	0.42	1.44	**13200** 2970	**9410** 2120	1.40	**55000** 12400	JL69349X	JL69310
38.000 1.4961	**68.000** 2.6772	**16.020** 0.6307	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19149X	19267X
38.100 1.5000	**63.500** 2.5000	**12.700** 0.5000	**27200** 6100	0.35	1.73	**7040** 1580	**4170** 938	1.69	**33000** 7430	13889	13830
38.100 1.5000	**65.088** 2.5625	**12.700** 0.5000	**27200** 6100	0.35	1.73	**7040** 1580	**4170** 938	1.69	**33000** 7430	13889	13836
38.100 1.5000	**65.088** 2.5625	**18.034** 0.7100	**48600** 10900	0.33	1.80	**12600** 2830	**7170** 1610	1.76	**60300** 13600	LM29749	LM29710
38.100 1.5000	**65.088** 2.5625	**18.034** 0.7100	**48600** 10900	0.33	1.80	**12600** 2830	**7170** 1610	1.76	**60300** 13600	LM29748	LM29710
38.100 1.5000	**65.088** 2.5625	**19.812** 0.7800	**48600** 10900	0.33	1.80	**12600** 2830	**7170** 1610	1.76	**60300** 13600	LM29749	LM29711
38.100 1.5000	**68.262** 2.6875	**15.875** 0.6250	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19150	19268
38.100 1.5000	**68.262** 2.6875	**19.997** 0.7873	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19150	19269
38.100 1.5000	**69.012** 2.7170	**19.050** 0.7500	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13685	13621
38.100 1.5000	**69.012** 2.7170	**19.050** 0.7500	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13685A	13621
38.100 1.5000	**69.012** 2.7170	**19.050** 0.7500	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13685	13620
38.100 1.5000	**69.012** 2.7170	**19.050** 0.7500	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13687	13621

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

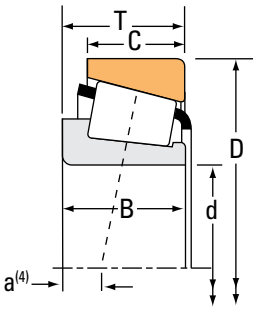
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
31.750 1.2500	**26.195** 1.0313	**-7.9** -0.31	**1.5** 0.06	**48.0** 1.89	**50.0** 1.97	**3.3** 0.13	**87.0** 3.43	**79.0** 3.11	**2.1** 0.08	**1.1** 0.05	44.4	13.6	0.0920	**1.15** 2.53
17.000 0.6693	**13.500** 0.5315	**-2.3** -0.09	**0.0** 0.00	**42.5** 1.67	**46.5** 1.83	**1.3** 0.05	**60.0** 2.36	**56.0** 2.20	**0.5** 0.02	**1.4** 0.06	18.4	13.6	0.0692	**0.20** 0.45
17.000 0.6693	**13.500** 0.5315	**-2.3** -0.09	**1.3** 0.05	**42.5** 1.67	**44.5** 1.75	**1.3** 0.05	**60.0** 2.36	**56.0** 2.20	**0.5** 0.02	**1.3** 0.05	18.4	13.6	0.0692	**0.20** 0.45
17.000 0.6693	**13.500** 0.5315	**-2.3** -0.09	**3.3** 0.13	**42.5** 1.67	**46.5** 1.83	**1.3** 0.05	**60.0** 2.36	**56.0** 2.20	**0.5** 0.02	**1.4** 0.06	18.4	13.6	0.0692	**0.20** 0.45
17.000 0.6693	**13.500** 0.5315	**-2.3** -0.09	**2.3** 0.09	**43.0** 1.69	**47.0** 1.85	**1.3** 0.05	**60.0** 2.36	**56.0** 2.20	**0.5** 0.02	**1.3** 0.05	18.4	13.6	0.0692	**0.20** 0.45
16.520 0.6504	**12.000** 0.4724	**-1.5** -0.06	**2.0** 0.08	**43.0** 1.69	**46.0** 1.81	**1.5** 0.06	**64.0** 2.52	**61.0** 2.40	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.24** 0.52
11.908 0.4688	**9.525** 0.3750	**-0.8** -0.03	**1.5** 0.06	**42.5** 1.67	**45.0** 1.77	**0.8** 0.03	**60.0** 2.36	**59.0** 2.32	**0.2** 0.00	**1.4** 0.06	14.8	23.3	0.0601	**0.14** 0.33
11.908 0.4688	**9.525** 0.3750	**-0.8** -0.03	**1.5** 0.06	**42.5** 1.67	**45.0** 1.77	**0.8** 0.03	**61.0** 2.40	**59.0** 2.32	**0.2** 0.00	**1.4** 0.06	14.8	23.3	0.0601	**0.16** 0.35
18.288 0.7200	**13.970** 0.5500	**-4.1** -0.16	**2.3** 0.09	**42.5** 1.67	**46.5** 1.83	**1.3** 0.05	**62.0** 2.44	**58.9** 2.32	**0.7** 0.02	**1.1** 0.05	20.4	15.0	0.0666	**0.24** 0.51
18.288 0.7200	**13.970** 0.5500	**-4.1** -0.16	**3.5** 0.14	**42.5** 1.67	**49.0** 1.93	**1.3** 0.05	**62.0** 2.44	**58.9** 2.32	**0.7** 0.02	**1.1** 0.05	20.4	15.0	0.0666	**0.23** 0.50
18.288 0.7200	**15.748** 0.6200	**-4.1** -0.16	**2.3** 0.09	**42.5** 1.67	**46.5** 1.83	**1.3** 0.05	**62.0** 2.44	**58.0** 2.28	**0.7** 0.02	**1.1** 0.05	20.4	15.0	0.0666	**0.25** 0.55
16.520 0.6504	**11.908** 0.4688	**-1.5** -0.06	**1.5** 0.06	**43.0** 1.69	**45.0** 1.77	**1.5** 0.06	**65.0** 2.56	**61.0** 2.40	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.24** 0.53
16.520 0.6504	**16.030** 0.6311	**-1.5** -0.06	**1.5** 0.06	**43.0** 1.69	**45.0** 1.77	**1.5** 0.06	**65.0** 2.56	**60.0** 2.36	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.28** 0.61
19.050 0.7500	**15.083** 0.5938	**-3.0** -0.12	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**2.3** 0.09	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.28** 0.62
19.050 0.7500	**15.083** 0.5938	**-3.0** -0.12	**0.8** 0.03	**43.0** 1.69	**44.0** 1.73	**2.3** 0.09	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.29** 0.63
19.050 0.7500	**15.083** 0.5938	**-3.0** -0.12	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**0.8** 0.03	**65.0** 2.56	**62.0** 2.44	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.28** 0.63
19.050 0.7500	**15.083** 0.5938	**-3.0** -0.12	**2.0** 0.08	**43.0** 1.69	**46.5** 1.83	**2.3** 0.09	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.28** 0.63

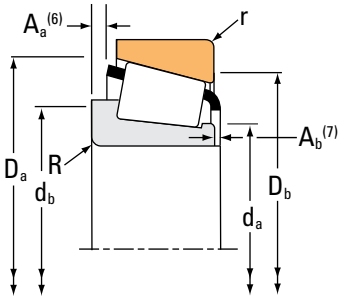
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
38.100 1.5000	**69.012** 2.7170	**19.050** 0.7500	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13687	13620
38.100 1.5000	**69.012** 2.7170	**19.050** 0.7500	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13685A	13620
38.100 1.5000	**69.012** 2.7170	**26.195** 1.0313	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13686	13621
38.100 1.5000	**69.012** 2.7170	**26.195** 1.0313	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13686	13620
38.100 1.5000	**69.969** 2.7547	**21.996** 0.8660	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13685	13624
38.100 1.5000	**69.969** 2.7547	**21.996** 0.8660	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300	13687	13624
38.100 1.5000	**71.438** 2.8125	**15.875** 0.6250	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19150	19281
38.100 1.5000	**72.000** 2.8346	**17.018** 0.6700	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19150	19283
38.100 1.5000	**72.000** 2.8346	**19.000** 0.7480	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16150	16282
38.100 1.5000	**72.238** 2.8440	**20.638** 0.8125	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16150	16284
38.100 1.5000	**72.238** 2.8440	**23.812** 0.9375	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16150	16283
38.100 1.5000	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788	2735X
38.100 1.5000	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788A	2735X
38.100 1.5000	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2776	2735X
38.100 1.5000	**74.612** 2.9375	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788A	2736
38.100 1.5000	**76.200** 3.0000	**20.625** 0.8120	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28150	28300X
38.100 1.5000	**76.200** 3.0000	**20.638** 0.8125	**63500** 14300	0.40	1.49	**16500** 3700	**11300** 2550	1.45	**68900** 15500	28151	28300

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

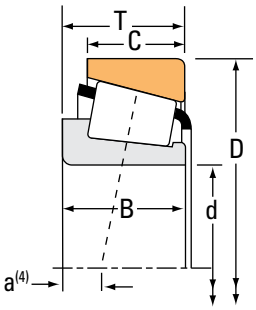
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
19.050 0.7500	**15.083** 0.5938	**-3.0** -0.12	**2.0** 0.08	**43.0** 1.69	**46.5** 1.83	**0.8** 0.03	**65.0** 2.56	**62.0** 2.44	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.28** 0.64
19.050 0.7500	**15.083** 0.5938	**-3.0** -0.12	**0.8** 0.03	**43.0** 1.69	**44.0** 1.73	**0.8** 0.03	**65.0** 2.56	**62.0** 2.44	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.29** 0.64
26.195 1.0313	**15.083** 0.5938	**-10.2** -0.40	**1.5** 0.06	**43.0** 1.69	**45.5** 1.79	**2.3** 0.09	**65.0** 2.56	**61.0** 2.40	**8.0** 0.31	**0.7** 0.03	20.7	12.2	0.0713	**0.35** 0.76
26.195 1.0313	**15.083** 0.5938	**-10.2** -0.40	**1.5** 0.06	**43.0** 1.69	**45.5** 1.79	**0.8** 0.03	**65.0** 2.56	**62.0** 2.44	**8.0** 0.31	**0.7** 0.03	20.7	12.2	0.0713	**0.35** 0.77
19.050 0.7500	**18.029** 0.7098	**-3.0** -0.12	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**1.5** 0.06	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.33** 0.73
19.050 0.7500	**18.029** 0.7098	**-3.0** -0.12	**2.0** 0.08	**43.0** 1.69	**46.5** 1.83	**1.5** 0.06	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**0.7** 0.03	20.7	12.2	0.0713	**0.33** 0.73
16.520 0.6504	**11.908** 0.4688	**-1.5** -0.06	**1.5** 0.06	**43.0** 1.69	**45.0** 1.77	**1.0** 0.04	**66.0** 2.60	**63.0** 2.48	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.28** 0.60
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**1.5** 0.06	**43.0** 1.69	**45.0** 1.77	**1.5** 0.06	**66.0** 2.60	**63.0** 2.48	**1.1** 0.04	**1.6** 0.06	17.5	11.5	0.0694	**0.30** 0.66
20.638 0.8125	**14.237** 0.5605	**-4.1** -0.16	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**1.5** 0.06	**67.0** 2.64	**63.0** 2.48	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.33** 0.73
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**1.3** 0.05	**67.0** 2.64	**63.0** 2.48	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.35** 0.78
20.638 0.8125	**19.050** 0.7500	**-4.1** -0.16	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**2.3** 0.09	**67.0** 2.64	**61.0** 2.40	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.39** 0.86
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.45** 0.99
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**43.5** 1.71	**46.0** 1.81	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.45** 1.00
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**4.3** 0.17	**43.5** 1.71	**52.0** 2.05	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.45** 0.99
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**43.5** 1.71	**46.0** 1.81	**0.8** 0.03	**70.0** 2.76	**67.0** 2.64	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.48** 1.06
20.940 0.8244	**15.494** 0.6100	**-4.8** -0.19	**1.5** 0.06	**43.5** 1.71	**45.5** 1.79	**1.5** 0.06	**71.0** 2.80	**68.0** 2.68	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.40** 0.89
20.940 0.8244	**15.507** 0.6105	**-4.8** -0.19	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**1.3** 0.05	**71.0** 2.80	**68.0** 2.68	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.39** 0.87

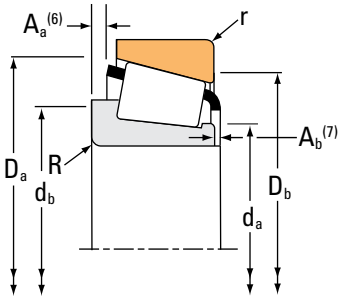
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
38.100 1.5000	**76.200** 3.0000	**20.638** 0.8125	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28150	28300
38.100 1.5000	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788	2720
38.100 1.5000	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788	2729X
38.100 1.5000	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2776	2720
38.100 1.5000	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788A	2720
38.100 1.5000	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788	2729
38.100 1.5000	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2777	2720
38.100 1.5000	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788A	2729
38.100 1.5000	**76.200** 3.0000	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26878	26823
38.100 1.5000	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26878	26822
38.100 1.5000	**79.375** 3.1250	**25.400** 1.0000	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788	2734
38.100 1.5000	**79.375** 3.1250	**25.400** 1.0000	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2776	2734
38.100 1.5000	**79.375** 3.1250	**29.370** 1.1563	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3490	3420
38.100 1.5000	**79.975** 3.1486	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3387	3325
38.100 1.5000	**80.000** 3.1496	**21.006** 0.8270	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28150	28315A
38.100 1.5000	**80.000** 3.1496	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26878	26824
38.100 1.5000	**80.035** 3.1510	**24.608** 0.9688	**78000** 17500	0.56	1.07	**20200** 4550	**19400** 4370	1.04	**91100** 20500	27880	27820

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

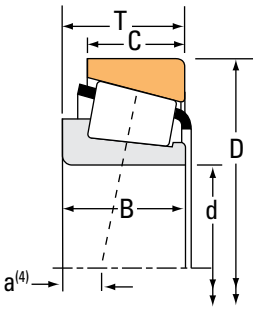
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
20.940 0.8244	**15.507** 0.6105	**-4.8** -0.19	**1.5** 0.06	**43.5** 1.71	**45.5** 1.79	**1.3** 0.05	**71.0** 2.80	**68.0** 2.68	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.40** 0.88
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.50** 1.09
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**1.5** 0.06	**70.0** 2.76	**67.0** 2.64	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.51** 1.11
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**4.3** 0.17	**43.5** 1.71	**52.0** 2.05	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.50** 1.09
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**43.5** 1.71	**46.0** 1.81	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.50** 1.10
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.51** 1.12
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**5.5** 0.22	**43.5** 1.71	**54.0** 2.13	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.49** 1.07
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**1.5** 0.06	**43.5** 1.71	**46.0** 1.81	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.51** 1.12
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.52** 1.16
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.56** 1.26
25.654 1.0100	**20.638** 0.8125	**-8.1** -0.32	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**3.3** 0.13	**72.0** 2.83	**67.0** 2.64	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.58** 1.28
25.654 1.0100	**20.638** 0.8125	**-8.1** -0.32	**4.3** 0.17	**43.5** 1.71	**52.0** 2.05	**3.3** 0.13	**72.0** 2.83	**67.0** 2.64	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.58** 1.27
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**3.5** 0.14	**45.5** 1.80	**52.0** 2.05	**3.3** 0.13	**74.0** 2.91	**67.0** 2.64	**1.4** 0.05	**1.0** 0.04	29.9	11.2	0.0781	**0.65** 1.44
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**3.3** 0.13	**74.8** 2.94	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.67** 1.48
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**43.5** 1.71	**45.5** 1.79	**2.0** 0.08	**73.0** 2.87	**69.0** 2.72	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.46** 1.01
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**1.3** 0.05	**74.0** 2.91	**70.0** 2.76	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.58** 1.28
23.698 0.9330	**18.512** 0.7288	**-2.5** -0.10	**0.8** 0.03	**47.0** 1.85	**48.0** 1.89	**1.5** 0.06	**75.0** 2.95	**68.0** 2.68	**3.2** 0.12	**1.5** 0.06	24.6	12.6	0.0839	**0.56** 1.23

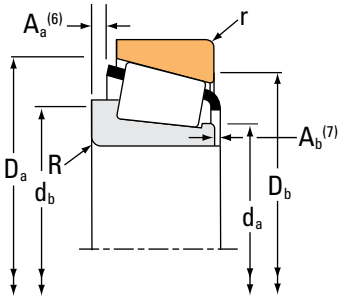
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
38.100 1.5000	**80.035** 3.1510	**24.608** 0.9688	**78000** 17500	0.56	1.07	**20200** 4550	**19400** 4370	1.04	**91100** 20500	27881	27820
38.100 1.5000	**80.035** 3.1510	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3387	3339
38.100 1.5000	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26878	26820
38.100 1.5000	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26878	26830
38.100 1.5000	**80.167** 3.1562	**26.988** 1.0625	**79500** 17900	0.27	2.20	**20600** 4640	**9640** 2170	2.14	**83400** 18700	347	3320
38.100 1.5000	**80.167** 3.1562	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3381	3331
38.100 1.5000	**80.167** 3.1562	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3381	3320
38.100 1.5000	**80.167** 3.1562	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3387	3320
38.100 1.5000	**81.755** 3.2187	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3381	3329
38.100 1.5000	**81.755** 3.2187	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3387	3329
38.100 1.5000	**82.550** 3.2500	**29.370** 1.1563	**103000** 23100	0.55	1.10	**26600** 5980	**24900** 5590	1.07	**130000** 29300	HM801346	HM801310
38.100 1.5000	**82.550** 3.2500	**29.370** 1.1563	**103000** 23100	0.55	1.10	**26600** 5980	**24900** 5590	1.07	**130000** 29300	HM801346X	HM801310
38.100 1.5000	**82.550** 3.2500	**29.370** 1.1563	**103000** 23100	0.55	1.10	**26600** 5980	**24900** 5590	1.07	**130000** 29300	HM801346	HM801311
38.100 1.5000	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25572	25520
38.100 1.5000	**85.000** 3.3465	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25572	25526
38.100 1.5000	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3875	3820
38.100 1.5000	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3876	3821

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

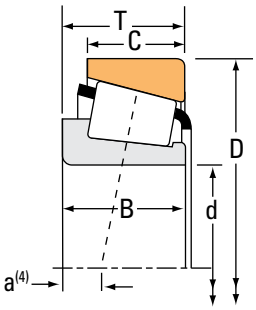
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
23.698 0.9330	**18.512** 0.7288	**-2.5** -0.10	**3.5** 0.14	**47.0** 1.85	**53.0** 2.09	**1.5** 0.06	**75.0** 2.95	**68.0** 2.68	**3.2** 0.12	**1.5** 0.06	24.6	12.6	0.0839	**0.55** 1.22
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**1.5** 0.06	**74.8** 2.94	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.67** 1.50
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.59** 1.32
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.60** 1.34
22.403 0.8820	**23.812** 0.9375	**-6.4** -0.25	**3.5** 0.14	**44.0** 1.73	**50.0** 1.97	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.55** 1.23
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**0.8** 0.03	**74.8** 2.94	**72.0** 2.83	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.68** 1.51
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.67** 1.49
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.67** 1.49
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**3.3** 0.13	**75.0** 2.95	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.71** 1.57
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**3.3** 0.13	**75.0** 2.95	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.71** 1.57
28.575 1.1250	**23.020** 0.9063	**-4.8** -0.19	**0.8** 0.03	**49.1** 1.93	**51.0** 2.01	**3.3** 0.13	**78.0** 3.07	**68.0** 2.68	**2.1** 0.08	**1.9** 0.08	33.7	14.0	0.0928	**0.76** 1.68
28.575 1.1250	**23.020** 0.9063	**-4.8** -0.19	**2.3** 0.09	**49.1** 1.93	**54.0** 2.13	**3.3** 0.13	**78.0** 3.07	**68.0** 2.68	**2.1** 0.08	**1.9** 0.08	33.7	14.0	0.0928	**0.76** 1.68
28.575 1.1250	**23.020** 0.9063	**-4.8** -0.19	**0.8** 0.03	**49.1** 1.93	**51.0** 2.01	**0.8** 0.03	**78.0** 3.07	**70.0** 2.76	**2.1** 0.08	**1.9** 0.08	33.7	14.0	0.0928	**0.77** 1.71
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**0.8** 0.03	**46.0** 1.81	**46.0** 1.81	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.65** 1.42
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**0.8** 0.03	**46.0** 1.81	**46.0** 1.81	**2.3** 0.09	**78.0** 3.07	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.69** 1.50
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**48.5** 1.91	**49.5** 1.95	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.85** 1.87
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**1.3** 0.05	**81.0** 3.19	**75.0** 2.95	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.85** 1.88

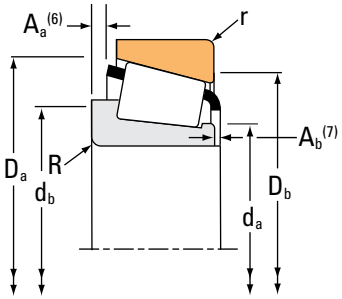
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
38.100 1.5000	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3876	3820
38.100 1.5000	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3580	3525
38.100 1.5000	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3583	3525
38.100 1.5000	**88.500** 3.4843	**25.400** 1.0000	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44150	44348
38.100 1.5000	**88.500** 3.4843	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	418	414
38.100 1.5000	**88.500** 3.4843	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	418	414A
38.100 1.5000	**88.900** 3.5000	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	418	414X
38.100 1.5000	**90.488** 3.5625	**39.688** 1.5625	**199000** 44700	0.28	2.11	**51500** 11600	**25100** 5640	2.05	**204000** 45900	4375	4335
38.100 1.5000	**93.662** 3.6875	**31.750** 1.2500	**136000** 30500	0.36	1.67	**35200** 7900	**21700** 4870	1.62	**156000** 35000	49151	49368
38.100 1.5000	**95.250** 3.7500	**27.782** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	440	432
38.100 1.5000	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	444	432
38.100 1.5000	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33880	33821
38.100 1.5000	**95.250** 3.7500	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53150	53375
38.100 1.5000	**98.425** 3.8750	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53150	53387
38.100 1.5000	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	525	522
38.100 1.5000	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	525X	522
38.100 1.5000	**103.188** 4.0625	**38.100** 1.5000	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	542	533A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

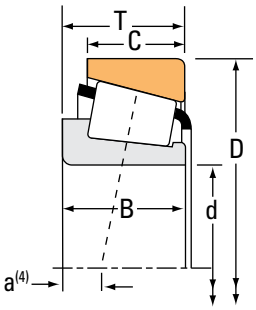
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.84** 1.86
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**1.5** 0.06	**45.5** 1.79	**48.0** 1.89	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.88** 1.91
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.87** 1.90
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**2.3** 0.09	**50.8** 2.00	**55.0** 2.17	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.8** 0.15	**2.7** 0.11	22.9	8.7	0.0899	**0.71** 1.56
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.83** 1.81
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**3.3** 0.13	**80.0** 3.15	**76.0** 2.99	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.82** 1.80
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**0.8** 0.03	**80.0** 3.15	**77.5** 3.07	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.84** 1.84
40.386 1.5900	**33.338** 1.3125	**-15.0** -0.59	**1.5** 0.06	**51.0** 2.01	**53.0** 2.09	**3.3** 0.13	**85.0** 3.35	**77.0** 3.03	**2.2** 0.09	**0.6** 0.03	52.9	14.3	0.0872	**1.31** 2.89
31.750 1.2500	**25.400** 1.0000	**-9.1** -0.36	**0.8** 0.03	**48.0** 1.89	**48.5** 1.91	**3.3** 0.13	**87.0** 3.43	**82.0** 3.23	**2.9** 0.11	**0.8** 0.04	42.4	13.6	0.0872	**1.09** 2.39
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**1.04** 2.29
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**1.03** 2.27
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**2.3** 0.09	**90.0** 3.54	**85.0** 3.35	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**1.05** 2.31
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.5** 0.06	**52.7** 2.07	**55.0** 2.17	**0.8** 0.03	**89.0** 3.50	**81.0** 3.19	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.01** 2.25
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.5** 0.06	**52.7** 2.07	**55.0** 2.17	**0.8** 0.03	**91.0** 3.58	**82.0** 3.23	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.09** 2.42
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.48** 3.26
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**0.8** 0.03	**48.0** 1.89	**49.0** 1.93	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.49** 3.28
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**1.5** 0.06	**98.0** 3.86	**93.0** 3.66	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.65** 3.63

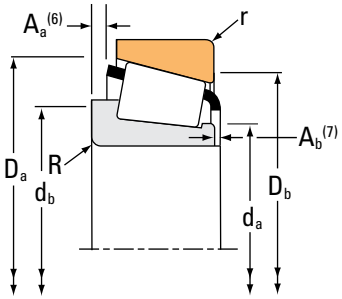
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
38.100 1.5000	**107.950** 4.2500	**27.783** 1.0938	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	455A	453A
38.100 1.5000	**111.125** 4.3750	**38.100** 1.5000	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	542	532A
38.481 1.5150	**63.500** 2.5000	**12.700** 0.5000	**27200** 6100	0.35	1.73	**7040** 1580	**4170** 938	1.69	**33000** 7430	13890	13830
38.481 1.5150	**65.088** 2.5625	**12.700** 0.5000	**27200** 6100	0.35	1.73	**7040** 1580	**4170** 938	1.69	**33000** 7430	13890	13836
39.000 1.5354	**72.014** 2.8352	**21.400** 0.8425	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	J16154	J16285
39.687 1.5625	**73.025** 2.8750	**16.667** 0.6562	**50800** 11400	0.35	1.71	**13200** 2960	**7890** 1770	1.67	**58100** 13100	18587	18520
39.687 1.5625	**73.025** 2.8750	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2789	2735X
39.687 1.5625	**73.025** 2.8750	**25.654** 1.0100	**73400** 16500	0.33	1.80	**19000** 4280	**10800** 2440	1.76	**89100** 20000	M201047	M201011
39.687 1.5625	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2789	2720
39.687 1.5625	**76.200** 3.0000	**23.812** 0.9375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2789	2729
39.687 1.5625	**76.200** 3.0000	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26881	26823
39.687 1.5625	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26880	26822
39.687 1.5625	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26881	26822
39.687 1.5625	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26880	26822A
39.688 1.5625	**79.975** 3.1486	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3382	3325
39.688 1.5625	**79.975** 3.1486	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3386	3325
39.687 1.5625	**80.000** 3.1496	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26881	26824

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

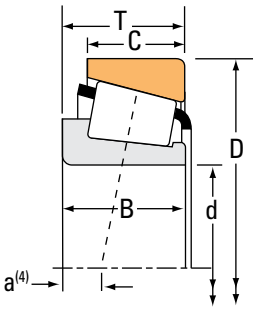
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**3.5** 0.14	**49.5** 1.95	**56.0** 2.20	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.43** 3.14
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**3.3** 0.13	**100.0** 3.94	**95.0** 3.74	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.96** 4.30
11.908 0.4688	**9.525** 0.3750	**-0.8** -0.03	**0.4** 0.02	**43.0** 1.69	**43.0** 1.69	**0.8** 0.03	**60.0** 2.36	**59.0** 2.32	**0.2** 0.00	**1.4** 0.06	14.8	23.3	0.0601	**0.14** 0.32
11.908 0.4688	**9.525** 0.3750	**-0.8** -0.03	**0.4** 0.02	**43.0** 1.69	**43.0** 1.69	**0.8** 0.03	**61.0** 2.40	**59.0** 2.32	**0.2** 0.00	**1.4** 0.06	14.8	23.3	0.0601	**0.16** 0.35
20.638 0.8125	**16.637** 0.6550	**-4.1** -0.16	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**0.4** 0.02	**67.0** 2.64	**63.0** 2.48	**1.1** 0.04	**1.1** 0.05	20.3	14.5	0.0707	**0.35** 0.79
17.462 0.6875	**12.700** 0.5000	**-2.8** -0.11	**0.8** 0.03	**45.0** 1.77	**45.5** 1.79	**1.5** 0.06	**69.0** 2.72	**66.0** 2.60	**0.4** 0.01	**1.3** 0.05	21.0	16.8	0.0681	**0.30** 0.65
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**45.0** 1.77	**52.0** 2.05	**0.8** 0.03	**69.0** 2.72	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.43** 0.95
22.098 0.8700	**21.336** 0.8400	**-5.8** -0.23	**0.8** 0.03	**48.0** 1.89	**45.5** 1.79	**2.3** 0.09	**69.0** 2.72	**64.0** 2.52	**0.4** 0.01	**2.0** 0.08	27.5	15.0	0.0736	**0.44** 0.94
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**45.0** 1.77	**52.0** 2.05	**3.3** 0.13	**70.0** 2.76	**66.0** 2.60	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.48** 1.05
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**3.5** 0.14	**45.0** 1.77	**52.0** 2.05	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**1.4** 0.05	**0.9** 0.04	28.7	12.2	0.0725	**0.49** 1.07
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.50** 1.10
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**1.5** 0.06	**45.5** 1.79	**48.0** 1.89	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.54** 1.21
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.54** 1.20
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**1.5** 0.06	**45.5** 1.79	**48.0** 1.89	**2.3** 0.09	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.54** 1.20
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**3.3** 0.13	**74.8** 2.94	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.65** 1.43
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**3.3** 0.13	**74.8** 2.94	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.65** 1.43
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**1.3** 0.05	**74.0** 2.91	**70.0** 2.76	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.56** 1.22

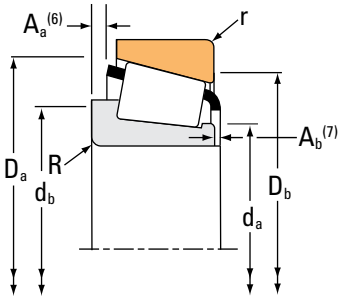
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
39.688 1.5625	**80.035** 3.1510	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3386	3339
39.687 1.5625	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26881	26820
39.687 1.5625	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26880	26830
39.687 1.5625	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26880	26820
39.687 1.5625	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26881	26830
39.687 1.5625	**80.167** 3.1562	**29.370** 1.1563	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26880	26821
39.688 1.5625	**80.167** 3.1562	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3382	3331
39.688 1.5625	**80.167** 3.1562	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3382	3320
39.688 1.5625	**80.167** 3.1562	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3386	3331
39.688 1.5625	**80.167** 3.1562	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3386	3320
39.688 1.5625	**84.138** 3.3125	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3386	3328
39.688 1.5625	**84.138** 3.3125	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3382	3328
39.687 1.5625	**88.500** 3.4843	**25.400** 1.0000	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44156	44348
39.687 1.5625	**88.500** 3.4843	**25.400** 1.0000	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44158	44348
39.687 1.5625	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	620	612
39.980 1.5740	**76.200** 3.0000	**19.347** 0.7617	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28156	28300
39.980 1.5740	**76.200** 3.0000	**20.638** 0.8125	**63500** 14300	0.40	1.49	**16500** 3700	**11300** 2550	1.45	**68900** 15500	28159	28300

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

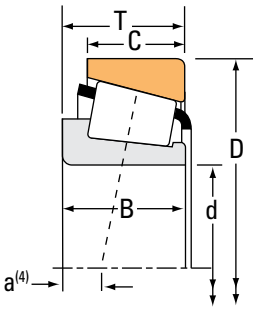
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**1.5** 0.06	**74.8** 2.94	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.65** 1.45
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.57** 1.26
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**1.5** 0.06	**45.5** 1.79	**48.0** 1.89	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.58** 1.29
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**1.5** 0.06	**45.5** 1.79	**48.0** 1.89	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.57** 1.27
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.58** 1.28
25.400 1.0000	**24.608** 0.9688	**-7.4** -0.29	**1.5** 0.06	**45.5** 1.79	**48.0** 1.89	**3.3** 0.13	**74.0** 2.91	**68.0** 2.68	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.63** 1.40
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**0.8** 0.03	**74.8** 2.94	**72.0** 2.83	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.66** 1.46
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.65** 1.44
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**0.8** 0.03	**74.8** 2.94	**72.0** 2.83	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.66** 1.46
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.65** 1.44
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**3.3** 0.13	**76.0** 2.99	**72.0** 2.83	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.74** 1.65
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**3.3** 0.13	**76.0** 2.99	**72.0** 2.83	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.74** 1.64
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**2.3** 0.09	**50.8** 2.00	**56.0** 2.20	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.8** 0.15	**2.7** 0.11	22.9	8.7	0.0899	**0.69** 1.52
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**3.5** 0.14	**50.8** 2.00	**58.0** 2.28	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.8** 0.15	**2.7** 0.11	22.9	8.7	0.0899	**0.69** 1.51
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**0.8** 0.03	**52.0** 2.05	**53.0** 2.09	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.53** 5.58
19.650 0.7736	**15.507** 0.6105	**-3.6** -0.14	**2.3** 0.09	**45.0** 1.77	**49.0** 1.93	**1.3** 0.05	**71.0** 2.80	**68.0** 2.68	**1.0** 0.04	**1.1** 0.05	20.7	12.5	0.0709	**0.37** 0.81
20.940 0.8244	**15.507** 0.6105	**-4.8** -0.19	**3.5** 0.14	**45.0** 1.77	**52.0** 2.05	**1.3** 0.05	**71.0** 2.80	**68.0** 2.68	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.37** 0.83

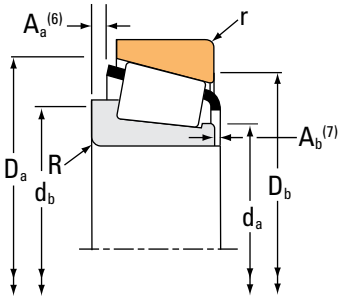
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
39.980 1.5740	**80.035** 3.1510	**20.142** 0.7930	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28156	28317
39.987 1.5743	**90.975** 3.5817	**32.000** 1.2598	**170000** 38300	0.33	1.80	**44200** 9930	**25200** 5660	1.76	**172000** 38600	HM204043	HM204010
40.000 1.5748	**76.200** 3.0000	**20.625** 0.8120	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28158	28300X
40.000 1.5748	**80.000** 3.1496	**21.000** 0.8268	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	344A	332
40.000 1.5748	**80.000** 3.1496	**21.005** 0.8270	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28158	28315
40.000 1.5748	**80.000** 3.1496	**21.006** 0.8270	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28158	28315A
40.000 1.5748	**84.138** 3.3125	**26.988** 1.0625	**81800** 18400	0.31	1.96	**21200** 4770	**11100** 2500	1.91	**88800** 20000	350	3520
40.000 1.5748	**85.000** 3.3465	**20.638** 0.8125	**81800** 18400	0.31	1.96	**21200** 4770	**11100** 2500	1.91	**88800** 20000	350	354A
40.000 1.5748	**85.000** 3.3465	**20.638** 0.8125	**81800** 18400	0.31	1.96	**21200** 4770	**11100** 2500	1.91	**88800** 20000	350	354X
40.000 1.5748	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	357	354A
40.000 1.5748	**85.000** 3.3465	**33.000** 1.2992	**13700** 30800	0.34	1.74	**35500** 7990	**20900** 4710	1.70	**160000** 35900	JF4049	JF4010
40.000 1.5748	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3879	3820
40.000 1.5748	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3582	3525
40.000 1.5748	**88.500** 3.4843	**24.765** 0.9750	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44157X	44348
40.000 1.5748	**88.500** 3.4843	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	420	414
40.000 1.5748	**88.900** 3.5000	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	420	414X
40.000 1.5748	**90.000** 3.5433	**23.000** 0.9055	**81800** 18400	0.31	1.96	**21200** 4770	**11100** 2500	1.91	**88800** 20000	350	352X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

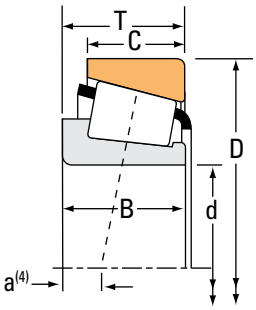
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
19.650 0.7736	**15.875** 0.6250	**-3.6** -0.14	**2.3** 0.09	**45.0** 1.77	**49.0** 1.93	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**1.0** 0.04	**1.1** 0.05	20.7	12.5	0.0709	**0.43** 0.95
32.000 1.2598	**26.500** 1.0433	**-9.7** -0.38	**1.0** 0.04	**53.0** 2.09	**54.0** 2.13	**3.5** 0.14	**86.0** 3.39	**79.0** 3.11	**1.5** 0.06	**1.9** 0.08	47.7	14.5	0.0885	**1.02** 2.26
20.940 0.8244	**15.494** 0.6100	**-4.8** -0.19	**1.5** 0.06	**45.0** 1.77	**47.5** 1.87	**1.5** 0.06	**71.0** 2.80	**68.0** 2.68	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.38** 0.85
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**0.8** 0.03	**45.5** 1.79	**46.0** 1.81	**1.3** 0.05	**75.0** 2.95	**73.0** 2.87	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.47** 1.05
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**45.0** 1.77	**47.5** 1.87	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.44** 0.98
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**1.5** 0.06	**45.0** 1.77	**47.5** 1.87	**2.0** 0.08	**73.0** 2.87	**69.0** 2.72	**2.3** 0.09	**1.1** 0.05	20.7	12.5	0.0709	**0.44** 0.97
21.692 0.8540	**23.812** 0.9375	**-4.8** -0.19	**4.0** 0.16	**46.5** 1.83	**54.0** 2.13	**3.3** 0.13	**79.5** 3.13	**74.0** 2.91	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.61** 1.35
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**4.0** 0.16	**46.5** 1.83	**54.0** 2.13	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.55** 1.22
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**4.0** 0.16	**46.5** 1.83	**54.0** 2.13	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.55** 1.23
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**2.3** 0.09	**46.5** 1.83	**51.0** 2.01	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.56** 1.23
32.500 1.2795	**28.000** 1.1024	**-10.2** -0.40	**2.5** 0.10	**49.0** 1.93	**55.0** 2.17	**2.0** 0.08	**80.0** 3.15	**75.0** 2.95	**1.1** 0.04	**2.0** 0.08	39.5	13.6	0.0841	**0.90** 1.99
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**50.0** 1.97	**51.0** 2.01	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.82** 1.81
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**47.0** 1.85	**53.0** 2.09	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.84** 1.84
23.063 0.9080	**17.462** 0.6875	**3.0** 0.12	**2.3** 0.09	**50.8** 2.00	**56.0** 2.20	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.3** 0.13	**3.0** 0.12	22.9	8.7	0.0899	**0.68** 1.50
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**3.5** 0.14	**46.0** 1.81	**52.0** 2.05	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.80** 1.76
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**3.5** 0.14	**46.0** 1.81	**52.0** 2.05	**0.8** 0.03	**80.0** 3.15	**77.5** 3.07	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.81** 1.78
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**4.0** 0.16	**46.5** 1.83	**54.0** 2.13	**2.3** 0.09	**82.0** 3.23	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.70** 1.56

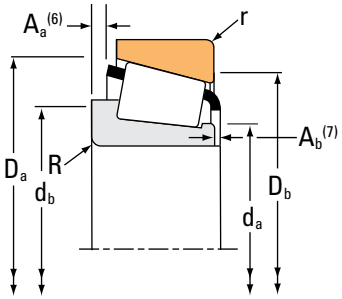
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
40.000 1.5748	**90.119** 3.5480	**23.000** 0.9055	**81800** 18400	0.31	1.96	**21200** 4770	**11100** 2500	1.91	**88800** 20000	350	352
40.000 1.5748	**90.119** 3.5480	**23.000** 0.9055	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	350A	352
40.000 1.5748	**90.119** 3.5480	**23.000** 0.9055	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	357	352
40.000 1.5748	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	442-S	432
40.000 1.5748	**107.950** 4.2500	**36.512** 1.4375	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	543	532X
40.483 1.5938	**82.550** 3.2500	**29.370** 1.1563	**103000** 23100	0.55	1.10	**26600** 5980	**24900** 5590	1.07	**130000** 29300	HM801349	HM801310
40.987 1.6137	**67.975** 2.6762	**17.500** 0.6890	**59100** 13300	0.35	1.72	**15300** 3440	**9140** 2050	1.68	**63500** 14300	LM300849	LM300811
41.275 1.6250	**67.975** 2.6762	**17.500** 0.6890	**49800** 11200	0.35	1.72	**12900** 2900	**7710** 1730	1.68	**63500** 14300	LM300848	LM300811
41.275 1.6250	**73.025** 2.8750	**16.667** 0.6562	**50800** 11400	0.35	1.71	**13200** 2960	**7890** 1770	1.67	**58100** 13100	18590	18520
41.275 1.6250	**73.431** 2.8910	**19.558** 0.7700	**74800** 16800	0.40	1.50	**19400** 4360	**13300** 2980	1.46	**74200** 16700	LM501349	LM501310
41.275 1.6250	**73.431** 2.8910	**19.558** 0.7700	**74800** 16800	0.40	1.50	**19400** 4360	**13300** 2980	1.46	**74200** 16700	LM501349A	LM501310
41.275 1.6250	**73.431** 2.8910	**21.430** 0.8437	**74800** 16800	0.40	1.50	**19400** 4360	**13300** 2980	1.46	**74200** 16700	LM501349	LM501314
41.275 1.6250	**73.431** 2.8910	**23.012** 0.9060	**74800** 16800	0.40	1.50	**19400** 4360	**13300** 2980	1.46	**74200** 16700	LM501349	LM501311
41.275 1.6250	**76.200** 3.0000	**18.009** 0.7090	**48100** 10800	0.49	1.23	**12500** 2800	**10400** 2340	1.20	**55100** 12400	11163	11300
41.275 1.6250	**76.200** 3.0000	**18.009** 0.7090	**48100** 10800	0.49	1.23	**12500** 2800	**10400** 2340	1.20	**55100** 12400	11162	11300
41.275 1.6250	**76.200** 3.0000	**22.225** 0.8750	**75500** 17000	0.39	1.53	**19600** 4400	**13200** 2960	1.49	**89200** 20100	24780	24722
41.275 1.6250	**76.200** 3.0000	**22.225** 0.8750	**75500** 17000	0.39	1.53	**19600** 4400	**13200** 2960	1.49	**89200** 20100	24780	24720

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

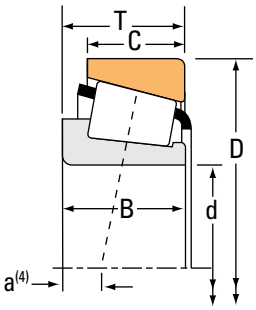
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**4.0** 0.16	**46.5** 1.83	**54.0** 2.13	**2.3** 0.09	**82.0** 3.23	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.71** 1.57
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**0.8** 0.03	**46.5** 1.83	**47.5** 1.87	**2.3** 0.09	**82.0** 3.23	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.72** 1.59
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**2.3** 0.09	**46.5** 1.83	**51.0** 2.01	**2.3** 0.09	**82.0** 3.23	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.72** 1.58
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**1.00** 2.21
36.957 1.4550	**28.575** 1.1250	**-12.2** -0.48	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.74** 3.85
28.575 1.1250	**23.020** 0.9063	**-4.8** -0.19	**3.5** 0.14	**49.1** 1.93	**58.0** 2.28	**3.3** 0.13	**78.0** 3.07	**68.0** 2.68	**2.1** 0.08	**1.9** 0.08	33.7	14.0	0.0928	**0.72** 1.60
18.000 0.7087	**13.500** 0.5315	**-3.6** -0.14	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**1.5** 0.06	**65.0** 2.56	**61.0** 2.40	**0.6** 0.02	**1.3** 0.05	22.5	18.1	0.0698	**0.24** 0.53
18.000 0.7087	**13.500** 0.5315	**-3.6** -0.14	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**1.5** 0.06	**65.0** 2.56	**61.0** 2.40	**0.6** 0.02	**1.3** 0.05	22.5	18.1	0.0698	**0.24** 0.53
17.462 0.6875	**12.700** 0.5000	**-2.8** -0.11	**3.5** 0.14	**46.0** 1.81	**53.0** 2.09	**1.5** 0.06	**69.0** 2.72	**66.0** 2.60	**0.4** 0.01	**1.3** 0.05	21.0	16.8	0.0681	**0.28** 0.61
19.812 0.7800	**14.732** 0.5800	**-3.3** -0.13	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**0.8** 0.03	**70.0** 2.76	**67.0** 2.64	**0.9** 0.03	**1.0** 0.04	23.3	13.3	0.0739	**0.34** 0.74
19.812 0.7800	**14.732** 0.5800	**-3.3** -0.13	**0.8** 0.03	**46.5** 1.83	**47.0** 1.85	**0.8** 0.03	**70.0** 2.76	**67.0** 2.64	**1.0** 0.04	**1.0** 0.04	23.3	13.3	0.0739	**0.33** 0.73
19.812 0.7800	**16.604** 0.6537	**-3.3** -0.13	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**0.8** 0.03	**70.0** 2.76	**65.0** 2.56	**0.9** 0.03	**1.0** 0.04	23.3	13.3	0.0739	**0.36** 0.78
19.812 0.7800	**18.186** 0.7160	**-3.3** -0.13	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**2.3** 0.09	**70.0** 2.76	**64.0** 2.52	**0.9** 0.03	**1.0** 0.04	23.3	13.3	0.0739	**0.37** 0.81
17.384 0.6844	**14.288** 0.5625	**-0.8** -0.03	**0.8** 0.03	**46.5** 1.83	**47.0** 1.85	**1.5** 0.06	**71.0** 2.80	**67.0** 2.64	* *	* *	19.2	16.0	0.0735	**0.34** 0.74
17.384 0.6844	**14.288** 0.5625	**-0.8** -0.03	**1.5** 0.06	**46.5** 1.83	**49.0** 1.93	**1.5** 0.06	**71.0** 2.80	**67.0** 2.64	**1.6** 0.06	**1.6** 0.06	19.2	16.0	0.0735	**0.34** 0.74
23.020 0.9063	**17.462** 0.6875	**-4.8** -0.19	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**3.3** 0.13	**72.0** 2.83	**66.0** 2.60	**1.1** 0.04	**1.1** 0.05	26.4	16.5	0.0767	**0.42** 0.92
23.020 0.9063	**17.462** 0.6875	**-4.8** -0.19	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**0.8** 0.03	**72.0** 2.83	**68.0** 2.68	**1.1** 0.04	**1.1** 0.05	26.4	16.5	0.0767	**0.43** 0.94

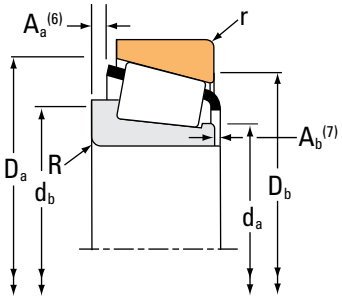
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
[*] Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
41.275 1.6250	**76.200** 3.0000	**22.225** 0.8750	**75500** 17000	0.39	1.53	**19600** 4400	**13200** 2960	1.49	**89200** 20100	24781	24720
41.275 1.6250	**76.200** 3.0000	**25.400** 1.0000	**75500** 17000	0.39	1.53	**19600** 4400	**13200** 2960	1.49	**89200** 20100	24780	24721
41.275 1.6250	**76.200** 3.0000	**25.400** 1.0000	**75500** 17000	0.39	1.53	**19600** 4400	**13200** 2960	1.49	**89200** 20100	24781	24721
41.275 1.6250	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26882	26822
41.275 1.6250	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26885	26822
41.275 1.6250	**80.000** 3.1496	**18.009** 0.7090	**48100** 10800	0.49	1.23	**12500** 2800	**10400** 2340	1.20	**55100** 12400	11162	11315
41.275 1.6250	**80.000** 3.1496	**21.000** 0.8268	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	342	332
41.275 1.6250	**80.000** 3.1496	**21.000** 0.8268	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	336	332
41.275 1.6250	**80.035** 3.1510	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3383	3339
41.275 1.6250	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26882	26820
41.275 1.6250	**80.167** 3.1562	**26.988** 1.0625	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	336	3320
41.275 1.6250	**80.167** 3.1562	**26.988** 1.0625	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	342	3320
41.275 1.6250	**80.167** 3.1562	**29.370** 1.1563	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26882	26821
41.275 1.6250	**81.755** 3.2187	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3383	3329
41.275 1.6250	**82.550** 3.2500	**26.195** 1.0313	**92900** 20900	0.40	1.49	**24100** 5420	**16600** 3730	1.45	**115000** 25800	22778	22721
41.275 1.6250	**82.550** 3.2500	**26.543** 1.0450	**91700** 20600	0.55	1.10	**23800** 5340	**22200** 4990	1.07	**112000** 25300	M802048	M802011
41.275 1.6250	**82.550** 3.2500	**26.543** 1.0450	**91700** 20600	0.55	1.10	**23800** 5340	**22200** 4990	1.07	**112000** 25300	M802047	M802011

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

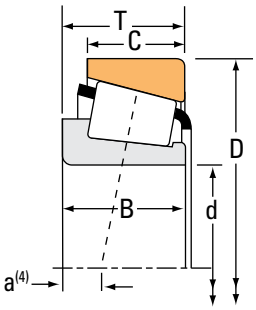
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
23.020 0.9063	**17.462** 0.6875	**-4.8** -0.19	**0.8** 0.03	**47.0** 1.85	**48.0** 1.89	**0.8** 0.03	**72.0** 2.83	**68.0** 2.68	**1.2** 0.04	**1.1** 0.05	26.4	16.5	0.0767	**0.43** 0.95
23.020 0.9063	**20.638** 0.8125	**-4.8** -0.19	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**2.3** 0.09	**72.0** 2.83	**66.0** 2.60	**1.1** 0.04	**1.1** 0.05	26.4	16.5	0.0767	**0.47** 1.02
23.020 0.9063	**20.638** 0.8125	**-4.8** -0.19	**0.8** 0.03	**47.0** 1.85	**48.0** 1.89	**2.3** 0.09	**72.0** 2.83	**66.0** 2.60	**1.2** 0.04	**1.1** 0.05	26.4	16.5	0.0767	**0.47** 1.03
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.52** 1.15
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**0.8** 0.03	**47.0** 1.85	**48.0** 1.89	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.52** 1.17
17.384 0.6844	**14.288** 0.5625	**-0.8** -0.03	**1.5** 0.06	**46.5** 1.83	**49.0** 1.93	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**1.6** 0.06	**1.6** 0.06	19.2	16.0	0.0735	**0.39** 0.85
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**3.5** 0.14	**46.0** 1.81	**53.0** 2.09	**1.3** 0.05	**75.0** 2.95	**73.0** 2.87	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.45** 1.01
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**0.8** 0.03	**46.0** 1.81	**47.0** 1.85	**1.3** 0.05	**75.0** 2.95	**73.0** 2.87	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.46** 1.02
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**1.5** 0.06	**74.8** 2.94	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.62** 1.39
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.55** 1.21
22.403 0.8820	**23.812** 0.9375	**-6.4** -0.25	**0.8** 0.03	**46.0** 1.81	**47.0** 1.85	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.53** 1.17
22.403 0.8820	**23.812** 0.9375	**-6.4** -0.25	**3.5** 0.14	**46.0** 1.81	**53.0** 2.09	**3.3** 0.13	**75.0** 2.95	**70.0** 2.76	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.52** 1.15
25.400 1.0000	**24.608** 0.9688	**-7.4** -0.29	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**3.3** 0.13	**74.0** 2.91	**68.0** 2.68	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.61** 1.35
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**3.3** 0.13	**75.0** 2.95	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.66** 1.46
26.988 1.0625	**20.638** 0.8125	**-6.4** -0.25	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**0.8** 0.03	**77.0** 3.03	**73.0** 2.87	**1.8** 0.07	**1.1** 0.05	33.9	15.3	0.0841	**0.64** 1.40
25.654 1.0100	**20.193** 0.7950	**-3.0** -0.12	**3.5** 0.14	**50.6** 1.99	**57.0** 2.24	**3.3** 0.13	**79.0** 3.11	**70.0** 2.76	**2.2** 0.09	**1.7** 0.07	30.9	11.9	0.0899	**0.62** 1.37
25.654 1.0100	**20.193** 0.7950	**-3.0** -0.12	**0.8** 0.03	**50.6** 1.99	**52.0** 2.05	**3.3** 0.13	**79.0** 3.11	**70.0** 2.76	**2.2** 0.09	**1.7** 0.07	30.9	11.9	0.0899	**0.63** 1.39

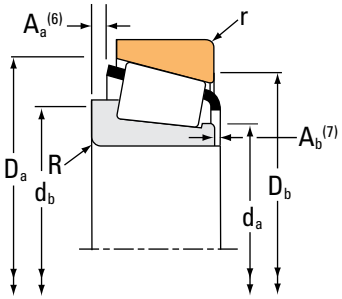
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
41.275 1.6250	**84.138** 3.3125	**29.370** 1.1563	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3383	3328
41.275 1.6250	**84.138** 3.3125	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3576	3520
41.275 1.6250	**84.138** 3.3125	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3576	3530
41.275 1.6250	**84.138** 3.3125	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3577	3530
41.275 1.6250	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3877	3820
41.275 1.6250	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3880	3820
41.275 1.6250	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3880	3821
41.275 1.6250	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3877	3821
41.275 1.6250	**85.725** 3.3750	**30.162** 1.1875	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3877A	3820
41.275 1.6250	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3577	3525
41.275 1.6250	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3576	3525
41.275 1.6250	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3585	3525
41.275 1.6250	**88.500** 3.4843	**25.400** 1.0000	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44162	44348
41.275 1.6250	**88.500** 3.4843	**26.988** 1.0625	**116000** 26000	0.26	2.28	**30000** 6740	**13500** 3040	2.22	**124000** 28000	419	414
41.275 1.6250	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365A	362A
41.275 1.6250	**88.900** 3.5000	**30.162** 1.1875	**114000** 25600	0.55	1.10	**29500** 6630	**27600** 6200	1.07	**144000** 32400	HM803146	HM803110
41.275 1.6250	**88.900** 3.5000	**30.162** 1.1875	**114000** 25600	0.55	1.10	**29500** 6630	**27600** 6200	1.07	**144000** 32400	HM803145	HM803110

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

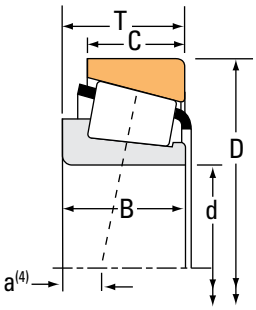
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**3.3** 0.13	**76.0** 2.99	**72.0** 2.83	**1.8** 0.07	**1.1** 0.05	34.6	12.1	0.0744	**0.71** 1.58
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**48.0** 1.89	**49.0** 1.93	**3.3** 0.13	**79.5** 3.13	**74.0** 2.91	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.75** 1.64
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**48.0** 1.89	**49.0** 1.93	**0.8** 0.03	**79.5** 3.13	**76.0** 2.99	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.76** 1.66
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**0.8** 0.03	**79.5** 3.13	**76.0** 2.99	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.75** 1.65
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**50.0** 1.98	**57.0** 2.24	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.80** 1.76
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**50.0** 1.98	**52.0** 2.05	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.80** 1.77
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**50.0** 1.98	**52.0** 2.05	**1.3** 0.05	**81.0** 3.19	**75.0** 2.95	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.81** 1.79
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**50.0** 1.98	**57.0** 2.24	**1.3** 0.05	**81.0** 3.19	**75.0** 2.95	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.81** 1.78
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**50.0** 1.98	**55.0** 2.17	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.4** 0.05	**2.2** 0.09	37.8	13.5	0.0873	**0.80** 1.76
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.82** 1.80
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**0.8** 0.03	**48.0** 1.89	**49.0** 1.93	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.83** 1.81
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**1.5** 0.06	**48.0** 1.89	**50.0** 1.97	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.83** 1.81
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**2.3** 0.09	**50.8** 2.00	**57.0** 2.24	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.8** 0.15	**2.7** 0.11	22.9	8.7	0.0899	**0.67** 1.48
29.083 1.1450	**22.225** 0.8750	**-9.7** -0.38	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**1.2** 0.04	**0.8** 0.03	34.4	9.9	0.0731	**0.78** 1.71
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.63** 1.38
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**3.5** 0.14	**53.0** 2.09	**60.0** 2.36	**3.3** 0.13	**85.0** 3.35	**74.0** 2.91	**1.5** 0.05	**2.2** 0.09	39.2	10.6	0.0974	**0.89** 1.96
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**0.8** 0.03	**53.0** 2.09	**54.0** 2.13	**3.3** 0.13	**85.0** 3.35	**74.0** 2.91	**1.5** 0.05	**2.2** 0.09	39.2	10.6	0.0974	**0.89** 1.98

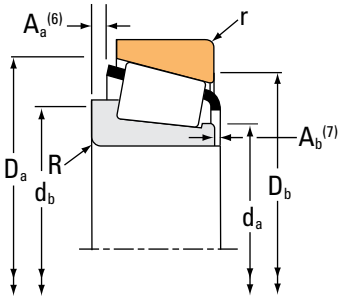
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
41.275 1.6250	**90.000** 3.5433	**19.914** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365A	362
41.275 1.6250	**90.488** 3.5625	**39.688** 1.5625	**199000** 44700	0.28	2.11	**51500** 11600	**25100** 5640	2.05	**204000** 45900	4388	4335
41.275 1.6250	**92.075** 3.6250	**26.195** 1.0313	**101000** 22800	0.83	0.72	**26300** 5910	**37400** 8410	0.70	**92500** 20800	M903345	M903310
41.275 1.6250	**92.075** 3.6250	**30.162** 1.1875	**114000** 25600	0.55	1.10	**29500** 6630	**27600** 6200	1.07	**144000** 32400	HM803146	HM803112
41.275 1.6250	**92.075** 3.6250	**30.162** 1.1875	**114000** 25600	0.55	1.10	**29500** 6630	**27600** 6200	1.07	**144000** 32400	HM803145	HM803112
41.275 1.6250	**93.662** 3.6875	**31.750** 1.2500	**136000** 30500	0.36	1.67	**35200** 7900	**21700** 4870	1.62	**156000** 35000	49162	49368
41.275 1.6250	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	447	432
41.275 1.6250	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804840	HM804810
41.275 1.6250	**95.250** 3.7500	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53162	53375
41.275 1.6250	**95.250** 3.7500	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903245	HM903210
41.275 1.6250	**95.250** 3.7500	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903244	HM903210
41.275 1.6250	**95.250** 3.7500	**31.753** 1.2501	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	447	432X
41.275 1.6250	**98.425** 3.8750	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53162	53387
41.275 1.6250	**98.425** 3.8750	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903244	HM903216
41.275 1.6250	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	526	522
41.275 1.6250	**104.775** 4.1250	**36.512** 1.4375	**172000** 38600	0.49	1.23	**44500** 10000	**37100** 8350	1.20	**223000** 50200	HM807035	HM807010
41.275 1.6250	**107.950** 4.2500	**27.783** 1.0938	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	464A	453A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

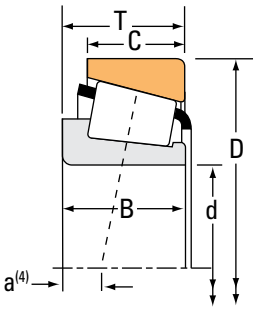
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.63** 1.40
40.386 1.5900	**33.338** 1.3125	**-15.0** -0.59	**3.5** 0.14	**52.0** 2.05	**60.0** 2.36	**3.3** 0.13	**85.0** 3.35	**77.0** 3.03	**2.2** 0.09	**0.6** 0.03	52.9	14.3	0.0872	**1.24** 2.74
23.812 0.9375	**16.670** 0.6563	**3.6** 0.14	**3.5** 0.14	**54.0** 2.13	**65.0** 2.56	**1.5** 0.06	**88.0** 3.46	**78.0** 3.07	**4.8** 0.19	**3.4** 0.14	25.6	13.1	0.0948	**0.76** 1.68
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**3.5** 0.14	**53.0** 2.09	**60.0** 2.36	**3.3** 0.13	**86.0** 3.39	**76.0** 2.99	**1.5** 0.05	**2.2** 0.09	39.2	10.6	0.0974	**0.97** 2.14
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**0.8** 0.03	**53.0** 2.09	**54.0** 2.13	**3.3** 0.13	**86.0** 3.39	**76.0** 2.99	**1.5** 0.05	**2.2** 0.09	39.2	10.6	0.0974	**0.97** 2.15
31.750 1.2500	**25.400** 1.0000	**-9.1** -0.36	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**3.3** 0.13	**87.0** 3.43	**82.0** 3.23	**2.9** 0.11	**0.8** 0.04	42.4	13.6	0.0872	**1.03** 2.27
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**0.98** 2.17
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**3.5** 0.14	**54.0** 2.13	**61.0** 2.40	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**1.07** 2.36
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.5** 0.06	**52.7** 2.07	**57.0** 2.24	**0.8** 0.03	**89.0** 3.50	**81.0** 3.19	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**0.97** 2.15
28.575 1.1250	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**63.0** 2.48	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	**3.9** 0.15	**2.1** 0.08	33.7	12.4	0.1010	**1.04** 2.30
28.300 1.1142	**22.225** 0.8750	**0.5** 0.02	**1.5** 0.06	**54.0** 2.13	**59.0** 2.32	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	**3.9** 0.15	**2.3** 0.09	33.7	12.4	0.1010	**1.04** 2.30
29.900 1.1772	**26.195** 1.0313	**-9.1** -0.36	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**3.3** 0.13	**87.0** 3.43	**81.0** 3.19	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**1.06** 2.35
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.5** 0.06	**52.7** 2.07	**57.0** 2.24	**0.8** 0.03	**91.0** 3.58	**82.0** 3.23	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.05** 2.33
28.300 1.1142	**22.225** 0.8750	**0.5** 0.02	**1.5** 0.06	**54.0** 2.13	**59.0** 2.32	**0.8** 0.03	**92.0** 3.62	**82.0** 3.23	**3.9** 0.15	**2.3** 0.09	33.7	12.4	0.1010	**1.13** 2.48
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.42** 3.14
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**1.5** 0.06	**57.0** 2.24	**60.0** 2.36	**3.3** 0.13	**100.0** 3.94	**89.0** 3.50	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.66** 3.66
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**1.5** 0.06	**52.0** 2.05	**54.0** 2.13	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.39** 3.05

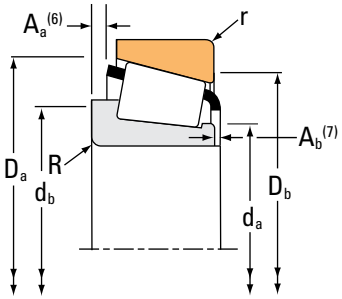
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
41.275 1.6250	**107.950** 4.2500	**27.783** 1.0938	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	464	453A
41.275 1.6250	**107.950** 4.2500	**36.512** 1.4375	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	541	532X
42.000 1.6535	**80.000** 3.1496	**18.009** 0.7090	**48100** 10800	0.49	1.23	**12500** 2800	**10400** 2340	1.20	**55100** 12400	11165X	11315
42.850 1.6870	**104.775** 4.1250	**30.162** 1.1875	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	461	453X
42.850 1.6870	**107.950** 4.2500	**27.795** 1.0943	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	461	453
42.850 1.6870	**110.000** 4.3307	**27.795** 1.0943	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	461	454
42.862 1.6875	**76.992** 3.0312	**17.462** 0.6875	**49500** 11100	0.51	1.19	**12800** 2890	**11100** 2500	1.15	**58100** 13100	12168	12303
42.862 1.6875	**82.550** 3.2500	**19.842** 0.7812	**77400** 17400	0.43	1.39	**20100** 4510	**14800** 3320	1.36	**73200** 16500	22168	22325
42.862 1.6875	**82.550** 3.2500	**26.195** 1.0313	**92900** 20900	0.40	1.49	**24100** 5420	**16600** 3730	1.45	**115000** 25800	22780	22720
42.862 1.6875	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25578	25520
42.862 1.6875	**82.931** 3.2650	**26.988** 1.0625	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25578	25523
42.862 1.6875	**83.058** 3.2700	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25576	25521
42.862 1.6875	**83.058** 3.2700	**23.876** 0.9400	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25578	25522
42.862 1.6875	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3579	3525
42.862 1.6875	**114.300** 4.5000	**44.450** 1.7500	**224000** 50300	0.43	1.39	**58000** 13000	**42700** 9600	1.36	**256000** 57500	65383	65320
42.875 1.6880	**76.200** 3.0000	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26884	26823
42.875 1.6880	**79.375** 3.1250	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26884	26822

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

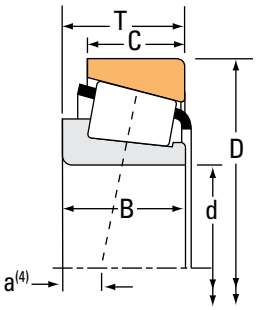
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**2.3** 0.09	**52.0** 2.05	**56.0** 2.20	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.38** 3.05
36.957 1.4550	**28.575** 1.1250	**-12.2** -0.48	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.72** 3.80
17.384 0.6844	**14.288** 0.5625	**-0.8** -0.03	**1.8** 0.07	**47.0** 1.85	**50.0** 1.97	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	* *	* *	19.2	16.0	0.0735	**0.38** 0.83
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**0.8** 0.03	**53.0** 2.09	**54.0** 2.13	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.31** 2.88
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**0.8** 0.03	**53.0** 2.09	**54.0** 2.13	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.42** 3.12
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**0.8** 0.03	**53.0** 2.09	**54.0** 2.13	**2.0** 0.08	**100.0** 3.94	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.49** 3.28
17.145 0.6750	**11.908** 0.4688	**0.0** 0.00	**1.5** 0.06	**48.5** 1.91	**51.0** 2.01	**1.5** 0.06	**73.0** 2.87	**68.0** 2.68	**1.4** 0.05	**2.2** 0.09	21.0	17.5	0.0766	**0.33** 0.71
19.837 0.7810	**15.080** 0.5937	**-2.5** -0.10	**2.3** 0.09	**48.5** 1.91	**52.0** 2.05	**1.5** 0.06	**76.0** 2.99	**73.0** 2.87	**1.1** 0.04	**1.8** 0.07	23.7	14.4	0.0758	**0.44** 0.98
26.988 1.0625	**20.638** 0.8125	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**56.0** 2.20	**3.3** 0.13	**77.0** 3.03	**71.0** 2.80	**1.8** 0.07	**1.1** 0.05	33.9	15.3	0.0841	**0.60** 1.32
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**2.3** 0.09	**49.5** 1.95	**53.0** 2.09	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.58** 1.28
25.400 1.0000	**22.225** 0.8750	**-6.4** -0.25	**2.3** 0.09	**49.5** 1.95	**53.0** 2.09	**2.3** 0.09	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.62** 1.37
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**3.3** 0.13	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.57** 1.26
25.400 1.0000	**19.114** 0.7525	**-6.4** -0.25	**2.3** 0.09	**49.5** 1.95	**53.0** 2.09	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.58** 1.29
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**49.5** 1.95	**56.0** 2.20	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.80** 1.74
44.450 1.7500	**34.925** 1.3750	**-12.4** -0.49	**2.0** 0.08	**60.0** 2.36	**63.0** 2.48	**3.3** 0.13	**107.0** 4.21	**97.0** 3.82	**3.6** 0.14	**1.1** 0.05	63.1	13.0	0.1053	**2.35** 5.19
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**1.5** 0.06	**73.0** 2.87	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.46** 1.01
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.50** 1.11

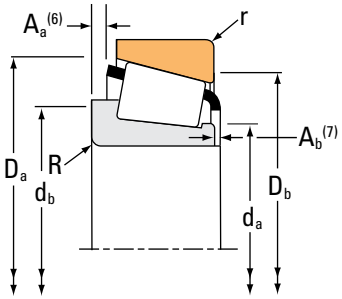
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
42.875 1.6880	**80.000** 3.1496	**21.000** 0.8268	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	342-S	332
42.875 1.6880	**80.000** 3.1496	**23.812** 0.9375	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26884	26824
42.875 1.6880	**80.000** 3.1496	**24.176** 0.9518	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	342-S	332A
42.875 1.6880	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26886	26830
42.875 1.6880	**80.167** 3.1562	**25.400** 1.0000	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26886	26820
42.875 1.6880	**81.973** 3.2273	**23.876** 0.9400	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25577	25518
42.875 1.6880	**82.550** 3.2500	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25577	25519
42.875 1.6880	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25577	25520
42.875 1.6880	**82.931** 3.2650	**26.988** 1.0625	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25577	25523
42.875 1.6880	**83.058** 3.2700	**23.876** 0.9400	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25577	25522
42.987 1.6924	**74.988** 2.9523	**19.368** 0.7625	**59500** 13400	0.44	1.35	**15400** 3470	**11700** 2640	1.31	**73500** 16500	16986	16929
42.987 1.6924	**79.375** 3.1250	**20.638** 0.8125	**68900** 15500	0.37	1.64	**17900** 4020	**11200** 2510	1.60	**83300** 18700	17886	17830
42.987 1.6924	**79.985** 3.1490	**19.842** 0.7812	**68900** 15500	0.37	1.64	**17900** 4020	**11200** 2510	1.60	**83300** 18700	17886	17831
44.450 1.7500	**71.438** 2.8125	**12.700** 0.5000	**36100** 8110	0.31	1.97	**9350** 2100	**4890** 1100	1.91	**43600** 9790	LL103049	LL103010
44.450 1.7500	**73.025** 2.8750	**18.258** 0.7188	**57000** 12800	0.32	1.88	**14800** 3320	**8060** 1810	1.83	**78300** 17600	L102849	L102810
44.450 1.7500	**76.992** 3.0312	**17.462** 0.6875	**49500** 11100	0.51	1.19	**12800** 2890	**11100** 2500	1.15	**58100** 13100	12175	12303
44.450 1.7500	**79.375** 3.1250	**17.462** 0.6875	**52000** 11700	0.37	1.60	**13500** 3030	**8630** 1940	1.56	**61300** 13800	18685	18620

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

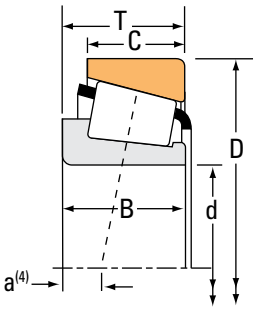
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**3.5** 0.14	**47.5** 1.87	**54.0** 2.13	**1.3** 0.05	**75.0** 2.95	**73.0** 2.87	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.43** 0.97
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**1.3** 0.05	**74.0** 2.91	**70.0** 2.76	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.52** 1.13
22.403 0.8820	**21.000** 0.8268	**-6.4** -0.25	**3.5** 0.14	**47.5** 1.87	**54.0** 2.13	**2.3** 0.09	**75.0** 2.95	**71.0** 2.80	**0.7** 0.02	**1.1** 0.05	26.5	13.0	0.0676	**0.47** 1.05
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**1.5** 0.06	**48.5** 1.91	**51.0** 2.01	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.54** 1.20
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**1.5** 0.06	**48.5** 1.91	**51.0** 2.01	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.4** 0.05	**1.3** 0.05	32.8	13.3	0.0770	**0.53** 1.18
25.400 1.0000	**19.114** 0.7525	**-6.4** -0.25	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**1.0** 0.04	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.56** 1.23
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.57** 1.25
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.58** 1.27
25.400 1.0000	**22.225** 0.8750	**-6.4** -0.25	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**2.3** 0.09	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.62** 1.37
25.400 1.0000	**19.114** 0.7525	**-6.4** -0.25	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.58** 1.28
19.837 0.7810	**14.288** 0.5625	**-2.0** -0.08	**1.5** 0.06	**48.5** 1.91	**51.0** 2.01	**1.3** 0.05	**71.0** 2.80	**68.0** 2.68	* *	* *	25.1	17.4	0.0783	**0.36** 0.79
20.638 0.8125	**15.875** 0.6250	**-3.8** -0.15	**1.5** 0.06	**49.0** 1.93	**51.0** 2.01	**2.0** 0.08	**75.0** 2.95	**71.0** 2.80	**1.1** 0.04	**1.3** 0.06	28.9	17.9	0.0770	**0.42** 0.94
20.638 0.8125	**15.080** 0.5937	**-3.8** -0.15	**1.5** 0.06	**49.0** 1.93	**51.0** 2.01	**1.3** 0.05	**75.0** 2.95	**72.0** 2.83	**1.1** 0.04	**1.3** 0.06	28.9	17.9	0.0770	**0.42** 0.94
12.700 0.5000	**9.525** 0.3750	**-1.3** -0.05	**1.5** 0.06	**48.5** 1.91	**51.0** 2.01	**1.5** 0.06	**68.0** 2.68	**65.0** 2.56	**0.0** 0.00	**1.6** 0.07	20.0	23.6	0.0637	**0.18** 0.39
18.258 0.7188	**15.083** 0.5938	**-3.8** -0.15	**1.5** 0.06	**49.0** 1.93	**51.0** 2.01	**1.5** 0.06	**69.0** 2.72	**66.0** 2.60	**0.0** 0.00	**1.8** 0.07	30.6	25.9	0.0751	**0.29** 0.65
17.145 0.6750	**11.908** 0.4688	**0.0** 0.00	**1.5** 0.06	**49.5** 1.95	**52.0** 2.05	**1.5** 0.06	**73.0** 2.87	**68.0** 2.68	**1.4** 0.05	**2.2** 0.09	21.0	17.5	0.0766	**0.31** 0.68
17.462 0.6875	**13.495** 0.5313	**-2.0** -0.08	**2.8** 0.11	**49.5** 1.95	**54.0** 2.13	**1.5** 0.06	**74.0** 2.91	**71.0** 2.80	**0.7** 0.02	**1.6** 0.07	23.9	18.7	0.0725	**0.34** 0.76

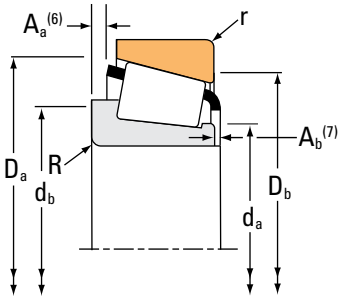
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
44.450 1.7500	**80.962** 3.1875	**19.050** 0.7500	**50800** 11400	0.53	1.14	**13200** 2960	**11900** 2680	1.11	**61100** 13700	13175	13318
44.450 1.7500	**82.550** 3.2500	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25519
44.450 1.7500	**82.550** 3.2500	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25582	25519
44.450 1.7500	**82.550** 3.2500	**34.290** 1.3500	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25583	25519
44.450 1.7500	**82.931** 3.2650	**22.225** 0.8750	**82800** 18600	0.30	2.02	**21500** 4820	**10900** 2460	1.96	**89200** 20100	35175	35326
44.450 1.7500	**82.931** 3.2650	**22.225** 0.8750	**98100** 22100	0.30	2.02	**25400** 5720	**13000** 2910	1.96	**89200** 20100	35176	35326
44.450 1.7500	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25520
44.450 1.7500	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25581	25520
44.450 1.7500	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25524
44.450 1.7500	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25582	25520
44.450 1.7500	**82.931** 3.2650	**26.988** 1.0625	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25523
44.450 1.7500	**82.931** 3.2650	**34.290** 1.3500	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25583	25524
44.450 1.7500	**82.931** 3.2650	**34.290** 1.3500	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25583	25520
44.450 1.7500	**83.058** 3.2700	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25521
44.450 1.7500	**83.058** 3.2700	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25581	25521
44.450 1.7500	**83.058** 3.2700	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25582	25521
44.450 1.7500	**83.058** 3.2700	**23.876** 0.9400	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25522

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

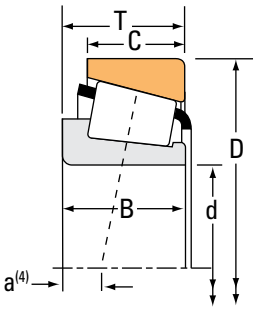
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
17.462 0.6875	**14.288** 0.5625	**0.8** 0.03	**0.1** 0.01	**50.0** 1.97	**50.0** 1.97	**1.5** 0.06	**76.0** 2.99	**72.0** 2.83	**1.6** 0.06	**2.0** 0.08	23.0	19.2	0.0799	**0.39** 0.86
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**0.9** 0.03	**0.8** 0.03	35.2	14.3	0.0801	**0.55** 1.20
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**5.0** 0.20	**50.0** 1.97	**60.0** 2.36	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.54** 1.18
35.878 1.4125	**19.050** 0.7500	**-16.8** -0.66	**0.0** 0.00	**50.0** 1.97	**65.0** 2.56	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**11.4** 0.45	**0.7** 0.03	35.2	14.3	0.0801	**0.67** 1.46
23.012 0.9060	**17.462** 0.6875	**-6.1** -0.24	**3.5** 0.14	**49.5** 1.95	**56.0** 2.20	**0.8** 0.03	**78.0** 3.07	**76.0** 2.99	**1.1** 0.04	**1.2** 0.05	29.1	12.0	0.0718	**0.49** 1.07
23.012 0.9060	**17.462** 0.6875	**-6.1** -0.24	**0.8** 0.03	**49.5** 1.95	**50.0** 1.97	**0.8** 0.03	**78.0** 3.07	**76.0** 2.99	**1.1** 0.04	**1.2** 0.05	29.1	12.0	0.0718	**0.50** 1.09
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**0.9** 0.03	**0.8** 0.03	35.2	14.3	0.0801	**0.56** 1.22
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**0.5** 0.02	**50.0** 1.97	**51.0** 2.01	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.56** 1.24
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**2.3** 0.09	**77.0** 3.03	**73.0** 2.87	**0.9** 0.03	**0.8** 0.03	35.2	14.3	0.0801	**0.56** 1.21
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**5.0** 0.20	**50.0** 1.97	**60.0** 2.36	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.55** 1.21
25.400 1.0000	**22.225** 0.8750	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**2.3** 0.09	**77.0** 3.03	**72.0** 2.83	**0.9** 0.03	**0.8** 0.03	35.2	14.3	0.0801	**0.60** 1.32
35.878 1.4125	**19.050** 0.7500	**-16.8** -0.66	**0.0** 0.00	**50.0** 1.97	**65.0** 2.56	**2.3** 0.09	**77.0** 3.03	**73.0** 2.87	**11.4** 0.45	**0.7** 0.03	35.2	14.3	0.0801	**0.68** 1.48
35.878 1.4125	**19.050** 0.7500	**-16.8** -0.66	**0.0** 0.00	**50.0** 1.97	**65.0** 2.56	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**11.4** 0.45	**0.7** 0.03	35.2	14.3	0.0801	**0.68** 1.49
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**3.3** 0.13	**77.0** 3.03	**72.0** 2.83	**0.9** 0.03	**0.8** 0.03	35.2	14.3	0.0801	**0.55** 1.21
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**0.5** 0.02	**50.0** 1.97	**51.0** 2.01	**3.3** 0.13	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.55** 1.22
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**5.0** 0.20	**50.0** 1.97	**60.0** 2.36	**3.3** 0.13	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.54** 1.19
25.400 1.0000	**19.114** 0.7525	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**0.9** 0.03	**0.8** 0.03	35.2	14.3	0.0801	**0.56** 1.23

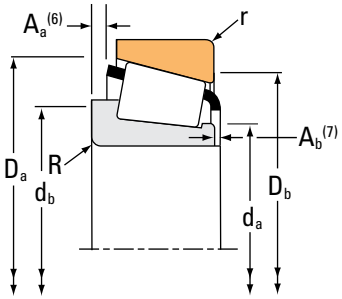
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
44.450 1.7500	**84.138** 3.3125	**26.988** 1.0625	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355	3520
44.450 1.7500	**84.138** 3.3125	**30.163** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3578	3520
44.450 1.7500	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355	354A
44.450 1.7500	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355X	354A
44.450 1.7500	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355A	354A
44.450 1.7500	**85.000** 3.3465	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25526
44.450 1.7500	**85.000** 3.3465	**25.400** 1.0000	**93300** 21000	0.35	1.73	**24200** 5440	**14300** 3220	1.69	**117000** 26200	2975	2924
44.450 1.7500	**87.312** 3.4375	**26.988** 1.0625	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355	3525
44.450 1.7500	**87.312** 3.4375	**26.988** 1.0625	**93300** 21000	0.35	1.73	**24200** 5440	**14300** 3220	1.69	**117000** 26200	2975	2925
44.450 1.7500	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3578	3525
44.450 1.7500	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3578	3526
44.450 1.7500	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3578A	3525
44.450 1.7500	**88.900** 3.5000	**30.162** 1.1875	**114000** 25600	0.55	1.10	**29500** 6630	**27600** 6200	1.07	**144000** 32400	HM803149	HM803110
44.450 1.7500	**88.900** 3.5000	**30.162** 1.1875	**114000** 25600	0.55	1.10	**29500** 6630	**27600** 6200	1.07	**144000** 32400	HM803149	HM803111
44.450 1.7500	**90.119** 3.5480	**23.000** 0.9055	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355X	352
44.450 1.7500	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3782	3720
44.450 1.7500	**93.662** 3.6875	**31.750** 1.2500	**136000** 30500	0.36	1.67	**35200** 7900	**21700** 4870	1.62	**156000** 35000	49175	49368

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

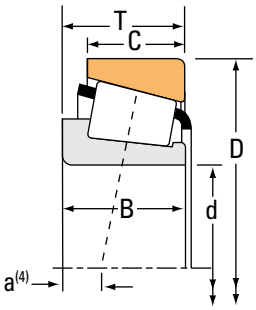
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.692 0.8540	**23.812** 0.9375	**-4.8** -0.19	**2.3** 0.09	**50.0** 1.97	**54.0** 2.13	**3.3** 0.13	**79.5** 3.13	**74.0** 2.91	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.57** 1.25
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**3.3** 0.13	**79.5** 3.13	**74.0** 2.91	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.69** 1.51
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**2.3** 0.09	**50.0** 1.97	**54.0** 2.13	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.51** 1.12
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**3.5** 0.14	**50.0** 1.97	**56.0** 2.20	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.50** 1.11
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**0.8** 0.03	**50.0** 1.97	**51.0** 2.01	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.51** 1.13
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**2.3** 0.09	**78.0** 3.07	**74.0** 2.91	**0.9** 0.03	**0.8** 0.03	35.2	14.3	0.0801	**0.60** 1.30
25.608 1.0082	**20.638** 0.8125	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**1.3** 0.05	**80.0** 3.15	**76.0** 2.99	**1.7** 0.07	**1.1** 0.05	38.2	15.7	0.0832	**0.63** 1.39
21.692 0.8540	**23.812** 0.9375	**-4.8** -0.19	**2.3** 0.09	**50.0** 1.97	**54.0** 2.13	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.65** 1.42
25.608 1.0082	**22.225** 0.8750	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**2.3** 0.09	**81.0** 3.19	**75.0** 2.95	**1.7** 0.07	**1.1** 0.05	38.2	15.7	0.0832	**0.70** 1.55
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.77** 1.68
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**0.8** 0.03	**81.0** 3.19	**77.0** 3.03	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.78** 1.71
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**5.5** 0.22	**51.0** 2.01	**61.0** 2.40	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.76** 1.66
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**3.5** 0.14	**53.4** 2.10	**62.0** 2.44	**3.3** 0.13	**85.0** 3.35	**74.0** 2.91	**1.5** 0.05	**2.2** 0.09	39.2	10.6	0.0974	**0.84** 1.85
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**3.5** 0.14	**53.4** 2.10	**62.0** 2.44	**0.8** 0.03	**85.0** 3.35	**76.0** 2.99	**1.5** 0.05	**2.2** 0.09	39.2	10.6	0.0974	**0.85** 1.88
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**3.5** 0.14	**50.0** 1.97	**56.0** 2.20	**2.3** 0.09	**82.0** 3.23	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.66** 1.46
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.97** 2.12
31.750 1.2500	**25.400** 1.0000	**-9.1** -0.36	**3.5** 0.14	**53.0** 2.09	**59.0** 2.32	**3.3** 0.13	**87.0** 3.43	**82.0** 3.23	**2.9** 0.11	**0.8** 0.04	42.4	13.6	0.0872	**0.98** 2.15

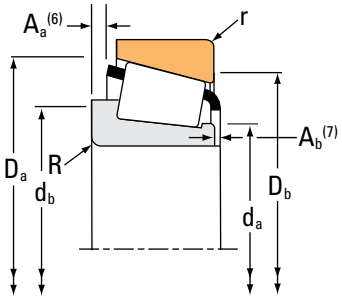
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
44.450 1.7500	**93.662** 3.6875	**31.750** 1.2500	**136000** 30500	0.36	1.67	**35200** 7900	**21700** 4870	1.62	**156000** 35000	49176	49368
44.450 1.7500	**93.662** 3.6875	**31.750** 1.2500	**129000** 29100	0.40	1.49	**33500** 7540	**23100** 5190	1.45	**158000** 35500	46175	46368
44.450 1.7500	**93.662** 3.6875	**31.750** 1.2500	**129000** 29100	0.40	1.49	**33500** 7540	**23100** 5190	1.45	**158000** 35500	46176	46368
44.450 1.7500	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	438	432
44.450 1.7500	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	435	432
44.450 1.7500	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33885	33821
44.450 1.7500	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	438	432A
44.450 1.7500	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33885	33822
44.450 1.7500	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804843	HM804810
44.450 1.7500	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804842	HM804811
44.450 1.7500	**95.250** 3.7500	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3782	3726
44.450 1.7500	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804842	HM804810
44.450 1.7500	**95.250** 3.7500	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53176	53375
44.450 1.7500	**95.250** 3.7500	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53178	53375
44.450 1.7500	**95.250** 3.7500	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53177	53375
44.450 1.7500	**95.250** 3.7500	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903249	HM903210
44.450 1.7500	**95.250** 3.7500	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53176	53377

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

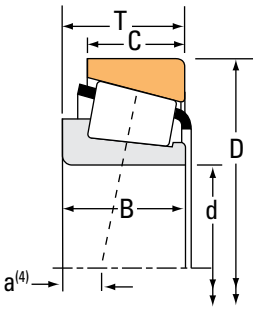
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
31.750 1.2500	**25.400** 1.0000	**-9.1** -0.36	**0.8** 0.03	**53.0** 2.09	**54.0** 2.13	**3.3** 0.13	**87.0** 3.43	**82.0** 3.23	**2.9** 0.11	**0.8** 0.04	42.4	13.6	0.0872	**0.99** 2.16
31.750 1.2500	**26.195** 1.0313	**-7.9** -0.31	**0.8** 0.03	**54.0** 2.13	**55.0** 2.17	**3.3** 0.13	**87.0** 3.43	**79.0** 3.11	**2.1** 0.08	**1.1** 0.05	44.4	13.6	0.0920	**1.03** 2.25
31.750 1.2500	**26.195** 1.0313	**-7.9** -0.31	**3.5** 0.14	**54.0** 2.13	**60.0** 2.36	**3.3** 0.13	**87.0** 3.43	**79.0** 3.11	**2.1** 0.08	**1.1** 0.05	44.4	13.6	0.0920	**1.02** 2.24
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**0.93** 2.06
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**0.8** 0.03	**51.0** 2.01	**52.0** 2.05	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**0.94** 2.07
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**0.8** 0.03	**53.0** 2.09	**53.0** 2.09	**2.3** 0.09	**90.0** 3.54	**85.0** 3.35	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.96** 2.12
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**0.8** 0.03	**87.0** 3.43	**84.0** 3.31	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**0.93** 2.07
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**0.8** 0.03	**53.0** 2.09	**53.0** 2.09	**0.8** 0.03	**90.0** 3.54	**86.0** 3.39	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.97** 2.13
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**1.02** 2.25
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**0.8** 0.03	**57.0** 2.24	**57.0** 2.24	**0.8** 0.03	**91.0** 3.58	**83.0** 3.27	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**1.04** 2.28
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**3.3** 0.13	**88.9** 3.50	**83.1** 3.27	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**1.02** 2.23
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**0.8** 0.03	**57.0** 2.24	**57.0** 2.24	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**1.03** 2.27
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.3** 0.05	**52.7** 2.07	**59.0** 2.32	**0.8** 0.03	**89.0** 3.50	**81.0** 3.19	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**0.92** 2.05
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**2.0** 0.08	**52.7** 2.07	**60.0** 2.36	**0.8** 0.03	**89.0** 3.50	**81.0** 3.19	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**0.92** 2.05
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**3.5** 0.14	**52.7** 2.07	**63.0** 2.48	**0.8** 0.03	**89.0** 3.50	**81.0** 3.19	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**0.92** 2.04
28.575 1.1250	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**65.0** 2.56	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	**3.9** 0.15	**2.1** 0.08	33.7	12.4	0.1010	**0.99** 2.19
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.3** 0.05	**52.7** 2.07	**59.0** 2.32	**2.3** 0.09	**89.0** 3.50	**80.0** 3.15	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**0.92** 2.04

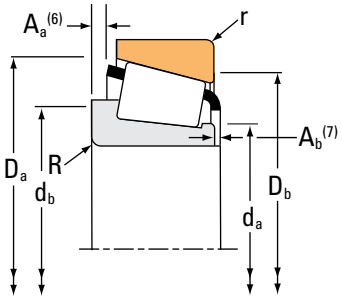
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
44.450 1.7500	**95.250** 3.7500	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903247	HM903210
44.450 1.7500	**95.250** 3.7500	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903249A	HM903210
44.450 1.7500	**96.838** 3.8125	**21.000** 0.8268	**98600** 22200	0.35	1.69	**25500** 5740	**15500** 3480	1.65	**107000** 24100	386AS	382A
44.450 1.7500	**98.425** 3.8750	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3782	3732
44.450 1.7500	**98.425** 3.8750	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53176	53387
44.450 1.7500	**98.425** 3.8750	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53177	53387
44.450 1.7500	**98.425** 3.8750	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53177	53387X
44.450 1.7500	**98.425** 3.8750	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903247	HM903216
44.450 1.7500	**98.425** 3.8750	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903249A	HM903216
44.450 1.7500	**98.425** 3.8750	**30.958** 1.2188	**136000** 30700	0.74	0.81	**35400** 7950	**44800** 10100	0.79	**132000** 29700	HM903249	HM903216
44.450 1.7500	**98.425** 3.8750	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53176	53387X
44.450 1.7500	**101.600** 4.0000	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53177	53398
44.450 1.7500	**101.600** 4.0000	**30.958** 1.2188	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53176	53398
44.450 1.7500	**101.600** 4.0000	**31.750** 1.2500	**133000** 29800	0.40	1.50	**34400** 7740	**23600** 5310	1.46	**155000** 35000	49577	49520
44.450 1.7500	**101.600** 4.0000	**31.750** 1.2500	**157000** 35400	0.40	1.50	**40800** 9170	**28000** 6290	1.46	**155000** 35000	49576	49520
44.450 1.7500	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	527	522
44.450 1.7500	**103.188** 4.0625	**43.658** 1.7188	**212000** 47700	0.30	2.02	**55000** 12400	**27900** 6280	1.97	**267000** 60100	5356	5335

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

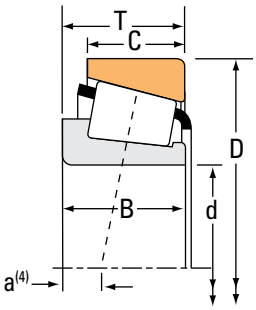
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
28.300 1.1142	**22.225** 0.8750	**0.5** 0.02	**1.3** 0.05	**54.0** 2.13	**61.0** 2.40	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	**3.9** 0.15	**2.3** 0.09	33.7	12.4	0.1010	**0.99** 2.20
28.300 1.1142	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**65.0** 2.56	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	**3.9** 0.15	**2.3** 0.09	33.7	12.4	0.1010	**0.99** 2.19
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**3.5** 0.14	**53.0** 2.09	**59.0** 2.32	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.76** 1.68
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**3.3** 0.13	**89.9** 3.54	**84.1** 3.31	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**1.11** 2.42
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.3** 0.05	**52.7** 2.07	**59.0** 2.32	**0.8** 0.03	**91.0** 3.58	**82.0** 3.23	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.00** 2.22
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**3.5** 0.14	**52.7** 2.07	**63.0** 2.48	**0.8** 0.03	**91.0** 3.58	**82.0** 3.23	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.00** 2.21
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**3.5** 0.14	**52.7** 2.07	**63.0** 2.48	**1.5** 0.06	**91.0** 3.58	**82.0** 3.23	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.00** 2.20
28.300 1.1142	**22.225** 0.8750	**0.5** 0.02	**1.3** 0.05	**54.0** 2.13	**61.0** 2.40	**0.8** 0.03	**92.0** 3.62	**82.0** 3.23	**3.9** 0.15	**2.3** 0.09	33.7	12.4	0.1010	**1.08** 2.38
28.300 1.1142	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**65.0** 2.56	**0.8** 0.03	**92.0** 3.62	**82.0** 3.23	**3.9** 0.15	**2.3** 0.09	33.7	12.4	0.1010	**1.08** 2.37
28.575 1.1250	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**65.0** 2.56	**0.8** 0.03	**92.0** 3.62	**82.0** 3.23	**3.9** 0.15	**2.1** 0.08	33.7	12.4	0.1010	**1.08** 2.38
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.3** 0.05	**52.7** 2.07	**59.0** 2.32	**1.5** 0.06	**91.0** 3.58	**82.0** 3.23	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.00** 2.22
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**3.5** 0.14	**52.7** 2.07	**63.0** 2.48	**0.8** 0.03	**92.0** 3.62	**84.0** 3.31	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.08** 2.39
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.3** 0.05	**52.7** 2.07	**59.0** 2.32	**0.8** 0.03	**92.0** 3.62	**84.0** 3.31	**5.7** 0.22	**2.2** 0.09	26.7	9.6	0.0930	**1.08** 2.40
31.750 1.2500	**25.400** 1.0000	**-7.1** -0.28	**3.5** 0.14	**54.0** 2.13	**60.0** 2.36	**3.3** 0.13	**96.0** 3.78	**88.0** 3.46	**2.3** 0.09	**1.4** 0.06	49.1	16.8	0.0946	**1.24** 2.73
31.750 1.2500	**25.400** 1.0000	**-7.1** -0.28	**0.8** 0.03	**54.0** 2.13	**55.0** 2.17	**3.3** 0.13	**96.0** 3.78	**88.0** 3.46	**2.3** 0.09	**1.4** 0.06	49.1	16.8	0.0946	**1.25** 2.74
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**53.0** 2.09	**59.0** 2.32	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.37** 3.01
44.475 1.7510	**36.512** 1.4375	**-16.0** -0.63	**1.3** 0.05	**56.0** 2.20	**58.0** 2.28	**3.3** 0.13	**97.0** 3.82	**89.0** 3.50	**2.5** 0.10	**1.0** 0.04	73.4	15.5	0.0985	**1.85** 4.07

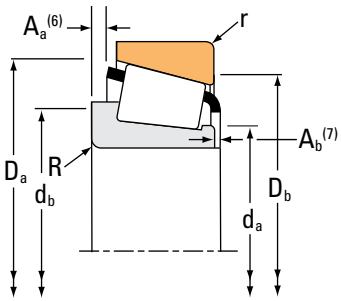
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
44.450 1.7500	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45280	45220
44.450 1.7500	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	460	453X
44.450 1.7500	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59175	59412
44.450 1.7500	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59176	59413
44.450 1.7500	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59175	59413
44.450 1.7500	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807040	HM807010
44.450 1.7500	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59176	59412
44.450 1.7500	**105.000** 4.1339	**36.873** 1.4517	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807040	JHM807012
44.450 1.7500	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	460	453A
44.450 1.7500	**107.950** 4.2500	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59176	59425
44.450 1.7500	**111.125** 4.3750	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55175	55437
44.450 1.7500	**111.125** 4.3750	**30.162** 1.1875	**123000** 27700	0.88	0.68	**31900** 7170	**48200** 10800	0.66	**153000** 34400	HM907635	HM907614
44.450 1.7500	**111.125** 4.3750	**30.162** 1.1875	**151000** 34000	0.88	0.68	**39200** 8810	**59300** 13300	0.66	**161000** 36200	55176C	55437
44.450 1.7500	**111.125** 4.3750	**30.162** 1.1875	**151000** 34000	0.88	0.68	**39200** 8810	**59300** 13300	0.66	**161000** 36200	55175C	55437
44.450 1.7500	**111.125** 4.3750	**38.100** 1.5000	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	535	532A
44.450 1.7500	**112.712** 4.4375	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55175	55443
44.450 1.7500	**112.712** 4.4375	**30.162** 1.1875	**123000** 27700	0.88	0.68	**31900** 7170	**48200** 10800	0.66	**153000** 34400	HM907635	HM907616

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

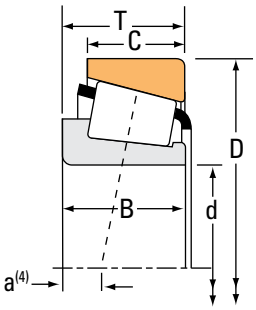
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**54.0** 2.13	**55.0** 2.17	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.34** 2.93
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**3.5** 0.14	**54.0** 2.13	**60.0** 2.36	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.28** 2.81
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**3.3** 0.13	**99.0** 3.90	**92.0** 3.62	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.54** 3.39
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**0.8** 0.03	**56.0** 2.20	**57.0** 2.24	**0.8** 0.03	**102.0** 4.02	**87.0** 3.43	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.56** 3.44
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**0.8** 0.03	**102.0** 4.02	**87.0** 3.43	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.55** 3.42
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**3.5** 0.14	**59.0** 2.32	**66.0** 2.60	**3.3** 0.13	**100.0** 3.94	**89.0** 3.50	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.60** 3.52
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**0.8** 0.03	**56.0** 2.20	**57.0** 2.24	**3.3** 0.13	**99.0** 3.90	**92.0** 3.62	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.55** 3.41
36.512 1.4375	**29.000** 1.1417	**-7.4** -0.29	**3.5** 0.14	**59.0** 2.32	**66.0** 2.60	**2.5** 0.10	**100.0** 3.94	**90.0** 3.54	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.62** 3.55
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**3.5** 0.14	**54.0** 2.13	**60.0** 2.36	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.33** 2.93
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**0.8** 0.03	**56.0** 2.20	**57.0** 2.24	**3.3** 0.13	**101.0** 3.98	**93.0** 3.66	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.66** 3.67
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.36** 3.02
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**0.8** 0.03	**65.3** 2.56	**64.0** 2.52	**3.3** 0.13	**105.0** 4.13	**91.0** 3.58	**4.6** 0.18	**2.1** 0.08	46.9	17.5	0.1182	**1.46** 3.21
26.909 1.0594	**20.638** 0.8125	**7.6** 0.30	**0.8** 0.03	**65.0** 2.56	**71.0** 2.80	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**5.0** 0.19	**3.7** 0.15	48.7	18.1	0.1198	**1.46** 3.20
26.909 1.0594	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**64.0** 2.52	**70.0** 2.76	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**5.0** 0.19	**3.7** 0.15	48.7	18.1	0.1198	**1.46** 3.20
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**3.5** 0.14	**54.0** 2.13	**60.0** 2.36	**3.3** 0.13	**100.0** 3.94	**95.0** 3.74	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.84** 4.04
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**3.3** 0.13	**106.0** 4.17	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.39** 3.09
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**0.8** 0.03	**65.3** 2.56	**64.0** 2.52	**3.3** 0.13	**106.0** 4.17	**91.0** 3.58	**4.6** 0.18	**2.1** 0.08	46.9	17.5	0.1182	**1.52** 3.35

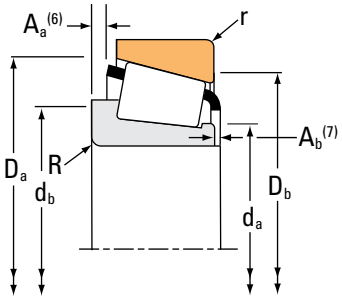
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
44.450 1.7500	**112.712** 4.4375	**30.162** 1.1875	**151000** 34000	0.88	0.68	**39200** 8810	**59300** 13300	0.66	**161000** 36200	55176C	55443
44.450 1.7500	**114.300** 4.5000	**44.450** 1.7500	**224000** 50300	0.43	1.39	**58000** 13000	**42700** 9600	1.36	**256000** 57500	65385	65320
44.450 1.7500	**114.300** 4.5000	**44.450** 1.7500	**224000** 50300	0.43	1.39	**58000** 13000	**42700** 9600	1.36	**256000** 57500	65384	65320
44.450 1.7500	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	615	612
44.450 1.7500	**127.000** 5.0000	**50.800** 2.0000	**306000** 68800	0.30	2.01	**79300** 17800	**40500** 9110	1.96	**370000** 83300	6277	6220
44.983 1.7710	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25584	25520
44.983 1.7710	**82.931** 3.2650	**26.988** 1.0625	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25584	25523
44.983 1.7710	**83.058** 3.2700	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25584	25521
44.983 1.7710	**84.988** 3.3460	**18.999** 0.7480	**62400** 14000	0.44	1.35	**16200** 3640	**12300** 2770	1.31	**69200** 15600	29177	29334
44.983 1.7710	**85.000** 3.3465	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25584	25526
44.983 1.7710	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3776	3720
44.987 1.7712	**81.973** 3.2273	**23.876** 0.9400	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25584A	25518
44.987 1.7712	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25584A	25520
44.987 1.7712	**90.000** 3.5433	**25.000** 0.9843	**85900** 19300	0.32	1.88	**22300** 5010	**12200** 2740	1.83	**95800** 21500	367X	362X
44.987 1.7712	**95.250** 3.7500	**30.958** 1.2188	**115000** 25900	0.74	0.81	**29800** 6710	**37800** 8490	0.79	**132000** 29700	HM903248	HM903210
45.000 1.7717	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	358	354A
45.000 1.7717	**85.000** 3.3465	**20.638** 0.8125	**81800** 18400	0.31	1.96	**21200** 4770	**11100** 2500	1.91	**88800** 20000	358A	354A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

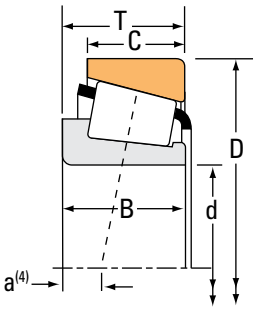
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
26.909 1.0594	**20.638** 0.8125	**7.6** 0.30	**0.8** 0.03	**65.0** 2.56	**71.0** 2.80	**3.3** 0.13	**106.0** 4.17	**92.0** 3.62	**5.0** 0.19	**3.7** 0.15	48.7	18.1	0.1198	**1.49** 3.28
44.450 1.7500	**34.925** 1.3750	**-12.4** -0.49	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**3.3** 0.13	**107.0** 4.21	**97.0** 3.82	**3.6** 0.14	**1.1** 0.05	63.1	13.0	0.1053	**2.31** 5.09
44.450 1.7500	**34.925** 1.3750	**-12.4** -0.49	**2.0** 0.08	**60.0** 2.36	**64.0** 2.52	**3.3** 0.13	**107.0** 4.21	**97.0** 3.82	**3.6** 0.14	**1.1** 0.05	63.1	13.0	0.1053	**2.32** 5.10
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.42** 5.34
52.388 2.0625	**41.275** 1.6250	**-19.6** -0.77	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**3.3** 0.13	**117.0** 4.61	**108.0** 4.25	**2.3** 0.09	**2.6** 0.11	103.1	18.7	0.0757	**3.57** 7.85
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**1.5** 0.06	**51.0** 2.01	**53.0** 2.09	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.56** 1.22
25.400 1.0000	**22.225** 0.8750	**-6.4** -0.25	**1.5** 0.06	**51.0** 2.01	**53.0** 2.09	**2.3** 0.09	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.60** 1.31
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**1.5** 0.06	**51.0** 2.01	**53.0** 2.09	**3.3** 0.13	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.55** 1.20
19.164 0.7545	**15.875** 0.6250	**-1.3** -0.05	**2.0** 0.08	**50.0** 1.97	**54.0** 2.13	**1.5** 0.06	**78.0** 3.07	**74.0** 2.91	* *	* *	23.8	15.3	0.0766	**0.46** 1.01
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**1.5** 0.06	**51.0** 2.01	**53.0** 2.09	**2.3** 0.09	**78.0** 3.07	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.60** 1.30
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**53.0** 2.09	**59.0** 2.32	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.96** 2.10
25.400 1.0000	**19.114** 0.7525	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**1.0** 0.04	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.53** 1.17
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.55** 1.21
22.225 0.8750	**20.000** 0.7874	**-4.3** -0.17	**1.5** 0.06	**51.0** 2.01	**54.0** 2.13	**2.0** 0.08	**84.0** 3.31	**80.0** 3.15	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.67** 1.47
28.575 1.1250	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**66.0** 2.60	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	* *	* *	33.7	12.4	0.1010	**0.98** 2.18
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**1.5** 0.06	**50.0** 1.97	**53.0** 2.09	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.50** 1.11
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.50** 1.10

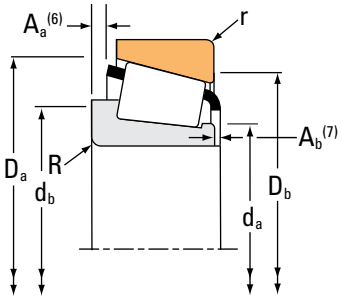
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
45.000 1.7717	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	358	354X
45.000 1.7717	**85.000** 3.3465	**20.638** 0.8125	**81800** 18400	0.31	1.96	**21200** 4770	**11100** 2500	1.91	**88800** 20000	358X	354X
45.000 1.7717	**87.312** 3.4375	**26.988** 1.0625	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	358	3525
45.000 1.7717	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	367	362A
45.000 1.7717	**89.980** 3.5425	**24.750** 0.9744	**117000** 26400	0.38	1.59	**30400** 6830	**19600** 4410	1.55	**130000** 29200	J28577	28520
45.000 1.7717	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	367	362
45.000 1.7717	**90.000** 3.5433	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	435-S	430X
45.000 1.7717	**90.119** 3.5480	**23.000** 0.9055	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	358	352
45.000 1.7717	**93.264** 3.6718	**20.638** 0.8125	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	376	374
45.000 1.7717	**95.000** 3.7402	**29.000** 1.1417	**99900** 22500	0.87	0.69	**25900** 5820	**38400** 8630	0.67	**114000** 25600	JW4549	JW4510
45.000 1.7717	**96.838** 3.8125	**22.225** 0.8750	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	376	372A
45.000 1.7717	**100.000** 3.9370	**24.999** 0.9842	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	376	372
45.000 1.7717	**104.775** 4.1250	**39.688** 1.5625	**180000** 40500	0.34	1.79	**46800** 10500	**26800** 6030	1.74	**237000** 53200	4559	4535
45.000 1.7717	**107.950** 4.2500	**27.783** 1.0938	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	458-S	453A
45.230 1.7807	**79.985** 3.1490	**19.842** 0.7812	**68900** 15500	0.37	1.64	**17900** 4020	**11200** 2510	1.60	**83300** 18700	17887	17831
45.237 1.7810	**84.138** 3.3125	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3586	3520
45.237 1.7810	**87.312** 3.4375	**30.162** 1.1875	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3586	3525

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

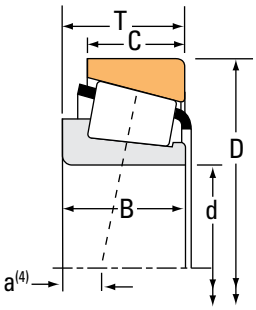
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**1.5** 0.06	**50.0** 1.97	**53.0** 2.09	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.50** 1.12
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**2.0** 0.08	**50.0** 1.97	**54.0** 2.13	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.50** 1.11
21.692 0.8540	**23.812** 0.9375	**-4.8** -0.19	**1.5** 0.06	**50.0** 1.97	**53.0** 2.09	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.64** 1.41
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**2.0** 0.08	**51.0** 2.01	**55.0** 2.17	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.59** 1.29
25.400 1.0000	**19.987** 0.7869	**-4.8** -0.19	**0.8** 0.03	**57.0** 2.24	**55.0** 2.17	**2.3** 0.09	**86.0** 3.39	**81.0** 3.19	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.75** 1.64
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**2.0** 0.08	**51.0** 2.01	**55.0** 2.17	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.59** 1.31
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**2.0** 0.08	**51.0** 2.01	**55.0** 2.17	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**0.80** 1.76
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**1.5** 0.06	**50.0** 1.97	**53.0** 2.09	**2.3** 0.09	**82.0** 3.23	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.66** 1.46
22.225 0.8750	**15.083** 0.5938	**-3.8** -0.15	**0.8** 0.03	**52.0** 2.05	**53.0** 2.09	**1.3** 0.05	**88.0** 3.46	**85.0** 3.35	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.67** 1.48
26.500 1.0433	**20.000** 0.7874	**4.0** 0.16	**2.5** 0.10	**54.0** 2.13	**64.0** 2.52	**2.5** 0.10	**90.0** 3.56	**78.0** 3.07	**4.6** 0.18	**3.1** 0.12	30.7	12.9	0.1021	**0.90** 2.00
22.225 0.8750	**19.050** 0.7500	**-3.8** -0.15	**0.8** 0.03	**52.0** 2.05	**53.0** 2.09	**1.5** 0.06	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.79** 1.75
22.225 0.8750	**21.824** 0.8592	**-3.8** -0.15	**0.8** 0.03	**52.0** 2.05	**53.0** 2.09	**2.0** 0.08	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.93** 2.05
40.157 1.5810	**33.338** 1.3125	**-12.4** -0.49	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**3.3** 0.13	**99.0** 3.90	**90.0** 3.54	**1.6** 0.06	**1.3** 0.05	73.6	20.2	0.1027	**1.76** 3.88
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**2.3** 0.09	**55.0** 2.17	**58.0** 2.28	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.33** 2.92
20.638 0.8125	**15.080** 0.5937	**-3.8** -0.15	**2.0** 0.08	**50.0** 1.97	**54.0** 2.13	**1.3** 0.05	**75.0** 2.95	**72.0** 2.83	**1.1** 0.04	**1.3** 0.06	28.9	17.9	0.0770	**0.39** 0.88
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**3.3** 0.13	**79.5** 3.13	**74.0** 2.91	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.68** 1.48
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**2.2** 0.09	**0.7** 0.03	39.5	12.5	0.0808	**0.76** 1.65

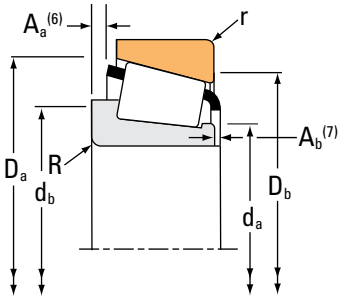
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
45.242 1.7812	**73.431** 2.8910	**19.558** 0.7700	**72900** 16400	0.31	1.97	**18900** 4250	**9870** 2220	1.91	**81800** 18400	LM102949	LM102910
45.242 1.7812	**73.431** 2.8910	**21.430** 0.8437	**72900** 16400	0.31	1.97	**18900** 4250	**9870** 2220	1.91	**81800** 18400	LM102949	LM102911
45.242 1.7812	**77.788** 3.0625	**19.842** 0.7812	**76300** 17200	0.43	1.41	**19800** 4450	**14500** 3250	1.37	**77900** 17500	LM603049	LM603011
45.242 1.7812	**77.788** 3.0625	**19.842** 0.7812	**76300** 17200	0.43	1.41	**19800** 4450	**14500** 3250	1.37	**77900** 17500	LM603049AS	LM603011
45.242 1.7812	**77.788** 3.0625	**21.430** 0.8437	**76300** 17200	0.43	1.41	**19800** 4450	**14500** 3250	1.37	**77900** 17500	LM603049	LM603012
45.242 1.7812	**79.975** 3.1486	**19.842** 0.7812	**76300** 17200	0.43	1.41	**19800** 4450	**14500** 3250	1.37	**77900** 17500	LM603049	LM603014
45.242 1.7812	**79.975** 3.1486	**21.430** 0.8437	**76300** 17200	0.43	1.41	**19800** 4450	**14500** 3250	1.37	**77900** 17500	LM603049	LM603015
45.618 1.7960	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25590	25520
45.618 1.7960	**82.931** 3.2650	**26.988** 1.0625	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25590	25523
45.618 1.7960	**83.058** 3.2700	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25590	25521
45.618 1.7960	**83.058** 3.2700	**23.876** 0.9400	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25590	25522
45.618 1.7960	**85.000** 3.3465	**26.988** 1.0625	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25590	25527
45.618 1.7960	**92.075** 3.6250	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25590	25528
45.987 1.8105	**74.975** 2.9518	**18.000** 0.7087	**67400** 15100	0.40	1.49	**17500** 3930	**12000** 2700	1.45	**75400** 17000	LM503349	LM503310
45.987 1.8105	**74.975** 2.9518	**18.000** 0.7087	**67400** 15100	0.40	1.49	**17500** 3930	**12000** 2700	1.45	**75400** 17000	LM503349A	LM503310
45.987 1.8105	**90.975** 3.5817	**32.000** 1.2598	**170000** 38300	0.33	1.80	**44200** 9930	**25200** 5660	1.76	**172000** 38600	HM204049	HM204010
46.037 1.8125	**77.788** 3.0625	**12.700** 0.5000	**37300** 8390	0.34	1.78	**9680** 2180	**5570** 1250	1.74	**47200** 10600	LL205442	LL205410

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

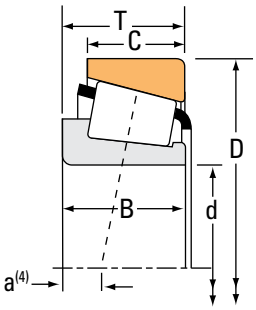
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
19.812 0.7800	**15.748** 0.6200	**-4.6** -0.18	**3.5** 0.14	**50.0** 1.97	**56.0** 2.20	**0.8** 0.03	**70.0** 2.76	**68.0** 2.68	**0.7** 0.02	**1.1** 0.05	31.1	18.8	0.0744	**0.31** 0.70
19.812 0.7800	**17.620** 0.6937	**-4.6** -0.18	**3.5** 0.14	**50.0** 1.97	**56.0** 2.20	**0.8** 0.03	**70.0** 2.76	**67.0** 2.64	**0.7** 0.02	**1.1** 0.05	31.1	18.8	0.0744	**0.33** 0.74
19.842 0.7812	**15.080** 0.5937	**-2.3** -0.09	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.3** 0.05	**1.4** 0.06	26.4	14.4	0.0785	**0.37** 0.81
19.842 0.7812	**15.080** 0.5937	**-2.3** -0.09	**0.8** 0.03	**52.0** 2.05	**53.0** 2.09	**0.8** 0.03	**74.0** 2.91	**71.0** 2.80	**1.2** 0.05	**1.5** 0.06	26.4	14.4	0.0785	**0.37** 0.81
19.842 0.7812	**16.667** 0.6562	**-2.3** -0.09	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**0.8** 0.03	**74.0** 2.91	**70.0** 2.76	**1.3** 0.05	**1.4** 0.06	26.4	14.4	0.0785	**0.39** 0.85
19.842 0.7812	**15.080** 0.5937	**-2.3** -0.09	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**0.8** 0.03	**75.0** 2.95	**71.0** 2.80	**1.3** 0.05	**1.4** 0.06	26.4	14.4	0.0785	**0.40** 0.88
19.842 0.7812	**16.667** 0.6562	**-2.3** -0.09	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**0.8** 0.03	**75.0** 2.95	**71.0** 2.80	**1.3** 0.05	**1.4** 0.06	26.4	14.4	0.0785	**0.42** 0.92
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.54** 1.19
25.400 1.0000	**22.225** 0.8750	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**2.3** 0.09	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.58** 1.28
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**3.3** 0.13	**77.0** 3.03	**72.0** 2.83	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.53** 1.17
25.400 1.0000	**19.114** 0.7525	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.54** 1.19
25.400 1.0000	**22.225** 0.8750	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**2.3** 0.09	**78.0** 3.07	**73.0** 2.87	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.63** 1.39
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**0.8** 0.03	**80.0** 3.15	**78.0** 3.07	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.73** 1.60
18.000 0.7087	**14.000** 0.5512	**-2.0** -0.08	**2.3** 0.09	**51.0** 2.01	**55.0** 2.17	**1.5** 0.06	**71.0** 2.80	**67.0** 2.64	**0.9** 0.03	**1.5** 0.06	28.3	22.5	0.0789	**0.30** 0.67
18.000 0.7087	**14.000** 0.5512	**-2.0** -0.08	**0.0** 0.00	**51.0** 2.01	**57.0** 2.24	**1.5** 0.06	**71.0** 2.80	**67.0** 2.64	**0.9** 0.03	**1.5** 0.06	28.3	22.5	0.0789	**0.29** 0.65
32.000 1.2598	**26.500** 1.0433	**-9.7** -0.38	**3.5** 0.14	**55.0** 2.17	**63.0** 2.48	**3.5** 0.14	**86.0** 3.39	**79.0** 3.11	**1.5** 0.06	**1.9** 0.08	47.7	14.5	0.0885	**0.91** 2.02
12.700 0.5000	**9.525** 0.3750	**0.0** 0.00	**1.5** 0.06	**52.0** 2.05	**54.0** 2.13	**1.5** 0.06	**74.0** 2.91	**71.0** 2.80	**0.2** 0.00	**1.7** 0.07	24.2	29.1	0.0699	**0.23** 0.52

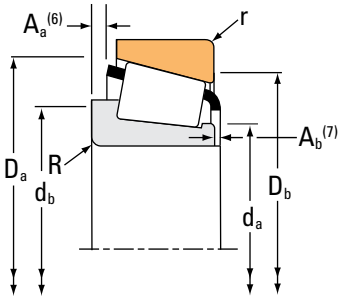
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
46.037 1.8125	**79.375** 3.1250	**17.462** 0.6875	**52000** 11700	0.37	1.60	**13500** 3030	**8630** 1940	1.56	**61300** 13800	18690	18620
46.037 1.8125	**80.962** 3.1875	**19.050** 0.7500	**50800** 11400	0.53	1.14	**13200** 2960	**11900** 2680	1.11	**61100** 13700	13181	13318
46.037 1.8125	**82.931** 3.2650	**23.812** 0.9375	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25592	25520
46.037 1.8125	**84.138** 3.3125	**26.995** 1.0628	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	359-S	3520
46.037 1.8125	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	359A	354A
46.037 1.8125	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	359-S	354A
46.037 1.8125	**85.000** 3.3465	**20.638** 0.8125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	359-S	354X
46.037 1.8125	**85.000** 3.3465	**25.400** 1.0000	**93300** 21000	0.35	1.73	**24200** 5440	**14300** 3220	1.69	**117000** 26200	2984	2924
46.037 1.8125	**85.000** 3.3465	**25.400** 1.0000	**93300** 21000	0.35	1.73	**24200** 5440	**14300** 3220	1.69	**117000** 26200	2984A	2924
46.037 1.8125	**87.312** 3.4375	**26.988** 1.0625	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	359-S	3525
46.037 1.8125	**87.312** 3.4375	**26.988** 1.0625	**93300** 21000	0.35	1.73	**24200** 5440	**14300** 3220	1.69	**117000** 26200	2984	2925
46.037 1.8125	**88.875** 3.4990	**23.000** 0.9055	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	359-S	352A
46.037 1.8125	**90.119** 3.5480	**23.000** 0.9055	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	359-S	352
46.037 1.8125	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3777	3720
46.037 1.8125	**95.250** 3.7500	**27.783** 1.0938	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	436	432
46.037 1.8125	**95.250** 3.7500	**31.753** 1.2501	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	436	432X
47.625 1.8750	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	369A	362A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

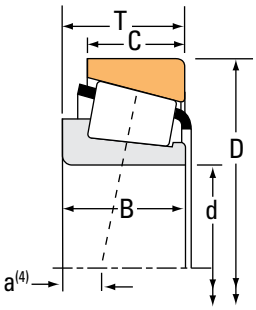
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
17.462 0.6875	**13.495** 0.5313	**-2.0** -0.08	**2.8** 0.11	**51.0** 2.01	**56.0** 2.20	**1.5** 0.06	**74.0** 2.91	**71.0** 2.80	**0.7** 0.02	**1.6** 0.07	23.9	18.7	0.0725	**0.32** 0.73
17.462 0.6875	**14.288** 0.5625	**0.8** 0.03	**0.8** 0.03	**52.0** 2.05	**52.0** 2.05	**1.5** 0.06	**76.0** 2.99	**72.0** 2.83	**1.6** 0.06	**2.0** 0.08	23.0	19.2	0.0799	**0.37** 0.83
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.0** 0.04	**0.7** 0.03	35.2	14.3	0.0801	**0.53** 1.17
21.692 0.8540	**23.812** 0.9375	**-4.8** -0.19	**2.3** 0.09	**51.0** 2.01	**55.0** 2.17	**3.3** 0.13	**79.5** 3.13	**74.0** 2.91	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.55** 1.21
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.48** 1.07
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**2.3** 0.09	**51.0** 2.01	**55.0** 2.17	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.49** 1.08
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**2.3** 0.09	**51.0** 2.01	**55.0** 2.17	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.49** 1.08
25.608 1.0082	**20.638** 0.8125	**-6.4** -0.25	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**1.3** 0.05	**80.0** 3.15	**76.0** 2.99	**1.7** 0.07	**1.1** 0.05	38.2	15.7	0.0832	**0.61** 1.34
25.608 1.0082	**20.638** 0.8125	**-6.4** -0.25	**0.8** 0.03	**52.0** 2.05	**53.0** 2.09	**1.3** 0.05	**80.0** 3.15	**76.0** 2.99	**1.7** 0.07	**1.1** 0.05	38.2	15.7	0.0832	**0.62** 1.35
21.692 0.8540	**23.812** 0.9375	**-4.8** -0.19	**2.3** 0.09	**51.0** 2.01	**55.0** 2.17	**3.3** 0.13	**81.0** 3.19	**75.0** 2.95	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.63** 1.38
25.608 1.0082	**22.225** 0.8750	**-6.4** -0.25	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**2.3** 0.09	**81.0** 3.19	**75.0** 2.95	**1.7** 0.07	**1.1** 0.05	38.2	15.7	0.0832	**0.68** 1.50
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**2.3** 0.09	**51.0** 2.01	**55.0** 2.17	**2.3** 0.09	**81.0** 3.19	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.62** 1.36
21.692 0.8540	**21.808** 0.8586	**-4.8** -0.19	**2.3** 0.09	**51.0** 2.01	**55.0** 2.17	**2.3** 0.09	**82.0** 3.23	**78.0** 3.07	**0.4** 0.01	**1.7** 0.07	30.0	12.2	0.0732	**0.65** 1.43
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**53.0** 2.09	**60.0** 2.36	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.94** 2.06
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**3.5** 0.14	**52.0** 2.05	**59.0** 2.32	**2.3** 0.09	**87.0** 3.43	**83.0** 3.27	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**0.91** 2.00
29.900 1.1772	**26.195** 1.0313	**-9.1** -0.36	**3.5** 0.14	**52.0** 2.05	**59.0** 2.32	**3.3** 0.13	**87.0** 3.43	**81.0** 3.19	**1.6** 0.06	**0.5** 0.02	42.5	11.3	0.0805	**0.99** 2.18
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**3.5** 0.14	**53.0** 2.09	**60.0** 2.36	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.56** 1.21

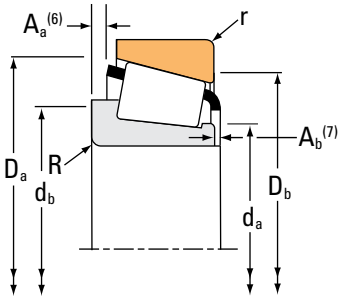
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
47.625 1.8750	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	369-S	362A
47.625 1.8750	**88.900** 3.5000	**25.400** 1.0000	**98600** 22200	0.55	1.10	**25600** 5740	**23900** 5370	1.07	**116000** 26100	M804049	M804010
47.625 1.8750	**88.900** 3.5000	**25.400** 1.0000	**98600** 22200	0.55	1.10	**25600** 5740	**23900** 5370	1.07	**116000** 26100	M804048	M804010
47.625 1.8750	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	369-S	362
47.625 1.8750	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	369A	362
47.625 1.8750	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3779	3720
47.625 1.8750	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3778	3720
47.625 1.8750	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3779	3730
47.625 1.8750	**95.250** 3.7500	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3779	3726
47.625 1.8750	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804846	HM804810
47.625 1.8750	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	386A	382A
47.625 1.8750	**98.425** 3.8750	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3779	3732
47.625 1.8750	**100.000** 3.9370	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	528	520X
47.625 1.8750	**101.600** 4.0000	**31.750** 1.2500	**133000** 29800	0.40	1.50	**34400** 7740	**23600** 5310	1.46	**155000** 35000	49580	49520
47.625 1.8750	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	528	522
47.625 1.8750	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	528A	522
47.625 1.8750	**101.600** 4.0000	**34.925** 1.3750	**133000** 29800	0.40	1.50	**34400** 7740	**23600** 5310	1.46	**155000** 35000	49580	49521

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

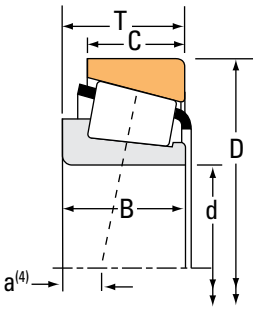
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**2.3** 0.09	**53.0** 2.09	**57.0** 2.24	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.56** 1.22
25.400 1.0000	**19.050** 0.7500	**-1.8** -0.07	**3.5** 0.14	**56.0** 2.20	**65.0** 2.56	**3.3** 0.13	**85.0** 3.35	**77.0** 3.03	**1.6** 0.06	**2.0** 0.08	33.9	12.5	0.0924	**0.66** 1.45
25.400 1.0000	**19.050** 0.7500	**-1.8** -0.07	**0.8** 0.03	**56.0** 2.20	**59.0** 2.32	**3.3** 0.13	**85.0** 3.35	**77.0** 3.03	**1.6** 0.06	**2.0** 0.08	33.9	12.5	0.0924	**0.66** 1.46
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**2.3** 0.09	**53.0** 2.09	**57.0** 2.24	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.56** 1.23
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**53.0** 2.09	**60.0** 2.36	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.56** 1.23
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**55.0** 2.17	**61.0** 2.40	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.91** 2.00
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**6.4** 0.25	**55.0** 2.17	**67.0** 2.64	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.89** 1.96
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**55.0** 2.17	**61.0** 2.40	**0.8** 0.03	**88.0** 3.46	**84.0** 3.31	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.92** 2.01
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**55.0** 2.17	**61.0** 2.40	**3.3** 0.13	**88.9** 3.50	**83.1** 3.27	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.96** 2.10
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**3.5** 0.14	**57.0** 2.26	**66.0** 2.60	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**0.97** 2.14
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**0.8** 0.03	**55.0** 2.17	**56.0** 2.20	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.73** 1.60
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**55.0** 2.17	**61.0** 2.40	**3.3** 0.13	**89.9** 3.54	**84.1** 3.31	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**1.05** 2.30
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**55.0** 2.17	**62.0** 2.44	**3.3** 0.13	**94.0** 3.70	**88.0** 3.46	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.24** 2.75
31.750 1.2500	**25.400** 1.0000	**-7.1** -0.28	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**3.3** 0.13	**96.0** 3.78	**88.0** 3.46	**2.3** 0.09	**1.4** 0.06	49.1	16.8	0.0946	**1.18** 2.60
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**55.0** 2.17	**62.0** 2.44	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.30** 2.86
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**1.5** 0.06	**55.0** 2.17	**58.0** 2.28	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.30** 2.88
31.750 1.2500	**28.575** 1.1250	**-7.1** -0.28	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**3.3** 0.13	**96.0** 3.78	**87.0** 3.43	**2.3** 0.09	**1.4** 0.06	49.1	16.8	0.0946	**1.25** 2.76

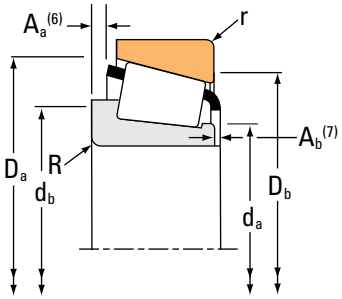
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
47.625 1.8750	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	528R	522
47.625 1.8750	**103.188** 4.0625	**43.658** 1.7188	**212000** 47700	0.30	2.02	**55000** 12400	**27900** 6280	1.97	**267000** 60100	5361	5335
47.625 1.8750	**103.188** 4.0625	**43.658** 1.7188	**212000** 47700	0.30	2.02	**55000** 12400	**27900** 6280	1.97	**267000** 60100	5358	5335
47.625 1.8750	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45282	45221
47.625 1.8750	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45282	45220
47.625 1.8750	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59187	59412
47.625 1.8750	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59188	59412
47.625 1.8750	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	467	453A
47.625 1.8750	**107.950** 4.2500	**36.512** 1.4375	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	536	532X
47.625 1.8750	**108.966** 4.2900	**34.925** 1.3750	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59187	59429
47.625 1.8750	**108.966** 4.2900	**34.925** 1.3750	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59188	59429
47.625 1.8750	**111.125** 4.3750	**30.162** 1.1875	**123000** 27700	0.88	0.68	**31900** 7170	**48200** 10800	0.66	**153000** 34400	HM907639	HM907614
47.625 1.8750	**111.125** 4.3750	**30.162** 1.1875	**151000** 34000	0.88	0.68	**39200** 8810	**59300** 13300	0.66	**161000** 36200	55187C	55437
47.625 1.8750	**111.125** 4.3750	**38.100** 1.5000	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	536	532
47.625 1.8750	**112.712** 4.4375	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55187	55443
47.625 1.8750	**112.712** 4.4375	**30.162** 1.1875	**123000** 27700	0.88	0.68	**31900** 7170	**48200** 10800	0.66	**153000** 34400	HM907639	HM907616
47.625 1.8750	**112.712** 4.4375	**30.162** 1.1875	**151000** 34000	0.88	0.68	**39200** 8810	**59300** 13300	0.66	**161000** 36200	55187C	55443

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

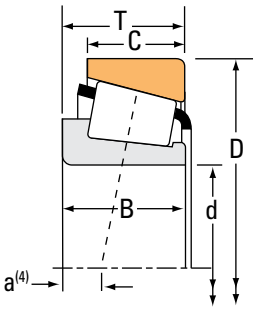
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**8.0** 0.31	**55.0** 2.17	**70.0** 2.76	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.26** 2.79
44.475 1.7510	**36.512** 1.4375	**-16.0** -0.63	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**3.3** 0.13	**97.0** 3.82	**89.0** 3.50	**2.5** 0.10	**1.0** 0.04	73.4	15.5	0.0985	**1.76** 3.88
44.475 1.7510	**36.512** 1.4375	**-16.0** -0.63	**1.3** 0.05	**58.0** 2.28	**60.0** 2.36	**3.3** 0.13	**97.0** 3.82	**89.0** 3.50	**2.5** 0.10	**1.0** 0.04	73.4	15.5	0.0985	**1.77** 3.89
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.27** 2.80
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.27** 2.79
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**3.3** 0.13	**99.0** 3.90	**92.0** 3.62	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.48** 3.25
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**1.5** 0.06	**59.0** 2.32	**61.0** 2.40	**3.3** 0.13	**99.0** 3.90	**92.0** 3.62	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.48** 3.26
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**0.8** 0.03	**56.0** 2.20	**57.0** 2.24	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.28** 2.83
36.957 1.4550	**28.575** 1.1250	**-12.2** -0.48	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.59** 3.51
36.512 1.4375	**26.988** 1.0625	**-9.7** -0.38	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**3.3** 0.13	**101.0** 3.98	**93.0** 3.66	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.59** 3.49
36.512 1.4375	**26.988** 1.0625	**-9.7** -0.38	**1.5** 0.06	**59.0** 2.32	**61.0** 2.40	**3.3** 0.13	**101.0** 3.98	**93.0** 3.66	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.59** 3.51
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**65.3** 2.56	**72.0** 2.83	**3.3** 0.13	**105.0** 4.13	**91.0** 3.58	**4.6** 0.18	**2.1** 0.08	46.9	17.5	0.1182	**1.40** 3.08
26.909 1.0594	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**5.0** 0.19	**3.7** 0.15	48.7	18.1	0.1198	**1.41** 3.10
36.957 1.4550	**33.338** 1.3125	**-12.2** -0.48	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**3.3** 0.13	**100.0** 3.94	**95.0** 3.74	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.82** 4.01
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**3.3** 0.13	**106.0** 4.17	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.34** 2.98
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**65.3** 2.56	**72.0** 2.83	**3.3** 0.13	**106.0** 4.17	**91.0** 3.58	**4.6** 0.18	**2.1** 0.08	46.9	17.5	0.1182	**1.46** 3.22
26.909 1.0594	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**3.3** 0.13	**106.0** 4.17	**92.0** 3.62	**5.0** 0.19	**3.7** 0.15	48.7	18.1	0.1198	**1.44** 3.17

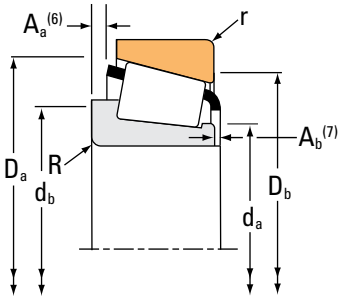
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
47.625 1.8750	**117.475** 4.6250	**33.338** 1.3125	**177000** 39700	0.63	0.96	**45800** 10300	**49100** 11000	0.93	**166000** 37300	66187	66462
47.625 1.8750	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	617	612
47.625 1.8750	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72188C	72487
47.625 1.8750	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72187C	72487
48.412 1.9060	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804849	HM804810
48.412 1.9060	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804848	HM804810
48.412 1.9060	**95.250** 3.7500	**30.162** 1.1875	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804848A	HM804810
48.600 1.9134	**88.000** 3.4646	**21.500** 0.8465	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	JLM104942A	JLM104914
49.212 1.9375	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365-S	362A
49.212 1.9375	**90.000** 3.5433	**25.001** 0.9843	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365-S	362X
49.212 1.9375	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3781	3720
49.212 1.9375	**103.188** 4.0625	**43.658** 1.7188	**212000** 47700	0.30	2.02	**55000** 12400	**27900** 6280	1.97	**267000** 60100	5395	5335
49.212 1.9375	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807044	HM807010
49.212 1.9375	**114.300** 4.5000	**44.450** 1.7500	**224000** 50300	0.43	1.39	**58000** 13000	**42700** 9600	1.36	**256000** 57500	65390	65320
49.212 1.9375	**114.300** 4.5000	**44.450** 1.7500	**246000** 55300	0.40	1.49	**63700** 14300	**43800** 9860	1.45	**290000** 65100	HH506348	HH506310
49.212 1.9375	**114.300** 4.5000	**44.450** 1.7500	**246000** 55300	0.40	1.49	**63700** 14300	**43800** 9860	1.45	**290000** 65100	HH506348	HH506311
49.212 1.9375	**122.238** 4.8125	**43.658** 1.7188	**237000** 53200	0.36	1.67	**61300** 13800	**37600** 8460	1.63	**327000** 73500	5562	5535

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

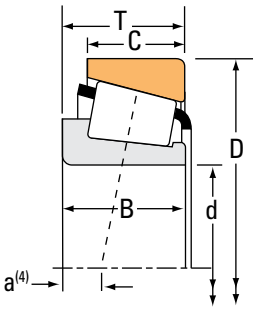
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
31.750 1.2500	**23.812** 0.9375	**-0.3** -0.01	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**3.3** 0.13	**111.0** 4.37	**100.0** 3.94	**5.0** 0.19	**2.0** 0.08	50.2	16.4	0.0751	**1.69** 3.74
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.35** 5.18
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**0.8** 0.03	**67.0** 2.64	**69.0** 2.72	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.18** 4.81
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**66.0** 2.60	**75.0** 2.95	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.15** 4.76
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**3.5** 0.14	**57.0** 2.26	**66.0** 2.60	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**0.96** 2.11
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**2.3** 0.09	**57.0** 2.26	**63.0** 2.48	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**0.96** 2.12
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**2.3** 0.09	**57.0** 2.26	**63.0** 2.48	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.2** 0.09	**2.8** 0.11	44.8	13.8	0.1017	**0.96** 2.11
21.500 0.8465	**17.000** 0.6693	**-5.3** -0.21	**0.0** 0.00	**55.0** 2.17	**54.0** 2.13	**0.8** 0.03	**81.0** 3.19	**78.0** 3.07	**0.7** 0.03	**2.2** 0.09	38.8	19.3	0.0801	**0.56** 1.23
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**0.8** 0.03	**54.0** 2.13	**55.0** 2.17	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.54** 1.17
22.225 0.8750	**20.000** 0.7874	**-4.3** -0.17	**0.8** 0.03	**54.0** 2.13	**55.0** 2.17	**2.0** 0.08	**84.0** 3.31	**80.0** 3.15	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.62** 1.36
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.88** 1.94
44.475 1.7510	**36.512** 1.4375	**-16.0** -0.63	**3.5** 0.14	**60.0** 2.36	**66.0** 2.60	**3.3** 0.13	**97.0** 3.82	**89.0** 3.50	**2.5** 0.10	**1.0** 0.04	73.4	15.5	0.0985	**1.72** 3.78
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**3.5** 0.14	**63.0** 2.48	**69.0** 2.72	**3.3** 0.13	**100.0** 3.94	**89.0** 3.50	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.50** 3.29
44.450 1.7500	**34.925** 1.3750	**-12.4** -0.49	**3.5** 0.14	**60.0** 2.36	**70.0** 2.76	**3.3** 0.13	**107.0** 4.21	**97.0** 3.82	**3.6** 0.14	**1.1** 0.05	63.1	13.0	0.1053	**2.19** 4.82
44.450 1.7500	**36.068** 1.4200	**-13.5** -0.53	**3.5** 0.14	**61.0** 2.40	**71.0** 2.80	**3.3** 0.13	**107.0** 4.21	**97.0** 3.82	**2.7** 0.10	**3.3** 0.13	72.0	15.6	0.1078	**2.26** 4.97
44.450 1.7500	**36.068** 1.4200	**-13.5** -0.53	**3.5** 0.14	**61.0** 2.40	**71.0** 2.80	**0.8** 0.03	**107.0** 4.21	**99.0** 3.90	**2.7** 0.10	**3.3** 0.13	72.0	15.6	0.1078	**2.28** 5.00
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**1.3** 0.05	**63.0** 2.48	**65.0** 2.56	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.72** 6.02

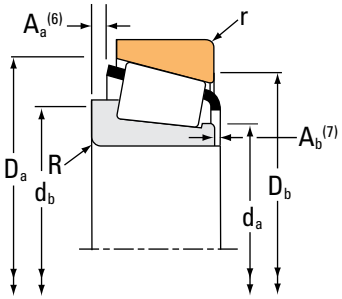
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
49.974 1.9675	**111.125** 4.3750	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55196	55437
49.982 1.9678	**107.950** 4.2500	**36.512** 1.4375	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	546	532X
49.987 1.9680	**79.975** 3.1486	**18.258** 0.7188	**60800** 13700	0.36	1.69	**15800** 3540	**9590** 2160	1.64	**88800** 20000	L305648	L305611
49.987 1.9680	**80.962** 3.1875	**18.258** 0.7188	**60800** 13700	0.36	1.69	**15800** 3540	**9590** 2160	1.64	**88800** 20000	L305648	L305610
49.987 1.9680	**82.000** 3.2283	**21.976** 0.8652	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	LM104947A	JLM104910
49.987 1.9680	**89.980** 3.5425	**24.750** 0.9744	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28579	28520
49.987 1.9680	**92.075** 3.6250	**24.608** 0.9688	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28579	28521
49.987 1.9680	**96.838** 3.8125	**22.225** 0.8750	**87900** 19800	0.34	1.77	**22800** 5120	**13200** 2970	1.73	**101000** 22700	378A	372A
49.987 1.9680	**114.300** 4.5000	**44.450** 1.7500	**246000** 55300	0.40	1.49	**63700** 14300	**43800** 9860	1.45	**290000** 65100	HH506349	HH506311
50.000 1.9685	**82.000** 3.2283	**21.500** 0.8465	**81300** 18300	0.31	1.97	**21100** 4740	**11000** 2470	1.91	**104000** 23400	JLM104948	JLM104910
50.000 1.9685	**82.550** 3.2500	**21.115** 0.8313	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	JLM104948	LM104911
50.000 1.9685	**82.550** 3.2500	**23.147** 0.9113	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	JLM104948	LM104911A
50.000 1.9685	**82.931** 3.2650	**21.115** 0.8313	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	JLM104948	LM104912
50.000 1.9685	**84.000** 3.3071	**22.000** 0.8661	**81400** 18300	0.44	1.37	**21100** 4740	**15800** 3550	1.34	**104000** 23500	JLM704649	JLM704610
50.000 1.9685	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	366	362A
50.000 1.9685	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365	362A
50.000 1.9685	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	366	362

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

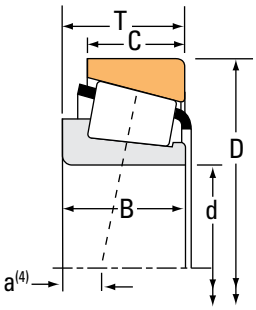
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**63.9** 2.51	**71.0** 2.80	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.28** 2.82
36.957 1.4550	**28.575** 1.1250	**-12.2** -0.48	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.54** 3.40
18.258 0.7188	**14.288** 0.5625	**-2.5** -0.10	**1.5** 0.06	**55.0** 2.17	**57.0** 2.24	**1.5** 0.06	**76.0** 2.99	**73.0** 2.87	**0.2** 0.01	**2.0** 0.08	38.8	29.8	0.0841	**0.34** 0.76
18.258 0.7188	**14.288** 0.5625	**-2.5** -0.10	**1.5** 0.06	**55.0** 2.17	**57.0** 2.24	**1.5** 0.06	**77.0** 3.03	**73.0** 2.87	**0.2** 0.01	**2.0** 0.08	38.8	29.8	0.0841	**0.36** 0.79
22.225 0.8750	**17.000** 0.6693	**-5.8** -0.23	**0.5** 0.02	**55.0** 2.17	**55.0** 2.17	**0.5** 0.02	**78.0** 3.07	**76.0** 2.99	**1.1** 0.04	**2.0** 0.08	38.8	19.3	0.0801	**0.44** 0.97
25.400 1.0000	**19.987** 0.7869	**-4.8** -0.19	**2.3** 0.09	**56.0** 2.20	**60.0** 2.36	**2.3** 0.09	**86.0** 3.39	**81.0** 3.19	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.66** 1.46
25.400 1.0000	**19.845** 0.7813	**-4.8** -0.19	**2.3** 0.09	**56.0** 2.20	**60.0** 2.36	**0.8** 0.03	**87.0** 3.43	**83.0** 3.27	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.70** 1.57
22.225 0.8750	**19.050** 0.7500	**-3.8** -0.15	**2.3** 0.09	**56.0** 2.20	**60.0** 2.36	**1.5** 0.06	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.72** 1.60
44.450 1.7500	**36.068** 1.4200	**-13.5** -0.53	**3.5** 0.14	**61.0** 2.40	**72.0** 2.83	**0.8** 0.03	**107.0** 4.21	**99.0** 3.90	**2.7** 0.10	**3.3** 0.13	72.0	15.6	0.1078	**2.25** 4.96
21.500 0.8465	**17.000** 0.6693	**-5.3** -0.21	**3.0** 0.12	**55.0** 2.17	**61.0** 2.40	**0.5** 0.02	**78.0** 3.07	**76.0** 2.99	**0.7** 0.03	**2.2** 0.09	38.8	19.3	0.0801	**0.42** 0.94
21.500 0.8465	**16.510** 0.6500	**-5.3** -0.21	**3.0** 0.12	**55.0** 2.17	**61.0** 2.40	**1.3** 0.05	**78.0** 3.07	**75.0** 2.95	**0.7** 0.03	**2.2** 0.09	38.8	19.3	0.0801	**0.42** 0.94
21.500 0.8465	**18.542** 0.7300	**-5.3** -0.21	**3.0** 0.12	**55.0** 2.17	**61.0** 2.40	**0.8** 0.03	**78.0** 3.07	**75.0** 2.95	**0.7** 0.03	**2.2** 0.09	38.8	19.3	0.0801	**0.45** 1.00
21.500 0.8465	**16.510** 0.6500	**-5.3** -0.21	**3.0** 0.12	**55.0** 2.17	**61.0** 2.40	**1.3** 0.05	**78.0** 3.06	**75.0** 2.95	**0.7** 0.03	**2.2** 0.09	38.8	19.3	0.0801	**0.43** 0.96
22.000 0.8661	**17.500** 0.6890	**-2.3** -0.09	**3.5** 0.14	**56.0** 2.20	**64.0** 2.52	**1.5** 0.06	**80.0** 3.15	**76.0** 2.99	**1.1** 0.04	**1.6** 0.07	35.6	16.7	0.0876	**0.46** 1.03
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**2.3** 0.09	**55.0** 2.17	**59.0** 2.32	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.53** 1.15
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**2.0** 0.08	**55.0** 2.17	**58.0** 2.28	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.53** 1.15
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**2.3** 0.09	**55.0** 2.17	**59.0** 2.32	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.53** 1.16

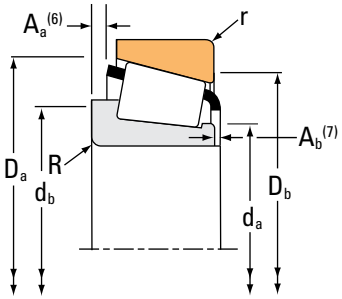
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.000 1.9685	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	366	363
50.000 1.9685	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365	363
50.000 1.9685	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365	362
50.000 1.9685	**90.000** 3.5433	**28.000** 1.1024	**124000** 27800	0.33	1.82	**32100** 7210	**18100** 4060	1.78	**154000** 34600	JM205149	JM205110
50.000 1.9685	**90.000** 3.5433	**28.000** 1.1024	**147000** 33000	0.33	1.82	**38000** 8540	**21400** 4810	1.78	**154000** 34600	JM205149A	JM205110
50.000 1.9685	**90.000** 3.5433	**28.000** 1.1024	**147000** 33000	0.33	1.82	**38000** 8540	**21400** 4810	1.78	**154000** 34600	JM205149	JM205110A
50.000 1.9685	**90.000** 3.5433	**28.000** 1.1024	**147000** 33000	0.33	1.82	**38000** 8540	**21400** 4810	1.78	**154000** 34600	JM205149AS	JM205110
50.000 1.9685	**105.000** 4.1339	**32.000** 1.2598	**142000** 31800	0.87	0.69	**36700** 8250	**54400** 12200	0.67	**138000** 31000	JW5049	JW5010
50.000 1.9685	**105.000** 4.1339	**37.000** 1.4567	**172000** 38600	0.49	1.23	**44500** 10000	**37100** 8350	1.20	**223000** 50200	JHM807045	JHM807012
50.800 2.0000	**77.788** 3.0625	**12.700** 0.5000	**37300** 8390	0.34	1.78	**9680** 2180	**5570** 1250	1.74	**47200** 10600	LL205449	LL205410
50.800 2.0000	**80.962** 3.1875	**18.258** 0.7188	**60800** 13700	0.36	1.69	**15800** 3540	**9590** 2160	1.64	**88800** 20000	L305649	L305610
50.800 2.0000	**82.000** 3.2283	**21.976** 0.8652	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	LM104949	JLM104910
50.800 2.0000	**82.550** 3.2500	**21.590** 0.8500	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	LM104949	LM104911
50.800 2.0000	**82.550** 3.2500	**23.622** 0.9300	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	LM104949	LM104911A
50.800 2.0000	**82.931** 3.2650	**21.590** 0.8500	**96300** 21700	0.31	1.97	**25000** 5610	**13000** 2930	1.91	**104000** 23400	LM104949	LM104912
50.800 2.0000	**83.312** 3.2800	**17.462** 0.6875	**54700** 12300	0.41	1.48	**14200** 3190	**9840** 2210	1.44	**67500** 15200	18790	18721
50.800 2.0000	**85.000** 3.3465	**17.462** 0.6875	**54700** 12300	0.41	1.48	**14200** 3190	**9840** 2210	1.44	**67500** 15200	18790	18720

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

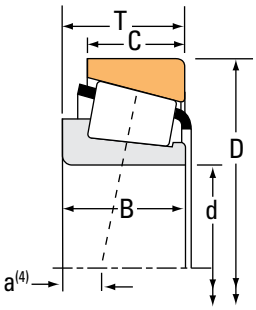
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.225 0.8750	**20.000** 0.7874	**-4.3** -0.17	**2.3** 0.09	**55.0** 2.17	**59.0** 2.32	**0.8** 0.03	**84.7** 3.34	**82.0** 3.23	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.56** 1.24
22.225 0.8750	**20.000** 0.7874	**-4.3** -0.17	**2.0** 0.08	**55.0** 2.17	**58.0** 2.28	**0.8** 0.03	**84.7** 3.34	**82.0** 3.23	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.56** 1.24
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**2.0** 0.08	**55.0** 2.17	**58.0** 2.28	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.53** 1.16
28.000 1.1024	**23.000** 0.9055	**-7.6** -0.30	**3.0** 0.12	**57.0** 2.24	**63.0** 2.48	**2.5** 0.10	**85.0** 3.35	**80.0** 3.15	**0.8** 0.03	**2.3** 0.09	48.2	15.2	0.0885	**0.74** 1.64
28.000 1.1024	**23.000** 0.9055	**-7.6** -0.30	**5.0** 0.20	**57.0** 2.24	**67.0** 2.64	**2.5** 0.10	**85.0** 3.35	**80.0** 3.15	**0.8** 0.03	**2.3** 0.09	48.2	15.2	0.0885	**0.74** 1.63
28.000 1.1024	**23.000** 0.9055	**-7.6** -0.30	**3.0** 0.12	**57.0** 2.24	**63.0** 2.48	**0.8** 0.03	**85.0** 3.35	**81.0** 3.19	**0.8** 0.03	**2.3** 0.09	48.2	15.2	0.0885	**0.74** 1.64
28.000 1.1024	**23.000** 0.9055	**-7.6** -0.30	**2.5** 0.10	**57.0** 2.24	**63.0** 2.48	**2.5** 0.10	**85.0** 3.35	**80.0** 3.15	**0.8** 0.03	**2.3** 0.09	48.2	15.2	0.0885	**0.74** 1.64
29.000 1.1417	**22.000** 0.8661	**4.3** 0.17	**3.0** 0.12	**60.0** 2.36	**76.0** 2.99	**3.0** 0.12	**100.0** 3.94	**86.0** 3.39	**4.9** 0.19	**3.6** 0.15	39.0	14.6	0.1105	**1.23** 2.72
36.000 1.4173	**29.000** 1.1417	**-7.6** -0.30	**3.0** 0.12	**63.0** 2.48	**69.0** 2.72	**2.5** 0.10	**100.0** 3.94	**90.0** 3.54	**3.5** 0.14	**2.6** 0.11	63.9	17.1	0.0760	**1.50** 3.28
12.700 0.5000	**9.525** 0.3750	**0.0** 0.00	**1.5** 0.06	**55.0** 2.17	**57.0** 2.24	**1.5** 0.06	**74.0** 2.91	**71.0** 2.80	**0.2** 0.00	**1.7** 0.07	24.2	29.1	0.0699	**0.20** 0.44
18.258 0.7188	**14.288** 0.5625	**-2.5** -0.10	**1.5** 0.06	**56.0** 2.20	**58.0** 2.28	**1.5** 0.06	**77.0** 3.03	**73.0** 2.87	**0.2** 0.01	**2.0** 0.08	38.8	29.8	0.0841	**0.35** 0.77
22.225 0.8750	**17.000** 0.6693	**-5.8** -0.23	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**0.5** 0.02	**78.0** 3.07	**76.0** 2.99	**1.1** 0.04	**2.0** 0.08	38.8	19.3	0.0801	**0.42** 0.93
22.225 0.8750	**16.510** 0.6500	**-5.8** -0.23	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**1.3** 0.05	**78.0** 3.07	**75.0** 2.95	**1.1** 0.04	**2.0** 0.08	38.8	19.3	0.0801	**0.42** 0.93
22.225 0.8750	**18.542** 0.7300	**-5.8** -0.23	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**0.8** 0.03	**78.0** 3.07	**75.0** 2.95	**1.1** 0.04	**2.0** 0.08	38.8	19.3	0.0801	**0.45** 0.99
22.225 0.8750	**16.510** 0.6500	**-5.8** -0.23	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**1.3** 0.05	**78.0** 3.06	**75.0** 2.95	**1.1** 0.04	**2.0** 0.08	38.8	19.3	0.0801	**0.43** 0.95
17.462 0.6875	**13.495** 0.5313	**-0.8** -0.03	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**0.8** 0.03	**79.0** 3.11	**77.0** 3.03	**0.8** 0.03	**1.6** 0.07	28.6	23.4	0.0789	**0.34** 0.76
17.462 0.6875	**13.495** 0.5313	**-0.8** -0.03	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**1.5** 0.06	**80.0** 3.15	**77.0** 3.03	**0.8** 0.03	**1.6** 0.07	28.6	23.4	0.0789	**0.36** 0.81

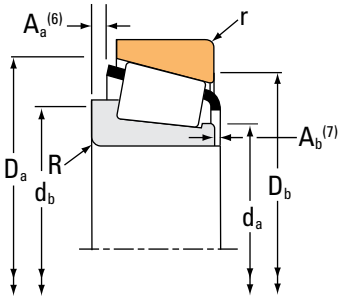
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.800 2.0000	**85.725** 3.3750	**19.050** 0.7500	**61100** 13700	0.57	1.06	**15800** 3560	**15400** 3470	1.03	**63900** 14400	18200	18337
50.800 2.0000	**88.900** 3.5000	**17.462** 0.6875	**54700** 12300	0.41	1.48	**14200** 3190	**9840** 2210	1.44	**67500** 15200	18790	18724
50.800 2.0000	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368A	362A
50.800 2.0000	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368	362A
50.800 2.0000	**88.900** 3.5000	**20.638** 0.8125	**54700** 12300	0.41	1.48	**14200** 3190	**9840** 2210	1.44	**67500** 15200	18790	18723
50.800 2.0000	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	370A	362A
50.800 2.0000	**88.900** 3.5000	**23.812** 0.9375	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368A	362AX
50.800 2.0000	**89.980** 3.5425	**24.750** 0.9744	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28580	28520
50.800 2.0000	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368	362
50.800 2.0000	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368A	362
50.800 2.0000	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368	363
50.800 2.0000	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	370A	362
50.800 2.0000	**92.075** 3.6250	**24.608** 0.9688	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28580	28521
50.800 2.0000	**92.075** 3.6250	**27.780** 1.0937	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28580	28523
50.800 2.0000	**93.264** 3.6718	**20.638** 0.8125	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	375	374
50.800 2.0000	**93.264** 3.6718	**20.638** 0.8125	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	375-S	374
50.800 2.0000	**93.264** 3.6718	**26.988** 1.0625	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	375	3720

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

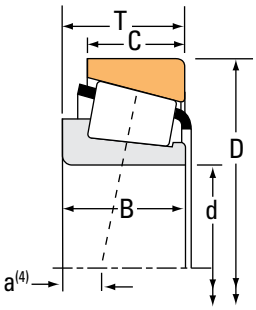
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
18.263 0.7190	**12.700** 0.5000	**2.0** 0.08	**1.5** 0.06	**56.0** 2.20	**59.0** 2.32	**1.5** 0.06	**81.0** 3.19	**76.0** 2.99	* *	* *	26.1	22.1	0.0852	**0.39** 0.87
17.462 0.6875	**13.495** 0.5313	**-0.8** -0.03	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**1.3** 0.05	**82.0** 3.23	**78.0** 3.07	**0.8** 0.03	**1.6** 0.07	28.6	23.4	0.0789	**0.42** 0.93
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.05	33.8	14.0	0.0773	**0.51** 1.11
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**1.5** 0.06	**56.0** 2.20	**58.0** 2.28	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.51** 1.12
17.462 0.6875	**16.670** 0.6563	**-0.8** -0.03	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**1.3** 0.05	**82.0** 3.23	**78.0** 3.07	**0.8** 0.03	**1.6** 0.07	28.6	23.4	0.0789	**0.48** 1.06
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**5.0** 0.20	**56.0** 2.20	**65.0** 2.56	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.50** 1.09
22.225 0.8750	**19.688** 0.7751	**-4.3** -0.17	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**1.3** 0.05	**84.0** 3.31	**80.0** 3.15	**0.4** 0.01	**1.1** 0.05	33.8	14.0	0.0773	**0.55** 1.21
25.400 1.0000	**19.987** 0.7869	**-4.8** -0.19	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**2.3** 0.09	**86.0** 3.39	**81.0** 3.19	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.66** 1.45
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**1.5** 0.06	**56.0** 2.20	**58.0** 2.28	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.51** 1.14
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.05	33.8	14.0	0.0773	**0.51** 1.12
22.225 0.8750	**20.000** 0.7874	**-4.3** -0.17	**1.5** 0.06	**56.0** 2.20	**58.0** 2.28	**0.8** 0.03	**84.7** 3.34	**82.0** 3.23	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.54** 1.21
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**5.0** 0.20	**56.0** 2.20	**65.0** 2.56	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.50** 1.10
25.400 1.0000	**19.845** 0.7813	**-4.8** -0.19	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**0.8** 0.03	**87.0** 3.43	**83.0** 3.27	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.70** 1.55
25.400 1.0000	**23.017** 0.9062	**-4.8** -0.19	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**2.3** 0.09	**87.0** 3.43	**81.0** 3.19	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.76** 1.67
22.225 0.8750	**15.083** 0.5938	**-3.8** -0.15	**2.3** 0.09	**57.0** 2.24	**60.0** 2.36	**1.3** 0.05	**88.0** 3.46	**85.0** 3.35	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.59** 1.31
22.225 0.8750	**15.083** 0.5938	**-3.8** -0.15	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**1.3** 0.05	**88.0** 3.46	**85.0** 3.35	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.59** 1.30
22.225 0.8750	**23.812** 0.9375	**-3.8** -0.15	**2.3** 0.09	**57.0** 2.24	**60.0** 2.36	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.71** 1.57

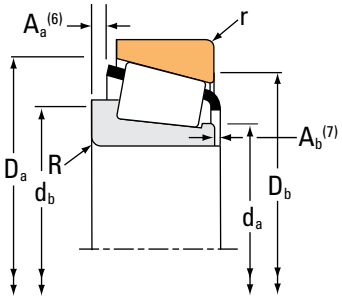
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.800 2.0000	**93.264** 3.6718	**26.988** 1.0625	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	375	3730
50.800 2.0000	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3780	3720
50.800 2.0000	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3775	3720
50.800 2.0000	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3784	3720
50.800 2.0000	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3780	3730
50.800 2.0000	**93.662** 3.6875	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3784	3727
50.800 2.0000	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33889	33821
50.800 2.0000	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33889	33822
50.800 2.0000	**95.250** 3.7500	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3780	3726
50.800 2.0000	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385A	382A
50.800 2.0000	**96.838** 3.8125	**22.225** 0.8750	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	375-S	372A
50.800 2.0000	**96.838** 3.8125	**22.225** 0.8750	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	375	372A
50.800 2.0000	**96.838** 3.8125	**25.400** 1.0000	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385A	382-S
50.800 2.0000	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385A	382
50.800 2.0000	**98.425** 3.8750	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3780	3732
50.800 2.0000	**100.000** 3.9370	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385A	383A
50.800 2.0000	**100.000** 3.9370	**24.999** 0.9842	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	375	372

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

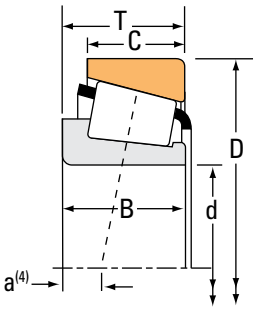
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.225 0.8750	**23.812** 0.9375	**-3.8** -0.15	**2.3** 0.09	**57.0** 2.24	**60.0** 2.36	**0.8** 0.03	**88.0** 3.46	**84.0** 3.31	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.72** 1.58
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**58.0** 2.28	**64.0** 2.52	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.85** 1.87
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**58.0** 2.28	**58.0** 2.28	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.86** 1.89
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**6.4** 0.25	**58.0** 2.28	**70.0** 2.76	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.83** 1.83
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**58.0** 2.28	**64.0** 2.52	**0.8** 0.03	**88.0** 3.46	**84.0** 3.31	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.86** 1.88
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**6.4** 0.25	**58.0** 2.28	**70.0** 2.76	**3.3** 0.13	**87.8** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.83** 1.84
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**3.5** 0.14	**58.0** 2.28	**64.0** 2.52	**2.3** 0.09	**90.0** 3.54	**85.0** 3.35	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.85** 1.87
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**3.5** 0.14	**58.0** 2.28	**64.0** 2.52	**0.8** 0.03	**90.0** 3.54	**86.0** 3.39	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.86** 1.88
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**58.0** 2.28	**64.0** 2.52	**3.3** 0.13	**88.9** 3.50	**83.1** 3.27	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.90** 1.98
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**2.3** 0.09	**60.0** 2.36	**61.0** 2.40	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.68** 1.51
22.225 0.8750	**19.050** 0.7500	**-3.8** -0.15	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**1.5** 0.06	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.71** 1.56
22.225 0.8750	**19.050** 0.7500	**-3.8** -0.15	**2.3** 0.09	**57.0** 2.24	**60.0** 2.36	**1.5** 0.06	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.71** 1.57
21.946 0.8640	**20.274** 0.7982	**-3.0** -0.12	**2.3** 0.09	**60.0** 2.36	**61.0** 2.40	**2.3** 0.09	**91.0** 3.58	**87.0** 3.43	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.75** 1.66
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**2.3** 0.09	**60.0** 2.36	**61.0** 2.40	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.73** 1.61
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**3.5** 0.14	**58.0** 2.28	**64.0** 2.52	**3.3** 0.13	**89.9** 3.54	**84.1** 3.31	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.99** 2.17
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**2.3** 0.09	**60.0** 2.36	**61.0** 2.40	**2.0** 0.08	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.76** 1.68
22.225 0.8750	**21.824** 0.8592	**-3.8** -0.15	**2.3** 0.09	**57.0** 2.24	**60.0** 2.36	**2.0** 0.08	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.85** 1.88

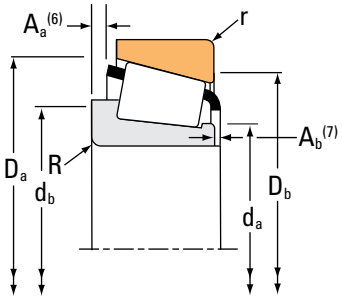
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.800 2.0000	**100.000** 3.9370	**25.400** 1.0000	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385A	383X
50.800 2.0000	**100.000** 3.9370	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	529	520X
50.800 2.0000	**100.000** 3.9370	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	529X	520X
50.800 2.0000	**100.000** 3.9370	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	529X	J520
50.800 2.0000	**101.600** 4.0000	**31.750** 1.2500	**157000** 35400	0.40	1.50	**40800** 9170	**28000** 6290	1.46	**155000** 35000	49585	49520
50.800 2.0000	**101.600** 4.0000	**31.750** 1.2500	**157000** 35400	0.40	1.50	**40800** 9170	**28000** 6290	1.46	**155000** 35000	49585	49522
50.800 2.0000	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	529	522
50.800 2.0000	**101.600** 4.0000	**34.925** 1.3750	**165000** 37000	0.29	2.10	**42700** 9600	**20800** 4690	2.05	**191000** 43000	529X	522
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455	453X
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455-S	453X
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45285	45220
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45284	45220
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45285	45221
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45285A	45220
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45284	45221
50.800 2.0000	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45285A	45221
50.800 2.0000	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59200	59412

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

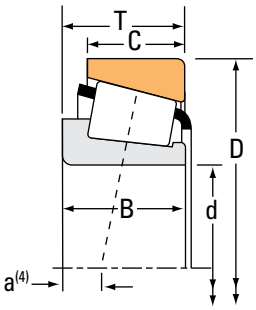
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.946 0.8640	**22.225** 0.8750	**-3.0** -0.12	**2.3** 0.09	**60.0** 2.36	**61.0** 2.40	**1.3** 0.05	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.85** 1.88
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**0.8** 0.03	**60.0** 2.36	**61.0** 2.40	**3.3** 0.13	**94.0** 3.70	**88.0** 3.46	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.17** 2.61
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**3.3** 0.13	**94.0** 3.70	**88.0** 3.46	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.17** 2.59
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**3.3** 0.13	**94.0** 3.70	**88.0** 3.46	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.19** 2.63
31.750 1.2500	**25.400** 1.0000	**-7.1** -0.28	**3.5** 0.14	**59.0** 2.32	**66.0** 2.60	**3.3** 0.13	**96.0** 3.78	**88.0** 3.46	**2.3** 0.09	**1.4** 0.06	49.1	16.8	0.0946	**1.12** 2.46
31.750 1.2500	**25.400** 1.0000	**-7.1** -0.28	**3.5** 0.14	**59.0** 2.32	**66.0** 2.60	**0.8** 0.03	**96.0** 3.78	**90.0** 3.54	**2.3** 0.09	**1.4** 0.06	49.1	16.8	0.0946	**1.13** 2.49
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**0.8** 0.03	**60.0** 2.36	**61.0** 2.40	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.23** 2.73
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.7** 0.10	**1.8** 0.07	57.9	13.4	0.0894	**1.23** 2.71
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.18** 2.58
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.17** 2.56
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**59.0** 2.32	**63.0** 2.48	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.22** 2.68
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**6.4** 0.25	**59.0** 2.32	**71.0** 2.80	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.19** 2.62
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**59.0** 2.32	**63.0** 2.48	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.22** 2.69
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.22** 2.68
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**6.4** 0.25	**59.0** 2.32	**71.0** 2.80	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.19** 2.62
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.22** 2.68
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**3.3** 0.13	**99.0** 3.90	**92.0** 3.62	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.41** 3.09

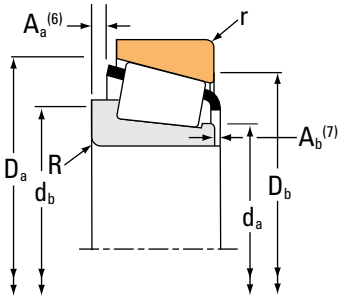
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.800 2.0000	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59200	59413
50.800 2.0000	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807046	HM807010
50.800 2.0000	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807046	HM807011
50.800 2.0000	**104.775** 4.1250	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59201	59412
50.800 2.0000	**104.775** 4.1250	**39.688** 1.5625	**180000** 40500	0.34	1.79	**46800** 10500	**26800** 6030	1.74	**237000** 53200	4580	4535
50.800 2.0000	**105.000** 4.1339	**36.873** 1.4517	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807046	JHM807012
50.800 2.0000	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455	453A
50.800 2.0000	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455-S	453A
50.800 2.0000	**107.950** 4.2500	**27.795** 1.0943	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455	453
50.800 2.0000	**107.950** 4.2500	**36.512** 1.4375	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59200	59425
50.800 2.0000	**110.000** 4.3307	**27.795** 1.0943	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455	454
50.800 2.0000	**111.125** 4.3750	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55200	55437
50.800 2.0000	**111.125** 4.3750	**30.162** 1.1875	**123000** 27700	0.88	0.68	**31900** 7170	**48200** 10800	0.66	**153000** 34400	HM907643	HM907614
50.800 2.0000	**111.125** 4.3750	**30.162** 1.1875	**151000** 34000	0.88	0.68	**39200** 8810	**59300** 13300	0.66	**161000** 36200	55200C	55437
50.800 2.0000	**111.125** 4.3750	**38.108** 1.5003	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455	4536
50.800 2.0000	**111.125** 4.3750	**38.108** 1.5003	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455-S	4536
50.800 2.0000	**112.712** 4.4375	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55200	55443

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

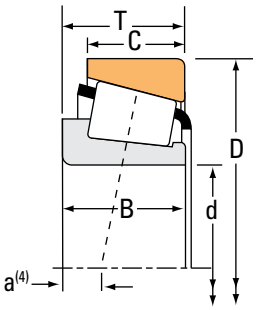
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**0.8** 0.03	**102.0** 4.02	**87.0** 3.43	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.42** 3.12
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**3.5** 0.14	**63.1** 2.48	**70.0** 2.76	**3.3** 0.13	**100.0** 3.94	**89.0** 3.50	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.47** 3.24
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**3.5** 0.14	**63.1** 2.48	**70.0** 2.76	**0.8** 0.03	**100.0** 3.94	**91.0** 3.58	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.47** 3.24
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**0.8** 0.03	**61.0** 2.40	**62.0** 2.44	**3.3** 0.13	**99.0** 3.90	**92.0** 3.62	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.42** 3.11
40.157 1.5810	**33.338** 1.3125	**-12.4** -0.49	**3.5** 0.14	**61.0** 2.40	**67.0** 2.64	**3.3** 0.13	**99.0** 3.90	**90.0** 3.54	**1.6** 0.06	**1.3** 0.05	73.6	20.2	0.1027	**1.62** 3.58
36.512 1.4375	**29.000** 1.1417	**-7.4** -0.29	**3.5** 0.14	**63.1** 2.48	**70.0** 2.76	**2.5** 0.10	**100.0** 3.94	**90.0** 3.54	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.49** 3.27
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.23** 2.70
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.22** 2.69
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.29** 2.83
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**3.3** 0.13	**101.0** 3.98	**93.0** 3.66	**3.4** 0.13	**1.3** 0.05	57.3	15.2	0.0999	**1.52** 3.35
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**2.0** 0.08	**100.0** 3.94	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.36** 2.98
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**63.9** 2.51	**71.0** 2.80	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.26** 2.79
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**65.3** 2.56	**74.0** 2.91	**3.3** 0.13	**105.0** 4.13	**91.0** 3.58	**4.6** 0.18	**2.1** 0.08	46.9	17.5	0.1182	**1.35** 2.96
26.909 1.0594	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**64.4** 2.54	**71.0** 2.80	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**5.0** 0.19	**3.7** 0.15	48.7	18.1	0.1198	**1.36** 2.98
29.317 1.1542	**32.545** 1.2813	**-7.1** -0.28	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**3.3** 0.13	**100.0** 3.94	**93.0** 3.66	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.64** 3.59
29.317 1.1542	**32.545** 1.2813	**-7.1** -0.28	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**3.3** 0.13	**100.0** 3.94	**93.0** 3.66	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.63** 3.58
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**63.9** 2.51	**71.0** 2.80	**3.3** 0.13	**106.0** 4.17	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.29** 2.87

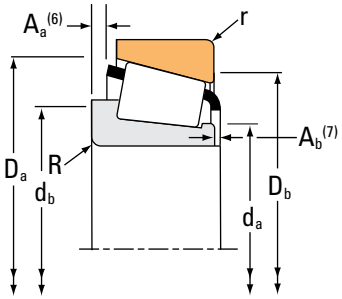
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.800 2.0000	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39575	39520
50.800 2.0000	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39573	39521
50.800 2.0000	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39573	39520
50.800 2.0000	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39575	39521
50.800 2.0000	**114.300** 4.5000	**44.450** 1.7500	**224000** 50300	0.43	1.39	**58000** 13000	**42700** 9600	1.36	**256000** 57500	65395	65320
50.800 2.0000	**117.475** 4.6250	**33.338** 1.3125	**177000** 39700	0.63	0.96	**45800** 10300	**49100** 11000	0.93	**166000** 37300	66200	66462
50.800 2.0000	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	619	612
50.800 2.0000	**122.238** 4.8125	**43.658** 1.7188	**237000** 53200	0.36	1.67	**61300** 13800	**37600** 8460	1.63	**327000** 73500	5565	5535
50.800 2.0000	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72200C	72487
50.800 2.0000	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72201C	72487
50.800 2.0000	**123.825** 4.8750	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	555	552A
50.800 2.0000	**123.825** 4.8750	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	555	552
50.800 2.0000	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813836	HM813810
50.800 2.0000	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65200	65500
50.800 2.0000	**127.000** 5.0000	**50.800** 2.0000	**306000** 68800	0.30	2.01	**79300** 17800	**40500** 9110	1.96	**370000** 83300	6279	6220
51.592 2.0312	**88.900** 3.5000	**20.638** 0.8125	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368-S	362A
51.592 2.0312	**90.000** 3.5433	**20.000** 0.7874	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368-S	362

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

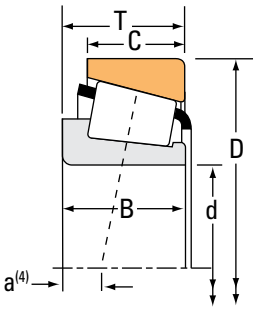
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.50** 3.31
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**0.8** 0.03	**61.0** 2.40	**62.0** 2.44	**0.8** 0.03	**107.0** 4.21	**103.0** 4.06	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.51** 3.35
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**0.8** 0.03	**61.0** 2.40	**62.0** 2.44	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.51** 3.33
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**0.8** 0.03	**107.0** 4.21	**103.0** 4.06	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.50** 3.33
44.450 1.7500	**34.925** 1.3750	**-12.4** -0.49	**3.5** 0.14	**60.0** 2.36	**72.0** 2.83	**3.3** 0.13	**107.0** 4.21	**97.0** 3.82	**3.6** 0.14	**1.1** 0.05	63.1	13.0	0.1053	**2.15** 4.73
31.750 1.2500	**23.812** 0.9375	**-0.3** -0.01	**3.5** 0.14	**65.0** 2.56	**71.0** 2.80	**3.3** 0.13	**111.0** 4.37	**100.0** 3.94	**5.0** 0.19	**2.0** 0.08	50.2	16.4	0.0751	**1.63** 3.61
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**3.5** 0.14	**61.0** 2.40	**67.0** 2.64	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.27** 5.00
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**1.3** 0.05	**65.0** 2.56	**67.0** 2.64	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.68** 5.92
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**67.0** 2.64	**77.0** 3.03	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.12** 4.68
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**0.8** 0.03	**67.0** 2.64	**77.0** 3.03	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.12** 4.68
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.31** 5.09
36.678 1.4440	**33.338** 1.3125	**-9.4** -0.37	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.36** 5.20
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.41** 5.33
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.90** 6.38
52.388 2.0625	**41.275** 1.6250	**-19.6** -0.77	**3.5** 0.14	**65.0** 2.56	**71.0** 2.80	**3.3** 0.13	**117.0** 4.61	**108.0** 4.25	**2.3** 0.09	**2.6** 0.11	103.1	18.7	0.0757	**3.37** 7.42
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**2.0** 0.08	**56.0** 2.20	**59.0** 2.32	**1.3** 0.05	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.50** 1.10
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**2.0** 0.08	**56.0** 2.20	**59.0** 2.32	**2.0** 0.08	**84.0** 3.31	**81.0** 3.19	**0.4** 0.01	**1.1** 0.04	33.8	14.0	0.0773	**0.50** 1.11

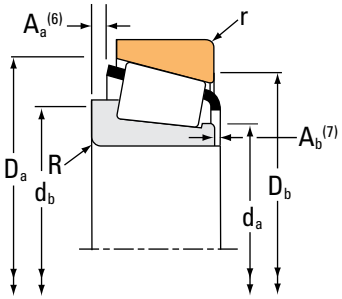
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
52.000 2.0472	**85.000** 3.3465	**19.050** 0.7500	**51600** 11600	0.57	1.06	**13400** 3010	**13000** 2920	1.03	**63900** 14400	18204X	18335X
52.387 2.0625	**89.980** 3.5425	**24.750** 0.9744	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28584	28520
52.387 2.0625	**92.075** 3.6250	**24.608** 0.9688	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28584	28521
52.387 2.0625	**93.264** 3.6718	**20.638** 0.8125	**87900** 19800	0.34	1.77	**22800** 5120	**13200** 2970	1.73	**101000** 22700	377A	374
52.387 2.0625	**93.264** 3.6718	**20.638** 0.8125	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	377	374
52.387 2.0625	**93.264** 3.6718	**26.988** 1.0625	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	377	3720
52.387 2.0625	**93.264** 3.6718	**26.988** 1.0625	**87900** 19800	0.34	1.77	**22800** 5120	**13200** 2970	1.73	**101000** 22700	377A	3720
52.387 2.0625	**93.264** 3.6718	**26.988** 1.0625	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	377	3730
52.387 2.0625	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3767	3720
52.387 2.0625	**93.264** 3.6718	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3767	3730
52.387 2.0625	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33890	33821
52.387 2.0625	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33891	33821
52.387 2.0625	**96.838** 3.8125	**22.225** 0.8750	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	377	372A
52.387 2.0625	**98.425** 3.8750	**30.162** 1.1875	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3767	3732
52.387 2.0625	**100.000** 3.9370	**24.999** 0.9842	**104000** 23400	0.34	1.77	**27000** 6070	**15700** 3520	1.73	**101000** 22700	377	372
52.387 2.0625	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	468	453X
52.387 2.0625	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	468	453A

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

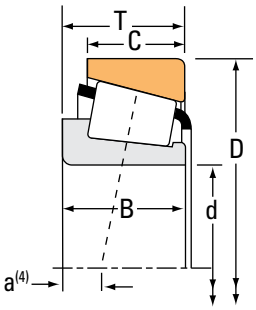
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
18.263 0.7190	**12.500** 0.4921	**2.0** 0.08	**2.0** 0.08	**57.0** 2.24	**60.0** 2.36	**1.5** 0.06	**81.0** 3.19	**76.0** 2.99	**2.5** 0.10	**1.7** 0.07	26.1	22.1	0.0852	**0.36** 0.81
25.400 1.0000	**19.987** 0.7869	**-4.8** -0.19	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**2.3** 0.09	**86.0** 3.39	**81.0** 3.19	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.62** 1.36
25.400 1.0000	**19.845** 0.7813	**-4.8** -0.19	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**0.8** 0.03	**87.0** 3.43	**83.0** 3.27	**1.4** 0.05	**1.1** 0.05	46.4	18.9	0.0912	**0.66** 1.47
22.225 0.8750	**15.083** 0.5938	**-3.8** -0.15	**4.8** 0.19	**58.0** 2.28	**67.0** 2.64	**1.3** 0.05	**88.0** 3.46	**85.0** 3.35	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.56** 1.23
22.225 0.8750	**15.083** 0.5938	**-3.8** -0.15	**2.3** 0.09	**58.0** 2.28	**62.0** 2.44	**1.3** 0.05	**88.0** 3.46	**85.0** 3.35	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.57** 1.26
22.225 0.8750	**23.812** 0.9375	**-3.8** -0.15	**2.3** 0.09	**58.0** 2.28	**62.0** 2.44	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.69** 1.52
22.225 0.8750	**23.812** 0.9375	**-3.8** -0.15	**4.8** 0.19	**58.0** 2.28	**67.0** 2.64	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.68** 1.49
22.225 0.8750	**23.812** 0.9375	**-3.8** -0.15	**2.3** 0.09	**58.0** 2.28	**62.0** 2.44	**0.8** 0.03	**88.0** 3.46	**84.0** 3.31	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.70** 1.53
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**59.0** 2.32	**63.0** 2.48	**3.3** 0.13	**87.9** 3.46	**82.0** 3.23	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.83** 1.81
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**59.0** 2.32	**63.0** 2.48	**0.8** 0.03	**88.0** 3.46	**84.0** 3.31	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.84** 1.83
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**1.5** 0.06	**59.0** 2.32	**61.0** 2.40	**2.3** 0.09	**90.0** 3.54	**85.0** 3.35	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.83** 1.82
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**3.5** 0.14	**59.0** 2.32	**66.0** 2.60	**2.3** 0.09	**90.0** 3.54	**85.0** 3.35	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.82** 1.80
22.225 0.8750	**19.050** 0.7500	**-3.8** -0.15	**2.3** 0.09	**58.0** 2.28	**62.0** 2.44	**1.5** 0.06	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.69** 1.52
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**59.0** 2.32	**63.0** 2.48	**3.3** 0.13	**89.9** 3.54	**84.1** 3.31	**1.8** 0.07	**1.0** 0.04	49.9	14.5	0.0903	**0.97** 2.12
22.225 0.8750	**21.824** 0.8592	**-3.8** -0.15	**2.3** 0.09	**58.0** 2.28	**62.0** 2.44	**2.0** 0.08	**90.0** 3.54	**86.0** 3.39	**0.8** 0.03	**1.5** 0.06	37.6	15.4	0.0816	**0.83** 1.83
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**1.5** 0.06	**60.0** 2.36	**62.0** 2.44	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.13** 2.48
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**1.5** 0.06	**60.0** 2.36	**62.0** 2.44	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.18** 2.60

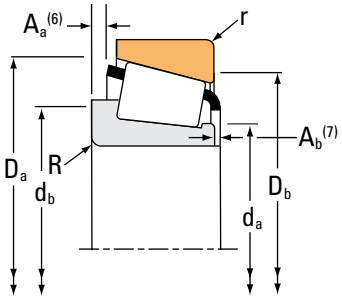
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
52.387 2.0625	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	468	453AS
52.387 2.0625	**107.950** 4.2500	**36.512** 1.4375	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	540	532X
52.387 2.0625	**110.000** 4.3307	**34.130** 1.3437	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	540	534
52.387 2.0625	**111.125** 4.3750	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55206	55437
52.387 2.0625	**111.125** 4.3750	**30.162** 1.1875	**151000** 34000	0.88	0.68	**39200** 8810	**59300** 13300	0.66	**161000** 36200	55206C	55437
52.387 2.0625	**111.125** 4.3750	**38.100** 1.5000	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	540	532A
52.387 2.0625	**112.712** 4.4375	**30.162** 1.1875	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55206	55443
53.975 2.1250	**87.312** 3.4375	**18.258** 0.7188	**62700** 14100	0.39	1.54	**16300** 3650	**10800** 2430	1.50	**95600** 21500	L507945	L507910
53.975 2.1250	**88.900** 3.5000	**19.050** 0.7500	**65500** 14700	0.55	1.10	**17000** 3820	**15900** 3570	1.07	**81800** 18400	LM806649	LM806610
53.975 2.1250	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33895	33821
53.975 2.1250	**95.250** 3.7500	**27.783** 1.0938	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33895	33822
53.975 2.1250	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	389A	382A
53.975 2.1250	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	389A	382
53.975 2.1250	**100.000** 3.9370	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	389A	383A
53.975 2.1250	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45287	45221
53.975 2.1250	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	456	453X
53.975 2.1250	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45287	45220

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

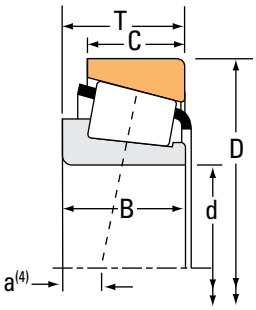
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**1.5** 0.06	**60.0** 2.36	**62.0** 2.44	**2.3** 0.09	**100.0** 3.94	**95.0** 3.74	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.18** 2.60
36.957 1.4550	**28.575** 1.1250	**-12.2** -0.48	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.48** 3.27
36.957 1.4550	**26.988** 1.0625	**-12.2** -0.48	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.51** 3.33
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**63.9** 2.51	**72.0** 2.83	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.24** 2.73
26.909 1.0594	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**64.4** 2.54	**72.0** 2.83	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**5.0** 0.19	**3.7** 0.15	48.7	18.1	0.1198	**1.33** 2.92
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**3.3** 0.13	**100.0** 3.94	**95.0** 3.74	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.66** 3.65
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**63.9** 2.51	**72.0** 2.83	**3.3** 0.13	**106.0** 4.17	**92.0** 3.62	**4.8** 0.18	**3.2** 0.13	36.8	13.2	0.1085	**1.27** 2.81
18.258 0.7188	**14.288** 0.5625	**-0.8** -0.03	**1.5** 0.06	**60.0** 2.36	**62.0** 2.44	**1.5** 0.06	**83.0** 3.27	**79.0** 3.11	**0.3** 0.01	**2.0** 0.08	46.1	38.5	0.0914	**0.43** 0.93
19.050 0.7500	**13.492** 0.5312	**2.3** 0.09	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**2.0** 0.08	**85.0** 3.35	**80.0** 3.15	**1.5** 0.05	**1.6** 0.07	31.8	22.1	0.0900	**0.42** 0.94
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**1.5** 0.06	**60.0** 2.36	**63.0** 2.48	**2.3** 0.09	**90.0** 3.54	**85.0** 3.35	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.80** 1.75
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**1.5** 0.06	**60.0** 2.36	**63.0** 2.48	**0.8** 0.03	**90.0** 3.54	**86.0** 3.39	**1.3** 0.05	**2.2** 0.09	52.5	18.5	0.0910	**0.81** 1.77
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**0.8** 0.03	**60.0** 2.36	**61.0** 2.40	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.64** 1.41
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**0.8** 0.03	**60.0** 2.36	**61.0** 2.40	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.69** 1.51
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**0.8** 0.03	**60.0** 2.36	**61.0** 2.40	**2.0** 0.08	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.72** 1.59
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**62.0** 2.44	**62.0** 2.44	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.16** 2.54
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.11** 2.43
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**62.0** 2.44	**62.0** 2.44	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.16** 2.54

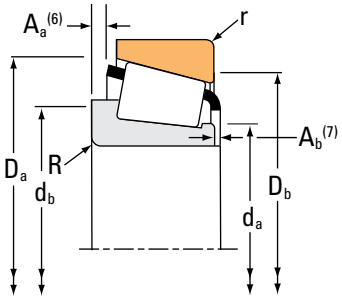
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
53.975 2.1250	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807049	HM807010
53.975 2.1250	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807049	HM807011
53.975 2.1250	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807049A	HM807011
53.975 2.1250	**104.775** 4.1250	**39.688** 1.5625	**180000** 40500	0.34	1.79	**46800** 10500	**26800** 6030	1.74	**237000** 53200	4595	4535
53.975 2.1250	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	456	453A
53.975 2.1250	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	456	453AS
53.975 2.1250	**107.950** 4.2500	**27.795** 1.0943	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	456	453
53.975 2.1250	**107.950** 4.2500	**32.558** 1.2818	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	456	452A
53.975 2.1250	**107.950** 4.2500	**36.512** 1.4375	**204000** 45900	0.30	2.02	**52900** 11900	**26800** 6040	1.97	**206000** 46200	539	532X
53.975 2.1250	**107.950** 4.2500	**36.512** 1.4375	**204000** 45900	0.30	2.02	**52900** 11900	**26800** 6040	1.97	**206000** 46200	539A	532X
53.975 2.1250	**110.000** 4.3307	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	456	454
53.975 2.1250	**110.000** 4.3307	**34.130** 1.3437	**204000** 45900	0.30	2.02	**52900** 11900	**26800** 6040	1.97	**206000** 46200	539	534
53.975 2.1250	**111.125** 4.3750	**38.100** 1.5000	**204000** 45900	0.30	2.02	**52900** 11900	**26800** 6040	1.97	**206000** 46200	539A	532A
53.975 2.1250	**111.125** 4.3750	**38.895** 1.5313	**180000** 40500	0.34	1.79	**46800** 10500	**26800** 6030	1.74	**237000** 53200	4595	4536
53.975 2.1250	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39578	39520
53.975 2.1250	**117.475** 4.6250	**33.338** 1.3125	**177000** 39700	0.63	0.96	**45800** 10300	**49100** 11000	0.93	**166000** 37300	66212	66461
53.975 2.1250	**117.475** 4.6250	**33.338** 1.3125	**177000** 39700	0.63	0.96	**45800** 10300	**49100** 11000	0.93	**166000** 37300	66212	66462

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

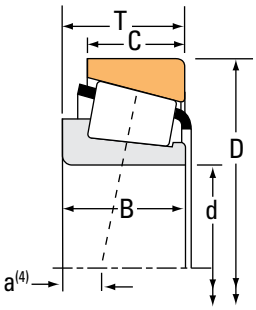
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**3.5** 0.14	**63.1** 2.48	**73.0** 2.87	**3.3** 0.13	**100.0** 3.94	**89.0** 3.50	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.40** 3.08
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**3.5** 0.14	**63.1** 2.48	**73.0** 2.87	**0.8** 0.03	**100.0** 3.94	**91.0** 3.58	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.40** 3.08
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**1.5** 0.06	**63.1** 2.48	**69.0** 2.72	**0.8** 0.03	**100.0** 3.94	**91.0** 3.58	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.39** 3.07
40.157 1.5810	**33.338** 1.3125	**-12.4** -0.49	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**3.3** 0.13	**99.0** 3.90	**90.0** 3.54	**1.6** 0.06	**1.3** 0.05	73.6	20.2	0.1027	**1.54** 3.39
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.16** 2.55
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**2.3** 0.09	**100.0** 3.94	**95.0** 3.74	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.16** 2.55
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.22** 2.68
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**3.3** 0.13	**100.0** 3.94	**93.0** 3.66	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.27** 2.79
36.957 1.4550	**28.575** 1.1250	**-12.2** -0.48	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.44** 3.19
36.957 1.4550	**28.575** 1.1250	**-12.2** -0.48	**5.5** 0.22	**61.0** 2.40	**72.0** 2.83	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.43** 3.16
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**2.0** 0.08	**100.0** 3.94	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.29** 2.83
36.957 1.4550	**26.988** 1.0625	**-12.2** -0.48	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**3.3** 0.13	**100.0** 3.94	**94.0** 3.70	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.47** 3.24
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**5.5** 0.22	**61.0** 2.40	**72.0** 2.83	**3.3** 0.13	**100.0** 3.94	**95.0** 3.74	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.61** 3.53
40.157 1.5810	**32.545** 1.2813	**-12.4** -0.49	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**3.3** 0.13	**100.0** 3.94	**93.0** 3.66	**1.6** 0.06	**1.3** 0.05	73.6	20.2	0.1027	**1.80** 3.95
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**64.0** 2.52	**70.0** 2.76	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.44** 3.18
31.750 1.2500	**23.812** 0.9375	**-0.3** -0.01	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**0.8** 0.03	**111.0** 4.37	**102.0** 4.02	**5.0** 0.19	**2.0** 0.08	50.2	16.4	0.0751	**1.58** 3.50
31.750 1.2500	**23.812** 0.9375	**-0.3** -0.01	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**111.0** 4.37	**100.0** 3.94	**5.0** 0.19	**2.0** 0.08	50.2	16.4	0.0751	**1.57** 3.46

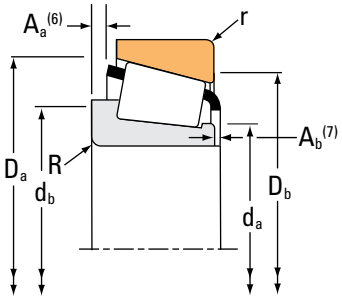
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
53.975 2.1250	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	621	612
53.975 2.1250	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	624	612
53.975 2.1250	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	621	612-S
53.975 2.1250	**122.238** 4.8125	**33.338** 1.3125	**183000** 41200	0.67	0.90	**47500** 10700	**54100** 12200	0.88	**178000** 39900	66584	66520
53.975 2.1250	**122.238** 4.8125	**43.658** 1.7188	**237000** 53200	0.36	1.67	**61300** 13800	**37600** 8460	1.63	**327000** 73500	5578	5535
53.975 2.1250	**122.238** 4.8125	**43.658** 1.7188	**237000** 53200	0.36	1.67	**61300** 13800	**37600** 8460	1.63	**327000** 73500	5577	5535
53.975 2.1250	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72212C	72487
53.975 2.1250	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72213C	72487
53.975 2.1250	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	557-S	552A
53.975 2.1250	**127.000** 5.0000	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72213C	72500
53.975 2.1250	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65212	65500
53.975 2.1250	**127.000** 5.0000	**50.800** 2.0000	**306000** 68800	0.30	2.01	**79300** 17800	**40500** 9110	1.96	**370000** 83300	6280	6220
53.975 2.1250	**130.175** 5.1250	**34.100** 1.3425	**167000** 37500	0.82	0.73	**43200** 9720	**60700** 13600	0.71	**183000** 41100	HM911243	HM911210
53.975 2.1250	**130.175** 5.1250	**36.512** 1.4375	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911242	HM911210
53.975 2.1250	**134.983** 5.3143	**33.449** 1.3169	**167000** 37500	0.82	0.73	**43200** 9720	**60700** 13600	0.71	**183000** 41100	HM911243	HM911216
53.975 2.1250	**136.525** 5.3750	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78215C	78537
53.975 2.1250	**136.525** 5.3750	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	636	632

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

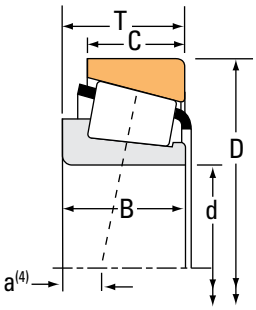
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.18** 4.82
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**0.8** 0.03	**63.0** 2.48	**64.0** 2.52	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.19** 4.84
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**110.0** 4.33	**107.0** 4.21	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.19** 4.85
31.750 1.2500	**23.812** 0.9375	**2.0** 0.08	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**3.3** 0.13	**116.0** 4.57	**105.0** 4.13	**5.2** 0.20	**2.0** 0.08	57.0	18.3	0.0797	**1.76** 3.89
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.58** 5.71
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**1.3** 0.05	**67.0** 2.64	**69.0** 2.72	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.59** 5.72
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**67.0** 2.64	**79.0** 3.11	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.03** 4.48
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**67.0** 2.64	**79.0** 3.11	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.05** 4.53
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.24** 4.93
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**67.0** 2.64	**79.0** 3.11	**3.3** 0.13	**116.0** 4.57	**103.0** 4.06	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.16** 4.78
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.81** 6.18
52.388 2.0625	**41.275** 1.6250	**-19.6** -0.77	**3.5** 0.14	**67.0** 2.64	**74.0** 2.91	**3.3** 0.13	**117.0** 4.61	**108.0** 4.25	**2.3** 0.09	**2.6** 0.11	103.1	18.7	0.0757	**3.26** 7.19
30.924 1.2175	**23.812** 0.9375	**7.9** 0.31	**3.5** 0.14	**74.0** 2.91	**79.0** 3.11	**3.3** 0.13	**123.6** 4.87	**109.0** 4.29	**4.9** 0.19	**4.3** 0.17	56.4	16.5	0.0842	**2.12** 4.69
33.338 1.3125	**23.812** 0.9375	**5.3** 0.21	**3.5** 0.14	**74.0** 2.91	**79.0** 3.11	**3.3** 0.13	**123.6** 4.87	**109.0** 4.29	**7.3** 0.29	**4.3** 0.17	56.4	16.5	0.0842	**2.22** 4.90
30.924 1.2175	**21.948** 0.8641	**7.9** 0.31	**3.5** 0.14	**74.0** 2.91	**79.0** 3.11	**3.5** 0.14	**123.0** 4.84	**112.0** 4.41	**4.9** 0.19	**4.3** 0.17	56.4	16.5	0.0842	**2.25** 4.96
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**3.5** 0.14	**77.5** 3.05	**84.0** 3.31	**3.3** 0.13	**130.0** 5.12	**115.0** 4.53	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.60** 5.72
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**3.11** 6.86

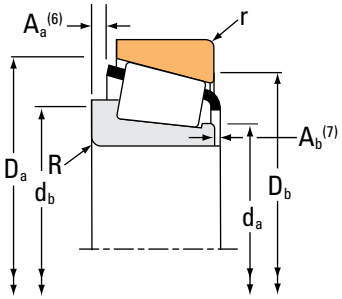
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
53.975 2.1250	**140.030** 5.5130	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78215C	78551
53.975 2.1250	**140.030** 5.5130	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78214C	78551
54.487 2.1452	**104.775** 4.1250	**36.512** 1.4375	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807048	HM807010
54.987 2.1649	**103.188** 4.0625	**38.100** 1.5000	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	538	533A
54.987 2.1649	**110.000** 4.3307	**38.100** 1.5000	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	538	533X
54.987 2.1649	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6381	6320
55.000 2.1654	**90.000** 3.5433	**23.000** 0.9055	**109000** 24500	0.40	1.49	**28200** 6340	**19400** 4370	1.45	**123000** 27600	JLM506849A	JLM506810
55.000 2.1654	**90.000** 3.5433	**23.000** 0.9055	**91800** 20600	0.40	1.49	**23800** 5350	**16400** 3680	1.45	**123000** 27600	JLM506849	JLM506810
55.000 2.1654	**90.000** 3.5433	**25.000** 0.9843	**109000** 24500	0.40	1.49	**28200** 6340	**19400** 4370	1.45	**123000** 27600	JLM506849A	JLM506811
55.000 2.1654	**95.000** 3.7402	**29.000** 1.1417	**131000** 29300	0.33	1.79	**33800** 7610	**19400** 4360	1.74	**168000** 37700	JM207049	JM207010
55.000 2.1654	**95.000** 3.7402	**29.000** 1.1417	**131000** 29300	0.33	1.79	**33800** 7610	**19400** 4360	1.74	**168000** 37700	JM207049A	JM207010
55.000 2.1654	**95.000** 3.7402	**30.000** 1.1811	**131000** 29300	0.33	1.79	**33800** 7610	**19400** 4360	1.74	**168000** 37700	JM207049	JM207010A
55.000 2.1654	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385	382A
55.000 2.1654	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385X	382A
55.000 2.1654	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385	382
55.000 2.1654	**100.000** 3.9370	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385	383A
55.000 2.1654	**110.000** 4.3307	**39.000** 1.5354	**210000** 47200	0.35	1.73	**54400** 12200	**32300** 7260	1.69	**251000** 56500	JH307749	JH307710

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

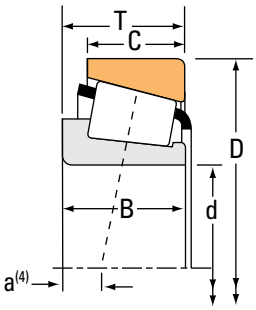
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**3.5** 0.14	**77.5** 3.05	**84.0** 3.31	**2.3** 0.09	**132.0** 5.20	**117.0** 4.61	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.74** 6.04
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**0.8** 0.03	**0.0** 3.05	**0.0** 3.11	**2.3** 0.09	**132.0** 5.20	**117.0** 4.61	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.74** 6.06
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**3.5** 0.14	**63.0** 2.48	**73.0** 2.87	**3.3** 0.13	**100.0** 3.94	**89.0** 3.50	**3.4** 0.13	**2.0** 0.08	63.9	17.1	0.0760	**1.37** 3.02
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**0.8** 0.03	**62.0** 2.44	**63.0** 2.48	**1.5** 0.06	**98.0** 3.86	**93.0** 3.66	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.29** 2.86
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**0.8** 0.03	**62.0** 2.44	**63.0** 2.48	**3.3** 0.13	**100.0** 3.94	**95.0** 3.74	**2.7** 0.10	**1.0** 0.04	64.3	16.1	0.0938	**1.55** 3.43
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**3.5** 0.14	**70.0** 2.76	**76.0** 2.99	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**4.05** 8.93
23.000 0.9055	**18.500** 0.7283	**-2.8** -0.11	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**0.5** 0.02	**86.0** 3.39	**82.0** 3.23	**1.0** 0.04	**1.6** 0.06	45.6	20.4	0.0925	**0.54** 1.20
23.000 0.9055	**18.500** 0.7283	**-2.8** -0.11	**1.5** 0.06	**61.0** 2.40	**63.0** 2.48	**0.5** 0.02	**86.0** 3.39	**82.0** 3.23	**1.0** 0.04	**1.6** 0.06	45.6	20.4	0.0925	**0.54** 1.21
23.000 0.9055	**20.500** 0.8071	**-2.8** -0.11	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**0.5** 0.02	**86.0** 3.39	**82.0** 3.23	**1.0** 0.04	**1.6** 0.06	45.6	20.4	0.0925	**0.58** 1.27
29.000 1.1417	**23.500** 0.9252	**-7.6** -0.30	**1.5** 0.06	**62.0** 2.44	**64.0** 2.52	**2.5** 0.10	**91.0** 3.58	**85.0** 3.35	**1.3** 0.05	**2.4** 0.10	56.4	19.9	0.0937	**0.83** 1.84
29.000 1.1417	**23.500** 0.9252	**-7.6** -0.30	**6.0** 0.24	**62.0** 2.44	**73.0** 2.87	**2.5** 0.10	**91.0** 3.58	**85.0** 3.35	**1.3** 0.05	**2.4** 0.10	56.4	19.9	0.0937	**0.80** 1.79
29.000 1.1417	**24.500** 0.9646	**-7.6** -0.30	**1.5** 0.06	**62.0** 2.44	**64.0** 2.52	**2.0** 0.08	**91.0** 3.58	**87.0** 3.43	**1.3** 0.05	**2.4** 0.10	56.4	19.9	0.0937	**0.86** 1.90
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.62** 1.38
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**3.5** 0.14	**61.0** 2.40	**67.0** 2.64	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.62** 1.37
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.67** 1.48
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**2.0** 0.08	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.70** 1.55
39.000 1.5354	**32.000** 1.2598	**-11.7** -0.46	**3.0** 0.12	**64.0** 2.52	**71.0** 2.80	**2.5** 0.10	**104.0** 4.09	**97.0** 3.82	**0.8** 0.03	**3.1** 0.13	72.0	16.9	0.0706	**1.69** 3.71

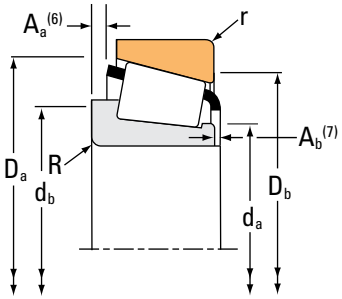
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
55.000 2.1654	**115.000** 4.5276	**34.000** 1.3386	**14500** 32700	0.87	0.69	**37700** 8470	**55800** 12600	0.67	**175000** 39200	JW5549	JW5510
55.000 2.1654	**115.000** 4.5276	**41.021** 1.6150	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	622X	614X
55.000 2.1654	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	475	472A
55.000 2.1654	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	475	472
55.000 2.1654	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	475	473
55.000 2.1654	**123.825** 4.8750	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	557	552A
55.006 2.1656	**120.040** 4.7260	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	622A	612A
55.562 2.1875	**97.630** 3.8437	**24.608** 0.9688	**123000** 27700	0.40	1.49	**32000** 7180	**22000** 4950	1.45	**142000** 32000	28680	28622
55.562 2.1875	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	466-S	453A
55.562 2.1875	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	466-S	453AS
55.562 2.1875	**122.238** 4.8125	**43.658** 1.7188	**237000** 53200	0.36	1.67	**61300** 13800	**37600** 8460	1.63	**327000** 73500	5566	5535
55.562 2.1875	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72218C	72487
55.562 2.1875	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72219C	72487
55.562 2.1875	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813840	HM813811
55.562 2.1875	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813840	HM813810
55.575 2.1880	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	389	382A
55.575 2.1880	**100.000** 3.9370	**20.980** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	389	383A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

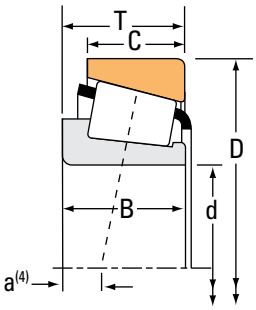
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
31.000 1.2205	**23.500** 0.9252	**5.8** 0.23	**3.0** 0.12	**66.0** 2.59	**78.0** 3.07	**3.0** 0.12	**109.0** 4.29	**95.0** 3.74	**5.2** 0.20	**3.8** 0.15	51.1	15.8	0.0831	**1.57** 3.46
41.275 1.6250	**31.496** 1.2400	**-14.0** -0.55	**3.0** 0.12	**64.0** 2.52	**70.0** 2.76	**3.0** 0.12	**108.0** 4.25	**101.0** 3.98	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**1.90** 4.18
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**0.8** 0.03	**66.0** 2.60	**67.0** 2.64	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.62** 3.57
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**0.8** 0.03	**66.0** 2.60	**67.0** 2.64	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.65** 3.64
29.007 1.1420	**29.000** 1.1417	**-4.1** -0.16	**0.8** 0.03	**66.0** 2.60	**67.0** 2.64	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.70** 3.75
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.21** 4.86
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**0.8** 0.03	**64.0** 2.52	**65.0** 2.56	**3.3** 0.13	**110.0** 4.33	**103.0** 4.06	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.13** 4.72
24.608 0.9688	**19.446** 0.7656	**-3.3** -0.13	**3.5** 0.14	**62.0** 2.44	**68.0** 2.68	**0.8** 0.03	**92.0** 3.62	**88.0** 3.46	**1.5** 0.06	**1.8** 0.08	54.0	22.6	0.0979	**0.75** 1.67
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.13** 2.50
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**2.3** 0.09	**100.0** 3.94	**95.0** 3.74	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.13** 2.49
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**1.3** 0.05	**68.0** 2.68	**70.0** 2.76	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.54** 5.62
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**67.0** 2.64	**80.0** 3.15	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.01** 4.45
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**67.0** 2.64	**80.0** 3.15	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**2.01** 4.45
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.30** 5.08
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.30** 5.08
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.61** 1.35
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**2.0** 0.08	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.69** 1.53

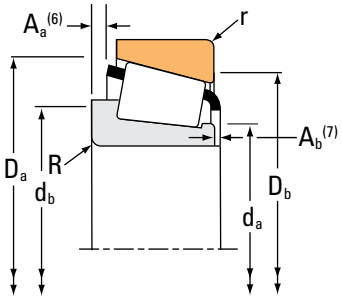
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
57.150 2.2500	**87.312** 3.4375	**18.258** 0.7188	**62700** 14100	0.39	1.54	**16300** 3650	**10800** 2430	1.50	**95600** 21500	L507949	L507910
57.150 2.2500	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387	382A
57.150 2.2500	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387A	382A
57.150 2.2500	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387-S	382A
57.150 2.2500	**96.838** 3.8125	**21.001** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387AS	382A
57.150 2.2500	**96.838** 3.8125	**24.608** 0.9688	**123000** 27700	0.40	1.49	**32000** 7180	**22000** 4950	1.45	**142000** 32000	28682	28621
57.150 2.2500	**96.838** 3.8125	**25.400** 1.0000	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387A	382-S
57.150 2.2500	**97.630** 3.8437	**24.608** 0.9688	**123000** 27700	0.40	1.49	**32000** 7180	**22000** 4950	1.45	**142000** 32000	28682	28622
57.150 2.2500	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387	382
57.150 2.2500	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387A	382
57.150 2.2500	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387-S	382
57.150 2.2500	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387AS	382
57.150 2.2500	**98.425** 3.8750	**24.608** 0.9688	**123000** 27700	0.40	1.49	**32000** 7180	**22000** 4950	1.45	**142000** 32000	28682	28623
57.150 2.2500	**100.000** 3.9370	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387A	383A
57.150 2.2500	**100.000** 3.9370	**25.400** 1.0000	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387	383X
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	462	453X
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	469	453X

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

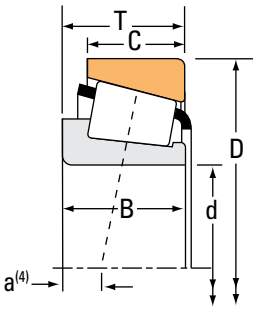
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
18.258 0.7188	**14.288** 0.5625	**-0.8** -0.03	**1.5** 0.06	**62.0** 2.44	**65.0** 2.56	**1.5** 0.06	**83.0** 3.27	**79.0** 3.11	**0.3** 0.01	**2.0** 0.08	46.1	38.5	0.0914	**0.39** 0.85
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.59** 1.30
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.59** 1.30
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**0.8** 0.03	**63.0** 2.48	**64.0** 2.52	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.59** 1.31
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**5.0** 0.20	**63.0** 2.48	**73.0** 2.87	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.59** 1.29
24.608 0.9688	**19.446** 0.7656	**-3.3** -0.13	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**92.0** 3.62	**88.0** 3.46	**1.5** 0.06	**1.8** 0.08	54.0	22.6	0.0979	**0.71** 1.57
21.946 0.8640	**20.274** 0.7982	**-3.0** -0.12	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**2.3** 0.09	**91.0** 3.58	**87.0** 3.43	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.66** 1.45
24.608 0.9688	**19.446** 0.7656	**-3.3** -0.13	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**92.0** 3.62	**88.0** 3.46	**1.5** 0.06	**1.8** 0.08	54.0	22.6	0.0979	**0.73** 1.61
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.64** 1.41
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.64** 1.40
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**0.8** 0.03	**63.0** 2.48	**64.0** 2.52	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.64** 1.41
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**5.0** 0.20	**63.0** 2.48	**73.0** 2.87	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.64** 1.39
24.608 0.9688	**19.446** 0.7656	**-3.3** -0.13	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**93.0** 3.66	**88.0** 3.46	**1.5** 0.06	**1.8** 0.08	54.0	22.6	0.0979	**0.75** 1.65
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**2.0** 0.08	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.67** 1.47
21.946 0.8640	**22.225** 0.8750	**-3.0** -0.12	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**1.3** 0.05	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.76** 1.67
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.05** 2.30
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**3.5** 0.14	**68.0** 2.68	**72.0** 2.83	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.05** 2.30

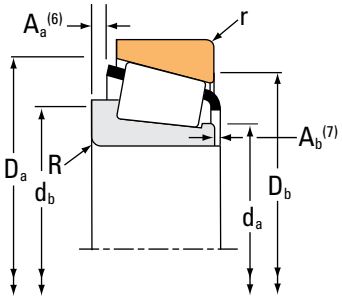
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45290	45220
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	462A	453X
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45289	45221
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45290	45221
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45291	45220
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45289	45220
57.150 2.2500	**104.775** 4.1250	**30.162** 1.1875	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45291	45221
57.150 2.2500	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	462	453A
57.150 2.2500	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	469	453A
57.150 2.2500	**107.950** 4.2500	**27.783** 1.0938	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	462	453AS
57.150 2.2500	**107.950** 4.2500	**32.558** 1.2818	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	462	452A
57.150 2.2500	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	390	394A
57.150 2.2500	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	390	394AS
57.150 2.2500	**110.000** 4.3307	**27.795** 1.0943	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	462	454
57.150 2.2500	**112.712** 4.4375	**25.400** 1.0000	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29665	29620
57.150 2.2500	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	390	3920
57.150 2.2500	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3979	3920

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

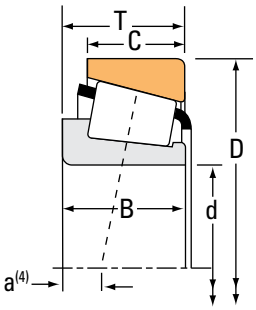
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**65.0** 2.56	**68.0** 2.68	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.09** 2.39
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**2.3** 0.09	**68.0** 2.68	**67.0** 2.64	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.04** 2.28
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**65.0** 2.56	**65.0** 2.56	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.09** 2.40
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**2.3** 0.09	**65.0** 2.56	**68.0** 2.68	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.09** 2.40
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**6.4** 0.25	**65.0** 2.56	**76.0** 2.99	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.06** 2.32
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**65.0** 2.56	**65.0** 2.56	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.09** 2.39
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**6.4** 0.25	**65.0** 2.56	**76.0** 2.99	**0.8** 0.03	**99.0** 3.90	**95.0** 3.74	**2.1** 0.08	**1.8** 0.07	63.5	16.9	0.0971	**1.06** 2.33
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.10** 2.42
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**3.5** 0.14	**68.0** 2.68	**72.0** 2.83	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.10** 2.42
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**2.3** 0.09	**100.0** 3.94	**95.0** 3.74	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.10** 2.42
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**3.3** 0.13	**100.0** 3.94	**93.0** 3.66	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.21** 2.66
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**2.3** 0.09	**66.0** 2.60	**70.0** 2.76	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.94** 2.07
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**2.3** 0.09	**66.0** 2.60	**70.0** 2.76	**3.3** 0.13	**104.5** 4.11	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.93** 2.04
29.317 1.1542	**27.000** 1.0630	**-7.1** -0.28	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**2.0** 0.08	**100.0** 3.94	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	58.6	17.1	0.0946	**1.23** 2.70
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**109.0** 4.29	**101.0** 3.98	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**1.20** 2.65
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**2.3** 0.09	**66.0** 2.60	**70.0** 2.76	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**1.13** 2.49
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.37** 3.04

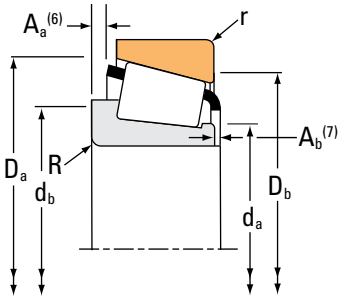
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
57.150 2.2500	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39580	39520
57.150 2.2500	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39581	39520
57.150 2.2500	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39580	39521
57.150 2.2500	**117.475** 4.6250	**33.338** 1.3125	**177000** 39700	0.63	0.96	**45800** 10300	**49100** 11000	0.93	**166000** 37300	66225	66462
57.150 2.2500	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	623	612
57.150 2.2500	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	623A	612
57.150 2.2500	**120.650** 4.7500	**41.275** 1.6250	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	623	612-S
57.150 2.2500	**122.238** 4.8125	**33.338** 1.3125	**155000** 34800	0.67	0.90	**40100** 9010	**45600** 10300	0.88	**178000** 39900	66587	66520
57.150 2.2500	**123.825** 4.8750	**36.512** 1.4375	**214000** 48200	0.74	0.81	**55500** 12500	**70100** 15800	0.79	**208000** 46800	72225C	72487
57.150 2.2500	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	555-S	552
57.150 2.2500	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	555-S	552A
57.150 2.2500	**125.000** 4.9213	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	555-S	553A
57.150 2.2500	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65225	65500
57.150 2.2500	**129.944** 5.1159	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	555-S	553-SA
57.150 2.2500	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6375	6320
57.150 2.2500	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6387	6320
57.150 2.2500	**136.525** 5.3750	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78225C	78537

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

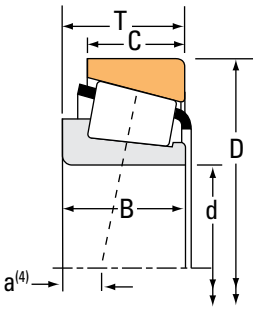
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**68.0** 2.68	**74.0** 2.91	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.38** 3.04
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**8.0** 0.31	**66.0** 2.60	**81.0** 3.19	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.37** 3.01
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**68.0** 2.68	**74.0** 2.91	**0.8** 0.03	**107.0** 4.21	**103.0** 4.06	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.38** 3.06
31.750 1.2500	**23.812** 0.9375	**-0.3** -0.01	**3.5** 0.14	**68.9** 2.71	**76.0** 2.99	**3.3** 0.13	**111.0** 4.37	**100.0** 3.94	**5.0** 0.19	**2.0** 0.08	50.2	16.4	0.0751	**1.50** 3.31
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.09** 4.62
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**6.4** 0.25	**66.0** 2.60	**78.0** 3.07	**3.3** 0.13	**110.0** 4.33	**105.0** 4.13	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.07** 4.57
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**0.8** 0.03	**110.0** 4.33	**107.0** 4.21	**3.8** 0.15	**1.9** 0.08	75.9	16.2	0.0694	**2.10** 4.65
31.750 1.2500	**23.812** 0.9375	**2.0** 0.08	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**116.0** 4.57	**105.0** 4.13	**5.2** 0.20	**2.0** 0.08	57.0	18.3	0.0797	**1.69** 3.74
32.791 1.2910	**25.400** 1.0000	**2.0** 0.08	**3.5** 0.14	**67.0** 2.64	**81.0** 3.19	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**4.7** 0.18	**4.4** 0.18	57.4	15.9	0.0825	**1.98** 4.37
36.678 1.4440	**33.338** 1.3125	**-9.4** -0.37	**3.5** 0.14	**70.0** 2.76	**76.0** 2.99	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.21** 4.85
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**70.0** 2.76	**76.0** 2.99	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.16** 4.75
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**70.0** 2.76	**76.0** 2.99	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.21** 4.87
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.79	**80.0** 3.15	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.71** 5.97
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**70.0** 2.76	**76.0** 2.99	**3.3** 0.13	**116.0** 4.57	**111.0** 4.37	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.45** 5.38
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**4.3** 0.17	**72.0** 2.83	**80.0** 3.15	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.96** 8.74
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**0.8** 0.03	**72.0** 2.83	**72.0** 2.83	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.97** 8.77
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**3.5** 0.14	**77.5** 3.05	**86.0** 3.39	**3.3** 0.13	**130.0** 5.12	**115.0** 4.53	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.52** 5.56

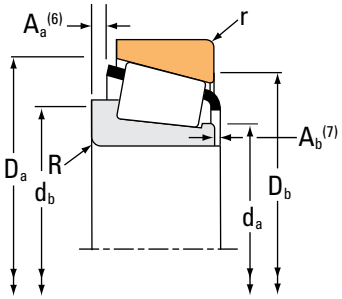
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
57.150 2.2500	**136.525** 5.3750	**41.275** 1.6250	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	635	632
57.150 2.2500	**140.030** 5.5130	**36.512** 1.4375	**203000** 45600	0.87	0.69	**52600** 11800	**77900** 17500	0.67	**193000** 43400	78225	78551
57.150 2.2500	**140.030** 5.5130	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78225C	78551
57.150 2.2500	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6455	6420
57.150 2.2500	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6465	6420
57.150 2.2500	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6465	6420A
57.150 2.2500	**152.400** 6.0000	**53.975** 2.1250	**339000** 76100	0.49	1.23	**87800** 19700	**73200** 16500	1.20	**423000** 95000	HH814540	HH814510
57.531 2.2650	**96.838** 3.8125	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	388A	382A
57.531 2.2650	**98.425** 3.8750	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	388A	382
57.531 2.2650	**100.000** 3.9370	**21.000** 0.8268	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	388A	383A
58.737 2.3125	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3981	3920
58.737 2.3125	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65231	65500
59.530 2.3437	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3978	3920
59.880 2.3575	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65235	65500
59.931 2.3595	**150.089** 5.9090	**44.450** 1.7500	**318000** 71400	0.33	1.84	**82400** 18500	**45900** 10300	1.80	**417000** 93800	745	742
59.977 2.3613	**100.000** 3.9370	**25.400** 1.0000	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28980	28921
59.977 2.3613	**122.238** 4.8125	**33.338** 1.3125	**155000** 34800	0.67	0.90	**40100** 9010	**45600** 10300	0.88	**178000** 39900	66586	66520

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

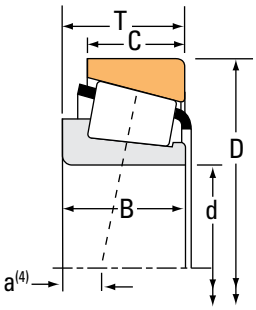
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**3.02** 6.66
33.236 1.3085	**23.520** 0.9260	**7.9** 0.31	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**2.3** 0.09	**132.0** 5.20	**117.0** 4.61	**6.9** 0.27	**4.2** 0.17	62.6	19.1	0.0884	**2.57** 5.67
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**3.5** 0.14	**77.5** 3.05	**86.0** 3.39	**2.3** 0.09	**132.0** 5.20	**117.0** 4.61	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.66** 5.88
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**5.09** 11.23
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**6.8** 0.27	**75.0** 2.95	**88.0** 3.46	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**5.07** 11.18
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**6.8** 0.27	**75.0** 2.95	**88.0** 3.46	**0.8** 0.03	**140.0** 5.51	**131.0** 5.16	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**5.09** 11.22
57.150 2.2500	**41.275** 1.6250	**-12.2** -0.48	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**3.3** 0.13	**143.0** 5.63	**130.0** 5.12	**5.2** 0.20	**0.2** 0.01	129.7	23.6	0.0957	**5.21** 11.48
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.58** 1.29
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.63** 1.39
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**2.0** 0.08	**93.0** 3.66	**89.0** 3.50	**1.1** 0.04	**2.0** 0.08	42.0	15.7	0.0859	**0.66** 1.46
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.34** 2.96
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.79	**81.0** 3.19	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.66** 5.86
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**1.5** 0.06	**68.0** 2.68	**70.0** 2.76	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.33** 2.94
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.79	**82.0** 3.23	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.63** 5.78
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**4.29** 9.45
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**96.0** 3.78	**89.0** 3.50	**2.0** 0.07	**1.4** 0.06	60.1	24.5	0.1032	**0.75** 1.67
31.750 1.2500	**23.812** 0.9375	**2.0** 0.08	**1.5** 0.06	**73.0** 2.87	**75.0** 2.95	**3.3** 0.13	**116.0** 4.57	**105.0** 4.13	**5.2** 0.20	**2.0** 0.08	57.0	18.3	0.0797	**1.63** 3.61

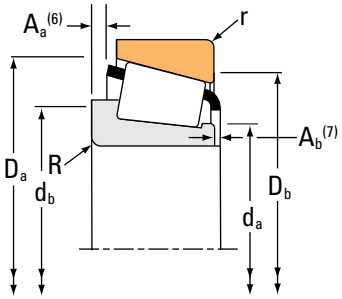
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
59.987 2.3617	**104.775** 4.1250	**21.433** 0.8438	**115000** 25800	0.39	1.55	**29700** 6680	**19700** 4440	1.51	**120000** 27000	39236	39412
59.987 2.3617	**109.985** 4.3301	**29.751** 1.1713	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3977X	3921XA
59.987 2.3617	**110.058** 4.3330	**22.000** 0.8661	**115000** 25800	0.39	1.55	**29700** 6680	**19700** 4440	1.51	**120000** 27000	39236	39433
59.987 2.3617	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3977X	3920
59.987 2.3617	**125.000** 4.9213	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	558-S	553A
59.987 2.3617	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813839	HM813810
59.987 2.3617	**129.944** 5.1159	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	558-S	553-SA
59.987 2.3617	**130.175** 5.1250	**34.100** 1.3425	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911244	HM911210
59.987 2.3617	**134.983** 5.3143	**33.450** 1.3169	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911244	HM911216
59.987 2.3617	**146.050** 5.7500	**41.275** 1.6250	**273000** 61300	0.78	0.77	**70700** 15900	**94700** 21300	0.75	**256000** 57500	H913840	H913810
60.000 2.3622	**95.000** 3.7402	**24.000** 0.9449	**97600** 21900	0.40	1.49	**25300** 5690	**17400** 3910	1.45	**135000** 30400	JLM508748	JLM508710
60.000 2.3622	**100.000** 3.9370	**21.000** 0.8268	**87300** 19600	0.47	1.27	**22600** 5090	**18300** 4120	1.24	**101000** 22800	JP6049	JP6010
60.000 2.3622	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29580	29520
60.000 2.3622	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29582	29520
60.000 2.3622	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29582	29522
60.000 2.3622	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	397	394AS
60.000 2.3622	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	397	394A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

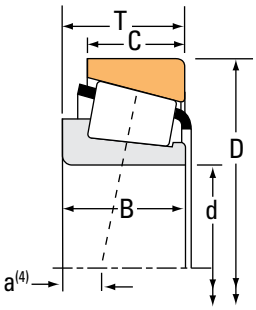
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.000 0.8661	**15.875** 0.6250	**-1.5** -0.06	**2.3** 0.09	**67.0** 2.64	**71.0** 2.80	**2.0** 0.08	**100.0** 3.94	**96.0** 3.78	**1.6** 0.06	**2.4** 0.10	51.7	19.5	0.0947	**0.74** 1.62
28.000 1.1024	**23.812** 0.9375	**-4.6** -0.18	**2.3** 0.09	**68.0** 2.68	**72.0** 2.83	**0.5** 0.02	**104.6** 4.12	**100.0** 3.94	**2.2** 0.08	**3.2** 0.13	75.2	21.3	0.1092	**1.20** 2.65
22.000 0.8661	**17.236** 0.6786	**-1.5** -0.06	**2.3** 0.09	**67.0** 2.64	**71.0** 2.80	**2.3** 0.09	**103.0** 4.06	**98.0** 3.86	**1.6** 0.06	**2.4** 0.10	51.7	19.5	0.0947	**0.86** 1.91
28.000 1.1024	**23.812** 0.9375	**-4.6** -0.18	**2.3** 0.09	**68.0** 2.68	**72.0** 2.83	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**3.2** 0.13	75.2	21.3	0.1092	**1.29** 2.85
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.13** 4.69
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**75.0** 2.95	**82.0** 3.23	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.18** 4.82
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**116.0** 4.57	**111.0** 4.37	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.37** 5.20
30.924 1.2175	**23.812** 0.9375	**7.9** 0.31	**3.5** 0.14	**74.4** 2.93	**84.0** 3.31	**3.3** 0.13	**123.6** 4.87	**109.0** 4.29	**4.9** 0.19	**4.3** 0.17	56.4	16.5	0.0842	**1.99** 4.40
30.924 1.2175	**21.948** 0.8641	**7.9** 0.31	**3.5** 0.14	**74.4** 2.93	**84.0** 3.31	**3.5** 0.14	**123.0** 4.84	**112.0** 4.41	**4.9** 0.19	**4.3** 0.17	56.4	16.5	0.0842	**2.12** 4.67
39.688 1.5625	**25.400** 1.0000	**4.3** 0.17	**3.5** 0.14	**82.0** 3.23	**97.0** 3.82	**3.3** 0.13	**138.0** 5.43	**124.0** 4.88	**8.2** 0.32	**3.6** 0.14	78.5	17.3	0.0927	**3.19** 7.02
24.000 0.9449	**19.000** 0.7480	**-2.8** -0.11	**5.0** 0.20	**66.0** 2.60	**75.0** 2.95	**2.5** 0.10	**91.0** 3.58	**85.0** 3.35	**1.4** 0.05	**1.6** 0.07	54.2	27.5	0.0979	**0.59** 1.30
20.000 0.7874	**15.500** 0.6102	**1.3** 0.05	**2.0** 0.08	**66.0** 2.60	**69.0** 2.72	**2.0** 0.08	**95.5** 3.76	**91.0** 3.58	**1.4** 0.05	**2.9** 0.12	39.5	22.5	0.9220	**0.59** 1.31
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**3.3** 0.13	**103.0** 4.06	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.98** 2.15
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**0.8** 0.03	**68.0** 2.68	**69.0** 2.72	**3.3** 0.13	**103.0** 4.06	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.99** 2.18
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**0.8** 0.03	**68.0** 2.68	**69.0** 2.72	**0.8** 0.03	**103.0** 4.06	**98.0** 3.86	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**1.00** 2.20
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**0.8** 0.03	**68.0** 2.68	**69.0** 2.72	**3.3** 0.13	**104.5** 4.11	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.89** 1.95
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**0.8** 0.03	**68.0** 2.68	**69.0** 2.72	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.90** 1.98

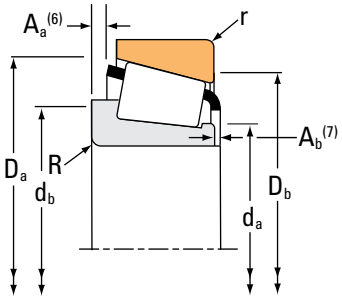
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
60.000 2.3622	**110.000** 4.3307	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29580	29521
60.000 2.3622	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3977	3920
60.000 2.3622	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3977	3925
60.000 2.3622	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	476	472
60.000 2.3622	**122.238** 4.8125	**33.338** 1.3125	**183000** 41200	0.67	0.90	**47500** 10700	**54100** 12200	0.88	**178000** 39900	66585	66520
60.000 2.3622	**125.000** 4.9213	**37.000** 1.4567	**172000** 38600	0.82	0.73	**44500** 10000	**62500** 14000	0.71	**210000** 47100	JW6049	JW6010
60.325 2.3750	**100.000** 3.9370	**25.400** 1.0000	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28985	28921A
60.325 2.3750	**100.000** 3.9370	**25.400** 1.0000	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28985	28921
60.325 2.3750	**101.600** 4.0000	**25.400** 1.0000	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28985	28920
60.325 2.3750	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3980	3920
60.325 2.3750	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3980	3925
60.325 2.3750	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212044	HM212011
60.325 2.3750	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212044	HM212010
60.325 2.3750	**122.238** 4.8125	**43.658** 1.7188	**280000** 63000	0.36	1.67	**72700** 16300	**44600** 10000	1.63	**327000** 73500	5582	5535
60.325 2.3750	**122.238** 4.8125	**43.658** 1.7188	**280000** 63000	0.36	1.67	**72700** 16300	**44600** 10000	1.63	**327000** 73500	5583	5535
60.325 2.3750	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	558	552A
60.325 2.3750	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	558	552

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

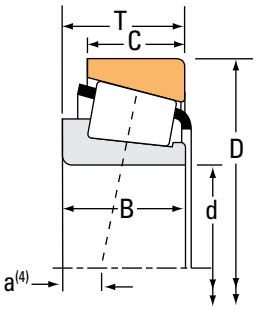
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**1.3** 0.05	**104.0** 4.09	**99.0** 3.90	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**1.05** 2.30
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**68.0** 2.68	**74.0** 2.91	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.31** 2.90
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**68.0** 2.68	**74.0** 2.91	**0.8** 0.03	**106.0** 4.17	**101.0** 3.98	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.32** 2.91
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**2.0** 0.08	**69.0** 2.72	**73.0** 2.87	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.55** 3.40
31.750 1.2500	**23.812** 0.9375	**2.0** 0.08	**3.5** 0.14	**73.0** 2.87	**79.0** 3.11	**3.3** 0.13	**116.0** 4.57	**105.0** 4.13	**5.2** 0.20	**2.0** 0.08	57.0	18.3	0.0797	**1.62** 3.59
33.500 1.3189	**26.000** 1.0236	**4.8** 0.19	**3.0** 0.12	**72.0** 2.83	**89.0** 3.50	**3.0** 0.12	**119.0** 4.69	**104.0** 4.09	**5.9** 0.23	**4.1** 0.16	64.1	18.6	0.0883	**2.02** 4.46
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**0.8** 0.03	**96.0** 3.78	**91.0** 3.58	**2.0** 0.07	**1.4** 0.06	60.1	24.5	0.1032	**0.76** 1.68
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**96.0** 3.78	**89.0** 3.50	**2.0** 0.07	**1.4** 0.06	60.1	24.5	0.1032	**0.74** 1.65
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**3.3** 0.13	**97.0** 3.82	**90.0** 3.54	**2.0** 0.07	**1.4** 0.06	60.1	24.5	0.1032	**0.78** 1.74
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.30** 2.89
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**0.8** 0.03	**106.0** 4.17	**101.0** 3.98	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.31** 2.90
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**8.0** 0.31	**70.0** 2.76	**85.0** 3.35	**3.3** 0.13	**116.0** 4.57	**108.0** 4.25	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**2.03** 4.45
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**8.0** 0.31	**70.0** 2.76	**85.0** 3.35	**1.5** 0.06	**116.0** 4.57	**110.0** 4.33	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**2.03** 4.46
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**0.8** 0.03	**72.0** 2.83	**73.0** 2.87	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.40** 5.30
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.39** 5.28
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**2.3** 0.09	**72.0** 2.83	**76.0** 2.99	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.08** 4.57
36.678 1.4440	**33.338** 1.3125	**-9.4** -0.37	**2.3** 0.09	**72.0** 2.83	**76.0** 2.99	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.13** 4.67

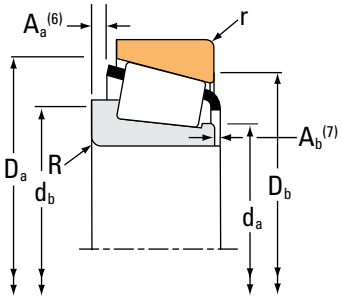
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
60.325 2.3750	**123.825** 4.8750	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	558A	552A
60.325 2.3750	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813841	HM813811
60.325 2.3750	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813841A	HM813811
60.325 2.3750	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813841	HM813810
60.325 2.3750	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65237	65500
60.325 2.3750	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65237	65501
60.325 2.3750	**127.000** 5.0000	**44.450** 1.7500	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65237A	65500
60.325 2.3750	**130.175** 5.1250	**36.512** 1.4375	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911245	HM911210
60.325 2.3750	**130.175** 5.1250	**41.275** 1.6250	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	637	633
60.325 2.3750	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6376	6320
60.325 2.3750	**136.525** 5.3750	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78238C	78537
60.325 2.3750	**136.525** 5.3750	**41.275** 1.6250	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	637	632
60.325 2.3750	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715332	H715311
60.325 2.3750	**136.525** 5.3750	**46.038** 1.8125	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65237	65537
60.325 2.3750	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715332	H715310
60.325 2.3750	**140.030** 5.5130	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78238C	78551
60.325 2.3750	**152.400** 6.0000	**52.705** 2.0750	**354000** 79600	0.49	1.23	**91800** 20600	**76600** 17200	1.20	**451000** 101000	HH814542	HH814510

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

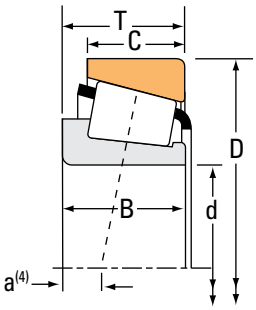
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**69.0** 2.72	**76.0** 2.99	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.07** 4.55
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**77.0** 3.02	**83.0** 3.27	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.17** 4.80
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**1.5** 0.06	**76.0** 2.99	**78.0** 3.07	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.18** 4.81
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**77.0** 3.02	**83.0** 3.27	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.17** 4.80
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**87.0** 3.43	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.61** 5.76
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**87.0** 3.43	**1.3** 0.05	**119.0** 4.69	**108.0** 4.25	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.61** 5.76
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**1.5** 0.06	**71.1** 2.80	**78.0** 3.07	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**2.62** 5.76
33.338 1.3125	**23.812** 0.9375	**5.3** 0.21	**5.0** 0.20	**74.0** 2.91	**93.0** 3.66	**3.3** 0.13	**123.6** 4.87	**109.0** 4.29	**7.3** 0.29	**4.3** 0.17	56.4	16.5	0.0842	**2.06** 4.55
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**124.0** 4.88	**116.0** 4.57	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.59** 5.69
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.83** 8.46
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**5.0** 0.20	**77.5** 3.05	**91.0** 3.58	**3.3** 0.13	**130.0** 5.12	**115.0** 4.53	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.44** 5.37
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.93** 6.45
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.53** 7.77
44.450 1.7500	**36.512** 1.4375	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**87.0** 3.43	**3.0** 0.12	**120.0** 4.72	**112.0** 4.41	**4.1** 0.16	**1.1** 0.05	83.2	17.2	0.0827	**3.23** 7.12
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.71** 8.17
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**5.0** 0.20	**77.5** 3.05	**91.0** 3.58	**2.3** 0.09	**132.0** 5.20	**117.0** 4.61	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.58** 5.69
52.705 2.0750	**41.275** 1.6250	**-10.9** -0.43	**3.5** 0.14	**83.0** 3.27	**89.0** 3.50	**3.3** 0.13	**143.0** 5.63	**130.0** 5.12	**4.0** 0.16	**2.5** 0.10	135.7	24.6	0.0973	**5.02** 11.06

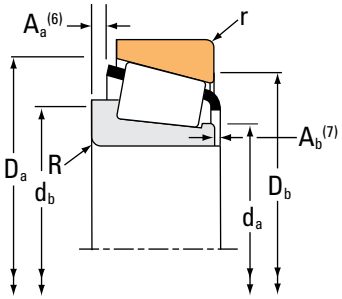
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
61.912 2.4375	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	392	394A
61.912 2.4375	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	392	3920
61.912 2.4375	**123.825** 4.8750	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	554	552A
61.912 2.4375	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813843	HM813810
61.912 2.4375	**130.175** 5.1250	**36.512** 1.4375	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911249	HM911210
61.912 2.4375	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715334	H715311
61.912 2.4375	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715334	H715310
61.912 2.4375	**146.050** 5.7500	**41.275** 1.6250	**273000** 61300	0.78	0.77	**70700** 15900	**94700** 21300	0.75	**256000** 57500	H913842	H913810
61.912 2.4375	**146.050** 5.7500	**41.275** 1.6250	**273000** 61300	0.78	0.77	**70700** 15900	**94700** 21300	0.75	**256000** 57500	H913843	H913810
61.912 2.4375	**152.400** 6.0000	**47.625** 1.8750	**285000** 64200	0.66	0.91	**74000** 16600	**83100** 18700	0.89	**306000** 68700	9180	9121
61.912 2.4375	**152.400** 6.0000	**47.625** 1.8750	**285000** 64200	0.66	0.91	**74000** 16600	**83100** 18700	0.89	**306000** 68700	9181	9121
61.912 2.4375	**158.750** 6.2500	**50.800** 2.0000	**285000** 64200	0.66	0.91	**74000** 16600	**83100** 18700	0.89	**306000** 68700	9181	9120
61.912 2.4375	**158.750** 6.2500	**50.800** 2.0000	**285000** 64200	0.66	0.91	**74000** 16600	**83100** 18700	0.89	**306000** 68700	9180	9120
61.912 2.4375	**158.750** 6.2500	**55.562** 2.1875	**285000** 64200	0.66	0.91	**74000** 16600	**83100** 18700	0.89	**306000** 68700	9178	9120
61.976 2.4400	**99.979** 3.9362	**23.812** 0.9375	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28990	28919
62.737 2.4700	**100.000** 3.9370	**25.400** 1.0000	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28995	28921
62.737 2.4700	**101.600** 4.0000	**25.400** 1.0000	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28995	28920

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

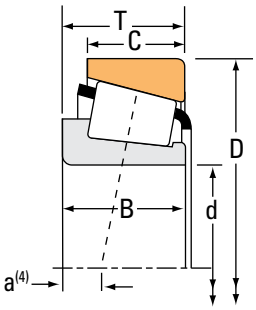
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**0.8** 0.03	**69.0** 2.72	**70.0** 2.76	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.86** 1.91
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**0.8** 0.03	**69.0** 2.72	**70.0** 2.76	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**1.05** 2.33
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.02** 4.46
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.13** 4.71
33.338 1.3125	**23.812** 0.9375	**5.3** 0.21	**3.5** 0.14	**74.0** 2.91	**91.0** 3.58	**3.3** 0.13	**123.6** 4.87	**109.0** 4.29	**7.3** 0.29	**4.3** 0.17	56.4	16.5	0.0842	**2.03** 4.48
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.47** 7.65
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.65** 8.05
39.688 1.5625	**25.400** 1.0000	**4.3** 0.17	**3.5** 0.14	**82.4** 3.24	**90.0** 3.54	**3.3** 0.13	**138.0** 5.43	**124.0** 4.88	**8.2** 0.32	**3.6** 0.14	78.5	17.3	0.0927	**3.13** 6.90
39.688 1.5625	**25.400** 1.0000	**4.3** 0.17	**7.0** 0.28	**82.4** 3.24	**97.0** 3.82	**3.3** 0.13	**138.0** 5.43	**124.0** 4.88	**8.2** 0.32	**3.6** 0.14	78.5	17.3	0.0927	**3.11** 6.87
46.038 1.8125	**31.750** 1.2500	**-3.8** -0.15	**3.5** 0.14	**81.3** 3.20	**90.0** 3.54	**3.3** 0.13	**145.0** 5.71	**130.0** 5.12	**8.1** 0.31	**4.1** 0.16	87.6	13.7	0.0912	**3.98** 8.78
46.038 1.8125	**31.750** 1.2500	**-3.8** -0.15	**0.8** 0.03	**81.3** 3.20	**85.0** 3.35	**3.3** 0.13	**145.0** 5.71	**130.0** 5.12	**8.1** 0.31	**4.1** 0.16	87.6	13.7	0.0912	**3.99** 8.80
46.038 1.8125	**34.925** 1.3750	**-3.8** -0.15	**0.8** 0.03	**81.3** 3.20	**85.0** 3.35	**3.3** 0.13	**146.0** 5.75	**131.0** 5.16	**8.1** 0.31	**4.1** 0.16	87.6	13.7	0.0912	**4.61** 10.17
46.038 1.8125	**34.925** 1.3750	**-3.8** -0.15	**3.5** 0.14	**81.3** 3.20	**90.0** 3.54	**3.3** 0.13	**146.0** 5.75	**131.0** 5.16	**8.1** 0.31	**4.1** 0.16	87.6	13.7	0.0912	**4.60** 10.14
52.388 2.0625	**34.925** 1.3750	**-8.4** -0.33	**3.5** 0.14	**81.3** 3.20	**90.0** 3.54	**3.3** 0.13	**146.0** 5.75	**131.0** 5.16	**12.8** 0.50	**2.5** 0.10	87.6	13.7	0.0912	**4.86** 10.71
24.608 0.9688	**19.050** 0.7500	**-1.8** -0.07	**2.0** 0.08	**68.0** 2.68	**72.0** 2.83	**1.5** 0.06	**96.0** 3.78	**90.0** 3.54	**1.2** 0.04	**1.4** 0.06	60.1	24.5	0.1032	**0.70** 1.56
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**96.0** 3.78	**89.0** 3.50	**2.0** 0.07	**1.4** 0.06	60.1	24.5	0.1032	**0.69** 1.55
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**3.3** 0.13	**97.0** 3.82	**90.0** 3.54	**2.0** 0.07	**1.4** 0.06	60.1	24.5	0.1032	**0.73** 1.64

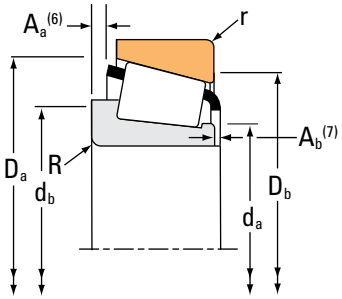
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
63.500 2.5000	**92.075** 3.6250	**13.495** 0.5313	**38700** 8700	0.41	1.48	**10000** 2260	**6960** 1560	1.44	**53300** 12000	LL510749	LL510710
63.500 2.5000	**94.458** 3.7188	**19.050** 0.7500	**67000** 15100	0.42	1.41	**17400** 3910	**12600** 2840	1.38	**108000** 24300	L610549	L610510
63.500 2.5000	**104.775** 4.1250	**21.433** 0.8438	**115000** 25800	0.39	1.55	**29700** 6680	**19700** 4440	1.51	**120000** 27000	39250	39412
63.500 2.5000	**107.158** 4.2188	**22.000** 0.8661	**115000** 25800	0.39	1.55	**29700** 6680	**19700** 4440	1.51	**120000** 27000	39250	39422
63.500 2.5000	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29585	29520
63.500 2.5000	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29585	29522
63.500 2.5000	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29586	29520
63.500 2.5000	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29586	29522
63.500 2.5000	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395	394
63.500 2.5000	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395	394A
63.500 2.5000	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395	394AS
63.500 2.5000	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	390A	394AS
63.500 2.5000	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	390A	394A
63.500 2.5000	**110.000** 4.3307	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29585	29521
63.500 2.5000	**110.000** 4.3307	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29586	29521
63.500 2.5000	**110.000** 4.3307	**29.370** 1.1563	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3982X	3927AS
63.500 2.5000	**110.000** 4.3307	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3982	3927X

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

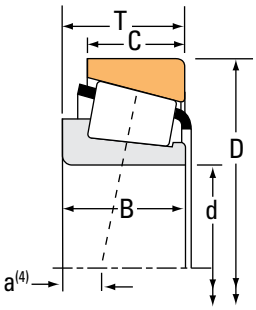
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
12.700 0.5000	**9.525** 0.3750	**3.0** 0.12	**1.5** 0.06	**68.0** 2.68	**70.0** 2.76	**1.5** 0.06	**88.0** 3.46	**86.0** 3.39	**0.5** 0.02	**1.9** 0.08	33.9	45.9	0.0827	**0.26** 0.58
19.050 0.7500	**15.083** 0.5938	**0.5** 0.02	**1.5** 0.06	**69.0** 2.72	**71.0** 2.80	**1.5** 0.06	**91.0** 3.58	**86.0** 3.39	**0.9** 0.03	**1.5** 0.06	56.7	50.3	0.1006	**0.45** 0.99
22.000 0.8661	**15.875** 0.6250	**-1.5** -0.06	**2.0** 0.08	**69.0** 2.72	**73.0** 2.87	**2.0** 0.08	**100.0** 3.94	**96.0** 3.78	**1.6** 0.06	**2.4** 0.10	51.7	19.5	0.0947	**0.68** 1.50
22.000 0.8661	**21.204** 0.8348	**-1.5** -0.06	**2.0** 0.08	**69.0** 2.72	**73.0** 2.87	**2.3** 0.09	**102.0** 4.02	**97.0** 3.82	**1.6** 0.06	**2.4** 0.10	51.7	19.5	0.0947	**0.77** 1.71
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**103.0** 4.06	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.91** 2.01
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**0.8** 0.03	**103.0** 4.06	**98.0** 3.86	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.92** 2.03
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**1.5** 0.06	**71.0** 2.80	**73.0** 2.87	**3.3** 0.13	**103.0** 4.06	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.92** 2.02
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**1.5** 0.06	**71.0** 2.80	**73.0** 2.87	**0.8** 0.03	**103.0** 4.06	**98.0** 3.86	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.93** 2.05
21.996 0.8660	**22.000** 0.8661	**-0.8** -0.03	**3.5** 0.14	**70.0** 2.76	**77.0** 3.03	**0.8** 0.03	**106.2** 4.18	**101.0** 3.98	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.85** 1.88
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**3.5** 0.14	**70.0** 2.76	**77.0** 3.03	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.83** 1.84
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**3.5** 0.14	**70.0** 2.76	**77.0** 3.03	**3.3** 0.13	**104.5** 4.11	**99.0** 3.90	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.82** 1.81
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**1.5** 0.06	**70.0** 2.76	**73.0** 2.87	**3.3** 0.13	**104.5** 4.11	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.83** 1.81
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**1.5** 0.06	**70.0** 2.76	**73.0** 2.87	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.84** 1.84
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**1.3** 0.05	**104.0** 4.09	**99.0** 3.90	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.98** 2.15
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**1.5** 0.06	**71.0** 2.80	**73.0** 2.87	**1.3** 0.05	**104.0** 4.09	**99.0** 3.90	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.99** 2.17
30.048 1.1830	**23.020** 0.9063	**-4.6** -0.18	**7.0** 0.28	**71.0** 2.80	**84.0** 3.31	**0.5** 0.02	**105.0** 4.13	**101.0** 3.94	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.10** 2.43
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**105.0** 4.13	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.13** 2.50

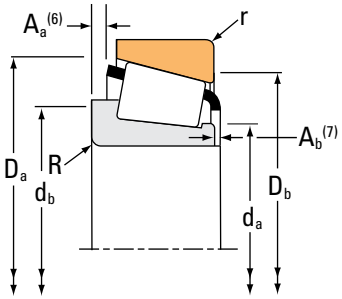
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
63.500 2.5000	**110.058** 4.3330	**22.000** 0.8661	**115000** 25800	0.39	1.55	**29700** 6680	**19700** 4440	1.51	**120000** 27000	39250	39433
63.500 2.5000	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395	3920
63.500 2.5000	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	390A	3920
63.500 2.5000	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3982	3925
63.500 2.5000	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3982	3920
63.500 2.5000	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39585	39520
63.500 2.5000	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39585A	39520
63.500 2.5000	**112.712** 4.4375	**33.338** 1.3125	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3982	3926
63.500 2.5000	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33251	33462
63.500 2.5000	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	483	472A
63.500 2.5000	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	477	472A
63.500 2.5000	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	477	473
63.500 2.5000	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	483	472
63.500 2.5000	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	477	472
63.500 2.5000	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212046	HM212010
63.500 2.5000	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212047	HM212010
63.500 2.5000	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212047	HM212011

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

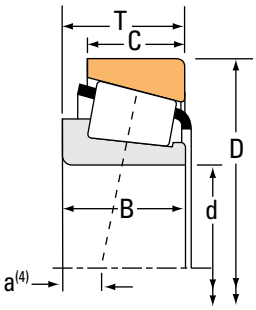
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.000 0.8661	**17.236** 0.6786	**-1.5** -0.06	**2.0** 0.08	**69.0** 2.72	**73.0** 2.87	**2.3** 0.09	**103.0** 4.06	**98.0** 3.86	**1.6** 0.06	**2.4** 0.10	51.7	19.5	0.0947	**0.80** 1.78
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**3.5** 0.14	**70.0** 2.76	**77.0** 3.03	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**1.02** 2.26
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**1.5** 0.06	**70.0** 2.76	**73.0** 2.87	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**1.03** 2.26
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**0.8** 0.03	**106.0** 4.17	**101.0** 3.98	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.24** 2.73
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.23** 2.72
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.23** 2.72
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**0.8** 0.03	**71.0** 2.80	**72.0** 2.83	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.24** 2.74
30.048 1.1830	**26.988** 1.0625	**-4.6** -0.18	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**3.3** 0.13	**106.0** 4.17	**98.0** 3.86	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.31** 2.90
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**0.8** 0.03	**72.0** 2.83	**73.0** 2.87	**3.3** 0.13	**112.0** 4.41	**104.0** 4.09	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.42** 3.13
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.43** 3.15
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**0.8** 0.03	**72.0** 2.83	**73.0** 2.87	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.44** 3.17
29.007 1.1420	**29.000** 1.1417	**-4.1** -0.16	**0.8** 0.03	**72.0** 2.83	**73.0** 2.87	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.52** 3.35
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.46** 3.22
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**0.8** 0.03	**72.0** 2.83	**73.0** 2.87	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.47** 3.24
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**1.5** 0.06	**116.0** 4.57	**110.0** 4.33	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**1.95** 4.30
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**7.0** 0.28	**73.0** 2.87	**87.0** 3.43	**1.5** 0.06	**116.0** 4.57	**110.0** 4.33	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**1.94** 4.27
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**7.0** 0.28	**73.0** 2.87	**87.0** 3.43	**3.3** 0.13	**116.0** 4.57	**108.0** 4.25	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**1.94** 4.25

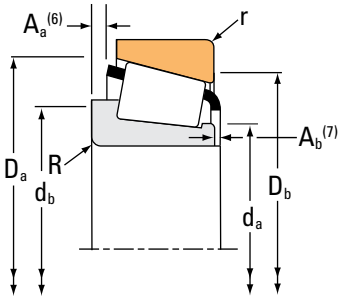
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
63.500 2.5000	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212046	HM212011
63.500 2.5000	**122.238** 4.8125	**43.658** 1.7188	**237000** 53200	0.36	1.67	**61300** 13800	**37600** 8460	1.63	**327000** 73500	5564	5535
63.500 2.5000	**122.238** 4.8125	**43.658** 1.7188	**280000** 63000	0.36	1.67	**72700** 16300	**44600** 10000	1.63	**327000** 73500	5584	5535
63.500 2.5000	**123.825** 4.8750	**30.162** 1.1875	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	483	472X
63.500 2.5000	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	559	552
63.500 2.5000	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	559	552A
63.500 2.5000	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	565	563
63.500 2.5000	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813842	HM813811
63.500 2.5000	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813842	HM813810
63.500 2.5000	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813842A	HM813810
63.500 2.5000	**130.000** 5.1181	**36.937** 1.4542	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	565-S	562X
63.500 2.5000	**130.000** 5.1181	**36.937** 1.4542	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	565	562X
63.500 2.5000	**130.000** 5.1181	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	639	633X
63.500 2.5000	**130.175** 5.1250	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	639	633
63.500 2.5000	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6382	6320
63.500 2.5000	**136.525** 5.3750	**36.512** 1.4375	**203000** 45600	0.87	0.69	**52600** 11800	**77900** 17500	0.67	**193000** 43400	78250	78537
63.500 2.5000	**136.525** 5.3750	**36.512** 1.4375	**237000** 53200	0.87	0.69	**61300** 13800	**90900** 20400	0.67	**234000** 52600	78248C	78537

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

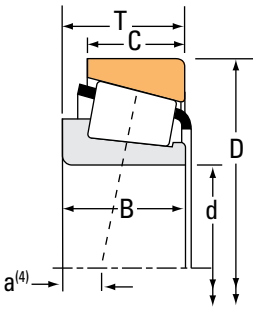
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**3.3** 0.13	**116.0** 4.57	**108.0** 4.25	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**1.95** 4.28
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**5.0** 0.20	**75.0** 2.95	**84.0** 3.31	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.27** 5.02
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.28** 5.04
29.007 1.1420	**24.605** 0.9687	**-4.1** -0.16	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**115.0** 4.53	**109.0** 4.29	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.60** 3.52
36.678 1.4440	**33.338** 1.3125	**-9.4** -0.37	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.03** 4.47
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**1.98** 4.37
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**2.09** 4.62
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**78.0** 3.07	**84.0** 3.31	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.09** 4.61
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**78.0** 3.07	**84.0** 3.31	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.09** 4.61
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**0.8** 0.03	**78.0** 3.07	**78.0** 3.07	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**2.09** 4.62
36.170 1.4240	**29.000** 1.1417	**-8.1** -0.32	**6.4** 0.25	**73.0** 2.87	**85.0** 3.35	**3.0** 0.12	**121.0** 4.76	**114.0** 4.49	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**2.21** 4.88
36.170 1.4240	**29.000** 1.1417	**-8.1** -0.32	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**3.0** 0.12	**121.0** 4.76	**114.0** 4.49	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**2.24** 4.93
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**3.0** 0.12	**123.0** 4.84	**117.0** 4.61	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.48** 5.46
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**3.3** 0.13	**124.0** 4.88	**116.0** 4.57	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.49** 5.47
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**4.3** 0.17	**77.0** 3.03	**84.0** 3.31	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.69** 8.15
33.236 1.3085	**23.520** 0.9260	**7.9** 0.31	**2.3** 0.09	**79.0** 3.10	**85.0** 3.35	**3.3** 0.13	**130.0** 5.12	**115.0** 4.53	**6.9** 0.27	**4.2** 0.17	62.6	19.1	0.0884	**2.28** 5.02
33.236 1.3085	**23.520** 0.9260	**8.4** 0.33	**0.8** 0.03	**77.0** 3.03	**92.0** 3.62	**3.3** 0.13	**130.0** 5.12	**115.0** 4.53	**6.3** 0.25	**4.9** 0.20	71.3	17.6	0.0926	**2.38** 5.24

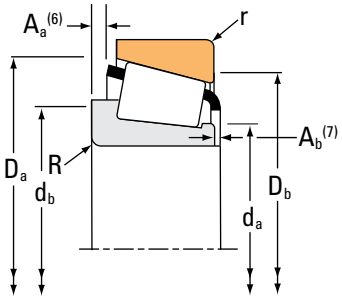
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
63.500 2.5000	**136.525** 5.3750	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	639	632
63.500 2.5000	**136.525** 5.3750	**41.275** 1.6250	**323000** 72600	0.36	1.67	**83700** 18800	**51600** 11600	1.62	**335000** 75400	H414235	H414210
63.500 2.5000	**136.525** 5.3750	**41.275** 1.6250	**272000** 61200	0.36	1.67	**70600** 15900	**43500** 9790	1.62	**335000** 75400	H414236	H414210
63.500 2.5000	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715336	H715311
63.500 2.5000	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715336	H715310
63.500 2.5000	**140.030** 5.5130	**36.512** 1.4375	**203000** 45600	0.87	0.69	**52600** 11800	**77900** 17500	0.67	**193000** 43400	78250	78551
63.500 2.5000	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6475	6420
63.500 2.5000	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	745-S	742
63.500 2.5000	**177.800** 7.0000	**56.642** 2.2300	**451000** 101000	0.80	0.75	**117000** 26300	**160000** 35900	0.73	**413000** 92900	HH914447	HH914412
64.960 2.5575	**149.225** 5.8750	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	656	652A
64.960 2.5575	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6464	6420
64.963 2.5576	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	569	563
64.987 2.5586	**107.950** 4.2500	**25.400** 1.0000	**110000** 24800	0.46	1.31	**28600** 6420	**22400** 5040	1.27	**161000** 36300	29588	29520
64.987 2.5586	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39586	39520
64.987 2.5586	**119.985** 4.7238	**32.750** 1.2894	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39586	39528
64.987 2.5586	**140.030** 5.5130	**36.512** 1.4375	**203000** 45600	0.87	0.69	**52600** 11800	**77900** 17500	0.67	**193000** 43400	78255X	78551
64.987 2.5586	**144.983** 5.7080	**36.000** 1.4173	**203000** 45600	0.87	0.69	**52600** 11800	**77900** 17500	0.67	**193000** 43400	78255X	78571

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

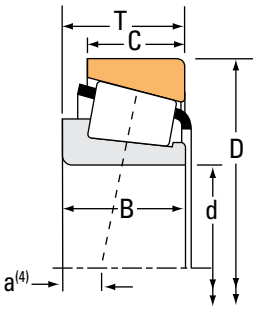
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.83** 6.23
41.275 1.6250	**31.750** 1.2500	**-10.9** -0.43	**3.5** 0.14	**78.0** 3.07	**82.0** 3.23	**3.3** 0.13	**129.0** 5.08	**121.0** 4.76	**3.7** 0.14	**3.1** 0.12	112.8	22.9	0.0827	**2.82** 6.22
41.275 1.6250	**31.750** 1.2500	**-10.9** -0.43	**7.0** 0.28	**78.0** 3.07	**89.0** 3.50	**3.3** 0.13	**129.0** 5.08	**121.0** 4.76	**3.7** 0.14	**3.1** 0.12	112.8	22.9	0.0827	**2.78** 6.15
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.41** 7.52
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.59** 7.93
33.236 1.3085	**23.520** 0.9260	**7.9** 0.31	**2.3** 0.09	**79.0** 3.10	**85.0** 3.35	**2.3** 0.09	**132.0** 5.20	**117.0** 4.61	**6.9** 0.27	**4.2** 0.17	62.6	19.1	0.0884	**2.42** 5.34
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.84** 10.67
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**77.0** 3.03	**84.0** 3.31	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**4.17** 9.18
53.975 2.1250	**37.308** 1.4688	**-0.3** -0.01	**3.5** 0.14	**85.3** 3.36	**105.0** 4.13	**3.3** 0.13	**165.0** 6.50	**146.0** 5.75	**9.8** 0.38	**4.7** 0.19	111.4	17.8	0.1044	**6.79** 14.97
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**3.3** 0.13	**141.0** 5.55	**132.0** 5.20	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.58** 7.89
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.77** 10.53
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**2.04** 4.53
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**103.0** 4.06	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.88** 1.94
30.924 1.2175	**23.812** 0.9375	**-6.6** -0.26	**2.3** 0.09	**72.0** 2.83	**76.0** 2.99	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**1.9** 0.08	84.3	23.7	0.1074	**1.21** 2.67
30.924 1.2175	**26.950** 1.0610	**-6.6** -0.26	**2.3** 0.09	**72.0** 2.83	**76.0** 2.99	**0.8** 0.03	**110.0** 4.33	**107.0** 4.21	**1.6** 0.06	**1.9** 0.08	84.3	23.7	0.1074	**1.55** 3.43
32.923 1.2962	**23.520** 0.9260	**7.9** 0.31	**3.5** 0.14	**79.0** 3.11	**89.0** 3.50	**2.3** 0.09	**132.0** 5.20	**117.0** 4.61	**6.9** 0.27	**4.5** 0.18	62.6	19.1	0.0884	**2.37** 5.23
32.923 1.2962	**23.007** 0.9058	**7.9** 0.31	**3.5** 0.14	**79.0** 3.11	**89.0** 3.50	**3.5** 0.14	**132.0** 5.20	**118.0** 4.65	**6.9** 0.27	**4.5** 0.18	62.6	19.1	0.0884	**2.52** 5.56

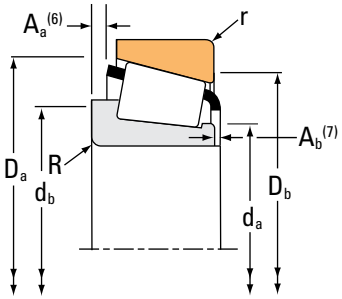
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
65.000 2.5591	**105.000** 4.1339	**24.000** 0.9449	**108000** 24300	0.45	1.32	**28000** 6310	**21800** 4900	1.29	**139000** 31300	JLM710949C	JLM710910
65.000 2.5591	**110.000** 4.3307	**28.000** 1.1024	**141000** 31700	0.40	1.49	**36600** 8220	**25200** 5660	1.45	**195000** 43900	JM511946	JM511910
65.000 2.5591	**112.712** 4.4375	**22.225** 0.8750	**91600** 20600	0.40	1.49	**23700** 5340	**16300** 3670	1.45	**125000** 28100	399	393A
65.000 2.5591	**112.712** 4.4375	**29.020** 1.1425	**167000** 37600	0.40	1.49	**43300** 9740	**29800** 6700	1.45	**195000** 43900	JM511946	3920
65.000 2.5591	**112.712** 4.4375	**29.020** 1.1425	**167000** 37600	0.40	1.49	**43300** 9740	**29800** 6700	1.45	**195000** 43900	JM511945	3920
65.000 2.5591	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	478	472A
65.000 2.5591	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	478	473
65.000 2.5591	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	478	472
65.000 2.5591	**120.000** 4.7244	**39.000** 1.5354	**223000** 50100	0.34	1.78	**57800** 13000	**33400** 7500	1.73	**283000** 63600	JH211749	JH211710
65.000 2.5591	**120.000** 4.7244	**39.000** 1.5354	**223000** 50100	0.34	1.78	**57800** 13000	**33400** 7500	1.73	**283000** 63600	JH211749A	JH211710
65.000 2.5591	**123.825** 4.8750	**30.162** 1.1875	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	478	472X
65.000 2.5591	**140.000** 5.5118	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	J6392	J6327
65.087 2.5625	**135.755** 5.3447	**53.975** 2.1250	**381000** 85600	0.32	1.85	**98800** 22200	**54900** 12300	1.80	**404000** 90900	6379	6320
65.087 2.5625	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715340	H715311
65.087 2.5625	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715340	H715310
65.883 2.5938	**122.238** 4.8125	**43.655** 1.7187	**280000** 63000	0.36	1.67	**72700** 16300	**44600** 10000	1.63	**327000** 73500	5595	5535
66.675 2.6250	**103.213** 4.0635	**17.247** 0.6790	**82900** 18600	0.49	1.23	**21500** 4830	**17900** 4030	1.20	**89100** 20000	L812147	L812111

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

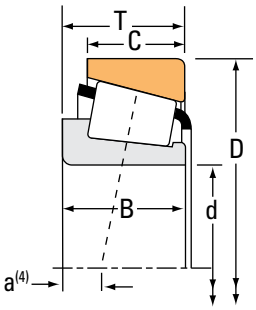
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
23.000 0.9055	**18.500** 0.7283	**-0.3** -0.01	**3.0** 0.12	**72.0** 2.83	**78.0** 3.07	**1.0** 0.04	**100.5** 3.96	**96.0** 3.78	**1.5** 0.06	**3.0** 0.12	55.5	24.5	0.1023	**0.76** 1.66
28.000 1.1024	**22.500** 0.8858	**-3.3** -0.13	**3.0** 0.12	**72.0** 2.83	**78.0** 3.07	**2.5** 0.10	**105.0** 4.13	**99.0** 3.90	**1.1** 0.04	**2.0** 0.08	76.3	23.6	0.1098	**1.06** 2.34
21.996 0.8660	**15.875** 0.6250	**-0.8** -0.03	**2.0** 0.08	**71.0** 2.80	**75.0** 2.95	**3.3** 0.13	**105.0** 4.13	**100.0** 3.94	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.84** 1.85
28.000 1.1024	**23.812** 0.9375	**-3.3** -0.13	**3.0** 0.12	**72.0** 2.83	**78.0** 3.07	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.1** 0.04	**2.0** 0.08	76.3	23.6	0.1098	**1.17** 2.58
30.000 1.1811	**23.812** 0.9375	**-3.3** -0.13	**3.0** 0.12	**74.0** 2.91	**80.0** 3.15	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.1** 0.04	**0.1** 0.00	76.3	23.6	0.1098	**1.19** 2.63
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**2.3** 0.09	**73.0** 2.87	**77.0** 3.03	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.40** 3.08
29.007 1.1420	**29.000** 1.1417	**-4.1** -0.16	**2.3** 0.09	**73.0** 2.87	**77.0** 3.03	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.48** 3.27
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**2.3** 0.09	**73.0** 2.87	**77.0** 3.03	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.43** 3.15
38.500 1.5157	**32.000** 1.2598	**-10.8** -0.42	**3.0** 0.12	**74.0** 2.91	**80.0** 3.15	**2.5** 0.10	**114.0** 4.49	**107.0** 4.21	**1.1** 0.04	**3.4** 0.14	94.0	22.5	0.0764	**1.87** 4.12
38.500 1.5157	**32.000** 1.2598	**-10.8** -0.42	**7.0** 0.28	**74.0** 2.91	**88.0** 3.46	**2.5** 0.10	**114.0** 4.49	**107.0** 4.21	**1.1** 0.04	**3.4** 0.14	94.0	22.5	0.0764	**1.84** 4.04
29.007 1.1420	**24.605** 0.9687	**-4.1** -0.16	**2.3** 0.09	**73.0** 2.87	**77.0** 3.03	**3.3** 0.13	**115.0** 4.53	**109.0** 4.29	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.57** 3.46
56.000 2.2050	**44.450** 1.7500	**-19.3** -0.76	**3.0** 0.12	**77.0** 3.04	**83.0** 3.27	**3.3** 0.13	**136.0** 5.35	**119.0** 4.69	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.95** 8.73
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**3.5** 0.14	**77.0** 3.04	**84.0** 3.31	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.63** 8.01
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**83.0** 3.27	**89.0** 3.50	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.36** 7.40
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**83.0** 3.27	**89.0** 3.50	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.54** 7.80
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**3.3** 0.13	**116.0** 4.57	**106.0** 4.17	**2.5** 0.09	**1.3** 0.05	110.4	24.2	0.0825	**2.20** 4.86
17.247 0.6790	**11.989** 0.4720	**4.1** 0.16	**1.5** 0.06	**72.0** 2.83	**75.0** 2.95	**0.8** 0.03	**99.0** 3.90	**96.0** 3.78	**1.2** 0.04	**1.5** 0.06	43.5	29.9	0.0958	**0.50** 1.10

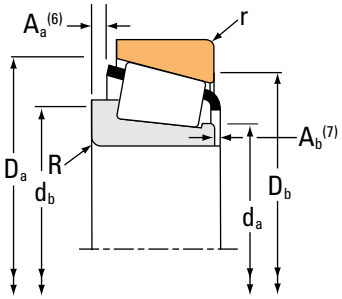
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
66.675 2.6250	**103.213** 4.0635	**17.602** 0.6930	**82900** 18600	0.49	1.23	**21500** 4830	**17900** 4030	1.20	**89100** 20000	L812148	L812111
66.675 2.6250	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29590	29520
66.675 2.6250	**107.950** 4.2500	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29590	29522
66.675 2.6250	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395-S	394
66.675 2.6250	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395-S	394A
66.675 2.6250	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395A	394A
66.675 2.6250	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395A	394
66.675 2.6250	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395-S	394AS
66.675 2.6250	**110.000** 4.3307	**25.400** 1.0000	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29590	29521
66.675 2.6250	**110.000** 4.3307	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3984	3927X
66.675 2.6250	**110.000** 4.3307	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3994	3927X
66.675 2.6250	**112.712** 4.4375	**22.225** 0.8750	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395A	393A
66.675 2.6250	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395A	3920
66.675 2.6250	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395-S	3920
66.675 2.6250	**112.712** 4.4375	**29.337** 1.1550	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3992	3920
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3984	3920
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3994	3920

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

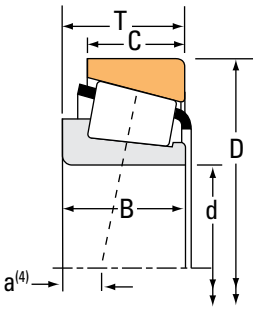
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
17.602 0.6930	**11.989** 0.4720	**3.6** 0.14	**1.5** 0.06	**72.0** 2.83	**75.0** 2.95	**0.8** 0.03	**99.0** 3.90	**96.0** 3.78	**1.6** 0.06	**1.5** 0.06	43.5	29.9	0.0958	**0.51** 1.11
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**3.3** 0.13	**103.0** 4.06	**96.0** 3.78	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.84** 1.86
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**0.8** 0.03	**103.0** 4.06	**98.0** 3.86	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.85** 1.89
21.996 0.8660	**22.000** 0.8661	**-0.8** -0.03	**3.5** 0.14	**73.0** 2.87	**79.0** 3.11	**0.8** 0.03	**106.2** 4.18	**101.0** 3.98	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.80** 1.77
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**3.5** 0.14	**73.0** 2.87	**79.0** 3.11	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.78** 1.72
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**0.8** 0.03	**73.0** 2.87	**73.0** 2.87	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.78** 1.73
21.996 0.8660	**22.000** 0.8661	**-0.8** -0.03	**0.8** 0.03	**73.0** 2.87	**73.0** 2.87	**0.8** 0.03	**106.2** 4.18	**101.0** 3.98	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.80** 1.77
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**3.5** 0.14	**73.0** 2.87	**79.0** 3.11	**3.3** 0.13	**104.5** 4.11	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.77** 1.69
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**1.3** 0.05	**104.0** 4.09	**99.0** 3.90	**2.1** 0.08	**1.4** 0.06	70.3	25.9	0.1112	**0.91** 2.01
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**74.0** 2.91	**80.0** 3.15	**3.3** 0.13	**105.0** 4.13	**99.0** 3.90	**2.3** 0.09	**1.0** 0.04	75.2	21.3	0.1092	**1.05** 2.33
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**5.5** 0.22	**75.0** 2.95	**86.0** 3.39	**3.3** 0.13	**105.0** 4.13	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.05** 2.34
21.996 0.8660	**15.875** 0.6250	**-0.8** -0.03	**0.8** 0.03	**73.0** 2.87	**73.0** 2.87	**3.3** 0.13	**105.0** 4.13	**100.0** 3.94	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.81** 1.79
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**0.8** 0.03	**73.0** 2.87	**73.0** 2.87	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.97** 2.15
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**3.5** 0.14	**73.0** 2.87	**79.0** 3.11	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.97** 2.14
29.223 1.1505	**23.812** 0.9375	**-3.8** -0.15	**5.5** 0.22	**75.0** 2.95	**86.0** 3.39	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.3** 0.05	**1.2** 0.05	75.2	21.3	0.1092	**1.14** 2.52
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**74.0** 2.91	**80.0** 3.15	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.3** 0.09	**1.0** 0.04	75.2	21.3	0.1092	**1.15** 2.55
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**5.5** 0.22	**75.0** 2.95	**86.0** 3.39	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.15** 2.56

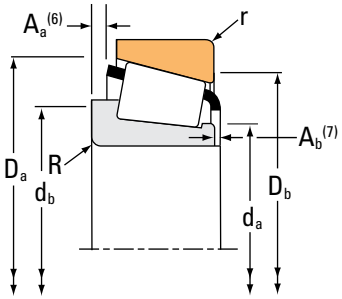
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39590	39520
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3984	3925
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39589	39520
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39590	39521
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**167000** 37500	0.34	1.77	**43300** 9730	**25100** 5650	1.72	**224000** 50300	39591	39520
66.675 2.6250	**112.712** 4.4375	**30.162** 1.1875	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3994	3925
66.675 2.6250	**112.712** 4.4375	**33.338** 1.3125	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3984	3926
66.675 2.6250	**112.712** 4.4375	**33.338** 1.3125	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3994	3926
66.675 2.6250	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33262	33462
66.675 2.6250	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33261	33462
66.675 2.6250	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33262	33461
66.675 2.6250	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	479	472A
66.675 2.6250	**120.000** 4.7244	**29.794** 1.1730	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33262	33472
66.675 2.6250	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	479	472
66.675 2.6250	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212049	HM212011
66.675 2.6250	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212049	HM212010
66.675 2.6250	**122.238** 4.8125	**38.100** 1.5000	**267000** 60000	0.34	1.78	**69200** 15600	**40000** 8990	1.73	**279000** 62700	HM212049X	HM212010

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

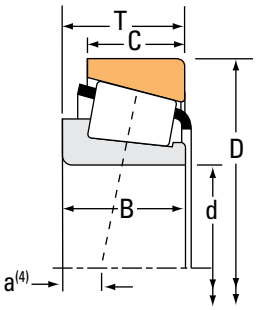
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**75.0** 2.95	**82.0** 3.23	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.16** 2.56
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**3.5** 0.14	**74.0** 2.91	**80.0** 3.15	**0.8** 0.03	**106.0** 4.17	**101.0** 3.98	**2.3** 0.09	**1.0** 0.04	75.2	21.3	0.1092	**1.16** 2.56
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**1.5** 0.06	**75.0** 2.95	**78.0** 3.07	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.17** 2.57
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**75.0** 2.95	**82.0** 3.23	**0.8** 0.03	**107.0** 4.21	**103.0** 4.06	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.16** 2.57
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**5.5** 0.22	**74.0** 2.91	**84.0** 3.31	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.6** 0.06	**2.7** 0.11	84.3	23.7	0.1074	**1.14** 2.51
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**5.5** 0.22	**75.0** 2.95	**86.0** 3.39	**0.8** 0.03	**106.0** 4.17	**101.0** 3.98	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.16** 2.57
30.048 1.1830	**26.988** 1.0625	**-4.6** -0.18	**3.5** 0.14	**74.0** 2.91	**80.0** 3.15	**3.3** 0.13	**106.0** 4.17	**98.0** 3.86	**2.3** 0.09	**1.0** 0.04	75.2	21.3	0.1092	**1.23** 2.73
30.048 1.1830	**26.988** 1.0625	**-4.6** -0.18	**5.5** 0.22	**75.0** 2.95	**86.0** 3.39	**3.3** 0.13	**106.0** 4.17	**98.0** 3.86	**2.2** 0.08	**1.2** 0.05	75.2	21.3	0.1092	**1.23** 2.73
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**3.3** 0.13	**112.0** 4.41	**104.0** 4.09	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.33** 2.94
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**5.5** 0.22	**75.0** 2.95	**85.0** 3.35	**3.3** 0.13	**112.0** 4.41	**104.0** 4.09	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.32** 2.90
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**0.8** 0.03	**112.0** 4.41	**106.0** 4.17	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.34** 2.97
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.37** 3.00
30.162 1.1875	**23.444** 0.9230	**-2.8** -0.11	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**0.8** 0.03	**113.0** 4.45	**107.0** 4.21	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.42** 3.14
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.40** 3.07
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**3.5** 0.14	**75.5** 2.97	**82.0** 3.23	**3.3** 0.13	**116.0** 4.57	**108.0** 4.25	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**1.85** 4.06
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**3.5** 0.14	**75.5** 2.97	**82.0** 3.23	**1.5** 0.06	**116.0** 4.57	**110.0** 4.33	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**1.85** 4.07
38.354 1.5100	**29.718** 1.1700	**-10.9** -0.43	**7.0** 0.28	**75.5** 2.97	**89.0** 3.50	**1.5** 0.06	**116.0** 4.57	**110.0** 4.33	**2.2** 0.08	**3.1** 0.12	92.2	18.1	0.0759	**1.84** 4.05

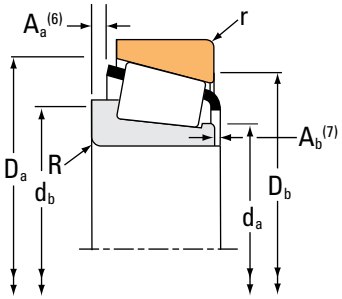
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
66.675 2.6250	**123.825** 4.8750	**30.162** 1.1875	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	479	472X
66.675 2.6250	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	560	552
66.675 2.6250	**123.825** 4.8750	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	560	552A
66.675 2.6250	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813844	HM813811
66.675 2.6250	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813844	HM813810
66.675 2.6250	**129.944** 5.1159	**38.100** 1.5000	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	560	553-SA
66.675 2.6250	**130.175** 5.1250	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	641	633
66.675 2.6250	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6386	6320
66.675 2.6250	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6389	6320
66.675 2.6250	**135.755** 5.3447	**53.975** 2.1250	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6386A	6320
66.675 2.6250	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495AA	493
66.675 2.6250	**136.525** 5.3750	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	641	632
66.675 2.6250	**136.525** 5.3750	**41.275** 1.6250	**323000** 72600	0.36	1.67	**83700** 18800	**51600** 11600	1.62	**335000** 75400	H414242	H414210
66.675 2.6250	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715341	H715311
66.675 2.6250	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715341	H715311A
66.675 2.6250	**136.525** 5.3750	**46.038** 1.8125	**249000** 56000	0.47	1.27	**64600** 14500	**52300** 11800	1.24	**405000** 91000	H715341A	H715311
66.675 2.6250	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715341	H715310

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

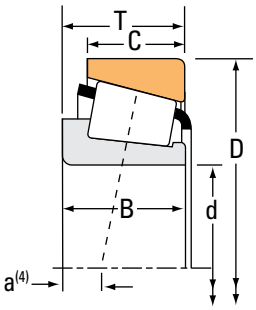
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.007 1.1420	**24.605** 0.9687	**-4.1** -0.16	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**3.3** 0.13	**115.0** 4.53	**109.0** 4.29	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.54** 3.37
36.678 1.4440	**33.338** 1.3125	**-9.4** -0.37	**3.5** 0.14	**77.0** 3.03	**84.0** 3.31	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**1.94** 4.27
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**77.0** 3.03	**84.0** 3.31	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**1.89** 4.16
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**1.99** 4.41
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**1.99** 4.40
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**77.0** 3.03	**84.0** 3.31	**3.3** 0.13	**116.0** 4.57	**111.0** 4.37	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**2.18** 4.79
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**3.3** 0.13	**124.0** 4.88	**116.0** 4.57	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.38** 5.24
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**4.3** 0.17	**77.0** 3.04	**87.0** 3.43	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.55** 7.84
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**6.4** 0.25	**77.0** 3.04	**91.0** 3.58	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.53** 7.80
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**8.7** 0.34	**77.0** 3.04	**96.0** 3.78	**3.3** 0.13	**126.0** 4.96	**117.0** 4.61	**4.0** 0.15	**0.5** 0.02	123.5	22.4	0.0827	**3.50** 7.72
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**2.05** 4.51
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.72** 5.99
41.275 1.6250	**31.750** 1.2500	**-10.9** -0.43	**3.5** 0.14	**81.0** 3.19	**85.0** 3.35	**3.3** 0.13	**129.0** 5.08	**121.0** 4.76	**3.7** 0.14	**3.1** 0.12	112.8	22.9	0.0827	**2.71** 5.99
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.30** 7.27
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**0.8** 0.03	**132.0** 5.20	**121.0** 4.76	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.30** 7.27
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**7.0** 0.28	**85.0** 3.35	**98.0** 3.86	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.28** 7.23
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.48** 7.67

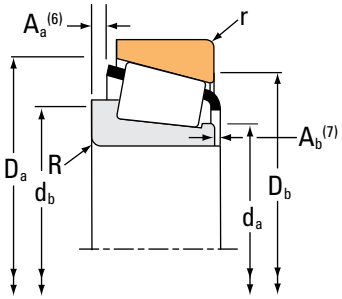
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
66.675 2.6250	**152.400** 6.0000	**53.975** 2.1250	**339000** 76100	0.49	1.23	**87800** 19700	**73200** 16500	1.20	**423000** 95000	HH814547	HH814510
66.675 2.6250	**177.800** 7.0000	**57.150** 2.2500	**451000** 101000	0.80	0.75	**117000** 26300	**160000** 35900	0.73	**413000** 92900	HH914449	HH914412
68.262 2.6875	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	399A	394A
68.262 2.6875	**110.000** 4.3307	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	399AS	394A
68.262 2.6875	**111.125** 4.3750	**22.000** 0.8661	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	399A	393AS
68.262 2.6875	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	399AS	3920
68.262 2.6875	**112.712** 4.4375	**26.967** 1.0617	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	399A	3920
68.262 2.6875	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	480	472A
68.262 2.6875	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	480	473
68.262 2.6875	**120.000** 4.7244	**29.794** 1.1730	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33269	33472
68.262 2.6875	**120.000** 4.7244	**29.795** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	480	472
68.262 2.6875	**123.825** 4.8750	**34.912** 1.3745	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	560-S	552-S
68.262 2.6875	**123.825** 4.8750	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	560-S	552A
68.262 2.6875	**123.825** 4.8750	**38.100** 1.5000	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	560-S	552
68.262 2.6875	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	570	563
68.262 2.6875	**130.048** 5.1200	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	570	562
68.262 2.6875	**130.175** 5.1250	**41.275** 1.6250	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	642	633

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

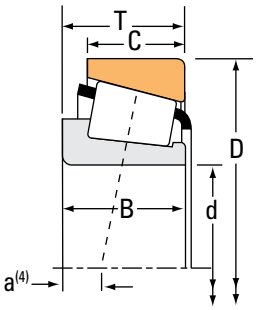
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
57.150 2.2500	**41.275** 1.6250	**-12.2** -0.48	**3.5** 0.14	**85.0** 3.35	**93.0** 3.66	**3.3** 0.13	**143.0** 5.63	**130.0** 5.12	**5.2** 0.20	**0.2** 0.01	129.7	23.6	0.0957	**4.80** 10.57
53.975 2.1250	**37.308** 1.4688	**-0.3** -0.01	**3.5** 0.14	**85.3** 3.36	**106.0** 4.17	**3.3** 0.13	**165.0** 6.50	**146.0** 5.75	**9.8** 0.38	**4.7** 0.19	111.4	17.8	0.1044	**6.66** 14.66
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.75** 1.65
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**5.0** 0.20	**74.0** 2.91	**83.0** 3.27	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.73** 1.61
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**1.3** 0.05	**105.0** 4.13	**101.0** 3.98	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.78** 1.71
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**5.0** 0.20	**74.0** 2.91	**83.0** 3.27	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.6** 0.06	**2.3** 0.09	56.0	21.4	0.0984	**0.92** 2.03
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**1.7** 0.07	**2.1** 0.08	56.0	21.4	0.0984	**0.94** 2.07
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**3.5** 0.14	**75.0** 2.95	**82.0** 3.23	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.32** 2.90
29.007 1.1420	**29.000** 1.1417	**-4.1** -0.16	**3.5** 0.14	**75.0** 2.95	**82.0** 3.23	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.40** 3.08
30.162 1.1875	**23.444** 0.9230	**-2.8** -0.11	**3.5** 0.14	**76.0** 2.99	**82.0** 3.23	**0.8** 0.03	**113.0** 4.45	**107.0** 4.21	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.38** 3.05
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**3.5** 0.14	**75.0** 2.95	**82.0** 3.23	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.35** 2.97
36.678 1.4440	**26.975** 1.0620	**-9.4** -0.37	**3.5** 0.14	**76.0** 2.99	**83.0** 3.27	**4.8** 0.19	**115.0** 4.53	**107.0** 4.21	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**1.72** 3.77
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**3.5** 0.14	**76.0** 2.99	**83.0** 3.27	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**1.84** 4.04
36.678 1.4440	**33.338** 1.3125	**-9.4** -0.37	**3.5** 0.14	**76.0** 2.99	**83.0** 3.27	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.3** 0.09	**1.3** 0.05	91.0	21.1	0.1108	**1.89** 4.15
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.95** 4.31
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**0.8** 0.03	**121.0** 4.76	**116.0** 4.57	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**2.10** 4.62
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**3.3** 0.13	**124.0** 4.88	**116.0** 4.57	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.33** 5.12

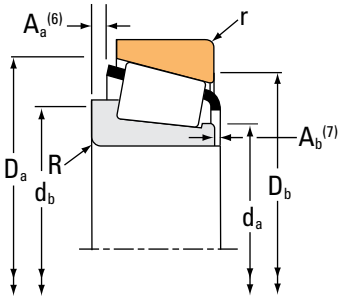
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
68.262 2.6875	**136.525** 5.3750	**41.275** 1.6250	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	642	632
68.262 2.6875	**136.525** 5.3750	**41.275** 1.6250	**323000** 72600	0.36	1.67	**83700** 18800	**51600** 11600	1.62	**335000** 75400	H414245X	H414210
68.262 2.6875	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715343	H715311
68.262 2.6875	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715343	H715310
68.262 2.6875	**152.400** 6.0000	**47.625** 1.8750	**338000** 76000	0.66	0.91	**87700** 19700	**98500** 22100	0.89	**306000** 68700	9185	9121
68.262 2.6875	**152.400** 6.0000	**47.625** 1.8750	**328000** 73700	0.90	0.67	**85000** 19100	**131000** 29500	0.65	**401000** 90100	H914841	H914811
68.262 2.6875	**158.750** 6.2500	**50.800** 2.0000	**338000** 76000	0.66	0.91	**87700** 19700	**98500** 22100	0.89	**306000** 68700	9185	9120
68.262 2.6875	**161.925** 6.3750	**49.212** 1.9375	**353000** 79300	0.71	0.85	**91400** 20600	**111000** 24900	0.82	**330000** 74200	9278	9220
69.850 2.7500	**98.425** 3.8750	**13.495** 0.5313	**40300** 9070	0.44	1.37	**10500** 2350	**7840** 1760	1.33	**58100** 13100	LL713049	LL713010
69.850 2.7500	**99.217** 3.9062	**17.000** 0.6693	**48800** 11000	0.46	1.29	**12700** 2850	**10100** 2260	1.26	**75000** 16900	LL713149	LL713110
69.850 2.7500	**101.600** 4.0000	**19.050** 0.7500	**61900** 13900	0.46	1.30	**16000** 3610	**12700** 2850	1.27	**111000** 25000	L713049	L713010
69.850 2.7500	**112.712** 4.4375	**22.225** 0.8750	**101000** 22700	0.42	1.44	**26200** 5880	**18600** 4190	1.40	**130000** 29300	LM613449	LM613410
69.850 2.7500	**112.712** 4.4375	**25.400** 1.0000	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29675	29620
69.850 2.7500	**114.300** 4.5000	**27.780** 1.0937	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29675	29624
69.850 2.7500	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33275	33462
69.850 2.7500	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	482	472A
69.850 2.7500	**120.000** 4.7244	**29.002** 1.1418	**133000** 29900	0.38	1.56	**34400** 7740	**22700** 5100	1.52	**186000** 41900	482A	472A

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

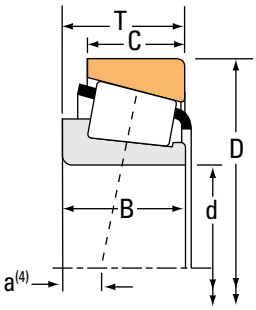
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.67** 5.87
41.275 1.6250	**31.750** 1.2500	**-10.9** -0.43	**9.7** 0.38	**82.0** 3.23	**98.0** 3.86	**3.3** 0.13	**129.0** 5.08	**121.0** 4.76	**3.7** 0.14	**3.1** 0.12	112.8	22.9	0.0827	**2.58** 5.70
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.24** 7.13
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.42** 7.53
46.038 1.8125	**31.750** 1.2500	**-3.8** -0.15	**3.5** 0.14	**81.3** 3.20	**94.0** 3.70	**3.3** 0.13	**145.0** 5.71	**130.0** 5.12	**8.1** 0.31	**4.1** 0.16	87.6	13.7	0.0912	**3.75** 8.26
46.038 1.8125	**35.100** 1.3819	**7.9** 0.31	**3.5** 0.14	**87.0** 3.43	**108.0** 4.25	**3.3** 0.13	**148.0** 5.83	**123.0** 4.84	**5.7** 0.22	**3.2** 0.13	135.1	30.3	0.1165	**4.40** 9.68
46.038 1.8125	**34.925** 1.3750	**-3.8** -0.15	**3.5** 0.14	**81.3** 3.20	**94.0** 3.70	**3.3** 0.13	**146.0** 5.75	**131.0** 5.16	**8.1** 0.31	**4.1** 0.16	87.6	13.7	0.0912	**4.37** 9.63
46.038 1.8125	**31.750** 1.2500	**0.0** 0.00	**3.5** 0.14	**89.0** 3.50	**106.0** 4.17	**3.3** 0.13	**153.0** 6.03	**138.0** 5.43	**9.0** 0.35	**4.1** 0.16	102.5	16.1	0.0984	**4.50** 9.93
13.495 0.5313	**9.525** 0.3750	**4.6** 0.18	**1.5** 0.06	**74.0** 2.91	**77.0** 3.03	**1.5** 0.06	**94.0** 3.70	**92.0** 3.62	**1.0** 0.04	**1.5** 0.06	39.9	55.0	0.0893	**0.30** 0.65
16.000 0.6299	**13.000** 0.5118	**4.6** 0.18	**1.5** 0.06	**75.0** 2.95	**77.0** 3.03	**1.5** 0.06	**95.0** 3.74	**91.0** 3.58	**0.6** 0.02	**0.6** 0.03	47.9	56.5	0.0972	**0.39** 0.85
19.050 0.7500	**15.083** 0.5938	**2.5** 0.10	**1.5** 0.06	**75.0** 2.95	**78.0** 3.07	**1.5** 0.06	**98.0** 3.86	**93.0** 3.66	**0.8** 0.03	**1.4** 0.06	64.3	58.3	0.1075	**0.51** 1.11
21.996 0.8660	**15.875** 0.6250	**0.0** 0.00	**1.5** 0.06	**76.0** 2.99	**78.0** 3.07	**0.8** 0.03	**107.0** 4.21	**104.0** 4.09	**1.7** 0.06	**2.3** 0.09	60.3	23.1	0.1019	**0.77** 1.71
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**1.5** 0.06	**77.0** 3.03	**80.0** 3.15	**3.3** 0.13	**109.0** 4.29	**101.0** 3.98	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**0.95** 2.11
25.400 1.0000	**22.225** 0.8750	**1.0** 0.04	**1.5** 0.06	**77.0** 3.03	**80.0** 3.15	**3.3** 0.13	**109.0** 4.29	**103.0** 4.06	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**1.06** 2.34
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**3.5** 0.14	**79.0** 3.11	**85.0** 3.35	**3.3** 0.13	**112.0** 4.41	**104.0** 4.09	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.26** 2.78
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.28** 2.81
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**4.8** 0.19	**77.0** 3.03	**86.0** 3.39	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.27** 2.79

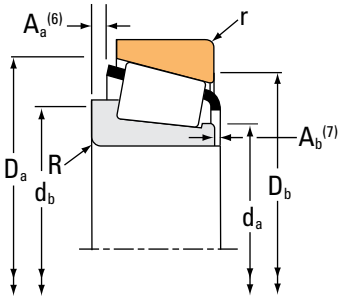
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
69.850 2.7500	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	482	473
69.850 2.7500	**120.000** 4.7244	**29.794** 1.1730	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	482	472
69.850 2.7500	**120.000** 4.7244	**29.794** 1.1730	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33275	33472
69.850 2.7500	**120.000** 4.7244	**32.545** 1.2813	**179000** 40200	0.36	1.67	**46300** 10400	**28600** 6420	1.62	**249000** 56000	47487	47420
69.850 2.7500	**120.000** 4.7244	**32.545** 1.2813	**179000** 40200	0.36	1.67	**46300** 10400	**28600** 6420	1.62	**249000** 56000	47487	47420A
69.850 2.7500	**120.650** 4.7500	**25.400** 1.0000	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29675	29630
69.850 2.7500	**123.825** 4.8750	**30.162** 1.1875	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	482	472X
69.850 2.7500	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	566	563
69.850 2.7500	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	566-S	563
69.850 2.7500	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813846	HM813811
69.850 2.7500	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813846	HM813810
69.850 2.7500	**130.175** 5.1250	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	643	633
69.850 2.7500	**136.525** 5.3750	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	643	632
69.850 2.7500	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715344	H715310
69.850 2.7500	**146.050** 5.7500	**36.512** 1.4375	**174000** 39100	0.94	0.64	**45000** 10100	**72300** 16200	0.62	**202000** 45400	HM914545	HM914510
69.850 2.7500	**146.050** 5.7500	**41.275** 1.6250	**273000** 61300	0.78	0.77	**70700** 15900	**94700** 21300	0.75	**256000** 57500	H913849	H913810
69.850 2.7500	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	655	653

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

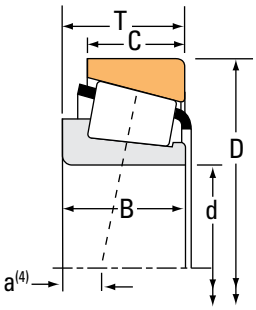
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.007 1.1420	**29.000** 1.1417	**-4.1** -0.16	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.36** 2.99
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**2.0** 0.08	**114.0** 4.49	**107.0** 4.21	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.31** 2.88
30.162 1.1875	**23.444** 0.9230	**-2.8** -0.11	**3.5** 0.14	**79.0** 3.11	**85.0** 3.35	**0.8** 0.03	**113.0** 4.45	**107.0** 4.21	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.35** 2.97
32.545 1.2813	**26.195** 1.0313	**-6.4** -0.25	**3.5** 0.14	**78.0** 3.07	**84.0** 3.31	**3.3** 0.13	**114.0** 4.49	**107.0** 4.21	**2.2** 0.08	**2.0** 0.08	98.4	26.3	0.1153	**1.46** 3.20
32.545 1.2813	**26.195** 1.0313	**-6.4** -0.25	**3.5** 0.14	**78.0** 3.07	**84.0** 3.31	**0.5** 0.02	**114.0** 4.49	**109.0** 4.29	**2.2** 0.08	**2.0** 0.08	98.4	26.3	0.1153	**1.48** 3.24
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**1.5** 0.06	**77.0** 3.03	**80.0** 3.15	**3.3** 0.13	**113.0** 4.45	**104.0** 4.09	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**1.16** 2.57
29.007 1.1420	**24.605** 0.9687	**-4.1** -0.16	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**3.3** 0.13	**115.0** 4.53	**109.0** 4.29	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.45** 3.19
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.90** 4.20
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**0.8** 0.03	**78.0** 3.07	**79.0** 3.11	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.91** 4.23
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**82.0** 3.23	**89.0** 3.50	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**1.90** 4.19
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**82.0** 3.23	**89.0** 3.50	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**1.90** 4.19
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**3.3** 0.13	**124.0** 4.88	**116.0** 4.57	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.27** 5.00
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.61** 5.75
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.35** 7.40
33.338 1.3125	**23.812** 0.9375	**12.4** 0.49	**4.0** 0.16	**86.1** 3.38	**95.0** 3.74	**3.3** 0.13	**139.0** 5.47	**122.0** 4.80	**7.1** 0.28	**4.6** 0.18	71.5	21.8	0.0943	**2.57** 5.66
39.688 1.5625	**25.400** 1.0000	**4.3** 0.17	**3.5** 0.14	**82.4** 3.24	**95.0** 3.74	**3.3** 0.13	**138.0** 5.43	**124.0** 4.88	**8.2** 0.32	**3.6** 0.14	78.5	17.3	0.0927	**2.87** 6.33
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.24** 7.15

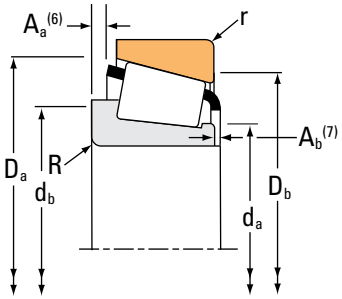
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
69.850 2.7500	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6454	6420
69.850 2.7500	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6484	6420
69.850 2.7500	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	745A	742
69.850 2.7500	**150.089** 5.9090	**44.450** 1.7500	**318000** 71400	0.33	1.84	**82400** 18500	**45900** 10300	1.80	**417000** 93800	744A	742
69.850 2.7500	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	655	652
69.850 2.7500	**168.275** 6.6250	**53.975** 2.1250	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	835	832
69.914 2.7525	**171.450** 6.7500	**49.212** 1.9375	**363000** 81600	0.76	0.79	**94100** 21200	**123000** 27700	0.76	**351000** 78800	9382	9321
69.952 2.7540	**121.442** 4.7812	**24.608** 0.9688	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34274	34478
69.987 2.7554	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715347	H715311
69.987 2.7554	**176.212** 6.9375	**54.770** 2.1563	**366000** 82200	0.70	0.86	**94800** 21300	**114000** 25500	0.84	**431000** 96900	H916642	H916610
70.000 2.7559	**110.000** 4.3307	**21.000** 0.8268	**91600** 20600	0.46	1.30	**23700** 5340	**18700** 4210	1.27	**112000** 25200	JP7049	JP7010
70.000 2.7559	**110.000** 4.3307	**26.000** 1.0236	**115000** 25700	0.49	1.23	**29700** 6680	**24800** 5570	1.20	**168000** 37800	JLM813049	JLM813010
70.000 2.7559	**115.000** 4.5276	**29.000** 1.1417	**150000** 33700	0.43	1.39	**38900** 8740	**28600** 6440	1.36	**198000** 44500	JM612949	JM612910
70.000 2.7559	**120.000** 4.7244	**29.002** 1.1418	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	484	472A
70.000 2.7559	**121.442** 4.7812	**24.608** 0.9688	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34275	34478
70.000 2.7559	**123.825** 4.8750	**30.162** 1.1875	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	484	472X
70.000 2.7559	**125.095** 4.9250	**24.000** 0.9449	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34275	34492

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

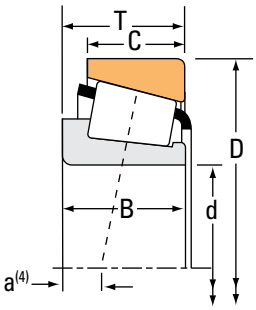
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**5.0** 0.20	**85.0** 3.35	**94.0** 3.70	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.54** 10.01
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**6.4** 0.25	**85.0** 3.35	**97.0** 3.82	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.53** 9.99
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.93** 8.64
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**5.0** 0.20	**82.0** 3.23	**91.0** 3.58	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.91** 8.60
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.59** 7.94
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**3.5** 0.14	**84.0** 3.31	**91.0** 3.58	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**6.10** 13.43
46.038 1.8125	**31.750** 1.2500	**4.3** 0.17	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**8.9** 0.35	**3.9** 0.16	117.9	18.6	0.1053	**5.37** 11.83
23.012 0.9060	**17.462** 0.6875	**1.5** 0.06	**2.0** 0.08	**78.0** 3.07	**81.0** 3.19	**2.0** 0.08	**116.0** 4.57	**110.0** 4.33	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**1.08** 2.39
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.17** 6.98
53.183 2.0938	**36.512** 1.4375	**-2.0** -0.08	**3.3** 0.13	**95.0** 3.74	**103.0** 4.06	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**8.6** 0.34	**3.4** 0.14	132.9	18.7	0.1071	**6.31** 13.93
20.000 0.7874	**15.500** 0.6102	**2.5** 0.10	**2.0** 0.08	**76.0** 2.99	**80.0** 3.15	**2.0** 0.08	**105.4** 4.15	**101.0** 3.98	**1.5** 0.05	**2.9** 0.12	51.1	31.0	0.9950	**0.67** 1.49
25.000 0.9843	**20.500** 0.8071	**0.3** 0.01	**1.0** 0.04	**77.0** 3.03	**78.0** 3.07	**2.5** 0.10	**105.0** 4.13	**98.0** 3.86	**1.7** 0.06	**2.8** 0.11	73.5	26.3	0.1151	**0.88** 1.93
29.000 1.1417	**23.000** 0.9055	**-2.5** -0.10	**3.0** 0.12	**77.0** 3.03	**83.0** 3.27	**2.5** 0.10	**110.0** 4.33	**103.0** 4.06	**1.0** 0.04	**2.3** 0.09	76.7	25.7	0.1122	**1.12** 2.49
29.007 1.1420	**23.444** 0.9230	**-4.1** -0.16	**2.0** 0.08	**77.0** 3.03	**80.0** 3.15	**3.3** 0.13	**114.0** 4.49	**106.0** 4.17	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.29** 2.82
23.012 0.9060	**17.462** 0.6875	**1.5** 0.06	**2.0** 0.08	**78.0** 3.07	**82.0** 3.23	**2.0** 0.08	**116.0** 4.57	**110.0** 4.33	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**1.08** 2.39
29.007 1.1420	**24.605** 0.9687	**-4.1** -0.16	**2.0** 0.08	**77.0** 3.03	**80.0** 3.15	**3.3** 0.13	**115.0** 4.53	**109.0** 4.29	**1.5** 0.05	**2.2** 0.09	77.2	23.0	0.1083	**1.46** 3.20
23.012 0.9060	**16.670** 0.6563	**1.5** 0.06	**2.0** 0.08	**78.0** 3.07	**82.0** 3.23	**2.0** 0.08	**118.0** 4.65	**112.0** 4.41	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**1.16** 2.55

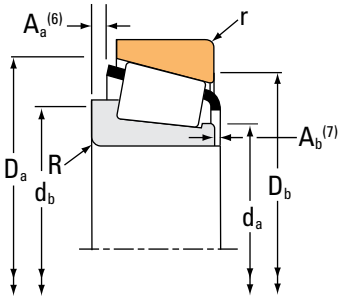
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
70.000 2.7559	**130.000** 5.1181	**36.937** 1.4542	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	570X	562X
70.000 2.7559	**130.000** 5.1181	**43.000** 1.6929	**275000** 61700	0.33	1.80	**71200** 16000	**40600** 9130	1.75	**360000** 80800	JF7049A	JF7010
70.000 2.7559	**130.000** 5.1181	**43.000** 1.6929	**275000** 61700	0.33	1.80	**71200** 16000	**40600** 9130	1.75	**360000** 80800	JF7049	JF7010
70.000 2.7559	**140.000** 5.5118	**39.000** 1.5354	**204000** 45800	0.87	0.69	**52800** 11900	**78300** 17600	0.67	**257000** 57800	JW7049	JW7010
70.000 2.7559	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6459	6420
70.000 2.7559	**150.000** 5.9055	**54.000** 2.1260	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6459	6424
70.637 2.7810	**112.712** 4.4375	**25.400** 1.0000	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29680	29620
70.637 2.7810	**112.712** 4.4375	**25.400** 1.0000	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29681	29620
71.437 2.8125	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33281	33462
71.437 2.8125	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33281	33461
71.437 2.8125	**120.000** 4.7244	**29.794** 1.1730	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33281	33472
71.437 2.8125	**120.000** 4.7244	**32.545** 1.2813	**179000** 40200	0.36	1.67	**46300** 10400	**28600** 6420	1.62	**249000** 56000	47490	47420
71.437 2.8125	**120.650** 4.7500	**32.545** 1.2813	**179000** 40200	0.36	1.67	**46300** 10400	**28600** 6420	1.62	**249000** 56000	47490	47423
71.437 2.8125	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567A	563
71.437 2.8125	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567-S	563
71.437 2.8125	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813849	HM813810
71.437 2.8125	**127.000** 5.0000	**36.512** 1.4375	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813849	HM813811

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

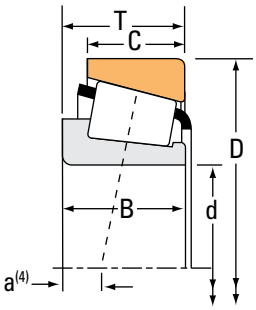
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.170 1.4240	**29.000** 1.1417	**-8.1** -0.32	**3.0** 0.12	**78.0** 3.07	**84.0** 3.31	**3.0** 0.12	**121.0** 4.76	**114.0** 4.49	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**2.05** 4.51
42.000 1.6535	**35.000** 1.3780	**-12.4** -0.49	**7.0** 0.28	**81.0** 3.17	**94.0** 3.70	**2.5** 0.10	**124.0** 4.88	**116.0** 4.57	**2.0** 0.08	**4.0** 0.16	120.7	24.5	0.0828	**2.46** 5.40
42.000 1.6535	**35.000** 1.3780	**-12.4** -0.49	**3.0** 0.12	**81.0** 3.17	**86.0** 3.39	**2.5** 0.10	**124.0** 4.88	**116.0** 4.57	**2.0** 0.08	**4.0** 0.16	120.7	24.5	0.8280	**2.49** 5.49
35.500 1.3976	**27.000** 1.0630	**8.6** 0.34	**3.0** 0.12	**82.0** 3.23	**95.0** 3.74	**3.0** 0.12	**133.0** 5.25	**117.0** 4.61	**5.8** 0.22	**4.5** 0.18	85.2	23.4	0.0984	**2.64** 5.79
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**3.0** 0.12	**85.0** 3.35	**90.0** 3.54	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.55** 10.03
54.229 2.1350	**45.000** 1.7717	**-15.0** -0.59	**3.0** 0.12	**85.0** 3.35	**90.0** 3.54	**3.0** 0.12	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.63** 10.21
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**1.3** 0.05	**78.0** 3.07	**80.0** 3.15	**3.3** 0.13	**109.0** 4.29	**101.0** 3.98	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**0.93** 2.07
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**3.3** 0.13	**109.0** 4.29	**101.0** 3.98	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**0.93** 2.06
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**3.5** 0.14	**80.0** 3.15	**87.0** 3.43	**3.3** 0.13	**112.0** 4.41	**104.0** 4.09	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.22** 2.68
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**3.5** 0.14	**80.0** 3.15	**87.0** 3.43	**0.8** 0.03	**112.0** 4.41	**106.0** 4.17	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.23** 2.71
30.162 1.1875	**23.444** 0.9230	**-2.8** -0.11	**3.5** 0.14	**80.0** 3.15	**87.0** 3.43	**0.8** 0.03	**113.0** 4.45	**107.0** 4.21	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.31** 2.88
32.545 1.2813	**26.195** 1.0313	**-6.4** -0.25	**3.5** 0.14	**79.0** 3.11	**86.0** 3.39	**3.3** 0.13	**114.0** 4.49	**107.0** 4.21	**2.2** 0.08	**2.0** 0.08	98.4	26.3	0.1153	**1.41** 3.10
32.545 1.2813	**26.195** 1.0313	**-6.4** -0.25	**3.5** 0.14	**79.0** 3.11	**86.0** 3.39	**0.8** 0.03	**115.0** 4.53	**109.0** 4.29	**2.2** 0.08	**2.0** 0.08	98.4	26.3	0.1153	**1.45** 3.19
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.85** 4.09
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**6.4** 0.25	**80.0** 3.15	**92.0** 3.62	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.82** 4.03
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**82.0** 3.23	**91.0** 3.58	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**1.84** 4.08
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**82.0** 3.23	**91.0** 3.58	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.0** 0.15	**1.3** 0.06	91.7	22.9	0.1252	**1.84** 4.08

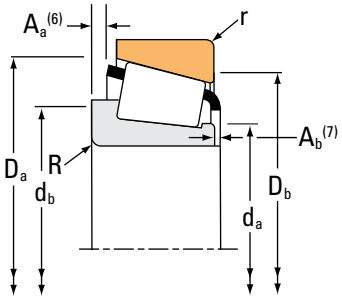
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
71.437 2.8125	**130.175** 5.1250	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	645	633
71.437 2.8125	**130.175** 5.1250	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	644	633
71.437 2.8125	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47675	47620
71.437 2.8125	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495-S	493
71.437 2.8125	**136.525** 5.3750	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	645	632
71.437 2.8125	**136.525** 5.3750	**41.275** 1.6250	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	644	632
71.437 2.8125	**136.525** 5.3750	**41.275** 1.6250	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	645X	632
71.437 2.8125	**136.525** 5.3750	**41.275** 1.6250	**323000** 72600	0.36	1.67	**83700** 18800	**51600** 11600	1.62	**335000** 75400	H414249	H414210
71.437 2.8125	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715345	H715311
71.437 2.8125	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715345	H715310
73.025 2.8750	**112.712** 4.4375	**25.400** 1.0000	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29685	29620
73.025 2.8750	**117.475** 4.6250	**25.400** 1.0000	**118000** 26500	0.51	1.18	**30600** 6870	**26700** 5990	1.15	**183000** 41200	LM814845	LM814810
73.025 2.8750	**117.475** 4.6250	**30.162** 1.1875	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33287	33462
73.025 2.8750	**120.000** 4.7244	**29.794** 1.1730	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33287	33472
73.025 2.8750	**120.000** 4.7244	**29.794** 1.1730	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33287A	33472
73.025 2.8750	**125.412** 4.9375	**25.400** 1.0000	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27680	27620
73.025 2.8750	**127.000** 5.0000	**30.162** 1.1875	**161000** 36200	0.42	1.43	**41800** 9390	**29900** 6730	1.39	**222000** 49800	42683	42620

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

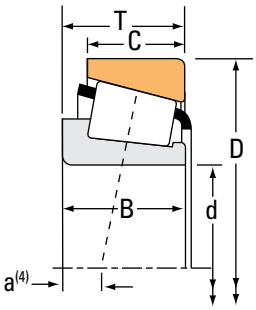
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**6.4** 0.25	**81.0** 3.19	**93.0** 3.66	**3.3** 0.13	**124.0** 4.88	**116.0** 4.57	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.19** 4.81
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**3.3** 0.13	**124.0** 4.88	**116.0** 4.57	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.22** 4.89
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**2.06** 4.52
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.93** 4.25
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**6.4** 0.25	**81.0** 3.19	**93.0** 3.66	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.53** 5.57
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.56** 5.65
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**6.4** 0.25	**82.7** 3.25	**93.0** 3.66	**3.3** 0.13	**125.0** 4.92	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	106.4	21.0	0.0814	**2.52** 5.56
41.275 1.6250	**31.750** 1.2500	**-10.9** -0.43	**3.5** 0.14	**83.3** 3.27	**89.0** 3.50	**3.3** 0.13	**129.0** 5.08	**121.0** 4.76	**3.7** 0.14	**3.1** 0.12	112.8	22.9	0.0827	**2.54** 5.62
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**88.0** 3.46	**94.0** 3.70	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.11** 6.86
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**88.0** 3.46	**94.0** 3.70	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.29** 7.26
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**3.3** 0.13	**109.0** 4.29	**101.0** 3.98	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**0.88** 1.95
25.400 1.0000	**19.050** 0.7500	**2.3** 0.09	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**3.3** 0.13	**113.0** 4.45	**105.0** 4.13	**2.4** 0.09	**1.5** 0.06	88.6	36.6	0.1239	**1.02** 2.25
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**3.5** 0.14	**81.0** 3.19	**88.0** 3.46	**3.3** 0.13	**112.0** 4.41	**104.0** 4.09	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.18** 2.59
30.162 1.1875	**23.444** 0.9230	**-2.8** -0.11	**3.5** 0.14	**81.0** 3.19	**88.0** 3.46	**0.8** 0.03	**113.0** 4.45	**107.0** 4.21	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.27** 2.79
30.162 1.1875	**23.444** 0.9230	**-2.8** -0.11	**0.3** 0.01	**81.0** 3.19	**82.0** 3.23	**0.8** 0.03	**113.0** 4.45	**107.0** 4.21	**2.2** 0.08	**1.1** 0.05	84.2	25.9	0.1162	**1.27** 2.80
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**1.29** 2.85
31.000 1.2205	**22.225** 0.8750	**-2.8** -0.11	**3.5** 0.14	**81.0** 3.19	**88.0** 3.46	**3.3** 0.13	**121.0** 4.76	**114.0** 4.49	**3.3** 0.13	**0.9** 0.04	96.2	28.6	0.1197	**1.51** 3.31

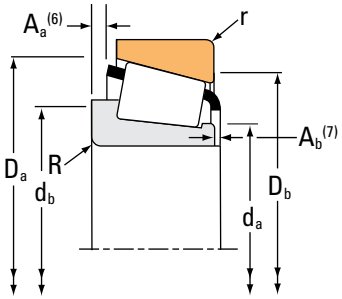
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
73.025 2.8750	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567	563
73.025 2.8750	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567X	563
73.025 2.8750	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567	563X
73.025 2.8750	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567X	563X
73.025 2.8750	**130.000** 5.1181	**36.937** 1.4542	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567X	562X
73.025 2.8750	**130.048** 5.1200	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567	562
73.025 2.8750	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	576	572
73.025 2.8750	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	657	653
73.025 2.8750	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6460	6420
73.025 2.8750	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6460	6420A
73.025 2.8750	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	744	742
73.025 2.8750	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	657	652
73.817 2.9062	**112.712** 4.4375	**25.400** 1.0000	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29688	29620
73.817 2.9062	**127.000** 5.0000	**36.512** 1.4375	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	568	563
74.612 2.9375	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	577	572
74.612 2.9375	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	658	652
74.976 2.9518	**127.000** 5.0000	**26.988** 1.0625	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34294	34500

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

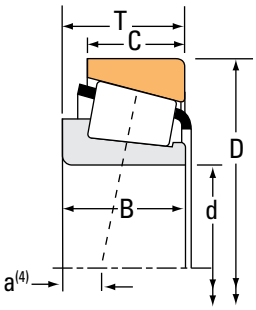
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**81.0** 3.19	**88.0** 3.46	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.80** 3.98
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**4.8** 0.19	**81.0** 3.19	**90.0** 3.54	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.80** 3.99
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**81.0** 3.19	**88.0** 3.46	**0.8** 0.03	**120.0** 4.72	**114.0** 4.49	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.81** 3.99
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**4.8** 0.19	**81.0** 3.19	**90.0** 3.54	**0.8** 0.03	**120.0** 4.72	**114.0** 4.49	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.81** 4.00
36.170 1.4240	**29.000** 1.1417	**-8.1** -0.32	**4.8** 0.19	**81.0** 3.19	**90.0** 3.54	**3.0** 0.12	**121.0** 4.76	**114.0** 4.49	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.95** 4.30
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**3.5** 0.14	**81.0** 3.19	**88.0** 3.46	**0.8** 0.03	**121.0** 4.76	**116.0** 4.57	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.95** 4.29
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**83.0** 3.27	**90.0** 3.54	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.46** 5.43
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.13** 6.89
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.40** 9.71
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**0.8** 0.03	**140.0** 5.51	**131.0** 5.16	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.42** 9.75
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.79** 8.34
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.48** 7.68
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**1.5** 0.06	**80.0** 3.15	**83.0** 3.27	**3.3** 0.13	**109.0** 4.29	**101.0** 3.98	**2.3** 0.09	**1.5** 0.06	77.7	43.3	0.1170	**0.86** 1.91
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**0.8** 0.03	**82.0** 3.23	**83.0** 3.27	**3.3** 0.13	**120.0** 4.72	**112.0** 4.41	**3.2** 0.12	**1.8** 0.08	101.3	24.0	0.1167	**1.78** 3.95
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.41** 5.32
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.42** 7.55
23.012 0.9060	**19.842** 0.7812	**1.5** 0.06	**2.0** 0.08	**82.0** 3.23	**85.0** 3.35	**3.3** 0.13	**118.0** 4.65	**112.0** 4.41	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**1.19** 2.64

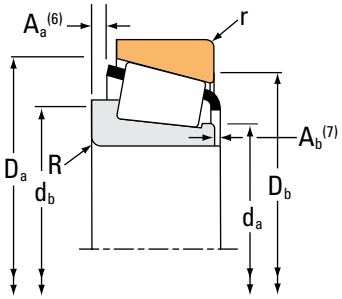
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
74.987 2.9523	**129.975** 5.1171	**33.249** 1.3090	**161000** 36200	0.42	1.43	**41800** 9390	**29900** 6730	1.39	**222000** 49800	42686	42624
75.000 2.9528	**115.000** 4.5276	**25.000** 0.9843	**118000** 26600	0.46	1.31	**30700** 6900	**24100** 5420	1.27	**167000** 37500	JLM714149	JLM714110
75.000 2.9528	**120.000** 4.7244	**31.000** 1.2205	**159000** 35800	0.44	1.35	**41300** 9290	**31400** 7070	1.31	**229000** 51500	JM714249	JM714210
75.000 2.9528	**120.000** 4.7244	**31.000** 1.2205	**159000** 35800	0.44	1.35	**41300** 9290	**31400** 7070	1.31	**229000** 51500	JM714249A	JM714210
75.000 2.9528	**145.000** 5.7087	**51.000** 2.0079	**347000** 78000	0.36	1.66	**89900** 20200	**55700** 12500	1.61	**463000** 104000	JH415647	JH415610
75.987 2.9916	**131.975** 5.1959	**39.000** 1.5354	**240000** 53900	0.33	1.80	**62200** 14000	**35400** 7960	1.76	**324000** 72800	HM215249	HM215210
76.200 3.0000	**105.570** 4.1563	**13.495** 0.5313	**41000** 9210	0.47	1.27	**10600** 2390	**8600** 1930	1.24	**61000** 13700	LL714649	LL714610
76.200 3.0000	**109.538** 4.3125	**19.050** 0.7500	**69200** 15600	0.50	1.20	**17900** 4030	**15400** 3470	1.16	**120000** 27000	L814749	L814710
76.200 3.0000	**121.442** 4.7812	**24.608** 0.9688	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34300	34478
76.200 3.0000	**121.442** 4.7812	**24.608** 0.9688	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34301	34478
76.200 3.0000	**125.412** 4.9375	**25.400** 1.0000	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27684	27620
76.200 3.0000	**125.412** 4.9375	**25.400** 1.0000	**111000** 24900	0.42	1.44	**28700** 6450	**20400** 4590	1.40	**178000** 39900	27684A	27620
76.200 3.0000	**127.000** 5.0000	**26.988** 1.0625	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34301	34500
76.200 3.0000	**127.000** 5.0000	**26.988** 1.0625	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34300	34500
76.200 3.0000	**127.000** 5.0000	**30.162** 1.1875	**161000** 36200	0.42	1.43	**41800** 9390	**29900** 6730	1.39	**222000** 49800	42687	42620
76.200 3.0000	**127.000** 5.0000	**30.162** 1.1875	**161000** 36200	0.42	1.43	**41800** 9390	**29900** 6730	1.39	**222000** 49800	42688	42620
76.200 3.0000	**133.350** 5.2500	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495A	492A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

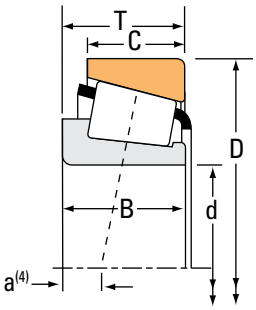
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
31.000 1.2205	**27.000** 1.0630	**-2.8** -0.11	**6.4** 0.25	**83.0** 3.27	**94.0** 3.70	**2.3** 0.09	**123.0** 4.84	**115.0** 4.53	**3.3** 0.13	**0.9** 0.04	96.2	28.6	0.1197	**1.66** 3.66
25.000 0.9843	**19.000** 0.7480	**0.5** 0.02	**3.0** 0.12	**82.0** 3.23	**88.0** 3.46	**2.5** 0.10	**110.5** 4.35	**104.0** 4.09	**2.0** 0.08	**2.1** 0.09	76.3	33.7	0.1140	**0.88** 1.93
29.500 1.1614	**25.000** 0.9843	**-2.0** -0.08	**3.0** 0.12	**82.9** 3.26	**88.0** 3.46	**2.5** 0.10	**115.0** 4.53	**108.0** 4.25	**2.1** 0.08	**2.7** 0.11	95.0	32.8	0.1218	**1.27** 2.81
29.500 1.1614	**25.000** 0.9843	**-2.0** -0.08	**6.0** 0.24	**83.0** 3.27	**94.0** 3.70	**2.5** 0.10	**115.0** 4.53	**108.0** 4.25	**2.1** 0.08	**2.7** 0.11	95.0	32.8	0.1218	**1.23** 2.72
51.000 2.0079	**42.000** 1.6535	**-14.2** -0.56	**3.0** 0.12	**89.0** 3.50	**94.0** 3.70	**2.5** 0.10	**139.0** 5.47	**129.0** 5.08	**2.0** 0.07	**3.2** 0.13	158.3	26.4	0.0931	**3.81** 8.42
39.000 1.5354	**32.000** 1.2598	**-9.7** -0.38	**7.0** 0.28	**85.0** 3.35	**98.0** 3.86	**3.5** 0.14	**126.0** 4.96	**118.0** 4.65	**1.2** 0.04	**2.8** 0.11	125.7	30.2	0.0837	**2.11** 4.65
13.495 0.5313	**9.525** 0.3750	**6.6** 0.26	**1.5** 0.06	**81.0** 3.19	**83.0** 3.27	**1.5** 0.06	**102.0** 4.02	**99.0** 3.90	**0.8** 0.03	**1.2** 0.05	45.7	64.3	0.0956	**0.32** 0.71
19.050 0.7500	**15.083** 0.5938	**5.1** 0.20	**1.5** 0.06	**82.0** 3.23	**84.0** 3.31	**1.5** 0.06	**105.0** 4.13	**100.0** 3.94	**0.8** 0.03	**1.2** 0.05	76.0	58.3	0.1164	**0.58** 1.28
23.012 0.9060	**17.462** 0.6875	**1.5** 0.06	**2.0** 0.08	**83.0** 3.27	**86.0** 3.39	**2.0** 0.08	**116.0** 4.57	**110.0** 4.33	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**0.95** 2.12
23.012 0.9060	**17.462** 0.6875	**1.5** 0.06	**3.5** 0.14	**83.0** 3.27	**89.0** 3.50	**2.0** 0.08	**116.0** 4.57	**110.0** 4.33	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**0.94** 2.09
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**3.5** 0.14	**84.0** 3.31	**91.0** 3.58	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**1.22** 2.68
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**0.8** 0.03	**84.0** 3.31	**85.0** 3.35	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**1.23** 2.71
23.012 0.9060	**19.842** 0.7812	**1.5** 0.06	**3.5** 0.14	**83.0** 3.27	**89.0** 3.50	**3.3** 0.13	**118.0** 4.65	**112.0** 4.41	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**1.16** 2.56
23.012 0.9060	**19.842** 0.7812	**1.5** 0.06	**2.0** 0.08	**83.0** 3.27	**86.0** 3.39	**3.3** 0.13	**118.0** 4.65	**112.0** 4.41	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**1.17** 2.59
31.000 1.2205	**22.225** 0.8750	**-2.8** -0.11	**3.5** 0.14	**84.0** 3.31	**90.0** 3.54	**3.3** 0.13	**121.0** 4.76	**114.0** 4.49	**3.3** 0.13	**0.9** 0.04	96.2	28.6	0.1197	**1.42** 3.13
31.000 1.2205	**22.225** 0.8750	**-2.8** -0.11	**6.4** 0.25	**84.0** 3.31	**96.0** 3.78	**3.3** 0.13	**121.0** 4.76	**114.0** 4.49	**3.3** 0.13	**0.9** 0.04	96.2	28.6	0.1197	**1.39** 3.05
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**3.3** 0.13	**128.0** 5.04	**120.0** 4.72	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.68** 3.70

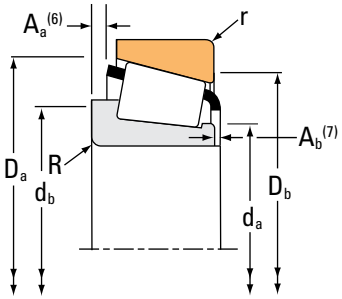
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
76.200 3.0000	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47679	47620
76.200 3.0000	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47680	47620
76.200 3.0000	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47678	47620
76.200 3.0000	**133.350** 5.2500	**79.375** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47679	47620A
76.200 3.0000	**133.350** 5.2500	**39.688** 1.5625	**259000** 58200	0.40	1.49	**67100** 15100	**46200** 10400	1.45	**353000** 79300	HM516442	HM516410
76.200 3.0000	**135.733** 5.3438	**44.450** 1.7500	**303000** 68100	0.41	1.48	**78500** 17600	**54600** 12300	1.44	**380000** 85400	5760	5735
76.200 3.0000	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495A	493
76.200 3.0000	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495AX	493
76.200 3.0000	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715346	H715311
76.200 3.0000	**139.700** 5.5000	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	575	572X
76.200 3.0000	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715346	H715310
76.200 3.0000	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	575	572
76.200 3.0000	**139.992** 5.5115	**36.512** 1.4375	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47679	47621
76.200 3.0000	**139.992** 5.5115	**36.512** 1.4375	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47680	47621
76.200 3.0000	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	575-S	572
76.200 3.0000	**142.138** 5.5960	**44.450** 1.7500	**241000** 54200	0.39	1.55	**62500** 14000	**41300** 9280	1.51	**318000** 71400	HM515745	HM515716
76.200 3.0000	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	659	653

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

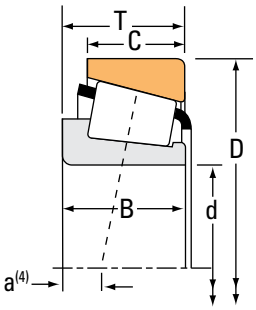
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.92** 4.22
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**0.8** 0.03	**85.0** 3.35	**86.0** 3.39	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.92** 4.23
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**6.4** 0.25	**85.0** 3.35	**97.0** 3.82	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.88** 4.14
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**0.8** 0.03	**128.0** 5.04	**121.0** 4.76	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.92** 4.23
39.688 1.5625	**32.545** 1.2813	**-7.4** -0.29	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**128.0** 5.04	**118.0** 4.65	**1.7** 0.06	**2.5** 0.10	154.1	43.1	0.0955	**2.40** 5.30
46.100 1.8150	**34.925** 1.3750	**-11.7** -0.46	**3.5** 0.14	**88.0** 3.46	**94.0** 3.70	**3.3** 0.13	**130.0** 5.12	**119.0** 4.69	**5.3** 0.21	**1.5** 0.06	144.9	31.6	0.0940	**2.68** 5.92
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.80** 3.96
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**6.4** 0.25	**86.0** 3.39	**98.0** 3.86	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.77** 3.90
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**88.0** 3.46	**98.0** 3.86	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**2.92** 6.42
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.34** 5.17
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**88.0** 3.46	**98.0** 3.86	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.10** 6.82
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.35** 5.20
33.338 1.3125	**29.370** 1.1563	**-4.3** -0.17	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**2.33** 5.14
33.338 1.3125	**29.370** 1.1563	**-4.3** -0.17	**0.8** 0.03	**85.0** 3.35	**86.0** 3.39	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**2.33** 5.15
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**6.8** 0.27	**86.0** 3.39	**99.0** 3.90	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.32** 5.12
46.100 1.8150	**33.338** 1.3125	**-10.9** -0.43	**3.5** 0.14	**87.0** 3.43	**92.0** 3.62	**3.3** 0.13	**133.0** 5.24	**124.0** 4.88	**5.9** 0.23	**-1.2** -0.05	121.7	26.3	0.0869	**2.90** 6.41
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.01** 6.63

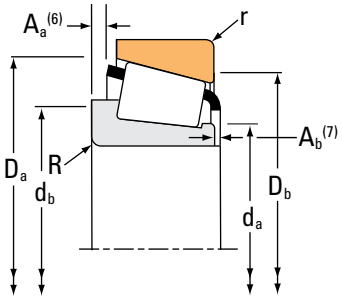
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
76.200 3.0000	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6461	6420
76.200 3.0000	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6466	6420
76.200 3.0000	**149.225** 5.8750	**53.975** 2.1250	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6461A	6420
76.200 3.0000	**150.000** 5.9055	**35.966** 1.4160	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	590A	JM719113
76.200 3.0000	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	748-S	742
76.200 3.0000	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	590A	592A
76.200 3.0000	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	659	652
76.200 3.0000	**160.000** 6.2992	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6576	6525X
76.200 3.0000	**161.925** 6.3750	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	755	752
76.200 3.0000	**161.925** 6.3750	**49.212** 1.9375	**353000** 79300	0.71	0.85	**91400** 20600	**111000** 24900	0.82	**330000** 74200	9285	9220
76.200 3.0000	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6576	6535
76.200 3.0000	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6575	6535
76.200 3.0000	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6576	6536
76.200 3.0000	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6576C	6535
76.200 3.0000	**168.275** 6.6250	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	755	753
76.200 3.0000	**168.275** 6.6250	**53.975** 2.1250	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	837	832
76.200 3.0000	**168.275** 6.6250	**53.975** 2.1250	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	843	832

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

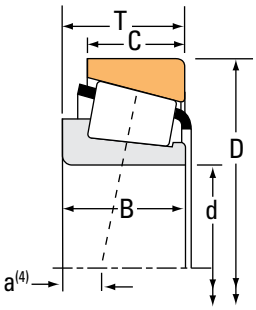
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**3.5** 0.14	**89.0** 3.52	**96.0** 3.78	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.24** 9.36
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**6.4** 0.25	**89.0** 3.52	**102.0** 4.02	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.22** 9.30
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**9.7** 0.38	**89.0** 3.52	**108.0** 4.25	**3.3** 0.13	**140.0** 5.51	**129.0** 5.08	**2.7** 0.10	**0.7** 0.03	158.3	29.1	0.0931	**4.16** 9.18
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.92** 6.44
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.66** 8.06
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**3.21** 7.08
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.36** 7.41
55.100 2.1693	**44.450** 1.7500	**-13.2** -0.52	**3.5** 0.14	**92.0** 3.62	**99.0** 3.90	**3.0** 0.12	**153.4** 6.04	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**5.26** 11.60
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**92.0** 3.62	**98.0** 3.86	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.70** 10.36
46.038 1.8125	**31.750** 1.2500	**0.0** 0.00	**3.5** 0.14	**89.0** 3.50	**111.0** 4.37	**3.3** 0.13	**153.0** 6.03	**138.0** 5.43	**9.0** 0.35	**4.1** 0.16	102.5	16.1	0.0984	**4.17** 9.21
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**3.5** 0.14	**92.0** 3.62	**99.0** 3.90	**3.3** 0.13	**154.0** 6.06	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**5.41** 11.93
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**6.4** 0.25	**92.0** 3.62	**104.0** 4.09	**3.3** 0.13	**154.0** 6.06	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**5.40** 11.91
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**3.5** 0.14	**92.0** 3.62	**99.0** 3.90	**0.8** 0.03	**154.0** 6.06	**144.0** 5.67	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**5.41** 11.94
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**3.5** 0.14	**94.0** 3.70	**101.0** 3.98	**3.3** 0.13	**154.0** 6.06	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**5.41** 11.92
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**92.0** 3.62	**98.0** 3.86	**3.3** 0.13	**150.0** 5.91	**147.0** 5.79	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**5.17** 11.40
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**0.8** 0.03	**89.0** 3.50	**90.0** 3.54	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**5.79** 12.75
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**6.4** 0.25	**89.0** 3.50	**101.0** 3.98	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**5.77** 12.71

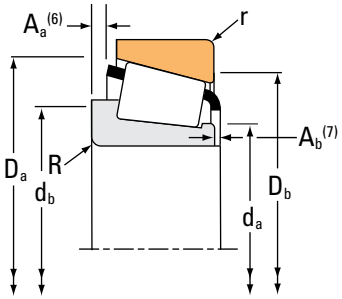
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
76.200 3.0000	**171.450** 6.7500	**49.212** 1.9375	**363000** 81600	0.76	0.79	**94100** 21200	**123000** 27700	0.76	**351000** 78800	9380	9321
76.200 3.0000	**171.450** 6.7500	**52.388** 2.0625	**363000** 81600	0.76	0.79	**94100** 21200	**123000** 27700	0.76	**351000** 78800	9378	9321
76.200 3.0000	**177.800** 7.0000	**52.388** 2.0625	**363000** 81600	0.76	0.79	**94100** 21200	**123000** 27700	0.76	**351000** 78800	9380	9320
76.200 3.0000	**177.800** 7.0000	**55.562** 2.1875	**363000** 81600	0.76	0.79	**94100** 21200	**123000** 27700	0.76	**351000** 78800	9378	9320
76.200 3.0000	**180.975** 7.1250	**53.975** 2.1250	**448000** 101000	0.73	0.82	**116000** 26100	**146000** 32700	0.80	**458000** 103000	H917840	H917810
76.200 3.0000	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221430	HH221410
77.788 3.0625	**117.475** 4.6250	**25.400** 1.0000	**118000** 26500	0.51	1.18	**30600** 6870	**26700** 5990	1.15	**183000** 41200	LM814849	LM814810
77.788 3.0625	**120.000** 4.7244	**23.000** 0.9055	**121000** 27200	0.45	1.33	**31400** 7060	**24200** 5450	1.30	**136000** 30600	34306	34472X
77.788 3.0625	**120.650** 4.7500	**27.783** 1.0938	**118000** 26500	0.51	1.18	**30600** 6870	**26700** 5990	1.15	**183000** 41200	LM814849	LM814814
77.788 3.0625	**121.442** 4.7812	**24.608** 0.9688	**121000** 27200	0.45	1.33	**31400** 7060	**24200** 5450	1.30	**136000** 30600	34306	34478
77.788 3.0625	**121.442** 4.7812	**24.608** 0.9688	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34307	34478
77.788 3.0625	**127.000** 5.0000	**30.162** 1.1875	**161000** 36200	0.42	1.43	**41800** 9390	**29900** 6730	1.39	**222000** 49800	42690	42620
77.788 3.0625	**133.350** 5.2500	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495AS	492A
77.788 3.0625	**135.733** 5.3438	**44.450** 1.7500	**303000** 68100	0.41	1.48	**78500** 17600	**54600** 12300	1.44	**380000** 85400	5795	5735
77.788 3.0625	**136.525** 5.3750	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715348	H715311
77.788 3.0625	**139.700** 5.5000	**46.038** 1.8125	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715348	H715310
77.788 3.0625	**164.975** 6.4951	**49.500** 1.9488	**352000** 79000	0.51	1.17	**91100** 20500	**79700** 17900	1.14	**400000** 90000	H816249	H816210

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

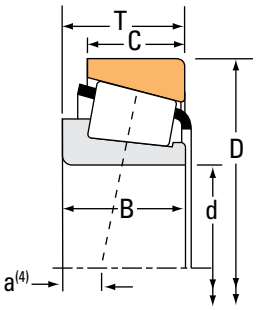
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
46.038 1.8125	**31.750** 1.2500	**4.3** 0.17	**3.5** 0.14	**98.2** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**8.9** 0.35	**3.9** 0.16	117.9	18.6	0.1053	**5.11** 11.26
50.800 2.0000	**31.750** 1.2500	**1.3** 0.05	**3.5** 0.14	**98.2** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**12.1** 0.47	**2.3** 0.09	117.9	18.6	0.1053	**5.35** 11.80
46.038 1.8125	**34.925** 1.3750	**4.3** 0.17	**3.5** 0.14	**98.2** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**148.0** 5.83	**8.9** 0.35	**3.9** 0.16	117.9	18.6	0.1053	**5.81** 12.80
50.800 2.0000	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**98.2** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**148.0** 5.83	**12.1** 0.47	**2.3** 0.09	117.9	18.6	0.1053	**6.05** 13.34
53.183 2.0938	**35.720** 1.4063	**0.5** 0.02	**3.5** 0.14	**100.1** 3.94	**110.0** 4.33	**3.3** 0.13	**170.0** 6.69	**152.0** 5.98	**9.5** 0.37	**2.8** 0.11	147.0	20.7	0.1123	**6.55** 14.45
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**8.60** 18.95
25.400 1.0000	**19.050** 0.7500	**2.3** 0.09	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**113.0** 4.45	**105.0** 4.13	**2.4** 0.09	**1.5** 0.06	88.6	36.6	0.1239	**0.91** 2.00
23.012 0.9060	**16.000** 0.6299	**1.5** 0.06	**3.5** 0.14	**84.0** 3.31	**91.0** 3.58	**2.3** 0.09	**115.0** 4.53	**110.0** 4.33	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**0.83** 1.84
25.400 1.0000	**26.195** 1.0313	**2.3** 0.09	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**115.8** 4.56	**107.0** 4.21	**2.4** 0.09	**1.5** 0.06	88.6	36.6	0.1239	**1.11** 2.45
23.012 0.9060	**17.462** 0.6875	**1.5** 0.06	**3.5** 0.14	**84.0** 3.31	**91.0** 3.58	**2.0** 0.08	**116.0** 4.57	**110.0** 4.33	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**0.90** 2.01
23.012 0.9060	**17.462** 0.6875	**1.5** 0.06	**6.4** 0.25	**84.0** 3.31	**96.0** 3.78	**2.0** 0.08	**116.0** 4.57	**110.0** 4.33	**2.6** 0.10	**2.1** 0.09	69.3	27.0	0.1093	**0.88** 1.95
31.000 1.2205	**22.225** 0.8750	**-2.8** -0.11	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**3.3** 0.13	**121.0** 4.76	**114.0** 4.49	**3.3** 0.13	**0.9** 0.04	96.2	28.6	0.1197	**1.37** 3.01
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**3.3** 0.13	**128.0** 5.04	**120.0** 4.72	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.63** 3.61
46.100 1.8150	**34.925** 1.3750	**-11.7** -0.46	**3.5** 0.14	**89.0** 3.50	**96.0** 3.78	**3.3** 0.13	**130.0** 5.12	**119.0** 4.69	**5.3** 0.21	**1.5** 0.06	144.9	31.6	0.0940	**2.61** 5.77
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**88.0** 3.46	**99.0** 3.90	**3.3** 0.13	**132.0** 5.20	**118.0** 4.65	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**2.84** 6.26
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**3.5** 0.14	**88.0** 3.46	**99.0** 3.90	**3.3** 0.13	**133.0** 5.24	**120.0** 4.72	**4.1** 0.16	**2.0** 0.08	147.1	33.5	0.0993	**3.02** 6.67
46.248 1.8208	**36.250** 1.4272	**-6.4** -0.25	**3.5** 0.14	**92.5** 3.64	**102.0** 4.02	**3.3** 0.13	**154.5** 6.08	**144.0** 5.67	**4.6** 0.18	**6.0** 0.24	127.4	23.2	0.0959	**4.63** 10.21

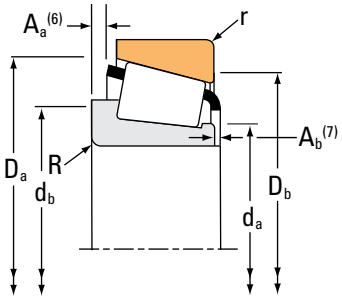
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
79.375 3.1250	**140.000** 5.5118	**44.450** 1.7500	**241000** 54200	0.39	1.55	**62500** 14000	**41300** 9280	1.51	**318000** 71400	HM515749	HM515714
79.375 3.1250	**142.138** 5.5960	**44.450** 1.7500	**241000** 54200	0.39	1.55	**62500** 14000	**41300** 9280	1.51	**318000** 71400	HM515749	HM515716
79.375 3.1250	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	661	653
79.375 3.1250	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595A	592XE
79.375 3.1250	**150.000** 5.9055	**35.992** 1.4170	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595A	593X
79.375 3.1250	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	750	742
79.375 3.1250	**152.400** 6.0000	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595A	592AS
79.375 3.1250	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595A	592A
79.375 3.1250	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	661	652
79.375 3.1250	**161.925** 6.3750	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	756A	752
79.375 3.1250	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221431	HH221410
79.975 3.1486	**146.975** 5.7864	**40.000** 1.5748	**325000** 73000	0.33	1.80	**84200** 18900	**47900** 10800	1.76	**388000** 87300	HM218238	HM218210
79.975 3.1486	**152.400** 6.0000	**40.000** 1.5748	**325000** 73000	0.33	1.80	**84200** 18900	**47900** 10800	1.76	**388000** 87300	HM218238	HM218215
79.985 3.1490	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	578	572
79.985 3.1490	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	590	592XE
79.985 3.1490	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	590	592A
80.000 3.1496	**125.000** 4.9213	**24.000** 0.9449	**107000** 24000	0.45	1.33	**27700** 6230	**21400** 4820	1.29	**141000** 31800	JP8049	JP8010

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

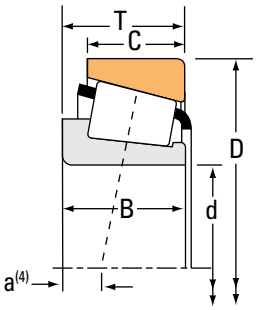
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
46.100 1.8150	**33.338** 1.3125	**-10.9** -0.43	**3.5** 0.14	**89.6** 3.52	**95.0** 3.74	**3.3** 0.13	**133.0** 5.24	**123.0** 4.84	**5.9** 0.23	**-1.2** -0.05	121.7	26.3	0.0869	**2.64** 5.83
46.100 1.8150	**33.338** 1.3125	**-10.9** -0.43	**3.5** 0.14	**89.6** 3.52	**95.0** 3.74	**3.3** 0.13	**133.0** 5.24	**124.0** 4.88	**5.9** 0.23	**-1.2** -0.05	121.7	26.3	0.0869	**2.76** 6.10
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**90.0** 3.54	**96.0** 3.78	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.88** 6.35
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**0.8** 0.03	**142.0** 5.59	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.69** 5.93
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.81** 6.19
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**90.0** 3.54	**96.0** 3.78	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.51** 7.73
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**0.8** 0.03	**144.0** 5.67	**137.0** 5.39	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.93** 6.45
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**3.10** 6.84
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**90.0** 3.54	**96.0** 3.78	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.23** 7.14
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**8.0** 0.31	**94.0** 3.70	**109.0** 4.29	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.53** 9.99
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**3.5** 0.14	**97.0** 3.82	**103.0** 4.06	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**8.42** 18.57
40.000 1.5748	**32.500** 1.2795	**-8.6** -0.34	**7.0** 0.28	**91.0** 3.58	**104.0** 4.09	**3.5** 0.14	**141.0** 5.55	**133.0** 5.24	**1.4** 0.05	**3.0** 0.12	168.2	34.7	0.0921	**2.94** 6.50
40.000 1.5748	**32.500** 1.2795	**-8.6** -0.34	**7.0** 0.28	**91.0** 3.58	**104.0** 4.09	**3.3** 0.13	**143.0** 5.63	**135.0** 5.31	**1.4** 0.05	**3.0** 0.12	168.2	34.7	0.0921	**3.27** 7.22
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.22** 4.91
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**0.8** 0.03	**142.0** 5.59	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.67** 5.88
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**3.08** 6.79
22.500 0.8858	**17.500** 0.6890	**2.3** 0.09	**2.0** 0.08	**86.0** 3.39	**89.0** 3.50	**2.0** 0.08	**120.0** 4.72	**115.0** 4.53	**1.9** 0.07	**3.5** 0.14	69.7	37.4	0.1095	**0.96** 2.10

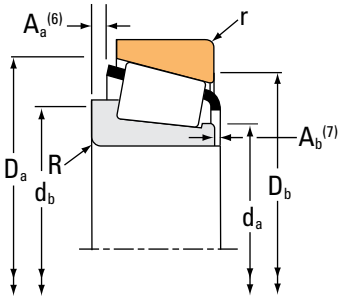
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
80.000 3.1496	**130.000** 5.1181	**35.000** 1.3780	**199000** 44700	0.39	1.54	**51500** 11600	**34200** 7700	1.50	**283000** 63500	JM515649	JM515610
80.000 3.1496	**150.000** 5.9055	**44.455** 1.7502	**318000** 71400	0.33	1.84	**82400** 18500	**45900** 10300	1.80	**417000** 93800	748	743
80.000 3.1496	**150.089** 5.9090	**44.450** 1.7500	**318000** 71400	0.33	1.84	**82400** 18500	**45900** 10300	1.80	**417000** 93800	748	742
80.000 3.1496	**160.000** 6.2992	**45.000** 1.7717	**264000** 59300	0.87	0.69	**68400** 15400	**101000** 22800	0.67	**339000** 76100	JW8049	JW8010
80.000 3.1496	**200.000** 7.8740	**108.268** 2.0772	**482000** 108000	0.63	0.95	**125000** 28100	**135000** 30400	0.92	**519000** 117000	98316	98788
80.962 3.1875	**133.350** 5.2500	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	496	492A
80.962 3.1875	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47681	47620
80.962 3.1875	**133.350** 5.2500	**39.688** 1.5625	**259000** 58200	0.40	1.49	**67100** 15100	**46200** 10400	1.45	**353000** 79300	HM516447	HM516410
80.962 3.1875	**133.350** 5.2500	**39.688** 1.5625	**259000** 58200	0.40	1.49	**67100** 15100	**46200** 10400	1.45	**353000** 79300	HM516447	HM516410A
80.962 3.1875	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	496	493
80.962 3.1875	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	581	572
80.962 3.1875	**146.050** 5.7500	**38.100** 1.5000	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	662	653
80.962 3.1875	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	740	742
80.962 3.1875	**168.275** 6.6250	**53.975** 2.1250	**409000** 92000	0.30	2.00	**106000** 23800	**54300** 12200	1.95	**522000** 117000	838	832
82.550 3.2500	**114.300** 4.5000	**15.083** 0.5938	**70900** 15900	0.31	1.94	**18400** 4130	**9740** 2190	1.89	**87000** 19600	LL116249	LL116210
82.550 3.2500	**115.888** 4.5625	**20.638** 0.8125	**90200** 20300	0.31	1.95	**23400** 5260	**12300** 2770	1.90	**147000** 33100	L116149	L116110
82.550 3.2500	**125.412** 4.9375	**25.400** 1.0000	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27687	27620

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

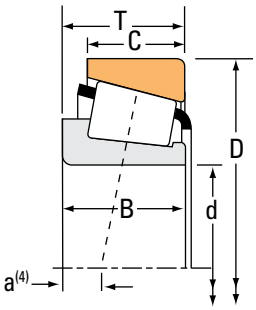
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
34.000 1.3386	**28.500** 1.1220	**-5.1** -0.20	**3.0** 0.12	**88.0** 3.46	**94.0** 3.70	**2.5** 0.10	**125.0** 4.92	**117.0** 4.61	**1.5** 0.06	**2.8** 0.11	118.5	31.1	0.0863	**1.71** 3.77
46.672 1.8375	**35.000** 1.3780	**-11.9** -0.47	**3.0** 0.12	**90.0** 3.54	**96.0** 3.78	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.44** 7.57
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.0** 0.12	**90.0** 3.54	**96.0** 3.78	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.49** 7.67
41.000 1.6142	**31.000** 1.2205	**9.7** 0.38	**3.0** 0.12	**93.0** 3.67	**108.0** 4.25	**3.0** 0.12	**152.0** 5.98	**134.0** 5.28	**7.0** 0.27	**4.8** 0.19	117.3	27.2	0.1094	**4.04** 8.90
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**105.0** 4.13	**111.0** 4.37	**3.3** 0.13	**188.0** 7.40	**174.0** 6.85	**8.6** 0.34	**5.4** 0.22	203.4	37.5	0.1197	**7.94** 17.52
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**3.3** 0.13	**128.0** 5.04	**120.0** 4.72	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.54** 3.40
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.76** 3.86
39.688 1.5625	**32.545** 1.2813	**-7.4** -0.29	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**128.0** 5.04	**118.0** 4.65	**1.7** 0.06	**2.5** 0.10	154.1	43.1	0.0955	**2.22** 4.90
39.688 1.5625	**32.545** 1.2813	**-7.4** -0.29	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**0.8** 0.03	**128.0** 5.04	**120.0** 4.72	**1.7** 0.06	**2.5** 0.10	154.1	43.1	0.0955	**2.23** 4.93
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.66** 3.66
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**90.0** 3.54	**96.0** 3.78	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.19** 4.83
38.100 1.5000	**31.750** 1.2500	**-4.8** -0.19	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**1.3** 0.05	**2.1** 0.08	136.6	27.3	0.0919	**2.69** 5.94
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**5.0** 0.20	**91.0** 3.58	**101.0** 3.98	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.42** 7.54
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**0.8** 0.03	**93.0** 3.66	**94.0** 3.70	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**5.53** 12.18
15.083 0.5938	**11.112** 0.4375	**1.5** 0.06	**1.5** 0.06	**87.0** 3.43	**90.0** 3.54	**1.5** 0.06	**110.0** 4.33	**108.0** 4.25	**0.2** 0.01	**2.1** 0.09	66.2	60.0	0.0944	**0.43** 0.95
21.433 0.8438	**16.670** 0.6563	**-1.3** -0.05	**1.5** 0.06	**87.0** 3.43	**90.0** 3.54	**1.5** 0.06	**111.0** 4.37	**108.0** 4.25	**0.6** 0.02	**1.4** 0.06	97.2	64.3	0.1079	**0.66** 1.45
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**3.5** 0.14	**89.0** 3.50	**96.0** 3.78	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**1.07** 2.35

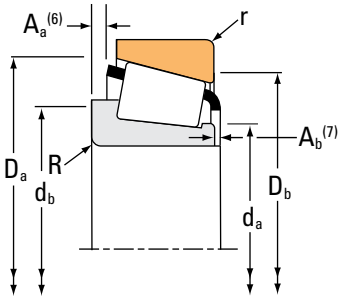
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
82.550 3.2500	**133.350** 5.2500	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495	492A
82.550 3.2500	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47686	47620
82.550 3.2500	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47685	47620
82.550 3.2500	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47687	47620
82.550 3.2500	**133.350** 5.2500	**39.688** 1.5625	**259000** 58200	0.40	1.49	**67100** 15100	**46200** 10400	1.45	**353000** 79300	HM516448	HM516410
82.550 3.2500	**133.350** 5.2500	**39.688** 1.5625	**259000** 58200	0.40	1.49	**67100** 15100	**46200** 10400	1.45	**353000** 79300	HM516449C	HM516410
82.550 3.2500	**133.350** 5.2500	**39.688** 1.5625	**259000** 58200	0.40	1.49	**67100** 15100	**46200** 10400	1.45	**353000** 79300	HM516449A	HM516410
82.550 3.2500	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495	493
82.550 3.2500	**139.700** 5.5000	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	580	572X
82.550 3.2500	**139.700** 5.5000	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	582	572X
82.550 3.2500	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	580	572
82.550 3.2500	**139.992** 5.5115	**36.512** 1.4375	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47685	47621
82.550 3.2500	**139.992** 5.5115	**36.512** 1.4375	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47686	47621
82.550 3.2500	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	582	572
82.550 3.2500	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	580	574
82.550 3.2500	**139.992** 5.5115	**36.512** 1.4375	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	580X	572
82.550 3.2500	**142.138** 5.5960	**42.862** 1.6875	**261000** 58700	0.43	1.39	**67700** 15200	**50000** 11300	1.35	**399000** 89700	HM617045	HM617010

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

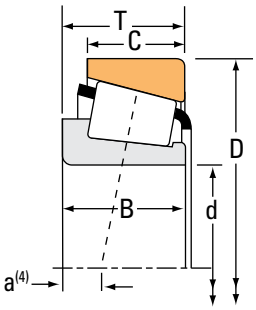
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**90.0** 3.54	**97.0** 3.82	**3.3** 0.13	**128.0** 5.04	**120.0** 4.72	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.49** 3.30
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**3.5** 0.14	**92.0** 3.62	**98.0** 3.86	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.71** 3.76
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**0.8** 0.03	**90.0** 3.54	**91.0** 3.58	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.72** 3.77
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**6.8** 0.27	**92.0** 3.62	**105.0** 4.13	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.70** 3.73
39.688 1.5625	**32.545** 1.2813	**-7.4** -0.29	**6.8** 0.27	**92.0** 3.62	**106.0** 4.17	**3.3** 0.13	**128.0** 5.04	**118.0** 4.65	**1.7** 0.06	**2.5** 0.10	154.1	43.1	0.0955	**2.14** 4.72
39.688 1.5625	**32.545** 1.2813	**-7.4** -0.29	**3.5** 0.14	**92.0** 3.62	**99.0** 3.90	**3.3** 0.13	**128.0** 5.04	**118.0** 4.65	**1.7** 0.06	**2.5** 0.10	154.1	43.1	0.0955	**2.15** 4.74
39.688 1.5625	**32.545** 1.2813	**-7.4** -0.29	**0.0** 0.00	**92.0** 3.62	**99.0** 4.13	**3.3** 0.13	**128.0** 5.04	**118.0** 4.65	**1.7** 0.06	**2.5** 0.10	154.1	43.1	0.0955	**2.10** 4.62
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**90.0** 3.54	**97.0** 3.82	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.61** 3.55
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.12** 4.69
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**6.8** 0.27	**91.0** 3.58	**104.0** 4.09	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.08** 4.59
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.13** 4.72
33.338 1.3125	**29.370** 1.1563	**-4.3** -0.17	**0.8** 0.03	**90.0** 3.54	**91.0** 3.58	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**2.13** 4.70
33.338 1.3125	**29.370** 1.1563	**-4.3** -0.17	**3.5** 0.14	**92.0** 3.62	**98.0** 3.86	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**2.12** 4.69
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**6.8** 0.27	**91.0** 3.58	**104.0** 4.09	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.09** 4.62
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**0.5** 0.02	**133.0** 5.24	**128.0** 5.04	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.14** 4.73
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**4.8** 0.19	**92.0** 3.62	**100.0** 3.94	**3.3** 0.13	**133.0** 5.24	**125.0** 4.92	**3.4** 0.13	**1.9** 0.08	125.7	32.0	0.1295	**2.12** 4.68
42.862 1.6875	**34.133** 1.3438	**-7.4** -0.29	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.3** 0.13	**137.0** 5.39	**125.0** 4.92	**3.2** 0.12	**2.4** 0.10	162.9	38.9	0.0996	**2.76** 6.09

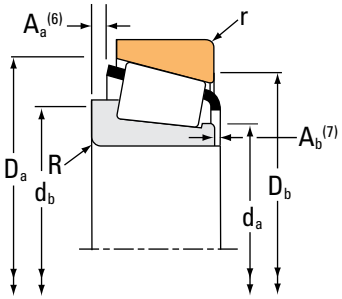
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
82.550 3.2500	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	663	653
82.550 3.2500	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	663A	653
82.550 3.2500	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595	592XS
82.550 3.2500	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595	592XE
82.550 3.2500	**150.000** 5.9055	**35.992** 1.4170	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595	593X
82.550 3.2500	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	749A	742
82.550 3.2500	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	750A	742
82.550 3.2500	**152.400** 6.0000	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595	592AS
82.550 3.2500	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595	592A
82.550 3.2500	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	663	652
82.550 3.2500	**159.995** 6.2990	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	757	752A
82.550 3.2500	**161.925** 6.3750	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	757	752
82.550 3.2500	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6559C	6535
82.550 3.2500	**168.275** 6.6250	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	757	753
82.550 3.2500	**168.275** 6.6250	**53.975** 2.1250	**409000** 92000	0.30	2.00	**106000** 23800	**54300** 12200	1.95	**522000** 117000	839	832
82.550 3.2500	**168.275** 6.6250	**53.975** 2.1250	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	842	832
82.550 3.2500	**180.975** 7.1250	**53.975** 2.1250	**448000** 101000	0.73	0.82	**116000** 26100	**146000** 32700	0.80	**458000** 103000	H917849	H917810

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

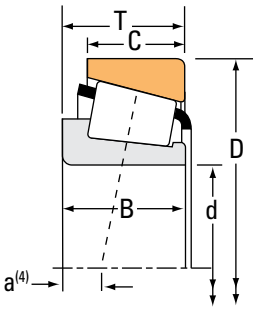
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**92.0** 3.62	**99.0** 3.90	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.75** 6.06
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**6.8** 0.27	**92.0** 3.62	**105.0** 4.13	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.74** 6.03
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**93.0** 3.66	**100.0** 3.94	**3.3** 0.13	**142.0** 5.59	**133.0** 5.24	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.55** 5.64
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**93.0** 3.66	**100.0** 3.94	**0.8** 0.03	**142.0** 5.59	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.57** 5.68
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**93.0** 3.66	**100.0** 3.94	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.69** 5.93
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**93.0** 3.66	**99.0** 3.90	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.36** 7.40
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**6.5** 0.26	**93.0** 3.66	**106.0** 4.17	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.33** 7.33
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**93.0** 3.66	**100.0** 3.94	**0.8** 0.03	**144.0** 5.67	**137.0** 5.39	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.81** 6.19
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**93.0** 3.66	**100.0** 3.94	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.98** 6.58
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**92.0** 3.62	**99.0** 3.90	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.10** 6.85
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**94.0** 3.70	**100.0** 3.94	**0.8** 0.03	**150.0** 5.91	**146.0** 5.75	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.27** 9.41
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**94.0** 3.70	**100.0** 3.94	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.39** 9.69
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**3.5** 0.14	**98.0** 3.86	**104.0** 4.09	**3.3** 0.13	**154.0** 6.06	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**5.07** 11.18
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**94.0** 3.70	**100.0** 3.94	**3.3** 0.13	**150.0** 5.91	**147.0** 5.79	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.86** 10.73
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**0.8** 0.03	**94.0** 3.70	**95.0** 3.74	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**5.44** 11.98
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**3.5** 0.14	**94.0** 3.70	**101.0** 3.98	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**5.42** 11.95
53.183 2.0938	**35.720** 1.4063	**0.5** 0.02	**3.3** 0.13	**100.1** 3.94	**114.0** 4.49	**3.3** 0.13	**170.0** 6.69	**152.0** 5.98	**9.5** 0.37	**2.8** 0.11	147.0	20.7	0.1123	**6.23** 13.72

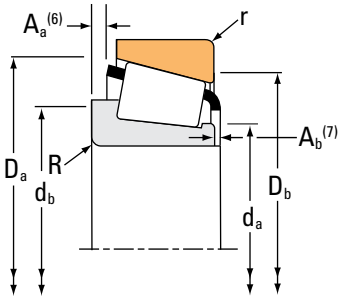
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
83.345 3.2813	**125.412** 4.9375	**25.400** 1.0000	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27690	27620
83.345 3.2813	**125.412** 4.9375	**25.400** 1.0000	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27689	27620
83.345 3.2813	**125.412** 4.9375	**25.400** 1.0000	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27691	27620
83.345 3.2813	**133.350** 5.2500	**33.338** 1.3125	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47688	47620
84.138 3.3125	**133.350** 5.2500	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	498	492A
84.138 3.3125	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	498	493
84.138 3.3125	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	664	652
84.138 3.3125	**171.450** 6.7500	**49.212** 1.9375	**363000** 81600	0.76	0.79	**94100** 21200	**123000** 27700	0.76	**351000** 78800	9386H	9321
84.138 3.3125	**177.800** 7.0000	**52.388** 2.0625	**363000** 81600	0.76	0.79	**94100** 21200	**123000** 27700	0.76	**351000** 78800	9386H	9320
84.975 3.3455	**125.412** 4.9375	**25.400** 1.0000	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27695	27620
85.000 3.3465	**130.000** 5.1181	**30.000** 1.1811	**161000** 36300	0.44	1.35	**41800** 9400	**31800** 7150	1.31	**245000** 55100	JM716649	JM716610
85.000 3.3465	**130.000** 5.1181	**30.000** 1.1811	**161000** 36300	0.44	1.35	**41800** 9400	**31800** 7150	1.31	**245000** 55100	JM716648	JM716610
85.000 3.3465	**140.000** 5.5118	**39.000** 1.5354	**238000** 53400	0.41	1.47	**61600** 13800	**42900** 9650	1.43	**339000** 76300	JHM516849	JHM516810
85.000 3.3465	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	665X	653
85.000 3.3465	**150.000** 5.9055	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	665X	653X
85.000 3.3465	**150.000** 5.9055	**46.000** 1.8110	**332000** 74600	0.33	1.80	**86000** 19300	**49000** 11000	1.76	**446000** 100000	JH217249	JH217210
85.000 3.3465	**188.912** 7.4375	**53.297** 2.0983	**383000** 86100	0.87	0.69	**99300** 22300	**147000** 33100	0.67	**392000** 88100	90334	90744

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

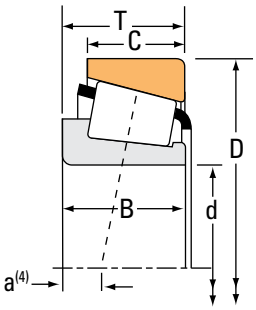
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**3.5** 0.14	**89.0** 3.50	**96.0** 3.78	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**1.05** 2.30
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**0.8** 0.03	**90.0** 3.54	**90.0** 3.54	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**1.05** 2.32
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**6.4** 0.25	**90.0** 3.54	**102.0** 4.02	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**1.01** 2.22
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**3.5** 0.14	**91.0** 3.58	**97.0** 3.82	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.3** 0.09	**2.4** 0.10	119.4	29.2	0.1273	**1.68** 3.69
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**128.0** 5.04	**120.0** 4.72	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.44** 3.19
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.56** 3.45
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**94.0** 3.70	**100.0** 3.94	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**3.04** 6.70
46.038 1.8125	**31.750** 1.2500	**4.3** 0.17	**3.5** 0.14	**98.3** 3.87	**111.0** 4.37	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**8.9** 0.35	**3.9** 0.16	117.9	18.6	0.1053	**4.70** 10.36
46.038 1.8125	**34.925** 1.3750	**4.3** 0.17	**3.5** 0.14	**98.3** 3.87	**111.0** 4.37	**3.3** 0.13	**164.0** 6.46	**148.0** 5.83	**8.9** 0.35	**3.9** 0.16	117.9	18.6	0.1053	**5.40** 11.91
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**5.0** 0.20	**91.0** 3.58	**100.0** 3.94	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.5** 0.06	**1.7** 0.07	98.2	41.8	0.1198	**0.98** 2.16
29.000 1.1417	**24.000** 0.9449	**-0.3** -0.01	**3.0** 0.12	**92.0** 3.62	**98.0** 3.86	**2.5** 0.10	**125.0** 4.92	**117.0** 4.61	**2.0** 0.08	**2.6** 0.10	117.1	38.4	0.1303	**1.36** 3.00
29.000 1.1417	**24.000** 0.9449	**-0.3** -0.01	**6.0** 0.24	**92.0** 3.62	**104.0** 4.09	**2.5** 0.10	**125.0** 4.92	**117.0** 4.61	**2.0** 0.08	**2.6** 0.10	117.1	38.4	0.1303	**1.32** 2.91
38.000 1.4961	**31.500** 1.2402	**-5.8** -0.23	**3.0** 0.12	**94.0** 3.70	**100.0** 3.94	**2.5** 0.10	**134.0** 5.28	**125.0** 4.92	**1.4** 0.05	**3.6** 0.14	140.9	35.2	0.0929	**2.27** 5.00
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.65** 5.83
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.0** 0.12	**141.0** 5.55	**133.0** 5.24	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.86** 6.31
46.000 1.8110	**38.000** 1.4961	**-11.9** -0.47	**3.0** 0.12	**95.0** 3.74	**101.0** 3.98	**2.5** 0.10	**142.0** 5.59	**134.0** 5.28	**1.1** 0.04	**3.5** 0.14	169.3	33.3	0.0924	**3.34** 7.36
52.761 2.0772	**31.750** 1.2500	**10.4** 0.41	**3.5** 0.14	**112.0** 4.41	**116.0** 4.57	**3.3** 0.13	**179.0** 7.06	**161.0** 6.34	**13.5** 0.53	**-0.5** -0.02	149.6	23.8	0.1180	**6.57** 14.48

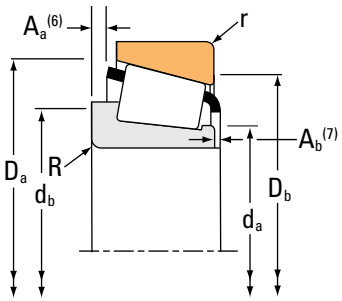
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
85.000 3.3465	**200.000** 7.8740	**52.761** 2.0772	**482000** 108000	0.63	0.95	**125000** 28100	**135000** 30400	0.92	**519000** 117000	98335	98788
85.025 3.3475	**150.000** 5.9055	**44.455** 1.7502	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	749	743
85.025 3.3475	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	749	742
85.025 3.3475	**150.089** 5.9090	**44.450** 1.7500	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	749-S	742
85.725 3.3750	**133.350** 5.2500	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	497	492A
85.725 3.3750	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	497	493
85.725 3.3750	**136.525** 5.3750	**30.162** 1.1875	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	497A	493
85.725 3.3750	**142.138** 5.5960	**42.862** 1.6875	**261000** 58700	0.43	1.39	**67700** 15200	**50000** 11300	1.35	**399000** 89700	HM617049	HM617010
85.725 3.3750	**142.138** 5.5960	**42.862** 1.6875	**261000** 58700	0.43	1.39	**67700** 15200	**50000** 11300	1.35	**399000** 89700	HM617048	HM617010
85.725 3.3750	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	665	653
85.725 3.3750	**146.050** 5.7500	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	665A	653
85.725 3.3750	**147.828** 5.8200	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	596	592AX
85.725 3.3750	**150.000** 5.9055	**35.966** 1.4160	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	596	JM719113
85.725 3.3750	**150.000** 5.9055	**35.992** 1.4170	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	596	593X
85.725 3.3750	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	596	592A
85.725 3.3750	**152.400** 6.0000	**41.275** 1.6250	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	665	652
85.725 3.3750	**161.925** 6.3750	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	758	752

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

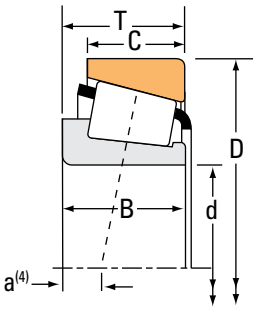
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**109.0** 4.29	**115.0** 4.53	**3.3** 0.13	**188.0** 7.40	**174.0** 6.85	**8.6** 0.34	**5.4** 0.22	203.4	37.5	0.1197	**7.69** 16.96
46.672 1.8375	**35.000** 1.3780	**-11.9** -0.47	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.21** 7.06
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.26** 7.16
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**5.0** 0.20	**95.0** 3.74	**104.0** 4.09	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.8** 0.07	**1.3** 0.05	159.6	26.3	0.0898	**3.23** 7.11
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**93.0** 3.66	**99.0** 3.90	**3.3** 0.13	**128.0** 5.04	**120.0** 4.72	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.39** 3.08
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**3.5** 0.14	**93.0** 3.66	**99.0** 3.90	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.51** 3.34
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**6.4** 0.25	**93.0** 3.66	**105.0** 4.13	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.5** 0.09	**2.2** 0.09	104.6	29.3	0.1252	**1.48** 3.27
42.862 1.6875	**34.133** 1.3438	**-7.4** -0.29	**4.8** 0.19	**95.2** 3.75	**106.0** 4.17	**3.3** 0.13	**137.0** 5.39	**125.0** 4.92	**3.2** 0.12	**2.4** 0.10	162.9	38.9	0.0996	**2.61** 5.75
42.862 1.6875	**34.133** 1.3438	**-7.4** -0.29	**1.5** 0.06	**95.2** 3.75	**99.0** 3.90	**3.3** 0.13	**137.0** 5.39	**125.0** 4.92	**3.2** 0.12	**2.4** 0.10	162.9	38.9	0.0996	**2.63** 5.80
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**95.0** 3.74	**102.0** 4.02	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.61** 5.75
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**6.4** 0.25	**95.0** 3.74	**107.0** 4.21	**3.3** 0.13	**139.0** 5.47	**131.0** 5.16	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.58** 5.68
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**96.0** 3.78	**102.0** 4.02	**3.3** 0.13	**142.0** 5.59	**133.0** 5.24	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.47** 5.45
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**96.0** 3.78	**102.0** 4.02	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.57** 5.68
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**96.0** 3.78	**102.0** 4.02	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.57** 5.67
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**96.0** 3.78	**102.0** 4.02	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.86** 6.32
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**3.5** 0.14	**95.0** 3.74	**102.0** 4.02	**3.3** 0.13	**141.0** 5.55	**134.0** 5.28	**4.5** 0.17	**2.1** 0.08	136.6	27.3	0.0919	**2.96** 6.54
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**100.0** 3.94	**106.0** 4.17	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.24** 9.35

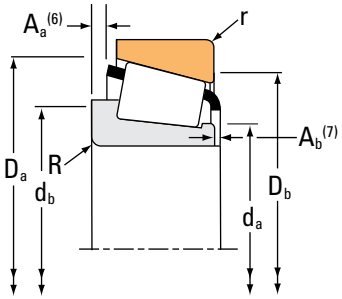
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
85.725 3.3750	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	677	672
85.725 3.3750	**168.275** 6.6250	**53.975** 2.1250	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	841	832
87.312 3.4375	**123.825** 4.8750	**20.638** 0.8125	**92600** 20800	0.33	1.82	**24000** 5400	**13600** 3050	1.77	**156000** 35200	L217847	L217810
87.312 3.4375	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	596-S	592A
87.312 3.4375	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221432	HH221410
87.960 3.4630	**148.430** 5.8437	**28.575** 1.1250	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42346	42584
87.960 3.4630	**149.225** 5.8750	**31.750** 1.2500	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42346	42587
88.900 3.5000	**121.442** 4.7812	**15.083** 0.5938	**59500** 13400	0.33	1.81	**15400** 3470	**8730** 1960	1.77	**88700** 20000	LL217849	LL217810
88.900 3.5000	**123.825** 4.8750	**20.638** 0.8125	**92600** 20800	0.33	1.82	**24000** 5400	**13600** 3050	1.77	**156000** 35200	L217849	L217810
88.900 3.5000	**127.000** 5.0000	**20.638** 0.8125	**92600** 20800	0.33	1.82	**24000** 5400	**13600** 3050	1.77	**156000** 35200	L217849	L217813
88.900 3.5000	**148.430** 5.8437	**28.575** 1.1250	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42350	42584
88.900 3.5000	**149.225** 5.8750	**31.750** 1.2500	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42350	42587
88.900 3.5000	**150.000** 5.9055	**35.966** 1.4160	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593A	JM719113
88.900 3.5000	**150.000** 5.9055	**35.966** 1.4160	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593	JM719113
88.900 3.5000	**150.000** 5.9055	**35.992** 1.4170	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593	593X
88.900 3.5000	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593	592A
88.900 3.5000	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593A	592A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

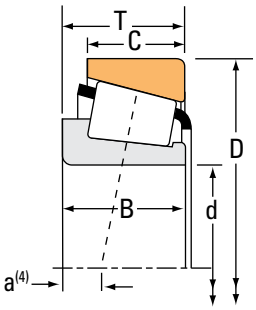
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**99.0** 3.90	**105.0** 4.13	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**4.14** 9.11
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**3.5** 0.14	**97.0** 3.82	**104.0** 4.09	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**5.24** 11.54
20.638 0.8125	**16.670** 0.6563	**0.0** 0.00	**1.5** 0.06	**93.0** 3.66	**96.0** 3.78	**1.5** 0.06	**119.0** 4.69	**116.0** 4.57	**0.4** 0.01	**2.1** 0.09	111.3	74.8	0.1152	**0.78** 1.70
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**97.0** 3.82	**103.0** 4.06	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.80** 6.18
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**103.0** 4.06	**118.0** 4.65	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**7.90** 17.41
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.0** 0.12	**98.0** 3.86	**103.0** 4.06	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.96** 4.32
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.0** 0.12	**98.0** 3.86	**103.0** 4.06	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**2.11** 4.66
15.083 0.5938	**11.112** 0.4375	**3.0** 0.12	**1.5** 0.06	**94.0** 3.70	**97.0** 3.82	**1.5** 0.06	**117.0** 4.61	**115.0** 4.53	**0.4** 0.01	**2.1** 0.08	73.4	74.1	0.0996	**0.48** 1.04
20.638 0.8125	**16.670** 0.6563	**0.0** 0.00	**1.5** 0.06	**94.0** 3.70	**97.0** 3.82	**1.5** 0.06	**119.0** 4.69	**116.0** 4.57	**0.4** 0.01	**2.1** 0.09	111.3	74.8	0.1152	**0.74** 1.63
20.638 0.8125	**19.050** 0.7500	**0.0** 0.00	**1.5** 0.06	**94.0** 3.70	**97.0** 3.82	**1.5** 0.06	**121.0** 4.76	**117.0** 4.61	**0.4** 0.01	**2.1** 0.09	111.3	74.8	0.1152	**0.85** 1.88
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.0** 0.12	**98.0** 3.86	**104.0** 4.09	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.93** 4.25
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.0** 0.12	**98.0** 3.86	**104.0** 4.09	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**2.08** 4.59
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**6.4** 0.25	**98.0** 3.86	**110.0** 4.33	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.42** 5.34
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**98.0** 3.86	**104.0** 4.09	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.45** 5.41
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**98.0** 3.86	**104.0** 4.09	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.45** 5.40
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**98.0** 3.86	**104.0** 4.09	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.74** 6.04
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**6.4** 0.25	**98.0** 3.86	**110.0** 4.33	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.71** 5.97

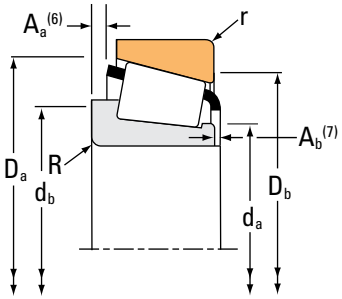
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
88.900 3.5000	**152.400** 6.0000	**39.688** 1.5625	**297000** 66700	0.40	1.49	**76900** 17300	**52900** 11900	1.45	**404000** 90800	HM518445	HM518410
88.900 3.5000	**159.995** 6.2990	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	759	752A
88.900 3.5000	**160.000** 6.2992	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6580	6525X
88.900 3.5000	**161.925** 6.3750	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	759	752
88.900 3.5000	**161.925** 6.3750	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	766	752
88.900 3.5000	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6580	6535
88.900 3.5000	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6580	6536
88.900 3.5000	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	679	672
88.900 3.5000	**168.275** 6.6250	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	759	753
88.900 3.5000	**168.275** 6.6250	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	766	753
88.900 3.5000	**168.275** 6.6250	**53.975** 2.1250	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	850	832
88.900 3.5000	**171.450** 6.7500	**47.625** 1.8750	**340000** 76400	0.37	1.63	**88100** 19800	**55300** 12400	1.59	**474000** 107000	77350	77675
88.900 3.5000	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	775	772
88.900 3.5000	**190.500** 7.5000	**57.150** 2.2500	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	855	854
88.900 3.5000	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221434	HH221410
88.900 3.5000	**200.000** 7.8740	**52.761** 2.0772	**482000** 108000	0.63	0.95	**125000** 28100	**135000** 30400	0.92	**519000** 117000	98350	98788
89.090 3.5075	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593-S	592XE

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

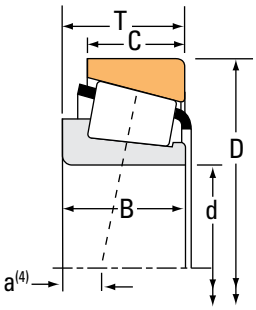
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
39.688 1.5625	**30.162** 1.1875	**-6.4** -0.25	**6.4** 0.25	**100.0** 3.94	**112.0** 4.41	**3.3** 0.13	**147.0** 5.79	**137.0** 5.39	**3.2** 0.12	**3.6** 0.14	161.5	33.7	0.0966	**2.78** 6.14
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**101.0** 3.98	**108.0** 4.25	**0.8** 0.03	**150.0** 5.91	**146.0** 5.75	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**3.96** 8.71
55.100 2.1693	**44.450** 1.7500	**-13.2** -0.52	**3.5** 0.14	**102.0** 4.02	**117.0** 4.61	**3.0** 0.12	**153.4** 6.04	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**4.55** 10.03
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**101.0** 3.98	**108.0** 4.25	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.08** 8.99
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**7.0** 0.28	**99.0** 3.90	**113.0** 4.45	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.03** 8.88
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**3.5** 0.14	**102.0** 4.02	**117.0** 4.61	**3.3** 0.13	**154.0** 6.06	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**4.70** 10.36
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**3.5** 0.14	**102.0** 4.02	**117.0** 4.61	**0.8** 0.03	**154.0** 6.06	**144.0** 5.67	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**4.70** 10.37
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**4.00** 8.80
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**101.0** 3.98	**108.0** 4.25	**3.3** 0.13	**150.0** 5.91	**147.0** 5.79	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.55** 10.03
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**7.0** 0.28	**99.0** 3.90	**113.0** 4.45	**3.3** 0.13	**150.0** 5.91	**147.0** 5.79	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.50** 9.92
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**3.5** 0.14	**100.0** 3.94	**106.0** 4.17	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**5.05** 11.12
48.260 1.9000	**38.100** 1.5000	**-9.7** -0.38	**5.0** 0.20	**101.0** 3.98	**110.0** 4.33	**3.3** 0.13	**161.0** 6.34	**153.0** 6.02	**3.4** 0.13	**1.0** 0.04	206.2	37.7	0.1017	**4.87** 10.75
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**4.8** 0.19	**103.0** 4.06	**112.0** 4.41	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**5.72** 12.63
57.531 2.2650	**44.450** 1.7500	**-15.2** -0.60	**8.0** 0.31	**103.0** 4.06	**118.0** 4.65	**3.3** 0.13	**174.0** 6.85	**170.0** 6.69	**5.5** 0.22	**0.7** 0.03	264.1	44.9	0.1072	**7.65** 16.87
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**105.0** 4.13	**120.0** 4.72	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**7.80** 17.19
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**112.0** 4.41	**118.0** 4.65	**3.3** 0.13	**188.0** 7.40	**174.0** 6.85	**8.6** 0.34	**5.4** 0.22	203.4	37.5	0.1197	**7.49** 16.51
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**98.0** 3.86	**105.0** 4.13	**0.8** 0.03	**142.0** 5.59	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.32** 5.12

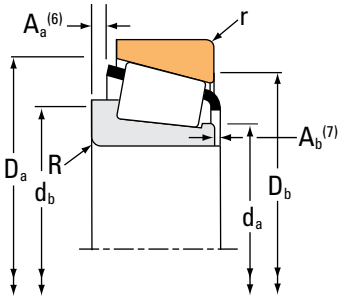
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
89.090 3.5075	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593-S	592A
89.891 3.5390	**168.275** 6.6250	**53.975** 2.1250	**409000** 92000	0.30	2.00	**106000** 23800	**54300** 12200	1.95	**522000** 117000	850A	832
89.975 3.5423	**146.975** 5.7864	**40.000** 1.5748	**325000** 73000	0.33	1.80	**84200** 18900	**47900** 10800	1.76	**388000** 87300	HM218248	HM218210
89.992 3.5430	**160.096** 6.3030	**30.124** 1.1860	**181000** 40600	0.42	1.42	**46800** 10500	**33900** 7620	1.38	**230000** 51700	69354	69630
90.000 3.5433	**135.000** 5.3150	**24.000** 0.9449	**128000** 28800	0.49	1.21	**33300** 7480	**28100** 6330	1.18	**155000** 34900	JP9049	JP9010
90.000 3.5433	**145.000** 5.7087	**35.000** 1.3780	**222000** 50000	0.44	1.35	**57700** 13000	**43900** 9860	1.31	**313000** 70500	JM718149	JM718110
90.000 3.5433	**145.000** 5.7087	**35.000** 1.3780	**222000** 50000	0.44	1.35	**57700** 13000	**43900** 9860	1.31	**313000** 70500	JM718149A	JM718110
90.000 3.5433	**149.225** 5.8750	**31.750** 1.2500	**163000** 36600	0.49	1.22	**42200** 9490	**35600** 8000	1.19	**241000** 54300	42354X	42587
90.000 3.5433	**150.000** 5.9055	**35.992** 1.4170	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	597X	593X
90.000 3.5433	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	597X	592A
90.000 3.5433	**155.000** 6.1024	**44.000** 1.7323	**331000** 74400	0.34	1.76	**85800** 19300	**50100** 11300	1.71	**447000** 101000	JHM318448	JHM318410
90.000 3.5433	**160.000** 6.2992	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6581X	6525X
90.000 3.5433	**161.925** 6.3750	**53.975** 2.1250	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6581X	6535
90.000 3.5433	**190.000** 7.4803	**50.800** 2.0000	**383000** 86100	0.87	0.69	**99300** 22300	**147000** 33100	0.67	**392000** 88100	J90354	J90748
90.000 3.5433	**190.000** 7.4803	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	JHH221436	JHH221413
90.488 3.5625	**161.925** 6.3750	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	760	752
90.488 3.5625	**168.275** 6.6250	**47.625** 1.8750	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	760	753

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

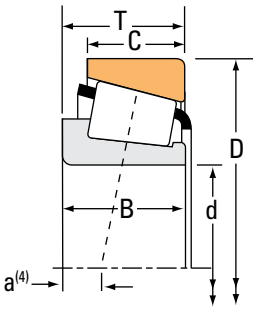
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**98.0** 3.86	**105.0** 4.13	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.73** 6.03
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**155.0** 6.10	**149.0** 5.87	**5.2** 0.20	**1.6** 0.07	197.9	34.8	0.0937	**4.98** 10.98
40.000 1.5748	**32.500** 1.2795	**-8.6** -0.34	**7.0** 0.28	**99.0** 3.90	**112.0** 4.41	**3.5** 0.14	**141.0** 5.55	**133.0** 5.24	**1.4** 0.05	**3.0** 0.12	168.2	34.7	0.0921	**2.52** 5.56
30.162 1.1875	**22.300** 0.8780	**-0.5** -0.02	**2.3** 0.09	**99.0** 3.90	**103.0** 4.06	**3.3** 0.13	**149.0** 5.87	**143.0** 5.63	**3.7** 0.14	**2.5** 0.10	116.8	39.6	0.0874	**2.36** 5.20
22.500 0.8858	**17.500** 0.6890	**5.6** 0.22	**2.0** 0.08	**97.0** 3.82	**100.0** 3.94	**2.0** 0.08	**130.0** 5.12	**125.0** 4.92	**1.8** 0.07	**3.3** 0.13	83.8	46.1	0.1196	**1.08** 2.38
34.000 1.3386	**27.000** 1.0630	**-2.0** -0.08	**3.0** 0.12	**99.0** 3.90	**106.0** 4.17	**2.5** 0.10	**138.8** 5.46	**131.0** 5.16	**2.1** 0.08	**3.9** 0.16	138.0	34.9	0.0946	**2.14** 4.72
34.000 1.3386	**27.000** 1.0630	**-2.0** -0.08	**6.0** 0.24	**99.0** 3.90	**112.0** 4.41	**2.5** 0.10	**138.8** 5.46	**131.0** 5.16	**2.1** 0.08	**3.9** 0.16	138.0	34.9	0.0946	**2.13** 4.69
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.0** 0.12	**99.0** 3.90	**104.0** 4.09	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**2.05** 4.52
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.0** 0.12	**99.0** 3.90	**104.0** 4.09	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.41** 5.31
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.0** 0.12	**99.0** 3.90	**104.0** 4.09	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.70** 5.96
44.000 1.7323	**35.500** 1.3976	**-9.9** -0.39	**3.0** 0.12	**100.0** 3.94	**106.0** 4.17	**2.5** 0.10	**148.0** 5.83	**140.0** 5.51	**1.3** 0.05	**3.3** 0.13	178.9	32.4	0.0948	**3.33** 7.32
55.100 2.1693	**44.450** 1.7500	**-13.2** -0.52	**3.0** 0.12	**102.0** 4.02	**109.0** 4.29	**3.0** 0.12	**153.4** 6.04	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**4.49** 9.89
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**3.0** 0.12	**102.0** 4.02	**109.0** 4.29	**3.3** 0.13	**154.0** 6.06	**141.0** 5.55	**4.1** 0.16	**0.9** 0.04	198.6	33.5	0.1037	**4.64** 10.22
46.038 1.8125	**31.750** 1.2500	**12.7** 0.50	**3.5** 0.14	**111.8** 4.40	**120.0** 4.72	**3.3** 0.13	**179.3** 7.06	**162.0** 6.38	**11.0** 0.43	**3.7** 0.15	149.6	23.8	0.1180	**6.03** 13.31
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**106.0** 4.17	**121.0** 4.76	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**7.65** 16.87
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**101.0** 3.98	**110.0** 4.33	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**3.99** 8.80
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**101.0** 3.98	**110.0** 4.33	**3.3** 0.13	**150.0** 5.91	**147.0** 5.79	**3.2** 0.12	**1.0** 0.04	177.2	29.4	0.0945	**4.46** 9.84

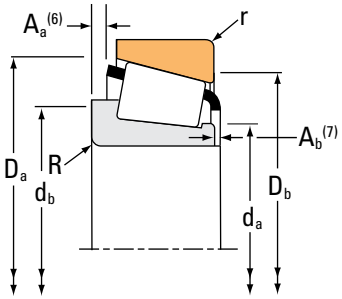
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
91.973 3.6210	**142.875** 5.6250	**30.000** 1.1811	**164000** 36800	0.48	1.25	**42400** 9540	**34700** 7810	1.22	**240000** 53900	LM718947	LM718910
92.075 3.6250	**130.175** 5.1250	**20.638** 0.8125	**95400** 21400	0.35	1.72	**24700** 5560	**14800** 3320	1.67	**166000** 37400	L319245	L319210
92.075 3.6250	**146.050** 5.7500	**33.338** 1.3125	**197000** 44300	0.45	1.34	**51100** 11500	**39200** 8810	1.30	**307000** 69000	47890	47820
92.075 3.6250	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598	592XS
92.075 3.6250	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598	592XE
92.075 3.6250	**148.430** 5.8437	**28.575** 1.1250	**163000** 36600	0.49	1.22	**42200** 9490	**35600** 8000	1.19	**241000** 54300	42362	42584
92.075 3.6250	**149.225** 5.8750	**31.750** 1.2500	**163000** 36600	0.49	1.22	**42200** 9490	**35600** 8000	1.19	**241000** 54300	42362	42587
92.075 3.6250	**150.000** 5.9055	**35.966** 1.4160	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598	JM719113
92.075 3.6250	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598	592A
92.075 3.6250	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598A	592A
92.075 3.6250	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598	592-S
92.075 3.6250	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598X	592A
92.075 3.6250	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	681	672
92.075 3.6250	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	681A	672
92.075 3.6250	**171.450** 6.7500	**47.625** 1.8750	**340000** 76400	0.37	1.63	**88100** 19800	**55300** 12400	1.59	**474000** 107000	77362	77675
92.075 3.6250	**171.450** 6.7500	**47.625** 1.8750	**340000** 76400	0.37	1.63	**88100** 19800	**55300** 12400	1.59	**474000** 107000	77364	77675
92.075 3.6250	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	778	772

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

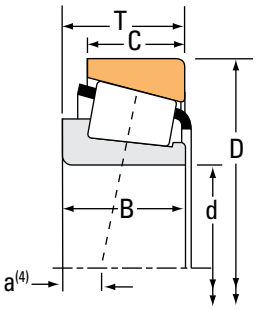
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.000 1.1811	**22.000** 0.8661	**1.8** 0.07	**3.5** 0.14	**100.0** 3.94	**106.0** 4.17	**3.3** 0.13	**138.0** 5.43	**129.0** 5.08	**2.7** 0.10	**2.0** 0.08	124.2	37.6	0.1355	**1.63** 3.60
21.433 0.8438	**16.670** 0.6563	**1.3** 0.05	**3.5** 0.14	**99.0** 3.90	**105.0** 4.13	**1.5** 0.06	**125.0** 4.92	**122.0** 4.80	**0.6** 0.02	**1.4** 0.06	125.3	90.8	0.1220	**0.86** 1.88
34.925 1.3750	**26.195** 1.0313	**-1.0** -0.04	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**140.0** 5.51	**131.0** 5.16	**2.5** 0.10	**0.3** 0.02	153.2	38.1	0.1428	**2.06** 4.54
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**142.0** 5.59	**133.0** 5.24	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.18** 4.82
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**0.8** 0.03	**142.0** 5.59	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.20** 4.86
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.83** 4.02
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.98** 4.36
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.32** 5.12
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.61** 5.76
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**6.4** 0.25	**101.0** 3.98	**113.0** 4.45	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.58** 5.69
36.322 1.4300	**39.688** 1.5625	**-2.5** -0.10	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**147.0** 5.79	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.75** 6.06
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**104.0** 4.09	**107.0** 4.21	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.61** 5.75
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.85** 8.48
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**6.4** 0.25	**104.0** 4.09	**116.0** 4.57	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.82** 8.41
48.260 1.9000	**38.100** 1.5000	**-9.7** -0.38	**3.5** 0.14	**103.0** 4.06	**109.0** 4.29	**3.3** 0.13	**161.0** 6.34	**153.0** 6.02	**3.4** 0.13	**1.0** 0.04	206.2	37.7	0.1017	**4.72** 10.41
48.260 1.9000	**38.100** 1.5000	**-9.7** -0.38	**6.4** 0.25	**103.0** 4.06	**115.0** 4.53	**3.3** 0.13	**161.0** 6.34	**153.0** 6.02	**3.4** 0.13	**1.0** 0.04	206.2	37.7	0.1017	**4.68** 10.33
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**3.5** 0.14	**105.0** 4.13	**111.0** 4.37	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**5.57** 12.28

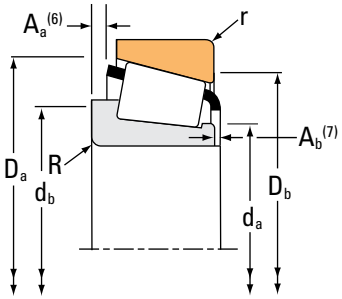
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
92.075 3.6250	**190.500** 7.5000	**57.150** 2.2500	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	857	854
92.075 3.6250	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221438	HH221410
92.075 3.6250	**214.312** 8.4375	**73.025** 2.8750	**644000** 145000	0.46	1.31	**167000** 37500	**131000** 29500	1.27	**786000** 177000	EE213362	213843
93.662 3.6875	**148.430** 5.8437	**28.575** 1.1250	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42368	42584
93.662 3.6875	**149.225** 5.8750	**31.750** 1.2500	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42368	42587
93.662 3.6875	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	597	592A
94.975 3.7392	**149.975** 5.9045	**31.750** 1.2500	**163000** 36600	0.49	1.22	**42200** 9490	**35600** 8000	1.19	**241000** 54300	42373	42590
94.975 3.7392	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	682	672
95.000 3.7402	**135.000** 5.3150	**20.000** 0.7874	**83000** 18700	0.58	1.03	**21500** 4840	**21500** 4830	1.00	**133000** 29900	JL819349	JL819310
95.000 3.7402	**145.000** 5.7087	**24.000** 0.9449	**125000** 28200	0.47	1.27	**32500** 7310	**26300** 5920	1.24	**172000** 38700	JP10044	JP10010
95.000 3.7402	**150.000** 5.9055	**35.000** 1.3780	**215000** 48300	0.44	1.36	**55700** 12500	**42100** 9470	1.32	**316000** 71100	JM719149	JM719113
95.000 3.7402	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	J594X	592A
95.000 3.7402	**160.000** 6.2992	**46.000** 1.8110	**354000** 79700	0.34	1.77	**91900** 20700	**53200** 12000	1.73	**506000** 114000	JF9549	JF9510
95.000 3.7402	**190.000** 7.4803	**57.000** 2.2441	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	862	853
95.250 3.7500	**130.175** 5.1250	**20.638** 0.8125	**95400** 21400	0.35	1.72	**24700** 5560	**14800** 3320	1.67	**166000** 37400	L319249	L319210
95.250 3.7500	**136.525** 5.3750	**30.162** 1.1875	**140000** 31400	0.28	2.11	**36200** 8140	**17600** 3950	2.06	**227000** 51100	LM119348	LM119311
95.250 3.7500	**146.050** 5.7500	**33.338** 1.3125	**197000** 44300	0.45	1.34	**51100** 11500	**39200** 8810	1.30	**307000** 69000	47896	47820

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

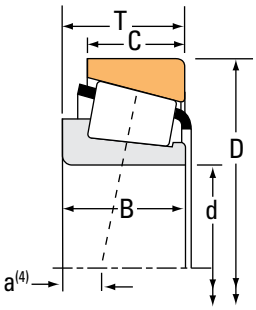
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
57.531 2.2650	**44.450** 1.7500	**-15.2** -0.60	**8.0** 0.31	**106.0** 4.17	**121.0** 4.76	**3.3** 0.13	**174.0** 6.85	**170.0** 6.69	**5.5** 0.22	**0.7** 0.03	264.1	44.9	0.1072	**7.44** 16.42
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**107.0** 4.21	**122.0** 4.80	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**7.59** 16.73
73.025 2.8750	**53.975** 2.1250	**-18.3** -0.72	**9.7** 0.38	**117.0** 4.61	**135.0** 5.31	**6.4** 0.25	**195.8** 7.71	**182.0** 7.17	**9.9** 0.39	**3.6** 0.14	262.4	38.1	0.1180	**12.38** 27.28
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.0** 0.12	**102.0** 4.02	**107.0** 4.21	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.78** 3.91
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.0** 0.12	**102.0** 4.02	**107.0** 4.21	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.93** 4.25
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**102.0** 4.02	**109.0** 4.29	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.54** 5.61
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.0** 0.12	**103.0** 4.06	**108.0** 4.25	**3.3** 0.13	**143.0** 5.63	**135.0** 5.31	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.93** 4.25
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**106.0** 4.17	**113.0** 4.45	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.71** 8.18
20.000 0.7874	**14.000** 0.5512	**10.9** 0.43	**5.0** 0.20	**102.0** 4.02	**111.0** 4.37	**2.5** 0.10	**129.0** 5.08	**123.0** 4.84	**2.4** 0.09	**1.4** 0.06	93.3	70.6	0.1298	**0.85** 1.88
22.500 0.8858	**17.500** 0.6890	**6.1** 0.24	**3.0** 0.12	**102.0** 4.02	**108.0** 4.25	**3.0** 0.12	**140.0** 5.51	**134.0** 5.28	**1.9** 0.07	**3.3** 0.13	104.0	40.9	0.1264	**1.26** 2.79
34.000 1.3386	**27.000** 1.0630	**-1.6** -0.06	**3.0** 0.12	**104.0** 4.09	**109.0** 4.29	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**3.1** 0.12	**3.1** 0.12	150.5	36.1	0.1413	**2.15** 4.75
36.322 1.4300	**30.162** 1.1875	**2.5** 0.10	**8.0** 0.31	**103.0** 4.06	**119.0** 4.69	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.43** 5.35
46.000 1.8110	**38.000** 1.4961	**-10.7** -0.42	**3.0** 0.12	**105.4** 4.15	**111.0** 4.37	**3.0** 0.12	**154.0** 6.06	**145.0** 5.71	**1.4** 0.05	**3.1** 0.12	209.8	39.7	0.0998	**3.74** 8.22
57.531 2.2650	**48.000** 1.8898	**-15.2** -0.60	**6.4** 0.25	**108.0** 4.25	**120.0** 4.72	**3.0** 0.12	**174.3** 6.86	**170.0** 6.69	**5.5** 0.22	**0.7** 0.03	264.1	44.9	0.1072	**7.35** 16.22
21.433 0.8438	**16.670** 0.6563	**1.3** 0.05	**1.5** 0.06	**101.0** 3.98	**103.0** 4.06	**1.5** 0.06	**125.0** 4.92	**122.0** 4.80	**0.6** 0.02	**1.4** 0.06	125.3	90.8	0.1220	**0.79** 1.74
30.162 1.1875	**24.608** 0.9688	**-4.6** -0.18	**2.3** 0.09	**102.0** 4.02	**105.0** 4.13	**2.3** 0.09	**131.0** 5.16	**126.0** 4.96	**1.3** 0.05	**-0.2** 0.00	149.4	84.1	0.1213	**1.33** 2.94
34.925 1.3750	**26.195** 1.0313	**-1.0** -0.04	**3.5** 0.14	**103.0** 4.06	**110.0** 4.33	**3.3** 0.13	**140.0** 5.51	**131.0** 5.16	**2.5** 0.10	**0.3** 0.02	153.2	38.1	0.1428	**1.94** 4.26

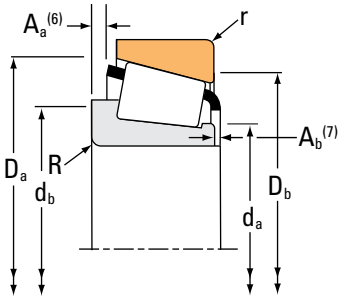
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
95.250 3.7500	**146.050** 5.7500	**33.338** 1.3125	**197000** 44300	0.45	1.34	**51100** 11500	**39200** 8810	1.30	**307000** 69000	47898	47820
95.250 3.7500	**147.638** 5.8125	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594	592XS
95.250 3.7500	**147.828** 5.8200	**35.717** 1.4062	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594	592AX
95.250 3.7500	**148.430** 5.8437	**28.575** 1.1250	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42375	42584
95.250 3.7500	**148.430** 5.8437	**28.575** 1.1250	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42376	42584
95.250 3.7500	**148.430** 5.8437	**28.575** 1.1250	**163000** 36600	0.49	1.22	**42200** 9490	**35600** 8000	1.19	**241000** 54300	42375A	42584
95.250 3.7500	**149.225** 5.8750	**31.750** 1.2500	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42376	42587
95.250 3.7500	**149.225** 5.8750	**31.750** 1.2500	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42375	42587
95.250 3.7500	**150.000** 5.9055	**35.966** 1.4160	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594	JM719113
95.250 3.7500	**150.000** 5.9055	**35.966** 1.4160	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594AA	JM719113
95.250 3.7500	**150.000** 5.9055	**35.992** 1.4170	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594	593X
95.250 3.7500	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594	592A
95.250 3.7500	**152.400** 6.0000	**39.688** 1.5625	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594A	592A
95.250 3.7500	**157.162** 6.1875	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52375	52618
95.250 3.7500	**161.925** 6.3750	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52375	52637
95.250 3.7500	**161.925** 6.3750	**39.687** 1.5626	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52375	52638
95.250 3.7500	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	683	672

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

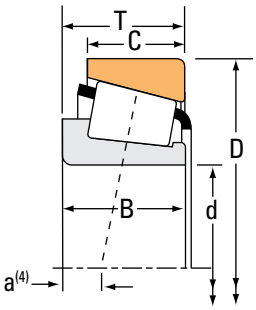
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
34.925 1.3750	**26.195** 1.0313	**-1.0** -0.04	**7.0** 0.28	**103.0** 4.06	**117.0** 4.61	**3.3** 0.13	**140.0** 5.51	**131.0** 5.16	**2.5** 0.10	**0.3** 0.02	153.2	38.1	0.1428	**1.88** 4.13
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**3.3** 0.13	**142.0** 5.59	**133.0** 5.24	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.05** 4.52
36.322 1.4300	**26.192** 1.0312	**-2.5** -0.10	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**3.3** 0.13	**142.0** 5.59	**133.0** 5.24	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.09** 4.60
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.0** 0.12	**103.0** 4.06	**108.0** 4.25	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.73** 3.81
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.5** 0.14	**103.0** 4.06	**109.0** 4.29	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.73** 3.80
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**0.8** 0.03	**103.0** 4.06	**109.0** 4.09	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.73** 3.82
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.5** 0.14	**103.0** 4.06	**109.0** 4.29	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.88** 4.14
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.0** 0.12	**103.0** 4.06	**108.0** 4.25	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.88** 4.15
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.19** 4.83
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**0.8** 0.03	**104.0** 4.09	**107.0** 4.21	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.20** 4.87
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.19** 4.82
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.48** 5.47
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**5.0** 0.20	**104.0** 4.09	**113.0** 4.45	**3.3** 0.13	**144.0** 5.67	**135.0** 5.31	**4.1** 0.16	**1.7** 0.07	151.4	38.3	0.1416	**2.46** 5.43
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**3.3** 0.13	**152.0** 5.98	**142.0** 5.59	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.67** 5.88
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**3.3** 0.13	**154.0** 6.06	**144.0** 5.67	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.90** 6.39
36.116 1.4219	**29.370** 1.1563	**-0.5** -0.02	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**3.3** 0.13	**154.0** 6.06	**143.0** 5.63	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**3.07** 6.76
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**106.0** 4.17	**113.0** 4.45	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.70** 8.15

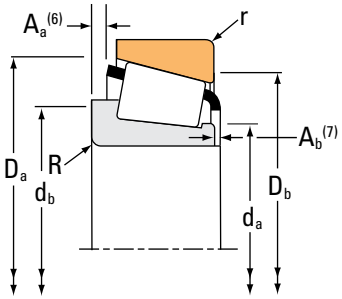
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
95.250 3.7500	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	683XA	672
95.250 3.7500	**171.450** 6.7500	**47.625** 1.8750	**403000** 90500	0.37	1.63	**104000** 23500	**65600** 14700	1.59	**474000** 107000	77375	77675
95.250 3.7500	**171.450** 6.7500	**47.625** 1.8750	**340000** 76400	0.37	1.63	**88100** 19800	**55300** 12400	1.59	**474000** 107000	77376	77675
95.250 3.7500	**171.450** 6.7500	**50.800** 2.0000	**403000** 90500	0.37	1.63	**104000** 23500	**65600** 14700	1.59	**474000** 107000	77375	77676X
95.250 3.7500	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	776	772
95.250 3.7500	**190.500** 7.5000	**57.150** 2.2500	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	864	854
95.250 3.7500	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221440	HH221410
95.250 3.7500	**200.025** 7.8750	**61.912** 2.4375	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221440	HH221416
95.250 3.7500	**200.025** 7.8750	**73.025** 2.8750	**715000** 161000	0.32	1.88	**185000** 41700	**101000** 22800	1.83	**906000** 204000	EH220749	EH220710
96.838 3.8125	**148.430** 5.8437	**28.575** 1.1250	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42381	42584
96.838 3.8125	**149.225** 5.8750	**31.750** 1.2500	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42381	42587
96.838 3.8125	**188.912** 7.4375	**50.800** 2.0000	**383000** 86100	0.87	0.69	**99300** 22300	**147000** 33100	0.67	**392000** 88100	90381	90744
98.425 3.8750	**157.162** 6.1875	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52387	52618
98.425 3.8750	**161.925** 6.3750	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52387	52637
98.425 3.8750	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	685	672
98.425 3.8750	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	779	772
98.425 3.8750	**184.150** 7.2500	**63.500** 2.5000	**628000** 141000	0.37	1.60	**163000** 36600	**104000** 23500	1.56	**772000** 174000	HH421246C	HH421210

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

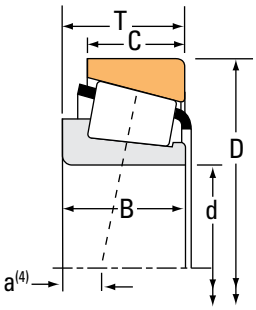
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**5.0** 0.20	**106.0** 4.17	**116.0** 4.57	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.69** 8.11
48.260 1.9000	**38.100** 1.5000	**-9.7** -0.38	**3.5** 0.14	**106.0** 4.17	**113.0** 4.45	**3.3** 0.13	**161.0** 6.34	**153.0** 6.02	**3.4** 0.13	**1.0** 0.04	206.2	37.7	0.1017	**4.54** 10.02
48.260 1.9000	**38.100** 1.5000	**-9.7** -0.38	**6.4** 0.25	**106.0** 4.17	**118.0** 4.65	**3.3** 0.13	**161.0** 6.34	**153.0** 6.02	**3.4** 0.13	**1.0** 0.04	206.2	37.7	0.1017	**4.51** 9.94
48.260 1.9000	**41.275** 1.6250	**-9.7** -0.38	**3.5** 0.14	**106.0** 4.17	**113.0** 4.45	**3.3** 0.13	**161.0** 6.34	**152.0** 5.98	**3.4** 0.13	**1.0** 0.04	206.2	37.7	0.1017	**4.74** 10.45
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**3.5** 0.14	**107.0** 4.21	**114.0** 4.49	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**5.39** 11.89
57.531 2.2650	**44.450** 1.7500	**-15.2** -0.60	**8.0** 0.31	**108.0** 4.25	**123.0** 4.84	**3.3** 0.13	**174.0** 6.85	**170.0** 6.69	**5.5** 0.22	**0.7** 0.03	264.1	44.9	0.1072	**7.23** 15.95
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**110.0** 4.33	**125.0** 4.92	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**7.38** 16.26
57.531 2.2650	**50.800** 2.0000	**-15.0** -0.59	**8.0** 0.31	**110.0** 4.33	**125.0** 4.92	**3.3** 0.13	**179.0** 7.05	**174.0** 6.85	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**8.87** 19.53
73.025 2.8750	**58.738** 2.3125	**-24.6** -0.97	**3.3** 0.13	**115.7** 4.55	**120.0** 4.72	**3.3** 0.13	**186.9** 7.36	**177.0** 6.97	**5.7** 0.22	**2.4** 0.10	306.3	26.2	0.1106	**10.65** 23.48
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.67** 3.68
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**2.8** 0.11	**3.0** 0.12	129.7	37.2	0.1386	**1.82** 4.02
46.038 1.8125	**31.750** 1.2500	**12.7** 0.50	**3.5** 0.14	**113.0** 4.44	**125.0** 4.92	**3.3** 0.13	**179.0** 7.06	**161.0** 6.34	**11.0** 0.43	**3.7** 0.15	149.6	23.8	0.1180	**5.59** 12.33
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**108.0** 4.25	**114.0** 4.49	**3.3** 0.13	**152.0** 5.98	**142.0** 5.59	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.53** 5.57
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**108.0** 4.25	**114.0** 4.49	**3.3** 0.13	**154.0** 6.06	**144.0** 5.67	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.76** 6.08
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**109.0** 4.29	**116.0** 4.57	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.55** 7.80
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**3.5** 0.14	**110.0** 4.33	**116.0** 4.57	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**5.21** 11.49
63.500 2.5000	**52.388** 2.0625	**-16.8** -0.66	**6.4** 0.25	**115.1** 4.53	**127.0** 5.00	**3.3** 0.13	**176.0** 6.93	**163.0** 6.42	**3.1** 0.12	**3.1** 0.13	298.2	40.9	0.1162	**7.43** 16.38

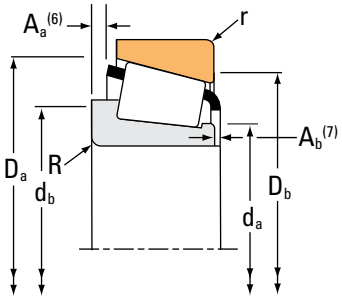
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
98.425 3.8750	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221442	HH221410
98.425 3.8750	**212.725** 8.3750	**66.675** 2.6250	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224332	HH224310
99.975 3.9360	**156.975** 6.1801	**42.000** 1.6535	**300000** 67500	0.33	1.80	**77800** 17500	**44300** 9960	1.76	**438000** 98500	HM220149	HM220110
99.975 3.9360	**214.975** 8.4636	**64.798** 2.5511	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224334	HH224314
100.000 3.9370	**145.000** 5.7087	**24.000** 0.9449	**125000** 28200	0.47	1.27	**32500** 7310	**26300** 5920	1.24	**172000** 38700	JP10049A	JP10010
100.000 3.9370	**145.000** 5.7087	**24.000** 0.9449	**125000** 28200	0.47	1.27	**32500** 7310	**26300** 5920	1.24	**172000** 38700	JP10049	JP10010A
100.000 3.9370	**145.000** 5.7087	**24.000** 0.9449	**125000** 28200	0.47	1.27	**32500** 7310	**26300** 5920	1.24	**172000** 38700	JP10049	JP10010
100.000 3.9370	**150.000** 5.9055	**32.000** 1.2598	**162000** 36500	0.50	1.20	**42100** 9470	**36200** 8130	1.16	**242000** 54400	JLM820048	JLM820012
100.000 3.9370	**155.000** 6.1024	**36.000** 1.4173	**231000** 52000	0.47	1.27	**60000** 13500	**48600** 10900	1.24	**355000** 79900	JM720249	JM720210
100.000 3.9370	**160.000** 6.2992	**36.512** 1.4375	**211000** 47400	0.47	1.26	**54700** 12300	**44500** 10000	1.23	**343000** 77000	52394X	52630X
100.000 3.9370	**160.000** 6.2992	**41.000** 1.6142	**279000** 62800	0.47	1.28	**72400** 16300	**58300** 13100	1.24	**416000** 93500	JHM720249	JHM720210
100.000 3.9370	**180.000** 7.0866	**48.000** 1.8898	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	783	773
100.000 3.9370	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	783	772
100.000 3.9370	**200.000** 7.8740	**52.761** 2.0772	**482000** 108000	0.63	0.95	**125000** 28100	**135000** 30400	0.92	**519000** 117000	98394X	98788
100.000 3.9370	**215.000** 8.4646	**66.675** 2.6250	**642000** 144000	0.33	1.84	**166000** 37400	**92800** 20900	1.79	**906000** 204000	JHH224333	JHH224315
100.012 3.9375	**157.162** 6.1875	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52393	52618
100.012 3.9375	**161.925** 6.3750	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52393	52637

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

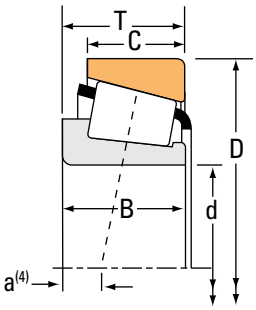
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**3.5** 0.14	**113.0** 4.45	**119.0** 4.69	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**7.22** 15.92
66.675 2.6250	**53.975** 2.1250	**-18.8** -0.74	**3.5** 0.14	**119.0** 4.69	**123.0** 4.84	**3.3** 0.13	**201.7** 7.94	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**11.36** 25.03
42.000 1.6535	**34.000** 1.3386	**-8.6** -0.34	**8.0** 0.31	**108.0** 4.25	**122.9** 4.84	**3.5** 0.14	**151.0** 5.94	**142.0** 5.59	**2.1** 0.08	**2.4** 0.10	203.6	45.9	0.0981	**2.79** 6.15
66.675 2.6250	**50.800** 2.0000	**-18.8** -0.74	**3.5** 0.14	**120.0** 4.72	**124.0** 4.88	**3.3** 0.13	**201.2** 7.92	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**11.34** 25.00
22.500 0.8858	**17.500** 0.6890	**6.1** 0.24	**5.0** 0.20	**106.0** 4.17	**116.0** 4.57	**3.0** 0.12	**140.0** 5.51	**134.0** 5.28	**1.9** 0.07	**3.3** 0.13	104.0	40.9	0.1264	**1.13** 2.49
22.500 0.8858	**17.500** 0.6890	**6.1** 0.24	**3.0** 0.12	**106.0** 4.17	**112.0** 4.41	**0.8** 0.03	**140.0** 5.51	**136.0** 5.35	**1.9** 0.07	**3.3** 0.13	104.0	40.9	0.1264	**1.15** 2.54
22.500 0.8858	**17.500** 0.6890	**6.1** 0.24	**3.0** 0.12	**106.0** 4.17	**112.0** 4.41	**3.0** 0.12	**140.0** 5.51	**134.0** 5.28	**1.9** 0.07	**3.3** 0.13	104.0	40.9	0.1264	**1.13** 2.49
30.000 1.1811	**26.000** 1.0236	**4.6** 0.18	**2.3** 0.09	**107.0** 4.21	**111.0** 4.37	**2.3** 0.09	**144.0** 5.67	**135.0** 5.31	**2.3** 0.09	**1.0** 0.04	133.1	38.3	0.1405	**1.81** 3.99
35.000 1.3780	**28.000** 1.1024	**0.3** 0.01	**3.0** 0.12	**109.0** 4.29	**115.0** 4.53	**2.5** 0.10	**149.0** 5.87	**140.0** 5.51	**3.0** 0.12	**3.1** 0.12	174.8	48.5	0.1043	**2.36** 5.20
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**109.0** 4.29	**116.0** 4.57	**3.0** 0.12	**153.0** 6.02	**144.0** 5.67	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.59** 5.72
40.000 1.5748	**32.000** 1.2598	**-2.5** -0.10	**3.0** 0.12	**109.4** 4.30	**117.0** 4.61	**2.5** 0.10	**153.9** 6.06	**143.0** 5.63	**3.3** 0.13	**3.7** 0.15	187.7	45.3	0.1068	**3.00** 6.60
48.006 1.8900	**40.000** 1.5748	**-8.1** -0.32	**3.5** 0.14	**111.0** 4.37	**118.0** 4.65	**3.0** 0.12	**168.0** 6.61	**160.0** 6.30	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**5.09** 11.22
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**3.5** 0.14	**111.0** 4.37	**118.0** 4.65	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**5.12** 11.29
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**120.6** 4.75	**126.0** 4.96	**3.3** 0.13	**188.0** 7.40	**174.0** 6.85	**8.6** 0.34	**5.4** 0.22	203.4	37.5	0.1197	**6.85** 15.11
66.675 2.6250	**53.975** 2.1250	**-18.9** -0.74	**7.0** 0.28	**120.0** 4.72	**131.0** 5.16	**3.3** 0.13	**201.7** 7.94	**193.0** 7.60	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**11.52** 25.40
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**109.0** 4.29	**116.0** 4.57	**3.3** 0.13	**152.0** 5.98	**142.0** 5.59	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.46** 5.42
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**109.0** 4.29	**116.0** 4.57	**3.3** 0.13	**154.0** 6.06	**144.0** 5.67	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.69** 5.93

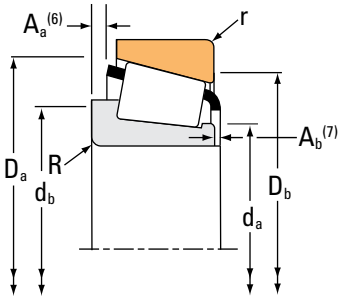
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
100.012 3.9375	**161.925** 6.3750	**39.687** 1.5625	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52393	52638
101.600 4.0000	**134.938** 5.3125	**15.875** 0.6250	**64900** 14600	0.37	1.62	**16800** 3780	**10700** 2400	1.58	**104000** 23400	LL420549	LL420510
101.600 4.0000	**136.525** 5.3750	**21.433** 0.8438	**97800** 22000	0.37	1.63	**25400** 5700	**16000** 3600	1.59	**175000** 39400	L420449	L420410
101.600 4.0000	**146.050** 5.7500	**21.433** 0.8438	**96000** 21600	0.39	1.53	**24900** 5600	**16700** 3760	1.49	**175000** 39400	L521945	L521910
101.600 4.0000	**146.050** 5.7500	**25.400** 1.0000	**132000** 29600	0.46	1.31	**34100** 7670	**26800** 6020	1.27	**202000** 45400	LM720648	LM720610
101.600 4.0000	**152.400** 6.0000	**21.433** 0.8438	**96000** 21600	0.39	1.53	**24900** 5600	**16700** 3760	1.49	**175000** 39400	L521945	L521914
101.600 4.0000	**157.162** 6.1875	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52400	52618
101.600 4.0000	**157.162** 6.1875	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52401	52618
101.600 4.0000	**160.000** 6.2992	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52400	52630X
101.600 4.0000	**161.925** 6.3750	**36.512** 1.4375	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52400	52637
101.600 4.0000	**161.925** 6.3750	**39.687** 1.5625	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52400	52638
101.600 4.0000	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	687	672
101.600 4.0000	**168.275** 6.6250	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	687	672A
101.600 4.0000	**171.450** 6.7500	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	687	674
101.600 4.0000	**177.800** 7.0000	**34.925** 1.3750	**170000** 38300	1.17	0.51	**44200** 9930	**88600** 19900	0.50	**219000** 49200	LM921845	LM921810
101.600 4.0000	**180.000** 7.0866	**48.000** 1.8898	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	780	773
101.600 4.0000	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	780	772

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

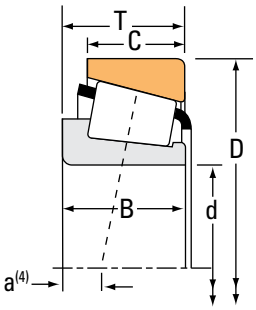
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.116 1.4219	**29.370** 1.1563	**-0.5** -0.02	**3.5** 0.14	**109.0** 4.29	**116.0** 4.57	**3.3** 0.13	**154.0** 6.06	**143.0** 5.63	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.86** 6.29
15.083 0.5938	**11.908** 0.4688	**5.6** 0.22	**1.5** 0.06	**107.0** 4.21	**109.0** 4.29	**1.5** 0.06	**130.0** 5.12	**128.0** 5.04	**1.0** 0.04	**2.1** 0.09	95.5	89.8	0.1126	**0.56** 1.25
21.433 0.8438	**16.670** 0.6563	**2.8** 0.11	**1.5** 0.06	**107.0** 4.21	**109.0** 4.29	**1.5** 0.06	**132.0** 5.20	**128.0** 5.04	**0.7** 0.02	**1.6** 0.07	139.9	102.5	0.1286	**0.84** 1.86
21.433 0.8438	**16.670** 0.6563	**4.8** 0.19	**1.5** 0.06	**109.0** 4.29	**112.0** 4.41	**1.5** 0.06	**141.0** 5.55	**136.0** 5.35	**0.7** 0.03	**1.6** 0.07	152.1	107.9	0.1346	**1.15** 2.56
25.400 1.0000	**19.050** 0.7500	**4.8** 0.19	**1.5** 0.06	**109.0** 4.29	**110.0** 4.33	**1.5** 0.06	**141.0** 5.55	**136.0** 5.35	**2.4** 0.09	**1.1** 0.05	127.6	62.7	0.1342	**1.29** 2.84
21.433 0.8438	**16.670** 0.6563	**4.8** 0.19	**1.5** 0.06	**109.0** 4.29	**112.0** 4.41	**1.5** 0.06	**144.0** 5.67	**139.0** 5.47	**0.7** 0.03	**1.6** 0.07	152.1	107.9	0.1346	**1.35** 2.99
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**111.0** 4.37	**117.0** 4.61	**3.3** 0.13	**152.0** 5.98	**142.0** 5.59	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.40** 5.28
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**8.0** 0.31	**112.0** 4.41	**128.0** 5.04	**3.3** 0.13	**152.0** 5.98	**142.0** 5.59	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.37** 5.22
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**111.0** 4.37	**117.0** 4.61	**3.0** 0.12	**153.0** 6.02	**144.0** 5.67	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.53** 5.58
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**3.5** 0.14	**111.0** 4.37	**117.0** 4.61	**3.3** 0.13	**154.0** 6.06	**144.0** 5.67	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.63** 5.79
36.116 1.4219	**29.370** 1.1563	**-0.5** -0.02	**3.5** 0.14	**111.0** 4.37	**117.0** 4.61	**3.3** 0.13	**154.0** 6.06	**143.0** 5.63	**4.4** 0.17	**2.5** 0.10	175.4	41.7	0.1519	**2.80** 6.16
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**112.0** 4.41	**118.0** 4.65	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.38** 7.45
41.275 1.6250	**34.925** 1.3750	**-2.8** -0.11	**3.5** 0.14	**112.0** 4.41	**118.0** 4.65	**3.3** 0.13	**160.0** 6.30	**149.0** 5.87	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.46** 7.64
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**112.0** 4.41	**118.0** 4.65	**3.3** 0.13	**160.0** 6.30	**150.0** 5.91	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.54** 7.81
31.750 1.2500	**19.050** 0.7500	**34.5** 1.36	**3.3** 0.13	**119.0** 4.69	**128.0** 5.04	**3.3** 0.13	**172.0** 6.77	**154.0** 6.06	**8.9** 0.35	**3.3** 0.13	113.7	37.5	0.1153	**3.09** 6.83
48.006 1.8900	**40.000** 1.5748	**-8.1** -0.32	**3.5** 0.14	**113.0** 4.45	**119.0** 4.69	**3.0** 0.12	**168.0** 6.61	**160.0** 6.30	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**4.99** 11.01
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**3.5** 0.14	**113.0** 4.45	**119.0** 4.69	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**5.02** 11.08

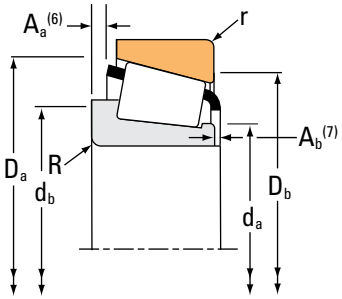
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
101.600 4.0000	**190.500** 7.5000	**57.150** 2.2500	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	861	854
101.600 4.0000	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221449	HH221410
101.600 4.0000	**190.500** 7.5000	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221449A	HH221410
101.600 4.0000	**200.000** 7.8740	**52.761** 2.0772	**482000** 108000	0.63	0.95	**125000** 28100	**135000** 30400	0.92	**519000** 117000	98400	98788
101.600 4.0000	**212.725** 8.3750	**66.675** 2.6250	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	941	932
101.600 4.0000	**212.725** 8.3750	**66.675** 2.6250	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224335	HH224310
101.600 4.0000	**214.312** 8.4375	**55.562** 2.1875	**557000** 125000	0.67	0.89	**144000** 32500	**167000** 37500	0.87	**610000** 137000	H924033	H924010
101.600 4.0000	**214.975** 8.4636	**64.798** 2.5511	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224335	HH224314
101.600 4.0000	**250.825** 9.8750	**76.200** 3.0000	**828000** 186000	0.70	0.86	**215000** 48200	**257000** 57800	0.84	**827000** 186000	HH923649	HH923611
103.188 4.0625	**171.450** 6.7500	**41.275** 1.6250	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	689	674
104.775 4.1250	**142.083** 5.5938	**15.875** 0.6250	**61400** 13800	0.39	1.53	**15900** 3580	**10700** 2400	1.49	**107000** 24000	LL521845	LL521810
104.775 4.1250	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	782	772
104.775 4.1250	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	786	772
104.775 4.1250	**180.975** 7.1250	**47.625** 1.8750	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	787	772
104.775 4.1250	**190.500** 7.5000	**47.625** 1.8750	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71412	71750
106.362 4.1875	**165.100** 6.5000	**36.512** 1.4375	**226000** 50900	0.50	1.21	**58700** 13200	**50000** 11200	1.18	**355000** 79700	56418	56650
106.975 4.2116	**146.975** 5.7864	**28.500** 1.1220	**171000** 38400	0.27	2.23	**44300** 9960	**20400** 4590	2.17	**285000** 64100	LM121349	LM121310

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

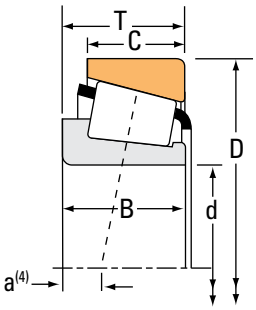
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
57.531 2.2650	**44.450** 1.7500	**-15.2** -0.60	**8.0** 0.31	**114.0** 4.49	**129.0** 5.08	**3.3** 0.13	**174.0** 6.85	**170.0** 6.69	**5.5** 0.22	**0.7** 0.03	264.1	44.9	0.1072	**6.83** 15.07
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**115.9** 4.56	**131.0** 5.16	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**6.97** 15.38
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**3.5** 0.14	**115.9** 4.56	**122.0** 4.80	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.5** 0.10	**3.2** 0.13	265.6	28.4	0.1072	**7.00** 15.42
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**120.6** 4.75	**128.0** 5.04	**3.3** 0.13	**188.0** 7.40	**174.0** 6.85	**8.6** 0.34	**5.4** 0.22	203.4	37.5	0.1197	**6.75** 14.89
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**7.0** 0.28	**117.0** 4.61	**130.0** 5.12	**3.3** 0.13	**193.1** 7.60	**187.0** 7.36	**6.6** 0.26	**1.3** 0.05	338.6	39.8	0.1153	**10.96** 24.17
66.675 2.6250	**53.975** 2.1250	**-18.8** -0.74	**7.0** 0.28	**121.0** 4.76	**132.0** 5.20	**3.3** 0.13	**201.7** 7.94	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**11.07** 24.41
52.388 2.0625	**39.688** 1.5625	**6.9** 0.27	**3.5** 0.14	**128.0** 5.04	**132.0** 5.20	**3.3** 0.13	**205.0** 8.07	**186.0** 7.32	**6.6** 0.26	**3.4** 0.14	245.6	32.2	0.1299	**8.97** 19.79
66.675 2.6250	**50.800** 2.0000	**-18.8** -0.74	**7.0** 0.28	**121.0** 4.76	**132.0** 5.20	**3.3** 0.13	**201.2** 7.92	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**11.18** 24.65
73.025 2.8750	**50.800** 2.0000	**-3.3** -0.13	**6.4** 0.25	**130.8** 5.15	**149.0** 5.87	**3.3** 0.13	**228.8** 9.01	**210.0** 8.27	**15.1** 0.59	**4.6** 0.19	282.1	35.2	0.1370	**17.11** 37.71
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**3.5** 0.14	**113.5** 4.46	**123.0** 4.84	**3.3** 0.13	**160.0** 6.30	**150.0** 5.91	**4.9** 0.19	**2.1** 0.08	182.5	37.3	0.1056	**3.46** 7.62
15.083 0.5938	**11.908** 0.4688	**7.4** 0.29	**1.5** 0.06	**111.0** 4.37	**113.0** 4.45	**1.5** 0.06	**137.0** 5.39	**135.0** 5.31	**0.7** 0.03	**2.2** 0.09	104.7	110.1	0.1179	**0.68** 1.50
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**3.5** 0.14	**116.0** 4.57	**122.0** 4.80	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**4.83** 10.65
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**6.4** 0.25	**116.0** 4.57	**128.0** 5.04	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**4.79** 10.57
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**7.0** 0.28	**116.0** 4.57	**129.0** 5.08	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.6** 0.14	**1.3** 0.05	227.3	41.3	0.1067	**4.77** 10.53
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**3.5** 0.14	**118.0** 4.65	**124.0** 4.88	**3.3** 0.13	**181.0** 7.13	**171.0** 6.73	**5.3** 0.21	**1.5** 0.06	269.2	49.5	0.1156	**5.78** 12.75
36.512 1.4375	**26.988** 1.0625	**2.0** 0.08	**3.5** 0.14	**116.0** 4.57	**122.0** 4.80	**3.3** 0.13	**159.0** 6.26	**149.0** 5.87	**3.9** 0.15	**1.5** 0.06	190.9	47.7	0.1584	**2.71** 5.96
28.000 1.1024	**24.000** 0.9449	**-3.8** -0.15	**2.3** 0.09	**112.0** 4.41	**116.0** 4.57	**2.3** 0.09	**142.0** 5.59	**138.0** 5.43	**0.5** 0.02	**2.4** 0.10	195.2	75.6	0.1302	**1.33** 2.92

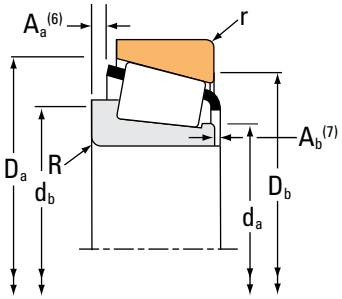
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
107.950 4.2500	**142.083** 5.5938	**15.875** 0.6250	**70400** 15800	0.39	1.53	**18200** 4100	**12200** 2750	1.49	**107000** 24000	LL521849C	LL521810
107.950 4.2500	**146.050** 5.7500	**21.433** 0.8438	**88900** 20000	0.39	1.53	**23100** 5180	**15500** 3480	1.49	**175000** 39400	L521949	L521910
107.950 4.2500	**152.400** 6.0000	**21.433** 0.8438	**88900** 20000	0.39	1.53	**23100** 5180	**15500** 3480	1.49	**175000** 39400	L521949	L521914
107.950 4.2500	**158.750** 6.2500	**23.020** 0.9063	**137000** 30700	0.61	0.99	**35400** 7960	**36700** 8250	0.96	**179000** 40100	37425	37625
107.950 4.2500	**159.987** 6.2987	**34.925** 1.3750	**232000** 52200	0.40	1.49	**60100** 13500	**41400** 9300	1.45	**357000** 80300	LM522546	LM522510
107.950 4.2500	**161.925** 6.3750	**34.925** 1.3750	**192000** 43200	0.51	1.19	**49800** 11200	**43100** 9680	1.16	**308000** 69200	48190	48120
107.950 4.2500	**165.100** 6.5000	**36.512** 1.4375	**226000** 50900	0.50	1.21	**58700** 13200	**50000** 11200	1.18	**355000** 79700	56425	56650
107.950 4.2500	**165.100** 6.5000	**36.512** 1.4375	**226000** 50900	0.50	1.21	**58700** 13200	**50000** 11200	1.18	**355000** 79700	56426	56650
107.950 4.2500	**168.275** 6.6250	**36.512** 1.4375	**226000** 50900	0.50	1.21	**58700** 13200	**50000** 11200	1.18	**355000** 79700	56425	56662
107.950 4.2500	**171.450** 6.7500	**34.000** 1.3386	**233000** 52500	0.47	1.27	**60500** 13600	**49000** 11000	1.24	**268000** 60300	67425	67675
107.950 4.2500	**190.500** 7.5000	**47.625** 1.8750	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71425	71750
107.950 4.2500	**212.725** 8.3750	**66.675** 2.6250	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	936	932
107.950 4.2500	**212.725** 8.3750	**66.675** 2.6250	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224340	HH224310
109.538 4.3125	**158.750** 6.2500	**23.020** 0.9063	**115000** 25900	0.61	0.99	**29900** 6710	**31000** 6960	0.96	**179000** 40100	37431	37625
109.538 4.3125	**158.750** 6.2500	**23.020** 0.9063	**137000** 30700	0.61	0.99	**35400** 7960	**36700** 8250	0.96	**179000** 40100	37431A	37625
109.952 4.3288	**190.500** 7.5000	**47.625** 1.8750	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71432	71750
109.975 4.3297	**179.975** 7.0856	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64432	64708

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

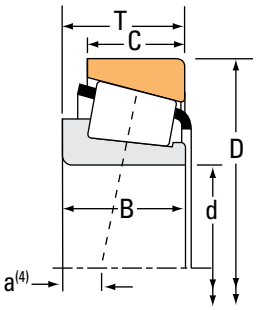
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
15.083 0.5938	**11.908** 0.4688	**7.4** 0.29	**1.5** 0.06	**113.0** 4.45	**115.0** 4.53	**1.5** 0.06	**137.0** 5.39	**135.0** 5.31	**0.7** 0.03	**2.2** 0.09	104.7	110.1	0.1179	**0.62** 1.37
21.433 0.8438	**16.670** 0.6563	**4.8** 0.19	**1.5** 0.06	**114.0** 4.49	**116.0** 4.57	**1.5** 0.06	**141.0** 5.55	**136.0** 5.35	**0.7** 0.03	**1.6** 0.07	152.1	107.9	0.1346	**0.98** 2.17
21.433 0.8438	**16.670** 0.6563	**4.8** 0.19	**1.5** 0.06	**114.0** 4.49	**116.0** 4.57	**1.5** 0.06	**144.0** 5.67	**139.0** 5.47	**0.7** 0.03	**1.6** 0.07	152.1	107.9	0.1346	**1.18** 2.60
21.438 0.8440	**15.875** 0.6250	**13.7** 0.54	**3.5** 0.14	**115.0** 4.53	**122.0** 4.80	**3.3** 0.13	**152.0** 5.98	**143.0** 5.63	**2.5** 0.10	**3.0** 0.12	123.7	57.1	0.1443	**1.37** 3.01
34.925 1.3750	**26.988** 1.0625	**-1.5** -0.06	**3.5** 0.14	**116.0** 4.57	**122.0** 4.80	**3.3** 0.13	**154.0** 6.06	**146.0** 5.75	**2.4** 0.09	**1.4** 0.06	231.6	63.4	0.1576	**2.34** 5.15
34.925 1.3750	**26.988** 1.0625	**3.8** 0.15	**3.5** 0.14	**116.0** 4.57	**122.0** 4.80	**3.3** 0.13	**156.0** 6.14	**146.0** 5.75	**2.8** 0.11	**0.8** 0.03	180.1	51.0	0.1558	**2.34** 5.17
36.512 1.4375	**26.988** 1.0625	**2.0** 0.08	**3.5** 0.14	**117.0** 4.61	**123.0** 4.84	**3.3** 0.13	**159.0** 6.26	**149.0** 5.87	**3.9** 0.15	**1.5** 0.06	190.9	47.7	0.1584	**2.63** 5.79
36.512 1.4375	**26.988** 1.0625	**2.0** 0.08	**8.0** 0.31	**117.0** 4.61	**132.0** 5.20	**3.3** 0.13	**159.0** 6.26	**149.0** 5.87	**3.9** 0.15	**1.5** 0.06	190.9	47.7	0.1584	**2.60** 5.73
36.512 1.4375	**26.988** 1.0625	**2.0** 0.08	**3.5** 0.14	**117.0** 4.61	**123.0** 4.84	**3.3** 0.13	**161.0** 6.34	**151.0** 5.94	**3.9** 0.15	**1.5** 0.06	190.9	47.7	0.1584	**2.79** 6.14
30.162 1.1875	**25.268** 0.9948	**4.6** 0.18	**3.5** 0.14	**116.0** 4.57	**123.0** 4.84	**3.3** 0.13	**164.0** 6.46	**156.0** 6.14	**3.4** 0.13	**2.1** 0.09	151.5	50.5	0.0987	**2.54** 5.58
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**3.6** 0.14	**120.0** 4.72	**126.0** 4.96	**3.3** 0.13	**181.0** 7.13	**171.0** 6.73	**5.3** 0.21	**1.5** 0.06	269.2	49.5	0.1156	**5.58** 12.32
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**8.0** 0.31	**122.0** 4.80	**137.0** 5.39	**3.3** 0.13	**193.1** 7.60	**187.0** 7.36	**6.6** 0.26	**1.3** 0.05	338.6	39.8	0.1153	**10.40** 22.92
66.675 2.6250	**53.975** 2.1250	**-18.8** -0.74	**8.0** 0.31	**126.0** 4.96	**139.0** 5.47	**3.3** 0.13	**201.7** 7.94	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**10.48** 23.10
21.438 0.8440	**15.875** 0.6250	**13.7** 0.54	**3.5** 0.14	**116.0** 4.57	**123.0** 4.84	**3.3** 0.13	**152.0** 5.98	**143.0** 5.63	**2.5** 0.10	**3.0** 0.12	123.7	57.1	0.1443	**1.33** 2.93
21.438 0.8440	**15.875** 0.6250	**13.7** 0.54	**5.0** 0.20	**117.0** 4.61	**126.0** 4.96	**3.3** 0.13	**152.0** 5.98	**143.0** 5.63	**2.5** 0.10	**3.0** 0.12	123.7	57.1	0.1443	**1.32** 2.90
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**3.5** 0.14	**122.0** 4.80	**128.0** 5.04	**3.3** 0.13	**181.0** 7.13	**171.0** 6.73	**5.3** 0.21	**1.5** 0.06	269.2	49.5	0.1156	**5.44** 12.00
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**3.5** 0.14	**121.0** 4.76	**128.0** 5.04	**3.3** 0.13	**173.0** 6.81	**161.0** 6.34	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.86** 8.50

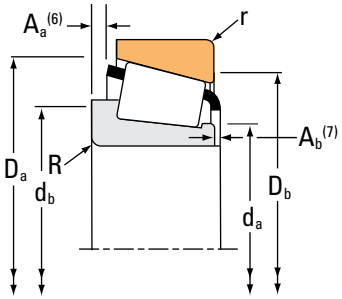
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
109.985 4.3301	**214.312** 8.4375	**55.562** 2.1875	**470000** 106000	0.67	0.89	**122000** 27400	**141000** 31600	0.87	**610000** 137000	H924043	H924010
109.987 4.3302	**159.987** 6.2987	**34.925** 1.3750	**232000** 52200	0.40	1.49	**60100** 13500	**41400** 9300	1.45	**357000** 80300	LM522549	LM522510
109.987 4.3302	**159.987** 6.2987	**34.925** 1.3750	**196000** 44000	0.40	1.49	**50700** 11400	**34900** 7850	1.45	**357000** 80300	LM522548	LM522510
109.992 4.3304	**177.800** 7.0000	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64433	64700
110.000 4.3307	**165.000** 6.4961	**35.000** 1.3780	**227000** 51100	0.50	1.21	**58900** 13200	**50100** 11300	1.18	**356000** 80100	JM822049	JM822010
110.000 4.3307	**180.000** 7.0866	**47.000** 1.8504	**371000** 83500	0.41	1.48	**96300** 21600	**66900** 15000	1.44	**554000** 125000	JHM522649A	JHM522610
110.000 4.3307	**212.725** 8.3750	**66.675** 2.6250	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	942	932
110.333 4.3438	**171.450** 6.7500	**34.000** 1.3386	**197000** 44300	0.47	1.27	**51000** 11500	**41300** 9290	1.24	**268000** 60300	67434	67675
111.125 4.3750	**171.450** 6.7500	**34.000** 1.3386	**233000** 52500	0.47	1.27	**60500** 13600	**49000** 11000	1.24	**268000** 60300	67437	67675
111.125 4.3750	**190.500** 7.5000	**47.625** 1.8750	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71437	71750
111.125 4.3750	**214.312** 8.4375	**55.562** 2.1875	**557000** 125000	0.67	0.89	**144000** 32500	**167000** 37500	0.87	**610000** 137000	H924045	H924010
114.300 4.5000	**152.400** 6.0000	**21.433** 0.8438	**118000** 26600	0.41	1.45	**30600** 6890	**21700** 4870	1.41	**188000** 42300	L623149	L623110
114.300 4.5000	**177.800** 7.0000	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64450	64700
114.300 4.5000	**178.000** 7.0079	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64450	64701X
114.300 4.5000	**179.975** 7.0856	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64450	64708
114.300 4.5000	**180.975** 7.1250	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64450	64713
114.300 4.5000	**190.500** 7.5000	**47.625** 1.8750	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71450	71750

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

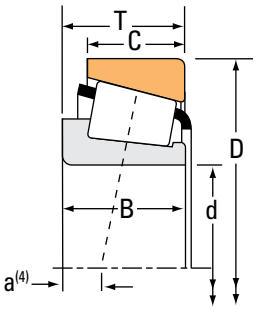
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
52.388 2.0625	**39.688** 1.5625	**6.9** 0.27	**3.5** 0.14	**131.2** 5.16	**139.0** 5.47	**3.3** 0.13	**205.0** 8.07	**186.0** 7.32	**6.6** 0.26	**3.4** 0.14	245.6	32.2	0.1299	**8.40** 18.53
34.925 1.3750	**26.988** 1.0625	**-1.5** -0.06	**3.5** 0.14	**118.0** 4.65	**124.0** 4.88	**3.3** 0.13	**154.0** 6.06	**146.0** 5.75	**2.4** 0.09	**1.4** 0.06	231.6	63.4	0.1576	**2.24** 4.94
34.925 1.3750	**26.988** 1.0625	**-1.5** -0.06	**8.0** 0.31	**118.0** 4.65	**133.0** 5.24	**3.3** 0.13	**154.0** 6.06	**146.0** 5.75	**2.4** 0.09	**1.4** 0.06	231.6	63.4	0.1576	**2.17** 4.78
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**3.5** 0.14	**121.0** 4.76	**128.0** 5.04	**3.3** 0.13	**172.0** 6.77	**160.0** 6.30	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.71** 8.19
35.000 1.3780	**26.500** 1.0433	**3.0** 0.12	**3.0** 0.12	**119.0** 4.69	**125.0** 4.92	**2.5** 0.10	**159.0** 6.26	**149.0** 5.87	**2.9** 0.11	**2.0** 0.08	191.5	45.8	0.1585	**2.44** 5.39
46.000 1.8110	**38.000** 1.4961	**-5.8** -0.23	**7.0** 0.28	**122.0** 4.80	**138.0** 5.43	**2.5** 0.10	**172.0** 6.77	**162.0** 6.38	**2.6** 0.10	**3.9** 0.16	259.2	52.1	0.1134	**N/A*** N/A*
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**6.4** 0.25	**124.0** 4.88	**136.0** 5.35	**3.3** 0.13	**193.1** 7.60	**187.0** 7.36	**6.6** 0.26	**1.3** 0.05	338.6	39.8	0.1153	**10.26** 22.63
30.162 1.1875	**25.268** 0.9948	**4.6** 0.18	**3.5** 0.14	**118.0** 4.65	**124.0** 4.88	**3.3** 0.13	**164.0** 6.46	**156.0** 6.14	**3.4** 0.13	**2.1** 0.09	151.5	50.5	0.0987	**2.44** 5.37
30.162 1.1875	**25.268** 0.9948	**4.6** 0.18	**3.5** 0.14	**119.0** 4.69	**125.0** 4.92	**3.3** 0.13	**164.0** 6.46	**156.0** 6.14	**3.4** 0.13	**2.1** 0.09	151.5	50.5	0.0987	**2.41** 5.29
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**3.6** 0.14	**123.0** 4.84	**129.0** 5.08	**3.3** 0.13	**181.0** 7.13	**171.0** 6.73	**5.3** 0.21	**1.5** 0.06	269.2	49.5	0.1156	**5.37** 11.85
52.388 2.0625	**39.688** 1.5625	**6.9** 0.27	**3.5** 0.14	**131.2** 5.16	**139.0** 5.47	**3.3** 0.13	**205.0** 8.07	**186.0** 7.32	**6.6** 0.26	**3.4** 0.14	245.6	32.2	0.1299	**8.32** 18.35
21.433 0.8438	**16.670** 0.6563	**6.4** 0.25	**1.5** 0.06	**120.0** 4.72	**123.0** 4.84	**1.5** 0.06	**147.0** 5.79	**143.0** 5.63	**1.0** 0.04	**1.6** 0.07	171.2	122.8	0.1422	**1.05** 2.31
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**3.5** 0.14	**125.0** 4.92	**131.0** 5.16	**3.3** 0.13	**172.0** 6.77	**160.0** 6.30	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.46** 7.64
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**3.5** 0.14	**125.0** 4.92	**131.0** 5.16	**3.0** 0.12	**172.0** 6.77	**160.0** 6.30	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.48** 7.68
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**3.5** 0.14	**125.0** 4.92	**131.0** 5.16	**3.3** 0.13	**173.0** 6.81	**161.0** 6.34	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.61** 7.96
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**3.5** 0.14	**125.0** 4.92	**131.0** 5.16	**3.3** 0.13	**173.0** 6.81	**161.0** 6.34	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.67** 8.11
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**3.6** 0.14	**125.0** 4.92	**132.0** 5.20	**3.3** 0.13	**181.0** 7.13	**171.0** 6.73	**5.3** 0.21	**1.6** 0.06	269.2	49.5	0.1156	**5.16** 11.38

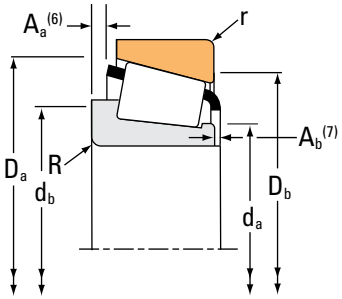
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
114.300 4.5000	**206.375** 8.1250	**66.675** 2.6250	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	938	930
114.300 4.5000	**212.725** 8.3750	**66.675** 2.6250	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224346	HH224310
114.300 4.5000	**212.725** 8.3750	**66.675** 2.6250	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	938	932
114.300 4.5000	**214.975** 8.4636	**64.798** 2.5511	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224346	HH224314
114.300 4.5000	**228.600** 9.0000	**53.975** 2.1250	**586000** 132000	0.74	0.81	**152000** 34200	**192000** 43100	0.79	**673000** 151000	HM926740	HM926710
114.300 4.5000	**273.050** 10.7500	**82.550** 3.2500	**1070000** 240000	0.63	0.95	**276000** 62100	**299000** 67200	0.92	**1080000** 243000	HH926744	HH926710
114.300 4.5000	**279.400** 11.0000	**82.550** 3.2500	**1070000** 240000	0.63	0.95	**276000** 62100	**299000** 67200	0.92	**1080000** 243000	HH926744	HH926716
114.975 4.5266	**177.800** 7.0000	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64452A	64700
114.975 4.5266	**180.975** 7.1250	**41.275** 1.6250	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64452A	64713
114.975 4.5266	**212.725** 8.3750	**66.675** 2.6250	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224349	HH224310
115.000 4.5276	**165.000** 6.4961	**28.000** 1.1024	**160000** 35900	0.46	1.31	**41400** 9310	**32500** 7310	1.27	**245000** 55100	JLM722948	JLM722912
115.087 4.5310	**190.500** 7.5000	**47.625** 1.8750	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71455	71750
115.087 4.5310	**190.500** 7.5000	**47.625** 1.8750	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71453	71750
117.475 4.6250	**179.975** 7.0856	**34.925** 1.3750	**232000** 52100	0.50	1.21	**60100** 13500	**51100** 11500	1.18	**271000** 61000	68462	68709
117.475 4.6250	**180.975** 7.1250	**34.925** 1.3750	**232000** 52100	0.50	1.21	**60100** 13500	**51100** 11500	1.18	**271000** 61000	68462	68712
117.475 4.6250	**180.975** 7.1250	**34.925** 1.3750	**232000** 52100	0.50	1.21	**60100** 13500	**51100** 11500	1.18	**271000** 61000	68463	68712
119.964 4.7230	**215.900** 8.5000	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74472	74850

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

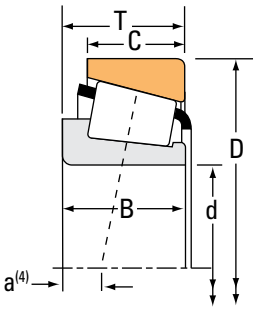
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**7.0** 0.28	**128.0** 5.04	**141.0** 5.55	**3.3** 0.13	**193.1** 7.60	**184.0** 7.24	**6.6** 0.26	**1.3** 0.05	338.6	39.8	0.1153	**8.98** 19.79
66.675 2.6250	**53.975** 2.1250	**-18.8** -0.74	**7.0** 0.28	**131.0** 5.16	**143.0** 5.63	**3.3** 0.13	**201.7** 7.94	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**9.92** 21.85
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**7.0** 0.28	**128.0** 5.04	**141.0** 5.55	**3.3** 0.13	**193.1** 7.60	**187.0** 7.36	**6.6** 0.26	**1.3** 0.05	338.6	39.8	0.1153	**9.83** 21.67
66.675 2.6250	**50.800** 2.0000	**-18.8** -0.74	**7.0** 0.28	**131.0** 5.16	**143.0** 5.63	**3.3** 0.13	**201.2** 7.92	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**10.03** 22.10
49.428 1.9460	**38.100** 1.5000	**13.5** 0.53	**3.5** 0.14	**142.0** 5.59	**146.0** 5.75	**3.3** 0.13	**219.3** 8.63	**200.0** 7.87	**9.0** 0.35	**6.4** 0.26	295.4	39.0	0.1416	**9.54** 21.04
82.550 3.2500	**53.975** 2.1250	**-6.6** -0.26	**6.4** 0.25	**147.2** 5.80	**164.0** 6.46	**6.4** 0.25	**253.3** 9.97	**230.0** 9.06	**15.1** 0.59	**4.1** 0.17	384.1	37.8	0.1472	**22.09** 48.68
82.550 3.2500	**53.975** 2.1250	**-6.6** -0.26	**6.4** 0.25	**147.2** 5.80	**164.0** 6.46	**6.4** 0.25	**253.3** 9.97	**233.0** 9.17	**15.1** 0.59	**4.1** 0.17	384.1	37.8	0.1472	**23.16** 51.05
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**9.0** 0.35	**125.9** 4.96	**143.0** 5.63	**3.3** 0.13	**172.0** 6.77	**160.0** 6.30	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.32** 7.34
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**9.0** 0.35	**125.9** 4.96	**143.0** 5.63	**3.3** 0.13	**173.0** 6.81	**161.0** 6.34	**5.2** 0.20	**2.1** 0.08	218.8	45.3	0.1153	**3.53** 7.80
66.675 2.6250	**53.975** 2.1250	**-18.8** -0.74	**7.0** 0.28	**131.0** 5.16	**144.0** 5.67	**3.3** 0.13	**201.7** 7.94	**192.0** 7.56	**4.8** 0.19	**2.9** 0.12	366.6	47.9	0.1182	**9.85** 21.71
27.000 1.0630	**21.000** 0.8268	**5.6** 0.22	**3.3** 0.13	**121.0** 4.76	**127.0** 5.00	**3.0** 0.12	**158.0** 6.22	**151.0** 5.94	**2.2** 0.08	**2.4** 0.10	161.0	57.2	0.1449	**1.75** 3.86
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**8.0** 0.31	**126.0** 4.96	**141.0** 5.55	**3.3** 0.13	**181.0** 7.13	**171.0** 6.73	**5.3** 0.21	**1.5** 0.06	269.2	49.5	0.1156	**5.02** 11.07
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**3.5** 0.14	**126.0** 4.96	**133.0** 5.24	**3.3** 0.13	**181.0** 7.13	**171.0** 6.73	**5.3** 0.21	**1.5** 0.06	269.2	49.5	0.1156	**5.09** 11.23
31.750 1.2500	**25.400** 1.0000	**5.3** 0.21	**3.5** 0.14	**125.0** 4.92	**132.0** 5.20	**0.8** 0.03	**172.0** 6.77	**165.0** 6.50	**5.1** 0.20	**2.3** 0.09	163.1	51.7	0.1026	**2.71** 5.98
31.750 1.2500	**25.400** 1.0000	**5.3** 0.21	**3.5** 0.14	**125.0** 4.92	**132.0** 5.20	**3.3** 0.13	**172.0** 6.77	**163.0** 6.42	**5.1** 0.20	**2.3** 0.09	163.1	51.7	0.1026	**2.74** 6.06
31.750 1.2500	**25.400** 1.0000	**5.3** 0.21	**8.0** 0.31	**125.0** 4.92	**140.0** 5.51	**3.3** 0.13	**172.0** 6.77	**163.0** 6.42	**5.1** 0.20	**2.3** 0.09	163.1	51.7	0.1026	**2.67** 5.89
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**136.0** 5.35	**142.0** 5.59	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**7.47** 16.47

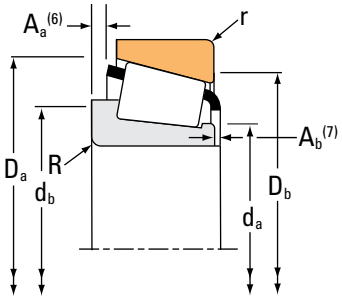
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
119.974 4.7234	**174.625** 6.8750	**35.720** 1.4063	**244000** 54900	0.33	1.80	**63400** 14200	**36100** 8110	1.76	**422000** 94900	M224748	M224710
120.000 4.7244	**170.000** 6.6929	**25.400** 1.0000	**145000** 32600	0.46	1.31	**37600** 8450	**29500** 6640	1.27	**231000** 52000	JL724348	JL724314
120.000 4.7244	**170.000** 6.6929	**27.000** 1.0630	**165000** 37200	0.47	1.27	**42900** 9640	**34700** 7800	1.24	**238000** 53500	JP12049	JP12010
120.000 4.7244	**170.000** 6.6929	**27.000** 1.0630	**165000** 37200	0.47	1.27	**42900** 9640	**34700** 7800	1.24	**238000** 53500	JP12049A	JP12010
120.000 4.7244	**180.000** 7.0866	**36.000** 1.4173	**247000** 55500	0.41	1.45	**64000** 14400	**45300** 10200	1.41	**377000** 84700	JM624649	JM624610
120.000 4.7244	**215.900** 8.5000	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74473X	74850
120.000 4.7244	**230.000** 9.0551	**53.975** 2.1250	**376000** 84500	0.74	0.81	**97500** 21900	**123000** 27600	0.79	**486000** 109000	97472X	97905X
120.650 4.7500	**161.925** 6.3750	**21.433** 0.8438	**97500** 21900	0.43	1.38	**25300** 5680	**18800** 4230	1.34	**206000** 46400	L624549	L624514
120.650 4.7500	**166.688** 6.5625	**25.400** 1.0000	**145000** 32600	0.46	1.31	**37600** 8450	**29500** 6640	1.27	**231000** 52000	L724349	L724310
120.650 4.7500	**169.862** 6.6875	**25.400** 1.0000	**143000** 32100	0.33	1.80	**37000** 8320	**21100** 4740	1.76	**273000** 61400	L225842	L225810
120.650 4.7500	**172.242** 6.7812	**35.720** 1.4063	**244000** 54900	0.33	1.80	**63400** 14200	**36100** 8110	1.76	**422000** 94900	M224749	M224711
120.650 4.7500	**174.625** 6.8750	**35.720** 1.4063	**244000** 54900	0.33	1.80	**63400** 14200	**36100** 8110	1.76	**422000** 94900	M224749	M224710
120.650 4.7500	**174.625** 6.8750	**35.720** 1.4063	**244000** 54900	0.33	1.80	**63400** 14200	**36100** 8110	1.76	**422000** 94900	M224749	M224712
120.650 4.7500	**180.975** 7.1250	**25.400** 1.0000	**143000** 32100	0.33	1.80	**37000** 8320	**21100** 4740	1.76	**273000** 61400	L225842	L225818
120.650 4.7500	**182.562** 7.1875	**39.688** 1.5625	**268000** 60200	0.31	1.97	**69400** 15600	**36300** 8160	1.91	**493000** 111000	48282	48220
120.650 4.7500	**190.500** 7.5000	**46.038** 1.8125	**362000** 81300	0.43	1.41	**93700** 21100	**68500** 15400	1.37	**543000** 122000	HM624749	HM624710
120.650 4.7500	**199.975** 7.8730	**46.038** 1.8125	**362000** 81300	0.43	1.41	**93700** 21100	**68500** 15400	1.37	**543000** 122000	HM624749	HM624716

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

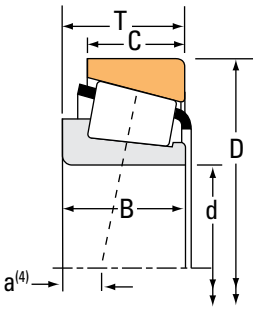
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.512 1.4375	**27.783** 1.0938	**-3.6** -0.14	**3.5** 0.14	**129.0** 5.08	**134.0** 5.28	**1.5** 0.06	**167.9** 6.61	**162.0** 6.38	**3.7** 0.14	**0.5** 0.02	279.1	86.6	0.1575	**2.71** 5.98
25.400 1.0000	**19.050** 0.7500	**7.9** 0.31	**3.3** 0.13	**127.0** 5.00	**132.0** 5.20	**3.3** 0.13	**163.0** 6.42	**156.0** 6.14	**2.7** 0.10	**1.2** 0.05	170.2	70.6	0.1472	**1.62** 3.56
25.000 0.9843	**19.500** 0.7677	**7.9** 0.31	**3.0** 0.12	**127.0** 5.00	**133.0** 5.24	**3.0** 0.12	**164.5** 6.48	**157.0** 6.18	**2.8** 0.11	**3.7** 0.15	157.8	76.7	0.1451	**1.70** 3.76
25.000 0.9843	**19.500** 0.7677	**7.9** 0.31	**6.0** 0.24	**127.0** 5.00	**139.0** 5.47	**3.0** 0.12	**164.5** 6.48	**157.0** 6.18	**2.8** 0.11	**3.7** 0.15	157.8	76.7	*	**1.69** 3.72
36.000 1.4173	**26.000** 1.0236	**0.0** 0.00	**3.5** 0.14	**128.0** 5.04	**135.0** 5.31	**1.5** 0.06	**173.0** 6.81	**166.0** 6.54	**3.5** 0.14	**2.7** 0.11	226.8	61.6	0.1084	**2.92** 6.46
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**4.0** 0.16	**137.0** 5.39	**144.0** 5.67	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**7.46** 16.45
49.428 1.9460	**38.100** 1.5000	**13.2** 0.52	**3.5** 0.14	**140.0** 5.51	**145.0** 5.71	**3.3** 0.13	**213.0** 8.38	**198.0** 7.80	**8.2** 0.32	**4.8** 0.19	237.1	44.6	0.1311	**8.92** 19.66
21.433 0.8438	**16.670** 0.6563	**8.4** 0.33	**1.5** 0.06	**127.0** 5.00	**129.0** 5.08	**1.5** 0.06	**156.0** 6.14	**151.0** 5.94	**1.1** 0.04	**1.7** 0.07	195.2	139.1	0.1509	**1.21** 2.67
25.400 1.0000	**19.050** 0.7500	**7.9** 0.31	**3.3** 0.13	**128.0** 5.04	**133.0** 5.24	**3.3** 0.13	**161.0** 6.34	**154.0** 6.06	**2.7** 0.10	**1.2** 0.05	170.2	70.6	0.1472	**1.49** 3.27
26.195 1.0313	**20.638** 0.8125	**2.5** 0.10	**1.5** 0.06	**129.0** 5.08	**131.0** 5.16	**1.5** 0.06	**164.0** 6.46	**160.0** 6.30	**0.7** 0.02	**1.6** 0.07	253.2	134.6	0.1511	**1.84** 4.05
36.512 1.4375	**27.783** 1.0938	**-3.6** -0.14	**3.5** 0.14	**129.0** 5.08	**135.0** 5.31	**1.5** 0.06	**166.9** 6.57	**162.0** 6.38	**3.7** 0.14	**0.5** 0.02	279.1	86.6	0.1575	**2.53** 5.59
36.512 1.4375	**27.783** 1.0938	**-3.6** -0.14	**3.5** 0.14	**129.0** 5.08	**135.0** 5.31	**1.5** 0.06	**167.9** 6.61	**162.0** 6.38	**3.7** 0.14	**0.5** 0.02	279.1	86.6	0.1575	**2.67** 5.90
36.512 1.4375	**27.783** 1.0938	**-3.6** -0.14	**3.5** 0.14	**129.0** 5.08	**135.0** 5.31	**3.3** 0.13	**167.9** 6.61	**161.0** 6.34	**3.7** 0.14	**0.5** 0.02	279.1	86.6	0.1575	**2.67** 5.90
26.195 1.0313	**20.638** 0.8125	**2.5** 0.10	**1.5** 0.06	**129.0** 5.08	**131.0** 5.16	**1.5** 0.06	**166.0** 6.54	**164.0** 6.46	**0.7** 0.02	**1.6** 0.07	253.2	134.6	0.1511	**2.33** 5.13
38.100 1.5000	**33.338** 1.3125	**-5.6** -0.22	**3.5** 0.14	**131.0** 5.16	**137.0** 5.39	**3.3** 0.13	**176.0** 6.93	**168.0** 6.61	**1.8** 0.07	**3.3** 0.13	353.0	91.4	0.1138	**3.62** 7.99
46.038 1.8125	**34.925** 1.3750	**-3.8** -0.15	**3.5** 0.14	**132.0** 5.20	**138.0** 5.43	**1.5** 0.06	**184.0** 7.24	**174.0** 6.85	**3.7** 0.14	**2.6** 0.11	278.8	51.5	0.1178	**4.61** 10.16
46.038 1.8125	**34.925** 1.3750	**-3.8** -0.15	**3.5** 0.14	**132.0** 5.20	**138.0** 5.43	**1.5** 0.06	**185.0** 7.28	**178.0** 7.01	**3.7** 0.14	**2.6** 0.11	278.8	51.5	0.1178	**5.40** 11.90

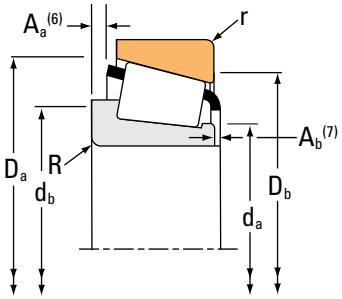
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
120.650 4.7500	**206.375** 8.1250	**47.625** 1.8750	**378000** 85000	0.46	1.31	**98000** 22000	**77000** 17300	1.27	**593000** 133000	795	792
120.650 4.7500	**234.950** 9.2500	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95475	95925
120.650 4.7500	**254.000** 10.0000	**77.788** 3.0625	**910000** 205000	0.32	1.87	**236000** 53000	**130000** 29200	1.82	**1240000** 279000	HH228340	HH228310
120.650 4.7500	**259.975** 10.2352	**77.788** 3.0625	**910000** 205000	0.32	1.87	**236000** 53000	**130000** 29200	1.82	**1240000** 279000	HH228340	HH228318
120.650 4.7500	**273.050** 10.7500	**82.550** 3.2500	**1070000** 240000	0.63	0.95	**276000** 62100	**299000** 67200	0.92	**1080000** 243000	HH926749	HH926710
123.825 4.8750	**182.562** 7.1875	**39.688** 1.5625	**268000** 60200	0.31	1.97	**69400** 15600	**36300** 8160	1.91	**493000** 111000	48286	48220
124.943 4.9190	**234.950** 9.2500	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95491	95925
125.000 4.9213	**175.000** 6.8898	**25.400** 1.0000	**150000** 33700	0.48	1.26	**38900** 8750	**31700** 7130	1.23	**246000** 55300	JL725346	JL725316
125.298 4.9330	**228.600** 9.0000	**53.975** 2.1250	**586000** 132000	0.74	0.81	**152000** 34200	**192000** 43100	0.79	**673000** 151000	HM926745	HM926710
127.000 5.0000	**165.895** 6.5313	**18.258** 0.7188	**90200** 20300	0.33	1.80	**23400** 5260	**13300** 2990	1.76	**153000** 34400	LL225749	LL225710
127.000 5.0000	**169.862** 6.6875	**25.400** 1.0000	**143000** 32100	0.33	1.80	**37000** 8320	**21100** 4740	1.76	**273000** 61400	L225849	L225810
127.000 5.0000	**171.450** 6.7500	**25.400** 1.0000	**150000** 33700	0.48	1.26	**38900** 8750	**31700** 7130	1.23	**246000** 55300	L725349	L725311
127.000 5.0000	**174.625** 6.8750	**36.512** 1.4375	**220000** 49500	0.31	1.95	**57100** 12800	**30000** 6750	1.90	**413000** 92900	LM125748	LM125711
127.000 5.0000	**180.975** 7.1250	**25.400** 1.0000	**143000** 32100	0.33	1.80	**37000** 8320	**21100** 4740	1.76	**273000** 61400	L225849	L225818
127.000 5.0000	**182.562** 7.1875	**39.688** 1.5625	**268000** 60200	0.31	1.97	**69400** 15600	**36300** 8160	1.91	**493000** 111000	48290	48220
127.000 5.0000	**196.850** 7.7500	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67388	67322
127.000 5.0000	**203.200** 8.0000	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67388	67320

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

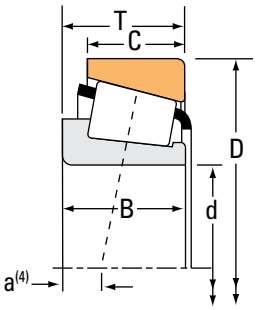
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
47.625 1.8750	**34.925** 1.3750	**-1.8** -0.07	**3.3** 0.13	**134.0** 5.28	**139.0** 5.47	**3.3** 0.13	**196.0** 7.72	**186.0** 7.32	**5.3** 0.21	**2.8** 0.11	326.4	62.0	0.1269	**6.34** 13.99
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**6.4** 0.25	**137.0** 5.39	**149.0** 5.87	**3.3** 0.13	**217.0** 8.54	**209.0** 8.23	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**12.35** 27.25
82.550 3.2500	**61.912** 2.4375	**-23.4** -0.92	**9.7** 0.38	**142.0** 5.59	**158.0** 6.22	**6.4** 0.25	**233.6** 9.20	**223.0** 8.78	**7.0** 0.27	**0.0** 0.00	529.8	44.8	0.1329	**18.57** 40.95
82.550 3.2500	**61.912** 2.4375	**-23.4** -0.92	**9.7** 0.38	**142.0** 5.59	**158.0** 6.22	**4.0** 0.16	**233.6** 9.20	**228.0** 8.98	**7.0** 0.27	**0.0** 0.00	529.8	44.8	0.1329	**19.85** 43.77
82.550 3.2500	**53.975** 2.1250	**-6.6** -0.26	**6.4** 0.25	**147.2** 5.80	**168.0** 6.61	**6.4** 0.25	**253.3** 9.97	**230.0** 9.06	**15.1** 0.59	**4.1** 0.17	384.1	37.8	0.1472	**21.33** 47.01
38.100 1.5000	**33.338** 1.3125	**-5.6** -0.22	**3.5** 0.14	**133.0** 5.24	**139.0** 5.47	**3.3** 0.13	**176.0** 6.93	**168.0** 6.61	**1.8** 0.07	**3.3** 0.13	353.0	91.4	0.1138	**3.44** 7.58
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**6.4** 0.25	**140.0** 5.51	**152.0** 5.98	**3.3** 0.13	**217.0** 8.54	**209.0** 8.23	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**11.94** 26.34
25.400 1.0000	**18.288** 0.7200	**9.1** 0.36	**3.3** 0.13	**133.0** 5.24	**138.0** 5.43	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.0** 0.11	**1.5** 0.06	186.6	77.7	0.1535	**1.69** 3.72
49.428 1.9460	**38.100** 1.5000	**13.5** 0.53	**3.5** 0.14	**143.0** 5.63	**154.0** 6.06	**3.3** 0.13	**219.3** 8.63	**200.0** 7.87	**9.0** 0.35	**6.4** 0.26	295.4	39.0	0.1416	**8.74** 19.26
17.462 0.6875	**13.495** 0.5313	**6.1** 0.24	**1.5** 0.06	**133.0** 5.24	**135.0** 5.31	**1.5** 0.06	**160.0** 6.30	**158.0** 6.22	**1.3** 0.05	**2.1** 0.09	163.9	140.7	0.1297	**0.92** 2.02
26.195 1.0313	**20.638** 0.8125	**2.5** 0.10	**1.5** 0.06	**134.0** 5.28	**136.0** 5.35	**1.5** 0.06	**164.0** 6.46	**160.0** 6.30	**0.7** 0.02	**1.6** 0.07	253.2	134.6	0.1511	**1.58** 3.49
25.400 1.0000	**18.288** 0.7200	**9.1** 0.36	**3.3** 0.13	**134.0** 5.28	**139.0** 5.47	**3.3** 0.13	**167.0** 6.57	**160.0** 6.30	**3.0** 0.11	**1.5** 0.06	186.6	77.7	0.1535	**1.50** 3.30
36.512 1.4375	**31.750** 1.2500	**-4.3** -0.17	**3.3** 0.13	**134.9** 5.31	**139.9** 5.51	**3.3** 0.13	**167.9** 6.61	**161.0** 6.34	**2.2** 0.08	**0.6** 0.03	314.8	110.2	0.1594	**2.54** 5.60
26.195 1.0313	**20.638** 0.8125	**2.5** 0.10	**1.5** 0.06	**134.0** 5.28	**136.0** 5.35	**1.5** 0.06	**166.0** 6.54	**164.0** 6.46	**0.7** 0.02	**1.6** 0.07	253.2	134.6	0.1511	**2.07** 4.57
38.100 1.5000	**33.338** 1.3125	**-5.6** -0.22	**3.5** 0.14	**135.0** 5.31	**141.0** 5.55	**3.3** 0.13	**176.0** 6.93	**168.0** 6.61	**1.8** 0.07	**3.3** 0.13	353.0	91.4	0.1138	**3.26** 7.17
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**3.5** 0.14	**138.0** 5.43	**144.0** 5.67	**3.3** 0.13	**189.0** 7.44	**180.0** 7.09	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**5.05** 11.13
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**3.5** 0.14	**138.0** 5.43	**144.0** 5.67	**3.3** 0.13	**191.0** 7.52	**183.0** 7.20	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**5.65** 12.45

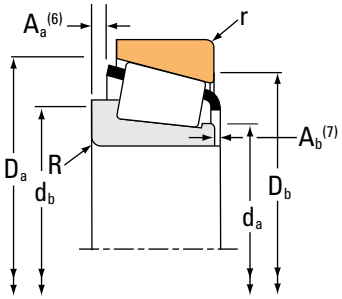
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
127.000 5.0000	**215.900** 8.5000	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74500	74850
127.000 5.0000	**228.600** 9.0000	**53.975** 2.1250	**446000** 100000	0.74	0.81	**116000** 26000	**146000** 32700	0.79	**486000** 109000	97500	97900
127.000 5.0000	**228.600** 9.0000	**53.975** 2.1250	**586000** 132000	0.74	0.81	**152000** 34200	**192000** 43100	0.79	**673000** 151000	HM926747	HM926710
127.000 5.0000	**234.950** 9.2500	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95500	95925
127.000 5.0000	**244.475** 9.6250	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95500	95962
127.000 5.0000	**250.825** 9.8750	**63.500** 2.5000	**602000** 135000	0.37	1.63	**156000** 35100	**98100** 22100	1.59	**867000** 195000	EE116050	116098
127.000 5.0000	**254.000** 10.0000	**66.675** 2.6250	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99500	99100
127.000 5.0000	**254.000** 10.0000	**77.788** 3.0625	**910000** 205000	0.32	1.87	**236000** 53000	**130000** 29200	1.82	**1240000** 279000	HH228349	HH228310
127.000 5.0000	**288.925** 11.3750	**82.550** 3.2500	**1140000** 257000	0.32	1.88	**296000** 66600	**162000** 36300	1.83	**1340000** 302000	HH231637	HH231610
127.000 5.0000	**295.275** 11.6250	**82.550** 3.2500	**1140000** 257000	0.32	1.88	**296000** 66600	**162000** 36300	1.83	**1340000** 302000	HH231637	HH231615
127.000 5.0000	**304.800** 12.0000	**88.900** 3.5000	**1160000** 260000	0.73	0.82	**300000** 67500	**374000** 84100	0.80	**1250000** 282000	HH932132	HH932110
127.000 5.0000	**311.150** 12.2500	**88.900** 3.5000	**1160000** 260000	0.73	0.82	**300000** 67500	**374000** 84100	0.80	**1250000** 282000	HH932132	HH932115
127.792 5.0312	**228.600** 9.0000	**53.975** 2.1250	**586000** 132000	0.74	0.81	**152000** 34200	**192000** 43100	0.79	**673000** 151000	HM926749	HM926710
128.588 5.0625	**190.500** 7.5000	**34.925** 1.3750	**177000** 39800	0.65	0.92	**45900** 10300	**51300** 11500	0.89	**300000** 67400	48506	48750
128.588 5.0625	**206.375** 8.1250	**47.625** 1.8750	**378000** 85000	0.46	1.31	**98000** 22000	**77000** 17300	1.27	**593000** 133000	799	792
129.975 5.1171	**234.975** 9.2510	**64.798** 2.5511	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95512	95929
130.000 5.1181	**185.000** 7.2835	**29.000** 1.1417	**196000** 44000	0.47	1.27	**50800** 11400	**41100** 9250	1.24	**283000** 63600	JP13049A	JP13010

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

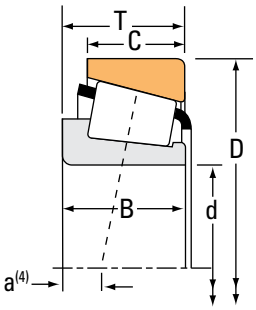
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**141.0** 5.55	**148.0** 5.83	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**6.96** 15.35
49.428 1.9460	**38.100** 1.5000	**13.2** 0.52	**3.5** 0.14	**144.0** 5.65	**151.0** 5.94	**3.3** 0.13	**213.0** 8.38	**197.0** 7.76	**8.2** 0.32	**4.8** 0.19	237.1	44.6	0.1311	**8.27** 18.22
49.428 1.9460	**38.100** 1.5000	**13.5** 0.53	**3.5** 0.14	**143.0** 5.63	**156.0** 6.14	**3.3** 0.13	**219.3** 8.63	**200.0** 7.87	**9.0** 0.35	**6.4** 0.26	295.4	39.0	0.1416	**8.60** 18.98
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**6.4** 0.25	**142.0** 5.59	**154.0** 6.06	**3.3** 0.13	**217.0** 8.54	**209.0** 8.23	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**11.74** 25.89
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**6.4** 0.25	**142.0** 5.59	**154.0** 6.06	**3.3** 0.13	**217.0** 8.54	**213.0** 8.39	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**13.10** 28.87
63.500 2.5000	**47.625** 1.8750	**-13.5** -0.53	**3.3** 0.13	**144.0** 5.67	**148.0** 5.83	**4.8** 0.19	**224.0** 8.82	**220.0** 8.66	**8.5** 0.33	**1.6** 0.07	416.6	57.3	0.1279	**13.60** 30.00
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**6.4** 0.25	**149.0** 5.87	**159.0** 6.26	**3.3** 0.13	**238.0** 9.37	**227.0** 8.94	**9.7** 0.38	**3.6** 0.14	555.5	73.5	0.1459	**15.46** 34.07
82.550 3.2500	**61.912** 2.4375	**-23.4** -0.92	**9.7** 0.38	**148.0** 5.83	**164.0** 6.46	**6.4** 0.25	**233.6** 9.20	**223.0** 8.78	**7.0** 0.27	**0.0** 0.00	529.8	44.8	0.1329	**17.87** 39.38
87.312 3.4375	**57.150** 2.2500	**-26.7** -1.05	**13.5** 0.53	**150.0** 5.91	**174.0** 6.85	**6.4** 0.25	**263.7** 10.38	**255.0** 10.04	**12.6** 0.49	**1.1** 0.05	601.3	57.7	0.1083	**25.30** 55.78
87.312 3.4375	**57.150** 2.2500	**-26.7** -1.05	**13.5** 0.53	**150.0** 5.91	**174.0** 6.85	**6.4** 0.25	**263.7** 10.38	**258.0** 10.16	**12.6** 0.49	**1.1** 0.05	601.3	57.7	0.1083	**26.60** 58.65
82.550 3.2500	**57.150** 2.2500	**1.8** 0.07	**6.4** 0.25	**172.0** 6.77	**182.0** 7.17	**6.4** 0.25	**288.0** 11.34	**260.0** 10.24	**21.4** 0.84	**8.9** 0.35	514.3	55.6	0.1333	**29.56** 65.16
82.550 3.2500	**57.150** 2.2500	**1.8** 0.07	**6.4** 0.25	**172.0** 6.77	**182.0** 7.17	**6.4** 0.25	**288.0** 11.34	**262.0** 10.31	**21.4** 0.84	**8.9** 0.35	514.3	55.6	0.1333	**30.82** 67.94
49.428 1.9460	**38.100** 1.5000	**13.5** 0.53	**3.5** 0.14	**143.0** 5.63	**156.0** 6.14	**3.3** 0.13	**219.3** 8.63	**200.0** 7.87	**9.0** 0.35	**6.4** 0.26	295.4	39.0	0.1416	**8.54** 18.84
31.750 1.2500	**25.400** 1.0000	**16.5** 0.65	**3.5** 0.14	**138.0** 5.43	**144.0** 5.67	**3.3** 0.13	**183.0** 7.20	**170.0** 6.69	**4.4** 0.17	**0.9** 0.04	218.2	71.4	0.1783	**3.07** 6.76
47.625 1.8750	**34.925** 1.3750	**-1.8** -0.07	**3.3** 0.13	**140.0** 5.51	**146.0** 5.75	**3.3** 0.13	**196.0** 7.72	**186.0** 7.32	**5.3** 0.21	**2.8** 0.11	326.4	62.0	0.1269	**5.76** 12.71
63.500 2.5000	**49.950** 1.9665	**-14.0** -0.55	**6.4** 0.25	**145.0** 5.71	**157.0** 6.18	**3.3** 0.13	**217.0** 8.54	**208.0** 8.19	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**11.54** 25.45
27.000 1.0630	**21.000** 0.8268	**8.9** 0.35	**6.0** 0.24	**137.0** 5.39	**149.0** 5.87	**3.0** 0.12	**179.0** 7.05	**172.0** 6.77	**2.3** 0.09	**4.1** 0.17	192.2	60.3	0.1064	**2.15** 4.73

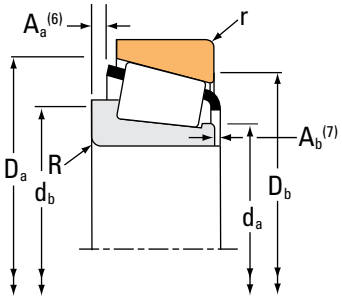
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
130.000 5.1181	**185.000** 7.2835	**29.000** 1.1417	**196000** 44000	0.47	1.27	**50800** 11400	**41100** 9250	1.24	**283000** 63600	JP13049	JP13010
130.000 5.1181	**206.375** 8.1250	**47.625** 1.8750	**378000** 85000	0.46	1.31	**98000** 22000	**77000** 17300	1.27	**593000** 133000	797	792
130.000 5.1181	**230.000** 9.0551	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95512X	95905
130.000 5.1181	**234.950** 9.2500	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95512X	95925
130.000 5.1181	**234.975** 9.2510	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95512X	95928
130.175 5.1250	**196.850** 7.7500	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67389	67322
130.175 5.1250	**203.200** 8.0000	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67389	67320
130.175 5.1250	**206.375** 8.1250	**47.625** 1.8750	**378000** 85000	0.46	1.31	**98000** 22000	**77000** 17300	1.27	**593000** 133000	799A	792
133.350 5.2500	**173.038** 6.8125	**19.050** 0.7500	**96400** 21700	0.35	1.72	**25000** 5620	**14900** 3350	1.68	**170000** 38300	LL327049	LL327010
133.350 5.2500	**177.008** 6.9688	**25.400** 1.0000	**147000** 33100	0.35	1.72	**38100** 8570	**22700** 5110	1.68	**289000** 65000	L327249	L327210
133.350 5.2500	**190.500** 7.5000	**39.688** 1.5625	**283000** 63600	0.32	1.87	**73300** 16500	**40300** 9060	1.82	**542000** 122000	48385	48320
133.350 5.2500	**196.850** 7.7500	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67390	67322
133.350 5.2500	**196.850** 7.7500	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67391	67322
133.350 5.2500	**203.200** 8.0000	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67390	67320
133.350 5.2500	**203.200** 8.0000	**46.038** 1.8125	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67391	67320
133.350 5.2500	**214.975** 8.4636	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74525	74845
133.350 5.2500	**215.900** 8.5000	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74525	74850

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

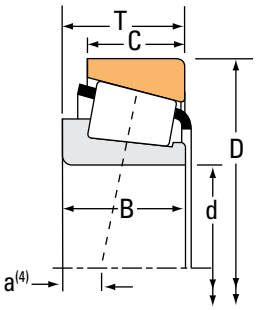
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
27.000 1.0630	**21.000** 0.8268	**8.9** 0.35	**3.0** 0.12	**137.0** 5.39	**143.0** 5.63	**3.0** 0.12	**179.0** 7.05	**172.0** 6.77	**2.3** 0.09	**4.1** 0.17	192.2	60.3	0.1064	**2.16** 4.76
47.625 1.8750	**34.925** 1.3750	**-1.8** -0.07	**3.5** 0.14	**141.0** 5.55	**148.0** 5.83	**3.3** 0.13	**196.0** 7.72	**186.0** 7.32	**5.3** 0.21	**2.8** 0.11	326.4	62.0	0.1269	**5.65** 12.47
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**6.0** 0.24	**145.0** 5.71	**156.0** 6.14	**3.3** 0.13	**217.0** 8.54	**207.0** 8.15	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**10.75** 23.70
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**6.0** 0.24	**145.0** 5.71	**156.0** 6.14	**3.3** 0.13	**217.0** 8.54	**209.0** 8.23	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**11.44** 25.24
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**6.0** 0.24	**145.0** 5.71	**156.0** 6.14	**3.3** 0.13	**217.0** 8.54	**209.0** 8.23	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**11.42** 25.18
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**3.5** 0.14	**141.0** 5.55	**147.0** 5.79	**3.3** 0.13	**189.0** 7.44	**180.0** 7.09	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**4.82** 10.63
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**3.5** 0.14	**141.0** 5.55	**147.0** 5.79	**3.3** 0.13	**191.0** 7.52	**183.0** 7.20	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**5.42** 11.94
47.625 1.8750	**34.925** 1.3750	**-1.8** -0.07	**3.5** 0.14	**142.0** 5.59	**148.0** 5.83	**3.3** 0.13	**196.0** 7.72	**186.0** 7.32	**5.3** 0.21	**2.8** 0.11	326.4	62.0	0.1269	**5.64** 12.44
17.462 0.6875	**14.288** 0.5625	**7.6** 0.30	**1.5** 0.06	**139.0** 5.47	**141.0** 5.55	**1.5** 0.06	**167.0** 6.57	**164.0** 6.46	**1.4** 0.05	**2.0** 0.08	187.7	146.2	0.1377	**1.00** 2.21
26.195 1.0313	**20.638** 0.8125	**4.1** 0.16	**1.5** 0.06	**140.0** 5.51	**142.0** 5.59	**1.5** 0.06	**171.0** 6.73	**167.0** 6.57	**0.7** 0.03	**1.7** 0.07	280.1	155.8	0.1585	**1.72** 3.78
39.688 1.5625	**33.338** 1.3125	**-4.1** -0.16	**3.5** 0.14	**142.0** 5.59	**148.0** 5.83	**3.3** 0.13	**184.0** 7.24	**177.0** 6.97	**2.8** 0.11	**1.2** 0.05	403.8	105.1	0.1209	**3.58** 7.89
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**3.5** 0.14	**144.0** 5.67	**150.0** 5.91	**3.3** 0.13	**189.0** 7.44	**180.0** 7.09	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**4.58** 10.10
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**8.0** 0.31	**143.0** 5.63	**157.0** 6.18	**3.3** 0.13	**189.0** 7.44	**180.0** 7.09	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**4.55** 10.02
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**3.5** 0.14	**144.0** 5.67	**150.0** 5.91	**3.3** 0.13	**191.0** 7.52	**183.0** 7.20	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**5.18** 11.42
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**8.0** 0.31	**143.0** 5.63	**157.0** 6.18	**3.3** 0.13	**191.0** 7.52	**183.0** 7.20	**4.2** 0.16	**1.4** 0.06	383.7	70.1	0.1220	**5.15** 11.34
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**146.0** 5.75	**152.0** 5.98	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**6.37** 14.05
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**146.0** 5.75	**152.0** 5.98	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**6.48** 14.28

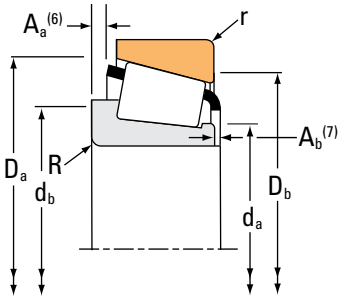
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
133.350 5.2500	**215.900** 8.5000	**53.975** 2.1250	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74525	74853
133.350 5.2500	**234.950** 9.2500	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95525	95925
133.350 5.2500	**234.950** 9.2500	**63.500** 2.5000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95528	95925
136.525 5.3750	**190.500** 7.5000	**39.688** 1.5625	**283000** 63600	0.32	1.87	**73300** 16500	**40300** 9060	1.82	**542000** 122000	48393	48320
136.525 5.3750	**203.200** 8.0000	**39.688** 1.5625	**283000** 63600	0.32	1.87	**73300** 16500	**40300** 9060	1.82	**542000** 122000	48393	48328
136.525 5.3750	**215.900** 8.5000	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74537	74850
136.525 5.3750	**217.488** 8.5625	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74537	74856
136.525 5.3750	**228.600** 9.0000	**57.150** 2.2500	**520000** 117000	0.42	1.43	**135000** 30300	**97200** 21800	1.39	**809000** 182000	896	892
139.700 5.5000	**187.325** 7.3750	**28.575** 1.1250	**227000** 51000	0.36	1.69	**58800** 13200	**35700** 8030	1.65	**375000** 84300	LM328448	LM328410
139.700 5.5000	**214.975** 8.4636	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74550	74845
139.700 5.5000	**215.900** 8.5000	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74550	74850
139.700 5.5000	**215.900** 8.5000	**47.625** 1.8750	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74550A	74850
139.700 5.5000	**222.250** 8.7500	**34.925** 1.3750	**293000** 65800	0.44	1.37	**75900** 17100	**56800** 12800	1.34	**342000** 77000	73551	73875
139.700 5.5000	**228.600** 9.0000	**57.150** 2.2500	**520000** 117000	0.42	1.43	**135000** 30300	**97200** 21800	1.39	**809000** 182000	898	892
139.700 5.5000	**228.600** 9.0000	**57.150** 2.2500	**520000** 117000	0.42	1.43	**135000** 30300	**97200** 21800	1.39	**809000** 182000	898A	892
139.700 5.5000	**236.538** 9.3125	**57.150** 2.2500	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231132	HM231110
139.700 5.5000	**241.300** 9.5000	**57.150** 2.2500	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231132	HM231115

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

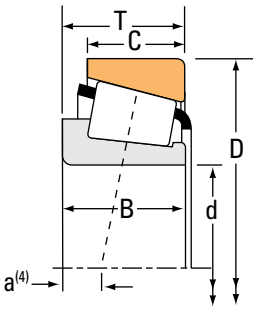
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
47.625 1.8750	**47.625** 1.8750	**2.3** 0.09	**3.5** 0.14	**146.0** 5.75	**152.0** 5.98	**3.3** 0.13	**209.0** 8.23	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**7.15** 15.77
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**9.7** 0.38	**148.0** 5.83	**166.0** 6.54	**3.3** 0.13	**217.0** 8.54	**209.0** 8.23	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**11.00** 24.26
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**4.8** 0.19	**148.0** 5.83	**157.0** 6.18	**3.3** 0.13	**217.0** 8.54	**209.0** 8.23	**6.4** 0.25	**3.8** 0.15	453.9	59.4	0.1323	**11.12** 24.53
39.688 1.5625	**33.338** 1.3125	**-4.1** -0.16	**3.5** 0.14	**144.0** 5.67	**151.0** 5.94	**3.3** 0.13	**184.0** 7.24	**177.0** 6.97	**2.8** 0.11	**1.2** 0.05	403.8	105.1	0.1209	**3.38** 7.45
39.688 1.5625	**33.338** 1.3125	**-4.1** -0.16	**3.5** 0.14	**144.0** 5.67	**151.0** 5.94	**3.3** 0.13	**186.0** 7.32	**182.0** 7.17	**2.8** 0.11	**1.2** 0.05	403.8	105.1	0.1209	**4.39** 9.67
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**148.0** 5.83	**155.0** 6.10	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**6.23** 13.72
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**148.0** 5.83	**155.0** 6.10	**3.3** 0.13	**209.0** 8.23	**197.0** 7.76	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**6.35** 14.01
57.150 2.2500	**44.450** 1.7500	**-6.1** -0.24	**3.5** 0.14	**150.0** 5.91	**156.0** 6.14	**3.3** 0.13	**216.0** 8.50	**205.0** 8.07	**6.4** 0.25	**1.4** 0.06	430.5	78.3	0.1355	**9.00** 19.84
29.370 1.1563	**23.020** 0.9063	**3.6** 0.14	**1.5** 0.06	**147.0** 5.79	**149.0** 5.87	**1.5** 0.06	**182.0** 7.17	**176.0** 6.93	**1.1** 0.04	**1.9** 0.08	336.5	179.4	0.1700	**2.21** 4.85
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**151.0** 5.94	**158.0** 6.22	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**5.86** 12.93
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**3.5** 0.14	**151.0** 5.94	**158.0** 6.22	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**5.97** 13.16
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**6.4** 0.25	**154.0** 6.06	**166.0** 6.54	**3.3** 0.13	**208.0** 8.19	**196.0** 7.72	**4.8** 0.18	**2.0** 0.08	362.9	68.5	0.1338	**5.96** 13.13
31.623 1.2450	**23.812** 0.9375	**6.4** 0.25	**3.5** 0.14	**150.0** 5.91	**156.0** 6.14	**3.3** 0.13	**207.0** 8.15	**204.0** 8.03	**5.7** 0.22	**4.0** 0.16	244.4	82.0	0.1122	**4.29** 9.44
57.150 2.2500	**44.450** 1.7500	**-6.1** -0.24	**3.5** 0.14	**153.0** 6.02	**160.0** 6.30	**3.3** 0.13	**216.0** 8.50	**205.0** 8.07	**6.4** 0.25	**1.4** 0.06	430.5	78.3	0.1355	**8.69** 19.16
57.150 2.2500	**44.450** 1.7500	**-6.1** -0.24	**6.4** 0.25	**153.0** 6.02	**165.0** 6.50	**3.3** 0.13	**216.0** 8.50	**205.0** 8.07	**6.4** 0.25	**1.4** 0.06	430.5	78.3	0.1355	**8.64** 19.05
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**3.5** 0.14	**156.0** 6.14	**160.0** 6.30	**3.3** 0.13	**224.0** 8.82	**217.0** 8.54	**4.2** 0.16	**3.7** 0.15	532.8	85.9	0.1327	**9.93** 21.87
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**3.5** 0.14	**156.0** 6.14	**160.0** 6.30	**3.3** 0.13	**224.0** 8.82	**219.0** 8.62	**4.2** 0.16	**3.7** 0.15	532.8	85.9	0.1327	**10.55** 23.24

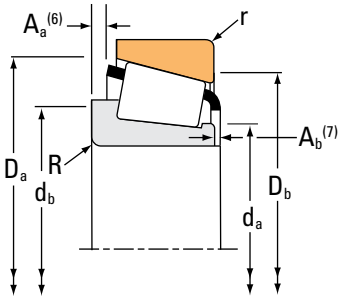
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
139.700 5.5000	**254.000** 10.0000	**66.675** 2.6250	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99550	99100
139.700 5.5000	**288.925** 11.3750	**82.550** 3.2500	**1140000** 257000	0.32	1.88	**296000** 66600	**162000** 36300	1.83	**1340000** 302000	HH231649	HH231610
139.700 5.5000	**295.275** 11.6250	**82.550** 3.2500	**1140000** 257000	0.32	1.88	**296000** 66600	**162000** 36300	1.83	**1340000** 302000	HH231649	HH231615
139.700 5.5000	**307.975** 12.1250	**88.900** 3.5000	**1150000** 259000	0.33	1.84	**299000** 67200	**167000** 37500	1.79	**1580000** 354000	HH234032	HH234010
139.700 5.5000	**307.975** 12.1250	**88.900** 3.5000	**1150000** 259000	0.33	1.84	**299000** 67200	**167000** 37500	1.79	**1580000** 354000	HH234031	HH234010
140.000 5.5118	**195.000** 7.6772	**29.000** 1.1417	**203000** 45700	0.50	1.19	**52700** 11800	**45400** 10200	1.16	**304000** 68400	JP14049	JP14010
142.875 5.6250	**193.675** 7.6250	**28.575** 1.1250	**196000** 44200	0.37	1.63	**50900** 11400	**32100** 7220	1.59	**394000** 88600	36686	36620
142.875 5.6250	**200.025** 7.8750	**41.275** 1.6250	**286000** 64400	0.34	1.78	**74300** 16700	**42800** 9610	1.74	**560000** 126000	48684	48620
142.875 5.6250	**200.025** 7.8750	**41.275** 1.6250	**286000** 64400	0.34	1.78	**74300** 16700	**42800** 9610	1.74	**560000** 126000	48685	48620
142.875 5.6250	**222.250** 8.7500	**34.925** 1.3750	**293000** 65800	0.44	1.37	**75900** 17100	**56800** 12800	1.34	**342000** 77000	73562	73875
142.875 5.6250	**236.538** 9.3125	**57.150** 2.2500	**515000** 116000	0.44	1.36	**134000** 30000	**101000** 22700	1.32	**810000** 182000	82562A	82931
142.875 5.6250	**241.300** 9.5000	**57.150** 2.2500	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231136	HM231115
142.875 5.6250	**241.300** 9.5000	**57.150** 2.2500	**515000** 116000	0.44	1.36	**134000** 30000	**101000** 22700	1.32	**810000** 182000	82562A	82950
146.050 5.7500	**188.120** 7.4063	**22.225** 0.8750	**113000** 25400	0.38	1.57	**29300** 6590	**19200** 4310	1.53	**214000** 48200	LL529749	LL529710
146.050 5.7500	**193.675** 7.6250	**28.575** 1.1250	**196000** 44200	0.37	1.63	**50900** 11400	**32100** 7220	1.59	**394000** 88600	36690	36620
146.050 5.7500	**193.675** 7.6250	**28.575** 1.1250	**196000** 44200	0.37	1.63	**50900** 11400	**32100** 7220	1.59	**394000** 88600	36691	36620
146.050 5.7500	**203.200** 8.0000	**28.575** 1.1250	**196000** 44200	0.37	1.63	**50900** 11400	**32100** 7220	1.59	**394000** 88600	36690	36626

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

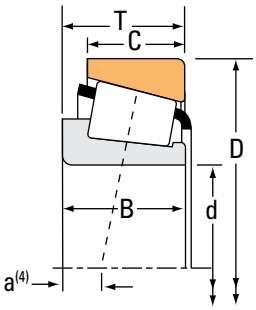
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**156.0** 6.14	**170.0** 6.69	**3.3** 0.13	**238.0** 9.37	**227.0** 8.94	**9.7** 0.38	**3.6** 0.14	555.5	73.5	0.1459	**14.02** 30.90
87.312 3.4375	**57.150** 2.2500	**-26.7** -1.05	**9.7** 0.38	**161.0** 6.34	**177.0** 6.97	**6.4** 0.25	**263.7** 10.38	**255.0** 10.04	**12.6** 0.49	**1.1** 0.05	601.3	57.7	0.1083	**23.73** 52.31
87.312 3.4375	**57.150** 2.2500	**-26.7** -1.05	**9.7** 0.38	**161.0** 6.34	**177.0** 6.97	**6.4** 0.25	**263.7** 10.38	**258.0** 10.16	**12.6** 0.49	**1.1** 0.05	601.3	57.7	0.1083	**25.03** 55.18
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**167.9** 6.61	**180.0** 7.09	**6.8** 0.27	**285.5** 11.24	**276.1** 10.87	**10.5** 0.41	**1.1** 0.05	718.4	62.1	0.1157	**31.27** 68.92
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**167.9** 6.61	**180.0** 7.09	**6.8** 0.27	**285.5** 11.24	**276.1** 10.87	**12.5** 0.49	**-0.8** -0.03	718.4	62.1	0.1157	**31.13** 68.61
27.000 1.0630	**21.000** 0.8268	**11.9** 0.47	**3.0** 0.12	**148.0** 5.83	**153.0** 6.02	**3.0** 0.12	**189.0** 7.44	**182.0** 7.17	**2.6** 0.10	**4.2** 0.17	219.5	68.2	0.1133	**2.29** 5.06
28.575 1.1250	**23.020** 0.9063	**4.8** 0.19	**1.5** 0.06	**151.0** 5.94	**153.0** 6.02	**1.5** 0.06	**188.0** 7.40	**182.0** 7.17	**1.2** 0.04	**2.7** 0.11	366.1	152.5	0.1768	**2.41** 5.31
39.688 1.5625	**34.130** 1.3437	**-3.0** -0.12	**8.0** 0.31	**151.0** 5.94	**166.0** 6.54	**3.3** 0.13	**193.0** 7.60	**185.0** 7.28	**2.8** 0.11	**2.5** 0.10	439.6	130.5	0.1261	**3.75** 8.25
39.688 1.5625	**34.130** 1.3437	**-3.0** -0.12	**3.5** 0.14	**151.0** 5.94	**158.0** 6.22	**3.3** 0.13	**193.0** 7.60	**185.0** 7.28	**2.8** 0.11	**2.5** 0.10	439.6	130.5	0.1261	**3.86** 8.50
31.623 1.2450	**23.812** 0.9375	**6.4** 0.25	**3.5** 0.14	**152.0** 5.98	**159.0** 6.26	**3.3** 0.13	**207.0** 8.15	**204.0** 8.03	**5.7** 0.22	**4.0** 0.16	244.4	82.0	0.1122	**4.11** 9.05
56.642 2.2300	**44.450** 1.7500	**-3.6** -0.14	**8.0** 0.31	**157.0** 6.18	**172.0** 6.77	**3.3** 0.13	**226.0** 8.90	**213.0** 8.39	**5.7** 0.22	**2.2** 0.09	460.5	81.1	0.1405	**9.46** 20.84
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**3.5** 0.14	**158.0** 6.22	**162.0** 6.38	**3.3** 0.13	**224.0** 8.82	**219.0** 8.62	**4.2** 0.16	**3.7** 0.15	532.8	85.9	0.1327	**10.24** 22.55
56.642 2.2300	**44.450** 1.7500	**-3.6** -0.14	**8.0** 0.31	**157.0** 6.18	**172.0** 6.77	**3.3** 0.13	**226.0** 8.90	**215.0** 8.46	**5.7** 0.22	**2.2** 0.09	460.5	81.1	0.1405	**10.08** 22.21
20.638 0.8125	**16.670** 0.6563	**9.4** 0.37	**1.5** 0.06	**152.0** 5.98	**155.0** 6.10	**1.5** 0.06	**182.0** 7.17	**179.0** 7.05	**0.4** 0.01	**1.9** 0.08	248.3	185.9	0.1557	**1.41** 3.12
28.575 1.1250	**23.020** 0.9063	**4.8** 0.19	**1.5** 0.06	**153.0** 6.02	**155.0** 6.10	**1.5** 0.06	**188.0** 7.40	**182.0** 7.17	**1.2** 0.04	**2.7** 0.11	366.1	152.5	0.1768	**2.25** 4.96
28.575 1.1250	**23.020** 0.9063	**4.8** 0.19	**4.8** 0.19	**153.0** 6.02	**162.0** 6.38	**1.5** 0.06	**188.0** 7.40	**182.0** 7.17	**1.2** 0.04	**2.7** 0.11	366.1	152.5	0.1768	**2.21** 4.87
28.575 1.1250	**23.020** 0.9063	**4.8** 0.19	**1.5** 0.06	**153.0** 6.02	**155.0** 6.10	**1.5** 0.06	**190.0** 7.48	**186.0** 7.32	**1.2** 0.04	**2.7** 0.11	366.1	152.5	0.1768	**2.78** 6.14

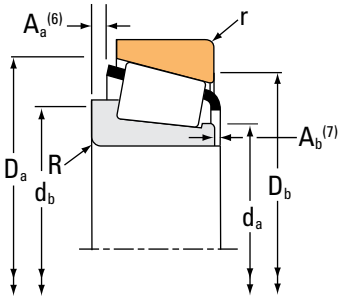
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
146.050 5.7500	**203.200** 8.0000	**45.100** 1.7756	**334000** 75000	0.33	1.80	**86500** 19400	**49200** 11100	1.76	**573000** 129000	M229349	M229310
146.050 5.7500	**203.200** 8.0000	**45.100** 1.7756	**334000** 75000	0.33	1.80	**86500** 19400	**49200** 11100	1.76	**573000** 129000	M229349A	M229310
146.050 5.7500	**236.538** 9.3125	**57.150** 2.2500	**515000** 116000	0.44	1.36	**134000** 30000	**101000** 22700	1.32	**810000** 182000	82576	82931
146.050 5.7500	**241.300** 9.5000	**57.150** 2.2500	**515000** 116000	0.44	1.36	**134000** 30000	**101000** 22700	1.32	**810000** 182000	82576	82950
146.050 5.7500	**241.300** 9.5000	**57.150** 2.2500	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231140	HM231115
146.050 5.7500	**244.475** 9.6250	**47.625** 1.8750	**402000** 90300	0.35	1.71	**104000** 23400	**62700** 14100	1.66	**595000** 134000	81575	81962
146.050 5.7500	**254.000** 10.0000	**66.675** 2.6250	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99575	99100
146.050 5.7500	**268.288** 10.5625	**74.612** 2.9375	**784000** 176000	0.39	1.55	**203000** 45700	**135000** 30300	1.51	**1170000** 263000	EE107057	107105
146.050 5.7500	**304.800** 12.0000	**60.325** 2.3750	**775000** 174000	0.33	1.80	**201000** 45200	**114000** 25700	1.76	**871000** 196000	EE750576	751200
146.050 5.7500	**304.800** 12.0000	**88.900** 3.5000	**1160000** 260000	0.73	0.82	**300000** 67500	**374000** 84100	0.80	**1250000** 282000	HH932145	HH932110
146.050 5.7500	**307.975** 12.1250	**88.900** 3.5000	**1050000** 237000	0.33	1.84	**273000** 61400	**152000** 34300	1.79	**1480000** 333000	EE450577	451212
146.050 5.7500	**307.975** 12.1250	**88.900** 3.5000	**1150000** 259000	0.33	1.84	**299000** 67200	**167000** 37500	1.79	**1580000** 354000	HH234040	HH234010
146.050 5.7500	**311.150** 12.2500	**88.900** 3.5000	**1160000** 260000	0.73	0.82	**300000** 67500	**374000** 84100	0.80	**1250000** 282000	HH932145	HH932115
149.225 5.8750	**236.538** 9.3125	**57.150** 2.2500	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231149	HM231110
149.225 5.8750	**236.538** 9.3125	**57.150** 2.2500	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231148	HM231110
149.225 5.8750	**241.300** 9.5000	**57.150** 2.2500	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231149	HM231115
149.225 5.8750	**254.000** 10.0000	**66.675** 2.6750	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99587	99100

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

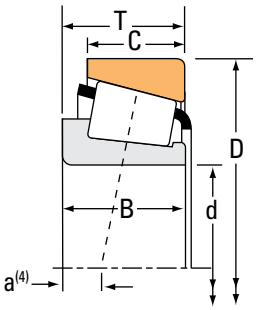
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
40.000 1.5748	**38.100** 1.5000	**-2.5** -0.10	**3.5** 0.14	**154.0** 6.06	**160.0** 6.30	**3.5** 0.14	**197.0** 7.76	**187.0** 7.36	**1.5** 0.06	**2.8** 0.11	401.6	98.0	0.1220	**4.01** 8.83
40.000 1.5748	**38.100** 1.5000	**-2.5** -0.10	**5.0** 0.20	**154.0** 6.06	**164.0** 6.46	**3.5** 0.14	**197.0** 7.76	**187.0** 7.36	**1.5** 0.06	**2.8** 0.11	401.6	98.0	0.1220	**4.00** 8.81
56.642 2.2300	**44.450** 1.7500	**-3.6** -0.14	**3.5** 0.14	**160.0** 6.30	**166.0** 6.54	**3.3** 0.13	**226.0** 8.90	**213.0** 8.39	**5.7** 0.22	**2.2** 0.09	460.5	81.1	0.1405	**9.22** 20.32
56.642 2.2300	**44.450** 1.7500	**-3.6** -0.14	**3.5** 0.14	**160.0** 6.30	**166.0** 6.54	**3.3** 0.13	**226.0** 8.90	**215.0** 8.46	**5.7** 0.22	**2.2** 0.09	460.5	81.1	0.1405	**9.84** 21.69
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**3.5** 0.14	**160.0** 6.30	**164.0** 6.46	**3.3** 0.13	**224.0** 8.82	**219.0** 8.62	**4.2** 0.16	**3.7** 0.15	532.8	85.9	0.1327	**9.92** 21.85
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**161.0** 6.34	**166.1** 6.54	**3.3** 0.13	**229.1** 9.02	**225.0** 8.86	**8.2** 0.32	**0.0** 0.00	413.0	98.4	0.1250	**8.23** 18.13
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**162.0** 6.38	**175.0** 6.89	**3.3** 0.13	**238.0** 9.37	**227.0** 8.94	**9.7** 0.38	**3.6** 0.14	555.5	73.5	0.1459	**13.28** 29.25
74.612 2.9375	**57.150** 2.2500	**-15.0** -0.59	**6.4** 0.25	**166.0** 6.54	**176.0** 6.93	**6.4** 0.25	**249.4** 9.82	**237.0** 9.33	**7.7** 0.30	**3.0** 0.12	606.1	76.3	0.1163	**17.55** 38.67
61.912 2.4375	**41.275** 1.6250	**-10.7** -0.42	**3.3** 0.13	**172.0** 6.77	**167.0** 6.57	**6.4** 0.25	**272.0** 10.71	**270.0** 10.63	**6.6** 0.26	**3.5** 0.14	431.4	54.4	0.0974	**18.90** 41.69
82.550 3.2500	**57.150** 2.2500	**1.8** 0.07	**6.4** 0.25	**171.0** 6.73	**195.0** 7.68	**6.4** 0.25	**288.0** 11.34	**260.0** 10.24	**21.4** 0.84	**8.9** 0.35	514.3	55.6	0.1333	**26.95** 59.41
93.662 3.6875	**61.912** 2.4375	**-28.2** -1.11	**9.7** 0.38	**172.0** 6.77	**185.0** 7.28	**6.9** 0.27	**274.8** 10.82	**269.0** 10.59	**17.8** 0.70	**-2.7** -0.10	747.4	76.3	0.1176	**29.38** 64.75
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**173.0** 6.81	**185.9** 7.32	**6.8** 0.27	**285.5** 11.24	**276.1** 10.87	**10.5** 0.41	**0.8** 0.04	718.4	62.1	0.1157	**30.22** 66.61
82.550 3.2500	**57.150** 2.2500	**1.8** 0.07	**6.4** 0.25	**171.0** 6.73	**195.0** 7.68	**6.4** 0.25	**288.0** 11.34	**262.0** 10.31	**21.4** 0.84	**8.9** 0.35	514.3	55.6	0.1333	**28.21** 62.19
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**3.5** 0.14	**163.0** 6.42	**167.0** 6.57	**3.3** 0.13	**224.0** 8.82	**217.0** 8.54	**4.2** 0.16	**3.7** 0.15	532.8	85.9	0.1327	**8.97** 19.76
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**6.4** 0.25	**163.0** 6.42	**172.0** 6.77	**3.3** 0.13	**224.0** 8.82	**217.0** 8.54	**4.2** 0.16	**3.7** 0.15	532.8	85.9	0.1327	**8.92** 19.64
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**3.5** 0.14	**163.0** 6.42	**167.0** 6.57	**3.3** 0.13	**224.0** 8.82	**219.0** 8.62	**4.2** 0.16	**3.7** 0.15	532.8	85.9	0.1327	**9.59** 21.13
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**170.0** 6.69	**181.0** 7.13	**3.3** 0.13	**238.0** 9.37	**227.0** 8.94	**9.7** 0.38	**3.6** 0.14	555.5	73.5	0.1459	**12.94** 28.51

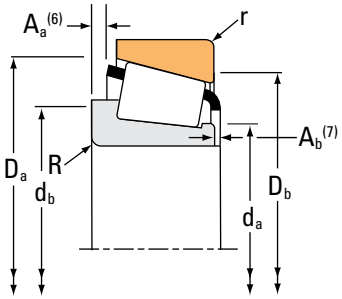
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
150.000 5.9055	**203.200** 8.0000	**28.575** 1.1250	**194000** 43500	0.46	1.31	**50200** 11300	**39400** 8860	1.27	**339000** 76100	JL730646	L730610
150.000 5.9055	**205.000** 8.0709	**28.575** 1.1250	**183000** 41100	0.46	1.31	**47400** 10700	**37200** 8370	1.27	**339000** 76100	JL730646	JL730612
150.000 5.9055	**244.475** 9.6250	**47.625** 1.8750	**402000** 90300	0.35	1.71	**104000** 23400	**62700** 14100	1.66	**595000** 134000	81590	81962
150.000 5.9055	**245.000** 9.6457	**47.625** 1.8750	**402000** 90300	0.35	1.71	**104000** 23400	**62700** 14100	1.66	**595000** 134000	81590	81964
150.812 5.9375	**244.475** 9.6250	**47.625** 1.8750	**402000** 90300	0.35	1.71	**104000** 23400	**62700** 14100	1.66	**595000** 134000	81593	81962
152.400 6.0000	**192.088** 7.5625	**25.000** 0.9843	**143000** 32000	0.42	1.44	**37000** 8310	**26300** 5920	1.40	**277000** 62200	L630349	L630310
152.400 6.0000	**203.200** 8.0000	**28.575** 1.1250	**194000** 43500	0.46	1.31	**50200** 11300	**39400** 8860	1.27	**339000** 76100	L730649	L730610
152.400 6.0000	**203.200** 8.0000	**41.275** 1.6250	**283000** 63700	0.35	1.73	**73400** 16500	**43700** 9810	1.68	**556000** 125000	LM330448	LM330410
152.400 6.0000	**222.250** 8.7500	**46.830** 1.8437	**377000** 84600	0.33	1.80	**97600** 21900	**55600** 12500	1.76	**668000** 150000	M231649	M231610
152.400 6.0000	**244.475** 9.6250	**47.625** 1.8750	**402000** 90300	0.35	1.71	**104000** 23400	**62700** 14100	1.66	**595000** 134000	81600	81962
152.400 6.0000	**249.975** 9.8415	**66.675** 2.6250	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99600	99097
152.400 6.0000	**250.000** 9.8425	**66.675** 2.6250	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99600	99098X
152.400 6.0000	**254.000** 10.0000	**66.675** 2.6250	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99600	99100
152.400 6.0000	**268.288** 10.5625	**74.612** 2.9375	**784000** 176000	0.39	1.55	**203000** 45700	**135000** 30300	1.51	**1170000** 263000	EE107060	107105
152.400 6.0000	**285.750** 11.2500	**76.200** 3.0000	**715000** 161000	0.40	1.49	**185000** 41700	**128000** 28700	1.45	**1060000** 237000	EE217060	217112
152.400 6.0000	**307.975** 12.1250	**88.900** 3.5000	**1050000** 237000	0.33	1.84	**273000** 61400	**152000** 34300	1.79	**1480000** 333000	EE450601	451212
152.400 6.0000	**307.975** 12.1250	**88.900** 3.5000	**1220000** 274000	0.33	1.84	**316000** 71100	**177000** 39700	1.79	**1580000** 354000	HH234049	HH234010

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

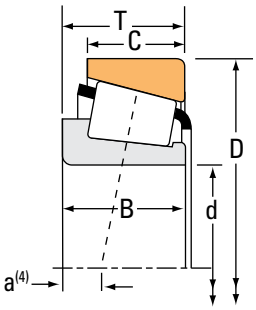
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
28.575 1.1250	**21.438** 0.8440	**11.4** 0.45	**3.3** 0.13	**158.0** 6.22	**164.0** 6.46	**3.3** 0.13	**198.0** 7.80	**190.0** 7.48	**2.4** 0.09	**1.5** 0.06	295.2	103.6	0.1763	**2.48** 5.48
28.575 1.1250	**21.438** 0.8440	**11.4** 0.45	**3.3** 0.13	**158.0** 6.22	**164.0** 6.46	**3.3** 0.13	**198.0** 7.80	**190.0** 7.48	**2.4** 0.09	**1.5** 0.06	295.2	103.6	0.1763	**2.61** 5.76
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**163.1** 6.42	**168.9** 6.65	**3.3** 0.13	**229.1** 9.02	**225.0** 8.86	**8.2** 0.32	* *	413.0	98.4	0.1250	**7.91** 17.43
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**163.1** 6.42	**168.9** 6.65	**3.3** 0.13	**229.1** 9.02	**225.0** 8.86	**8.2** 0.32	* *	413.0	98.4	0.1250	**7.93** 17.47
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**164.1** 6.46	**168.9** 6.65	**3.3** 0.13	**229.1** 9.02	**225.0** 8.86	**8.2** 0.32	* *	413.0	98.4	0.1250	**7.84** 17.28
24.000 0.9449	**19.000** 0.7480	**10.2** 0.40	**2.0** 0.08	**158.0** 6.22	**162.0** 6.38	**2.0** 0.08	**187.0** 7.36	**183.0** 7.20	**1.9** 0.07	**2.6** 0.10	293.3	163.8	0.1698	**1.56** 3.44
28.575 1.1250	**21.438** 0.8440	**11.4** 0.45	**3.3** 0.13	**160.0** 6.30	**165.0** 6.50	**3.3** 0.13	**198.0** 7.80	**190.0** 7.48	**2.4** 0.09	**1.5** 0.06	295.2	103.6	0.1763	**2.35** 5.18
41.275 1.6250	**34.925** 1.3750	**-1.8** -0.07	**3.3** 0.13	**162.0** 6.37	**166.0** 6.54	**3.3** 0.13	**197.0** 7.76	**189.0** 7.44	**2.9** 0.11	**0.9** 0.04	456.5	134.8	0.1289	**3.53** 7.79
46.830 1.8437	**34.925** 1.3750	**-6.1** -0.24	**3.5** 0.14	**163.0** 6.42	**169.0** 6.65	**1.5** 0.06	**213.0** 8.39	**207.0** 8.15	**5.3** 0.21	**2.3** 0.09	486.5	120.1	0.1300	**5.72** 12.63
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**165.0** 6.50	**170.9** 6.73	**3.3** 0.13	**229.1** 9.02	**225.0** 8.86	**8.2** 0.32	* *	413.0	98.4	0.1250	**7.68** 16.91
66.675 2.6250	**53.400** 2.1024	**-12.2** -0.48	**7.0** 0.28	**169.7** 6.68	**181.0** 7.13	**3.0** 0.12	**240.0** 9.45	**226.0** 8.90	**9.7** 0.38	**3.6** 0.14	555.5	73.5	0.1459	**12.09** 26.66
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**169.7** 6.68	**181.0** 7.13	**3.3** 0.13	**238.0** 9.37	**226.0** 8.90	**9.7** 0.38	**3.6** 0.14	555.5	73.5	0.1459	**11.87** 26.17
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**169.7** 6.68	**181.0** 7.13	**3.3** 0.13	**238.0** 9.37	**227.0** 8.94	**9.7** 0.38	**3.6** 0.14	555.5	73.5	0.1459	**12.49** 27.53
74.612 2.9375	**57.150** 2.2500	**-15.0** -0.59	**6.4** 0.25	**171.0** 6.73	**181.0** 7.13	**6.4** 0.25	**249.4** 9.82	**237.0** 9.33	**7.7** 0.30	**3.0** 0.12	606.1	76.3	0.1163	**16.68** 36.75
73.025 2.8750	**55.562** 2.1875	**-15.0** -0.59	**1.5** 0.06	**170.9** 6.73	**170.9** 6.73	**6.4** 0.25	**260.4** 10.25	**251.0** 9.88	**14.9** 0.58	**1.7** 0.07	556.3	71.8	0.1140	**19.35** 42.73
93.662 3.6875	**61.912** 2.4375	**-28.2** -1.11	**9.7** 0.38	**177.0** 6.97	**189.0** 7.44	**6.9** 0.27	**274.8** 10.82	**269.0** 10.59	**17.8** 0.70	**-2.7** -0.10	747.4	76.3	0.1176	**28.40** 62.59
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**179.1** 7.05	**191.0** 7.52	**6.8** 0.27	**285.5** 11.24	**276.1** 10.87	**10.5** 0.41	**0.8** 0.04	718.4	62.1	0.1157	**29.12** 64.18

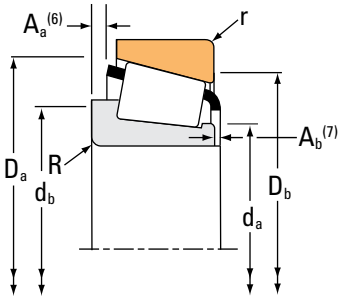
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
152.400 6.0000	**307.975** 12.1250	**88.900** 3.5000	**1150000** 259000	0.33	1.84	**299000** 67200	**167000** 37500	1.79	**1580000** 354000	HH234048	HH234010
152.400 6.0000	**317.500** 12.5000	**88.900** 3.5000	**1220000** 274000	0.33	1.84	**316000** 71100	**177000** 39700	1.79	**1580000** 354000	HH234049	HH234018
155.575 6.1250	**330.200** 13.0000	**85.725** 3.3750	**1230000** 276000	0.81	0.74	**319000** 71600	**441000** 99200	0.72	**1400000** 316000	H936340	H936310
155.575 6.1250	**336.550** 13.2500	**85.725** 3.3750	**1230000** 276000	0.81	0.74	**319000** 71600	**441000** 99200	0.72	**1400000** 316000	H936340	H936313
155.575 6.1250	**342.900** 13.5000	**85.725** 3.3750	**1230000** 276000	0.81	0.74	**319000** 71600	**441000** 99200	0.72	**1400000** 316000	H936340	H936316
158.750 6.2500	**205.583** 8.0938	**23.812** 0.9375	**147000** 33000	0.37	1.61	**38100** 8560	**24300** 5470	1.57	**280000** 63000	L432348	L432310
158.750 6.2500	**225.425** 8.8750	**41.275** 1.6250	**303000** 68200	0.38	1.57	**78600** 17700	**51600** 11600	1.52	**635000** 143000	46780	46720
158.750 6.2500	**285.750** 11.2500	**76.200** 3.0000	**715000** 161000	0.40	1.49	**185000** 41700	**128000** 28700	1.45	**1060000** 237000	EE217062X	217112
158.750 6.2500	**304.800** 12.0000	**66.675** 2.6250	**603000** 136000	0.36	1.67	**156000** 35100	**96400** 21700	1.62	**867000** 195000	EE280626	281200
159.950 6.2973	**244.475** 9.6250	**47.625** 1.8750	**402000** 90300	0.35	1.71	**104000** 23400	**62700** 14100	1.66	**595000** 134000	81629	81962
159.950 6.2973	**244.475** 9.6250	**47.625** 1.8750	**402000** 90300	0.35	1.71	**104000** 23400	**62700** 14100	1.66	**595000** 134000	81630	81962
160.000 6.2992	**240.000** 9.4488	**46.000** 1.8110	**401000** 90200	0.44	1.37	**104000** 23400	**77900** 17500	1.34	**759000** 171000	JM734445	JM734410
160.325 6.3120	**288.925** 11.3750	**63.500** 2.5000	**976000** 219000	0.32	1.88	**253000** 56900	**138000** 31100	1.83	**1240000** 278000	HM237532	HM237510
165.100 6.5000	**215.900** 8.5000	**26.195** 1.0313	**179000** 40200	0.36	1.65	**46300** 10400	**28900** 6500	1.60	**335000** 75300	L433749	L433710
165.100 6.5000	**225.425** 8.8750	**41.275** 1.6250	**303000** 68200	0.38	1.57	**78600** 17700	**51600** 11600	1.52	**635000** 143000	46790	46720
165.100 6.5000	**225.425** 8.8750	**41.275** 1.6250	**303000** 68200	0.38	1.57	**78600** 17700	**51600** 11600	1.52	**635000** 143000	46790A	46720
165.100 6.5000	**247.650** 9.7500	**47.625** 1.8750	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67780	67720

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

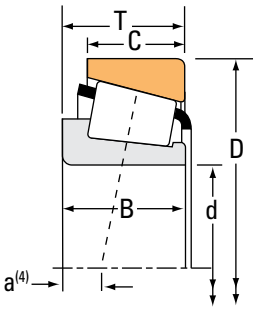
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**179.0** 7.05	**191.0** 7.52	**6.8** 0.27	**285.5** 11.24	**276.1** 10.87	**12.5** 0.49	**-0.8** -0.03	718.4	62.1	0.1157	**28.98** 63.88
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**179.1** 7.05	**191.0** 7.52	**6.8** 0.27	**285.5** 11.24	**279.9** 11.02	**10.5** 0.41	**0.8** 0.04	718.4	62.1	0.1157	**31.42** 69.26
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.4** 7.58	**209.0** 8.23	**6.4** 0.25	**311.4** 12.26	**282.0** 11.10	**18.4** 0.72	**9.2** 0.37	637.7	69.1	0.1475	**31.74** 69.97
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.4** 7.58	**209.0** 8.23	**6.4** 0.25	**311.0** 12.24	**285.0** 11.22	**18.4** 0.72	**9.2** 0.37	637.7	69.1	0.1475	**33.15** 73.07
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.4** 7.58	**209.0** 8.23	**6.4** 0.25	**311.4** 12.26	**287.0** 11.30	**18.4** 0.72	**9.2** 0.37	637.7	69.1	0.1475	**34.46** 75.96
23.812 0.9375	**18.258** 0.7188	**9.4** 0.37	**4.8** 0.19	**166.0** 6.54	**174.0** 6.85	**1.5** 0.06	**199.0** 7.83	**195.0** 7.68	**2.0** 0.08	**1.2** 0.05	319.5	177.3	0.1683	**1.86** 4.10
39.688 1.5625	**33.338** 1.3125	**2.5** 0.10	**3.5** 0.14	**169.0** 6.65	**176.0** 6.93	**3.3** 0.13	**218.0** 8.58	**209.0** 8.23	**3.9** 0.15	**2.0** 0.08	572.0	174.7	0.1432	**5.15** 11.37
73.025 2.8750	**55.562** 2.1875	**-15.0** -0.59	**13.5** 0.53	**176.0** 6.93	**200.0** 7.87	**6.4** 0.25	**260.4** 10.25	**251.0** 9.88	**14.9** 0.58	**1.7** 0.07	556.3	71.8	0.1140	**18.42** 40.61
69.106 2.7207	**42.862** 1.6875	**-12.2** -0.48	**6.4** 0.25	**180.0** 7.09	**192.0** 7.56	**3.3** 0.13	**282.5** 11.12	**279.0** 10.98	**15.1** 0.59	**0.9** 0.04	591.3	86.0	0.1115	**19.79** 43.62
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**165.0** 6.50	**176.0** 6.93	**3.3** 0.13	**229.1** 9.02	**225.0** 8.86	**8.2** 0.32	**0.0** 0.00	413.0	98.4	0.1250	**7.06** 15.56
46.830 1.8437	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**170.9** 6.73	**176.0** 6.93	**3.3** 0.13	**229.1** 9.02	**225.0** 8.86	**8.2** 0.32	**3.1** 0.13	413.0	98.4	0.1250	**6.92** 15.25
44.500 1.7520	**37.000** 1.4567	**5.1** 0.20	**3.0** 0.12	**173.0** 6.81	**178.0** 7.01	**2.5** 0.10	**232.0** 9.13	**222.0** 8.74	**2.6** 0.10	**4.1** 0.16	548.5	117.5	0.1164	**7.14** 15.73
63.500 2.5000	**47.625** 1.8750	**-11.7** -0.46	**7.0** 0.28	**181.0** 7.13	**192.0** 7.56	**3.3** 0.13	**271.3** 10.68	**266.0** 10.47	**5.8** 0.23	**4.1** 0.16	751.2	101.5	0.1168	**17.47** 38.53
26.195 1.0313	**20.638** 0.8125	**8.6** 0.34	**1.5** 0.06	**172.0** 6.77	**174.0** 6.85	**1.5** 0.06	**209.0** 8.23	**205.0** 8.07	**2.4** 0.09	**1.5** 0.06	365.1	168.0	0.1748	**2.36** 5.19
39.688 1.5625	**33.338** 1.3125	**2.5** 0.10	**3.5** 0.14	**174.0** 6.85	**181.0** 7.13	**3.3** 0.13	**218.0** 8.58	**209.0** 8.23	**3.9** 0.15	**2.0** 0.08	572.0	174.7	0.1432	**4.64** 10.23
39.688 1.5625	**33.338** 1.3125	**2.5** 0.10	**8.0** 0.31	**174.0** 6.85	**189.0** 7.44	**3.3** 0.13	**218.0** 8.58	**209.0** 8.23	**3.9** 0.15	**2.0** 0.08	572.0	174.7	0.1432	**4.53** 10.00
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**3.5** 0.14	**179.0** 7.05	**185.0** 7.28	**3.3** 0.13	**240.0** 9.45	**229.0** 9.02	**4.8** 0.19	**1.8** 0.07	622.3	122.6	0.1214	**7.96** 17.56

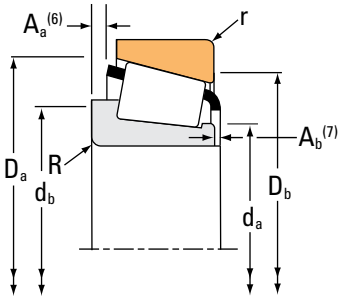
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
165.100 6.5000	**254.000** 10.0000	**46.038** 1.8125	**498000** 112000	0.37	1.62	**129000** 29000	**81600** 18300	1.58	**644000** 145000	86650	86100
165.100 6.5000	**288.925** 11.3750	**63.500** 2.5000	**660000** 148000	0.47	1.28	**171000** 38500	**137000** 30800	1.25	**1070000** 242000	94649	94113
165.100 6.5000	**288.925** 11.3750	**63.500** 2.5000	**976000** 219000	0.32	1.88	**253000** 56900	**138000** 31100	1.83	**1240000** 278000	HM237535	HM237510
165.100 6.5000	**288.925** 11.3750	**63.500** 2.5000	**976000** 219000	0.32	1.88	**253000** 56900	**138000** 31100	1.83	**1240000** 278000	HM237536	HM237510
165.100 6.5000	**298.450** 11.7500	**82.550** 3.2500	**927000** 208000	0.38	1.59	**240000** 54000	**155000** 34900	1.55	**1520000** 341000	EE219065	219117
165.100 6.5000	**311.150** 12.2500	**82.550** 3.2500	**927000** 208000	0.38	1.59	**240000** 54000	**155000** 34900	1.55	**1520000** 341000	EE219065	219122
165.100 6.5000	**311.150** 12.2500	**82.550** 3.2500	**1060000** 238000	0.33	1.81	**274000** 61600	**155000** 34900	1.77	**1680000** 378000	H238140	H238110
165.100 6.5000	**336.550** 13.2500	**92.075** 3.6250	**1660000** 372000	0.37	1.62	**429000** 96500	**273000** 61400	1.57	**1930000** 434000	HH437549	HH437510
165.100 6.5000	**361.950** 14.2500	**106.362** 4.1875	**1450000** 325000	0.33	1.79	**375000** 84200	**215000** 48300	1.74	**1950000** 439000	EE108065	108142
165.100 6.5000	**365.049** 14.3720	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420651	421437
166.688 6.5625	**225.425** 8.8750	**41.275** 1.6250	**303000** 68200	0.38	1.57	**78600** 17700	**51600** 11600	1.52	**635000** 143000	46792	46720
168.275 6.6250	**247.650** 9.7500	**47.625** 1.8750	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67782	67720
168.275 6.6250	**330.200** 13.0000	**85.725** 3.3750	**1230000** 276000	0.81	0.74	**319000** 71600	**441000** 99200	0.72	**1400000** 316000	H936349	H936310
168.275 6.6250	**342.900** 13.5000	**85.725** 3.3750	**1230000** 276000	0.81	0.74	**319000** 71600	**441000** 99200	0.72	**1400000** 316000	H936349	H936316
170.000 6.6929	**230.000** 9.0551	**39.000** 1.5354	**316000** 71100	0.38	1.57	**82000** 18400	**53800** 12100	1.52	**590000** 133000	JHM534149	JHM534110
170.000 6.6929	**240.000** 9.4488	**46.000** 1.8110	**401000** 90200	0.44	1.37	**104000** 23400	**77900** 17500	1.34	**759000** 171000	JM734449	JM734410
170.000 6.6929	**254.000** 10.0000	**46.038** 1.8125	**498000** 112000	0.37	1.62	**129000** 29000	**81600** 18300	1.58	**644000** 145000	86669	86100

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

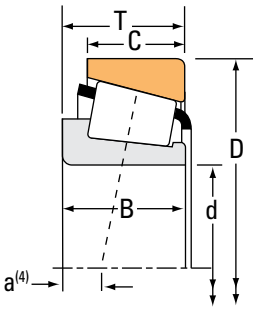
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
46.038 1.8125	**33.338** 1.3125	**-1.5** -0.06	**4.8** 0.19	**176.0** 6.93	**185.0** 7.28	**3.3** 0.13	**239.0** 9.41	**234.0** 9.21	**6.8** 0.27	**2.0** 0.08	466.3	111.9	0.1041	**7.58** 16.72
63.500 2.5000	**47.625** 1.8750	**-0.8** -0.03	**7.0** 0.28	**186.0** 7.32	**197.0** 7.76	**3.3** 0.13	**272.0** 10.71	**259.0** 10.20	**6.8** 0.26	**5.3** 0.21	692.3	93.9	0.1287	**17.11** 37.71
63.500 2.5000	**47.625** 1.8750	**-11.7** -0.46	**7.0** 0.28	**184.0** 7.24	**195.0** 7.68	**3.3** 0.13	**271.3** 10.68	**266.0** 10.47	**5.8** 0.23	**4.1** 0.16	751.2	101.5	0.1168	**16.86** 37.18
63.500 2.5000	**47.625** 1.8750	**-11.7** -0.46	**7.0** 0.28	**187.0** 7.36	**195.0** 7.68	**3.3** 0.13	**271.3** 10.68	**266.0** 10.47	**5.8** 0.23	**4.1** 0.16	751.2	101.5	0.1168	**16.78** 37.01
82.550 3.2500	**63.500** 2.5000	**-15.2** -0.60	**6.4** 0.25	**185.0** 7.28	**196.0** 7.72	**6.4** 0.25	**282.0** 11.10	**269.0** 10.59	**9.9** 0.39	**0.3** 0.01	841.4	94.9	0.1286	**23.83** 52.54
82.550 3.2500	**63.500** 2.5000	**-15.2** -0.60	**6.4** 0.25	**185.0** 7.28	**196.0** 7.72	**6.4** 0.25	**282.0** 11.10	**275.0** 10.83	**9.9** 0.39	**0.3** 0.01	841.4	94.9	0.1286	**26.95** 59.41
82.550 3.2500	**65.088** 2.5625	**-18.5** -0.73	**6.4** 0.25	**188.0** 7.40	**198.0** 7.80	**6.4** 0.25	**289.0** 11.36	**280.0** 11.02	**8.2** 0.32	**2.2** 0.09	913.6	92.2	0.1265	**27.34** 60.28
95.250 3.7500	**69.850** 2.7500	**-21.3** -0.84	**3.3** 0.13	**196.0** 7.72	**196.0** 7.72	**6.4** 0.25	**307.7** 12.12	**297.0** 11.69	**11.7** 0.46	**1.0** 0.04	909.5	75.1	0.1310	**37.31** 82.25
104.775 4.1250	**76.200** 3.0000	**-32.8** -1.29	**13.5** 0.53	**194.0** 7.64	**215.0** 8.46	**3.3** 0.13	**328.9** 12.95	**323.0** 12.72	**16.8** 0.66	**5.6** 0.22	941.7	71.4	0.1274	**49.11** 108.30
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**9.7** 0.38	**199.0** 7.83	**215.0** 8.46	**3.3** 0.13	**334.4** 13.16	**329.0** 12.95	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**44.51** 98.14
39.688 1.5625	**33.338** 1.3125	**2.5** 0.10	**3.5** 0.14	**175.0** 6.89	**182.0** 7.17	**3.3** 0.13	**218.0** 8.58	**209.0** 8.23	**3.9** 0.15	**2.0** 0.08	572.0	174.7	0.1432	**4.53** 9.98
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**3.5** 0.14	**181.0** 7.13	**187.0** 7.36	**3.3** 0.13	**240.0** 9.45	**229.0** 9.02	**4.8** 0.19	**1.8** 0.07	622.3	122.6	0.1214	**7.65** 16.88
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.4** 7.58	**218.0** 8.58	**6.4** 0.25	**311.4** 12.26	**282.0** 11.10	**18.4** 0.72	**9.2** 0.37	637.7	69.1	0.1475	**29.73** 65.53
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.4** 7.58	**218.0** 8.58	**6.4** 0.25	**311.4** 12.26	**287.0** 11.30	**18.4** 0.72	**9.2** 0.37	637.7	69.1	0.1475	**32.45** 71.53
38.000 1.4961	**31.000** 1.2205	**4.6** 0.18	**3.0** 0.12	**178.0** 7.01	**184.0** 7.24	**2.5** 0.10	**224.0** 8.82	**217.0** 8.54	**1.0** 0.04	**3.4** 0.14	479.6	89.8	0.1350	**4.30** 9.46
44.500 1.7520	**37.000** 1.4567	**5.1** 0.20	**3.0** 0.12	**180.0** 7.09	**185.0** 7.28	**2.5** 0.10	**232.0** 9.13	**222.0** 8.74	**2.6** 0.10	**4.1** 0.16	548.5	117.5	0.1164	**6.25** 13.76
46.038 1.8125	**33.338** 1.3125	**-1.5** -0.06	**4.8** 0.19	**180.0** 7.09	**189.0** 7.44	**3.3** 0.13	**239.0** 9.41	**234.0** 9.21	**6.8** 0.27	**2.0** 0.08	466.3	111.9	0.1041	**7.12** 15.69

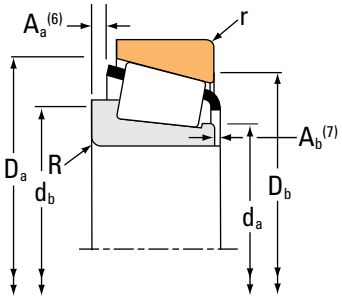
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
170.000 6.6929	**254.000** 10.0000	**46.038** 1.8125	**513000** 115000	0.32	1.88	**133000** 29900	**72600** 16300	1.83	**740000** 166000	M235149	M235113
171.450 6.7500	**260.350** 10.2500	**66.675** 2.6250	**654000** 147000	0.40	1.49	**169000** 38100	**117000** 26200	1.45	**1180000** 265000	HM535349	HM535310
174.625 6.8750	**247.650** 9.7500	**47.625** 1.8750	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67787	67720
174.625 6.8750	**247.650** 9.7500	**47.625** 1.8750	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67786	67720
174.625 6.8750	**260.350** 10.2500	**53.975** 2.1250	**537000** 121000	0.33	1.80	**139000** 31300	**79200** 17800	1.76	**933000** 210000	M236845	M236810
174.625 6.8750	**288.925** 11.3750	**63.500** 2.5000	**660000** 148000	0.47	1.28	**171000** 38500	**137000** 30800	1.25	**1070000** 242000	94687	94113
174.625 6.8750	**298.450** 11.7500	**82.550** 3.2500	**927000** 208000	0.38	1.59	**240000** 54000	**155000** 34900	1.55	**1520000** 341000	EE219068	219117
174.625 6.8750	**311.150** 12.2500	**82.550** 3.2500	**927000** 208000	0.38	1.59	**240000** 54000	**155000** 34900	1.55	**1520000** 341000	EE219068	219122
174.625 6.8750	**311.150** 12.2500	**82.550** 3.2500	**1120000** 252000	0.33	1.81	**290000** 65200	**164000** 36900	1.77	**1680000** 378000	H238148	H238110
177.800 7.0000	**215.900** 8.5000	**20.638** 0.8125	**122000** 27500	0.45	1.33	**31700** 7130	**24500** 5500	1.30	**252000** 56600	LL735449	LL735410
177.800 7.0000	**247.650** 9.7500	**47.625** 1.8750	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67790	67720
177.800 7.0000	**247.650** 9.7500	**47.625** 1.8750	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67791	67720
177.800 7.0000	**260.350** 10.2500	**53.975** 2.1250	**537000** 121000	0.33	1.80	**139000** 31300	**79200** 17800	1.76	**933000** 210000	M236849	M236810
177.800 7.0000	**260.350** 10.2500	**53.975** 2.1250	**537000** 121000	0.33	1.80	**139000** 31300	**79200** 17800	1.76	**933000** 210000	M236848	M236810
177.800 7.0000	**269.875** 10.6250	**55.562** 2.1875	**508000** 114000	0.33	1.80	**132000** 29600	**74900** 16800	1.76	**999000** 225000	M238840	M238810
177.800 7.0000	**288.925** 11.3750	**63.500** 2.5000	**660000** 148000	0.47	1.28	**171000** 38500	**137000** 30800	1.25	**1070000** 242000	94700	94113
177.800 7.0000	**288.925** 11.3750	**63.500** 2.5000	**976000** 219000	0.32	1.88	**253000** 56900	**138000** 31100	1.83	**1240000** 278000	HM237545	HM237510

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

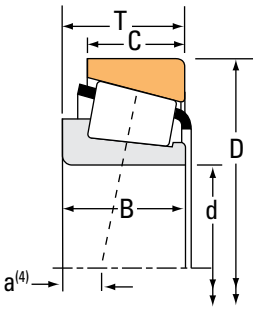
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
46.038 1.8125	**33.338** 1.3125	**-4.6** -0.18	**4.8** 0.19	**182.0** 7.17	**189.0** 7.44	**3.3** 0.13	**240.0** 9.45	**235.0** 9.25	**4.8** 0.19	**3.0** 0.12	531.4	107.5	0.1037	**7.33** 16.14
66.675 2.6250	**52.388** 2.0625	**-8.6** -0.34	**3.5** 0.14	**186.1** 7.40	**192.0** 7.56	**3.3** 0.13	**250.0** 9.84	**236.0** 9.29	**6.0** 0.23	**2.2** 0.09	749.5	115.6	0.1263	**12.20** 26.90
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**3.5** 0.14	**185.0** 7.28	**192.0** 7.56	**3.3** 0.13	**240.0** 9.45	**229.0** 9.02	**4.8** 0.19	**1.8** 0.07	622.3	122.6	0.1214	**7.01** 15.47
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**8.0** 0.31	**185.0** 7.28	**200.0** 7.87	**3.3** 0.13	**240.0** 9.45	**229.0** 9.02	**4.8** 0.19	**1.8** 0.07	622.3	122.6	0.1214	**6.97** 15.37
53.975 2.1250	**41.275** 1.6250	**-6.6** -0.26	**3.5** 0.14	**189.0** 7.44	**193.0** 7.60	**3.3** 0.13	**249.0** 9.80	**241.0** 9.49	**4.6** 0.18	**3.3** 0.13	690.9	100.2	0.1150	**9.46** 20.84
63.500 2.5000	**47.625** 1.8750	**-0.8** -0.03	**7.0** 0.28	**193.0** 7.60	**204.0** 8.03	**3.3** 0.13	**272.0** 10.71	**259.0** 10.20	**6.8** 0.26	**5.3** 0.21	692.3	93.9	0.1287	**15.78** 34.77
82.550 3.2500	**63.500** 2.5000	**-15.2** -0.60	**6.4** 0.25	**193.0** 7.60	**204.0** 8.03	**6.4** 0.25	**282.0** 11.10	**269.0** 10.59	**9.9** 0.39	**0.3** 0.01	841.4	94.9	0.1286	**22.18** 48.91
82.550 3.2500	**63.500** 2.5000	**-15.2** -0.60	**6.4** 0.25	**193.0** 7.60	**204.0** 8.03	**6.4** 0.25	**282.0** 11.10	**275.0** 10.83	**9.9** 0.39	**0.3** 0.01	841.4	94.9	0.1286	**25.30** 55.78
82.550 3.2500	**65.088** 2.5625	**-18.5** -0.73	**6.4** 0.25	**195.0** 7.68	**205.0** 8.07	**6.4** 0.25	**289.0** 11.36	**280.0** 11.02	**8.2** 0.32	**2.2** 0.09	913.6	92.2	0.1265	**25.70** 56.66
20.638 0.8125	**15.083** 0.5938	**17.8** 0.70	**1.5** 0.06	**184.0** 7.24	**186.0** 7.32	**1.5** 0.06	**212.0** 8.35	**207.0** 8.15	**1.2** 0.05	**1.6** 0.07	345.8	240.8	0.1825	**1.43** 3.14
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**3.5** 0.14	**188.0** 7.40	**194.0** 7.64	**3.3** 0.13	**240.0** 9.45	**229.0** 9.02	**4.8** 0.19	**1.8** 0.07	622.3	122.6	0.1214	**6.69** 14.75
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**10.5** 0.41	**188.0** 7.40	**208.0** 8.19	**3.3** 0.13	**240.0** 9.45	**229.0** 9.02	**4.8** 0.19	**1.8** 0.07	622.3	122.6	0.1214	**6.59** 14.54
53.975 2.1250	**41.275** 1.6250	**-6.6** -0.26	**3.5** 0.14	**191.0** 7.52	**195.0** 7.68	**3.3** 0.13	**249.0** 9.80	**241.0** 9.49	**4.6** 0.18	**3.3** 0.13	690.9	100.2	0.1150	**9.10** 20.06
53.975 2.1250	**41.275** 1.6250	**-6.6** -0.26	**8.0** 0.31	**191.0** 7.52	**204.0** 8.03	**3.3** 0.13	**249.0** 9.80	**241.0** 9.49	**4.6** 0.18	**3.3** 0.13	690.9	100.2	0.1150	**9.06** 19.96
55.562 2.1875	**42.862** 1.6875	**-6.1** -0.24	**3.5** 0.14	**194.0** 7.64	**198.0** 7.80	**3.3** 0.13	**256.0** 10.08	**250.0** 9.84	**5.8** 0.23	**2.1** 0.09	788.3	118.1	0.1201	**11.00** 24.26
63.500 2.5000	**47.625** 1.8750	**-0.8** -0.03	**7.0** 0.28	**195.0** 7.68	**207.0** 8.15	**3.3** 0.13	**272.0** 10.71	**259.0** 10.20	**6.8** 0.26	**5.3** 0.21	692.3	93.9	0.1287	**15.40** 33.95
63.500 2.5000	**47.625** 1.8750	**-11.7** -0.46	**7.0** 0.28	**194.0** 7.64	**205.0** 8.07	**3.3** 0.13	**271.3** 10.68	**266.0** 10.47	**5.8** 0.23	**4.1** 0.16	751.2	101.5	0.1168	**15.15** 33.43

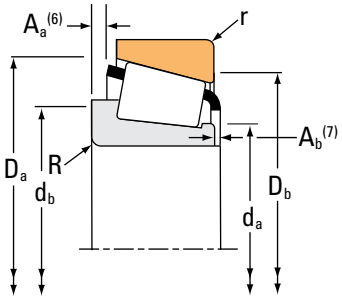
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
177.800 7.0000	**298.450** 11.7500	**63.500** 2.5000	**660000** 148000	0.47	1.28	**171000** 38500	**137000** 30800	1.25	**1070000** 242000	94700	94118
177.800 7.0000	**319.964** 12.5970	**88.900** 3.5000	**1050000** 236000	0.32	1.88	**272000** 61100	**148000** 33400	1.83	**1580000** 356000	H239640	H239610
177.800 7.0000	**320.675** 12.6250	**88.900** 3.5000	**1050000** 236000	0.32	1.88	**272000** 61100	**148000** 33400	1.83	**1580000** 356000	H239640	H239612
177.800 7.0000	**327.025** 12.8750	**90.488** 3.5625	**1020000** 229000	0.37	1.64	**264000** 59200	**165000** 37100	1.60	**1580000** 354000	EE470078X	470128
177.800 7.0000	**330.200** 13.0000	**90.488** 3.5625	**1020000** 229000	0.37	1.64	**264000** 59200	**165000** 37100	1.60	**1580000** 354000	EE470078X	470130
177.800 7.0000	**330.200** 13.0000	**90.488** 3.5625	**1020000** 229000	0.37	1.64	**264000** 59200	**165000** 37100	1.60	**1580000** 354000	EE470073	470130
177.800 7.0000	**336.550** 13.2500	**90.488** 3.5625	**1020000** 229000	0.37	1.64	**264000** 59200	**165000** 37100	1.60	**1580000** 354000	EE470073	470132
177.800 7.0000	**355.600** 14.0000	**61.912** 2.4375	**876000** 197000	0.40	1.50	**227000** 51100	**155000** 34900	1.46	**1080000** 243000	EE780705	781400
177.800 7.0000	**360.000** 14.1732	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420701	421417
177.800 7.0000	**365.049** 14.3720	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420701	421437
177.800 7.0000	**368.300** 14.5000	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420701	421450
177.800 7.0000	**428.625** 16.8750	**106.362** 4.1875	**1500000** 338000	0.76	0.79	**390000** 87600	**506000** 114000	0.77	**1700000** 382000	EE350701	351687
179.975 7.0856	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93708	93125
180.000 7.0866	**250.000** 9.8425	**47.000** 1.8504	**409000** 92000	0.48	1.25	**106000** 23800	**87200** 19600	1.22	**786000** 177000	JM736149	JM736110
180.000 7.0866	**250.000** 9.8425	**47.000** 1.8504	**409000** 92000	0.48	1.25	**106000** 23800	**87200** 19600	1.22	**786000** 177000	JM736149A	JM736110
184.150 7.2500	**234.950** 9.2500	**34.000** 1.3386	**284000** 63800	0.33	1.79	**73600** 16500	**42200** 9480	1.74	**550000** 124000	LM236749	LM236710
184.150 7.2500	**235.229** 9.2610	**34.000** 1.3386	**284000** 63800	0.33	1.79	**73600** 16500	**42200** 9480	1.74	**550000** 124000	LM236749	LM236710A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

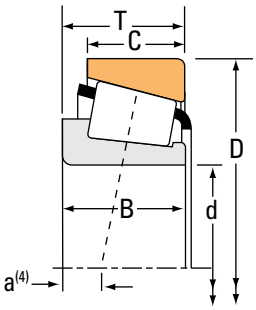
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
63.500 2.5000	**47.625** 1.8750	**-0.8** -0.03	**7.0** 0.28	**195.0** 7.68	**207.0** 8.15	**3.3** 0.13	**272.0** 10.71	**263.0** 10.35	**6.8** 0.26	**5.3** 0.21	692.3	93.9	0.1287	**17.00** 37.48
85.725 3.3750	**65.088** 2.5625	**-22.4** -0.88	**3.5** 0.14	**198.0** 7.80	**202.0** 7.95	**4.8** 0.19	**301.0** 11.84	**293.0** 11.54	**11.5** 0.45	**2.8** 0.11	905.7	90.3	0.1242	**27.68** 61.03
85.725 3.3750	**65.088** 2.5625	**-22.4** -0.88	**3.5** 0.14	**198.0** 7.80	**202.0** 7.95	**4.8** 0.19	**301.0** 11.84	**293.0** 11.54	**11.5** 0.45	**2.8** 0.11	905.7	90.3	0.1242	**27.87** 61.44
92.075 3.6250	**63.500** 2.5000	**-21.8** -0.86	**9.7** 0.38	**201.0** 7.91	**217.0** 8.54	**6.4** 0.25	**306.5** 12.07	**294.0** 11.57	* *	* *	914.1	104.7	0.1304	**30.42** 67.07
92.075 3.6250	**63.500** 2.5000	**-21.8** -0.86	**9.7** 0.38	**201.0** 7.91	**217.0** 8.54	**6.4** 0.25	**306.5** 12.07	**295.0** 11.61	* *	* *	914.1	104.7	0.1304	**31.48** 69.40
92.075 3.6250	**63.500** 2.5000	**-21.8** -0.86	**13.5** 0.53	**201.0** 7.91	**225.0** 8.86	**6.4** 0.25	**306.5** 12.07	**295.0** 11.61	**13.9** 0.54	**-0.4** -0.01	914.1	104.7	0.1304	**31.28** 68.95
92.075 3.6250	**63.500** 2.5000	**-21.8** -0.86	**13.5** 0.53	**201.0** 7.91	**225.0** 8.86	**6.4** 0.25	**306.5** 12.07	**298.0** 11.73	**13.9** 0.54	**-0.4** -0.01	914.1	104.7	0.1304	**32.93** 72.60
60.325 2.3750	**41.275** 1.6250	**-0.3** -0.01	**4.8** 0.19	**209.0** 8.23	**207.0** 8.15	**4.8** 0.19	**321.1** 12.64	**320.0** 12.60	**7.7** 0.30	**5.5** 0.22	646.5	79.5	0.1185	**25.51** 56.23
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**12.7** 0.50	**208.0** 8.19	**231.0** 9.09	**3.3** 0.13	**334.4** 13.16	**327.0** 12.87	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**40.54** 89.37
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**12.7** 0.50	**208.0** 8.19	**231.0** 9.09	**3.3** 0.13	**334.4** 13.16	**329.0** 12.95	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**41.96** 92.51
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**12.7** 0.50	**208.0** 8.19	**231.0** 9.09	**3.3** 0.13	**334.4** 13.16	**331.0** 13.03	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**42.89** 94.56
95.250 3.7500	**61.912** 2.4375	**13.0** 0.51	**6.4** 0.25	**221.0** 8.70	**230.0** 9.06	**6.4** 0.25	**383.0** 15.08	**365.0** 14.37	**21.1** 0.83	**16.1** 0.64	827.7	77.3	0.1568	**65.70** 144.84
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**3.5** 0.14	**204.0** 8.03	**209.0** 8.23	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**21.24** 46.84
45.000 1.7717	**37.000** 1.4567	**8.9** 0.35	**3.0** 0.12	**190.5** 7.50	**196.0** 7.72	**2.5** 0.10	**242.6** 9.55	**232.0** 9.13	**3.3** 0.13	**4.1** 0.16	589.4	128.0	0.1227	**6.67** 14.70
45.000 1.7717	**37.000** 1.4567	**8.9** 0.35	**9.5** 0.37	**190.0** 7.48	**209.0** 8.23	**2.5** 0.10	**242.6** 9.55	**232.0** 9.13	**3.3** 0.13	**4.1** 0.16	589.4	128.0	0.1227	**6.61** 14.58
33.000 1.2992	**28.000** 1.1024	**5.1** 0.20	**2.0** 0.08	**191.0** 7.52	**195.0** 7.68	**2.0** 0.08	**229.0** 9.02	**224.0** 8.82	**0.4** 0.01	**3.6** 0.15	558.8	173.3	0.1353	**3.35** 7.37
33.000 1.2992	**28.000** 1.1024	**5.1** 0.20	**2.0** 0.08	**191.0** 7.52	**195.0** 7.68	**2.0** 0.08	**229.0** 9.02	**224.0** 8.82	**0.4** 0.01	**3.6** 0.15	558.8	173.3	0.1353	**3.38** 7.45

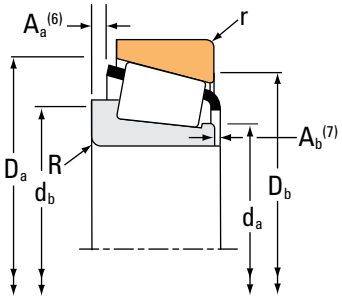
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
184.150 7.2500	**236.538** 9.3125	**26.193** 1.0312	**174000** 39000	0.40	1.49	**45000** 10100	**31000** 6960	1.45	**337000** 75700	LL537649	LL537610
184.150 7.2500	**266.700** 10.5000	**47.625** 1.8750	**416000** 93600	0.48	1.26	**108000** 24300	**88200** 19800	1.22	**835000** 188000	67883	67820
187.325 7.3750	**266.700** 10.5000	**47.625** 1.8750	**416000** 93600	0.48	1.26	**108000** 24300	**88200** 19800	1.22	**835000** 188000	67884	67820
187.325 7.3750	**269.875** 10.6250	**55.562** 2.1875	**548000** 123000	0.33	1.80	**142000** 32000	**80900** 18200	1.76	**999000** 225000	M238849	M238810
187.325 7.3750	**282.575** 11.1250	**50.800** 2.0000	**509000** 114000	0.42	1.44	**132000** 29700	**93900** 21100	1.41	**692000** 156000	87737	87111
187.325 7.3750	**320.675** 12.6250	**88.900** 3.5000	**1050000** 236000	0.32	1.88	**272000** 61100	**148000** 33400	1.83	**1580000** 356000	H239649	H239612
190.000 7.4803	**260.000** 10.2362	**46.000** 1.8110	**407000** 91500	0.48	1.26	**105000** 23700	**86200** 19400	1.22	**807000** 181000	JM738249	JM738210
190.000 7.4803	**269.875** 10.6250	**55.563** 2.1875	**548000** 123000	0.33	1.80	**142000** 32000	**80900** 18200	1.76	**999000** 225000	JM238848	M238810
190.078 7.4834	**289.992** 11.4170	**46.000** 1.8110	**416000** 93600	0.48	1.26	**108000** 24300	**88200** 19800	1.22	**835000** 188000	67886	67835
190.500 7.5000	**266.700** 10.5000	**47.625** 1.8750	**416000** 93600	0.48	1.26	**108000** 24300	**88200** 19800	1.22	**835000** 188000	67885	67820
190.500 7.5000	**282.575** 11.1250	**50.800** 2.0000	**509000** 114000	0.42	1.44	**132000** 29700	**93900** 21100	1.41	**692000** 156000	87750	87111
190.500 7.5000	**284.162** 11.1875	**55.562** 2.1875	**577000** 130000	0.36	1.68	**150000** 33600	**91500** 20600	1.63	**1060000** 239000	82788	82722
190.500 7.5000	**288.925** 11.3750	**55.562** 2.1875	**577000** 130000	0.36	1.68	**150000** 33600	**91500** 20600	1.63	**1060000** 239000	82788	82720
190.500 7.5000	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93750	93125
190.500 7.5000	**327.025** 12.8750	**90.488** 3.5625	**1020000** 229000	0.37	1.64	**264000** 59200	**165000** 37100	1.60	**1580000** 354000	EE470075	470128
190.500 7.5000	**330.200** 13.0000	**63.500** 2.5000	**678000** 152000	0.38	1.56	**176000** 39500	**116000** 26000	1.52	**1050000** 235000	EE210753	211300
190.500 7.5000	**336.550** 13.2500	**90.488** 3.5625	**1020000** 229000	0.37	1.64	**264000** 59200	**165000** 37100	1.60	**1580000** 354000	EE470075	470132

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

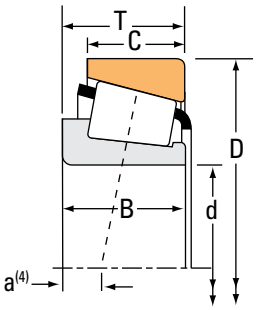
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.400 1.0000	**19.050** 0.7500	**13.7** 0.54	**1.5** 0.06	**192.0** 7.56	**194.0** 7.64	**1.5** 0.06	**230.0** 9.06	**225.0** 8.86	**3.1** 0.12	**1.4** 0.06	418.3	210.9	0.1293	**2.59** 5.71
46.833 1.8438	**38.100** 1.5000	**10.2** 0.40	**3.5** 0.14	**198.0** 7.80	**204.0** 8.03	**3.3** 0.13	**259.0** 10.20	**246.0** 9.69	**5.0** 0.20	**1.8** 0.08	727.9	146.6	0.1310	**8.65** 19.07
46.833 1.8438	**38.100** 1.5000	**10.2** 0.40	**3.5** 0.14	**201.0** 7.91	**206.0** 8.11	**3.3** 0.13	**259.0** 10.20	**246.0** 9.69	**5.0** 0.20	**1.8** 0.08	727.9	146.6	0.1310	**8.29** 18.28
55.562 2.1875	**42.862** 1.6875	**-6.1** -0.24	**3.5** 0.14	**201.0** 7.91	**205.0** 8.07	**3.3** 0.13	**256.0** 10.08	**250.0** 9.84	**5.8** 0.23	**2.1** 0.09	788.3	118.1	0.1201	**9.82** 21.64
47.625 1.8750	**36.512** 1.4375	**3.8** 0.15	**3.5** 0.14	**201.0** 7.91	**207.0** 8.15	**3.3** 0.13	**267.0** 10.50	**261.0** 10.28	**8.7** 0.34	**2.7** 0.11	574.6	130.8	0.1155	**9.82** 21.64
85.725 3.3750	**65.088** 2.5625	**-22.4** -0.88	**5.5** 0.22	**205.0** 8.07	**214.0** 8.43	**4.8** 0.19	**301.0** 11.84	**293.0** 11.54	**11.5** 0.45	**2.8** 0.11	905.7	90.3	0.1242	**26.02** 57.35
44.000 1.7323	**36.500** 1.4370	**10.9** 0.43	**3.0** 0.12	**200.0** 7.87	**206.0** 8.11	**2.5** 0.10	**252.0** 9.92	**242.0** 9.53	**3.2** 0.12	**4.0** 0.16	653.1	146.7	0.1265	**6.85** 15.09
55.562 2.1875	**42.862** 1.6875	**-6.1** -0.24	**3.0** 0.12	**203.0** 7.99	**206.0** 8.11	**3.3** 0.13	**256.0** 10.08	**250.0** 9.84	**5.8** 0.23	**2.1** 0.09	788.3	118.1	0.1201	**9.51** 20.96
46.000 1.8110	**36.000** 1.4173	**10.7** 0.42	**6.4** 0.25	**203.0** 7.99	**214.0** 8.43	**3.3** 0.13	**259.0** 10.20	**256.0** 10.08	**4.5** 0.18	**2.2** 0.09	727.9	146.6	0.1310	**10.56** 23.29
46.833 1.8438	**38.100** 1.5000	**10.2** 0.40	**3.5** 0.14	**203.0** 7.99	**209.0** 8.23	**3.3** 0.13	**259.0** 10.20	**246.0** 9.69	**5.0** 0.20	**1.8** 0.08	727.9	146.6	0.1310	**7.96** 17.56
47.625 1.8750	**36.512** 1.4375	**3.8** 0.15	**3.5** 0.14	**203.0** 7.99	**209.0** 8.23	**3.3** 0.13	**267.0** 10.50	**261.0** 10.28	**8.7** 0.34	**2.7** 0.11	574.6	130.8	0.1155	**9.49** 20.91
55.562 2.1875	**42.862** 1.6875	**-2.8** -0.11	**3.5** 0.14	**203.0** 7.99	**210.0** 8.27	**3.3** 0.13	**271.0** 10.67	**263.0** 10.35	**5.2** 0.20	**2.3** 0.09	804.7	110.8	0.1238	**11.55** 25.46
55.562 2.1875	**42.862** 1.6875	**-2.8** -0.11	**3.5** 0.14	**203.0** 7.99	**210.0** 8.27	**3.3** 0.13	**271.0** 10.67	**265.0** 10.43	**5.2** 0.20	**2.3** 0.09	804.7	110.8	0.1238	**12.30** 27.11
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**212.0** 8.35	**218.0** 8.58	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**19.74** 43.52
92.075 3.6250	**63.500** 2.5000	**-21.8** -0.86	**6.4** 0.25	**210.0** 8.27	**220.0** 8.66	**6.4** 0.25	**306.5** 12.07	**294.0** 11.57	* *	* *	914.1	104.7	0.1304	**27.89** 61.49
61.912 2.4375	**42.862** 1.6875	**-4.6** -0.18	**7.0** 0.28	**210.0** 8.27	**221.0** 8.70	**3.3** 0.13	**300.0** 11.81	**299.0** 11.77	**11.6** 0.45	**4.0** 0.16	736.7	115.8	0.1227	**19.85** 43.75
92.075 3.6250	**63.500** 2.5000	**-21.8** -0.86	**6.4** 0.25	**210.0** 8.27	**220.0** 8.66	**6.4** 0.25	**306.5** 12.07	**298.0** 11.73	* *	* *	914.1	104.7	0.1304	**30.60** 67.48

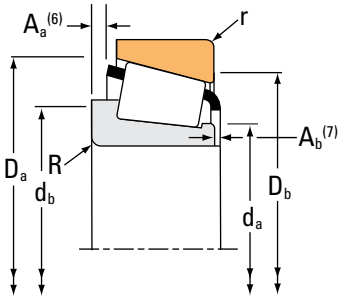
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
190.500 7.5000	**336.550** 13.2500	**98.425** 3.8750	**1150000** 259000	0.58	1.04	**299000** 67100	**294000** 66200	1.01	**2050000** 460000	HH840249	HH840210
190.500 7.5000	**360.000** 14.1732	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420751	421417
190.500 7.5000	**365.049** 14.3720	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420751	421437
190.500 7.5000	**368.300** 14.5000	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420751	421450
190.500 7.5000	**428.625** 16.8750	**106.363** 4.1875	**1640000** 370000	0.76	0.79	**426000** 95900	**554000** 124000	0.77	**1700000** 382000	EE350750	351687
192.088 7.5625	**266.700** 10.5000	**47.625** 1.8750	**416000** 93600	0.48	1.26	**108000** 24300	**88200** 19800	1.22	**835000** 188000	67887	67820
193.675 7.6250	**282.575** 11.1250	**50.800** 2.0000	**509000** 114000	0.42	1.44	**132000** 29700	**93900** 21100	1.41	**692000** 156000	87762	87111
196.850 7.7500	**257.175** 10.1250	**39.688** 1.5625	**318000** 71600	0.45	1.34	**82500** 18600	**63100** 14200	1.31	**718000** 161000	LM739749	LM739710
196.850 7.7500	**266.700** 10.5000	**39.688** 1.5625	**318000** 71600	0.45	1.34	**82500** 18600	**63100** 14200	1.31	**718000** 161000	LM739749	LM739719
196.850 7.7500	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93775	93125
200.000 7.8740	**300.000** 11.8110	**65.000** 2.5591	**695000** 156000	0.52	1.15	**180000** 40500	**161000** 36200	1.12	**1280000** 287000	JHM840449	JHM840410
200.025 7.8750	**292.100** 11.5000	**57.945** 2.2813	**600000** 135000	0.33	1.80	**156000** 35000	**88500** 19900	1.76	**1170000** 263000	M241543	M241510
200.025 7.8750	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93787	93125
200.025 7.8750	**317.500** 12.5000	**68.262** 2.6875	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93787	93126
200.025 7.8750	**320.000** 12.5984	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93787	J93129A
200.025 7.8750	**355.600** 14.0000	**69.850** 2.7500	**796000** 179000	0.33	1.82	**206000** 46400	**117000** 26200	1.77	**1400000** 314000	EE130787	131400
200.025 7.8750	**384.175** 15.1250	**112.712** 4.4375	**1670000** 377000	0.33	1.80	**434000** 97600	**247000** 55600	1.76	**3110000** 699000	H247535	H247510

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

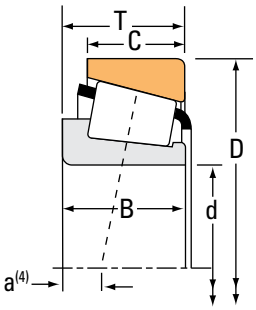
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
95.250 3.7500	**73.025** 2.8750	**-5.6** -0.22	**6.4** 0.25	**215.7** 8.49	**234.0** 9.21	**6.4** 0.25	**318.0** 12.52	**290.0** 11.42	**14.4** 0.56	**5.2** 0.21	1088.1	104.3	0.1605	**35.64** 78.56
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**6.4** 0.25	**218.0** 8.58	**227.0** 8.94	**3.3** 0.13	**334.4** 13.16	**327.0** 12.87	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**38.26** 84.34
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**6.4** 0.25	**218.0** 8.58	**227.0** 8.94	**3.3** 0.13	**334.4** 13.16	**329.0** 12.95	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**39.68** 87.48
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**6.4** 0.25	**218.0** 8.58	**227.0** 8.94	**3.3** 0.13	**334.4** 13.16	**331.0** 13.03	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**40.61** 89.53
95.250 3.7500	**61.912** 2.4375	**13.0** 0.51	**6.4** 0.25	**237.0** 9.33	**240.0** 9.45	**6.4** 0.25	**383.0** 15.08	**365.0** 14.37	**21.1** 0.83	**16.1** 0.64	827.7	77.3	0.1568	**62.86** 138.59
46.833 1.8438	**38.100** 1.5000	**10.2** 0.40	**10.5** 0.41	**204.0** 8.03	**223.0** 8.78	**3.3** 0.13	**259.0** 10.20	**246.0** 9.69	**5.0** 0.20	**1.8** 0.08	727.9	146.6	0.1310	**7.54** 16.63
47.625 1.8750	**36.512** 1.4375	**3.8** 0.15	**3.5** 0.14	**206.0** 8.11	**211.0** 8.31	**3.3** 0.13	**267.0** 10.50	**261.0** 10.28	**8.7** 0.34	**2.7** 0.11	574.6	130.8	0.1155	**9.11** 20.08
39.688 1.5625	**30.162** 1.1875	**11.4** 0.45	**3.5** 0.14	**206.0** 8.11	**213.0** 8.39	**3.3** 0.13	**251.0** 9.88	**239.0** 9.41	**3.4** 0.13	**2.1** 0.09	761.7	232.3	0.1296	**5.27** 11.62
39.688 1.5625	**30.162** 1.1875	**11.4** 0.45	**3.5** 0.14	**206.0** 8.11	**213.0** 8.39	**3.3** 0.13	**252.0** 9.92	**243.0** 9.57	**3.4** 0.13	**2.1** 0.09	761.7	232.3	0.1296	**6.19** 13.66
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**216.0** 8.50	**223.0** 8.78	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**18.75** 41.34
62.000 2.4409	**51.000** 2.0079	**8.1** 0.32	**3.5** 0.14	**215.0** 8.46	**226.0** 8.90	**2.5** 0.10	**288.9** 11.37	**273.0** 10.75	**4.8** 0.18	**6.1** 0.24	853.6	126.4	0.1428	**15.32** 33.78
57.945 2.2813	**46.038** 1.8125	**-4.8** -0.19	**3.5** 0.14	**215.0** 8.46	**219.0** 8.62	**3.3** 0.13	**279.0** 10.98	**272.0** 10.71	**4.7** 0.18	**2.0** 0.08	954.1	127.9	0.1279	**12.51** 27.59
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**219.0** 8.62	**225.0** 8.86	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**18.28** 40.31
63.500 2.5000	**50.800** 2.0000	**7.9** 0.31	**4.3** 0.17	**219.0** 8.62	**225.0** 8.86	**3.3** 0.13	**300.0** 11.81	**285.0** 11.22	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**19.15** 42.22
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**219.0** 8.62	**225.0** 8.86	**3.3** 0.13	**298.0** 11.73	**287.0** 11.30	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**18.73** 41.31
69.850 2.7500	**49.212** 1.9375	**-9.9** -0.39	**6.8** 0.27	**226.0** 8.90	**236.0** 9.29	**1.5** 0.06	**330.4** 13.01	**329.0** 12.95	**12.2** 0.48	**3.3** 0.13	1162.0	167.6	0.1358	**28.14** 62.04
112.712 4.4375	**90.488** 3.5625	**-27.9** -1.10	**6.4** 0.25	**231.0** 9.09	**241.0** 9.49	**6.4** 0.25	**362.5** 14.27	**346.0** 13.62	**10.2** 0.40	**2.9** 0.12	1964.4	148.4	0.1638	**60.49** 133.34

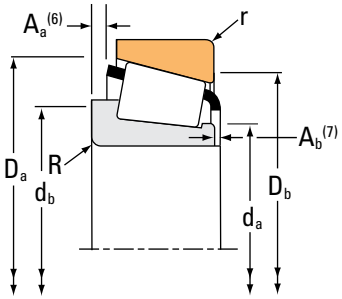
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
200.025 7.8750	**393.700** 15.5000	**111.125** 4.3750	**2110000** 474000	0.30	2.01	**547000** 123000	**279000** 62800	1.96	**2600000** 585000	HH144642	HH144614
201.612 7.9375	**365.049** 14.3720	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420793	421437
201.612 7.9375	**368.300** 14.5000	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420793	421450
203.200 8.0000	**261.142** 10.2812	**28.575** 1.1250	**208000** 46700	0.41	1.47	**53900** 12100	**37700** 8480	1.43	**405000** 91100	LL641149	LL641110
203.200 8.0000	**276.225** 10.8750	**42.862** 1.6875	**439000** 98700	0.32	1.88	**114000** 25600	**62100** 14000	1.83	**811000** 182000	LM241149	LM241110
203.200 8.0000	**282.575** 11.1250	**46.038** 1.8125	**503000** 113000	0.51	1.18	**130000** 29300	**114000** 25500	1.15	**876000** 197000	67983	67920
203.200 8.0000	**292.100** 11.5000	**57.945** 2.2813	**600000** 135000	0.33	1.80	**156000** 35000	**88500** 19900	1.76	**1170000** 263000	M241547	M241510
203.200 8.0000	**292.100** 11.5000	**57.945** 2.2813	**688000** 155000	0.33	1.80	**178000** 40100	**102000** 22800	1.76	**1170000** 263000	M241547C	M241510
203.200 8.0000	**317.500** 12.5000	**53.975** 2.1250	**559000** 126000	0.31	1.91	**145000** 32600	**77800** 17500	1.86	**900000** 202000	EE132083	132125
203.200 8.0000	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93800A	93125
203.200 8.0000	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93800	93125
203.200 8.0000	**360.000** 14.1732	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420801	421417
203.200 8.0000	**365.049** 14.3720	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420801	421437
203.200 8.0000	**368.300** 14.5000	**92.075** 3.6250	**1170000** 263000	0.40	1.49	**303000** 68100	**208000** 46800	1.45	**1820000** 409000	EE420801	421450
203.200 8.0000	**406.400** 16.0000	**92.075** 3.6250	**1220000** 274000	0.80	0.75	**316000** 71000	**431000** 97000	0.73	**1460000** 328000	EE114080	114160
203.200 8.0000	**482.600** 19.0000	**117.475** 4.6250	**1650000** 371000	0.87	0.69	**428000** 96200	**635000** 143000	0.67	**2010000** 453000	EE380080	380190
203.238 8.0015	**406.400** 16.0000	**92.075** 3.6250	**1220000** 274000	0.80	0.75	**316000** 71000	**431000** 97000	0.73	**1460000** 328000	EE114081	114160

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

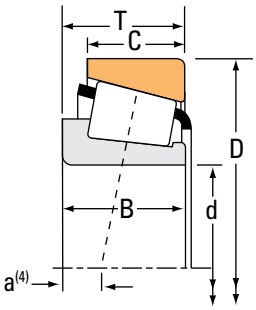
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
111.125 4.3750	**84.138** 3.3125	**-33.8** -1.33	**6.4** 0.25	**226.0** 8.90	**235.0** 9.25	**6.4** 0.25	**356.6** 14.04	**352.0** 13.86	**15.6** 0.61	**1.5** 0.06	1470.9	128.3	0.1429	**58.53** 129.05
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**3.3** 0.13	**226.0** 8.90	**229.0** 9.02	**3.3** 0.13	**334.4** 13.16	**329.0** 12.95	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**37.37** 82.39
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**3.3** 0.13	**226.0** 8.90	**229.0** 9.02	**3.3** 0.13	**334.4** 13.16	**331.0** 13.03	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**38.30** 84.44
27.783 1.0938	**21.433** 0.8438	**15.7** 0.62	**1.5** 0.06	**212.0** 8.35	**214.0** 8.43	**1.5** 0.06	**254.0** 10.00	**249.0** 9.80	**3.1** 0.12	**1.7** 0.07	521.9	231.1	0.1398	**3.48** 7.66
42.862 1.6875	**34.133** 1.3438	**1.8** 0.07	**3.5** 0.14	**214.1** 8.43	**220.0** 8.66	**3.3** 0.13	**267.0** 10.51	**260.0** 10.24	**2.8** 0.11	**1.4** 0.06	774.0	182.2	0.1170	**7.02** 15.48
46.038 1.8125	**36.512** 1.4375	**16.0** 0.63	**3.5** 0.14	**216.0** 8.50	**222.0** 8.74	**3.3** 0.13	**275.0** 10.83	**260.0** 10.24	**4.4** 0.17	**1.7** 0.07	819.5	172.0	0.1388	**8.65** 19.09
57.945 2.2813	**46.038** 1.8125	**-4.8** -0.19	**3.5** 0.14	**217.0** 8.54	**221.0** 8.70	**3.3** 0.13	**279.0** 10.98	**272.0** 10.71	**4.7** 0.18	**2.0** 0.08	954.1	127.9	0.1279	**12.06** 26.58
57.945 2.2813	**46.038** 1.8125	**-4.8** -0.19	**3.5** 0.14	**217.0** 8.54	**221.0** 8.70	**3.3** 0.13	**279.0** 10.98	**272.0** 10.71	**4.7** 0.18	**2.0** 0.08	954.1	127.9	0.1279	**12.04** 26.54
53.975 2.1250	**34.925** 1.3750	**-6.1** -0.24	**4.0** 0.16	**217.9** 8.58	**225.0** 8.86	**3.3** 0.13	**293.1** 11.54	**293.9** 11.57	**10.7** 0.42	**3.2** 0.13	797.8	124.6	0.1174	**13.87** 30.57
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**8.0** 0.31	**222.0** 8.74	**234.0** 9.21	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**17.64** 38.90
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**222.0** 8.74	**227.0** 8.94	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**17.78** 39.21
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**3.3** 0.13	**227.1** 8.94	**230.1** 9.06	**3.3** 0.13	**334.4** 13.16	**327.0** 12.87	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**35.60** 78.47
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**3.3** 0.13	**227.1** 8.94	**230.1** 9.06	**3.3** 0.13	**334.4** 13.16	**329.0** 12.95	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**37.02** 81.62
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**3.3** 0.13	**227.1** 8.94	**230.1** 9.06	**3.3** 0.13	**334.4** 13.16	**331.0** 13.03	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**37.95** 83.67
85.725 3.3750	**57.150** 2.2500	**24.9** 0.98	**6.4** 0.25	**237.0** 9.33	**246.0** 9.69	**6.4** 0.25	**373.7** 14.71	**349.0** 13.74	**19.0** 0.74	**10.7** 0.42	794.7	80.2	0.1571	**46.85** 103.29
95.250 3.7500	**73.025** 2.8750	**34.3** 1.35	**6.4** 0.25	**274.0** 10.79	**280.0** 11.02	**6.4** 0.25	**428.5** 16.87	**402.0** 15.83	**22.2** 0.87	**17.0** 0.67	1105.0	103.8	0.1792	**91.88** 202.54
85.725 3.3750	**57.150** 2.2500	**24.9** 0.98	**6.4** 0.25	**237.0** 9.33	**246.0** 9.69	**6.4** 0.25	**373.7** 14.71	**349.0** 13.74	**19.0** 0.74	**10.7** 0.42	794.7	80.2	0.1571	**46.85** 103.29

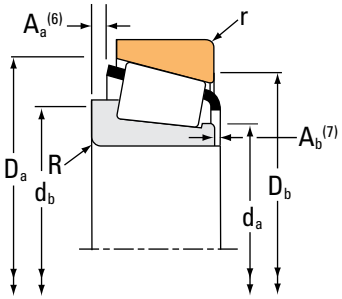
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
204.788 8.0625	**292.100** 11.5000	**57.945** 2.2813	**600000** 135000	0.33	1.80	**156000** 35000	**88500** 19900	1.76	**1170000** 263000	M241549	M241510
204.788 8.0625	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93806A	93125
206.375 8.1250	**261.142** 10.2812	**28.575** 1.1250	**196000** 44100	0.41	1.47	**50900** 11400	**35600** 8010	1.43	**405000** 91100	LL641149A	LL641110
206.375 8.1250	**282.575** 11.1250	**46.038** 1.8125	**503000** 113000	0.51	1.18	**130000** 29300	**114000** 25500	1.15	**876000** 197000	67985	67920
206.375 8.1250	**317.500** 12.5000	**53.975** 2.1250	**528000** 119000	0.31	1.91	**137000** 30800	**73400** 16500	1.86	**900000** 202000	EE132084	132125
206.375 8.1250	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93812	93125
206.375 8.1250	**336.550** 13.2500	**98.425** 3.8750	**1350000** 305000	0.33	1.80	**351000** 79000	**200000** 45000	1.76	**2320000** 522000	H242649	H242610
206.375 8.1250	**360.000** 14.1732	**92.075** 3.6250	**1100000** 248000	0.40	1.49	**286000** 64300	**197000** 44200	1.45	**1820000** 409000	EE420812X	421417
206.375 8.1250	**482.600** 19.0000	**117.475** 4.6250	**1650000** 371000	0.87	0.69	**428000** 96200	**635000** 143000	0.67	**2010000** 453000	EE380081	380190
209.550 8.2500	**279.400** 11.0000	**46.038** 1.8125	**503000** 113000	0.51	1.18	**130000** 29300	**114000** 25500	1.15	**876000** 197000	67989	67919
209.550 8.2500	**282.575** 11.1250	**46.038** 1.8125	**503000** 113000	0.51	1.18	**130000** 29300	**114000** 25500	1.15	**876000** 197000	67989	67920
209.550 8.2500	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93825	93125
209.550 8.2500	**317.500** 12.5000	**63.500** 2.5000	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93825A	93125
209.550 8.2500	**317.500** 12.5000	**68.262** 2.6875	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93825	93126
209.550 8.2500	**355.600** 14.0000	**68.262** 2.6875	**759000** 171000	0.59	1.02	**197000** 44200	**199000** 44700	0.99	**1420000** 319000	96825	96140
212.725 8.3750	**285.750** 11.2500	**46.038** 1.8125	**430000** 96600	0.48	1.25	**111000** 25000	**91800** 20600	1.21	**892000** 200000	LM742745	LM742710
212.725 8.3750	**336.550** 13.2500	**65.088** 2.5625	**789000** 177000	0.33	1.80	**204000** 46000	**116000** 26200	1.76	**1570000** 352000	M246932	M246910

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

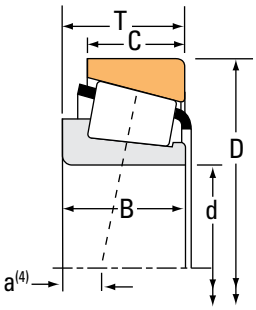
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
57.945 2.2813	**46.038** 1.8125	**-4.8** -0.19	**3.5** 0.14	**219.0** 8.62	**223.0** 8.78	**3.3** 0.13	**279.0** 10.98	**272.0** 10.71	**4.7** 0.18	**2.0** 0.08	954.1	127.9	0.1279	**11.83** 26.08
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**223.0** 8.78	**229.0** 9.02	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**17.50** 38.60
27.783 1.0938	**21.433** 0.8438	**15.7** 0.62	**1.5** 0.06	**212.0** 8.35	**214.0** 8.43	**1.5** 0.06	**254.0** 10.00	**249.0** 9.80	**3.1** 0.12	**1.7** 0.07	521.9	231.1	0.1398	**3.27** 7.21
46.038 1.8125	**36.512** 1.4375	**16.0** 0.63	**3.5** 0.14	**219.0** 8.62	**224.0** 8.82	**3.3** 0.13	**275.0** 10.83	**260.0** 10.24	**4.4** 0.17	**1.7** 0.07	819.5	172.0	0.1388	**8.28** 18.28
53.975 2.1250	**34.925** 1.3750	**-6.1** -0.24	**4.0** 0.16	**220.0** 8.66	**227.1** 8.94	**3.3** 0.13	**293.1** 11.54	**293.9** 11.57	**10.7** 0.42	**3.2** 0.13	797.8	124.6	0.1174	**13.44** 29.62
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**224.0** 8.82	**230.0** 9.06	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**17.25** 38.03
100.012 3.9375	**77.788** 3.0625	**-25.4** -1.00	**3.3** 0.13	**227.0** 8.94	**231.0** 9.09	**3.3** 0.13	**318.0** 12.51	**306.0** 12.05	**11.1** 0.44	**1.9** 0.08	1404.1	134.8	0.1465	**33.19** 73.17
88.897 3.4999	**63.500** 2.5000	**-15.5** -0.61	**6.4** 0.25	**229.0** 9.02	**239.0** 9.41	**3.3** 0.13	**334.4** 13.16	**327.0** 12.87	**19.1** 0.75	**2.5** 0.10	1150.5	128.2	0.1450	**34.81** 76.74
95.250 3.7500	**73.025** 2.8750	**34.3** 1.35	**6.4** 0.25	**258.0** 10.16	**264.0** 10.39	**6.4** 0.25	**428.5** 16.87	**402.0** 15.83	**22.2** 0.87	**17.3** 0.68	1105.0	103.8	0.1792	**91.19** 201.03
46.038 1.8125	**36.512** 1.4375	**16.0** 0.63	**3.5** 0.14	**221.0** 8.70	**227.0** 8.94	**3.3** 0.13	**273.0** 10.75	**259.0** 10.20	**4.4** 0.17	**1.7** 0.07	819.5	172.0	0.1388	**7.52** 16.58
46.038 1.8125	**36.512** 1.4375	**16.0** 0.63	**3.5** 0.14	**221.0** 8.70	**227.0** 8.94	**3.3** 0.13	**275.0** 10.83	**260.0** 10.24	**4.4** 0.17	**1.7** 0.07	819.5	172.0	0.1388	**7.91** 17.45
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**4.3** 0.17	**226.9** 8.93	**233.0** 9.17	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**16.76** 36.96
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**12.7** 0.50	**226.9** 8.93	**250.0** 9.84	**3.3** 0.13	**300.0** 11.81	**286.0** 11.26	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**16.60** 36.60
63.500 2.5000	**50.800** 2.0000	**7.9** 0.31	**4.3** 0.17	**226.9** 8.93	**233.0** 9.17	**3.3** 0.13	**300.0** 11.81	**285.0** 11.22	**9.1** 0.36	**4.3** 0.17	912.5	126.1	0.1460	**17.63** 38.86
66.675 2.6250	**47.625** 1.8750	**17.0** 0.67	**7.0** 0.28	**235.0** 9.25	**246.0** 9.69	**3.3** 0.13	**334.0** 13.15	**318.0** 12.52	**11.9** 0.47	**3.8** 0.15	1140.0	160.6	0.1626	**26.70** 58.88
46.038 1.8125	**34.925** 1.3750	**14.2** 0.56	**3.5** 0.14	**225.0** 8.86	**230.0** 9.06	**3.3** 0.13	**279.0** 10.98	**266.0** 10.47	**5.1** 0.20	**2.0** 0.08	866.9	225.2	0.1388	**7.97** 17.57
65.088 2.5625	**50.800** 2.0000	**-4.8** -0.19	**6.4** 0.25	**235.0** 9.25	**244.0** 9.61	**3.3** 0.13	**322.0** 12.68	**313.0** 12.32	**5.1** 0.20	**3.3** 0.13	1354.6	198.0	0.1436	**21.86** 48.17

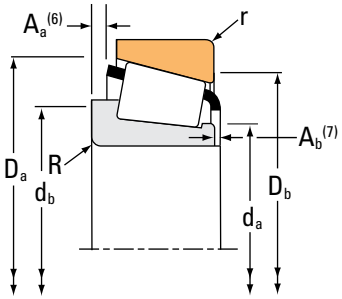
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
215.900 8.5000	**285.750** 11.2500	**46.038** 1.8125	**430000** 96600	0.48	1.25	**111000** 25000	**91800** 20600	1.21	**892000** 200000	LM742749	LM742710
215.900 8.5000	**285.750** 11.2500	**46.038** 1.8125	**430000** 96600	0.48	1.25	**111000** 25000	**91800** 20600	1.21	**892000** 200000	LM742749AA	LM742710
215.900 8.5000	**288.925** 11.3750	**46.038** 1.8125	**430000** 96600	0.48	1.25	**111000** 25000	**91800** 20600	1.21	**892000** 200000	LM742749	LM742714
215.900 8.5000	**290.010** 11.4177	**31.750** 1.2500	**239000** 53800	0.39	1.56	**62000** 13900	**40900** 9190	1.52	**453000** 102000	543085	543114
215.900 8.5000	**355.600** 14.0000	**69.850** 2.7500	**796000** 179000	0.33	1.82	**206000** 46400	**117000** 26200	1.77	**1400000** 314000	EE130851	131400
215.900 8.5000	**360.000** 14.1732	**82.550** 3.2500	**1100000** 248000	0.40	1.49	**286000** 64300	**197000** 44200	1.45	**1820000** 409000	EE420850	421417
215.900 8.5000	**365.049** 14.3720	**82.550** 3.2500	**1100000** 248000	0.40	1.49	**286000** 64300	**197000** 44200	1.45	**1820000** 409000	EE420850	421437
219.969 8.6602	**290.010** 11.4177	**31.750** 1.2500	**239000** 53800	0.39	1.56	**62000** 13900	**40900** 9190	1.52	**453000** 102000	543086	543114
219.969 8.6602	**292.009** 11.4964	**31.750** 1.2500	**239000** 53800	0.39	1.56	**62000** 13900	**40900** 9190	1.52	**453000** 102000	543086	543116
219.975 8.6604	**384.175** 15.1250	**112.712** 4.4375	**1920000** 432000	0.33	1.80	**498000** 112000	**284000** 63700	1.76	**3110000** 699000	H247540	H247510
220.662 8.6875	**314.325** 12.3750	**61.912** 2.4375	**695000** 156000	0.33	1.80	**180000** 40500	**103000** 23100	1.76	**1370000** 308000	M244249	M244210
220.662 8.6875	**314.325** 12.3750	**61.912** 2.4375	**649000** 146000	0.33	1.80	**168000** 37800	**95800** 21500	1.76	**1240000** 279000	M244249A	M244210
222.250 8.7500	**482.600** 19.0000	**117.475** 4.6250	**1650000** 371000	0.87	0.69	**428000** 96200	**635000** 143000	0.67	**2010000** 453000	EE380875	380190
223.838 8.8125	**295.275** 11.6250	**46.038** 1.8125	**516000** 116000	0.50	1.20	**134000** 30100	**114000** 25700	1.17	**919000** 207000	LM844049	LM844010
225.425 8.8750	**355.600** 14.0000	**69.850** 2.7500	**796000** 179000	0.33	1.82	**206000** 46400	**117000** 26200	1.77	**1400000** 314000	EE130889	131400
225.425 8.8750	**400.050** 15.7500	**88.900** 3.5000	**1120000** 253000	0.44	1.36	**291000** 65500	**219000** 49300	1.33	**1920000** 432000	EE430888	431575
227.330 8.9500	**406.400** 16.0000	**63.500** 2.5000	**955000** 215000	0.47	1.27	**248000** 55600	**200000** 45000	1.24	**1280000** 287000	EE710905	711600

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

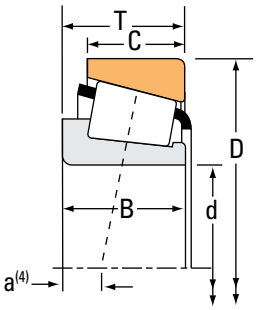
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
46.038 1.8125	**34.925** 1.3750	**14.2** 0.56	**3.5** 0.14	**227.0** 8.94	**233.0** 9.17	**3.3** 0.13	**279.0** 10.98	**266.0** 10.47	**5.1** 0.20	**2.0** 0.08	866.9	225.2	0.1388	**7.59** 16.72
46.038 1.8125	**34.925** 1.3750	**14.2** 0.56	**8.9** 0.35	**227.0** 8.94	**242.0** 9.57	**3.3** 0.13	**279.0** 10.98	**266.0** 10.47	**5.1** 0.20	**2.0** 0.08	866.9	225.2	0.1388	**7.51** 16.55
46.038 1.8125	**34.925** 1.3750	**14.2** 0.56	**3.5** 0.14	**227.0** 8.94	**233.0** 9.17	**3.3** 0.13	**280.0** 11.02	**267.0** 10.51	**5.1** 0.20	**2.0** 0.08	866.9	225.2	0.1388	**7.95** 17.52
31.750 1.2500	**22.225** 0.8750	**13.0** 0.51	**3.5** 0.14	**226.0** 8.90	**232.0** 9.13	**3.3** 0.13	**276.0** 10.87	**272.0** 10.71	**4.1** 0.16	**2.8** 0.11	608.5	232.3	0.1135	**5.42** 11.96
69.850 2.7500	**49.212** 1.9375	**-9.9** -0.39	**6.8** 0.27	**237.0** 9.33	**248.0** 9.76	**1.5** 0.06	**330.4** 13.01	**329.0** 12.95	**12.2** 0.48	**3.3** 0.13	1162.0	167.6	0.1358	**25.30** 55.78
79.372 3.1249	**63.500** 2.5000	**-6.1** -0.24	**1.5** 0.06	**236.0** 9.29	**236.0** 9.29	**3.3** 0.13	**334.4** 13.16	**327.0** 12.87	**9.6** 0.37	**2.5** 0.10	1150.5	128.2	0.1450	**30.88** 68.06
79.372 3.1249	**63.500** 2.5000	**-6.1** -0.24	**1.5** 0.06	**236.0** 9.29	**236.0** 9.29	**3.3** 0.13	**334.4** 13.16	**329.0** 12.95	**9.6** 0.37	**2.5** 0.10	1150.5	128.2	0.1450	**32.30** 71.21
31.750 1.2500	**22.225** 0.8750	**13.0** 0.51	**3.5** 0.14	**229.0** 9.02	**235.0** 9.25	**3.3** 0.13	**276.0** 10.87	**272.0** 10.71	**4.1** 0.16	**2.8** 0.11	608.5	232.3	0.1135	**5.08** 11.20
31.750 1.2500	**22.225** 0.8750	**13.0** 0.51	**3.5** 0.14	**229.0** 9.02	**235.0** 9.25	**3.3** 0.13	**276.0** 10.87	**273.0** 10.75	**4.1** 0.16	**2.8** 0.11	608.5	232.3	0.1135	**5.21** 11.49
112.712 4.4375	**90.488** 3.5625	**-27.9** -1.10	**6.4** 0.25	**259.0** 10.20	**269.0** 10.59	**6.4** 0.25	**362.5** 14.27	**346.0** 13.62	**10.2** 0.40	**2.9** 0.12	1964.4	148.4	0.1638	**54.81** 120.81
61.912 2.4375	**49.212** 1.9375	**-4.6** -0.18	**6.4** 0.25	**235.0** 9.25	**245.0** 9.65	**3.3** 0.13	**300.0** 11.81	**293.0** 11.54	**4.9** 0.19	**2.5** 0.10	1149.7	141.4	0.1360	**14.52** 32.03
66.675 2.6250	**49.212** 1.9375	**-4.6** -0.18	**1.5** 0.06	**235.0** 9.25	**235.0** 9.25	**3.3** 0.13	**300.0** 11.81	**293.0** 11.54	**3.2** 0.12	**0.4** 0.02	1073.1	132.4	0.1327	**14.91** 32.89
95.250 3.7500	**73.025** 2.8750	**34.3** 1.35	**6.4** 0.25	**267.0** 10.51	**277.0** 10.91	**6.4** 0.25	**428.5** 16.87	**402.0** 15.83	**22.2** 0.87	**17.3** 0.68	1105.0	103.8	0.1792	**87.21** 192.25
46.038 1.8125	**34.925** 1.3750	**17.0** 0.67	**3.5** 0.14	**235.0** 9.25	**241.0** 9.49	**3.3** 0.13	**288.0** 11.34	**275.0** 10.83	**5.2** 0.20	**2.0** 0.08	927.3	268.8	0.1434	**8.02** 17.69
69.850 2.7500	**49.212** 1.9375	**-9.9** -0.39	**6.8** 0.27	**244.0** 9.61	**255.0** 10.04	**1.5** 0.06	**330.4** 13.01	**329.0** 12.95	**12.2** 0.48	**3.3** 0.13	1162.0	167.6	0.1358	**22.94** 50.59
87.312 3.4375	**63.500** 2.5000	**-4.8** -0.19	**1.5** 0.06	**251.0** 9.88	**251.0** 9.88	**3.3** 0.13	**364.2** 14.34	**360.0** 14.17	**14.8** 0.58	**1.5** 0.06	1351.2	142.8	0.1572	**43.79** 96.54
61.912 2.4375	**39.688** 1.5625	**12.2** 0.48	**7.0** 0.28	**248.9** 9.80	**261.9** 10.31	**6.4** 0.25	**372.1** 14.65	**368.0** 14.49	**9.4** 0.37	**7.4** 0.29	914.9	114.2	0.1402	**31.26** 68.91

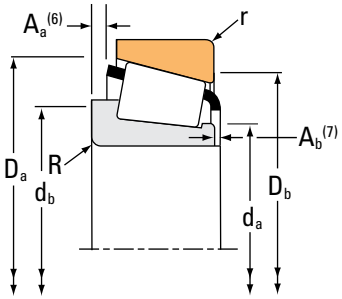
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
228.397 8.9920	**431.800** 17.0000	**92.075** 3.6250	**1270000** 287000	0.88	0.68	**330000** 74300	**500000** 112000	0.66	**1600000** 361000	EE113089	113170
228.460 8.9945	**431.800** 17.0000	**92.075** 3.6250	**1270000** 287000	0.88	0.68	**330000** 74300	**500000** 112000	0.66	**1600000** 361000	EE113091	113170
228.600 9.0000	**295.275** 11.6250	**33.338** 1.3125	**238000** 53400	0.40	1.49	**61600** 13900	**42400** 9530	1.45	**458000** 103000	544090	544116
228.600 9.0000	**300.038** 11.8125	**33.338** 1.3125	**238000** 53400	0.40	1.49	**61600** 13900	**42400** 9530	1.45	**458000** 103000	544090	544118
228.600 9.0000	**320.675** 12.6250	**50.800** 2.0000	**552000** 124000	0.49	1.23	**143000** 32200	**119000** 26800	1.20	**821000** 185000	88900	88126
228.600 9.0000	**327.025** 12.8750	**52.388** 2.0625	**552000** 124000	0.49	1.23	**143000** 32200	**119000** 26800	1.20	**821000** 185000	88900	88128
228.600 9.0000	**327.025** 12.8750	**52.388** 2.0625	**558000** 126000	0.41	1.48	**145000** 32500	**101000** 22700	1.44	**1070000** 240000	8573	8520
228.600 9.0000	**355.600** 14.0000	**68.262** 2.6875	**759000** 171000	0.59	1.02	**197000** 44200	**199000** 44700	0.99	**1420000** 319000	96900	96140
228.600 9.0000	**355.600** 14.0000	**69.850** 2.7500	**843000** 190000	0.33	1.82	**219000** 49100	**124000** 27800	1.77	**1400000** 314000	EE130902	131400
228.600 9.0000	**355.600** 14.0000	**69.850** 2.7500	**951000** 214000	0.47	1.27	**247000** 55400	**200000** 44900	1.24	**1690000** 380000	HM746646	HM746610
228.600 9.0000	**358.775** 14.1250	**71.438** 2.8125	**914000** 206000	0.33	1.80	**237000** 53300	**135000** 30300	1.76	**1850000** 416000	M249732	M249710
228.600 9.0000	**400.050** 15.7500	**88.900** 3.5000	**1120000** 253000	0.44	1.36	**291000** 65500	**219000** 49300	1.33	**1920000** 432000	EE430900	431575
228.600 9.0000	**406.400** 16.0000	**63.500** 2.5000	**955000** 215000	0.47	1.27	**248000** 55600	**200000** 45000	1.24	**1280000** 287000	EE710906	711600
228.600 9.0000	**425.450** 16.7500	**101.600** 4.0000	**1700000** 382000	0.33	1.80	**440000** 99000	**251000** 56400	1.76	**2140000** 481000	EE700091	700167
228.600 9.0000	**488.950** 19.2500	**123.825** 4.8750	**2240000** 505000	0.94	0.64	**582000** 131000	**934000** 210000	0.62	**2510000** 564000	HH949549	HH949510
228.600 9.0000	**508.000** 20.0000	**117.475** 4.6250	**1680000** 377000	0.94	0.64	**434000** 97700	**697000** 157000	0.62	**2100000** 473000	EE390090	390200
231.775 9.1250	**358.775** 14.1250	**71.438** 2.8125	**914000** 206000	0.33	1.80	**237000** 53300	**135000** 30300	1.76	**1850000** 416000	M249734	M249710

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

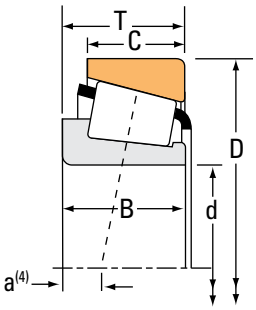
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
85.725 3.3750	**49.212** 1.9375	**41.4** 1.63	**6.4** 0.25	**267.0** 10.51	**274.0** 10.79	**6.4** 0.25	**397.2** 15.64	**375.0** 14.76	**19.4** 0.76	**11.5** 0.46	966.7	98.1	0.1723	**51.03** 112.50
85.725 3.3750	**49.212** 1.9375	**41.4** 1.63	**6.4** 0.25	**267.0** 10.51	**274.0** 10.79	**6.4** 0.25	**397.2** 15.64	**375.0** 14.76	**19.4** 0.76	**11.5** 0.46	966.7	98.1	0.1723	**50.09** 110.43
31.750 1.2500	**23.812** 0.9375	**15.7** 0.62	**3.5** 0.14	**240.0** 9.45	**244.0** 9.61	**3.3** 0.13	**287.0** 11.30	**280.0** 11.02	**4.2** 0.16	**2.8** 0.11	648.6	279.2	0.1174	**5.14** 11.32
31.750 1.2500	**23.812** 0.9375	**15.7** 0.62	**3.5** 0.14	**240.0** 9.45	**244.0** 9.61	**3.3** 0.13	**287.0** 11.30	**282.0** 11.10	**4.2** 0.16	**2.8** 0.11	648.6	279.2	0.1174	**5.53** 12.17
49.212 1.9375	**33.338** 1.3125	**14.2** 0.56	**6.4** 0.25	**242.0** 9.53	**253.0** 9.96	**3.3** 0.13	**309.0** 12.17	**299.0** 11.77	**11.1** 0.43	**2.7** 0.11	800.1	189.1	0.1352	**11.02** 24.28
49.212 1.9375	**34.925** 1.3750	**14.2** 0.56	**6.4** 0.25	**242.0** 9.53	**253.0** 9.96	**3.3** 0.13	**309.0** 12.17	**302.0** 11.89	**11.1** 0.43	**2.7** 0.11	800.1	189.1	0.1352	**12.09** 26.65
52.388 2.0625	**36.512** 1.4375	**7.6** 0.30	**6.4** 0.25	**244.0** 9.61	**255.0** 10.04	**3.3** 0.13	**313.0** 12.32	**305.0** 12.01	**7.0** 0.27	**2.2** 0.09	1050.5	172.4	0.1401	**13.27** 29.26
66.675 2.6250	**47.625** 1.8750	**17.0** 0.67	**7.0** 0.28	**249.0** 9.80	**260.0** 10.24	**3.3** 0.13	**334.0** 13.15	**318.0** 12.52	**11.9** 0.47	**3.8** 0.15	1140.0	160.6	0.1626	**23.36** 51.51
69.850 2.7500	**49.212** 1.9375	**-9.9** -0.39	**6.8** 0.27	**247.0** 9.72	**257.0** 10.12	**1.5** 0.06	**330.4** 13.01	**329.0** 12.95	**12.2** 0.48	**3.3** 0.13	1162.0	167.6	0.1358	**22.87** 50.42
69.850 2.7500	**50.800** 2.0000	**6.9** 0.27	**6.4** 0.25	**248.0** 9.76	**258.0** 10.16	**6.4** 0.25	**338.7** 13.34	**324.0** 12.76	**6.1** 0.24	**4.5** 0.18	1185.7	149.4	0.1542	**26.30** 57.99
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**3.5** 0.14	**251.0** 9.88	**256.0** 10.08	**3.3** 0.13	**343.0** 13.50	**335.0** 13.19	**8.0** 0.31	**3.1** 0.12	1626.0	173.0	0.1526	**26.77** 59.03
87.312 3.4375	**63.500** 2.5000	**-4.8** -0.19	**10.5** 0.41	**253.0** 9.96	**271.0** 10.67	**3.3** 0.13	**364.2** 14.34	**360.0** 14.17	**14.8** 0.58	**1.5** 0.06	1351.2	142.8	0.1572	**42.71** 94.16
61.912 2.4375	**39.688** 1.5625	**12.2** 0.48	**7.0** 0.28	**249.9** 9.84	**262.9** 10.35	**6.4** 0.25	**372.1** 14.65	**368.0** 14.49	**9.4** 0.37	**7.4** 0.29	914.9	114.2	0.1402	**31.04** 68.42
95.250 3.7500	**76.200** 3.0000	**-21.1** -0.83	**7.0** 0.28	**259.0** 10.20	**266.0** 10.47	**6.4** 0.25	**384.0** 15.12	**381.0** 15.00	**20.8** 0.81	**1.1** 0.05	1488.7	109.7	0.1480	**56.57** 124.72
111.125 4.3750	**73.025** 2.8750	**39.9** 1.57	**6.4** 0.25	**280.0** 11.02	**297.0** 11.69	**6.4** 0.25	**456.0** 17.95	**416.0** 16.38	**21.4** 0.84	**11.8** 0.47	1295.5	91.5	0.1931	**98.91** 218.07
95.250 3.7500	**73.025** 2.8750	**49.5** 1.95	**6.4** 0.25	**277.0** 10.91	**287.0** 11.30	**6.4** 0.25	**456.2** 17.96	**423.0** 16.65	**22.4** 0.88	**19.2** 0.76	1258.2	106.2	0.1909	**98.28** 216.68
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**6.4** 0.25	**254.0** 10.00	**263.0** 10.35	**3.3** 0.13	**343.0** 13.50	**335.0** 13.19	**8.0** 0.31	**3.1** 0.12	1626.0	173.0	0.1526	**26.05** 57.44

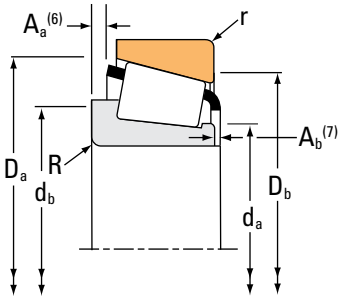
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
231.775 9.1250	**268.288** 10.5625	**22.500** 0.8858	**146000** 32900	0.33	1.80	**37900** 8520	**21600** 4850	1.76	**349000** 78500	LL244549	LL244510
231.775 9.1250	**295.275** 11.6250	**33.338** 1.3125	**238000** 53400	0.40	1.49	**61600** 13900	**42400** 9530	1.45	**458000** 103000	544091	544116
231.775 9.1250	**300.038** 11.8125	**33.338** 1.3125	**238000** 53400	0.40	1.49	**61600** 13900	**42400** 9530	1.45	**458000** 103000	544091	544118
231.775 9.1250	**336.550** 13.2500	**65.088** 2.5625	**789000** 177000	0.33	1.80	**204000** 46000	**116000** 26200	1.76	**1570000** 352000	M246942	M246910
231.775 9.1250	**358.775** 14.1250	**71.438** 2.8125	**1150000** 258000	0.33	1.80	**297000** 66900	**169000** 38100	1.76	**1850000** 416000	M249734H	M249710X
234.950 9.2500	**311.150** 12.2500	**46.038** 1.8125	**441000** 99200	0.36	1.66	**114000** 25700	**70900** 15900	1.61	**926000** 208000	LM446349	LM446310
234.950 9.2500	**314.325** 12.3750	**49.212** 1.9375	**519000** 117000	0.40	1.51	**135000** 30200	**91500** 20600	1.47	**1040000** 233000	LM545849	LM545810
234.950 9.2500	**314.325** 12.3750	**49.212** 1.9375	**519000** 117000	0.40	1.51	**135000** 30200	**91500** 20600	1.47	**1040000** 233000	LM545849A	LM545810
234.950 9.2500	**314.325** 12.3750	**49.212** 1.9375	**560000** 126000	0.40	1.51	**145000** 32600	**98800** 22200	1.47	**949000** 213000	LM545849E	LM545810
234.950 9.2500	**317.500** 12.5000	**49.212** 1.9375	**519000** 117000	0.40	1.51	**135000** 30200	**91500** 20600	1.47	**1040000** 233000	LM545849	LM545812
234.950 9.2500	**320.675** 12.6250	**50.800** 2.0000	**552000** 124000	0.49	1.23	**143000** 32200	**119000** 26800	1.20	**821000** 185000	88925	88126
234.950 9.2500	**327.025** 12.8750	**52.388** 2.0625	**552000** 124000	0.49	1.23	**143000** 32200	**119000** 26800	1.20	**821000** 185000	88925	88128
234.950 9.2500	**327.025** 12.8750	**52.388** 2.0625	**558000** 126000	0.41	1.48	**145000** 32500	**101000** 22700	1.44	**1070000** 240000	8575	8520
234.950 9.2500	**355.600** 14.0000	**68.262** 2.6875	**759000** 171000	0.59	1.02	**197000** 44200	**199000** 44700	0.99	**1420000** 319000	96925	96140
234.950 9.2500	**381.000** 15.0000	**74.612** 2.9375	**1260000** 283000	0.33	1.80	**326000** 73200	**185000** 41700	1.76	**2030000** 455000	M252330	M252310
234.950 9.2500	**384.175** 15.1250	**112.712** 4.4375	**1670000** 377000	0.33	1.80	**434000** 97600	**247000** 55600	1.76	**3110000** 699000	H247549	H247510
234.950 9.2500	**384.175** 15.1250	**112.713** 4.4375	**1880000** 422000	0.33	1.80	**486000** 109000	**277000** 62200	1.76	**3370000** 757000	H247548	H247510

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

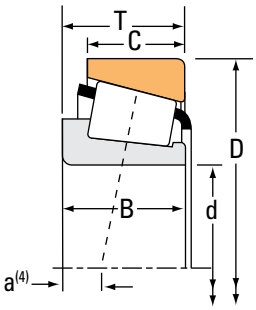
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.500 0.8465	**18.500** 0.7283	**15.7** 0.62	**2.0** 0.08	**237.0** 9.33	**241.0** 9.49	**2.0** 0.08	**263.0** 10.35	**259.0** 10.20	**0.2** 0.01	**2.4** 0.10	693.6	584.8	0.1422	**1.85** 4.09
31.750 1.2500	**23.812** 0.9375	**15.7** 0.62	**3.5** 0.14	**243.1** 9.57	**246.9** 9.72	**3.3** 0.13	**287.0** 11.30	**280.0** 11.02	**4.2** 0.16	**2.8** 0.11	648.6	279.2	0.1174	**4.85** 10.68
31.750 1.2500	**23.812** 0.9375	**15.7** 0.62	**3.5** 0.14	**243.1** 9.57	**246.9** 9.72	**3.3** 0.13	**287.0** 11.30	**282.0** 11.10	**4.2** 0.16	**2.8** 0.11	648.6	279.2	0.1174	**5.24** 11.54
65.088 2.5625	**50.800** 2.0000	**-4.8** -0.19	**6.4** 0.25	**249.0** 9.80	**258.0** 10.16	**3.3** 0.13	**322.0** 12.68	**313.0** 12.32	**5.1** 0.20	**3.3** 0.13	1354.6	198.0	0.1436	**18.53** 40.85
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**6.4** 0.25	**255.0** 10.04	**265.0** 10.43	**3.3** 0.13	**343.0** 13.50	**335.0** 13.19	**7.9** 0.31	**3.1** 0.13	1626.0	173.0	0.1526	**26.40** 58.20
46.038 1.8125	**33.338** 1.3125	**6.6** 0.26	**3.5** 0.14	**246.0** 9.69	**252.0** 9.92	**3.3** 0.13	**301.0** 11.85	**294.0** 11.57	**5.5** 0.21	**1.6** 0.07	1008.4	243.6	0.1328	**8.70** 19.18
49.212 1.9375	**36.512** 1.4375	**8.4** 0.33	**3.5** 0.14	**246.0** 9.69	**252.0** 9.92	**3.3** 0.13	**306.0** 12.05	**296.0** 11.65	**4.4** 0.17	**2.9** 0.12	997.1	163.2	0.1367	**9.85** 21.70
49.212 1.9375	**36.512** 1.4375	**8.4** 0.33	**6.4** 0.25	**246.0** 9.69	**258.0** 10.16	**3.3** 0.13	**306.0** 12.05	**296.0** 11.65	**4.4** 0.17	**2.9** 0.12	997.1	163.2	0.1367	**9.91** 21.84
53.975 2.1250	**36.512** 1.4375	**8.4** 0.33	**3.5** 0.14	**247.0** 9.72	**252.0** 9.92	**3.3** 0.13	**306.0** 12.05	**296.0** 11.65	**4.2** 0.16	**0.0** 0.00	938.2	175.8	0.1338	**10.18** 22.42
49.212 1.9375	**36.512** 1.4375	**8.4** 0.33	**3.5** 0.14	**246.0** 9.69	**252.0** 9.92	**3.3** 0.13	**306.0** 12.05	**297.0** 11.69	**4.4** 0.17	**2.9** 0.12	997.1	163.2	0.1367	**10.27** 22.63
49.212 1.9375	**33.338** 1.3125	**14.2** 0.56	**6.4** 0.25	**246.0** 9.69	**258.0** 10.16	**3.3** 0.13	**309.0** 12.17	**299.0** 11.77	**11.1** 0.43	**2.7** 0.11	800.1	189.1	0.1352	**10.12** 22.31
49.212 1.9375	**34.925** 1.3750	**14.2** 0.56	**6.4** 0.25	**246.0** 9.69	**258.0** 10.16	**3.3** 0.13	**309.0** 12.17	**302.0** 11.89	**11.1** 0.43	**2.7** 0.11	800.1	189.1	0.1352	**11.19** 24.69
52.388 2.0625	**36.512** 1.4375	**7.6** 0.30	**6.4** 0.25	**248.0** 9.76	**259.0** 10.20	**3.3** 0.13	**313.0** 12.32	**305.0** 12.01	**7.0** 0.27	**2.2** 0.09	1050.5	172.4	0.1401	**12.32** 27.16
66.675 2.6250	**47.625** 1.8750	**17.0** 0.67	**7.0** 0.28	**254.0** 10.00	**265.0** 10.43	**3.3** 0.13	**334.0** 13.15	**318.0** 12.52	**11.9** 0.47	**3.8** 0.15	1140.0	160.6	0.1626	**22.15** 48.85
74.612 2.9375	**57.150** 2.2500	**-6.6** -0.26	**6.4** 0.25	**261.0** 10.28	**271.0** 10.67	**3.3** 0.13	**364.0** 14.32	**356.0** 14.02	**8.3** 0.32	**3.6** 0.14	1839.2	226.1	0.1588	**33.48** 73.80
112.712 4.4375	**90.488** 3.5625	**-27.9** -1.10	**6.4** 0.25	**263.0** 10.35	**273.0** 10.75	**6.4** 0.25	**362.5** 14.27	**346.0** 13.62	**10.2** 0.40	**2.9** 0.12	1964.4	148.4	0.1638	**50.04** 110.32
112.712 4.4375	**90.488** 3.5625	**-27.9** -1.10	**6.4** 0.25	**259.0** 10.20	**269.0** 10.59	**6.4** 0.25	**362.5** 14.27	**346.0** 13.62	**8.5** 0.33	**4.4** 0.18	2077.6	156.6	0.1671	**51.64** 113.84

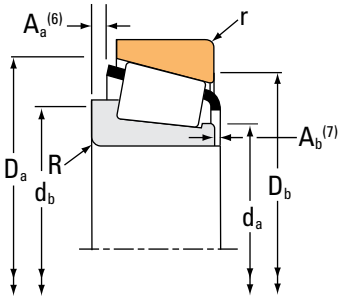
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
235.077 9.2550	**314.325** 12.3750	**49.212** 1.9375	**613000** 138000	0.40	1.51	**159000** 35700	**108000** 24300	1.47	**949000** 213000	LM545847	LM545810
235.331 9.2650	**336.550** 13.2500	**65.088** 2.5625	**924000** 208000	0.33	1.80	**240000** 53800	**136000** 30700	1.76	**1420000** 319000	M246947	M246910
235.331 9.2650	**336.550** 13.2500	**65.088** 2.5625	**924000** 208000	0.33	1.80	**240000** 53800	**136000** 30700	1.76	**1420000** 319000	M246947AA	M246910
236.538 9.3125	**320.675** 12.6250	**44.450** 1.7500	**552000** 124000	0.49	1.23	**143000** 32200	**119000** 26800	1.20	**821000** 185000	88931	88126
236.538 9.3125	**320.675** 12.6250	**44.450** 1.7500	**552000** 124000	0.49	1.23	**143000** 32200	**119000** 26800	1.20	**821000** 185000	88931H	88126
237.330 9.3437	**336.550** 13.2500	**65.088** 2.5625	**789000** 177000	0.33	1.80	**204000** 46000	**116000** 26200	1.76	**1570000** 352000	M246949	M246910
237.330 9.3437	**336.550** 13.2500	**65.088** 2.5625	**845000** 190000	0.33	1.80	**219000** 49200	**125000** 28000	1.76	**1420000** 319000	M246948	M246910
237.330 9.3437	**358.775** 14.1250	**71.438** 2.8125	**914000** 206000	0.33	1.80	**237000** 53300	**135000** 30300	1.76	**1850000** 416000	M249736	M249710
240.000 9.4488	**320.000** 12.5984	**42.000** 1.6535	**440000** 99000	0.46	1.31	**114000** 25700	**89300** 20100	1.28	**808000** 182000	JP24049	JP24010
241.122 9.4930	**368.300** 14.5000	**68.262** 2.6875	**844000** 190000	0.34	1.75	**219000** 49200	**129000** 28900	1.70	**1530000** 345000	EE125094	125145
241.300 9.5000	**327.025** 12.8750	**52.388** 2.0625	**527000** 119000	0.41	1.48	**137000** 30700	**95200** 21400	1.44	**1070000** 240000	8578	8520
241.300 9.5000	**349.148** 13.7460	**57.150** 2.2500	**660000** 148000	0.35	1.70	**171000** 38500	**103000** 23300	1.65	**1250000** 282000	EE127095	127135
241.300 9.5000	**355.498** 13.9960	**57.150** 2.2500	**660000** 148000	0.35	1.70	**171000** 38500	**103000** 23300	1.65	**1250000** 282000	EE127095	127138
241.300 9.5000	**355.600** 14.0000	**50.800** 2.0000	**643000** 144000	0.36	1.65	**167000** 37500	**104000** 23300	1.61	**1030000** 231000	EE170950	171400
241.300 9.5000	**355.600** 14.0000	**57.150** 2.2500	**660000** 148000	0.35	1.70	**171000** 38500	**103000** 23300	1.65	**1250000** 282000	EE127095	127140
241.300 9.5000	**365.049** 14.3720	**50.800** 2.0000	**643000** 144000	0.36	1.65	**167000** 37500	**104000** 23300	1.61	**1030000** 231000	EE170950	171436
241.300 9.5000	**368.300** 14.5000	**50.800** 2.0000	**643000** 144000	0.36	1.65	**167000** 37500	**104000** 23300	1.61	**1030000** 231000	EE170950	171450

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

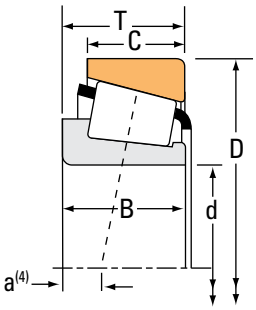
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
53.975 2.1250	**36.512** 1.4375	**8.4** 0.33	**3.5** 0.14	**247.0** 9.72	**252.0** 9.92	**3.3** 0.13	**306.0** 12.05	**296.0** 11.65	**4.2** 0.16	**0.0** 0.00	938.2	175.8	0.1338	**10.16** 22.37
69.850 2.7500	**50.800** 2.0000	**-4.8** -0.19	**2.3** 0.09	**251.0** 9.88	**253.0** 9.96	**3.3** 0.13	**322.0** 12.68	**313.0** 12.32	**4.2** 0.16	**1.2** 0.05	1264.4	185.4	0.1401	**18.28** 40.30
65.088 2.5625	**50.800** 2.0000	**-4.8** -0.19	**2.3** 0.09	**251.0** 9.88	**253.0** 9.96	**3.3** 0.13	**322.0** 12.68	**313.0** 12.32	**4.2** 0.16	**6.0** 0.24	1264.4	185.4	0.1401	**17.83** 39.31
44.450 1.7500	**33.338** 1.3125	**20.6** 0.81	**3.5** 0.14	**247.0** 9.72	**254.0** 10.00	**3.3** 0.13	**309.0** 12.17	**299.0** 11.77	**4.8** 0.18	**1.1** 0.05	800.1	189.1	0.1352	**9.36** 20.61
44.450 1.7500	**33.338** 1.3125	**20.6** 0.81	**3.5** 0.14	**248.0** 9.76	**253.0** 9.96	**3.3** 0.13	**309.0** 12.17	**299.0** 11.77	**4.8** 0.18	**1.1** 0.05	800.1	189.1	0.1352	**9.25** 20.39
65.088 2.5625	**50.800** 2.0000	**-4.8** -0.19	**6.4** 0.25	**253.0** 9.96	**262.0** 10.31	**3.3** 0.13	**322.0** 12.68	**313.0** 12.32	**5.1** 0.20	**3.3** 0.13	1354.6	198.0	0.1436	**17.49** 38.54
69.850 2.7500	**50.800** 2.0000	**-4.8** -0.19	**6.4** 0.25	**253.0** 9.96	**263.0** 10.35	**3.3** 0.13	**322.0** 12.68	**313.0** 12.32	**4.2** 0.16	**1.2** 0.05	1264.4	185.4	0.1401	**17.83** 39.30
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**6.4** 0.25	**258.0** 10.16	**267.0** 10.51	**3.3** 0.13	**343.0** 13.50	**335.0** 13.19	**8.0** 0.31	**3.1** 0.12	1626.0	173.0	0.1526	**24.91** 54.91
39.000 1.5354	**30.000** 1.1811	**19.6** 0.77	**3.0** 0.12	**252.0** 9.92	**257.0** 10.12	**3.0** 0.12	**310.0** 12.20	**304.0** 11.97	**4.7** 0.18	**4.6** 0.18	804.0	198.2	0.1326	**8.24** 18.17
68.262 2.6875	**53.975** 2.1250	**-2.3** -0.09	**6.4** 0.25	**257.0** 10.12	**269.0** 10.59	**3.3** 0.13	**343.9** 13.54	**341.1** 13.43	**7.7** 0.30	**0.2** 0.01	1309.0	221.1	0.1432	**24.45** 53.90
52.388 2.0625	**36.512** 1.4375	**7.6** 0.30	**6.4** 0.25	**253.0** 9.96	**264.0** 10.39	**3.3** 0.13	**313.0** 12.32	**305.0** 12.01	**7.0** 0.27	**2.2** 0.09	1050.5	172.4	0.1401	**11.34** 25.01
57.150 2.2500	**44.450** 1.7500	**2.5** 0.10	**6.4** 0.25	**257.0** 10.12	**267.0** 10.51	**3.3** 0.13	**329.0** 12.95	**325.0** 12.80	**6.4** 0.25	**1.7** 0.07	1178.6	164.4	0.1392	**16.53** 36.44
57.150 2.2500	**44.450** 1.7500	**2.5** 0.10	**6.4** 0.25	**257.0** 10.12	**267.0** 10.51	**3.3** 0.13	**329.0** 12.95	**327.0** 12.87	**6.4** 0.25	**1.7** 0.07	1178.6	164.4	0.1392	**17.75** 39.13
50.800 2.0000	**33.338** 1.3125	**5.8** 0.23	**6.4** 0.25	**260.0** 10.24	**269.0** 10.59	**3.3** 0.13	**337.0** 13.27	**334.0** 13.15	**8.6** 0.33	**3.3** 0.13	1068.6	171.6	0.1354	**15.42** 33.98
57.150 2.2500	**44.450** 1.7500	**2.5** 0.10	**6.4** 0.25	**257.0** 10.12	**267.0** 10.51	**3.3** 0.13	**329.0** 12.95	**327.0** 12.87	**6.4** 0.25	**1.7** 0.07	1178.6	164.4	0.1392	**17.77** 39.18
50.800 2.0000	**33.338** 1.3125	**5.8** 0.23	**6.4** 0.25	**260.0** 10.24	**269.0** 10.59	**3.3** 0.13	**337.0** 13.27	**338.0** 13.31	**8.6** 0.33	**3.3** 0.13	1068.6	171.6	0.1354	**16.81** 37.05
50.800 2.0000	**33.338** 1.3125	**5.8** 0.23	**6.4** 0.25	**260.0** 10.24	**269.0** 10.59	**3.3** 0.13	**337.0** 13.27	**340.0** 13.39	**8.6** 0.33	**3.3** 0.13	1068.6	171.6	0.1354	**17.30** 38.12

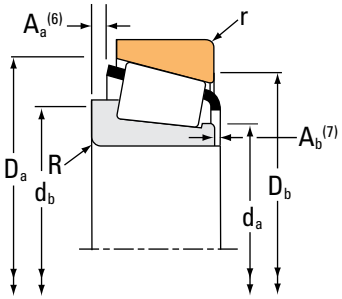
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
241.300 9.5000	**368.300** 14.5000	**68.262** 2.6875	**844000** 190000	0.34	1.75	**219000** 49200	**129000** 28900	1.70	**1530000** 345000	EE125095	125145
241.300 9.5000	**393.700** 15.5000	**73.817** 2.9062	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275095	275155
241.300 9.5000	**403.225** 15.8750	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275095	275158
241.300 9.5000	**406.400** 16.0000	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275095	275160
241.300 9.5000	**444.500** 17.5000	**101.600** 4.0000	**1820000** 409000	0.34	1.78	**472000** 106000	**273000** 61300	1.73	**2420000** 544000	EE923095	923175
241.300 9.5000	**488.950** 19.2500	**120.650** 4.7500	**2420000** 544000	0.31	1.92	**628000** 141000	**336000** 75600	1.87	**3310000** 744000	EE295950	295193
241.300 9.5000	**508.000** 20.0000	**117.475** 4.6250	**1430000** 322000	0.94	0.64	**371000** 83500	**596000** 134000	0.62	**2100000** 473000	EE390095	390200
243.683 9.5938	**315.912** 12.4375	**31.750** 1.2500	**270000** 60700	0.43	1.39	**70000** 15700	**51500** 11600	1.36	**561000** 126000	LL648434	LL648415
244.475 9.6250	**381.000** 15.0000	**79.375** 3.1250	**907000** 204000	0.52	1.16	**235000** 52900	**208000** 46800	1.13	**1690000** 381000	EE126097	126150
247.650 9.7500	**304.800** 12.0000	**22.225** 0.8750	**157000** 35400	0.32	1.85	**40800** 9170	**22700** 5100	1.80	**373000** 83900	28880	28820
247.650 9.7500	**346.075** 13.6250	**63.500** 2.5000	**850000** 191000	0.34	1.75	**220000** 49500	**130000** 29100	1.70	**1620000** 365000	M348449	M348410
247.650 9.7500	**355.600** 14.0000	**50.800** 2.0000	**643000** 144000	0.36	1.65	**167000** 37500	**104000** 23300	1.61	**1030000** 231000	EE170975	171400
247.650 9.7500	**365.049** 14.3720	**50.800** 2.0000	**643000** 144000	0.36	1.65	**167000** 37500	**104000** 23300	1.61	**1030000** 231000	EE170975	171436
247.650 9.7500	**368.300** 14.5000	**50.800** 2.0000	**643000** 144000	0.36	1.65	**167000** 37500	**104000** 23300	1.61	**1030000** 231000	EE170975	171450
247.650 9.7500	**381.000** 15.0000	**74.612** 2.9375	**1150000** 258000	0.33	1.80	**298000** 67000	**170000** 38100	1.76	**2030000** 455000	M252337	M252310
247.650 9.7500	**406.400** 16.0000	**115.887** 4.5625	**2470000** 554000	0.33	1.80	**639000** 144000	**364000** 81800	1.76	**3770000** 846000	HH249949H	HH249910
247.650 9.7500	**406.400** 16.0000	**115.888** 4.5625	**2080000** 468000	0.33	1.80	**539000** 121000	**307000** 69000	1.76	**3770000** 846000	HH249949	HH249910

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

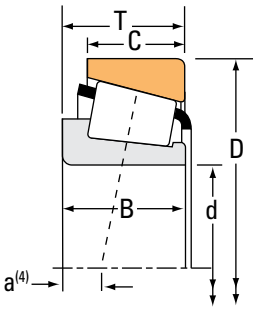
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
68.262 2.6875	**53.975** 2.1250	**-2.3** -0.09	**6.4** 0.25	**257.0** 10.12	**269.0** 10.59	**3.3** 0.13	**343.9** 13.54	**341.1** 13.43	**7.7** 0.30	**0.2** 0.01	1309.0	221.1	0.1432	**24.12** 53.18
69.850 2.7500	**50.005** 1.9687	**2.5** 0.10	**6.4** 0.25	**268.0** 10.55	**278.0** 10.94	**6.4** 0.25	**378.1** 14.89	**366.0** 14.41	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**31.91** 70.36
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**268.0** 10.55	**278.0** 10.94	**6.4** 0.25	**378.1** 14.89	**371.0** 14.61	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**33.30** 73.41
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**268.0** 10.55	**278.0** 10.94	**6.4** 0.25	**378.5** 14.90	**373.0** 14.69	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**34.15** 75.30
100.012 3.9375	**76.200** 3.0000	**-19.3** -0.76	**6.4** 0.25	**268.0** 10.55	**277.0** 10.91	**4.8** 0.19	**407.0** 16.02	**403.0** 15.87	**12.2** 0.48	**2.1** 0.09	1626.7	136.5	0.1531	**65.65** 144.73
120.650 4.7500	**92.075** 3.6250	**-31.0** -1.22	**6.4** 0.25	**276.0** 10.87	**285.0** 11.22	**6.4** 0.25	**450.5** 17.74	**444.0** 17.48	**18.6** 0.73	**4.0** 0.16	2247.3	171.9	0.1664	**103.07** 227.24
95.250 3.7500	**73.025** 2.8750	**49.5** 1.95	**6.4** 0.25	**288.0** 11.34	**297.0** 11.69	**6.4** 0.25	**456.2** 17.96	**423.0** 16.65	**22.4** 0.88	**18.9** 0.75	1258.2	106.2	0.1909	**94.79** 208.97
31.750 1.2500	**22.225** 0.8750	**22.4** 0.88	**3.5** 0.14	**254.0** 10.00	**260.0** 10.24	**3.3** 0.13	**305.0** 12.01	**300.0** 11.81	**4.6** 0.18	**1.5** 0.06	817.0	322.2	0.1295	**5.84** 12.89
76.200 3.0000	**57.150** 2.2500	**9.7** 0.38	**6.4** 0.25	**266.0** 10.47	**275.0** 10.83	**4.8** 0.19	**358.0** 14.09	**343.0** 13.50	**13.0** 0.51	**2.0** 0.08	1321.8	168.9	0.1640	**30.34** 66.87
22.225 0.8750	**15.875** 0.6250	**17.3** 0.68	**1.5** 0.06	**256.0** 10.08	**258.0** 10.16	**1.5** 0.06	**294.0** 11.57	**291.0** 11.46	**1.6** 0.06	**1.9** 0.08	807.0	572.7	0.1479	**3.18** 7.01
63.500 2.5000	**50.800** 2.0000	**-1.3** -0.05	**6.4** 0.25	**263.0** 10.35	**273.0** 10.75	**6.4** 0.25	**332.0** 13.07	**321.0** 12.64	**4.0** 0.15	**3.7** 0.15	1450.8	212.9	0.1483	**17.60** 38.81
50.800 2.0000	**33.338** 1.3125	**5.8** 0.23	**6.4** 0.25	**264.0** 10.39	**274.0** 10.79	**3.3** 0.13	**337.0** 13.27	**334.0** 13.15	**8.6** 0.33	**3.3** 0.13	1068.6	171.6	0.1354	**14.44** 31.83
50.800 2.0000	**33.338** 1.3125	**5.8** 0.23	**6.4** 0.25	**264.0** 10.39	**274.0** 10.79	**3.3** 0.13	**337.0** 13.27	**338.0** 13.31	**8.6** 0.33	**3.3** 0.13	1068.6	171.6	0.1354	**15.83** 34.90
50.800 2.0000	**33.338** 1.3125	**5.8** 0.23	**6.4** 0.25	**264.0** 10.39	**274.0** 10.79	**3.3** 0.13	**337.0** 13.27	**340.0** 13.39	**8.6** 0.33	**3.3** 0.13	1068.6	171.6	0.1354	**16.32** 35.98
74.612 2.9375	**57.150** 2.2500	**-6.6** -0.26	**6.4** 0.25	**270.0** 10.63	**280.0** 11.02	**3.3** 0.13	**364.0** 14.32	**356.0** 14.02	**8.3** 0.32	**3.6** 0.14	1839.2	226.1	0.1588	**30.51** 67.25
117.475 4.6250	**93.662** 3.6875	**-28.7** -1.13	**6.4** 0.25	**278.0** 10.94	**288.0** 11.34	**6.4** 0.25	**383.0** 15.08	**366.0** 14.41	**8.9** 0.35	**4.1** 0.16	2373.9	173.3	0.1746	**60.55** 133.51
117.475 4.6250	**93.662** 3.6875	**-28.7** -1.13	**6.4** 0.25	**275.0** 10.83	**284.0** 11.18	**6.4** 0.25	**383.0** 15.08	**366.0** 14.41	**8.9** 0.35	**4.1** 0.16	2373.9	173.3	0.1746	**60.60** 133.60

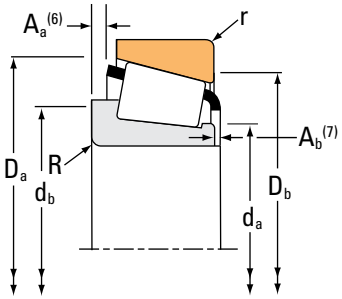
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
247.650 9.7500	**444.500** 17.5000	**139.700** 5.5000	**3130000** 705000	0.29	2.06	**813000** 183000	**406000** 91200	2.00	**4470000** 1000000	NP544119	NP225734
249.250 9.8130	**381.000** 15.0000	**79.375** 3.1250	**907000** 204000	0.52	1.16	**235000** 52900	**208000** 46800	1.13	**1690000** 381000	EE126098	126150
254.000 10.0000	**315.912** 12.4375	**31.750** 1.2500	**255000** 57300	0.43	1.39	**66100** 14900	**48700** 10900	1.36	**561000** 126000	LL648449	LL648415
254.000 10.0000	**315.912** 12.4375	**31.750** 1.2500	**255000** 57300	0.43	1.39	**66100** 14900	**48700** 10900	1.36	**561000** 126000	LL648449	LL648416
254.000 10.0000	**323.850** 12.7500	**22.225** 0.8750	**151000** 33900	0.35	1.73	**39200** 8800	**23200** 5220	1.69	**391000** 87800	29875	29820
254.000 10.0000	**358.775** 14.1250	**71.438** 2.8125	**914000** 206000	0.33	1.80	**237000** 53300	**135000** 30300	1.76	**1850000** 416000	M249749	M249710
254.000 10.0000	**358.775** 14.1250	**71.438** 2.8125	**1150000** 258000	0.33	1.80	**297000** 66900	**169000** 38100	1.76	**1850000** 416000	M249749H	M249710X
254.000 10.0000	**358.775** 14.1250	**71.438** 2.8125	**914000** 206000	0.33	1.80	**237000** 53300	**135000** 30300	1.76	**1850000** 416000	M249749X	M249710
254.000 10.0000	**365.125** 14.3750	**58.738** 2.3125	**679000** 153000	0.37	1.60	**176000** 39600	**113000** 25400	1.56	**1330000** 299000	EE134100	134143
254.000 10.0000	**368.300** 14.5000	**58.738** 2.3125	**679000** 153000	0.37	1.60	**176000** 39600	**113000** 25400	1.56	**1330000** 299000	EE134100	134145
254.000 10.0000	**393.700** 15.5000	**73.817** 2.9062	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275100	275155
254.000 10.0000	**400.050** 15.7500	**57.150** 2.2500	**782000** 176000	0.33	1.81	**203000** 45600	**115000** 25900	1.76	**1390000** 313000	EE251001	251575
254.000 10.0000	**403.225** 15.8750	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275100	275158
254.000 10.0000	**406.400** 16.0000	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275100	275160
254.000 10.0000	**422.275** 16.6250	**86.121** 3.3906	**1550000** 348000	0.33	1.80	**401000** 90100	**228000** 51300	1.76	**2110000** 475000	HM252344	HM252310
254.000 10.0000	**422.275** 16.6250	**86.121** 3.3906	**1500000** 337000	0.33	1.80	**389000** 87400	**221000** 49700	1.76	**2020000** 455000	HM252343	HM252310
254.000 10.0000	**431.724** 16.9970	**82.550** 3.2500	**1500000** 337000	0.33	1.80	**389000** 87400	**221000** 49700	1.76	**2020000** 455000	HM252343	HM252315

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

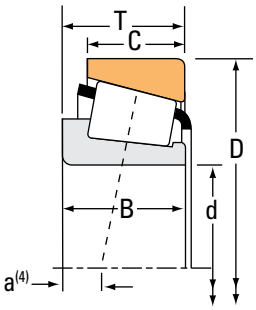
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
139.700 5.5000	**120.650** 4.7500	**-41.7** -1.64	**6.4** 0.25	**281.0** 11.06	**291.0** 11.46	**6.4** 0.25	**413.5** 16.28	**396.0** 15.59	**8.3** 0.32	**5.2** 0.21	2724.6	139.8	0.1748	**96.14** 211.94
76.200 3.0000	**57.150** 2.2500	**9.7** 0.38	**6.4** 0.25	**269.0** 10.59	**279.0** 10.98	**4.8** 0.19	**358.0** 14.09	**343.0** 13.50	**13.0** 0.51	**2.0** 0.08	1321.8	168.9	0.1640	**29.23** 64.44
31.750 1.2500	**22.225** 0.8750	**22.4** 0.88	**3.5** 0.14	**262.0** 10.31	**268.0** 10.55	**3.3** 0.13	**305.0** 12.01	**300.0** 11.81	**4.6** 0.18	**1.5** 0.06	817.0	322.2	0.1295	**4.84** 10.68
31.750 1.2500	**22.225** 0.8750	**22.4** 0.88	**3.5** 0.14	**262.0** 10.31	**268.0** 10.55	**4.8** 0.19	**305.0** 12.01	**298.0** 11.73	**4.6** 0.18	**1.5** 0.06	817.0	322.2	0.1295	**4.80** 10.57
22.225 0.8750	**15.875** 0.6250	**21.1** 0.83	**1.5** 0.06	**266.0** 10.47	**267.0** 10.51	**1.5** 0.06	**312.0** 12.28	**310.0** 12.20	**1.7** 0.06	**1.9** 0.08	906.8	658.2	0.1567	**4.27** 9.40
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**3.5** 0.14	**270.0** 10.63	**274.0** 10.79	**3.3** 0.13	**343.0** 13.50	**335.0** 13.19	**8.0** 0.31	**3.1** 0.12	1626.0	173.0	0.1526	**21.39** 47.16
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**3.5** 0.14	**272.0** 10.71	**276.0** 10.87	**3.3** 0.13	**343.0** 13.50	**335.0** 13.19	**7.9** 0.31	**3.1** 0.13	1626.0	173.0	0.1526	**21.69** 47.82
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**3.5** 0.14	**270.0** 10.63	**274.0** 10.79	**3.3** 0.13	**343.0** 13.50	**335.0** 13.19	**8.0** 0.31	**3.1** 0.12	1626.0	173.0	0.1526	**21.42** 47.22
58.738 2.3125	**42.862** 1.6875	**5.1** 0.20	**6.4** 0.25	**272.0** 10.71	**281.0** 11.06	**6.4** 0.25	**347.0** 13.66	**339.0** 13.35	**8.2** 0.32	**1.7** 0.07	1327.7	187.2	0.1474	**18.23** 40.20
58.738 2.3125	**42.862** 1.6875	**5.1** 0.20	**6.4** 0.25	**272.0** 10.71	**281.0** 11.06	**6.4** 0.25	**347.0** 13.66	**340.0** 13.39	**8.2** 0.32	**1.7** 0.07	1327.7	187.2	0.1474	**18.85** 41.55
69.850 2.7500	**50.005** 1.9687	**2.5** 0.10	**6.4** 0.25	**277.0** 10.91	**287.0** 11.30	**6.4** 0.25	**378.1** 14.89	**366.0** 14.41	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**29.21** 64.40
55.562 2.1875	**41.275** 1.6250	**3.3** 0.13	**3.3** 0.13	**272.0** 10.71	**278.0** 10.94	**1.5** 0.06	**369.0** 14.53	**371.0** 14.61	**6.3** 0.24	**5.4** 0.21	1323.1	218.0	0.1413	**24.94** 54.95
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**277.0** 10.91	**287.0** 11.30	**6.4** 0.25	**378.1** 14.89	**371.0** 14.61	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**30.60** 67.45
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**277.0** 10.91	**287.0** 11.30	**6.4** 0.25	**378.5** 14.90	**373.0** 14.69	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**31.45** 69.34
79.771 3.1406	**66.675** 2.6250	**-9.4** -0.37	**6.8** 0.27	**281.0** 11.06	**287.0** 11.30	**3.3** 0.13	**399.5** 15.73	**392.0** 15.43	**10.4** 0.41	**6.1** 0.24	1551.8	152.3	0.1498	**44.32** 97.70
79.771 3.1406	**66.675** 2.6250	**-9.4** -0.37	**6.8** 0.27	**281.0** 11.06	**287.0** 11.30	**3.3** 0.13	**399.5** 15.73	**392.0** 15.43	**12.9** 0.51	**4.8** 0.19	1504.3	147.8	0.1482	**42.03** 92.64
79.771 3.1406	**60.325** 2.3750	**-9.4** -0.37	**6.8** 0.27	**281.0** 11.06	**287.0** 11.30	**3.5** 0.14	**398.3** 15.68	**397.0** 15.63	**12.9** 0.51	**4.8** 0.19	1504.3	147.8	0.1482	**43.71** 96.35

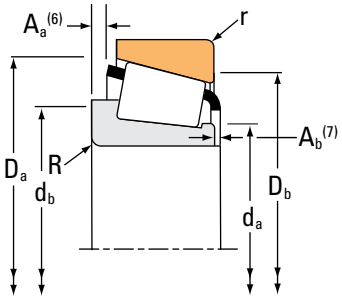
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
254.000 10.0000	**444.500** 17.5000	**76.200** 3.0000	**1180000** 264000	0.34	1.76	**305000** 68500	**178000** 40000	1.71	**1740000** 392000	EE822100	822175
254.000 10.0000	**495.300** 19.5000	**76.200** 3.0000	**1550000** 348000	0.40	1.49	**402000** 90300	**277000** 62200	1.45	**2090000** 471000	EE941002	941950
254.000 10.0000	**495.300** 19.5000	**141.288** 5.5625	**2870000** 645000	0.33	1.80	**744000** 167000	**423000** 95200	1.76	**5650000** 1270000	HH258232	HH258210
254.000 10.0000	**533.400** 21.0000	**133.350** 5.2500	**2680000** 603000	0.94	0.64	**696000** 156000	**1120000** 251000	0.62	**3090000** 694000	HH953749	HH953710
254.000 10.0000	**533.400** 21.0000	**133.350** 5.2500	**2680000** 603000	0.94	0.64	**696000** 156000	**1120000** 251000	0.62	**3090000** 694000	HH953749	HH953710X
254.000 10.0000	**558.800** 22.0000	**123.825** 4.8750	**1800000** 404000	0.87	0.69	**466000** 105000	**691000** 155000	0.67	**2680000** 603000	EE620100	620220
257.175 10.1250	**342.900** 13.5000	**57.150** 2.2500	**780000** 175000	0.35	1.73	**202000** 45500	**120000** 27000	1.68	**1430000** 321000	M349549	M349510
257.175 10.1250	**342.900** 13.5000	**57.150** 2.2500	**780000** 175000	0.35	1.73	**202000** 45500	**120000** 27000	1.68	**1430000** 321000	M349549A	M349510
258.762 10.1875	**400.050** 15.7500	**69.850** 2.7500	**949000** 213000	0.39	1.52	**246000** 55300	**166000** 37400	1.48	**1450000** 326000	EE221018	221575
260.350 10.2500	**365.125** 14.3750	**58.738** 2.3125	**679000** 153000	0.37	1.60	**176000** 39600	**113000** 25400	1.56	**1330000** 299000	EE134102	134143
260.350 10.2500	**368.300** 14.5000	**58.738** 2.3125	**679000** 153000	0.37	1.60	**176000** 39600	**113000** 25400	1.56	**1330000** 299000	EE134102	134145
260.350 10.2500	**400.050** 15.7500	**69.850** 2.7500	**949000** 213000	0.39	1.52	**246000** 55300	**166000** 37400	1.48	**1450000** 326000	EE221026	221575
260.350 10.2500	**406.400** 16.0000	**69.850** 2.7500	**924000** 208000	0.39	1.55	**240000** 53900	**158000** 35600	1.51	**1820000** 409000	EE128102	128160
260.350 10.2500	**419.100** 16.5000	**85.725** 3.3750	**1120000** 253000	0.60	0.99	**291000** 65500	**302000** 67800	0.97	**2010000** 451000	EE435102	435165
260.350 10.2500	**422.275** 16.6250	**86.121** 3.3906	**1550000** 348000	0.33	1.80	**401000** 90100	**228000** 51300	1.76	**2110000** 475000	HM252349	HM252310
260.350 10.2500	**422.275** 16.6250	**86.121** 3.3906	**1500000** 337000	0.33	1.80	**389000** 87400	**221000** 49700	1.76	**2020000** 455000	HM252348	HM252310
260.350 10.2500	**431.724** 16.9970	**82.550** 3.2500	**1500000** 337000	0.33	1.80	**389000** 87400	**221000** 49700	1.76	**2020000** 455000	HM252348	HM252315

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

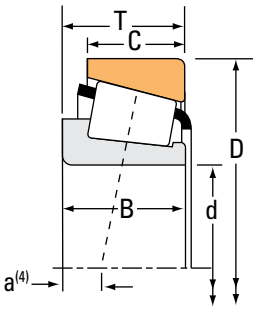
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
73.025 2.8750	**50.800** 2.0000	**-5.3** -0.21	**6.4** 0.25	**276.1** 10.87	**288.0** 11.34	**6.4** 0.25	**407.9** 16.06	**404.9** 15.94	**12.1** 0.47	**6.5** 0.26	1363.4	186.1	0.1442	**43.84** 96.65
74.612 2.9375	**53.975** 2.1250	**9.1** 0.36	**6.4** 0.25	**292.0** 11.50	**301.0** 11.85	**3.3** 0.13	**462.7** 18.22	**459.0** 18.07	**10.2** 0.40	**6.0** 0.24	1771.6	187.4	0.1657	**64.61** 142.44
141.288 5.5625	**114.300** 4.5000	**-34.5** -1.36	**6.4** 0.25	**295.0** 11.61	**304.0** 11.97	**6.4** 0.25	**467.0** 18.40	**448.0** 17.64	**10.6** 0.42	**7.5** 0.30	3853.2	220.0	0.2048	**132.43** 291.94
120.650 4.7500	**77.788** 3.0625	**45.5** 1.79	**6.4** 0.25	**306.3** 12.06	**328.0** 12.91	**6.4** 0.25	**495.6** 19.51	**455.0** 17.91	**21.8** 0.86	**14.3** 0.56	1668.7	104.2	0.2101	**127.31** 280.67
120.650 4.7500	**77.788** 3.0625	**45.5** 1.79	**6.4** 0.25	**306.3** 12.06	**328.0** 12.91	**6.4** 0.25	**495.6** 19.51	**455.0** 17.91	**21.8** 0.86	**14.3** 0.56	1668.7	104.2	0.2101	**127.09** 280.20
104.775 4.1250	**69.850** 2.7500	**48.8** 1.92	**8.0** 0.31	**308.0** 12.13	**317.0** 12.48	**8.0** 0.31	**501.9** 19.76	**477.0** 18.78	**23.9** 0.94	**17.5** 0.69	1730.9	165.3	0.2078	**126.87** 279.70
57.150 2.2500	**44.450** 1.7500	**2.5** 0.10	**6.4** 0.25	**269.0** 10.59	**281.0** 11.06	**3.3** 0.13	**333.0** 13.11	**322.0** 12.68	**4.7** 0.18	**3.0** 0.12	1423.3	193.4	0.1475	**13.71** 30.22
57.150 2.2500	**44.450** 1.7500	**2.5** 0.10	**10.7** 0.42	**269.0** 10.59	**289.0** 11.38	**3.3** 0.13	**333.0** 13.11	**322.0** 12.68	**4.7** 0.18	**3.0** 0.12	1423.3	193.4	0.1475	**13.40** 29.53
67.470 2.6563	**46.038** 1.8125	**0.8** 0.03	**9.7** 0.38	**279.0** 10.98	**295.0** 11.61	**6.4** 0.25	**371.5** 14.63	**366.0** 14.41	**14.3** 0.56	**5.6** 0.22	1320.8	207.5	0.1497	**27.08** 59.72
58.738 2.3125	**42.862** 1.6875	**5.1** 0.20	**6.4** 0.25	**276.0** 10.87	**286.0** 11.26	**6.4** 0.25	**347.0** 13.66	**339.0** 13.35	**8.2** 0.32	**1.7** 0.07	1327.7	187.2	0.1474	**17.00** 37.50
58.738 2.3125	**42.862** 1.6875	**5.1** 0.20	**6.4** 0.25	**276.0** 10.87	**286.0** 11.26	**6.4** 0.25	**347.0** 13.66	**340.0** 13.39	**8.2** 0.32	**1.7** 0.07	1327.7	187.2	0.1474	**17.62** 38.85
67.470 2.6563	**46.038** 1.8125	**0.8** 0.03	**9.7** 0.38	**280.0** 11.02	**296.0** 11.65	**6.4** 0.25	**371.5** 14.63	**366.0** 14.41	**14.3** 0.56	**5.6** 0.22	1320.8	207.5	0.1497	**26.74** 58.97
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**3.3** 0.13	**292.0** 11.50	**288.0** 11.34	**3.3** 0.13	**384.0** 15.12	**378.0** 14.88	**6.8** 0.27	**2.1** 0.08	1727.7	255.2	0.1628	**32.57** 71.80
84.138 3.3125	**61.912** 2.4375	**19.8** 0.78	**6.4** 0.25	**285.0** 11.22	**295.0** 11.61	**3.3** 0.13	**395.1** 15.56	**376.0** 14.80	**14.0** 0.55	**2.0** 0.08	1480.2	123.2	0.1787	**41.85** 92.26
79.771 3.1406	**66.675** 2.6250	**-9.4** -0.37	**6.8** 0.27	**285.0** 11.22	**292.0** 11.50	**3.3** 0.13	**399.5** 15.73	**392.0** 15.43	**10.4** 0.41	**6.1** 0.24	1551.8	152.3	0.1498	**42.72** 94.17
79.771 3.1406	**66.675** 2.6250	**-9.4** -0.37	**6.8** 0.27	**285.0** 11.22	**292.0** 11.50	**3.3** 0.13	**399.5** 15.73	**392.0** 15.43	**12.9** 0.51	**4.8** 0.19	1504.3	147.8	0.1482	**40.54** 89.36
79.771 3.1406	**60.325** 2.3750	**-9.4** -0.37	**6.8** 0.27	**285.0** 11.22	**292.0** 11.50	**3.5** 0.14	**398.3** 15.68	**397.0** 15.63	**12.9** 0.51	**4.8** 0.19	1504.3	147.8	0.1482	**42.22** 93.07

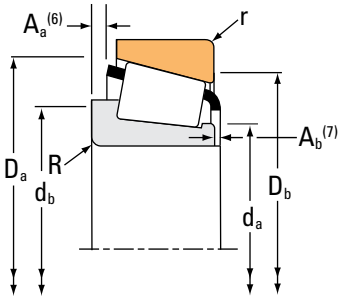
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
260.350 10.2500	**431.724** 16.9970	**82.550** 3.2500	**1550000** 348000	0.33	1.80	**401000** 90100	**228000** 51300	1.76	**2110000** 475000	HM252349	HM252315
260.350 10.2500	**488.950** 19.2500	**120.650** 4.7500	**2420000** 544000	0.31	1.92	**628000** 141000	**336000** 75600	1.87	**3310000** 744000	EE295102	295193
263.525 10.3750	**325.438** 12.8125	**28.575** 1.1250	**221000** 49800	0.37	1.64	**57400** 12900	**35900** 8080	1.60	**554000** 125000	38880	38820
263.525 10.3750	**355.600** 14.0000	**57.150** 2.2500	**805000** 181000	0.36	1.67	**209000** 46900	**129000** 28900	1.62	**1510000** 339000	LM451345	LM451310
264.975 10.4321	**355.600** 14.0000	**57.150** 2.2500	**731000** 164000	0.36	1.67	**189000** 42600	**117000** 26300	1.62	**1310000** 296000	LM451347	LM451310
266.560 10.4945	**325.438** 12.8125	**29.500** 1.1614	**217000** 48800	0.37	1.64	**56300** 12700	**35300** 7930	1.60	**507000** 114000	LL450748A	38820
266.560 10.4945	**325.438** 12.8125	**29.500** 1.1614	**214000** 48100	0.37	1.64	**55500** 12500	**34700** 7810	1.60	**527000** 118000	38884	38820
266.700 10.5000	**323.850** 12.7500	**22.225** 0.8750	**151000** 33900	0.35	1.73	**39200** 8800	**23200** 5220	1.69	**391000** 87800	29880	29820
266.700 10.5000	**325.438** 12.8125	**28.575** 1.1250	**221000** 49800	0.37	1.64	**57400** 12900	**35900** 8080	1.60	**554000** 125000	38885	38820
266.700 10.5000	**325.438** 12.8125	**29.500** 1.1614	**230000** 51700	0.37	1.64	**59600** 13400	**37300** 8390	1.60	**507000** 114000	LL450749AA	38820
266.700 10.5000	**325.438** 12.8125	**29.500** 1.1614	**227000** 50900	0.37	1.64	**58700** 13200	**36800** 8260	1.60	**527000** 118000	38886	38820
266.700 10.5000	**355.600** 14.0000	**57.150** 2.2500	**880000** 198000	0.36	1.67	**228000** 51300	**141000** 31600	1.62	**1510000** 339000	LM451349	LM451310
266.700 10.5000	**355.600** 14.0000	**57.150** 2.2500	**805000** 181000	0.36	1.67	**209000** 46900	**129000** 28900	1.62	**1510000** 339000	LM451349A	LM451310
266.700 10.5000	**355.600** 14.0000	**57.150** 2.2500	**805000** 181000	0.36	1.67	**209000** 46900	**129000** 28900	1.62	**1510000** 339000	LM451349AX	LM451310
266.700 10.5000	**393.700** 15.5000	**73.817** 2.9062	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275105	275155
266.700 10.5000	**403.225** 15.8750	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275105	275158
266.700 10.5000	**406.400** 16.0000	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275105	275160

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

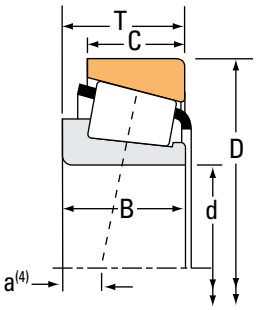
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
79.771 3.1406	**60.325** 2.3750	**-9.4** -0.37	**6.8** 0.27	**285.0** 11.22	**292.0** 11.50	**3.5** 0.14	**398.3** 15.68	**397.0** 15.63	**10.4** 0.41	**6.1** 0.24	1551.8	152.3	0.1498	**44.40** 97.88
120.650 4.7500	**92.075** 3.6250	**-31.0** -1.22	**6.4** 0.25	**290.0** 11.42	**299.0** 11.77	**6.4** 0.25	**450.5** 17.74	**444.0** 17.48	**18.6** 0.73	**4.0** 0.16	2247.3	171.9	0.1664	**95.98** 211.61
28.575 1.1250	**25.400** 1.0000	**20.3** 0.80	**1.5** 0.06	**275.0** 10.83	**275.0** 10.83	**1.5** 0.06	**315.0** 12.40	**312.0** 12.28	**1.3** 0.05	**1.3** 0.05	1028.2	496.4	0.1676	**5.19** 11.43
57.150 2.2500	**44.450** 1.7500	**5.1** 0.20	**3.5** 0.14	**279.0** 10.98	**283.0** 11.14	**3.3** 0.13	**342.9** 13.50	**335.0** 13.19	**5.8** 0.23	**3.4** 0.14	1554.1	212.2	0.1536	**15.48** 34.14
62.000 2.4409	**44.450** 1.7500	**5.1** 0.20	**3.5** 0.14	**280.0** 11.02	**284.0** 11.18	**3.3** 0.13	**342.9** 13.50	**335.0** 13.19	**4.2** 0.16	**1.7** 0.07	1411.7	193.7	0.1484	**15.54** 34.27
33.470 1.3177	**25.400** 1.0000	**19.3** 0.76	**1.5** 0.06	**276.0** 10.87	**277.0** 10.91	**1.5** 0.06	**315.0** 12.40	**312.0** 12.28	**1.0** 0.04	**-0.9** -0.03	916.6	595.1	0.1613	**5.41** 11.92
33.470 1.3177	**25.400** 1.0000	**19.6** 0.77	**1.5** 0.06	**275.0** 10.83	**277.0** 10.91	**1.5** 0.06	**315.0** 12.40	**312.0** 12.28	**0.5** 0.02	**-0.8** -0.03	993.2	480.2	0.1656	**5.37** 11.82
22.225 0.8750	**15.875** 0.6250	**21.1** 0.83	**1.5** 0.06	**275.0** 10.83	**277.0** 10.91	**1.5** 0.06	**312.0** 12.28	**310.0** 12.20	**1.7** 0.06	**1.9** 0.08	906.8	658.2	0.1567	**3.36** 7.40
28.575 1.1250	**25.400** 1.0000	**20.3** 0.80	**1.5** 0.06	**277.0** 10.91	**277.0** 10.91	**1.5** 0.06	**315.0** 12.40	**312.0** 12.28	**1.3** 0.05	**1.3** 0.05	1028.2	496.4	0.1676	**4.91** 10.80
34.039 1.3401	**25.400** 1.0000	**19.3** 0.76	**1.5** 0.06	**276.0** 10.87	**278.0** 10.94	**1.5** 0.06	**315.0** 12.40	**312.0** 12.28	**1.0** 0.04	**-1.5** -0.06	916.6	595.1	0.1613	**5.43** 11.98
33.470 1.3177	**25.400** 1.0000	**19.6** 0.77	**1.5** 0.06	**275.0** 10.83	**277.0** 10.91	**1.5** 0.06	**315.0** 12.40	**312.0** 12.28	**0.5** 0.02	**-0.8** -0.03	993.2	480.2	0.1656	**5.35** 11.79
57.150 2.2500	**44.450** 1.7500	**5.1** 0.20	**3.5** 0.14	**281.0** 11.06	**285.0** 11.22	**3.3** 0.13	**342.9** 13.50	**335.0** 13.19	**5.8** 0.23	**3.4** 0.14	1554.1	212.2	0.1536	**14.92** 32.91
57.150 2.2500	**44.450** 1.7500	**5.1** 0.20	**10.5** 0.41	**281.0** 11.06	**299.0** 11.77	**3.3** 0.13	**342.9** 13.50	**335.0** 13.19	**5.8** 0.23	**3.4** 0.14	1554.1	212.2	0.1536	**14.79** 32.61
57.150 2.2500	**44.450** 1.7500	**5.1** 0.20	**9.7** 0.38	**281.0** 11.06	**297.0** 11.69	**3.3** 0.13	**342.9** 13.50	**335.0** 13.19	**5.8** 0.23	**3.4** 0.14	1554.1	212.2	0.1536	**14.81** 32.66
69.850 2.7500	**50.005** 1.9687	**2.5** 0.10	**6.4** 0.25	**287.0** 11.30	**296.0** 11.65	**6.4** 0.25	**378.1** 14.89	**366.0** 14.41	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**26.36** 58.13
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**287.0** 11.30	**296.0** 11.65	**6.4** 0.25	**378.1** 14.89	**371.0** 14.61	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**27.75** 61.18
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**287.0** 11.30	**296.0** 11.65	**6.4** 0.25	**378.5** 14.90	**373.0** 14.69	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**28.60** 63.07

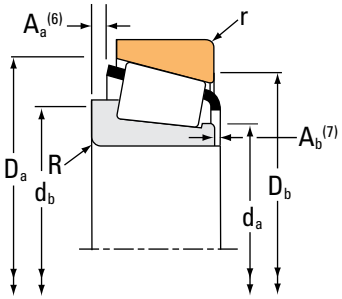
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
266.700 10.5000	**444.500** 17.5000	**120.650** 4.7500	**1820000** 410000	0.58	1.04	**473000** 106000	**466000** 105000	1.01	**3520000** 791000	H852849	H852810
269.875 10.6250	**381.000** 15.0000	**74.612** 2.9375	**1150000** 258000	0.33	1.80	**298000** 67000	**170000** 38100	1.76	**2030000** 455000	M252349	M252310
269.875 10.6250	**381.000** 15.0000	**74.612** 2.9375	**1260000** 283000	0.33	1.80	**326000** 73200	**185000** 41700	1.76	**2030000** 455000	M252349H	M252310X
273.050 10.7500	**393.700** 15.5000	**73.817** 2.9062	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275108	275155
273.050 10.7500	**403.225** 15.8750	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275108	275158
273.050 10.7500	**406.400** 16.0000	**69.850** 2.7500	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275108	275160
275.000 10.8268	**352.425** 13.8750	**36.513** 1.4375	**306000** 68700	0.54	1.11	**79200** 17800	**73100** 16400	1.08	**664000** 149000	L853048	L853010W
276.225 10.8750	**352.425** 13.8750	**36.512** 1.4375	**333000** 74900	0.54	1.11	**86300** 19400	**79600** 17900	1.08	**750000** 169000	L853049	L853010
279.400 11.0000	**317.500** 12.5000	**24.384** 0.9600	**162000** 36500	0.35	1.73	**42100** 9460	**24900** 5610	1.69	**467000** 105000	LL352149	LL352110
279.400 11.0000	**317.500** 12.5000	**24.384** 0.9600	**162000** 36500	0.35	1.73	**42100** 9460	**24900** 5610	1.69	**467000** 105000	KLL352149	KLL352110
279.400 11.0000	**374.650** 14.7500	**47.625** 1.8750	**520000** 117000	0.40	1.49	**135000** 30300	**92700** 20800	1.45	**1150000** 258000	L555233	L555210
279.400 11.0000	**469.900** 18.5000	**95.250** 3.7500	**1610000** 363000	0.38	1.59	**418000** 94000	**271000** 60800	1.55	**2350000** 527000	EE722110	722185
279.400 11.0000	**488.950** 19.2500	**120.650** 4.7500	**2420000** 544000	0.31	1.92	**628000** 141000	**336000** 75600	1.87	**3310000** 744000	EE295110	295193
279.982 11.0229	**380.009** 14.9610	**65.088** 2.5625	**722000** 162000	0.43	1.39	**187000** 42100	**138000** 31100	1.35	**1720000** 387000	LM654642	LM654611
280.000 11.0236	**406.400** 16.0000	**69.850** 2.7500	**868000** 195000	0.39	1.55	**225000** 50600	**149000** 33400	1.51	**1660000** 374000	EE128112	128160
280.192 11.0312	**400.050** 15.7500	**52.388** 2.0625	**690000** 155000	0.41	1.47	**179000** 40200	**125000** 28100	1.43	**1180000** 266000	EE101103	101575
280.192 11.0312	**406.400** 16.0000	**52.388** 2.0625	**690000** 155000	0.41	1.47	**179000** 40200	**125000** 28100	1.43	**1180000** 266000	EE101103	101600

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

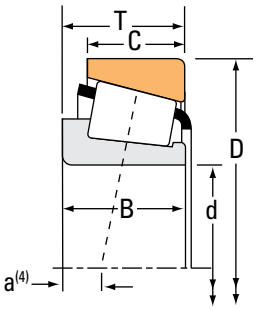
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
117.475 4.6250	**88.900** 3.5000	**-0.5** -0.02	**6.4** 0.25	**296.9** 11.69	**315.0** 12.40	**6.4** 0.25	**422.3** 16.63	**390.0** 15.35	**19.2** 0.75	**4.2** 0.17	2254.5	171.3	0.2040	**72.39** 159.61
74.612 2.9375	**57.150** 2.2500	**-6.6** -0.26	**6.4** 0.25	**287.0** 11.30	**296.0** 11.65	**3.3** 0.13	**364.0** 14.32	**356.0** 14.02	**8.3** 0.32	**3.6** 0.14	1839.2	226.1	0.1588	**25.22** 55.57
74.612 2.9375	**57.150** 2.2500	**-6.6** -0.26	**6.4** 0.25	**288.0** 11.34	**297.0** 11.69	**3.3** 0.13	**364.0** 14.32	**356.0** 14.02	**8.3** 0.32	**3.5** 0.14	1839.2	226.1	0.1588	**25.48** 56.18
69.850 2.7500	**50.005** 1.9687	**2.5** 0.10	**6.4** 0.25	**291.0** 11.46	**301.0** 11.85	**6.4** 0.25	**378.1** 14.89	**366.0** 14.41	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**24.98** 55.07
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**291.0** 11.46	**301.0** 11.85	**6.4** 0.25	**378.1** 14.89	**371.0** 14.61	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**26.37** 58.12
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**6.4** 0.25	**291.0** 11.46	**301.0** 11.85	**6.4** 0.25	**378.5** 14.90	**373.0** 14.69	**14.4** 0.56	**3.3** 0.13	1451.8	201.3	0.1555	**27.22** 60.01
40.000 1.5748	**23.812** 0.9375	**35.1** 1.38	**3.5** 0.14	**287.0** 11.30	**292.0** 11.50	**3.3** 0.13	**342.0** 13.46	**332.0** 13.07	**4.2** 0.16	**0.3** 0.01	970.3	322.9	0.1471	**8.32** 18.34
34.925 1.3750	**23.812** 0.9375	**35.1** 1.38	**3.5** 0.14	**288.0** 11.34	**293.0** 11.54	**3.3** 0.13	**342.0** 13.46	**332.0** 13.07	**5.9** 0.23	**3.5** 0.14	1057.3	350.4	0.1517	**7.72** 17.03
24.384 0.9600	**18.288** 0.7200	**20.3** 0.80	**1.5** 0.06	**286.0** 11.26	**288.0** 11.34	**1.5** 0.06	**312.0** 12.28	**309.0** 12.17	**1.8** 0.07	**2.1** 0.09	1131.2	795.2	0.1688	**2.57** 5.66
24.384 0.9600	**18.288** 0.7200	**20.3** 0.80	**1.5** 0.06	**286.0** 11.26	**288.0** 11.34	**1.5** 0.06	**312.0** 12.28	**309.0** 12.17	**1.8** 0.07	**2.1** 0.09	1131.2	795.2	0.1688	**2.57** 5.66
47.625 1.8750	**34.925** 1.3750	**17.5** 0.69	**3.5** 0.14	**296.0** 11.65	**300.0** 11.81	**3.3** 0.13	**362.0** 14.25	**355.0** 13.98	**5.5** 0.21	**2.4** 0.10	1476.9	368.2	0.1553	**13.90** 30.65
93.662 3.6875	**69.850** 2.7500	**-7.6** -0.30	**9.7** 0.38	**314.0** 12.36	**321.0** 12.64	**3.3** 0.13	**432.9** 17.04	**430.0** 16.93	**16.8** 0.66	**0.5** 0.02	1894.4	142.6	0.1669	**59.62** 131.44
120.650 4.7500	**92.075** 3.6250	**-31.0** -1.22	**1.3** 0.05	**304.0** 11.97	**303.0** 11.93	**6.4** 0.25	**450.5** 17.74	**444.0** 17.48	**19.4** 0.76	**3.5** 0.14	2247.3	171.9	0.1664	**88.48** 195.09
65.088 2.5625	**49.212** 1.9375	**11.4** 0.45	**3.5** 0.14	**298.0** 11.73	**302.0** 11.89	**3.3** 0.13	**368.0** 14.49	**356.0** 14.02	**7.9** 0.31	**0.8** 0.03	1916.4	265.6	0.1744	**20.75** 45.73
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**6.4** 0.25	**307.0** 12.09	**308.0** 12.13	**3.3** 0.13	**384.0** 15.12	**378.0** 14.88	**8.2** 0.32	**0.9** 0.04	1622.7	240.4	0.1592	**27.08** 59.71
50.211 1.9768	**34.925** 1.3750	**15.7** 0.62	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**3.3** 0.13	**376.0** 14.80	**374.0** 14.72	**7.7** 0.30	**5.3** 0.21	1380.2	226.7	0.1527	**18.44** 40.64
50.211 1.9768	**34.925** 1.3750	**15.7** 0.62	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**3.3** 0.13	**376.0** 14.80	**377.0** 14.84	**7.7** 0.30	**5.3** 0.21	1380.2	226.7	0.1527	**19.53** 43.06

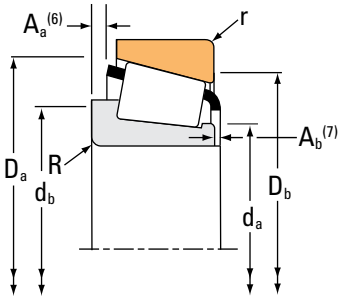
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
280.192 11.0312	**406.400** 16.0000	**69.850** 2.7500	**868000** 195000	0.39	1.55	**225000** 50600	**149000** 33400	1.51	**1660000** 374000	EE128111	128160
280.192 11.0312	**406.400** 16.0000	**69.850** 2.7500	**924000** 208000	0.39	1.55	**240000** 53900	**158000** 35600	1.51	**1820000** 409000	EE128110	128160
280.192 11.0312	**409.981** 16.1410	**69.850** 2.7500	**868000** 195000	0.39	1.55	**225000** 50600	**149000** 33400	1.51	**1660000** 374000	EE128111	128161
280.192 11.0312	**409.981** 16.1410	**69.850** 2.7500	**924000** 208000	0.39	1.55	**240000** 53900	**158000** 35600	1.51	**1820000** 409000	EE128110	128161
285.750 11.2500	**354.012** 13.9375	**33.338** 1.3125	**258000** 58000	0.49	1.22	**66800** 15000	**56300** 12600	1.19	**596000** 134000	545112	545139
285.750 11.2500	**358.775** 14.1250	**33.338** 1.3125	**258000** 58000	0.49	1.22	**66800** 15000	**56300** 12600	1.19	**596000** 134000	545112	545141
285.750 11.2500	**380.898** 14.9960	**65.088** 2.5625	**722000** 162000	0.43	1.39	**187000** 42100	**138000** 31100	1.35	**1720000** 387000	LM654649	LM654610
285.750 11.2500	**469.900** 18.5000	**81.770** 3.2193	**1510000** 339000	0.29	2.05	**391000** 88000	**196000** 44000	2.00	**1990000** 447000	EE921124	921850
285.750 11.2500	**476.250** 18.7500	**81.770** 3.2193	**1510000** 339000	0.29	2.05	**391000** 88000	**196000** 44000	2.00	**1990000** 447000	EE921124	921875
288.925 11.3750	**406.400** 16.0000	**77.788** 3.0625	**1190000** 267000	0.34	1.77	**308000** 69300	**179000** 40100	1.73	**2520000** 567000	M255449	M255410
288.925 11.3750	**406.400** 16.0000	**77.788** 3.0625	**1360000** 307000	0.34	1.77	**354000** 79500	**205000** 46000	1.73	**2520000** 567000	M255449H	M255410
289.975 11.4163	**393.700** 15.5000	**50.800** 2.0000	**586000** 132000	0.36	1.67	**152000** 34200	**93500** 21000	1.63	**1310000** 295000	L357040	L357010
292.100 11.5000	**374.650** 14.7500	**47.625** 1.8750	**520000** 117000	0.40	1.49	**135000** 30300	**92700** 20800	1.45	**1150000** 258000	L555249	L555210
292.100 11.5000	**393.700** 15.5000	**63.500** 2.5000	**548000** 123000	0.61	0.98	**142000** 31900	**148000** 33300	0.96	**997000** 224000	84115	84155
292.100 11.5000	**469.900** 18.5000	**95.250** 3.7500	**1610000** 363000	0.38	1.59	**418000** 94000	**271000** 60800	1.55	**2350000** 527000	EE722115	722185
292.100 11.5000	**520.700** 20.5000	**107.950** 4.2500	**1950000** 439000	0.33	1.83	**506000** 114000	**284000** 63900	1.78	**3330000** 749000	EE224115	224204
292.100 11.5000	**558.800** 22.0000	**136.525** 5.3750	**3090000** 695000	0.40	1.52	**802000** 180000	**542000** 122000	1.48	**4100000** 923000	EE790114	790221

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

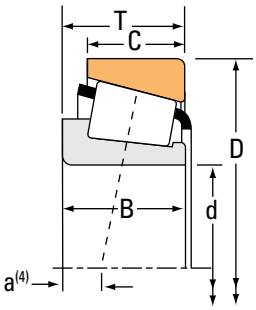
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**3.3** 0.13	**384.0** 15.12	**378.0** 14.88	**8.2** 0.32	**0.9** 0.04	1622.7	240.4	0.1592	**27.01** 59.56
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**3.3** 0.13	**384.0** 15.12	**378.0** 14.88	**6.8** 0.27	**1.5** 0.06	1727.7	255.2	0.1628	**27.97** 61.67
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**3.3** 0.13	**384.0** 15.12	**379.0** 14.92	**8.2** 0.32	**0.9** 0.04	1622.7	240.4	0.1592	**27.98** 61.70
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**3.3** 0.13	**384.0** 15.12	**379.0** 14.92	**6.8** 0.27	**1.5** 0.06	1727.7	255.2	0.1628	**28.94** 63.81
31.750 1.2500	**22.225** 0.8750	**32.8** 1.29	**3.5** 0.14	**298.0** 11.73	**302.0** 11.89	**3.3** 0.13	**345.0** 13.58	**338.0** 13.31	**5.6** 0.22	**2.9** 0.12	1015.9	545.5	0.1446	**6.28** 13.84
31.750 1.2500	**22.225** 0.8750	**32.8** 1.29	**3.5** 0.14	**298.0** 11.73	**302.0** 11.89	**3.3** 0.13	**345.0** 13.58	**340.0** 13.39	**5.6** 0.22	**2.9** 0.12	1015.9	545.5	0.1446	**6.74** 14.86
65.088 2.5625	**49.212** 1.9375	**11.4** 0.45	**3.5** 0.14	**302.0** 11.89	**306.0** 12.05	**3.3** 0.13	**368.0** 14.49	**356.0** 14.02	**7.9** 0.31	**0.8** 0.03	1916.4	265.6	0.1744	**19.62** 43.23
80.569 3.1720	**57.150** 2.2500	**-13.5** -0.53	**9.7** 0.38	**309.0** 12.17	**325.0** 12.80	**3.3** 0.13	**440.0** 17.32	**439.0** 17.28	**16.2** 0.63	**6.0** 0.24	1732.1	200.0	0.1481	**48.70** 107.38
80.569 3.1720	**57.150** 2.2500	**-13.5** -0.53	**9.7** 0.38	**309.0** 12.17	**325.0** 12.80	**3.3** 0.13	**442.0** 17.40	**442.0** 17.40	**16.2** 0.63	**6.0** 0.24	1732.1	200.0	0.1481	**50.81** 112.03
77.788 3.0625	**60.325** 2.3750	**-4.1** -0.16	**6.4** 0.25	**310.0** 12.20	**316.0** 12.44	**3.3** 0.13	**387.9** 15.27	**379.0** 14.92	**5.8** 0.22	**4.0** 0.16	2301.3	287.6	0.1722	**30.80** 67.90
77.788 3.0625	**60.325** 2.3750	**-4.1** -0.16	**6.4** 0.25	**311.0** 12.24	**317.0** 12.48	**3.3** 0.13	**387.9** 15.27	**379.0** 14.92	**5.8** 0.22	**4.0** 0.16	2301.3	287.6	0.1722	**30.90** 68.15
50.800 2.0000	**38.100** 1.5000	**12.7** 0.50	**6.4** 0.25	**308.0** 12.13	**318.0** 12.52	**3.3** 0.13	**380.0** 14.96	**374.0** 14.72	**5.6** 0.22	**2.0** 0.08	1753.3	301.0	0.1585	**17.19** 37.89
47.625 1.8750	**34.925** 1.3750	**17.5** 0.69	**3.5** 0.14	**305.0** 12.01	**309.0** 12.17	**3.3** 0.13	**362.0** 14.25	**355.0** 13.98	**5.5** 0.21	**2.4** 0.10	1476.9	368.2	0.1553	**11.78** 25.97
50.800 2.0000	**44.450** 1.7500	**36.6** 1.44	**3.5** 0.14	**309.0** 12.17	**313.0** 12.32	**6.4** 0.25	**378.0** 14.88	**363.0** 14.29	**13.8** 0.54	**2.8** 0.11	1227.4	302.3	0.1660	**17.86** 39.37
93.662 3.6875	**69.850** 2.7500	**-7.6** -0.30	**9.7** 0.38	**324.0** 12.76	**330.0** 12.99	**3.3** 0.13	**432.9** 17.04	**430.0** 16.93	**16.8** 0.66	**0.5** 0.02	1894.4	142.6	0.1669	**55.13** 121.54
107.950 4.2500	**76.200** 3.0000	**-19.8** -0.78	**6.4** 0.25	**321.0** 12.64	**331.0** 13.03	**6.4** 0.25	**470.0** 18.50	**468.0** 18.43	**15.3** 0.60	**3.3** 0.13	2630.1	228.6	0.1780	**92.50** 203.91
136.525 5.3750	**98.425** 3.8750	**-24.4** -0.96	**6.4** 0.25	**329.0** 12.95	**335.0** 13.19	**6.4** 0.25	**514.2** 20.24	**501.0** 19.72	**20.0** 0.78	**7.3** 0.29	2663.9	170.3	0.1898	**139.90** 308.45

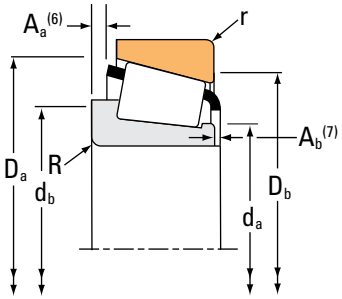
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
292.100 11.5000	**558.800** 22.0000	**136.525** 5.3750	**3090000** 695000	0.40	1.52	**802000** 180000	**542000** 122000	1.48	**4100000** 923000	EE790116	790221
298.450 11.7500	**431.800** 17.0000	**69.850** 2.7500	**613000** 138000	0.44	1.37	**159000** 35700	**119000** 26800	1.33	**1280000** 288000	EE111175	111700
298.450 11.7500	**444.500** 17.5000	**63.500** 2.5000	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291175	291750
299.975 11.8100	**495.300** 19.5000	**141.288** 5.5625	**2870000** 645000	0.33	1.80	**744000** 167000	**423000** 95200	1.76	**5650000** 1270000	HH258248	HH258210
300.038 11.8125	**422.275** 16.6250	**82.550** 3.2500	**1300000** 292000	0.34	1.78	**336000** 75600	**194000** 43600	1.73	**2770000** 622000	HM256849	HM256810
304.800 12.0000	**393.700** 15.5000	**50.800** 2.0000	**586000** 132000	0.36	1.67	**152000** 34200	**93500** 21000	1.63	**1310000** 295000	L357049	L357010
304.800 12.0000	**406.400** 16.0000	**63.500** 2.5000	**769000** 173000	0.44	1.36	**199000** 44800	**151000** 33900	1.32	**1740000** 392000	LM757049	LM757010
304.800 12.0000	**406.400** 16.0000	**63.500** 2.5000	**815000** 183000	0.44	1.36	**211000** 47500	**160000** 35900	1.32	**1740000** 392000	LM757049AA	LM757010
304.800 12.0000	**438.048** 17.2460	**76.200** 3.0000	**896000** 201000	0.42	1.44	**232000** 52200	**165000** 37200	1.40	**1780000** 401000	EE129120X	129172
304.800 12.0000	**444.500** 17.5000	**63.500** 2.5000	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291201	291750
304.800 12.0000	**444.500** 17.5000	**63.500** 2.5000	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291201	291749
304.800 12.0000	**495.300** 19.5000	**76.200** 3.0000	**1550000** 348000	0.40	1.49	**402000** 90300	**277000** 62200	1.45	**2090000** 471000	EE941205	941950
304.800 12.0000	**495.300** 19.5000	**76.200** 3.0000	**1550000** 348000	0.40	1.49	**402000** 90300	**277000** 62200	1.45	**2090000** 471000	EE941205X	941950
304.800 12.0000	**495.300** 19.5000	**95.250** 3.7500	**1690000** 379000	0.40	1.49	**437000** 98300	**301000** 67700	1.45	**2550000** 573000	EE724120	724195
304.800 12.0000	**495.300** 19.5000	**95.250** 3.7500	**1510000** 339000	0.40	1.49	**392000** 88000	**269000** 60600	1.45	**2650000** 595000	EE724119	724195
304.800 12.0000	**499.948** 19.6830	**101.600** 4.0000	**1340000** 300000	1.17	0.51	**346000** 77900	**695000** 156000	0.50	**1890000** 424000	M959442	M959410
304.800 12.0000	**558.800** 22.0000	**136.525** 5.3750	**3090000** 695000	0.40	1.52	**802000** 180000	**542000** 122000	1.48	**4100000** 923000	EE790120	790221

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

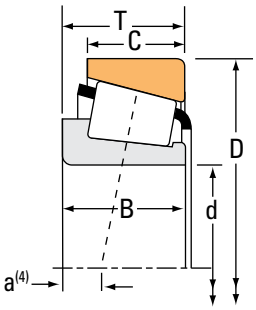
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
136.525 5.3750	**98.425** 3.8750	**-24.4** -0.96	**19.8** 0.78	**329.0** 12.95	**362.0** 14.25	**6.4** 0.25	**514.2** 20.24	**501.0** 19.72	**20.0** 0.78	**7.3** 0.29	2663.9	170.3	0.1898	**138.58** 305.52
58.738 2.3125	**53.975** 2.1250	**16.3** 0.64	**6.4** 0.25	**319.0** 12.56	**328.0** 12.91	**3.3** 0.13	**406.2** 15.99	**401.0** 15.79	**15.3** 0.60	**2.2** 0.09	1603.5	266.6	0.1640	**28.48** 62.78
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**8.0** 0.31	**320.0** 12.60	**332.0** 13.07	**1.5** 0.06	**415.0** 16.34	**416.0** 16.38	**11.4** 0.45	**7.1** 0.28	1579.2	244.8	0.1557	**29.47** 64.98
141.288 5.5625	**114.300** 4.5000	**-34.5** -1.36	**6.4** 0.25	**332.0** 13.07	**342.0** 13.46	**6.4** 0.25	**467.0** 18.40	**448.0** 17.64	**10.6** 0.42	**7.7** 0.31	3853.2	220.0	0.2048	**110.43** 243.46
82.550 3.2500	**63.500** 2.5000	**-5.6** -0.22	**6.4** 0.25	**319.0** 12.56	**328.0** 12.91	**3.3** 0.13	**403.0** 15.88	**394.0** 15.51	**7.4** 0.29	**3.6** 0.14	2548.4	281.8	0.1779	**35.46** 78.17
50.800 2.0000	**38.100** 1.5000	**12.7** 0.50	**6.4** 0.25	**319.0** 12.56	**329.0** 12.95	**3.3** 0.13	**380.0** 14.96	**374.0** 14.72	**5.6** 0.22	**2.0** 0.08	1753.3	301.0	0.1585	**14.43** 31.80
63.500 2.5000	**47.625** 1.8750	**16.3** 0.64	**6.4** 0.25	**322.0** 12.68	**331.0** 13.03	**3.3** 0.13	**393.0** 15.47	**380.0** 14.96	**6.9** 0.27	**2.5** 0.10	1988.6	260.3	0.1775	**21.61** 47.63
63.500 2.5000	**47.625** 1.8750	**16.3** 0.64	**12.7** 0.50	**322.0** 12.68	**344.0** 13.54	**3.3** 0.13	**393.0** 15.47	**380.0** 14.96	**6.9** 0.27	**2.5** 0.10	1988.6	260.3	0.1775	**21.44** 47.25
76.992 3.0312	**53.975** 2.1250	**7.4** 0.29	**6.4** 0.25	**328.0** 12.91	**334.0** 13.15	**4.8** 0.19	**411.4** 16.20	**406.0** 15.98	**14.9** 0.59	**-2.0** -0.07	1882.6	272.9	0.1711	**33.07** 72.90
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**8.0** 0.31	**324.0** 12.76	**337.0** 13.27	**1.5** 0.06	**415.0** 16.34	**416.0** 16.38	**11.4** 0.45	**7.1** 0.28	1579.2	244.8	0.1557	**28.01** 61.76
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**8.0** 0.31	**324.0** 12.76	**337.0** 13.27	**3.3** 0.13	**415.0** 16.34	**415.0** 16.34	**11.4** 0.45	**7.1** 0.28	1579.2	244.8	0.1557	**27.96** 61.65
74.612 2.9375	**53.975** 2.1250	**9.1** 0.36	**6.4** 0.25	**329.0** 12.95	**339.0** 13.35	**3.3** 0.13	**462.7** 18.22	**459.0** 18.07	**10.2** 0.40	**6.0** 0.24	1771.6	187.4	0.1657	**51.58** 113.70
77.866 3.0656	**53.975** 2.1250	**9.1** 0.36	**6.4** 0.25	**332.0** 13.07	**339.0** 13.35	**3.3** 0.13	**462.7** 18.22	**459.0** 18.07	**10.2** 0.40	**2.7** 0.11	1771.6	187.4	0.1657	**52.27** 115.23
92.075 3.6250	**69.850** 2.7500	**-1.5** -0.06	**16.0** 0.63	**330.0** 12.99	**359.0** 14.13	**6.4** 0.25	**458.9** 18.07	**450.0** 17.72	**17.3** 0.68	**2.3** 0.09	2183.9	165.7	0.1783	**62.67** 138.16
92.075 3.6250	**69.850** 2.7500	**-1.5** -0.06	**16.0** 0.63	**330.0** 12.99	**359.0** 14.13	**6.4** 0.25	**458.9** 18.07	**450.0** 17.72	**14.3** 0.56	**4.9** 0.20	2242.3	170.0	0.1800	**65.74** 144.92
79.375 3.1250	**53.975** 2.1250	**105.4** 4.15	**6.4** 0.25	**344.0** 13.54	**353.0** 13.90	**6.4** 0.25	**481.1** 18.94	**438.0** 17.24	* *	* *	1521.2	157.5	0.2137	**65.25** 143.84
136.525 5.3750	**98.425** 3.8750	**-24.4** -0.96	**1.3** 0.05	**335.0** 13.19	**335.0** 13.19	**6.4** 0.25	**514.2** 20.24	**501.0** 19.72	**20.0** 0.78	**7.3** 0.29	2663.9	170.3	0.1898	**133.72** 294.82

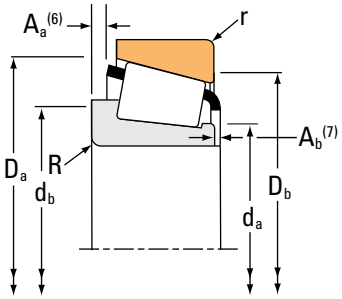
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*) Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
304.800 12.0000	**647.700** 25.5000	**139.700** 5.5000	**2350000** 528000	0.87	0.69	**609000** 137000	**903000** 203000	0.67	**3520000** 790000	EE991201	992550
305.054 12.0100	**406.400** 16.0000	**63.500** 2.5000	**769000** 173000	0.44	1.36	**199000** 44800	**151000** 33900	1.32	**1740000** 392000	LM757049A	LM757010
309.880 12.2000	**501.650** 19.7500	**98.425** 3.8750	**2600000** 585000	0.30	2.00	**675000** 152000	**346000** 77900	1.95	**3770000** 848000	HM161040	HM161012
312.738 12.3125	**358.775** 14.1250	**22.225** 0.8750	**134000** 30000	0.82	0.73	**34700** 7790	**48900** 11000	0.71	**383000** 86100	LL957049	LL957010
314.325 12.3750	**495.300** 19.5000	**120.650** 4.7500	**1960000** 440000	0.58	1.04	**508000** 114000	**500000** 113000	1.01	**3950000** 889000	H859049	H859010
317.500 12.5000	**444.500** 17.5000	**63.500** 2.5000	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291250	291750
317.500 12.5000	**444.500** 17.5000	**63.500** 2.5000	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291250	291749
317.500 12.5000	**447.675** 17.6250	**85.725** 3.3750	**1680000** 377000	0.33	1.79	**435000** 97800	**249000** 56000	1.74	**3140000** 706000	HM259049	HM259010
317.500 12.5000	**447.675** 17.6250	**85.725** 3.3750	**1690000** 380000	0.33	1.79	**438000** 98500	**251000** 56500	1.74	**2790000** 628000	HM259048	HM259010
317.500 12.5000	**457.200** 18.0000	**66.675** 2.6250	**996000** 224000	0.39	1.53	**258000** 58000	**173000** 38900	1.49	**1660000** 373000	EE201250	201800
317.500 12.5000	**596.900** 23.5000	**136.525** 5.3750	**3310000** 744000	0.42	1.42	**858000** 193000	**620000** 139000	1.38	**4600000** 1030000	EE720125	720236
317.500 12.5000	**622.300** 24.5000	**147.638** 5.8125	**3160000** 710000	0.94	0.64	**819000** 184000	**1310000** 295000	0.62	**4130000** 927000	H961649	H961610
317.500 12.5000	**647.700** 25.5000	**139.700** 5.5000	**2350000** 528000	0.87	0.69	**609000** 137000	**903000** 203000	0.67	**3520000** 790000	EE991251	992550
320.675 12.6250	**406.400** 16.0000	**50.800** 2.0000	**572000** 129000	0.41	1.47	**148000** 33400	**104000** 23300	1.43	**1260000** 282000	L558548	L558510
323.850 12.7500	**381.000** 15.0000	**28.575** 1.1250	**244000** 54800	0.44	1.36	**63100** 14200	**47600** 10700	1.33	**672000** 151000	LL758744	LL758715
323.850 12.7500	**422.275** 16.6250	**58.738** 2.3125	**748000** 168000	0.39	1.55	**194000** 43600	**129000** 29000	1.51	**1570000** 352000	LM559048	LM559010
325.438 12.8125	**596.900** 23.5000	**136.525** 5.3750	**3310000** 744000	0.42	1.42	**858000** 193000	**620000** 139000	1.38	**4600000** 1030000	EE720128	720236

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

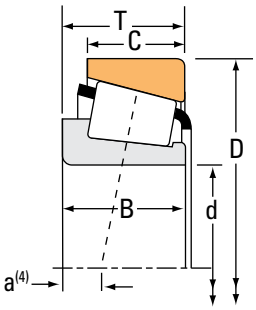
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
120.650 4.7500	**88.900** 3.5000	**55.1** 2.17	**13.5** 0.53	**360.0** 14.17	**384.0** 15.12	**13.5** 0.53	**587.0** 23.11	**546.0** 21.50	**26.0** 1.02	**23.0** 0.91	2353.6	161.7	0.2299	**190.66** 420.35
63.500 2.5000	**47.625** 1.8750	**16.3** 0.64	**6.4** 0.25	**325.0** 12.80	**331.0** 13.03	**3.3** 0.13	**393.0** 15.47	**380.0** 14.96	**6.9** 0.27	**2.5** 0.10	1988.6	260.3	0.1775	**21.53** 47.45
98.425 3.8750	**79.375** 3.1250	**11.9** 0.47	**6.4** 0.25	**339.0** 13.35	**348.0** 13.70	**3.3** 0.13	**475.0** 18.70	**468.0** 18.43	**3.6** 0.14	**6.7** 0.27	3153.6	239.4	0.1837	**77.17** 170.15
20.638 0.8125	**14.288** 0.5625	**79.5** 3.13	**2.3** 0.09	**322.0** 12.68	**325.0** 12.80	**1.5** 0.06	**354.0** 13.94	**346.0** 13.62	**3.1** 0.12	**2.1** 0.09	990.0	808.0	0.2091	**3.06** 6.75
119.062 4.6875	**88.900** 3.5000	**8.4** 0.33	**6.4** 0.25	**344.8** 13.57	**361.0** 14.21	**6.4** 0.25	**473.0** 18.62	**439.0** 17.28	**17.7** 0.70	**3.7** 0.15	2954.9	250.1	0.2225	**83.09** 183.19
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**8.0** 0.31	**334.0** 13.15	**346.0** 13.62	**1.5** 0.06	**415.0** 16.34	**416.0** 16.38	**11.4** 0.45	**7.1** 0.28	1579.2	244.8	0.1557	**24.99** 55.11
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**8.0** 0.31	**334.0** 13.15	**346.0** 13.62	**3.3** 0.13	**415.0** 16.34	**415.0** 16.34	**11.4** 0.45	**7.1** 0.28	1579.2	244.8	0.1557	**24.94** 55.01
85.725 3.3750	**68.262** 2.6875	**-4.8** -0.19	**3.5** 0.14	**337.0** 13.27	**341.0** 13.43	**3.3** 0.13	**427.7** 16.84	**418.0** 16.46	**6.8** 0.27	**3.8** 0.15	2944.6	303.9	0.1863	**41.94** 92.46
85.725 3.3750	**68.262** 2.6875	**-4.8** -0.19	**3.5** 0.14	**337.0** 13.27	**341.0** 13.43	**3.3** 0.13	**427.7** 16.84	**418.0** 16.46	**6.4** 0.25	**3.8** 0.15	2711.5	280.9	0.1809	**40.57** 89.44
65.088 2.5625	**42.862** 1.6875	**9.7** 0.38	**6.8** 0.27	**337.0** 13.27	**348.0** 13.70	**6.8** 0.27	**429.2** 16.90	**424.0** 16.69	**15.1** 0.59	**4.1** 0.17	1880.1	284.2	0.1672	**30.68** 67.63
136.525 5.3750	**98.425** 3.8750	**-16.8** -0.66	**19.8** 0.78	**353.0** 13.90	**390.0** 15.35	**6.4** 0.25	**547.4** 21.55	**534.0** 21.02	**20.4** 0.80	**7.9** 0.32	3159.0	183.3	0.2053	**160.44** 353.72
131.762 5.1875	**82.550** 3.2500	**60.5** 2.38	**14.3** 0.56	**373.0** 14.69	**410.0** 16.14	**12.7** 0.50	**581.6** 22.90	**531.0** 20.91	**25.1** 0.98	**17.7** 0.70	2502.7	149.1	0.2401	**178.13** 392.68
120.650 4.7500	**88.900** 3.5000	**55.1** 2.17	**13.5** 0.53	**371.0** 14.61	**394.0** 15.51	**13.5** 0.53	**587.0** 23.11	**546.0** 21.50	**26.0** 1.02	**22.7** 0.90	2353.6	161.7	0.2299	**184.79** 407.40
55.562 2.1875	**38.100** 1.5000	**21.1** 0.83	**3.3** 0.13	**338.0** 13.31	**338.0** 13.31	**3.3** 0.13	**396.0** 15.59	**387.0** 15.24	**3.1** 0.12	**0.1** 0.01	1727.9	396.2	0.1641	**14.96** 32.97
28.575 1.1250	**20.638** 0.8125	**35.1** 1.38	**3.5** 0.14	**333.0** 13.11	**339.0** 13.35	**3.3** 0.13	**373.1** 14.69	**365.0** 14.37	**2.8** 0.11	**2.5** 0.10	1500.1	792.5	0.2007	**5.30** 11.69
63.500 2.5000	**44.450** 1.7500	**15.0** 0.59	**3.3** 0.13	**341.8** 13.46	**343.0** 13.50	**3.3** 0.13	**409.0** 16.10	**400.0** 15.75	**5.0** 0.20	**0.5** 0.02	1926.3	352.6	0.1679	**18.42** 40.59
136.525 5.3750	**98.425** 3.8750	**-16.8** -0.66	**6.4** 0.25	**359.0** 14.13	**369.0** 14.53	**6.4** 0.25	**547.4** 21.55	**534.0** 21.02	**20.4** 0.80	**8.2** 0.33	3159.0	183.3	0.2053	**156.18** 344.32

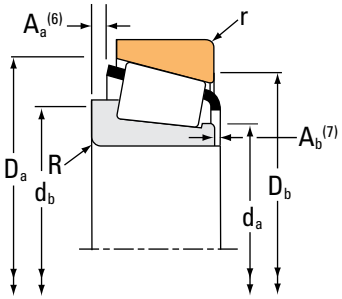
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
329.870 12.9870	**533.400** 21.0000	**76.200** 3.0000	**1730000** 388000	0.33	1.80	**448000** 101000	**255000** 57300	1.76	**2500000** 562000	EE971298	972100
329.895 12.9880	**415.925** 16.3750	**47.625** 1.8750	**485000** 109000	0.50	1.20	**126000** 28300	**107000** 24100	1.17	**1180000** 266000	L860049A	L860010
330.200 13.0000	**415.925** 16.3750	**47.625** 1.8750	**485000** 109000	0.50	1.20	**126000** 28300	**107000** 24100	1.17	**1180000** 266000	L860049	L860010
330.200 13.0000	**415.925** 16.3750	**47.625** 1.8750	**485000** 109000	0.50	1.20	**126000** 28300	**107000** 24100	1.17	**1180000** 266000	L860048	L860010
330.200 13.0000	**469.900** 18.5000	**60.325** 2.3750	**628000** 141000	0.50	1.20	**163000** 36600	**140000** 31400	1.17	**1110000** 250000	EE161300	161850
330.200 13.0000	**482.600** 19.0000	**60.325** 2.3750	**628000** 141000	0.50	1.20	**163000** 36600	**140000** 31400	1.17	**1110000** 250000	EE161300	161900
330.200 13.0000	**482.600** 19.0000	**66.675** 2.6250	**1030000** 231000	0.42	1.44	**266000** 59900	**190000** 42700	1.40	**1770000** 398000	EE203130	203190
330.200 13.0000	**482.600** 19.0000	**85.725** 3.3750	**1250000** 281000	0.39	1.54	**324000** 72900	**217000** 48700	1.49	**2320000** 523000	EE526130	526190
330.200 13.0000	**482.600** 19.0000	**85.725** 3.3750	**1250000** 281000	0.39	1.54	**324000** 72900	**217000** 48700	1.49	**2320000** 523000	EE526132	526190
333.000 13.1102	**415.925** 16.3750	**47.625** 1.8750	**485000** 109000	0.50	1.20	**126000** 28300	**107000** 24100	1.17	**1180000** 266000	L860049AA	L860010
333.375 13.1250	**469.900** 18.5000	**90.488** 3.5625	**1600000** 360000	0.33	1.79	**415000** 93200	**238000** 53400	1.74	**3460000** 777000	HM261049	HM261010
338.138 13.3125	**403.225** 15.8750	**33.338** 1.3125	**301000** 67700	0.42	1.44	**78100** 17600	**55600** 12500	1.40	**827000** 186000	LL660749A	LL660711
342.900 13.5000	**450.850** 17.7500	**66.675** 2.6250	**1120000** 251000	0.35	1.70	**289000** 65000	**174000** 39200	1.66	**2210000** 497000	LM361649	LM361610
342.900 13.5000	**457.098** 17.9960	**66.675** 2.6250	**823000** 185000	0.71	0.84	**213000** 48000	**260000** 58500	0.82	**1940000** 436000	LM961548	LM961510
342.900 13.5000	**457.098** 17.9960	**68.262** 2.6875	**823000** 185000	0.71	0.84	**213000** 48000	**260000** 58500	0.82	**1940000** 436000	LM961548	LM961511
342.900 13.5000	**533.400** 21.0000	**76.200** 3.0000	**1730000** 388000	0.33	1.80	**448000** 101000	**255000** 57300	1.76	**2500000** 562000	EE971354	972100
343.154 13.5100	**450.850** 17.7500	**66.675** 2.6250	**1120000** 251000	0.35	1.70	**289000** 65000	**174000** 39200	1.66	**2210000** 497000	LM361649A	LM361610

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

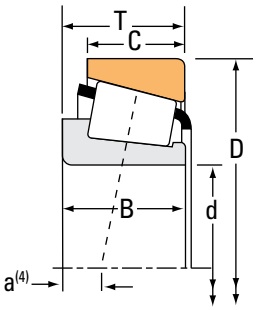
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
76.200 3.0000	**50.800** 2.0000	**3.8** 0.15	**4.8** 0.19	**357.0** 14.06	**364.0** 14.33	**3.3** 0.13	**501.0** 19.72	**501.0** 19.72	**10.2** 0.40	**5.0** 0.20	2433.2	282.5	0.1730	**61.43** 135.43
47.625 1.8750	**34.925** 1.3750	**35.3** 1.39	**3.5** 0.14	**345.0** 13.58	**349.0** 13.74	**3.3** 0.13	**402.0** 15.83	**394.0** 15.51	**7.3** 0.28	**0.2** 0.01	1823.3	479.1	0.1774	**14.11** 31.11
47.625 1.8750	**34.925** 1.3750	**35.3** 1.39	**3.5** 0.14	**345.0** 13.58	**349.0** 13.74	**3.3** 0.13	**402.0** 15.83	**394.0** 15.51	**7.3** 0.28	**0.2** 0.01	1823.3	479.1	0.1774	**14.03** 30.94
47.625 1.8750	**34.925** 1.3750	**35.3** 1.39	**12.7** 0.50	**345.0** 13.58	**367.0** 14.45	**3.3** 0.13	**402.0** 15.83	**394.0** 15.51	**7.3** 0.28	**0.2** 0.01	1823.3	479.1	0.1774	**13.41** 29.57
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**356.0** 14.02	**367.0** 14.45	**6.4** 0.25	**455.0** 17.91	**445.0** 17.52	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**28.82** 63.54
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**356.0** 14.02	**367.0** 14.45	**6.4** 0.25	**455.0** 17.91	**451.0** 17.76	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**31.65** 69.77
63.500 2.5000	**44.450** 1.7500	**16.3** 0.64	**6.8** 0.27	**354.0** 13.94	**364.0** 14.33	**6.8** 0.27	**456.1** 17.96	**449.0** 17.68	**15.4** 0.60	**5.9** 0.23	2138.1	336.0	0.1778	**35.82** 78.97
80.167 3.1562	**60.325** 2.3750	**4.8** 0.19	**6.4** 0.25	**351.0** 13.82	**360.0** 14.17	**3.3** 0.13	**454.0** 17.87	**449.0** 17.68	**14.5** 0.57	**3.1** 0.13	2283.3	287.2	0.1790	**45.20** 99.65
80.167 3.1562	**60.325** 2.3750	**4.8** 0.19	**3.3** 0.13	**351.0** 13.82	**354.0** 13.94	**3.3** 0.13	**454.0** 17.87	**449.0** 17.68	**14.5** 0.57	**3.1** 0.13	2283.3	287.2	0.1790	**45.21** 99.67
47.625 1.8750	**34.925** 1.3750	**35.3** 1.39	**3.5** 0.14	**347.0** 13.66	**351.0** 13.82	**3.3** 0.13	**402.0** 15.83	**394.0** 15.51	**7.3** 0.28	**0.2** 0.01	1823.3	479.1	0.1774	**13.56** 29.88
90.488 3.5625	**71.438** 2.8125	**-6.1** -0.24	**6.4** 0.25	**358.0** 14.09	**363.0** 14.29	**3.3** 0.13	**449.0** 17.69	**439.0** 17.28	**7.7** 0.30	**3.3** 0.13	3306.8	324.3	0.1935	**48.69** 107.32
33.338 1.3125	**26.988** 1.0625	**33.3** 1.31	**3.3** 0.13	**350.0** 13.78	**353.0** 13.90	**3.3** 0.13	**394.0** 15.51	**386.0** 15.20	**1.9** 0.07	**1.0** 0.04	1790.4	757.8	0.2095	**7.63** 16.83
66.675 2.6250	**52.388** 2.0625	**8.9** 0.35	**8.5** 0.33	**359.0** 14.13	**373.0** 14.69	**3.5** 0.14	**435.0** 17.13	**425.0** 16.73	**4.7** 0.18	**4.9** 0.20	2732.7	432.9	0.1833	**27.00** 59.52
63.500 2.5000	**46.038** 1.8125	**56.4** 2.22	**3.3** 0.13	**363.0** 14.29	**367.0** 14.45	**3.3** 0.13	**443.1** 17.44	**423.0** 16.65	**12.6** 0.49	**4.9** 0.20	2281.5	300.4	0.2146	**28.11** 61.97
63.500 2.5000	**47.625** 1.8750	**56.4** 2.22	**3.3** 0.13	**363.0** 14.29	**367.0** 14.45	**3.3** 0.13	**443.1** 17.44	**423.0** 16.65	**12.6** 0.49	**4.9** 0.20	2281.5	300.4	0.2146	**28.57** 63.00
76.200 3.0000	**50.800** 2.0000	**3.8** 0.15	**4.8** 0.19	**367.0** 14.45	**373.0** 14.69	**3.3** 0.13	**501.0** 19.72	**501.0** 19.72	**10.2** 0.40	**5.0** 0.20	2433.2	282.5	0.1730	**57.32** 126.38
66.675 2.6250	**52.388** 2.0625	**8.9** 0.35	**8.5** 0.33	**363.0** 14.29	**373.0** 14.69	**3.5** 0.14	**435.0** 17.13	**425.0** 16.73	**4.7** 0.18	**4.9** 0.20	2732.7	432.9	0.1833	**26.91** 59.32

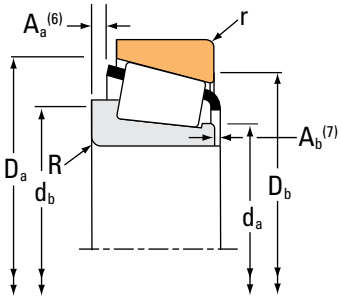
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
346.075 13.6250	**469.900** 18.5000	**60.325** 2.3750	**628000** 141000	0.50	1.20	**163000** 36600	**140000** 31400	1.17	**1110000** 250000	EE161363	161850
346.075 13.6250	**482.600** 19.0000	**60.325** 2.3750	**628000** 141000	0.50	1.20	**163000** 36600	**140000** 31400	1.17	**1110000** 250000	EE161363	161900
346.075 13.6250	**482.600** 19.0000	**66.675** 2.6250	**1030000** 231000	0.42	1.44	**266000** 59900	**190000** 42700	1.40	**1770000** 398000	EE203136	203190
346.075 13.6250	**482.600** 19.0000	**66.675** 2.6250	**1030000** 231000	0.42	1.44	**266000** 59900	**190000** 42700	1.40	**1770000** 398000	EE203137	203190
346.075 13.6250	**488.950** 19.2500	**95.250** 3.7500	**1730000** 388000	0.33	1.79	**448000** 101000	**257000** 57700	1.74	**3760000** 845000	HM262749	HM262710
346.075 13.6250	**488.950** 19.2500	**95.250** 3.7500	**1860000** 419000	0.33	1.79	**483000** 109000	**277000** 62300	1.74	**3440000** 774000	HM262748	HM262710
346.075 13.6250	**546.100** 21.5000	**93.662** 3.6875	**2690000** 604000	0.24	2.46	**696000** 157000	**291000** 65500	2.39	**3990000** 897000	HM164646	HM164615
349.250 13.7500	**501.650** 19.7500	**90.488** 3.5625	**1350000** 304000	0.37	1.63	**350000** 78700	**220000** 49500	1.59	**2780000** 626000	EE333137	333197
354.012 13.9375	**469.900** 18.5000	**60.325** 2.3750	**548000** 123000	0.50	1.20	**142000** 31900	**122000** 27400	1.17	**1110000** 250000	EE161394	161850
354.012 13.9375	**482.600** 19.0000	**60.325** 2.3750	**548000** 123000	0.50	1.20	**142000** 31900	**122000** 27400	1.17	**1110000** 250000	EE161394	161900
355.600 14.0000	**444.500** 17.5000	**60.325** 2.3750	**733000** 165000	0.31	1.95	**190000** 42700	**100000** 22500	1.90	**1970000** 444000	L163149	L163110
355.600 14.0000	**469.900** 18.5000	**60.325** 2.3750	**628000** 141000	0.50	1.20	**163000** 36600	**140000** 31400	1.17	**1110000** 250000	EE161400	161850
355.600 14.0000	**482.600** 19.0000	**60.325** 2.3750	**628000** 141000	0.50	1.20	**163000** 36600	**140000** 31400	1.17	**1110000** 250000	EE161400	161900
355.600 14.0000	**488.950** 19.2500	**60.325** 2.3750	**628000** 141000	0.50	1.20	**163000** 36600	**140000** 31400	1.17	**1110000** 250000	EE161400	161925
355.600 14.0000	**501.650** 19.7500	**74.612** 2.9375	**1050000** 236000	0.44	1.36	**273000** 61300	**206000** 46200	1.33	**1870000** 420000	EE231400	231975
355.600 14.0000	**501.650** 19.7500	**90.488** 3.5625	**1350000** 304000	0.37	1.63	**350000** 78700	**220000** 49500	1.59	**2780000** 626000	EE333140	333197
355.600 14.0000	**514.350** 20.2500	**74.612** 2.9375	**1050000** 236000	0.44	1.36	**273000** 61300	**206000** 46200	1.33	**1870000** 420000	EE231400	232025

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

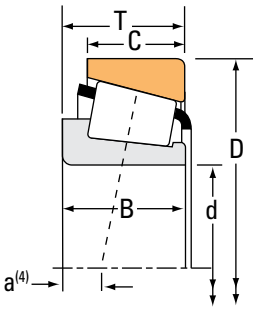
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**368.0** 14.49	**379.0** 14.92	**6.4** 0.25	**455.0** 17.91	**445.0** 17.52	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**25.15** 55.44
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**368.0** 14.49	**379.0** 14.92	**6.4** 0.25	**455.0** 17.91	**451.0** 17.76	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**27.98** 61.67
63.500 2.5000	**44.450** 1.7500	**16.3** 0.64	**6.8** 0.27	**366.0** 14.41	**376.0** 14.80	**6.8** 0.27	**456.1** 17.96	**449.0** 17.68	**15.4** 0.60	**5.9** 0.23	2138.1	336.0	0.1778	**31.62** 69.72
63.500 2.5000	**44.450** 1.7500	**16.3** 0.64	**12.7** 0.50	**366.0** 14.41	**388.0** 15.28	**6.8** 0.27	**456.1** 17.96	**449.0** 17.68	**15.4** 0.60	**5.9** 0.23	2138.1	336.0	0.1778	**31.12** 68.62
95.250 3.7500	**74.612** 2.9375	**-6.4** -0.25	**6.4** 0.25	**367.0** 14.45	**377.0** 14.84	**3.3** 0.13	**467.0** 18.39	**456.0** 17.95	**8.5** 0.33	**3.5** 0.14	3646.2	341.8	0.1999	**55.50** 122.37
95.250 3.7500	**74.612** 2.9375	**-6.4** -0.25	**6.4** 0.25	**367.0** 14.45	**377.0** 14.84	**3.3** 0.13	**467.0** 18.39	**456.0** 17.95	**9.3** 0.36	**3.0** 0.12	3430.8	322.6	0.1956	**54.07** 119.21
95.250 3.7500	**76.200** 3.0000	**-15.5** -0.61	**6.4** 0.25	**373.0** 14.69	**383.0** 15.08	**3.3** 0.13	**507.0** 19.96	**507.0** 19.96	**2.0** 0.08	**7.5** 0.30	3841.3	316.9	0.1827	**85.75** 189.06
84.138 3.3125	**69.850** 2.7500	**3.6** 0.14	**6.4** 0.25	**372.0** 14.65	**382.0** 15.04	**3.3** 0.13	**478.2** 18.83	**470.0** 18.50	**12.0** 0.47	**3.1** 0.12	3037.5	334.7	0.1928	**52.79** 116.40
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**374.0** 14.72	**385.0** 15.16	**6.4** 0.25	**455.0** 17.91	**445.0** 17.52	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**23.24** 51.25
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**374.0** 14.72	**385.0** 15.16	**6.4** 0.25	**455.0** 17.91	**451.0** 17.76	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**26.07** 57.48
60.325 2.3750	**47.625** 1.8750	**7.1** 0.28	**3.5** 0.14	**370.0** 14.57	**374.0** 14.72	**3.3** 0.13	**430.0** 16.93	**422.0** 16.61	**5.2** 0.20	**2.3** 0.09	3207.7	621.3	0.1838	**20.64** 45.51
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**375.0** 14.76	**386.0** 15.20	**6.4** 0.25	**455.0** 17.91	**445.0** 17.52	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**22.86** 50.40
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**375.0** 14.76	**386.0** 15.20	**6.4** 0.25	**455.0** 17.91	**451.0** 17.76	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**25.69** 56.63
55.562 2.1875	**38.100** 1.5000	**33.8** 1.33	**7.0** 0.28	**375.0** 14.76	**386.0** 15.20	**6.4** 0.25	**455.0** 17.91	**453.0** 17.83	**14.4** 0.56	**3.9** 0.16	1730.8	299.6	0.1741	**27.13** 59.80
66.675 2.6250	**50.800** 2.0000	**19.6** 0.77	**6.4** 0.25	**379.0** 14.92	**388.0** 15.28	**3.3** 0.13	**481.1** 18.94	**472.0** 18.58	**18.9** 0.74	**6.0** 0.24	2386.0	366.8	0.1874	**39.16** 86.35
84.138 3.3125	**69.850** 2.7500	**3.6** 0.14	**6.4** 0.25	**377.0** 14.84	**387.0** 15.24	**3.3** 0.13	**478.2** 18.83	**470.0** 18.50	**12.0** 0.47	**3.1** 0.12	3037.5	334.7	0.1928	**50.47** 111.29
66.675 2.6250	**50.800** 2.0000	**19.6** 0.77	**6.4** 0.25	**379.0** 14.92	**388.0** 15.28	**3.3** 0.13	**481.1** 18.94	**478.0** 18.82	**18.9** 0.74	**6.0** 0.24	2386.0	366.8	0.1874	**43.13** 95.08

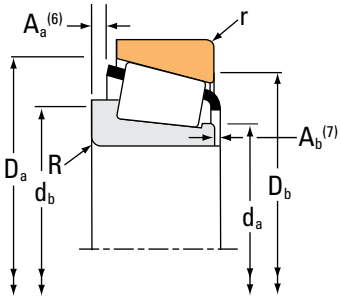
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
355.600 14.0000	**673.100** 26.5000	**152.400** 6.0000	**3690000** 830000	0.38	1.60	**957000** 215000	**616000** 138000	1.55	**6140000** 1380000	EE121140	121265
360.400 14.1890	**510.000** 20.0787	**88.000** 3.4646	**1870000** 421000	0.31	1.95	**485000** 109000	**255000** 57300	1.90	**3550000** 798000	NP771673	NP725758
361.950 14.2500	**406.400** 16.0000	**23.812** 0.9375	**198000** 44500	0.40	1.49	**51300** 11500	**35300** 7940	1.45	**574000** 129000	LL562749	LL562710
368.249 14.4980	**523.875** 20.6250	**101.600** 4.0000	**2270000** 511000	0.33	1.80	**589000** 132000	**335000** 75400	1.76	**4340000** 977000	HM265049	HM265010
368.300 14.5000	**596.900** 23.5000	**95.250** 3.7500	**1770000** 399000	0.41	1.45	**460000** 103000	**326000** 73400	1.41	**3030000** 680000	EE181453	182350
368.300 14.5000	**609.600** 24.0000	**142.875** 5.6250	**2970000** 668000	0.36	1.68	**770000** 173000	**470000** 106000	1.64	**5380000** 1210000	EE321145	321240
368.300 14.5000	**622.300** 24.5000	**142.875** 5.6250	**2970000** 668000	0.36	1.68	**770000** 173000	**470000** 106000	1.64	**5380000** 1210000	EE321145	321245
371.475 14.6250	**501.650** 19.7500	**74.612** 2.9375	**1050000** 236000	0.44	1.36	**273000** 61300	**206000** 46200	1.33	**1870000** 420000	EE231462	231975
371.475 14.6250	**514.350** 20.2500	**74.612** 2.9375	**1050000** 236000	0.44	1.36	**273000** 61300	**206000** 46200	1.33	**1870000** 420000	EE231462	232025
374.650 14.7500	**431.800** 17.0000	**28.575** 1.1250	**254000** 57100	0.33	1.80	**65800** 14800	**37500** 8430	1.76	**745000** 167000	LL264648	LL264610
374.650 14.7500	**522.288** 20.5625	**85.725** 3.3750	**1390000** 313000	0.39	1.56	**360000** 81000	**238000** 53500	1.51	**2950000** 663000	LM565943	LM565910
377.825 14.8750	**508.000** 20.0000	**63.500** 2.5000	**755000** 170000	0.53	1.13	**196000** 44000	**179000** 40200	1.10	**1480000** 332000	EE192148	192200
377.825 14.8750	**522.288** 20.5625	**85.725** 3.3750	**1390000** 313000	0.39	1.56	**360000** 81000	**238000** 53500	1.51	**2950000** 663000	LM565946	LM565910
381.000 15.0000	**479.425** 18.8750	**49.212** 1.9375	**594000** 133000	0.50	1.21	**154000** 34600	**130000** 29300	1.18	**1380000** 311000	L865547	L865512
381.000 15.0000	**479.425** 18.8750	**49.212** 1.9375	**594000** 133000	0.50	1.21	**154000** 34600	**130000** 29300	1.18	**1380000** 311000	L865548	L865512
381.000 15.0000	**508.000** 20.0000	**63.500** 2.5000	**755000** 170000	0.53	1.13	**196000** 44000	**179000** 40200	1.10	**1480000** 332000	EE192150	192200
381.000 15.0000	**522.288** 20.5625	**85.725** 3.3750	**1390000** 313000	0.39	1.56	**360000** 81000	**238000** 53500	1.51	**2950000** 663000	LM565949	LM565910

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

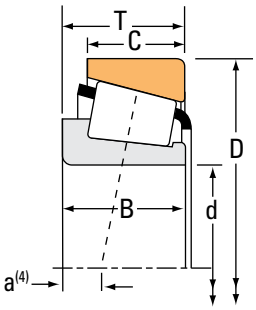
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
152.400 6.0000	**114.300** 4.5000	**-24.4** -0.96	**16.0** 0.63	**396.0** 15.59	**425.0** 16.73	**6.4** 0.25	**611.8** 24.09	**603.0** 23.74	**21.8** 0.85	**6.7** 0.27	4540.6	230.6	0.2231	**235.18** 518.47
103.000 4.0551	**72.000** 2.8346	**-4.1** -0.16	**6.0** 0.24	**382.0** 15.04	**391.0** 15.39	**2.5** 0.10	**481.0** 18.94	**473.0** 18.62	**4.9** 0.19	**4.9** 0.19	3826.7	375.8	0.1968	**58.62** 129.23
23.812 0.9375	**17.462** 0.6875	**37.8** 1.49	**2.3** 0.09	**371.0** 14.61	**372.0** 14.65	**1.5** 0.06	**401.0** 15.79	**396.0** 15.59	**1.0** 0.04	**2.4** 0.10	1673.0	1063.8	0.2005	**3.69** 8.13
101.600 4.0000	**79.375** 3.1250	**-8.4** -0.33	**6.4** 0.25	**394.0** 15.51	**400.0** 15.75	**6.4** 0.25	**499.0** 19.63	**487.0** 19.17	**9.2** 0.36	**3.7** 0.15	4297.3	412.9	0.2106	**69.20** 152.56
92.075 3.6250	**60.325** 2.3750	**9.4** 0.37	**9.7** 0.38	**402.0** 15.83	**415.0** 16.34	**6.4** 0.25	**552.0** 21.73	**552.0** 21.73	**18.5** 0.72	**6.8** 0.27	2961.8	271.9	0.1984	**90.79** 200.17
139.700 5.5000	**111.125** 4.3750	**-23.6** -0.93	**8.0** 0.31	**404.0** 15.91	**413.0** 16.26	**6.4** 0.25	**571.0** 22.48	**555.0** 21.85	**21.1** 0.83	**4.9** 0.20	4401.5	304.6	0.2173	**156.49** 345.01
139.700 5.5000	**111.125** 4.3750	**-23.6** -0.93	**8.0** 0.31	**404.0** 15.91	**413.0** 16.26	**6.4** 0.25	**571.0** 22.48	**561.0** 22.09	**21.1** 0.83	**4.9** 0.20	4401.5	304.6	0.2173	**167.16** 368.54
66.675 2.6250	**50.800** 2.0000	**19.6** 0.77	**6.4** 0.25	**390.0** 15.35	**400.0** 15.75	**3.3** 0.13	**481.1** 18.94	**472.0** 18.58	**18.9** 0.74	**6.0** 0.24	2386.0	366.8	0.1874	**34.43** 75.91
66.675 2.6250	**50.800** 2.0000	**19.6** 0.77	**6.4** 0.25	**390.0** 15.35	**400.0** 15.75	**3.3** 0.13	**481.1** 18.94	**478.0** 18.82	**18.9** 0.74	**6.0** 0.24	2386.0	366.8	0.1874	**38.40** 84.65
28.575 1.1250	**20.638** 0.8125	**27.9** 1.10	**3.5** 0.14	**384.0** 15.12	**389.0** 15.31	**3.3** 0.13	**424.0** 16.69	**417.0** 16.42	**1.9** 0.07	**3.0** 0.12	2155.1	1055.1	0.2055	**6.08** 13.41
84.138 3.3125	**61.912** 2.4375	**8.9** 0.35	**6.4** 0.25	**397.0** 15.63	**407.0** 16.02	**3.3** 0.13	**499.5** 19.67	**493.0** 19.41	**12.3** 0.48	**3.2** 0.13	3379.9	375.8	0.2028	**51.91** 114.42
58.738 2.3125	**38.100** 1.5000	**39.4** 1.55	**6.4** 0.25	**398.0** 15.67	**408.0** 16.06	**3.3** 0.13	**482.0** 18.98	**478.0** 18.82	**17.9** 0.70	**4.0** 0.16	2288.0	398.1	0.1951	**30.27** 66.73
84.138 3.3125	**61.912** 2.4375	**8.9** 0.35	**6.4** 0.25	**399.0** 15.71	**409.0** 16.10	**3.3** 0.13	**499.5** 19.67	**493.0** 19.41	**12.3** 0.48	**3.2** 0.13	3379.9	375.8	0.2028	**50.67** 111.69
47.625 1.8750	**34.925** 1.3750	**42.9** 1.69	**6.4** 0.25	**395.0** 15.55	**407.0** 16.02	**3.3** 0.13	**465.0** 18.31	**456.0** 17.95	**6.6** 0.26	**2.8** 0.11	2256.6	529.8	0.1897	**18.56** 40.92
47.625 1.8750	**34.925** 1.3750	**42.9** 1.69	**12.7** 0.50	**395.0** 15.55	**419.0** 16.50	**3.3** 0.13	**465.0** 18.31	**456.0** 17.95	**6.6** 0.26	**2.8** 0.11	2256.6	529.8	0.1897	**18.31** 40.37
58.738 2.3125	**38.100** 1.5000	**39.4** 1.55	**6.4** 0.25	**400.0** 15.75	**410.0** 16.14	**3.3** 0.13	**482.0** 18.98	**478.0** 18.82	**17.9** 0.70	**4.0** 0.16	2288.0	398.1	0.1951	**29.40** 64.81
84.138 3.3125	**61.912** 2.4375	**8.9** 0.35	**6.4** 0.25	**402.0** 15.83	**411.0** 16.18	**3.3** 0.13	**499.5** 19.67	**493.0** 19.41	**12.3** 0.48	**3.2** 0.13	3379.9	375.8	0.2028	**49.47** 109.05

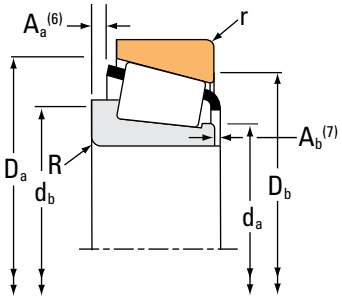
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
381.000 15.0000	**546.100** 21.5000	**104.775** 4.1250	**2460000** 553000	0.33	1.80	**638000** 143000	**363000** 81700	1.76	**4730000** 1060000	HM266447	HM266410
381.000 15.0000	**546.100** 21.5000	**104.775** 4.1250	**2270000** 510000	0.33	1.80	**588000** 132000	**335000** 75200	1.76	**4210000** 946000	HM266446	HM266410
381.000 15.0000	**590.550** 23.2500	**114.300** 4.5000	**2860000** 642000	0.33	1.80	**740000** 166000	**421000** 94800	1.76	**5550000** 1250000	M268730	M268710
384.175 15.1250	**441.325** 17.3750	**28.575** 1.1250	**232000** 52300	0.34	1.76	**60300** 13500	**35100** 7890	1.72	**667000** 150000	LL365348	LL365310
384.175 15.1250	**546.100** 21.5000	**104.774** 4.1250	**2270000** 510000	0.33	1.80	**588000** 132000	**335000** 75200	1.76	**4210000** 946000	HM266448	HM266410
384.175 15.1250	**546.100** 21.5000	**104.775** 4.1250	**2460000** 553000	0.33	1.80	**638000** 143000	**363000** 81700	1.76	**4730000** 1060000	HM266449	HM266410
385.762 15.1875	**514.350** 20.2500	**82.550** 3.2500	**1350000** 304000	0.42	1.43	**351000** 78900	**251000** 56500	1.40	**3160000** 710000	LM665949	LM665910
387.248 15.2460	**546.100** 21.5000	**87.312** 3.4375	**1870000** 420000	0.42	1.44	**484000** 109000	**346000** 77800	1.40	**3940000** 886000	M667935	M667911
393.700 15.5000	**546.100** 21.5000	**76.200** 3.0000	**1090000** 244000	0.48	1.26	**282000** 63300	**230000** 51600	1.23	**2010000** 451000	EE234154	234215
396.875 15.6250	**546.100** 21.5000	**76.200** 3.0000	**1090000** 244000	0.48	1.26	**282000** 63300	**230000** 51600	1.23	**2010000** 451000	EE234156	234215
396.875 15.6250	**558.800** 22.0000	**65.088** 2.5625	**1090000** 244000	0.48	1.26	**282000** 63300	**230000** 51600	1.23	**2010000** 451000	EE234156	234220
400.000 15.7480	**676.000** 26.6142	**152.400** 6.0000	**3770000** 847000	0.79	0.76	**976000** 219000	**1320000** 298000	0.74	**6470000** 1450000	NP741069	NP263541
403.225 15.8750	**460.375** 18.1250	**28.575** 1.1250	**230000** 51700	0.40	1.49	**59600** 13400	**41000** 9210	1.45	**708000** 159000	LL566848	LL566810
406.400 16.0000	**508.000** 20.0000	**61.912** 2.4375	**859000** 193000	0.37	1.64	**223000** 50100	**139000** 31300	1.60	**2230000** 502000	L467549	L467510
406.400 16.0000	**546.100** 21.5000	**76.200** 3.0000	**1090000** 244000	0.48	1.26	**282000** 63300	**230000** 51600	1.23	**2010000** 451000	EE234160	234215
406.400 16.0000	**546.100** 21.5000	**76.200** 3.0000	**1090000** 244000	0.48	1.26	**282000** 63300	**230000** 51600	1.23	**2010000** 451000	EE234160A	234215X
406.400 16.0000	**546.100** 21.5000	**87.312** 3.4375	**1870000** 420000	0.42	1.44	**484000** 109000	**346000** 77800	1.40	**3940000** 886000	M667944	M667911

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

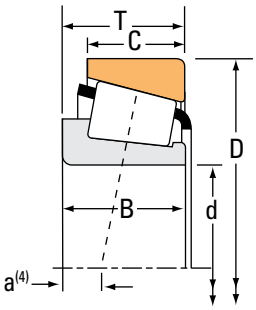
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
104.775 4.1250	**82.550** 3.2500	**-7.1** -0.28	**6.4** 0.25	**405.0** 15.94	**415.0** 16.34	**6.4** 0.25	**520.0** 20.47	**507.0** 19.96	**8.8** 0.34	**4.9** 0.20	4760.1	301.5	0.2178	**79.35** 174.93
104.775 4.1250	**82.550** 3.2500	**-7.1** -0.28	**6.4** 0.25	**405.0** 15.94	**415.0** 16.34	**6.4** 0.25	**520.0** 20.47	**507.0** 19.96	**9.0** 0.35	**5.5** 0.22	4383.4	278.7	0.2116	**76.11** 167.79
114.300 4.5000	**88.900** 3.5000	**-9.4** -0.37	**6.4** 0.25	**415.0** 16.34	**425.0** 16.73	**6.4** 0.25	**562.4** 22.14	**548.9** 21.61	**10.6** 0.41	**6.0** 0.24	5754.9	420.9	0.2319	**118.82** 261.95
28.575 1.1250	**20.638** 0.8125	**30.0** 1.18	**3.5** 0.14	**393.0** 15.47	**398.0** 15.67	**3.3** 0.13	**433.0** 17.05	**427.0** 16.81	**1.4** 0.05	**3.2** 0.13	2056.5	1165.0	0.2033	**6.23** 13.74
104.775 4.1250	**82.550** 3.2500	**-7.1** -0.28	**6.4** 0.25	**407.0** 16.02	**417.0** 16.42	**6.4** 0.25	**520.0** 20.47	**507.0** 19.96	**9.0** 0.35	**5.5** 0.22	4383.4	278.7	0.2116	**74.41** 164.05
104.775 4.1250	**82.550** 3.2500	**-7.1** -0.28	**6.4** 0.25	**407.0** 16.02	**417.0** 16.42	**6.4** 0.25	**520.0** 20.47	**507.0** 19.96	**8.8** 0.34	**4.9** 0.20	4760.1	301.5	0.2178	**77.78** 171.48
82.550 3.2500	**63.500** 2.5000	**16.3** 0.64	**6.4** 0.25	**406.0** 15.98	**415.0** 16.34	**3.3** 0.13	**495.0** 19.49	**482.0** 18.98	**9.4** 0.37	**2.9** 0.12	3743.4	480.0	0.2155	**45.18** 99.61
87.312 3.4375	**68.262** 2.6875	**17.8** 0.70	**6.4** 0.25	**414.0** 16.30	**424.0** 16.69	**6.4** 0.25	**526.7** 20.74	**510.0** 20.08	**8.0** 0.31	**2.7** 0.11	4639.7	498.9	0.2316	**65.33** 144.04
61.120 2.4063	**55.562** 2.1875	**35.6** 1.40	**6.4** 0.25	**416.0** 16.38	**426.0** 16.77	**6.4** 0.25	**515.6** 20.30	**504.0** 19.84	**13.8** 0.54	**6.1** 0.24	2782.9	448.6	0.2018	**44.77** 98.69
61.120 2.4063	**55.562** 2.1875	**35.6** 1.40	**6.4** 0.25	**418.0** 16.46	**428.0** 16.85	**6.4** 0.25	**515.6** 20.30	**504.0** 19.84	**13.8** 0.54	**6.1** 0.24	2782.9	448.6	0.2018	**43.83** 96.61
61.120 2.4063	**44.450** 1.7500	**35.6** 1.40	**6.4** 0.25	**418.0** 16.46	**428.0** 16.85	**6.4** 0.25	**516.0** 20.31	**516.0** 20.31	**13.8** 0.54	**6.1** 0.24	2782.9	448.6	0.2018	**43.25** 95.34
148.000 5.8268	**103.000** 4.0551	**54.1** 2.13	**6.4** 0.25	**448.0** 17.64	**481.0** 18.94	**6.4** 0.25	**642.0** 25.28	**591.0** 23.27	**21.4** 0.84	**11.3** 0.45	4979.1	257.9	0.2897	**215.02** 474.07
28.575 1.1250	**20.638** 0.8125	**41.4** 1.63	**3.5** 0.14	**414.0** 16.30	**418.0** 16.46	**3.3** 0.13	**452.0** 17.80	**445.0** 17.52	**2.0** 0.08	**2.0** 0.08	2302.0	1585.3	0.2225	**6.40** 14.11
61.912 2.4375	**47.625** 1.8750	**20.3** 0.80	**3.3** 0.13	**423.0** 16.65	**426.0** 16.77	**3.3** 0.13	**492.0** 19.37	**483.0** 19.02	**6.1** 0.24	**2.8** 0.11	3716.5	673.8	0.2038	**27.06** 59.66
61.120 2.4063	**55.562** 2.1875	**35.6** 1.40	**6.4** 0.25	**425.0** 16.73	**435.0** 17.13	**6.4** 0.25	**515.6** 20.30	**504.0** 19.84	**13.8** 0.54	**6.1** 0.24	2782.9	448.6	0.2018	**41.06** 90.51
61.120 2.4063	**55.562** 2.1875	**35.6** 1.40	**6.8** 0.27	**425.0** 16.73	**435.0** 17.13	**6.8** 0.27	**515.6** 20.30	**504.0** 19.84	**13.8** 0.54	**6.1** 0.24	2782.9	448.6	0.2018	**41.23** 90.89
87.312 3.4375	**68.262** 2.6875	**17.8** 0.70	**6.4** 0.25	**428.0** 16.85	**438.0** 17.24	**6.4** 0.25	**526.7** 20.74	**510.0** 20.08	**8.0** 0.31	**2.2** 0.09	4639.7	498.9	0.2316	**57.17** 126.05

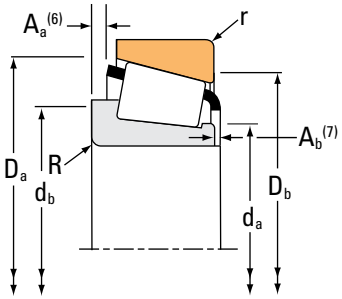
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
406.400 16.0000	**549.275** 21.6250	**85.725** 3.3750	**1430000** 322000	0.41	1.47	**371000** 83500	**259000** 58200	1.43	**3130000** 704000	LM567949	LM567910
406.400 16.0000	**558.800** 22.0000	**65.088** 2.5625	**1090000** 244000	0.48	1.26	**282000** 63300	**230000** 51600	1.23	**2010000** 451000	EE234160	234220
406.400 16.0000	**574.675** 22.6250	**76.200** 3.0000	**1110000** 249000	0.50	1.21	**287000** 64600	**245000** 55000	1.17	**2100000** 471000	EE285160	285226
406.400 16.0000	**609.524** 23.9970	**82.550** 3.2500	**1720000** 387000	0.35	1.73	**446000** 100000	**265000** 59600	1.68	**3420000** 769000	EE736160	736238
406.400 16.0000	**609.524** 23.9970	**87.312** 3.4375	**1720000** 387000	0.35	1.73	**446000** 100000	**265000** 59600	1.68	**3420000** 769000	EE736160	736237
406.400 16.0000	**609.600** 24.0000	**92.075** 3.6250	**1840000** 414000	0.38	1.57	**477000** 107000	**313000** 70400	1.52	**2870000** 645000	EE911600	912400
406.400 16.0000	**673.100** 26.5000	**88.900** 3.5000	**2040000** 458000	0.40	1.49	**528000** 119000	**363000** 81700	1.45	**3370000** 758000	EE571602	572650
406.400 16.0000	**762.000** 30.0000	**180.975** 7.1250	**4180000** 941000	0.94	0.64	**1080000** 244000	**1740000** 391000	0.62	**6840000** 1540000	H969249	H969210
409.575 16.1250	**546.100** 21.5000	**87.312** 3.4375	**1690000** 380000	0.42	1.44	**438000** 98500	**313000** 70400	1.40	**3420000** 768000	M667948	M667911
409.575 16.1250	**574.675** 22.6250	**76.200** 3.0000	**1110000** 249000	0.50	1.21	**287000** 64600	**245000** 55000	1.17	**2100000** 471000	EE285162	285226
411.162 16.1875	**609.600** 24.0000	**92.075** 3.6250	**1840000** 414000	0.38	1.57	**477000** 107000	**313000** 70400	1.52	**2870000** 645000	EE911618	912400
415.925 16.3750	**590.550** 23.2500	**114.300** 4.5000	**2860000** 642000	0.33	1.80	**740000** 166000	**421000** 94800	1.76	**5550000** 1250000	M268749	M268710
419.989 16.5350	**590.550** 23.2500	**114.300** 4.5000	**2860000** 642000	0.33	1.80	**740000** 166000	**421000** 94800	1.76	**5550000** 1250000	M268742	M268710
425.450 16.7500	**685.698** 26.9960	**142.875** 5.6250	**3130000** 704000	0.40	1.49	**812000** 183000	**559000** 126000	1.45	**6030000** 1360000	EE328167	328269
425.450 16.7500	**700.000** 27.5591	**150.076** 5.9085	**3130000** 704000	0.40	1.49	**812000** 183000	**559000** 126000	1.45	**6030000** 1360000	NP035656	NP054313
427.038 16.8125	**533.400** 21.0000	**50.800** 2.0000	**792000** 178000	0.33	1.80	**205000** 46200	**117000** 26300	1.76	**1760000** 396000	L269140	L269110
430.212 16.9375	**603.250** 23.7500	**76.200** 3.0000	**1130000** 253000	0.52	1.14	**292000** 65700	**262000** 59000	1.11	**2190000** 491000	EE241693	242375

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

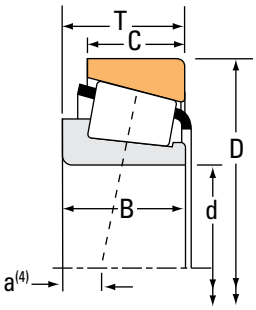
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
84.138 3.3125	**61.912** 2.4375	**15.5** 0.61	**6.4** 0.25	**427.0** 16.81	**437.0** 17.20	**3.3** 0.13	**526.3** 20.72	**519.0** 20.43	**12.7** 0.50	**3.2** 0.13	3796.2	424.8	0.2143	**52.80** 116.40
61.120 2.4063	**44.450** 1.7500	**35.6** 1.40	**6.4** 0.25	**425.0** 16.73	**435.0** 17.13	**6.4** 0.25	**516.0** 20.31	**516.0** 20.31	**13.8** 0.54	**6.1** 0.24	2782.9	448.6	0.2018	**40.48** 89.24
67.866 2.6719	**50.800** 2.0000	**38.6** 1.52	**6.8** 0.27	**431.0** 16.97	**442.0** 17.40	**3.3** 0.13	**535.6** 21.09	**534.0** 21.02	**17.7** 0.69	**3.0** 0.12	3036.6	478.1	0.2103	**52.88** 116.55
79.375 3.1250	**60.325** 2.3750	**13.5** 0.53	**8.0** 0.31	**437.0** 17.20	**449.0** 17.68	**6.4** 0.25	**576.1** 22.68	**570.0** 22.44	**9.2** 0.36	**6.4** 0.25	4176.8	536.6	0.2096	**81.06** 178.70
79.375 3.1250	**65.088** 2.5625	**13.5** 0.53	**8.0** 0.31	**437.0** 17.20	**449.0** 17.68	**6.4** 0.25	**576.1** 22.68	**570.0** 22.44	**9.2** 0.36	**6.4** 0.25	4176.8	536.6	0.2096	**83.18** 183.38
84.138 3.3125	**60.325** 2.3750	**11.9** 0.47	**6.8** 0.27	**439.0** 17.28	**443.0** 17.44	**6.4** 0.25	**570.0** 22.44	**567.0** 22.32	**18.4** 0.72	**6.3** 0.25	3251.1	349.1	0.1990	**77.77** 171.48
87.833 3.4580	**60.325** 2.3750	**20.3** 0.80	**6.4** 0.25	**447.0** 17.60	**453.0** 17.83	**3.3** 0.13	**632.6** 24.91	**630.0** 24.80	**14.9** 0.59	**5.5** 0.22	3621.0	321.8	0.2093	**101.96** 224.80
161.925 6.3750	**107.950** 4.2500	**79.2** 3.12	**12.7** 0.50	**463.3** 18.24	**513.0** 20.20	**12.7** 0.50	**719.3** 28.32	**657.0** 25.87	**25.8** 1.01	**20.6** 0.81	4614.9	207.4	0.2945	**331.83** 731.56
87.312 3.4375	**68.262** 2.6875	**17.8** 0.70	**6.4** 0.25	**431.0** 16.97	**440.0** 17.32	**6.4** 0.25	**526.7** 20.74	**510.0** 20.08	**9.4** 0.37	**3.1** 0.13	4197.4	453.5	0.2235	**53.65** 118.30
67.866 2.6719	**50.800** 2.0000	**38.6** 1.52	**6.8** 0.27	**433.0** 17.05	**444.0** 17.48	**3.3** 0.13	**535.6** 21.09	**534.0** 21.02	**17.7** 0.69	**3.0** 0.12	3036.6	478.1	0.2103	**51.79** 114.17
84.138 3.3125	**60.325** 2.3750	**11.9** 0.47	**6.8** 0.27	**443.0** 17.44	**447.0** 17.60	**6.4** 0.25	**570.0** 22.44	**567.0** 22.32	**18.4** 0.72	**6.3** 0.25	3251.1	349.1	0.1990	**77.16** 170.14
114.300 4.5000	**88.900** 3.5000	**-9.4** -0.37	**6.4** 0.25	**441.0** 17.36	**451.0** 17.76	**6.4** 0.25	**562.4** 22.14	**548.9** 21.61	**10.6** 0.41	**6.0** 0.24	5754.9	420.9	0.2319	**99.09** 218.45
114.300 4.5000	**88.900** 3.5000	**-9.4** -0.37	**1.5** 0.06	**444.0** 17.48	**444.0** 17.48	**6.4** 0.25	**562.4** 22.14	**548.9** 21.61	**10.6** 0.41	**6.0** 0.24	5754.9	420.9	0.2319	**97.05** 213.94
142.800 5.6220	**104.775** 4.1250	**-8.1** -0.32	**12.7** 0.50	**463.0** 18.23	**482.0** 18.98	**6.4** 0.25	**636.1** 25.04	**624.0** 24.57	**21.6** 0.85	**3.1** 0.13	5606.6	353.0	0.2443	**190.51** 420.03
150.000 5.9055	**104.775** 4.1250	**-15.2** -0.60	**12.7** 0.50	**463.0** 18.23	**482.0** 18.98	**6.4** 0.25	**636.5** 25.06	**630.0** 24.80	**31.1** 1.22	**0.7** 0.03	5606.6	353.0	0.2443	**209.26** 461.36
50.800 2.0000	**36.512** 1.4375	**25.9** 1.02	**3.3** 0.13	**442.0** 17.40	**447.0** 17.60	**3.3** 0.13	**522.0** 20.55	**516.0** 20.31	**0.0** 0.00	**0.0** 0.00	3088.3	671.4	0.1850	**24.17** 53.25
73.025 2.8750	**50.800** 2.0000	**47.0** 1.85	**6.4** 0.25	**455.0** 17.91	**465.0** 18.31	**6.4** 0.25	**562.8** 22.16	**558.0** 21.97	**18.7** 0.73	**-1.5** -0.05	3353.8	551.6	0.2207	**58.84** 129.71

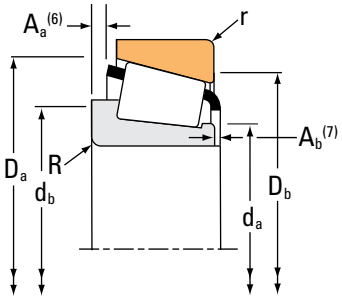
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
431.800 17.0000	**533.400** 21.0000	**46.038** 1.8125	**624000** 140000	0.31	1.96	**162000** 36400	**84700** 19000	1.91	**1520000** 342000	80385	80325
431.800 17.0000	**533.400** 21.0000	**50.800** 2.0000	**792000** 178000	0.33	1.80	**205000** 46200	**117000** 26300	1.76	**1760000** 396000	L269143	L269110
431.800 17.0000	**552.450** 21.7500	**44.450** 1.7500	**626000** 141000	0.32	1.88	**162000** 36500	**88600** 19900	1.83	**1550000** 348000	80170	80217
431.800 17.0000	**565.150** 22.2500	**44.450** 1.7500	**626000** 141000	0.32	1.88	**162000** 36500	**88600** 19900	1.83	**1550000** 348000	80170	80222
431.800 17.0000	**571.500** 22.5000	**74.612** 2.9375	**1230000** 276000	0.55	1.10	**319000** 71700	**298000** 67000	1.07	**2810000** 632000	LM869448	LM869410
431.800 17.0000	**603.250** 23.7500	**76.200** 3.0000	**1130000** 253000	0.52	1.14	**292000** 65700	**262000** 59000	1.11	**2190000** 491000	EE241701	242375
431.800 17.0000	**673.100** 26.5000	**88.900** 3.5000	**2040000** 458000	0.40	1.49	**528000** 119000	**363000** 81700	1.45	**3370000** 758000	EE571703	572650
431.902 17.0040	**685.698** 26.9960	**177.800** 7.0000	**4640000** 1040000	0.32	1.85	**1200000** 270000	**669000** 150000	1.80	**9230000** 2080000	EE650170	650270
441.325 17.3750	**660.400** 26.0000	**91.280** 3.5937	**1760000** 396000	0.37	1.60	**457000** 103000	**292000** 65700	1.56	**3630000** 816000	EE737173	737260
444.500 17.5000	**635.000** 25.0000	**120.650** 4.7500	**3280000** 736000	0.33	1.80	**849000** 191000	**484000** 109000	1.76	**6430000** 1450000	M270744	M270710
447.675 17.6250	**552.450** 21.7500	**44.450** 1.7500	**626000** 141000	0.32	1.88	**162000** 36500	**88600** 19900	1.83	**1550000** 348000	80176	80217
447.675 17.6250	**552.450** 21.7500	**44.450** 1.7500	**618000** 139000	0.36	1.65	**160000** 36000	**100000** 22500	1.60	**1510000** 340000	LL469949	LL469910
447.675 17.6250	**565.150** 22.2500	**44.450** 1.7500	**626000** 141000	0.32	1.88	**162000** 36500	**88600** 19900	1.83	**1550000** 348000	80176	80222
447.675 17.6250	**635.000** 25.0000	**120.650** 4.7500	**3280000** 736000	0.33	1.80	**849000** 191000	**484000** 109000	1.76	**6430000** 1450000	M270749	M270710
450.850 17.7500	**603.250** 23.7500	**85.725** 3.3750	**1490000** 335000	0.45	1.32	**386000** 86800	**300000** 67300	1.29	**3440000** 773000	LM770945	LM770910
457.073 17.9950	**573.088** 22.5625	**74.612** 2.9375	**1230000** 277000	0.40	1.49	**319000** 71700	**220000** 49400	1.45	**3170000** 713000	L570648	L570610
457.200 18.0000	**552.450** 21.7500	**44.450** 1.7500	**626000** 141000	0.32	1.88	**162000** 36500	**88600** 19900	1.83	**1550000** 348000	80180	80217

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

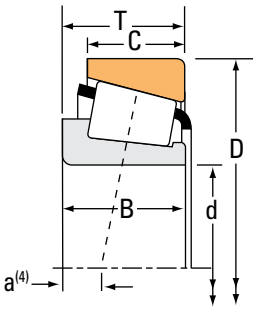
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
46.038 1.8125	**34.925** 1.3750	**23.4** 0.92	**3.3** 0.13	**446.0** 17.56	**450.0** 17.72	**3.3** 0.13	**510.0** 20.08	**510.0** 20.08	**4.1** 0.16	**1.2** 0.05	3209.2	802.4	0.1815	**21.55** 47.49
50.800 2.0000	**36.512** 1.4375	**25.9** 1.02	**3.3** 0.13	**445.0** 17.52	**450.0** 17.72	**3.3** 0.13	**522.0** 20.55	**516.0** 20.31	* *	* *	3088.3	671.4	0.1850	**22.81** 50.26
44.450 1.7500	**31.750** 1.2500	**26.2** 1.03	**3.3** 0.13	**452.0** 17.80	**456.0** 17.95	**3.3** 0.13	**531.0** 20.91	**531.0** 20.91	**5.8** 0.23	**4.4** 0.18	3437.4	868.7	0.1880	**25.07** 55.25
44.450 1.7500	**31.750** 1.2500	**26.2** 1.03	**3.3** 0.13	**452.0** 17.80	**456.0** 17.95	**3.3** 0.13	**531.0** 20.91	**537.0** 21.14	**5.8** 0.23	**4.4** 0.18	3437.4	868.7	0.1880	**27.83** 61.34
74.612 2.9375	**52.388** 2.0625	**50.0** 1.97	**3.3** 0.13	**453.0** 17.83	**457.0** 17.99	**3.3** 0.13	**549.0** 21.61	**537.0** 21.14	**11.3** 0.44	**-0.1** 0.00	3719.4	491.5	0.2326	**47.68** 105.10
73.025 2.8750	**50.800** 2.0000	**47.0** 1.85	**6.4** 0.25	**456.9** 17.99	**446.0** 18.35	**6.4** 0.25	**562.8** 22.16	**558.0** 21.97	**18.7** 0.73	**-1.5** -0.05	3353.8	551.6	0.2207	**58.22** 128.36
87.833 3.4580	**60.325** 2.3750	**20.3** 0.80	**6.4** 0.25	**466.0** 18.35	**472.0** 18.58	**3.3** 0.13	**632.6** 24.91	**630.0** 24.80	**14.9** 0.59	**5.7** 0.23	3621.0	321.8	0.2093	**90.47** 199.46
174.625 6.8750	**142.875** 5.6250	**-36.3** -1.43	**6.4** 0.25	**471.0** 18.54	**477.0** 18.78	**6.4** 0.25	**648.5** 25.53	**627.0** 24.69	**15.7** 0.62	**4.1** 0.16	7668.4	341.3	0.2542	**245.38** 540.96
85.725 3.3750	**62.705** 2.4687	**16.8** 0.66	**10.5** 0.41	**477.0** 18.78	**491.0** 19.33	**6.4** 0.25	**618.0** 24.33	**614.9** 24.21	**14.2** 0.56	**7.8** 0.31	4809.1	573.4	0.2247	**99.85** 220.12
120.650 4.7500	**95.250** 3.7500	**-8.1** -0.32	**6.4** 0.25	**472.0** 18.58	**481.0** 18.94	**6.4** 0.25	**605.0** 23.82	**591.0** 23.27	**9.8** 0.38	**6.9** 0.28	6865.6	481.9	0.2458	**123.33** 271.89
44.450 1.7500	**31.750** 1.2500	**26.2** 1.03	**3.3** 0.13	**464.0** 18.27	**467.0** 18.39	**3.3** 0.13	**531.0** 20.91	**531.0** 20.91	**5.8** 0.23	**4.4** 0.18	3437.4	868.7	0.1880	**21.26** 46.84
41.618 1.6385	**32.545** 1.2813	**35.1** 1.38	**3.3** 0.13	**462.0** 18.19	**466.0** 18.35	**3.3** 0.13	**525.0** 20.67	**528.0** 20.79	**3.7** 0.14	**5.0** 0.20	3159.1	928.3	0.1912	**20.79** 45.81
44.450 1.7500	**31.750** 1.2500	**26.2** 1.03	**3.3** 0.13	**464.0** 18.27	**467.0** 18.39	**3.3** 0.13	**531.0** 20.91	**537.0** 21.14	**5.8** 0.23	**4.4** 0.18	3437.4	868.7	0.1880	**24.02** 52.94
120.650 4.7500	**95.250** 3.7500	**-8.1** -0.32	**6.4** 0.25	**474.0** 18.66	**484.0** 19.06	**6.4** 0.25	**605.0** 23.82	**591.0** 23.27	**9.8** 0.38	**6.9** 0.28	6865.6	481.9	0.2458	**121.23** 267.26
84.138 3.3125	**60.325** 2.3750	**30.5** 1.20	**6.4** 0.25	**474.0** 18.66	**484.0** 19.06	**3.3** 0.13	**579.7** 22.82	**570.0** 22.44	**13.4** 0.52	**3.3** 0.13	4660.5	534.5	0.2366	**63.95** 140.98
74.612 2.9375	**57.150** 2.2500	**27.2** 1.07	**6.4** 0.25	**475.0** 18.70	**485.0** 19.09	**6.4** 0.25	**558.0** 21.97	**543.0** 21.38	**7.4** 0.29	**3.7** 0.15	4970.4	478.5	0.2321	**41.84** 92.22
44.450 1.7500	**31.750** 1.2500	**26.2** 1.03	**3.3** 0.13	**471.0** 18.54	**474.0** 18.66	**3.3** 0.13	**531.0** 20.91	**531.0** 20.91	**5.8** 0.23	**4.4** 0.18	3437.4	868.7	0.1880	**18.90** 41.63

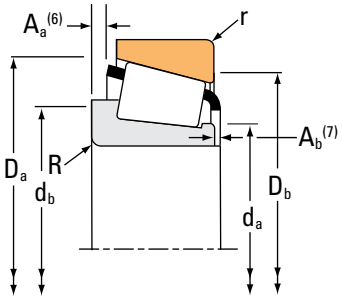
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
[*] Contact your Timken engineer for details.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
457.200 18.0000	**573.088** 22.5625	**74.612** 2.9375	**1230000** 277000	0.40	1.49	**319000** 71700	**220000** 49400	1.45	**3170000** 713000	L570649	L570610
457.200 18.0000	**596.900** 23.5000	**76.200** 3.0000	**1410000** 318000	0.40	1.48	**367000** 82400	**254000** 57100	1.44	**2890000** 649000	EE244180	244235
457.200 18.0000	**603.250** 23.7500	**85.725** 3.3750	**1490000** 335000	0.45	1.32	**386000** 86800	**300000** 67300	1.29	**3440000** 773000	LM770949	LM770910
457.200 18.0000	**615.950** 24.2500	**85.725** 3.3750	**1940000** 436000	0.33	1.80	**503000** 113000	**286000** 64400	1.76	**4100000** 921000	LM272235	LM272210
457.200 18.0000	**660.400** 26.0000	**91.280** 3.5937	**1760000** 396000	0.37	1.60	**457000** 103000	**292000** 65700	1.56	**3630000** 816000	EE737181	737260
457.200 18.0000	**660.400** 26.0000	**92.075** 3.6250	**1760000** 396000	0.37	1.60	**457000** 103000	**292000** 65700	1.56	**3630000** 816000	EE737181X	737262
457.200 18.0000	**730.148** 28.7460	**120.650** 4.7500	**2830000** 635000	0.39	1.53	**733000** 165000	**492000** 111000	1.49	**4870000** 1100000	EE671801	672873
476.250 18.7500	**565.150** 22.2500	**41.275** 1.6250	**469000** 106000	0.47	1.28	**122000** 27400	**97800** 22000	1.24	**1400000** 315000	LL771948	LL771911
479.425 18.8750	**679.450** 26.7500	**128.588** 5.0625	**3730000** 839000	0.33	1.80	**968000** 218000	**551000** 124000	1.76	**7400000** 1660000	M272749	M272710
482.600 19.0000	**615.950** 24.2500	**53.975** 2.1250	**656000** 148000	0.35	1.72	**170000** 38200	**102000** 22900	1.67	**1710000** 384000	80480	80425
482.600 19.0000	**615.950** 24.2500	**85.725** 3.3750	**1690000** 380000	0.33	1.80	**439000** 98600	**250000** 56100	1.76	**4100000** 921000	LM272249	LM272210
482.600 19.0000	**634.873** 24.9950	**80.963** 3.1875	**1470000** 330000	0.34	1.75	**380000** 85500	**223000** 50200	1.70	**3660000** 822000	EE243190	243250
488.671 19.2390	**660.400** 26.0000	**93.662** 3.6875	**2370000** 533000	0.31	1.95	**614000** 138000	**323000** 72600	1.90	**4590000** 1030000	EE640191	640260
488.950 19.2500	**634.873** 24.9950	**84.138** 3.3125	**1860000** 418000	0.47	1.27	**482000** 108000	**390000** 87800	1.24	**3870000** 871000	LM772748	LM772710
488.950 19.2500	**660.400** 26.0000	**93.662** 3.6875	**2370000** 533000	0.31	1.95	**614000** 138000	**323000** 72600	1.90	**4590000** 1030000	EE640192	640260
489.026 19.2530	**634.873** 24.9950	**80.963** 3.1875	**1470000** 330000	0.34	1.75	**380000** 85500	**223000** 50200	1.70	**3660000** 822000	EE243192	243250
498.323 19.6190	**634.873** 24.9950	**80.963** 3.1875	**1470000** 330000	0.34	1.75	**380000** 85500	**223000** 50200	1.70	**3660000** 822000	EE243197	243250

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

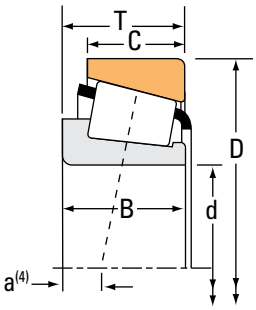
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
74.612 2.9375	**57.150** 2.2500	**27.2** 1.07	**6.4** 0.25	**475.0** 18.70	**485.0** 19.09	**6.4** 0.25	**558.0** 21.97	**543.0** 21.38	**7.4** 0.29	**3.7** 0.15	4970.4	478.5	0.2321	**41.77** 92.07
73.025 2.8750	**53.975** 2.1250	**26.7** 1.05	**9.7** 0.38	**478.0** 18.82	**494.0** 19.45	**3.3** 0.13	**570.0** 22.47	**567.0** 22.32	**13.8** 0.54	**4.0** 0.16	4411.8	627.1	0.2233	**49.51** 109.12
84.138 3.3125	**60.325** 2.3750	**30.5** 1.20	**6.4** 0.25	**479.0** 18.86	**489.0** 19.25	**3.3** 0.13	**579.7** 22.82	**570.0** 22.44	**13.4** 0.52	**3.3** 0.13	4660.5	534.5	0.2366	**59.95** 132.16
85.725 3.3750	**66.675** 2.6250	**12.4** 0.49	**6.4** 0.25	**483.0** 19.02	**493.0** 19.41	**6.4** 0.25	**597.0** 23.48	**585.0** 23.03	**8.0** 0.31	**4.0** 0.16	6037.2	665.8	0.2333	**71.13** 156.81
85.725 3.3750	**62.705** 2.4687	**16.8** 0.66	**10.5** 0.41	**489.0** 19.25	**503.9** 19.84	**6.4** 0.25	**618.0** 24.33	**614.9** 24.21	**14.2** 0.56	**7.8** 0.31	4809.1	573.4	0.2247	**92.32** 203.51
91.262 3.5930	**63.500** 2.5000	**16.8** 0.66	**6.4** 0.25	**489.0** 19.25	**495.0** 19.49	**6.4** 0.25	**618.2** 24.34	**614.9** 24.21	**14.2** 0.56	**2.3** 0.09	4809.1	573.4	0.2247	**95.10** 209.66
114.300 4.5000	**82.550** 3.2500	**5.3** 0.21	**9.7** 0.38	**491.0** 19.33	**507.0** 19.96	**6.4** 0.25	**681.0** 26.79	**675.0** 26.57	**19.8** 0.78	**10.2** 0.41	4968.3	343.4	0.2315	**175.01** 385.83
41.275 1.6250	**31.750** 1.2500	**58.4** 2.30	**3.3** 0.13	**491.0** 19.33	**495.0** 19.49	**3.3** 0.13	**549.0** 21.61	**543.0** 21.38	**3.5** 0.13	**1.4** 0.06	3792.4	1237.1	0.2189	**18.78** 41.40
128.588 5.0625	**101.600** 4.0000	**-8.9** -0.35	**6.4** 0.25	**507.0** 19.96	**516.0** 20.31	**6.4** 0.25	**648.0** 25.52	**633.0** 24.92	**9.9** 0.39	**7.7** 0.30	8110.8	508.6	0.2598	**149.07** 328.63
46.038 1.8125	**41.275** 1.6250	**36.6** 1.44	**3.3** 0.13	**501.0** 19.72	**504.0** 19.84	**3.3** 0.13	**579.0** 22.80	**582.0** 22.91	**6.2** 0.24	**3.0** 0.12	4148.9	1071.4	0.2056	**34.60** 76.26
85.725 3.3750	**66.675** 2.6250	**12.4** 0.49	**6.4** 0.25	**501.0** 19.72	**513.0** 20.20	**6.4** 0.25	**597.0** 23.48	**585.0** 23.03	**8.0** 0.31	**4.0** 0.16	6037.2	665.8	0.2333	**58.37** 128.68
80.962 3.1875	**63.500** 2.5000	**19.1** 0.75	**6.4** 0.25	**510.0** 20.08	**516.0** 20.31	**3.3** 0.13	**609.0** 24.00	**603.0** 23.74	**8.1** 0.31	**2.5** 0.10	6057.3	726.6	0.2350	**66.20** 145.96
94.458 3.7188	**69.850** 2.7500	**4.8** 0.19	**6.4** 0.25	**513.0** 20.20	**522.0** 20.55	**6.4** 0.25	**630.5** 24.82	**624.0** 24.57	**10.5** 0.41	**4.6** 0.18	6322.4	601.7	0.2310	**88.16** 194.34
84.138 3.3125	**61.912** 2.4375	**40.9** 1.61	**6.4** 0.25	**510.0** 20.08	**522.0** 20.55	**3.3** 0.13	**613.3** 24.15	**600.0** 23.62	**10.2** 0.40	**3.0** 0.12	5447.5	602.2	0.2525	**64.23** 141.61
94.458 3.7188	**69.850** 2.7500	**4.8** 0.19	**6.4** 0.25	**513.0** 20.20	**522.0** 20.55	**6.4** 0.25	**630.5** 24.82	**624.0** 24.57	**10.5** 0.41	**4.6** 0.18	6322.4	601.7	0.2310	**88.01** 193.99
80.962 3.1875	**63.500** 2.5000	**19.1** 0.75	**6.4** 0.25	**516.0** 20.31	**522.0** 20.55	**3.3** 0.13	**609.0** 24.00	**603.0** 23.74	**8.1** 0.31	**2.5** 0.10	6057.3	726.6	0.2350	**62.88** 138.62
80.962 3.1875	**63.500** 2.5000	**19.1** 0.75	**6.4** 0.25	**522.0** 20.55	**528.0** 20.79	**3.3** 0.13	**609.0** 24.00	**603.0** 23.74	**8.1** 0.31	**2.5** 0.10	6057.3	726.6	0.2350	**58.31** 128.55

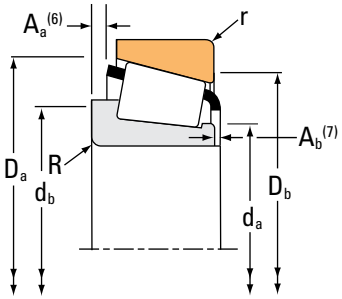
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
498.475 19.6250	**634.873** 24.9950	**80.963** 3.1875	**1470000** 330000	0.34	1.75	**380000** 85500	**223000** 50200	1.70	**3660000** 822000	EE243196	243250
500.000 19.6850	**640.000** 25.1969	**80.000** 3.1496	**1710000** 384000	0.35	1.73	**443000** 99500	**262000** 59000	1.69	**3750000** 844000	NP267201	NP876612
501.650 19.7500	**596.900** 23.5000	**53.975** 2.1250	**695000** 156000	0.35	1.72	**180000** 40500	**108000** 24200	1.67	**1710000** 384000	80487	80418
501.650 19.7500	**711.200** 28.0000	**136.525** 5.3750	**3530000** 794000	0.33	1.80	**916000** 206000	**521000** 117000	1.76	**8070000** 1820000	M274149	M274110
508.000 20.0000	**736.600** 29.0000	**88.900** 3.5000	**1990000** 447000	0.47	1.27	**516000** 116000	**418000** 94000	1.23	**3430000** 772000	EE982003	982900
508.000 20.0000	**838.200** 33.0000	**146.050** 5.7500	**3610000** 812000	0.48	1.25	**936000** 210000	**769000** 173000	1.22	**6530000** 1470000	EE426200	426330
514.350 20.2500	**736.600** 29.0000	**88.900** 3.5000	**1990000** 447000	0.47	1.27	**516000** 116000	**418000** 94000	1.23	**3430000** 772000	EE982028	982900
520.700 20.5000	**736.600** 29.0000	**88.900** 3.5000	**1990000** 447000	0.47	1.27	**516000** 116000	**418000** 94000	1.23	**3430000** 772000	EE982051	982900
533.400 21.0000	**635.000** 25.0000	**50.800** 2.0000	**892000** 201000	0.41	1.48	**231000** 52000	**161000** 36100	1.44	**2040000** 459000	LL575343	LL575310
533.400 21.0000	**784.225** 30.8750	**88.900** 3.5000	**2170000** 487000	0.48	1.26	**561000** 126000	**457000** 103000	1.23	**3880000** 873000	EE522102	523087
536.575 21.1250	**761.873** 29.9950	**146.050** 5.7500	**4010000** 902000	0.33	1.80	**1040000** 234000	**592000** 133000	1.76	**9250000** 2080000	M276449	M276410
536.575 21.1250	**780.000** 30.7087	**150.000** 5.9055	**4010000** 902000	0.33	1.80	**1040000** 234000	**592000** 133000	1.76	**9250000** 2080000	NP266377	NP543910
539.750 21.2500	**635.000** 25.0000	**50.800** 2.0000	**892000** 201000	0.41	1.48	**231000** 52000	**161000** 36100	1.44	**2040000** 459000	LL575349	LL575310
546.100 21.5000	**736.600** 29.0000	**76.200** 3.0000	**1400000** 315000	0.51	1.18	**363000** 81600	**316000** 71000	1.15	**3240000** 728000	EE542215	542290
549.097 21.6180	**692.150** 27.2500	**80.962** 3.1875	**1520000** 342000	0.38	1.59	**394000** 88500	**254000** 57000	1.55	**3970000** 892000	L476548	L476510
549.275 21.6250	**692.150** 27.2500	**80.962** 3.1875	**1520000** 342000	0.38	1.59	**394000** 88500	**254000** 57000	1.55	**3970000** 892000	L476549	L476510
558.800 22.0000	**723.900** 28.5000	**73.025** 2.8750	**1540000** 345000	0.49	1.21	**398000** 89500	**337000** 75700	1.18	**3440000** 773000	EE647220	647285

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

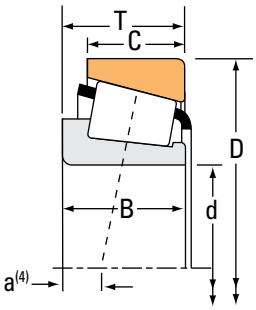
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
80.962 3.1875	**63.500** 2.5000	**19.1** 0.75	**6.4** 0.25	**522.0** 20.55	**528.0** 20.79	**3.3** 0.13	**609.0** 24.00	**603.0** 23.74	**8.1** 0.31	**2.5** 0.10	6057.3	726.6	0.2350	**58.44** 128.85
80.000 3.1496	**63.500** 2.5000	**21.3** 0.84	**6.4** 0.25	**522.0** 20.55	**534.0** 21.02	**3.3** 0.13	**616.0** 24.25	**611.9** 24.09	**7.2** 0.28	**2.7** 0.11	6257.5	879.0	0.2384	**61.55** 135.68
46.038 1.8125	**41.275** 1.6250	**36.6** 1.44	**3.3** 0.13	**516.0** 20.31	**519.0** 20.43	**3.3** 0.13	**579.0** 22.80	**576.0** 22.68	**6.2** 0.24	**3.0** 0.12	4148.9	1071.4	0.2056	**23.50** 51.79
136.525 5.3750	**106.362** 4.1875	**-10.7** -0.42	**6.4** 0.25	**534.0** 21.02	**540.0** 21.26	**6.4** 0.25	**677.9** 26.69	**663.0** 26.10	**12.2** 0.48	**8.6** 0.34	9019.6	560.7	0.2690	**170.67** 376.26
81.758 3.2188	**53.975** 2.1250	**45.5** 1.79	**6.4** 0.25	**543.0** 21.38	**549.0** 21.61	**3.3** 0.13	**693.0** 27.28	**693.0** 27.28	**18.5** 0.72	**7.7** 0.31	4901.2	606.3	0.2429	**107.55** 237.10
139.700 5.5000	**104.775** 4.1250	**23.9** 0.94	**9.7** 0.38	**552.0** 21.73	**564.0** 22.20	**9.7** 0.38	**767.7** 30.23	**759.0** 29.88	**21.5** 0.84	**8.3** 0.33	6651.9	435.2	0.2722	**290.75** 640.99
81.758 3.2188	**53.975** 2.1250	**45.5** 1.79	**6.4** 0.25	**549.0** 21.61	**555.0** 21.85	**3.3** 0.13	**693.0** 27.28	**693.0** 27.28	**18.5** 0.72	**7.7** 0.31	4901.2	606.3	0.2429	**104.29** 229.91
81.758 3.2188	**53.975** 2.1250	**45.5** 1.79	**6.4** 0.25	**552.0** 21.73	**558.0** 21.97	**3.3** 0.13	**693.0** 27.28	**693.0** 27.28	**18.5** 0.72	**7.7** 0.31	4901.2	606.3	0.2429	**100.98** 222.62
50.800 2.0000	**38.100** 1.5000	**50.8** 2.00	**6.4** 0.25	**549.0** 21.61	**558.0** 21.97	**6.4** 0.25	**621.0** 24.45	**612.0** 24.09	**4.5** 0.18	**2.8** 0.11	4808.4	1201.1	0.2270	**27.24** 60.05
82.550 3.2500	**53.975** 2.1250	**52.6** 2.07	**6.4** 0.25	**570.0** 22.44	**576.0** 22.68	**6.4** 0.25	**735.0** 28.94	**732.0** 28.82	**12.5** 0.49	**8.5** 0.34	5013.3	457.2	0.2452	**125.58** 276.85
146.050 5.7500	**114.300** 4.5000	**-9.7** -0.38	**6.4** 0.25	**570.0** 22.44	**576.0** 22.68	**6.4** 0.25	**725.6** 28.57	**711.0** 27.99	**13.3** 0.52	**5.5** 0.22	10625.0	614.5	0.2839	**211.00** 465.18
150.000 5.9055	**114.300** 4.5000	**-13.7** -0.54	**6.4** 0.25	**570.0** 22.44	**576.0** 22.68	**6.4** 0.25	**726.0** 28.58	**720.0** 28.35	**18.4** 0.72	**4.5** 0.18	10625.0	614.5	0.2839	**234.26** 516.46
50.800 2.0000	**38.100** 1.5000	**50.8** 2.00	**6.4** 0.25	**555.0** 21.85	**564.0** 22.20	**6.4** 0.25	**621.0** 24.45	**612.0** 24.09	**4.5** 0.18	**2.8** 0.11	4808.4	1201.1	0.2270	**25.10** 55.34
76.200 3.0000	**50.800** 2.0000	**64.8** 2.55	**6.4** 0.25	**576.0** 22.68	**585.0** 23.03	**6.4** 0.25	**705.1** 27.76	**696.0** 27.40	**16.6** 0.65	**1.6** 0.07	5727.7	782.5	0.2604	**84.23** 185.69
80.962 3.1875	**61.912** 2.4375	**32.3** 1.27	**6.4** 0.25	**570.0** 22.44	**579.0** 22.80	**6.4** 0.25	**666.0** 26.22	**657.0** 25.87	**8.5** 0.33	**2.6** 0.11	7261.6	889.8	0.2567	**67.13** 148.00
80.962 3.1875	**61.912** 2.4375	**32.3** 1.27	**6.4** 0.25	**570.0** 22.44	**579.0** 22.80	**6.4** 0.25	**666.0** 26.22	**657.0** 25.87	**8.5** 0.33	**2.6** 0.11	7261.6	889.8	0.2567	**66.85** 147.39
73.025 2.8750	**57.150** 2.2500	**64.5** 2.54	**4.8** 0.19	**582.0** 22.91	**588.0** 23.15	**4.8** 0.19	**701.1** 27.60	**687.0** 27.05	**8.5** 0.33	**3.5** 0.14	5594.2	804.2	0.2566	**73.36** 161.74

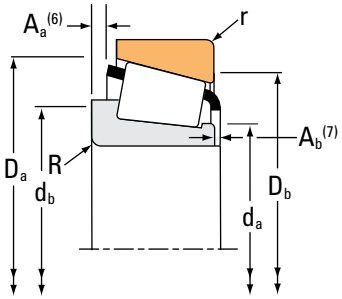
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
558.800 22.0000	**736.600** 29.0000	**76.200** 3.0000	**1400000** 315000	0.51	1.18	**363000** 81600	**316000** 71000	1.15	**3240000** 728000	EE542220	542290
558.800 22.0000	**736.600** 29.0000	**88.108** 3.4688	**2070000** 465000	0.34	1.75	**536000** 121000	**315000** 70700	1.70	**4580000** 1030000	EE843220	843290
558.800 22.0000	**736.600** 29.0000	**104.775** 4.1250	**2570000** 578000	0.35	1.73	**667000** 150000	**395000** 88800	1.69	**6370000** 1430000	LM377449	LM377410
558.800 22.0000	**901.573** 35.4950	**134.938** 5.3125	**3790000** 853000	0.41	1.47	**984000** 221000	**687000** 154000	1.43	**6760000** 1520000	EE327220	327355
571.500 22.5000	**812.800** 32.0000	**155.575** 6.1250	**4530000** 1020000	0.33	1.80	**1180000** 264000	**669000** 150000	1.76	**10600000** 2370000	M278749	M278710
571.500 22.5000	**812.800** 32.0000	**160.350** 6.3130	**4530000** 1020000	0.33	1.80	**1180000** 264000	**669000** 150000	1.76	**10600000** 2370000	NP794398	NP384818
584.200 23.0000	**685.800** 27.0000	**49.212** 1.9375	**798000** 179000	0.44	1.37	**207000** 46500	**155000** 34800	1.34	**2280000** 513000	LL778149	LL778110
584.200 23.0000	**709.612** 27.9375	**58.738** 2.3125	**1210000** 271000	0.48	1.26	**313000** 70300	**254000** 57200	1.23	**2930000** 659000	L778149	L778110
584.200 23.0000	**901.700** 35.5000	**150.020** 5.9063	**4980000** 1120000	0.33	1.81	**1290000** 290000	**732000** 165000	1.76	**7590000** 1710000	EE662303	663550
596.900 23.5000	**685.800** 27.0000	**31.750** 1.2500	**344000** 77300	0.53	1.14	**89200** 20000	**80400** 18100	1.11	**963000** 217000	680235	680270
602.945 23.7380	**787.400** 31.0000	**93.662** 3.6875	**2610000** 587000	0.37	1.62	**677000** 152000	**430000** 96600	1.58	**5620000** 1260000	EE649237	649310
607.720 23.9260	**787.400** 31.0000	**93.662** 3.6875	**2610000** 587000	0.37	1.62	**677000** 152000	**430000** 96600	1.58	**5620000** 1260000	EE649239	649310
609.346 23.9900	**787.400** 31.0000	**93.662** 3.6875	**2610000** 587000	0.37	1.62	**677000** 152000	**430000** 96600	1.58	**5620000** 1260000	EE649238	649310
609.397 23.9920	**762.000** 30.0000	**95.250** 3.7500	**1980000** 445000	0.49	1.23	**513000** 115000	**428000** 96300	1.20	**5470000** 1230000	L879946	L879910
609.600 24.0000	**762.000** 30.0000	**95.250** 3.7500	**1980000** 445000	0.49	1.23	**513000** 115000	**428000** 96300	1.20	**5470000** 1230000	L879947	L879910
609.600 24.0000	**774.700** 30.5000	**85.725** 3.3750	**2020000** 453000	0.40	1.49	**523000** 118000	**360000** 80900	1.45	**4620000** 1040000	L580049	L580010
609.600 24.0000	**787.400** 31.0000	**93.662** 3.6875	**2610000** 587000	0.37	1.62	**677000** 152000	**430000** 96600	1.58	**5620000** 1260000	EE649240	649310

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

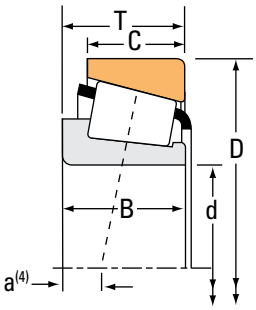
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
76.200 3.0000	**50.800** 2.0000	**64.8** 2.55	**6.4** 0.25	**585.0** 23.03	**594.0** 23.39	**6.4** 0.25	**705.1** 27.76	**696.0** 27.40	**16.6** 0.65	**1.6** 0.07	5727.7	782.5	0.2604	**77.61** 171.10
88.108 3.4688	**63.500** 2.5000	**22.6** 0.89	**6.4** 0.25	**585.0** 23.03	**591.0** 23.27	**6.4** 0.25	**707.1** 27.84	**699.0** 27.52	**10.6** 0.42	**4.1** 0.16	7097.5	714.8	0.2478	**94.77** 208.94
104.775 4.1250	**80.962** 3.1875	**15.7** 0.62	**6.4** 0.25	**585.0** 23.03	**594.0** 23.39	**6.4** 0.25	**708.0** 27.87	**696.0** 27.40	**8.9** 0.35	**5.6** 0.22	9314.8	907.6	0.2735	**118.57** 261.39
129.380 5.0937	**101.600** 4.0000	**16.8** 0.66	**12.7** 0.50	**606.0** 23.86	**624.0** 24.57	**6.4** 0.25	**840.0** 33.07	**831.0** 32.72	**29.4** 1.16	**6.1** 0.24	7790.8	478.4	0.2715	**311.89** 687.90
155.575 6.1250	**120.650** 4.7500	**-11.4** -0.45	**6.4** 0.25	**609.0** 23.98	**615.0** 24.21	**6.4** 0.25	**774.0** 30.46	**756.0** 29.76	**15.0** 0.59	**5.9** 0.23	12425.1	669.4	0.2990	**255.86** 564.08
160.325 6.3120	**125.425** 4.9380	**-12.7** -0.50	**8.0** 0.31	**609.0** 23.98	**618.0** 24.33	**6.4** 0.25	**774.5** 30.49	**759.0** 29.88	**16.4** 0.64	**2.5** 0.10	12425.1	669.4	0.2990	**262.48** 578.69
49.212 1.9375	**34.925** 1.3750	**64.5** 2.54	**3.5** 0.14	**600.0** 23.62	**603.0** 23.74	**3.3** 0.13	**669.0** 26.34	**663.0** 26.10	**5.0** 0.20	**2.6** 0.11	5980.0	1581.3	0.2494	**29.06** 64.06
57.150 2.2500	**39.688** 1.5625	**68.8** 2.71	**3.5** 0.14	**603.0** 23.74	**606.0** 23.86	**3.3** 0.13	**690.6** 27.19	**684.0** 26.93	**5.7** 0.22	**6.2** 0.25	5712.9	1057.7	0.2541	**43.61** 96.14
139.700 5.5000	**107.950** 4.2500	**0.3** 0.01	**8.0** 0.31	**624.0** 24.57	**633.0** 24.92	**9.7** 0.38	**848.1** 33.39	**843.0** 33.19	**20.7** 0.81	**7.2** 0.29	8756.7	477.1	0.2638	**305.28** 673.03
31.750 1.2500	**25.400** 1.0000	**96.0** 3.78	**3.5** 0.14	**615.0** 24.21	**615.0** 24.21	**3.3** 0.13	**669.0** 26.34	**663.0** 26.10	**1.6** 0.06	**-0.3** -0.01	3739.1	1810.4	0.2225	**16.50** 36.38
93.662 3.6875	**69.850** 2.7500	**31.5** 1.24	**6.4** 0.25	**630.0** 24.80	**639.0** 25.16	**6.4** 0.25	**755.3** 29.74	**747.0** 29.41	**11.1** 0.43	**6.2** 0.25	9384.8	930.0	0.2790	**116.23** 256.19
93.662 3.6875	**69.850** 2.7500	**31.5** 1.24	**6.4** 0.25	**633.0** 24.92	**642.0** 25.28	**6.4** 0.25	**755.3** 29.74	**747.0** 29.41	**11.1** 0.43	**6.2** 0.25	9384.8	930.0	0.2790	**112.90** 248.85
93.662 3.6875	**69.850** 2.7500	**31.5** 1.24	**6.4** 0.25	**633.0** 24.92	**642.0** 25.28	**6.4** 0.25	**755.3** 29.74	**747.0** 29.41	**11.1** 0.43	**6.2** 0.25	9384.8	930.0	0.2790	**111.76** 246.34
92.075 3.6250	**71.438** 2.8125	**57.9** 2.28	**6.4** 0.25	**633.0** 24.92	**642.0** 25.28	**6.4** 0.25	**741.0** 29.17	**720.0** 28.35	**11.7** 0.46	**5.1** 0.20	9578.8	1006.3	0.3063	**93.40** 205.91
92.075 3.6250	**71.438** 2.8125	**57.9** 2.28	**6.4** 0.25	**633.0** 24.92	**642.0** 25.28	**6.4** 0.25	**741.0** 29.17	**720.0** 28.35	**11.7** 0.46	**5.1** 0.20	9578.8	1006.3	0.3063	**93.26** 205.60
79.375 3.1250	**60.325** 2.3750	**45.2** 1.78	**6.4** 0.25	**633.0** 24.92	**642.0** 25.28	**6.4** 0.25	**749.5** 29.51	**741.0** 29.17	**-8.9** -0.35	**3.9** 0.15	7661.4	933.9	0.2671	**86.98** 191.74
93.662 3.6875	**69.850** 2.7500	**31.5** 1.24	**6.4** 0.25	**633.0** 24.92	**642.0** 25.28	**6.4** 0.25	**755.3** 29.74	**747.0** 29.41	**11.1** 0.43	**6.2** 0.25	9384.8	930.0	0.2790	**111.58** 245.95

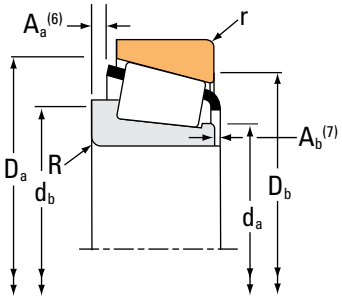
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
609.600 24.0000	**787.400** 31.0000	**93.662** 3.6875	**2540000** 570000	0.37	1.62	**657000** 148000	**417000** 93800	1.58	**5390000** 1210000	EE649240H	649310
609.600 24.0000	**812.800** 32.0000	**82.550** 3.2500	**2080000** 467000	0.33	1.82	**538000** 121000	**303000** 68200	1.77	**4060000** 912000	EE743240	743320
615.950 24.2500	**708.025** 27.8750	**41.275** 1.6250	**605000** 136000	0.39	1.55	**157000** 35200	**104000** 23400	1.51	**1840000** 414000	LL580049	LL580010
630.000 24.8031	**850.000** 33.4646	**108.000** 4.2520	**2890000** 649000	0.40	1.51	**748000** 168000	**510000** 115000	1.47	**5910000** 1330000	JL580946	JL580914
635.000 25.0000	**736.600** 29.0000	**57.150** 2.2500	**654000** 147000	0.44	1.37	**169000** 38100	**127000** 28600	1.33	**1830000** 412000	80780	80720
635.000 25.0000	**933.450** 36.7500	**179.388** 7.0625	**5860000** 1320000	0.33	1.80	**1520000** 342000	**865000** 195000	1.76	**13900000** 3120000	M281635	M281610
646.112 25.4375	**857.250** 33.7500	**141.288** 5.5625	**4700000** 1060000	0.33	1.80	**1220000** 274000	**694000** 156000	1.76	**10400000** 2330000	LM281049	LM281010
660.235 25.9935	**812.800** 32.0000	**95.250** 3.7500	**2530000** 570000	0.33	1.80	**657000** 148000	**374000** 84100	1.76	**5940000** 1340000	L281146	L281110
660.400 26.0000	**812.800** 32.0000	**92.250** 3.7500	**2530000** 570000	0.33	1.80	**657000** 148000	**374000** 84100	1.76	**5940000** 1340000	L281148	L281110
660.400 26.0000	**812.800** 32.0000	**95.250** 3.7500	**2730000** 615000	0.33	1.80	**709000** 159000	**404000** 90700	1.76	**6620000** 1490000	L281147	L281110
660.400 26.0000	**854.075** 33.6250	**85.725** 3.3750	**2240000** 504000	0.35	1.71	**581000** 131000	**349000** 78600	1.66	**4620000** 1040000	EE749260	749336
660.400 26.0000	**854.923** 33.6584	**85.113** 3.3509	**2240000** 504000	0.35	1.71	**581000** 131000	**349000** 78600	1.66	**4620000** 1040000	EE749260	749334
660.400 26.0000	**939.800** 37.0000	**136.525** 5.3750	**3560000** 800000	0.41	1.48	**923000** 207000	**642000** 144000	1.44	**7800000** 1750000	EE538261	538370
660.400 26.0000	**939.800** 37.0000	**136.525** 5.3750	**3560000** 800000	0.41	1.48	**923000** 207000	**642000** 144000	1.44	**7800000** 1750000	EE538260	538370
673.100 26.5000	**793.750** 31.2500	**66.675** 2.6250	**1110000** 249000	0.36	1.67	**287000** 64600	**177000** 39800	1.62	**3140000** 707000	LL481448	LL481411
673.100 26.5000	**922.731** 36.3280	**133.350** 5.2500	**5540000** 1250000	0.28	2.12	**1440000** 323000	**695000** 156000	2.07	**10700000** 2410000	NP813945	NP216163
679.450 26.7500	**901.700** 35.5000	**142.875** 5.6250	**5020000** 1130000	0.33	1.80	**1300000** 292000	**741000** 166000	1.76	**11000000** 2480000	LM281849	LM281810

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

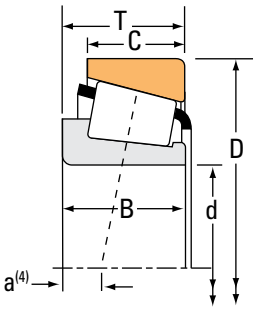
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
93.662 3.6875	**69.850** 2.7500	**31.5** 1.24	**6.4** 0.25	**633.0** 24.92	**642.0** 25.28	**6.4** 0.25	**755.3** 29.74	**747.0** 29.41	**13.7** 0.54	**5.1** 0.20	9115.2	904.3	0.2761	**106.87** 235.60
82.550 3.2500	**60.325** 2.3750	**29.7** 1.17	**6.4** 0.25	**636.0** 25.04	**645.0** 25.39	**6.4** 0.25	**768.0** 30.24	**768.0** 30.24	**10.8** 0.42	**4.4** 0.18	7714.7	995.4	0.2499	**109.52** 241.45
41.275 1.6250	**29.367** 1.1562	**61.7** 2.43	**3.5** 0.14	**630.0** 24.80	**633.0** 24.92	**3.3** 0.13	**690.0** 27.17	**687.0** 27.05	**3.1** 0.12	**2.8** 0.11	6265.9	2025.9	0.2418	**23.09** 50.92
100.000 3.9370	**78.000** 3.0709	**35.6** 1.40	**7.5** 0.30	**660.0** 25.98	**672.0** 26.46	**6.0** 0.24	**804.0** 31.65	**801.0** 31.54	**16.1** 0.63	**11.7** 0.46	9816.1	894.2	0.2896	**158.02** 348.38
53.975 2.1250	**41.275** 1.6250	**69.3** 2.73	**3.3** 0.13	**651.0** 25.63	**654.0** 25.75	**3.3** 0.13	**717.8** 28.26	**714.0** 28.11	**9.2** 0.36	**0.2** 0.01	5883.6	1625.0	0.2465	**33.83** 74.57
177.800 7.0000	**141.288** 5.5625	**-13.5** -0.53	**12.0** 0.47	**687.0** 27.05	**699.0** 27.52	**6.4** 0.25	**889.5** 35.02	**870.0** 34.25	**17.9** 0.70	**9.7** 0.38	17304.9	775.6	0.3335	**418.43** 922.49
141.288 5.5625	**109.538** 4.3125	**3.0** 0.12	**6.4** 0.25	**678.0** 26.69	**684.0** 26.93	**6.4** 0.25	**824.5** 32.46	**810.0** 31.89	**13.3** 0.52	**7.5** 0.30	14763.0	920.6	0.3153	**219.31** 483.50
95.250 3.7500	**73.025** 2.8750	**27.9** 1.10	**6.4** 0.25	**681.0** 26.81	**693.0** 27.28	**6.4** 0.25	**789.0** 31.04	**777.0** 30.59	**8.9** 0.35	**4.5** 0.18	11705.7	915.8	0.2888	**99.84** 220.13
95.250 3.7500	**73.025** 2.8750	**27.9** 1.10	**6.4** 0.25	**681.0** 26.81	**693.0** 27.28	**6.4** 0.25	**789.0** 31.04	**777.0** 30.59	**8.9** 0.35	**5.3** 0.21	11705.7	915.8	0.2888	**99.94** 220.33
95.250 3.7500	**73.025** 2.8750	**27.9** 1.10	**6.4** 0.25	**681.0** 26.81	**693.0** 27.28	**6.4** 0.25	**789.0** 31.04	**777.0** 30.59	**8.7** 0.34	**5.1** 0.20	12635.6	984.9	0.2968	**103.68** 228.59
85.468 3.3649	**60.325** 2.3750	**39.4** 1.55	**9.7** 0.38	**687.0** 27.05	**702.0** 27.64	**6.4** 0.25	**813.0** 32.01	**813.0** 32.01	**11.6** 0.45	**2.4** 0.10	9222.1	1151.5	0.2707	**114.24** 251.84
85.468 3.3649	**59.898** 2.3582	**39.4** 1.55	**9.7** 0.38	**687.0** 27.05	**702.0** 27.64	**9.7** 0.38	**813.0** 32.01	**807.0** 31.77	**11.6** 0.45	**2.4** 0.10	9222.1	1151.5	0.2707	**113.89** 251.05
127.000 5.0000	**98.425** 3.8750	**30.7** 1.21	**6.4** 0.25	**696.0** 27.40	**708.0** 27.87	**6.4** 0.25	**883.9** 34.80	**876.0** 34.49	**22.0** 0.86	**8.3** 0.33	11455.4	802.1	0.3078	**275.36** 607.05
127.000 5.0000	**98.425** 3.8750	**30.7** 1.21	**6.4** 0.25	**696.0** 27.40	**708.0** 27.87	**6.4** 0.25	**883.9** 34.80	**876.0** 34.49	**22.0** 0.86	**8.3** 0.33	11455.4	802.1	0.3078	**275.36** 607.05
61.912 2.4375	**49.212** 1.9375	**53.8** 2.12	**6.4** 0.25	**690.0** 27.17	**702.0** 27.64	**6.4** 0.25	**771.0** 30.35	**765.0** 30.12	**4.0** 0.16	**1.6** 0.07	8762.7	1649.9	0.2659	**51.80** 114.21
135.103 5.3190	**110.061** 4.3331	**3.6** 0.14	**25.4** 1.00	**711.0** 27.99	**756.0** 29.76	**6.4** 0.25	**891.0** 35.08	**876.0** 34.49	**3.1** 0.12	**8.2** 0.33	15064.3	922.1	0.3002	**267.37** 589.46
142.875 5.6250	**111.125** 4.3750	**6.9** 0.27	**9.7** 0.38	**714.0** 28.11	**726.0** 28.58	**6.4** 0.25	**866.6** 34.12	**852.0** 33.54	**12.8** 0.50	**7.4** 0.30	16257.4	961.7	0.3252	**246.25** 542.86

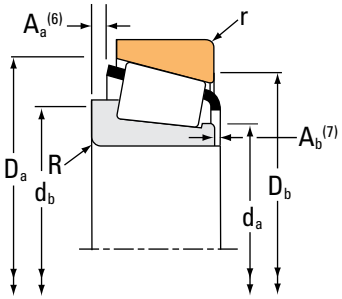
[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
682.625 26.8750	**965.200** 38.0000	**185.737** 7.3125	**6240000** 1400000	0.33	1.80	**1620000** 364000	**921000** 207000	1.76	**14900000** 3340000	M282249	M282210
685.800 27.0000	**876.300** 34.5000	**93.662** 3.6875	**2750000** 619000	0.42	1.44	**714000** 160000	**508000** 114000	1.40	**6300000** 1420000	EE655270	655345
698.500 27.5000	**819.150** 32.2500	**63.500** 2.5000	**1050000** 237000	0.35	1.72	**273000** 61500	**164000** 36800	1.67	**3190000** 716000	LL382149	LL382110
711.200 28.0000	**914.400** 36.0000	**85.725** 3.3750	**2390000** 536000	0.38	1.58	**619000** 139000	**403000** 90600	1.54	**5190000** 1170000	EE755280	755360
723.900 28.5000	**914.400** 36.0000	**84.138** 3.3125	**2390000** 536000	0.38	1.58	**619000** 139000	**403000** 90600	1.54	**5190000** 1170000	EE755285	755360
736.600 29.0000	**825.500** 32.5000	**31.750** 1.2500	**424000** 95300	0.40	1.51	**110000** 24700	**74800** 16800	1.47	**1300000** 291000	LL582949	LL582910
749.300 29.5000	**965.200** 38.0000	**93.662** 3.6875	**2450000** 552000	0.40	1.49	**636000** 143000	**438000** 98400	1.45	**5510000** 1240000	EE752295	752380
749.300 29.5000	**990.600** 39.0000	**159.500** 6.2795	**5980000** 1340000	0.33	1.80	**1550000** 349000	**883000** 198000	1.76	**13500000** 3050000	LM283649	LM283610
749.300 29.5000	**990.600** 39.0000	**159.500** 6.2795	**5130000** 1150000	0.33	1.80	**1330000** 299000	**757000** 170000	1.76	**13200000** 2980000	LM283649H	LM283610
759.925 29.9183	**889.000** 35.0000	**69.850** 2.7500	**1570000** 352000	0.38	1.58	**406000** 91400	**263000** 59200	1.54	**4270000** 960000	LL483448	LL483418
759.925 29.9183	**889.000** 35.0000	**88.900** 3.5000	**2350000** 529000	0.31	1.97	**610000** 137000	**319000** 71700	1.91	**6230000** 1400000	L183448	L183410
762.000 30.0000	**889.000** 35.0000	**63.500** 2.5000	**1080000** 243000	0.38	1.58	**280000** 62900	**182000** 40800	1.54	**3390000** 762000	EE175301	175350
762.000 30.0000	**889.000** 35.0000	**69.850** 2.7500	**1080000** 243000	0.38	1.58	**280000** 62900	**182000** 40800	1.54	**3390000** 762000	EE175300	175350
762.000 30.0000	**889.000** 35.0000	**69.850** 2.7500	**1570000** 352000	0.38	1.58	**406000** 91400	**263000** 59200	1.54	**4270000** 960000	LL483449	LL483418
762.000 30.0000	**889.000** 35.0000	**88.900** 3.5000	**2350000** 529000	0.31	1.97	**610000** 137000	**319000** 71700	1.91	**6230000** 1400000	L183449	L183410
762.000 30.0000	**965.200** 38.0000	**93.662** 3.6875	**2450000** 552000	0.40	1.49	**636000** 143000	**438000** 98400	1.45	**5510000** 1240000	EE752300	752380
774.700 30.5000	**965.200** 38.0000	**93.662** 3.6875	**2450000** 552000	0.40	1.49	**636000** 143000	**438000** 98400	1.45	**5510000** 1240000	EE752305	752380

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

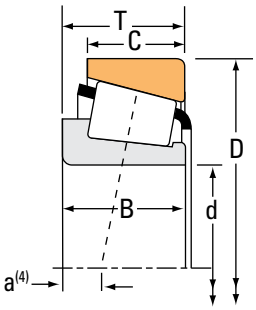
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
185.738 7.3125	**142.875** 5.6250	**-15.2** -0.60	**9.7** 0.38	**723.0** 28.46	**738.0** 29.06	**6.4** 0.25	**919.8** 36.21	**900.0** 35.43	**19.2** 0.75	**10.5** 0.42	18773.0	843.1	0.3426	**426.04** 939.28
92.075 3.6250	**69.850** 2.7500	**54.1** 2.13	**6.4** 0.25	**714.0** 28.11	**723.0** 28.46	**6.4** 0.25	**841.4** 33.13	**831.0** 32.72	**10.4** 0.41	**5.9** 0.23	11844.1	1202.6	0.3119	**134.15** 295.74
63.500 2.5000	**50.800** 2.0000	**54.6** 2.15	**3.3** 0.13	**717.0** 28.23	**720.0** 28.35	**3.3** 0.13	**795.6** 31.32	**792.0** 31.18	**7.2** 0.28	**-1.8** -0.07	9937.5	2090.8	0.2738	**54.75** 120.72
82.550 3.2500	**60.325** 2.3750	**53.6** 2.11	**6.4** 0.25	**741.0** 29.17	**750.0** 29.53	**6.4** 0.25	**877.0** 34.53	**873.0** 34.37	**12.9** 0.51	**7.2** 0.29	11122.5	1282.2	0.2952	**132.52** 292.15
80.962 3.1875	**60.325** 2.3750	**55.1** 2.17	**5.5** 0.22	**750.0** 29.53	**756.0** 29.76	**6.4** 0.25	**877.0** 34.53	**873.0** 34.37	**11.3** 0.44	**7.2** 0.29	11122.5	1282.2	0.2952	**122.27** 269.55
31.750 1.2500	**25.400** 1.0000	**86.9** 3.42	**3.5** 0.14	**753.1** 29.65	**753.1** 29.65	**3.3** 0.13	**822.0** 32.36	**807.0** 31.77	**0.3** 0.01	**0.1** 0.01	6526.9	3683.4	0.2436	**20.39** 44.93
80.962 3.1875	**66.675** 2.6250	**63.5** 2.50	**6.4** 0.25	**780.0** 30.71	**789.0** 31.06	**3.3** 0.13	**923.5** 36.36	**921.0** 36.26	**14.3** 0.56	**10.5** 0.42	12456.8	1880.8	0.3116	**152.15** 335.45
160.338 6.3125	**123.000** 4.8425	**6.1** 0.24	**6.4** 0.25	**786.0** 30.94	**792.0** 31.18	**6.4** 0.25	**952.4** 37.50	**936.0** 36.85	**15.0** 0.59	**6.2** 0.25	20904.8	1142.9	0.3534	**329.67** 726.81
160.338 6.3125	**123.000** 4.8425	**6.1** 0.24	**6.4** 0.25	**786.0** 30.94	**792.0** 31.18	**6.4** 0.25	**952.4** 37.50	**936.0** 36.85	**19.1** 0.75	**4.2** 0.17	20571.2	1126.8	0.3514	**321.90** 709.67
69.850 2.7500	**50.800** 2.0000	**62.2** 2.45	**3.3** 0.13	**777.0** 30.59	**783.0** 30.83	**3.3** 0.13	**858.0** 33.78	**855.0** 33.66	**7.3** 0.28	**4.7** 0.19	12883.1	1729.9	0.3070	**68.81** 151.73
88.900 3.5000	**72.000** 2.8346	**34.5** 1.36	**3.3** 0.13	**780.0** 30.71	**783.0** 30.83	**3.3** 0.13	**872.0** 34.33	**864.0** 34.02	**4.6** 0.18	**6.1** 0.24	16116.5	2023.1	0.3102	**89.26** 196.78
63.500 2.5000	**50.800** 2.0000	**69.6** 2.74	**3.3** 0.13	**780.0** 30.71	**783.0** 30.83	**3.3** 0.13	**858.3** 33.79	**855.0** 33.66	**7.6** 0.30	**-1.1** -0.04	11527.7	2694.6	0.2945	**62.42** 137.64
69.850 2.7500	**50.800** 2.0000	**63.2** 2.49	**3.3** 0.13	**780.0** 30.71	**783.0** 30.83	**3.3** 0.13	**858.3** 33.79	**855.0** 33.66	**13.9** 0.55	**-1.1** -0.04	11527.7	2694.6	0.2945	**65.86** 145.22
69.850 2.7500	**50.800** 2.0000	**62.2** 2.45	**3.3** 0.13	**780.0** 30.71	**783.0** 30.83	**3.3** 0.13	**858.0** 33.78	**855.0** 33.66	**7.3** 0.28	**4.7** 0.19	12883.1	1729.9	0.3070	**67.39** 148.59
88.900 3.5000	**72.000** 2.8346	**34.5** 1.36	**3.3** 0.13	**780.0** 30.71	**783.0** 30.83	**3.3** 0.13	**872.0** 34.33	**864.0** 34.02	**4.6** 0.18	**6.1** 0.24	16116.5	2023.1	0.3102	**87.53** 192.96
80.962 3.1875	**66.675** 2.6250	**63.5** 2.50	**6.4** 0.25	**789.0** 31.06	**798.0** 31.42	**3.3** 0.13	**923.5** 36.36	**921.0** 36.26	**14.3** 0.56	**10.5** 0.42	12456.8	1880.8	0.3116	**142.57** 314.33
80.962 3.1875	**66.675** 2.6250	**63.5** 2.50	**6.4** 0.25	**798.0** 31.42	**810.0** 31.89	**3.3** 0.13	**923.5** 36.36	**921.0** 36.26	**14.3** 0.56	**10.5** 0.42	12456.8	1880.8	0.3116	**135.30** 298.27

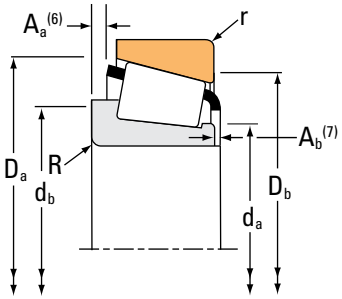
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
801.688 31.5625	**914.400** 36.0000	**58.738** 2.3125	**1090000** 244000	0.40	1.51	**281000** 63300	**191000** 42900	1.47	**3460000** 778000	LL584449	LL584410
825.500 32.5000	**1041.400** 41.0000	**93.662** 3.6875	**2530000** 569000	0.44	1.37	**657000** 148000	**492000** 111000	1.33	**5930000** 1330000	EE763325	763410
836.612 32.9375	**1041.400** 41.0000	**93.662** 3.6875	**2530000** 569000	0.44	1.37	**657000** 148000	**492000** 111000	1.33	**5930000** 1330000	EE763329	763410
838.200 33.0000	**1041.400** 41.0000	**93.662** 3.6875	**2530000** 569000	0.44	1.37	**657000** 148000	**492000** 111000	1.33	**5930000** 1330000	EE763330	763410
857.250 33.7500	**1092.200** 43.0000	**120.650** 4.7500	**2910000** 654000	0.56	1.08	**754000** 169000	**719000** 162000	1.05	**7630000** 1710000	EE157337	157430
863.600 34.0000	**1130.300** 44.5000	**174.625** 6.8750	**6520000** 1470000	0.33	1.80	**1690000** 380000	**963000** 216000	1.76	**17400000** 3920000	LM286249	LM286210
887.000 34.9213	**1123.950** 44.2500	**120.650** 4.7500	**2920000** 655000	0.58	1.04	**756000** 170000	**745000** 167000	1.01	**7740000** 1740000	EE158349	158442
889.000 35.0000	**1123.950** 44.2500	**120.650** 4.7500	**2920000** 655000	0.58	1.04	**756000** 170000	**745000** 167000	1.01	**7740000** 1740000	EE158350	158442
928.000 36.5354	**1060.000** 41.7323	**92.000** 3.6220	**2850000** 641000	0.33	1.80	**740000** 166000	**421000** 94700	1.76	**9330000** 2100000	JL286948	JL286910
928.000 36.5354	**1060.000** 41.7323	**92.000** 3.6220	**2660000** 599000	0.33	1.80	**691000** 155000	**393000** 88400	1.76	**8460000** 1900000	JL286948H	JL286910
930.000 36.6142	**1060.000** 41.7323	**92.000** 3.6220	**2850000** 641000	0.33	1.80	**740000** 166000	**421000** 94700	1.76	**9330000** 2100000	JL286949	JL286910
930.000 36.6142	**1060.000** 41.7323	**92.000** 3.6220	**2660000** 599000	0.33	1.80	**691000** 155000	**393000** 88400	1.76	**8460000** 1900000	JL286949H	JL286910
946.150 37.2500	**1194.435** 47.0250	**136.525** 5.3750	**6330000** 1420000	0.37	1.61	**1640000** 369000	**1050000** 235000	1.57	**14200000** 3190000	NP957630	NP980281
977.900 38.5000	**1130.300** 44.5000	**66.675** 2.6250	**1670000** 375000	0.44	1.38	**433000** 97300	**323000** 72700	1.34	**5290000** 1190000	LL687949	LL687910
1016.000 40.0000	**1270.000** 50.0000	**101.600** 4.0000	**2840000** 640000	0.49	1.22	**738000** 166000	**622000** 140000	1.19	**8030000** 1800000	EE168400	168500
1063.625 41.8750	**1219.200** 48.0000	**65.088** 2.5625	**1720000** 386000	0.48	1.26	**445000** 100000	**362000** 81400	1.23	**5660000** 1270000	LL788345	LL788310
1066.800 42.0000	**1219.200** 48.0000	**65.088** 2.5625	**1720000** 386000	0.48	1.26	**445000** 100000	**362000** 81400	1.23	**5660000** 1270000	LL788349	LL788310

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

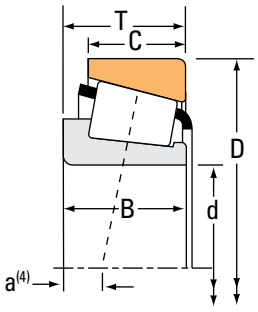
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
58.738 2.3125	**41.275** 1.6250	**79.0** 3.11	**3.5** 0.14	**819.0** 32.24	**822.0** 32.36	**3.3** 0.13	**894.0** 35.20	**888.0** 34.96	**7.9** 0.31	**3.2** 0.13	12417.2	2699.6	0.3058	**52.23** 115.17
88.900 3.5000	**66.675** 2.6250	**83.1** 3.27	**6.4** 0.25	**861.0** 33.90	**867.0** 34.13	**6.4** 0.25	**1000.9** 39.41	**996.0** 39.21	**16.1** 0.63	**4.8** 0.19	14677.1	1745.2	0.3374	**173.44** 382.38
88.900 3.5000	**66.675** 2.6250	**83.1** 3.27	**6.4** 0.25	**867.0** 34.13	**876.0** 34.49	**6.4** 0.25	**1000.9** 39.41	**996.0** 39.21	**16.1** 0.63	**4.8** 0.19	14677.1	1745.2	0.3374	**163.11** 359.61
88.900 3.5000	**66.675** 2.6250	**83.1** 3.27	**6.4** 0.25	**870.0** 34.25	**876.0** 34.49	**6.4** 0.25	**1000.9** 39.41	**996.0** 39.21	**16.1** 0.63	**4.8** 0.19	14677.1	1745.2	0.3374	**161.66** 356.40
111.125 4.3750	**76.200** 3.0000	**112.5** 4.43	**19.0** 0.75	**894.0** 35.20	**927.0** 36.50	**6.4** 0.25	**1047.4** 41.23	**1035.0** 40.75	**22.1** 0.87	**5.7** 0.23	16109.7	1534.4	0.3769	**236.94** 522.39
185.738 7.3125	**138.112** 5.4375	**14.2** 0.56	**9.7** 0.38	**906.0** 35.67	**915.0** 36.02	**12.7** 0.50	**1090.4** 42.93	**1065.0** 41.93	**14.6** 0.57	**-2.2** -0.08	28956.1	1086.1	0.3933	**465.42** 1026.07
111.125 4.3750	**76.200** 3.0000	**124.2** 4.89	**19.0** 0.75	**927.0** 36.50	**957.0** 37.68	**6.4** 0.25	**1078.9** 42.48	**1060.0** 41.73	**22.1** 0.87	**6.2** 0.25	16994.2	1630.2	0.3871	**249.38** 549.80
111.125 4.3750	**76.200** 3.0000	**124.2** 4.89	**19.0** 0.75	**927.0** 36.50	**957.0** 37.68	**6.4** 0.25	**1078.9** 42.48	**1060.0** 41.73	**22.1** 0.87	**6.2** 0.25	16994.2	1630.2	0.3871	**249.38** 549.80
90.000 3.5433	**76.000** 2.9921	**59.9** 2.36	**3.3** 0.13	**951.0** 37.44	**954.0** 37.56	**3.3** 0.13	**1040.0** 40.94	**1030.0** 40.55	**5.4** 0.21	**6.3** 0.25	29812.0	4331.9	0.3902	**121.25** 267.32
90.000 3.5433	**76.000** 2.9921	**59.9** 2.36	**3.3** 0.13	**951.0** 37.44	**954.0** 37.56	**3.3** 0.13	**1040.0** 40.94	**1030.0** 40.55	**3.5** 0.14	**8.4** 0.33	27827.6	4055.4	0.3807	**120.21** 265.02
90.000 3.5433	**76.000** 2.9921	**59.9** 2.36	**3.3** 0.13	**951.0** 37.44	**954.0** 37.56	**3.3** 0.13	**1040.0** 40.94	**1030.0** 40.55	**5.4** 0.21	**6.0** 0.24	29812.0	4331.9	0.3902	**119.25** 262.78
90.000 3.5433	**76.000** 2.9921	**59.9** 2.36	**3.3** 0.13	**951.0** 37.44	**954.0** 37.56	**3.3** 0.13	**1040.0** 40.94	**1030.0** 40.55	**3.5** 0.14	**8.4** 0.33	27827.6	4055.4	0.3807	**118.18** 260.54
133.985 5.2750	**110.109** 4.3350	**58.9** 2.32	**12.7** 0.50	**981.0** 38.62	**1000.0** 39.37	**12.7** 0.50	**1157.5** 45.57	**1135.1** 44.69	**5.9** 0.23	**9.3** 0.37	26604.7	1717.6	0.3945	**356.00** 784.86
63.500 2.5000	**47.625** 1.8750	**114.8** 4.52	**6.4** 0.25	**1005.0** 39.57	**1010.0** 39.76	**6.4** 0.25	**1100.4** 43.32	**1095.0** 43.11	**7.9** 0.31	**5.0** 0.20	18937.3	3190.6	0.3631	**101.90** 224.68
101.600 4.0000	**66.675** 2.6250	**127.8** 5.03	**9.7** 0.38	**1055.0** 41.54	**1070.0** 42.13	**9.7** 0.38	**1214.1** 47.80	**1210.0** 47.64	**21.0** 0.83	**-0.7** -0.03	22398.3	3110.1	0.4018	**266.85** 588.34
65.088 2.5625	**42.862** 1.6875	**142.5** 5.61	**3.3** 0.13	**1085.0** 42.72	**1090.0** 42.91	**3.3** 0.13	**1188.8** 46.80	**1185.0** 46.65	**7.9** 0.31	**3.8** 0.15	22182.4	4652.2	0.3922	**109.42** 241.24
65.088 2.5625	**42.862** 1.6875	**142.5** 5.61	**3.3** 0.13	**1090.0** 42.91	**1090.0** 42.91	**3.3** 0.13	**1188.8** 46.80	**1185.0** 46.65	**7.9** 0.31	**3.8** 0.15	22182.4	4652.2	0.3922	**106.72** 235.27

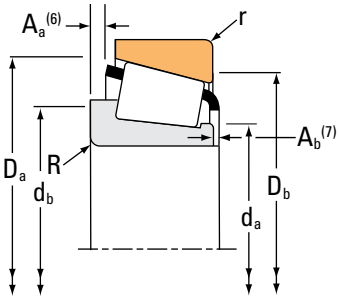
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.

TYPE TS







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
1066.800 42.0000	**1320.800** 52.0000	**95.250** 3.7500	**2670000** 599000	0.57	1.05	**691000** 155000	**676000** 152000	1.02	**6990000** 1570000	EE776420	776520
1092.200 43.0000	**1320.800** 52.0000	* *	**2670000** 599000	0.57	1.05	**691000** 155000	**676000** 152000	1.02	**6990000** 1570000	EE776430	776520
1155.700 45.5000	**1435.100** 56.5000	**120.650** 4.7500	**4040000** 908000	0.36	1.66	**1050000** 235000	**647000** 146000	1.62	**13000000** 2920000	EE277455	277565
1270.000 50.0000	**1435.100** 56.5000	**69.850** 2.7500	**1840000** 414000	0.57	1.05	**478000** 107000	**467000** 105000	1.02	**6650000** 1500000	LL889049	LL889010
1562.100 61.5000	**1806.575** 71.1250	**127.000** 5.0000	**4540000** 1020000	0.47	1.27	**1180000** 265000	**955000** 215000	1.23	**16800000** 3770000	EE299615	299711

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.
(*)Contact your Timken engineer for details.

Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
88.900 3.5000	**69.850** 2.7500	**175.8** 6.92	**6.4** 0.25	**1115.0** 43.90	**1115.0** 43.90	**6.4** 0.25	**1273.5** 50.14	**1260.0** 49.61	**15.5** 0.61	**4.9** 0.20	23201.8	2946.7	0.4231	**268.22** 591.29
88.900 3.5000	**69.850** 2.7500	**175.8** 6.92	**6.4** 0.25	**1130.0** 44.49	**1135.0** 44.69	**6.4** 0.25	**1273.5** 50.14	**1260.0** 49.61	**15.5** 0.61	**4.9** 0.20	23201.8	2946.7	0.4231	**238.26** 525.24
120.650 4.7500	**95.250** 3.7500	**87.9** 3.46	**6.4** 0.25	**1195.0** 47.05	**1205.0** 47.44	**6.4** 0.25	**1370.0** 53.94	**1370.0** 53.94	**15.6** 0.61	**1.6** 0.07	40981.4	4107.8	0.4449	**432.22** 952.86
65.088 2.5625	**47.625** 1.8750	**216.9** 8.54	**6.4** 0.25	**1300.0** 51.18	**1305.0** 51.38	**6.4** 0.25	**1403.2** 55.24	**1395.0** 54.92	**6.7** 0.26	**5.9** 0.23	31422.7	5654.9	0.4637	**147.09** 324.30
123.825 4.8750	**85.725** 3.3750	**190.5** 7.50	**9.7** 0.38	**1600.0** 62.99	**1615.0** 63.58	**9.7** 0.38	**1757.5** 69.19	**1700.0** 66.93	**23.5** 0.92	**5.6** 0.22	69875.1	7454.3	0.5753	**477.64** 1053.01

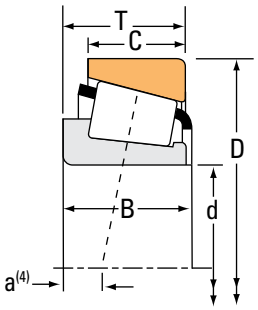
(4) Negative value indicates effective center inside cone (inner-ring) backface.
(5) These maximum fillet radii will be cleared by the bearing corners.
(6) Negative value indicates cage extends beyond cone (inner-ring) backface.
(7) Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

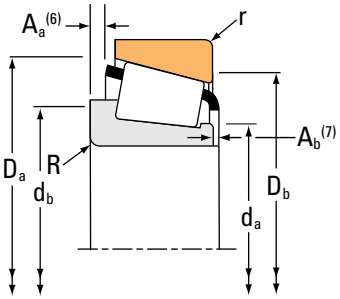


METRIC SINGLE-ROW TAPERED ROLLER BEARINGS

- Timken offers a comprehensive range of metric part numbers (ISO series and J-prefix).
- Ratings published in this section reflect the standard rating for each part number. Higher performance may be available upon request.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective solution.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1)	Factors(2)		Dynamic(3)		Factors(2)	Static	Assembly Inner/Outer
			C_1	e	Y	C_{90}	C_{a90}	K	C_0	
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
15.000 0.5906	**42.000** 1.6535	**14.250** 0.5610	**26000** 5850	0.29	2.11	**6750** 1520	**3290** 740	2.05	**22200** 4980	30302
17.000 0.6693	**40.000** 1.5748	**13.250** 0.5217	**21300** 4800	0.35	1.74	**5530** 1240	**3270** 735	1.69	**19900** 4460	30203
17.000 0.6693	**47.000** 1.8504	**15.250** 0.6004	**32700** 7360	0.29	2.11	**8480** 1910	**4140** 931	2.05	**28400** 6390	30303
20.000 0.7874	**42.000** 1.6535	**15.000** 0.5906	**27700** 6240	0.37	1.60	**7190** 1620	**4600** 1040	1.56	**29400** 6600	32004X
20.000 0.7874	**42.000** 1.6535	**15.000** 0.5906	**27700** 6240	0.37	1.60	**7190** 1620	**4600** 1040	1.56	**29400** 6600	XAA32004X/YAA32004X
20.000 0.7874	**47.000** 1.8504	**15.250** 0.6004	**33200** 7470	0.35	1.74	**8620** 1940	**5090** 1140	1.69	**33000** 7420	30204
20.000 0.7874	**47.000** 1.8504	**19.250** 0.7579	**41800** 9390	0.33	1.81	**10800** 2430	**6150** 1380	1.76	**43000** 9660	32204
20.000 0.7874	**52.000** 2.0472	**16.250** 0.6398	**38500** 8660	0.30	2.00	**9980** 2240	**5130** 1150	1.95	**34500** 7760	30304
20.000 0.7874	**52.000** 2.0472	**22.250** 0.8760	**55200** 12400	0.30	2.00	**14300** 3220	**7350** 1650	1.95	**55000** 12400	32304
25.000 0.9843	**47.000** 1.8504	**15.000** 0.5906	**30800** 6920	0.43	1.39	**7980** 1790	**5880** 1320	1.36	**35400** 7960	32005X
25.000 0.9843	**47.000** 1.8504	**15.000** 0.5906	**30800** 6920	0.43	1.39	**7980** 1790	**5880** 1320	1.36	**35400** 7960	XAA32005X/YAA32005X
25.000 0.9843	**52.000** 2.0472	**16.250** 0.6398	**36900** 8300	0.37	1.60	**9570** 2150	**6150** 1380	1.56	**38300** 8620	30205
25.000 0.9843	**52.000** 2.0472	**19.250** 0.7579	**42000** 9440	0.36	1.67	**10900** 2450	**6710** 1510	1.62	**42100** 9470	32205
25.000 0.9843	**52.000** 2.0472	**19.250** 0.7579	**39700** 8920	0.58	1.03	**10300** 2310	**10300** 2310	1.00	**46300** 10400	32205B
25.000 0.9843	**52.000** 2.0472	**22.000** 0.8661	**55100** 12400	0.35	1.71	**14300** 3210	**8590** 1930	1.66	**63600** 14300	33205
25.000 0.9843	**62.000** 2.4409	**18.250** 0.7185	**53800** 12100	0.30	2.00	**13900** 3130	**7160** 1610	1.95	**49600** 11200	30305
25.000 0.9843	**62.000** 2.4409	**25.250** 0.9941	**72400** 16300	0.30	2.00	**18800** 4220	**9640** 2170	1.95	**72400** 16300	32305

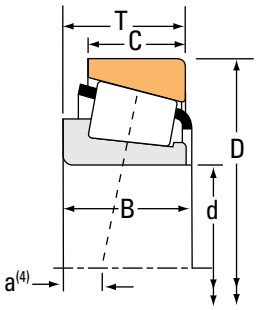
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

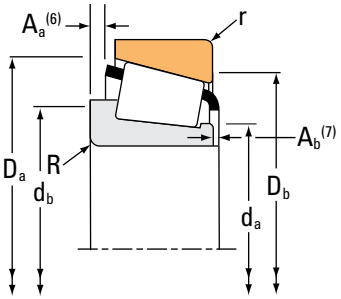
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
13.000 0.5118	**11.000** 0.4331	**-4.6** -0.18	**1.0** 0.04	**19.0** 0.75	**20.5** 0.81	**1.0** 0.04	**38.5** 1.52	**36.5** 1.44	**-0.4** -0.02	**2.1** 0.09	4.3	4.6	0.0375	**0.11** 0.22
12.000 0.4724	**11.000** 0.4331	**-3.6** -0.14	**1.0** 0.04	**21.0** 0.83	**22.0** 0.87	**1.0** 0.04	**37.0** 1.46	**35.0** 1.38	**0.1** 0.00	**1.6** 0.07	4.2	6.0	0.0398	**0.08** 0.18
14.000 0.5512	**12.000** 0.4724	**-4.8** -0.19	**1.0** 0.04	**21.5** 0.85	**22.5** 0.89	**1.0** 0.04	**43.0** 1.69	**41.5** 1.63	**-0.3** -0.01	**2.2** 0.09	5.8	5.0	0.0412	**0.14** 0.29
15.000 0.5906	**12.000** 0.4724	**-4.6** -0.18	**0.6** 0.03	**25.5** 1.00	**26.5** 1.04	**0.6** 0.03	**39.5** 1.56	**37.0** 1.46	**0.4** 0.01	**1.5** 0.06	6.2	6.1	0.0469	**0.10** 0.21
15.000 0.5906	**12.000** 0.4724	**-4.6** -0.18	**2.0** 0.08	**25.5** 1.00	**29.0** 1.14	**1.0** 0.04	**39.5** 1.56	**36.5** 1.44	**0.4** 0.01	**1.5** 0.06	6.2	6.1	0.0469	**0.10** 0.21
14.000 0.5512	**12.000** 0.4724	**-4.3** -0.17	**1.0** 0.04	**26.0** 1.02	**27.5** 1.08	**1.0** 0.04	**43.5** 1.71	**41.0** 1.61	**-0.5** -0.02	**2.8** 0.11	7.1	7.3	0.0474	**0.13** 0.28
18.000 0.7087	**15.000** 0.5906	**-6.6** -0.26	**1.0** 0.04	**26.5** 1.04	**28.5** 1.12	**1.0** 0.04	**43.5** 1.71	**40.5** 1.59	**0.0** 0.00	**2.5** 0.10	8.2	6.5	0.0493	**0.16** 0.36
15.000 0.5906	**13.000** 0.5118	**-4.8** -0.19	**1.5** 0.06	**24.5** 0.96	**27.0** 1.06	**1.5** 0.06	**47.5** 1.87	**45.5** 1.79	**-0.6** -0.03	**2.6** 0.11	7.5	5.5	0.0458	**2.66** 0.38
21.000 0.8268	**18.000** 0.7087	**-7.9** -0.31	**1.5** 0.06	**27.0** 1.06	**31.0** 1.22	**1.5** 0.06	**47.5** 1.87	**44.0** 1.73	**-0.1** -0.01	**1.8** 0.07	10.3	5.9	0.0512	**0.24** 0.53
15.000 0.5906	**11.500** 0.4528	**-3.3** -0.13	**0.6** 0.03	**30.0** 1.18	**31.5** 1.24	**0.6** 0.03	**44.5** 1.75	**41.5** 1.63	**0.0** 0.00	**1.8** 0.07	8.6	8.7	0.0546	**0.11** 0.25
15.000 0.5906	**11.500** 0.4528	**-3.3** -0.13	**3.3** 0.13	**30.0** 1.18	**37.0** 1.46	**1.0** 0.04	**44.5** 1.75	**41.0** 1.61	**0.5** 0.02	**1.2** 0.05	8.6	8.7	0.0546	**0.11** 0.25
15.000 0.5906	**13.000** 0.5118	**-3.8** -0.15	**1.0** 0.04	**31.0** 1.22	**32.5** 1.28	**1.0** 0.04	**48.5** 1.91	**45.5** 1.79	**0.4** 0.01	**1.9** 0.08	9.0	8.0	0.0529	**0.15** 0.34
18.000 0.7087	**16.000** 0.6299	**-5.3** -0.21	**1.0** 0.04	**31.0** 1.22	**34.0** 1.34	**1.0** 0.04	**49.0** 1.93	**46.5** 1.83	**0.5** 0.02	**1.8** 0.07	9.4	7.3	0.0528	**0.18** 0.40
18.000 0.7087	**15.000** 0.5906	**-3.0** -0.12	**1.0** 0.04	**31.0** 1.22	**36.0** 1.42	**1.0** 0.04	**49.5** 1.95	**43.5** 1.71	**1.7** 0.06	**1.6** 0.07	10.2	9.1	0.0637	**0.19** 0.42
22.000 0.8661	**18.000** 0.7087	**-7.6** -0.30	**1.0** 0.04	**30.5** 1.20	**34.0** 1.34	**1.0** 0.04	**49.0** 1.93	**44.5** 1.75	**0.6** 0.02	**2.0** 0.08	13.4	8.6	0.0594	**0.23** 0.50
17.000 0.6693	**15.000** 0.5906	**-5.1** -0.20	**1.5** 0.06	**32.5** 1.28	**34.5** 1.36	**1.5** 0.06	**57.5** 2.26	**55.0** 2.17	**-0.5** -0.02	**3.3** 0.13	11.8	8.5	0.0532	**0.26** 0.58
24.000 0.9449	**20.000** 0.7874	**-9.7** -0.38	**1.5** 0.06	**31.5** 1.24	**35.0** 1.38	**1.5** 0.06	**57.0** 2.24	**54.0** 2.13	**2.1** 0.08	**2.3** 0.09	15.1	7.2	0.0580	**0.37** 0.81

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
30.000 1.1811	**55.000** 2.1654	**17.000** 0.6693	**39200** 8810	0.43	1.39	**10200** 2280	**7480** 1680	1.36	**45300** 10200	32006X
30.000 1.1811	**62.000** 2.4409	**17.250** 0.6791	**49300** 11100	0.37	1.60	**12800** 2880	**8210** 1850	1.56	**43800** 9860	30206
30.000 1.1811	**62.000** 2.4409	**21.250** 0.8366	**64100** 14400	0.37	1.60	**16600** 3740	**10700** 2400	1.56	**71900** 16200	32206
30.000 1.1811	**62.000** 2.4409	**21.250** 0.8366	**55800** 12500	0.56	1.07	**14500** 3250	**13900** 3130	1.04	**62300** 14000	32206B
30.000 1.1811	**62.000** 2.4409	**25.000** 0.9843	**73900** 16600	0.34	1.76	**19200** 4310	**11200** 2520	1.71	**82200** 18500	33206
30.000 1.1811	**72.000** 2.8346	**20.750** 0.8169	**67700** 15200	0.31	1.90	**17500** 3940	**9460** 2130	1.85	**65300** 14700	30306
30.000 1.1811	**72.000** 2.8346	**28.750** 1.1319	**87600** 19700	0.31	1.90	**22700** 5110	**12300** 2750	1.85	**89800** 20200	32306
30.000 1.1811	**72.000** 2.8346	**29.370** 1.1563	**87000** 19600	0.55	1.10	**22600** 5070	**21100** 4740	1.07	**111000** 24900	JHM88540/JHM88513
35.000 1.3780	**62.000** 2.4409	**18.000** 0.7087	**47700** 10700	0.45	1.32	**12400** 2780	**9600** 2160	1.29	**57600** 12900	32007X
35.000 1.3780	**72.000** 2.8346	**18.250** 0.7185	**60600** 13600	0.37	1.60	**15700** 3530	**10100** 2270	1.56	**63600** 14300	30207
35.000 1.3780	**72.000** 2.8346	**24.250** 0.9547	**74900** 16800	0.37	1.60	**19400** 4370	**12500** 2800	1.56	**82300** 18500	32207
35.000 1.3780	**72.000** 2.8346	**28.000** 1.1024	**99900** 22500	0.35	1.70	**25900** 5820	**15700** 3520	1.65	**116000** 26200	33207
35.000 1.3780	**80.000** 3.1496	**22.750** 0.8957	**72800** 16400	0.83	0.73	**18900** 4250	**26700** 6000	0.71	**74800** 16800	31307
35.000 1.3780	**80.000** 3.1496	**22.750** 0.8957	**87200** 19600	0.31	1.90	**22600** 5080	**12200** 2740	1.85	**86100** 19300	30307
35.000 1.3780	**80.000** 3.1496	**32.750** 1.2894	**116000** 26000	0.31	1.90	**30000** 6740	**16200** 3640	1.85	**123000** 27700	32307
40.000 1.5748	**68.000** 2.6772	**19.000** 0.7480	**55500** 12500	0.38	1.58	**14400** 3240	**9330** 2100	1.54	**71600** 16100	32008X
40.000 1.5748	**68.000** 2.6772	**19.000** 0.7480	**55500** 12500	0.38	1.58	**14400** 3240	**9330** 2100	1.54	**71600** 16100	XAA32008X/Y32008X

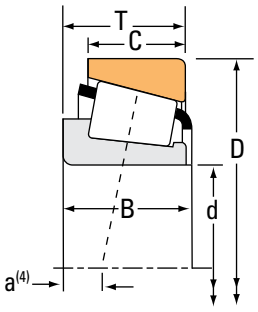
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

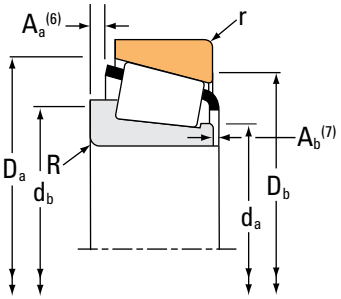
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R(5)	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius r(5)	Backing Shoulder Dia. D_a	D_b	A_a(6)	A_b(7)	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
17.000 0.6693	**13.000** 0.5118	**-3.3** -0.13	**1.0** 0.04	**36.0** 1.42	**37.5** 1.48	**1.0** 0.04	**52.0** 2.05	**49.0** 1.93	**0.9** 0.03	**1.3** 0.06	12.1	10.5	0.0611	**0.18** 0.38
16.000 0.6299	**14.000** 0.5512	**-3.3** -0.13	**1.0** 0.04	**35.0** 1.38	**36.0** 1.42	**1.0** 0.04	**58.0** 2.28	**55.0** 2.17	**0.2** 0.00	**2.4** 0.10	11.9	9.4	0.0577	**0.23** 0.51
20.000 0.7874	**17.000** 0.6693	**-5.6** -0.22	**1.0** 0.04	**37.0** 1.46	**43.0** 1.69	**1.0** 0.04	**59.0** 2.32	**54.0** 2.13	**0.7** 0.03	**2.6** 0.11	16.8	10.9	0.0652	**0.29** 0.66
20.000 0.7874	**17.000** 0.6693	**-3.3** -0.13	**1.0** 0.04	**36.5** 1.44	**39.5** 1.56	**1.0** 0.04	**59.0** 2.32	**53.0** 2.09	**1.6** 0.06	**2.9** 0.12	14.1	8.9	0.0700	**0.30** 0.65
25.000 0.9843	**19.500** 0.7677	**-9.1** -0.36	**1.0** 0.04	**36.5** 1.44	**40.0** 1.57	**1.0** 0.04	**59.0** 2.32	**55.0** 2.17	**1.0** 0.04	**2.8** 0.11	18.6	9.8	0.0654	**0.35** 0.78
19.000 0.7480	**16.000** 0.6299	**-5.6** -0.22	**1.5** 0.06	**38.0** 1.50	**40.0** 1.57	**1.5** 0.06	**67.0** 2.64	**63.0** 2.48	**1.2** 0.04	**3.3** 0.13	16.8	10.3	0.0609	**0.39** 0.88
27.000 1.0630	**23.000** 0.9055	**-10.7** -0.42	**1.5** 0.06	**37.0** 1.46	**40.5** 1.59	**1.5** 0.06	**66.0** 2.60	**62.0** 2.44	**2.9** 0.11	**2.8** 0.11	20.6	8.6	0.0654	**0.56** 1.23
27.783 1.0938	**23.020** 0.9063	**-5.6** -0.22	**1.3** 0.05	**42.5** 1.67	**44.5** 1.75	**3.3** 0.13	**69.0** 2.72	**58.0** 2.28	**1.5** 0.06	**2.3** 0.09	26.3	8.7	0.0857	**0.61** 1.34
18.000 0.7087	**14.000** 0.5512	**-2.5** -0.10	**1.0** 0.04	**41.5** 1.63	**43.0** 1.69	**1.0** 0.04	**59.5** 2.34	**55.0** 2.17	**0.8** 0.03	**1.4** 0.06	16.7	15.7	0.0691	**0.22** 0.50
17.000 0.6693	**15.000** 0.5906	**-3.3** -0.13	**1.5** 0.06	**42.5** 1.67	**44.5** 1.75	**1.5** 0.06	**67.0** 2.64	**64.0** 2.52	**0.0** 0.00	**3.3** 0.13	18.0	13.3	0.0662	**0.34** 0.74
23.000 0.9055	**19.000** 0.7480	**-6.3** -0.25	**1.5** 0.06	**41.5** 1.63	**43.5** 1.71	**1.5** 0.06	**67.0** 2.64	**63.0** 2.48	**1.9** 0.07	**1.8** 0.07	21.5	11.4	0.0705	**0.44** 0.96
28.000 1.1024	**22.000** 0.8661	**-9.4** -0.37	**1.5** 0.06	**42.0** 1.65	**45.5** 1.79	**1.5** 0.06	**68.0** 2.68	**63.0** 2.48	**1.5** 0.06	**2.8** 0.11	27.5	11.1	0.0754	**0.53** 1.17
21.000 0.8268	**15.000** 0.5906	**3.3** 0.13	**2.0** 0.08	**45.0** 1.77	**56.0** 2.20	**1.5** 0.06	**76.0** 2.99	**68.0** 2.68	**2.5** 0.10	**3.6** 0.14	17.8	8.7	0.0839	**0.55** 1.21
21.000 0.8268	**18.000** 0.7087	**-5.8** -0.23	**2.0** 0.08	**43.5** 1.71	**46.5** 1.83	**1.5** 0.06	**75.0** 2.95	**72.0** 2.83	**0.5** 0.02	**4.0** 0.16	22.9	10.1	0.0674	**0.53** 1.16
31.000 1.2205	**25.000** 0.9843	**-12.2** -0.48	**2.0** 0.08	**43.0** 1.69	**46.0** 1.81	**1.5** 0.06	**74.0** 2.91	**70.0** 2.76	**3.6** 0.14	**2.8** 0.11	29.0	10.1	0.0733	**0.75** 1.66
19.000 0.7480	**14.500** 0.5709	**-3.8** -0.15	**1.0** 0.04	**45.5** 1.79	**47.0** 1.85	**1.0** 0.04	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**1.7** 0.07	23.8	16.1	0.0732	**0.27** 0.61
19.000 0.7480	**14.500** 0.5709	**-3.8** -0.15	**3.5** 0.14	**45.5** 1.79	**52.1** 2.05	**1.0** 0.04	**65.0** 2.56	**61.0** 2.40	**0.9** 0.03	**1.7** 0.07	23.8	16.1	0.0732	**0.27** 0.61

(4)Negative value indicates effective center inside cone (inner-ring) backface.
(5)These maximum fillet radii will be cleared by the bearing corners.
(6)Negative value indicates cage extends beyond cone (inner-ring) backface.
(7)Negative value indicates cage that does not extend beyond cone (inner-ring) front face.
(*)Contact your Timken engineer for details.

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Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
40.000 1.5748	**75.000** 2.9528	**26.000** 1.0236	**88000** 19800	0.36	1.69	**22800** 5130	**13900** 3120	1.64	**105000** 23600	33108
40.000 1.5748	**75.000** 2.9528	**26.000** 1.0236	**88000** 19800	0.36	1.69	**22800** 5130	**13900** 3120	1.64	**105000** 23600	XAA33108/Y33108
40.000 1.5748	**80.000** 3.1496	**19.750** 0.7776	**70900** 15900	0.37	1.60	**18400** 4130	**11800** 2650	1.56	**74700** 16800	30208
40.000 1.5748	**80.000** 3.1496	**24.750** 0.9744	**88300** 19900	0.37	1.60	**22900** 5150	**14700** 3310	1.56	**98000** 22000	32208
40.000 1.5748	**80.000** 3.1496	**32.000** 1.2598	**121000** 27200	0.36	1.68	**31300** 7040	**19200** 4310	1.63	**144000** 32400	33208
40.000 1.5748	**85.000** 3.3465	**33.000** 1.2992	**137000** 30800	0.34	1.74	**35500** 7990	**20900** 4710	1.70	**160000** 35900	JF4049/JF4010
40.000 1.5748	**90.000** 3.5433	**25.250** 0.9941	**85300** 19200	0.83	0.73	**22100** 4970	**31200** 7020	0.71	**88100** 19800	31308
40.000 1.5748	**90.000** 3.5433	**25.250** 0.9941	**98700** 22200	0.35	1.74	**25600** 5760	**15100** 3400	1.69	**102000** 23000	30308
40.000 1.5748	**90.000** 3.5433	**35.250** 1.3878	**133000** 30000	0.35	1.74	**34600** 7770	**20400** 4590	1.69	**150000** 33700	32308
40.000 1.5748	**90.000** 3.5433	**35.250** 1.3878	**132000** 29700	0.55	1.10	**34300** 7710	**32100** 7210	1.07	**160000** 36100	32308B
45.000 1.7717	**75.000** 2.9528	**20.000** 0.7874	**66400** 14900	0.39	1.53	**17200** 3870	**11600** 2600	1.49	**84300** 19000	32009X
45.000 1.7717	**75.000** 2.9528	**20.000** 0.7874	**66400** 14900	0.39	1.53	**17200** 3870	**11600** 2600	1.49	**84300** 19000	XAA32009X/Y32009X
45.000 1.7717	**80.000** 3.1496	**26.000** 1.0236	**95100** 21400	0.38	1.57	**24600** 5540	**16200** 3640	1.52	**119000** 26800	33109
45.000 1.7717	**85.000** 3.3465	**20.750** 0.8169	**80000** 18000	0.40	1.48	**20700** 4660	**14400** 3230	1.44	**89000** 20000	30209
45.000 1.7717	**85.000** 3.3465	**24.750** 0.9744	**87500** 19700	0.40	1.48	**22700** 5100	**15700** 3540	1.44	**98700** 22200	32209
45.000 1.7717	**85.000** 3.3465	**32.000** 1.2598	**125000** 28200	0.39	1.56	**32500** 7310	**21500** 4820	1.51	**155000** 34800	33209
45.000 1.7717	**95.000** 3.7402	**29.000** 1.1417	**99900** 22500	0.87	0.69	**25900** 5820	**38400** 8630	0.67	**114000** 25600	JW4549/JW4510

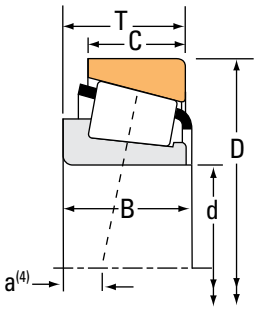
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

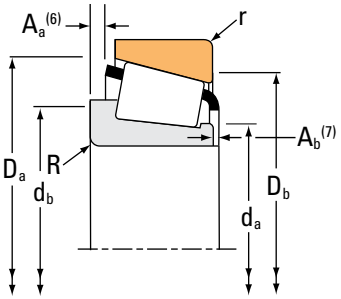
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
26.000 1.0236	**20.500** 0.8071	**-7.6** -0.30	**1.5** 0.06	**47.0** 1.85	**51.0** 2.01	**1.5** 0.06	**72.0** 2.83	**67.0** 2.64	**1.3** 0.05	**2.3** 0.09	29.4	14.9	0.0771	**0.49** 1.08
26.000 1.0236	**20.500** 0.8071	**-7.6** -0.30	**3.5** 0.14	**47.0** 1.85	**55.0** 2.17	**1.5** 0.06	**72.0** 2.83	**67.0** 2.64	**1.8** 0.07	**1.7** 0.07	29.4	14.9	0.0771	**0.50** 1.09
18.000 0.7087	**16.000** 0.6299	**-3.0** -0.12	**1.5** 0.06	**47.5** 1.87	**49.5** 1.95	**1.5** 0.06	**75.0** 2.95	**71.0** 2.80	**0.0** 0.00	**3.6** 0.14	22.5	14.3	0.0712	**0.43** 0.94
23.000 0.9055	**19.000** 0.7480	**-5.6** -0.22	**1.5** 0.06	**46.0** 1.81	**48.5** 1.91	**1.5** 0.06	**75.0** 2.95	**71.0** 2.80	**1.6** 0.06	**2.5** 0.10	25.0	11.4	0.0738	**0.53** 1.17
32.000 1.2598	**25.000** 0.9843	**-10.9** -0.43	**1.5** 0.06	**47.0** 1.85	**51.0** 2.01	**1.5** 0.06	**76.0** 2.99	**70.0** 2.76	**2.8** 0.11	**2.5** 0.10	35.9	11.4	0.0827	**0.73** 1.61
32.500 1.2795	**28.000** 1.1024	**-10.2** -0.40	**2.5** 0.10	**49.0** 1.93	**55.0** 2.17	**2.0** 0.08	**80.0** 3.15	**75.0** 2.95	**0.5** 0.02	**2.5** 0.10	39.5	13.6	0.0841	**0.90** 1.99
23.000 0.9055	**17.000** 0.6693	**4.1** 0.16	**2.0** 0.08	**52.0** 2.05	**61.0** 2.40	**1.5** 0.06	**86.0** 3.39	**76.0** 2.99	**4.0** 0.16	**3.1** 0.13	22.9	10.3	0.0910	**0.73** 1.59
23.000 0.9055	**20.000** 0.7874	**-5.8** -0.23	**2.0** 0.08	**46.5** 1.83	**50.0** 1.97	**1.5** 0.06	**84.0** 3.31	**80.0** 3.15	**1.8** 0.07	**2.8** 0.11	30.1	11.6	0.0762	**0.73** 1.61
33.000 1.2992	**27.000** 1.0630	**-11.9** -0.47	**2.0** 0.08	**51.0** 2.01	**55.0** 2.17	**1.5** 0.06	**83.0** 3.27	**78.0** 3.07	**3.8** 0.15	**2.8** 0.11	38.5	12.6	0.0832	**1.02** 2.26
33.000 1.2992	**27.000** 1.0630	**-7.4** -0.29	**2.0** 0.08	**49.0** 1.93	**58.0** 2.28	**1.5** 0.06	**84.0** 3.31	**76.0** 2.99	**3.5** 0.13	**3.4** 0.14	38.1	14.0	0.0966	**1.10** 2.43
20.000 0.7874	**15.500** 0.6102	**-3.3** -0.13	**1.0** 0.04	**51.0** 2.01	**53.0** 2.09	**1.0** 0.04	**72.0** 2.83	**68.0** 2.68	**0.5** 0.02	**2.2** 0.09	28.7	16.2	0.0788	**0.34** 0.76
20.000 0.7874	**15.500** 0.6102	**-3.3** -0.13	**3.0** 0.12	**51.0** 2.01	**57.0** 2.24	**1.0** 0.04	**72.0** 2.83	**68.0** 2.68	**0.5** 0.02	**2.2** 0.09	28.7	16.2	0.0788	**0.34** 0.76
26.000 1.0236	**20.500** 0.8071	**-6.6** -0.26	**1.5** 0.06	**52.0** 2.05	**55.0** 2.17	**1.5** 0.06	**76.0** 2.99	**71.0** 2.80	**1.9** 0.07	**1.7** 0.07	35.7	16.5	0.0843	**0.54** 1.17
19.000 0.7480	**16.000** 0.6299	**-2.5** -0.10	**1.5** 0.06	**53.0** 2.09	**55.0** 2.17	**1.5** 0.06	**80.0** 3.15	**76.0** 2.99	**1.0** 0.04	**3.9** 0.16	28.3	16.3	0.0789	**0.49** 1.08
23.000 0.9055	**19.000** 0.7480	**-4.3** -0.17	**1.5** 0.06	**51.0** 2.01	**54.0** 2.13	**1.5** 0.06	**81.0** 3.19	**76.0** 2.99	**1.6** 0.06	**2.6** 0.10	30.5	13.8	0.0809	**0.58** 1.27
32.000 1.2598	**25.000** 0.9843	**-9.9** -0.39	**1.5** 0.06	**52.0** 2.05	**57.0** 2.24	**1.5** 0.06	**81.0** 3.19	**74.0** 2.91	**2.9** 0.11	**2.5** 0.10	41.9	14.5	0.0892	**0.79** 1.73
26.500 1.0433	**20.000** 0.7874	**4.0** 0.16	**2.5** 0.10	**54.0** 2.13	**64.0** 2.52	**2.5** 0.10	**90.0** 3.56	**78.0** 3.07	**3.8** 0.15	**3.6** 0.14	30.7	12.9	0.1020	**0.91** 2.00

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1)	Factors(2)		Dynamic(3)		Factors(2)	Static	Assembly Inner/Outer
			C_1	e	Y	C_{90}	C_{a90}	K	C_0	
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
45.000 1.7717	**100.000** 3.9370	**27.250** 1.0728	**106000** 23800	0.83	0.73	**27400** 6160	**38700** 8700	0.71	**113000** 25400	31309
45.000 1.7717	**100.000** 3.9370	**27.250** 1.0728	**129000** 29000	0.35	1.74	**33500** 7530	**19800** 4450	1.69	**139000** 31300	30309
45.000 1.7717	**100.000** 3.9370	**38.250** 1.5059	**154000** 34600	0.35	1.74	**39900** 8980	**23600** 5300	1.69	**171000** 38600	32309
45.000 1.7717	**100.000** 3.9370	**38.250** 1.5059	**159000** 35800	0.55	1.10	**41300** 9290	**38600** 8680	1.07	**187000** 42100	32309B
50.000 1.9685	**80.000** 3.1496	**20.000** 0.7874	**69800** 15700	0.42	1.42	**18100** 4070	**13100** 2950	1.38	**92700** 20800	32010X
50.000 1.9685	**80.000** 3.1496	**20.000** 0.7874	**69800** 15700	0.42	1.42	**18100** 4070	**13100** 2950	1.38	**92700** 20800	XAA32010X/Y32010X
50.000 1.9685	**80.000** 3.1496	**20.000** 0.7874	**69800** 15700	0.42	1.42	**18100** 4070	**13100** 2950	1.38	**92700** 20800	XAB32010X/Y32010X
50.000 1.9685	**80.000** 3.1496	**24.000** 0.9449	**80600** 18100	0.32	1.90	**20900** 4700	**11300** 2550	1.85	**112000** 25300	33010
50.000 1.9685	**82.000** 3.2283	**21.500** 0.8465	**81300** 18300	0.31	1.97	**21100** 4740	**11000** 2470	1.91	**104000** 23400	JLM104948/JLM104910
50.000 1.9685	**84.000** 3.3071	**22.000** 0.8661	**81400** 18300	0.44	1.37	**21100** 4740	**15800** 3550	1.34	**104000** 23500	JLM704649/JLM704610
50.000 1.9685	**85.000** 3.3465	**26.000** 1.0236	**96700** 21700	0.41	1.46	**25100** 5630	**17600** 3970	1.42	**125000** 28100	33110
50.000 1.9685	**90.000** 3.5433	**21.750** 0.8563	**79500** 17900	0.42	1.43	**20600** 4630	**14800** 3330	1.39	**87400** 19700	30210
50.000 1.9685	**90.000** 3.5433	**24.750** 0.9744	**99800** 22400	0.42	1.43	**25900** 5820	**18600** 4180	1.39	**118000** 26500	32210
50.000 1.9685	**90.000** 3.5433	**28.000** 1.1024	**124000** 27800	0.33	1.82	**32100** 7210	**18100** 4060	1.78	**154000** 34600	JM205149/JM205110
50.000 1.9685	**90.000** 3.5433	**32.000** 1.2598	**130000** 29200	0.41	1.45	**33600** 7560	**23800** 5360	1.41	**166000** 37300	33210
50.000 1.9685	**105.000** 4.1339	**32.000** 1.2598	**119000** 26800	0.87	0.69	**31000** 6960	**45900** 10300	0.67	**138000** 31000	JW5049/JW5010
50.000 1.9685	**105.000** 4.1339	**37.000** 1.4567	**172000** 38600	0.49	1.23	**44500** 10000	**37100** 8350	1.20	**223000** 50200	JHM807045/JHM807012

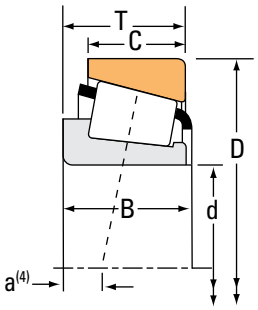
(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

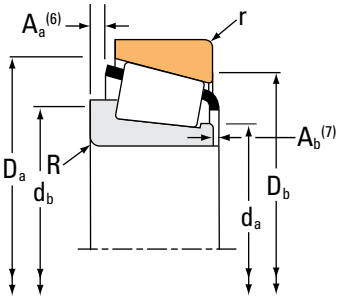
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.000 0.9843	**18.000** 0.7087	**4.3** 0.17	**2.0** 0.08	**56.0** 2.20	**67.0** 2.64	**1.5** 0.06	**95.5** 3.76	**85.0** 3.35	**5.4** 0.21	**3.8** 0.15	30.4	12.7	0.1001	**0.94** 2.07
25.000 0.9843	**22.000** 0.8661	**-6.1** -0.24	**2.0** 0.08	**56.0** 2.20	**59.0** 2.32	**1.5** 0.06	**93.0** 3.66	**89.0** 3.50	**0.7** 0.02	**4.0** 0.16	41.9	18.4	0.0836	**1.01** 2.22
36.000 1.4173	**30.000** 1.1811	**-13.0** -0.51	**2.0** 0.08	**54.0** 2.13	**57.0** 2.24	**1.5** 0.06	**93.0** 3.66	**87.0** 3.43	**4.1** 0.16	**3.6** 0.14	47.5	14.2	0.0891	**1.36** 3.01
36.000 1.4173	**30.000** 1.1811	**-7.9** -0.31	**2.0** 0.08	**54.0** 2.13	**68.0** 2.68	**1.5** 0.06	**95.0** 3.74	**84.0** 3.31	**3.5** 0.14	**1.8** 0.08	45.0	17.2	0.1018	**1.42** 3.13
20.000 0.7874	**15.500** 0.6102	**-2.0** -0.08	**1.0** 0.04	**56.0** 2.20	**58.0** 2.28	**1.0** 0.04	**77.0** 3.03	**73.0** 2.87	**0.9** 0.03	**2.1** 0.09	34.0	20.3	0.0853	**0.36** 0.82
20.000 0.7874	**15.500** 0.6102	**-2.0** -0.08	**2.3** 0.09	**56.0** 2.20	**60.0** 2.36	**1.0** 0.04	**77.0** 3.03	**73.0** 2.87	**0.9** 0.03	**2.1** 0.09	34.0	20.3	0.0853	**0.36** 0.82
20.000 0.7874	**15.500** 0.6102	**-2.0** -0.08	**3.0** 0.12	**55.0** 2.17	**62.0** 2.44	**1.0** 0.04	**77.0** 3.03	**73.0** 2.87	**0.5** 0.02	**2.5** 0.10	34.0	20.3	0.0853	**0.36** 0.82
24.000 0.9449	**19.000** 0.7480	**-6.6** -0.26	**1.0** 0.04	**55.0** 2.17	**57.0** 2.24	**1.0** 0.04	**77.0** 3.03	**73.0** 2.87	**0.8** 0.03	**2.5** 0.10	42.3	28.0	0.0836	**0.45** 1.00
21.500 0.8465	**17.000** 0.6693	**-5.3** -0.21	**3.0** 0.12	**55.0** 2.17	**60.0** 2.36	**0.5** 0.02	**78.0** 3.07	**76.0** 2.99	**0.3** 0.01	**2.8** 0.11	38.8	19.3	0.0801	**0.45** 1.00
22.000 0.8661	**17.500** 0.6890	**-2.3** -0.09	**3.5** 0.14	**56.0** 2.20	**64.0** 2.52	**1.5** 0.06	**80.0** 3.15	**76.0** 2.99	**0.8** 0.03	**2.0** 0.08	35.6	16.7	0.0876	**0.47** 1.03
26.000 1.0236	**20.000** 0.7874	**-5.3** -0.21	**1.5** 0.06	**57.0** 2.24	**61.0** 2.40	**1.5** 0.06	**82.0** 3.23	**76.0** 2.99	**2.3** 0.09	**1.7** 0.07	40.6	20.7	0.0899	**0.58** 1.29
20.000 0.7874	**17.000** 0.6693	**-2.0** -0.08	**1.5** 0.06	**56.0** 2.20	**59.0** 2.32	**1.5** 0.06	**85.0** 3.35	**81.0** 3.19	**1.3** 0.05	**3.1** 0.13	30.3	15.9	0.0814	**0.54** 1.19
23.000 0.9055	**19.000** 0.7480	**-3.6** -0.14	**1.5** 0.06	**58.0** 2.28	**61.0** 2.40	**1.5** 0.06	**86.0** 3.39	**81.0** 3.19	**1.5** 0.06	**3.8** 0.15	37.4	17.2	0.0877	**0.63** 1.39
28.000 1.1024	**23.000** 0.9055	**-7.6** -0.30	**3.0** 0.12	**57.0** 2.24	**63.0** 2.48	**2.5** 0.10	**85.0** 3.35	**80.0** 3.15	**0.3** 0.01	**2.8** 0.11	48.2	15.2	0.0885	**0.74** 1.64
32.000 1.2598	**24.500** 0.9646	**-8.6** -0.34	**1.5** 0.06	**57.0** 2.24	**61.0** 2.40	**1.5** 0.06	**86.0** 3.39	**80.0** 3.15	**2.8** 0.11	**3.0** 0.12	48.4	16.9	0.0957	**0.84** 1.86
29.000 1.1417	**22.000** 0.8661	**4.3** 0.17	**3.0** 0.12	**60.0** 2.36	**76.0** 2.99	**3.0** 0.12	**100.0** 3.94	**86.0** 3.39	**4.1** 0.16	**4.1** 0.16	39.0	14.6	0.1100	**1.23** 2.72
36.000 1.4173	**29.000** 1.1417	**-7.6** -0.30	**3.0** 0.12	**63.0** 2.48	**69.0** 2.72	**2.5** 0.10	**100.0** 3.94	**90.0** 3.54	**3.0** 0.12	**3.0** 0.12	63.9	17.1	0.0760	**1.50** 3.31

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
50.000 1.9685	**110.000** 4.3307	**29.250** 1.1516	**124000** 28000	0.83	0.73	**32300** 7250	**45600** 10200	0.71	**132000** 29700	31310
50.000 1.9685	**110.000** 4.3307	**29.250** 1.1516	**149000** 33400	0.35	1.74	**38500** 8660	**22700** 5110	1.69	**160000** 36000	30310
50.000 1.9685	**110.000** 4.3307	**42.250** 1.6634	**187000** 42000	0.35	1.74	**48400** 10900	**28600** 6430	1.69	**211000** 47500	32310
50.000 1.9685	**110.000** 4.3307	**42.250** 1.6634	**193000** 43400	0.55	1.10	**50000** 11200	**46800** 10500	1.07	**241000** 54300	32310B
55.000 2.1654	**90.000** 3.5433	**23.000** 0.9055	**91800** 20600	0.40	1.49	**23800** 5350	**16400** 3680	1.45	**123000** 27600	JLM506849/JLM506810
55.000 2.1654	**90.000** 3.5433	**23.000** 0.9055	**94900** 21300	0.41	1.48	**24600** 5530	**17100** 3850	1.44	**126000** 28300	32011X
55.000 2.1654	**90.000** 3.5433	**27.000** 1.0630	**99500** 22400	0.31	1.92	**25800** 5800	**13800** 3100	1.87	**141000** 31700	33011
55.000 2.1654	**95.000** 3.7402	**29.000** 1.1417	**131000** 29300	0.33	1.79	**33800** 7610	**19400** 4360	1.74	**168000** 37700	JM207049/JM207010
55.000 2.1654	**95.000** 3.7402	**30.000** 1.1811	**133000** 29900	0.37	1.60	**34500** 7760	**22100** 4970	1.56	**166000** 37200	33111
55.000 2.1654	**100.000** 3.9370	**22.750** 0.8957	**107000** 24000	0.40	1.48	**27700** 6230	**19200** 4320	1.44	**122000** 27400	30211
55.000 2.1654	**100.000** 3.9370	**26.750** 1.0531	**121000** 27200	0.40	1.48	**31300** 7040	**21700** 4880	1.44	**141000** 31600	32211
55.000 2.1654	**100.000** 3.9370	**35.000** 1.3780	**162000** 36400	0.40	1.50	**42000** 9440	**28700** 6460	1.46	**202000** 45300	33211
55.000 2.1654	**110.000** 4.3307	**39.000** 1.5354	**210000** 47200	0.35	1.73	**54400** 12200	**32300** 7260	1.69	**251000** 56500	JH307749/JH307710
55.000 2.1654	**115.000** 4.5276	**34.000** 1.3386	**145000** 32700	0.87	0.69	**37700** 8470	**55800** 12600	0.67	**175000** 39200	JW5549/JW5510
55.000 2.1654	**120.000** 4.7244	**31.500** 1.2402	**174000** 39100	0.35	1.74	**45100** 10100	**26600** 5990	1.69	**190000** 42700	30311
55.000 2.1654	**120.000** 4.7244	**31.500** 1.2402	**145000** 32600	0.83	0.73	**37600** 8460	**53100** 11900	0.71	**157000** 35300	31311
55.000 2.1654	**120.000** 4.7244	**45.500** 1.7913	**228000** 51200	0.35	1.74	**59100** 13300	**34900** 7840	1.69	**265000** 59700	32311

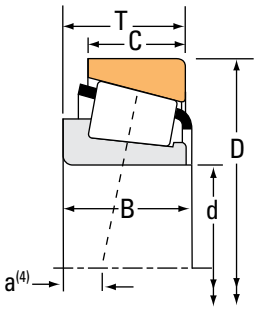
(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

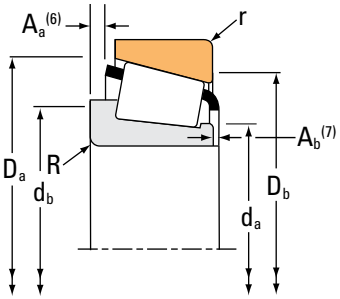
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
27.000 1.0630	**19.000** 0.7480	**5.6** 0.22	**2.5** 0.10	**63.0** 2.48	**75.0** 2.95	**2.0** 0.08	**104.5** 4.11	**93.0** 3.66	**4.8** 0.19	**4.2** 0.17	37.1	14.7	0.0734	**1.21** 2.67
27.000 1.0630	**23.000** 0.9055	**-6.1** -0.24	**2.5** 0.10	**58.0** 2.28	**62.0** 2.44	**2.0** 0.08	**103.0** 4.06	**98.0** 3.86	**1.9** 0.07	**3.2** 0.13	48.7	16.7	0.0892	**1.25** 2.77
40.000 1.5748	**33.000** 1.2992	**-14.2** -0.56	**2.5** 0.10	**60.0** 2.36	**65.0** 2.56	**2.0** 0.08	**103.0** 4.06	**95.0** 3.74	**4.5** 0.18	**2.9** 0.12	60.6	16.0	0.0965	**1.83** 4.03
40.000 1.5748	**33.000** 1.2992	**-8.6** -0.34	**2.5** 0.10	**60.0** 2.36	**71.0** 2.80	**2.0** 0.08	**103.0** 4.06	**93.0** 3.66	**4.3** 0.17	**3.3** 0.13	62.7	17.9	0.0783	**1.94** 4.27
23.000 0.9055	**18.500** 0.7283	**-2.8** -0.11	**1.5** 0.06	**62.0** 2.44	**65.0** 2.56	**0.5** 0.02	**86.0** 3.39	**82.0** 3.23	**0.5** 0.02	**2.0** 0.08	45.6	20.4	0.0925	**0.55** 1.21
23.000 0.9055	**17.500** 0.6890	**-3.0** -0.12	**1.5** 0.06	**62.0** 2.44	**65.0** 2.56	**1.5** 0.06	**86.5** 3.41	**82.0** 3.23	**1.7** 0.06	**2.1** 0.08	46.0	28.0	0.0931	**0.56** 1.25
27.000 1.0630	**21.000** 0.8268	**-7.9** -0.31	**1.5** 0.06	**61.0** 2.40	**63.0** 2.48	**1.5** 0.06	**87.0** 3.43	**82.0** 3.23	**2.3** 0.09	**1.9** 0.08	56.5	27.9	0.0915	**0.66** 1.46
29.000 1.1417	**23.500** 0.9252	**-7.6** -0.30	**1.5** 0.06	**62.0** 2.44	**64.0** 2.52	**2.5** 0.10	**91.0** 3.58	**85.0** 3.35	**0.8** 0.03	**3.0** 0.12	56.4	19.9	0.0937	**0.84** 1.84
30.000 1.1811	**23.000** 0.9055	**-7.6** -0.30	**1.5** 0.06	**61.0** 2.40	**67.0** 2.64	**1.5** 0.06	**91.0** 3.58	**85.0** 3.35	**1.8** 0.07	**3.3** 0.13	52.1	20.1	0.0946	**0.84** 1.86
21.000 0.8268	**18.000** 0.7087	**-1.8** -0.07	**2.0** 0.08	**64.0** 2.52	**67.0** 2.64	**1.5** 0.06	**95.0** 3.74	**91.0** 3.58	**1.5** 0.06	**3.6** 0.14	41.9	22.8	0.0897	**0.72** 1.58
25.000 0.9843	**21.000** 0.8268	**-4.1** -0.16	**2.0** 0.08	**62.0** 2.44	**65.0** 2.56	**1.5** 0.06	**95.0** 3.74	**90.0** 3.54	**1.5** 0.06	**3.6** 0.14	46.1	18.3	0.0928	**0.84** 1.84
35.000 1.3780	**27.000** 1.0630	**-9.7** -0.38	**2.0** 0.08	**62.0** 2.44	**68.0** 2.68	**1.5** 0.06	**96.0** 3.78	**89.0** 3.50	**2.8** 0.11	**2.8** 0.11	59.3	17.2	0.1010	**1.16** 2.55
39.000 1.5354	**32.000** 1.2598	**-11.7** -0.46	**3.0** 0.12	**64.0** 2.52	**71.0** 2.80	**2.5** 0.10	**104.0** 4.09	**97.0** 3.82	**0.3** 0.01	**3.8** 0.15	72.0	16.9	0.0706	**1.68** 3.71
31.000 1.2205	**23.500** 0.9252	**5.8** 0.23	**3.0** 0.12	**66.0** 2.59	**78.0** 3.07	**3.0** 0.12	**109.0** 4.29	**95.0** 3.74	**4.3** 0.17	**4.3** 0.17	51.1	15.8	0.0831	**1.57** 3.46
29.000 1.1417	**25.000** 0.9843	**-6.6** -0.26	**2.5** 0.10	**70.0** 2.76	**71.0** 2.80	**2.0** 0.08	**113.0** 4.45	**108.0** 4.25	**2.0** 0.08	**2.6** 0.11	62.8	24.0	0.0947	**1.63** 3.58
29.000 1.1417	**21.000** 0.8268	**6.9** 0.27	**2.5** 0.10	**68.0** 2.68	**82.0** 3.23	**2.0** 0.08	**115.0** 4.53	**103.0** 4.06	**4.3** 0.17	**3.8** 0.15	45.5	20.0	0.0785	**1.57** 3.45
43.000 1.6929	**35.000** 1.3780	**-15.2** -0.60	**2.5** 0.10	**66.0** 2.60	**70.0** 2.76	**2.0** 0.08	**112.0** 4.41	**105.0** 4.13	**5.6** 0.22	**3.4** 0.14	77.5	18.5	0.0720	**2.32** 5.14

[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
55.000 2.1654	**120.000** 4.7244	**45.500** 1.7913	**223000** 50100	0.55	1.10	**57700** 13000	**54000** 12100	1.07	**286000** 64300	32311B
60.000 2.3622	**95.000** 3.7402	**23.000** 0.9055	**96700** 21700	0.43	1.39	**25100** 5640	**18500** 4150	1.36	**132000** 29600	32012X
60.000 2.3622	**95.000** 3.7402	**24.000** 0.9449	**97600** 21900	0.40	1.49	**25300** 5690	**17400** 3910	1.45	**135000** 30400	JLM508748/JLM508710
60.000 2.3622	**95.000** 3.7402	**27.000** 1.0630	**103000** 23100	0.33	1.83	**26600** 5980	**14900** 3360	1.78	**150000** 33600	33012
60.000 2.3622	**100.000** 3.9370	**21.000** 0.8268	**87300** 19600	0.47	1.27	**22600** 5090	**18300** 4120	1.24	**101000** 22800	JP6049/JP6010
60.000 2.3622	**100.000** 3.9370	**30.000** 1.1811	**137000** 30700	0.40	1.51	**35400** 7970	**24100** 5420	1.47	**180000** 40500	33112
60.000 2.3622	**110.000** 4.3307	**23.750** 0.9350	**107000** 24100	0.40	1.48	**27700** 6240	**19200** 4320	1.44	**117000** 26200	30212
60.000 2.3622	**110.000** 4.3307	**29.750** 1.1712	**149000** 33400	0.40	1.48	**38600** 8680	**26800** 6020	1.44	**178000** 40100	32212
60.000 2.3622	**110.000** 4.3307	**38.000** 1.4961	**198000** 44400	0.40	1.48	**51200** 11500	**35500** 7970	1.44	**253000** 56800	33212
60.000 2.3622	**110.000** 4.3307	**38.000** 1.4961	**198000** 44400	0.40	1.48	**51200** 11500	**35500** 7970	1.44	**253000** 56800	XAB33212/Y33212
60.000 2.3622	**115.000** 4.5276	**40.000** 1.5748	**231000** 51900	0.33	1.80	**59900** 13500	**34100** 7660	1.76	**279000** 62800	JF6049/JF6010
60.000 2.3622	**125.000** 4.9213	**37.000** 1.4567	**172000** 38600	0.82	0.73	**44500** 10000	**62500** 14000	0.71	**210000** 47100	JW6049/JW6010
60.000 2.3622	**130.000** 5.1181	**33.500** 1.3189	**201000** 45300	0.35	1.74	**52200** 11700	**30800** 6930	1.69	**221000** 49800	30312
60.000 2.3622	**130.000** 5.1181	**33.500** 1.3189	**171000** 38500	0.83	0.73	**44400** 9990	**62800** 14100	0.71	**188000** 42200	31312
60.000 2.3622	**130.000** 5.1181	**48.500** 1.9094	**264000** 59400	0.35	1.74	**68500** 15400	**40400** 9090	1.69	**310000** 69800	32312
60.000 2.3622	**130.000** 5.1181	**48.500** 1.9094	**264000** 59400	0.55	1.10	**68500** 15400	**64100** 14400	1.07	**343000** 77000	32312B
65.000 2.5591	**100.000** 3.9370	**23.000** 0.9055	**98000** 22000	0.46	1.31	**25400** 5710	**20000** 4490	1.27	**137000** 30900	32013X

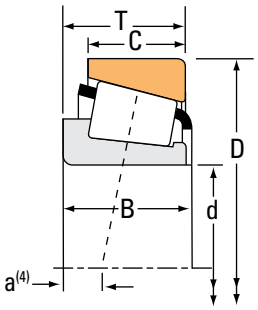
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

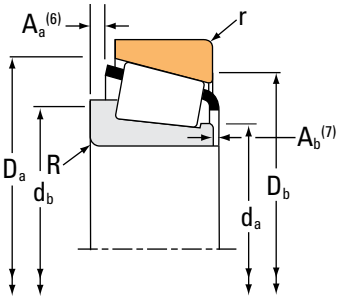
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
43.000 1.6929	**35.000** 1.3780	**-8.6** -0.34	**2.5** 0.10	**66.0** 2.60	**82.0** 3.23	**2.0** 0.08	**114.0** 4.49	**101.0** 3.98	**4.5** 0.17	**3.6** 0.14	78.8	24.6	0.0844	**2.45** 5.40
23.000 0.9055	**17.500** 0.6890	**-1.8** -0.07	**1.5** 0.06	**66.0** 2.60	**68.0** 2.68	**1.5** 0.06	**91.0** 3.58	**86.0** 3.39	**1.8** 0.07	**2.1** 0.08	51.2	31.4	0.0982	**0.60** 1.32
24.000 0.9449	**19.000** 0.7480	**-2.8** -0.11	**5.0** 0.20	**66.0** 2.60	**75.0** 2.95	**2.5** 0.10	**91.0** 3.58	**85.0** 3.35	**1.0** 0.04	**2.0** 0.08	54.2	27.5	0.0979	**0.60** 1.33
27.000 1.0630	**21.000** 0.8268	**-7.1** -0.28	**1.5** 0.06	**65.0** 2.56	**69.0** 2.72	**1.5** 0.06	**91.0** 3.58	**86.0** 3.39	**2.4** 0.09	**1.9** 0.08	63.0	31.1	0.0964	**0.69** 1.53
20.000 0.7874	**15.500** 0.6102	**1.3** 0.05	**2.0** 0.08	**66.0** 2.60	**69.0** 2.72	**2.0** 0.08	**95.5** 3.76	**91.0** 3.58	**0.8** 0.03	**3.6** 0.14	39.5	22.5	0.0922	**0.59** 1.31
30.000 1.1811	**23.000** 0.9055	**-6.4** -0.25	**1.5** 0.06	**67.0** 2.64	**72.0** 2.83	**1.5** 0.06	**96.0** 3.78	**90.0** 3.54	**2.4** 0.09	**2.5** 0.10	61.7	23.9	0.1021	**0.92** 2.00
22.000 0.8661	**19.000** 0.7480	**-1.8** -0.07	**2.0** 0.08	**66.0** 2.60	**70.0** 2.76	**1.5** 0.06	**103.0** 4.06	**99.0** 3.90	**1.4** 0.05	**3.6** 0.14	44.1	19.5	0.0909	**0.88** 1.96
28.000 1.1024	**24.000** 0.9449	**-5.1** -0.20	**2.0** 0.08	**67.0** 2.64	**71.0** 2.80	**1.5** 0.06	**104.0** 4.09	**98.0** 3.86	**0.5** 0.02	**3.3** 0.13	59.3	21.1	0.0911	**1.16** 2.57
38.000 1.4961	**29.000** 1.1417	**-9.9** -0.39	**2.0** 0.08	**68.0** 2.68	**74.0** 2.91	**1.5** 0.06	**105.0** 4.13	**98.0** 3.86	**3.9** 0.15	**2.5** 0.10	76.2	20.0	0.0758	**1.53** 3.37
38.000 1.4961	**29.000** 1.1417	**-9.9** -0.39	**5.0** 0.20	**68.0** 2.68	**83.0** 3.27	**1.5** 0.06	**105.0** 4.13	**98.0** 3.86	**3.9** 0.15	**2.5** 0.10	76.2	20.0	0.0758	**1.53** 3.37
39.000 1.5354	**33.000** 1.2992	**-11.9** -0.47	**2.5** 0.10	**68.0** 2.68	**76.0** 2.99	**2.5** 0.10	**109.0** 4.29	**103.0** 4.06	**0.8** 0.03	**4.1** 0.16	81.9	20.3	0.0726	**1.86** 4.11
33.500 1.3189	**26.000** 1.0236	**4.8** 0.19	**3.0** 0.12	**72.0** 2.83	**89.0** 3.50	**3.0** 0.12	**119.0** 4.69	**104.0** 4.09	**4.8** 0.19	**4.8** 0.19	64.1	18.6	0.0883	**2.02** 4.46
31.000 1.2205	**26.000** 1.0236	**-7.1** -0.28	**3.0** 0.12	**69.0** 2.72	**74.0** 2.91	**2.5** 0.10	**121.0** 4.76	**116.0** 4.57	**2.5** 0.10	**4.0** 0.16	75.8	22.2	0.0710	**1.96** 4.32
31.000 1.2205	**22.000** 0.8661	**7.6** 0.30	**3.0** 0.12	**74.0** 2.91	**89.0** 3.50	**2.5** 0.10	**123.0** 4.84	**111.0** 4.37	**5.5** 0.21	**4.2** 0.17	56.2	23.5	0.0842	**1.97** 4.35
46.000 1.8110	**37.000** 1.4567	**-16.5** -0.65	**3.0** 0.12	**72.0** 2.83	**78.0** 3.07	**2.5** 0.10	**121.0** 4.76	**113.0** 4.45	**6.9** 0.27	**3.4** 0.14	94.1	21.2	0.0768	**2.89** 6.35
46.000 1.8110	**37.000** 1.4567	**-9.7** -0.38	**3.0** 0.12	**72.0** 2.83	**90.0** 3.54	**2.5** 0.10	**122.0** 4.80	**110.0** 4.33	**5.5** 0.21	**4.2** 0.17	95.9	23.6	0.0901	**3.07** 6.74
23.000 0.9055	**17.500** 0.6890	**-0.3** -0.01	**1.5** 0.06	**71.0** 2.80	**73.0** 2.87	**1.5** 0.06	**97.0** 3.82	**91.0** 3.58	**1.9** 0.07	**2.0** 0.08	57.4	35.6	0.1039	**0.64** 1.40

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
65.000 2.5591	**100.000** 3.9370	**27.000** 1.0630	**107000** 24100	0.35	1.72	**27800** 6240	**16600** 3720	1.68	**162000** 36400	33013
65.000 2.5591	**105.000** 4.1339	**24.000** 0.9449	**108000** 24300	0.45	1.32	**28000** 6310	**21800** 4900	1.29	**139000** 31300	JLM710949C/JLM710910
65.000 2.5591	**110.000** 4.3307	**28.000** 1.1024	**141000** 31700	0.40	1.49	**36600** 8220	**25200** 5660	1.45	**195000** 43900	JM511946/JM511910
65.000 2.5591	**110.000** 4.3307	**31.000** 1.2205	**163000** 36600	0.33	1.81	**42200** 9490	**23900** 5380	1.76	**212000** 47700	JD6549/JD6510
65.000 2.5591	**110.000** 4.3307	**34.000** 1.3386	**167000** 37500	0.39	1.55	**43300** 9730	**28700** 6460	1.51	**225000** 50600	33113
65.000 2.5591	**120.000** 4.7244	**24.750** 0.9744	**138000** 31100	0.40	1.48	**35900** 8070	**24900** 5600	1.44	**158000** 35500	30213
65.000 2.5591	**120.000** 4.7244	**32.750** 1.2894	**174000** 39100	0.40	1.48	**45100** 10100	**31200** 7030	1.44	**209000** 46900	32213
65.000 2.5591	**120.000** 4.7244	**39.000** 1.5354	**223000** 50100	0.34	1.78	**57800** 13000	**33400** 7500	1.73	**283000** 63600	JH211749/JH211710
65.000 2.5591	**120.000** 4.7244	**41.000** 1.6142	**221000** 49700	0.39	1.54	**57300** 12900	**38300** 8600	1.50	**280000** 62900	33213
65.000 2.5591	**130.000** 5.1181	**37.000** 1.4567	**175000** 39400	0.87	0.69	**45500** 10200	**67400** 15200	0.67	**220000** 49400	JW6549/JW6510
65.000 2.5591	**140.000** 5.5118	**36.000** 1.4173	**196000** 44100	0.83	0.73	**50800** 11400	**71800** 16100	0.71	**217000** 48700	31313
65.000 2.5591	**140.000** 5.5118	**36.000** 1.4173	**222000** 50000	0.35	1.74	**57600** 13000	**34000** 7650	1.69	**242000** 54400	30313
65.000 2.5591	**140.000** 5.5118	**51.000** 2.0078	**320000** 72000	0.35	1.74	**83000** 18700	**49000** 11000	1.69	**388000** 87200	32313
70.000 2.7559	**110.000** 4.3307	**21.000** 0.8268	**91600** 20600	0.46	1.30	**23700** 5340	**18700** 4210	1.27	**112000** 25200	JP7049/JP7010
70.000 2.7559	**110.000** 4.3307	**25.000** 0.9843	**112000** 25200	0.43	1.38	**29100** 6550	**21700** 4870	1.34	**163000** 36700	32014X
70.000 2.7559	**110.000** 4.3307	**26.000** 1.0236	**115000** 25700	0.49	1.23	**29700** 6680	**24800** 5570	1.20	**168000** 37800	JLM813049/JLM813010
70.000 2.7559	**110.000** 4.3307	**31.000** 1.2205	**153000** 34500	0.28	2.11	**39800** 8940	**19400** 4360	2.05	**236000** 53000	33014

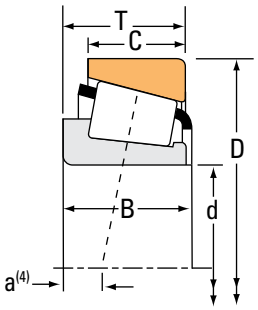
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

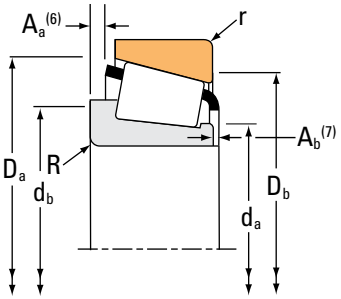
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
27.000 1.0630	**21.000** 0.8268	**-6.1** -0.24	**1.5** 0.06	**70.0** 2.76	**74.0** 2.91	**1.5** 0.06	**96.0** 3.78	**91.0** 3.58	**2.5** 0.10	**2.0** 0.08	72.4	36.1	0.1029	**0.74** 1.64
23.000 0.9055	**18.500** 0.7283	**-0.3** -0.01	**3.0** 0.12	**72.0** 2.83	**78.0** 3.07	**1.0** 0.04	**100.5** 3.96	**96.0** 3.78	**1.0** 0.04	**3.6** 0.14	55.5	24.5	0.1020	**0.75** 1.66
28.000 1.1024	**22.500** 0.8858	**-3.3** -0.13	**3.0** 0.12	**72.0** 2.83	**78.0** 3.07	**2.5** 0.10	**105.0** 4.13	**99.0** 3.90	**0.3** 0.01	**2.8** 0.11	76.3	23.6	0.1100	**1.06** 2.34
31.000 1.2205	**25.000** 0.9843	**-7.6** -0.30	**2.0** 0.08	**73.0** 2.87	**76.0** 2.99	**2.0** 0.08	**105.0** 4.13	**99.0** 3.90	**0.3** 0.01	**3.8** 0.15	78.1	27.3	0.1040	**1.17** 2.59
34.000 1.3386	**26.500** 1.0433	**-7.9** -0.31	**1.5** 0.06	**73.0** 2.87	**77.0** 3.03	**1.5** 0.06	**106.0** 4.17	**99.0** 3.90	**2.4** 0.09	**2.5** 0.10	80.1	24.5	0.1105	**1.27** 2.78
23.000 0.9055	**20.000** 0.7874	**-1.5** -0.06	**2.0** 0.08	**74.0** 2.91	**77.0** 3.03	**1.5** 0.06	**113.5** 4.47	**110.0** 4.33	**2.0** 0.08	**4.6** 0.19	60.4	27.5	0.0694	**1.14** 2.52
31.000 1.2205	**27.000** 1.0630	**-5.6** -0.22	**2.0** 0.08	**73.0** 2.87	**77.0** 3.03	**1.5** 0.06	**114.0** 4.49	**108.0** 4.25	**3.6** 0.14	**3.2** 0.13	72.9	23.4	0.0742	**1.51** 3.33
38.500 1.5157	**32.000** 1.2598	**-10.8** -0.42	**3.0** 0.12	**74.0** 2.91	**80.0** 3.15	**2.5** 0.10	**114.0** 4.49	**107.0** 4.21	**0.5** 0.02	**4.1** 0.16	94.0	22.5	0.0764	**1.89** 4.16
41.000 1.6142	**32.000** 1.2598	**-11.2** -0.44	**2.0** 0.08	**74.0** 2.91	**79.0** 3.11	**1.5** 0.06	**115.0** 4.53	**107.0** 4.21	**3.4** 0.13	**2.8** 0.11	90.3	21.8	0.0791	**1.97** 4.35
33.500 1.3189	**26.000** 1.0236	**7.9** 0.31	**3.0** 0.12	**76.0** 2.99	**94.0** 3.70	**3.0** 0.12	**124.0** 4.88	**109.0** 4.29	**5.1** 0.20	**4.3** 0.17	71.0	18.2	0.0927	**2.15** 4.74
33.000 1.2992	**23.000** 0.9055	**8.1** 0.32	**3.0** 0.12	**80.0** 3.15	**96.0** 3.78	**2.5** 0.10	**132.5** 5.22	**120.0** 4.72	**5.7** 0.22	**5.0** 0.20	67.1	22.2	0.0839	**2.39** 5.27
33.000 1.2992	**28.000** 1.1024	**-7.6** -0.30	**3.0** 0.12	**75.0** 2.95	**80.0** 3.15	**2.5** 0.10	**131.0** 5.16	**125.0** 4.92	**2.4** 0.09	**4.7** 0.19	87.4	22.9	0.0743	**2.47** 5.43
48.000 1.8898	**39.000** 1.5354	**-16.5** -0.65	**3.0** 0.12	**80.0** 3.15	**88.0** 3.46	**2.5** 0.10	**132.0** 5.20	**124.0** 4.88	**4.1** 0.16	**5.6** 0.22	119.7	30.9	0.0783	**3.62** 7.97
20.000 0.7874	**15.500** 0.6102	**2.5** 0.10	**2.0** 0.08	**76.0** 2.99	**80.0** 3.15	**2.0** 0.08	**105.4** 4.15	**101.0** 3.98	**0.8** 0.03	**3.6** 0.14	51.1	31.0	0.0995	**0.67** 1.48
25.000 0.9843	**19.000** 0.7480	**-1.0** -0.04	**1.5** 0.06	**76.0** 2.99	**78.0** 3.07	**1.5** 0.06	**105.0** 4.13	**100.0** 3.94	**2.3** 0.09	**1.9** 0.08	74.1	44.8	0.1112	**0.86** 1.91
25.000 0.9843	**20.500** 0.8071	**0.3** 0.01	**1.0** 0.04	**77.0** 3.03	**78.0** 3.07	**2.5** 0.10	**105.0** 4.13	**98.0** 3.86	**1.3** 0.05	**3.3** 0.13	73.5	26.3	0.1150	**0.88** 1.93
31.000 1.2205	**25.500** 1.0039	**-8.6** -0.34	**1.5** 0.06	**77.0** 3.03	**79.0** 3.11	**1.5** 0.06	**106.0** 4.17	**101.0** 3.98	**0.5** 0.02	**3.6** 0.15	105.3	50.1	0.1092	**1.11** 2.43

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
70.000 2.7559	**115.000** 4.5276	**29.000** 1.1417	**150000** 33700	0.43	1.39	**38900** 8740	**28600** 6440	1.36	**198000** 44500	JM612949/JM612910
70.000 2.7559	**120.000** 4.7244	**37.000** 1.4567	**198000** 44500	0.38	1.58	**51300** 11500	**33300** 7480	1.54	**270000** 60800	33114
70.000 2.7559	**125.000** 4.9213	**26.250** 1.0335	**138000** 31000	0.42	1.43	**35800** 8050	**25700** 5790	1.39	**157000** 35300	30214
70.000 2.7559	**125.000** 4.9213	**33.250** 1.3091	**182000** 41000	0.42	1.43	**47300** 10600	**34000** 7640	1.39	**224000** 50400	32214
70.000 2.7559	**125.000** 4.9213	**41.000** 1.6142	**238000** 53400	0.41	1.47	**61600** 13800	**43100** 9700	1.43	**314000** 70700	33214
70.000 2.7559	**130.000** 5.1181	**43.000** 1.6929	**275000** 61700	0.33	1.80	**71200** 16000	**40600** 9130	1.75	**360000** 80800	JF7049/JF7010
70.000 2.7559	**130.000** 5.1181	**43.000** 1.6929	**275000** 61700	0.33	1.80	**71200** 16000	**40600** 9130	1.75	**360000** 80800	JF7049A/JF7010
70.000 2.7559	**140.000** 5.5118	**39.000** 1.5354	**204000** 45800	0.87	0.69	**52800** 11900	**78300** 17600	0.67	**257000** 57800	JW7049/JW7010
70.000 2.7559	**150.000** 5.9055	**38.000** 1.4961	**213000** 47900	0.83	0.73	**55200** 12400	**78000** 17500	0.71	**235000** 52900	31314
70.000 2.7559	**150.000** 5.9055	**38.000** 1.4961	**251000** 56500	0.35	1.74	**65100** 14600	**38500** 8650	1.69	**276000** 62000	30314
70.000 2.7559	**150.000** 5.9055	**41.275** 1.6250	**230000** 51700	0.78	0.77	**59600** 13400	**79900** 18000	0.75	**256000** 57500	JH913848/JH913811
70.000 2.7559	**150.000** 5.9055	**54.000** 2.1260	**366000** 82300	0.35	1.74	**94900** 21300	**56000** 12600	1.69	**448000** 101000	32314
75.000 2.9528	**115.000** 4.5276	**25.000** 0.9842	**114000** 25600	0.46	1.31	**29500** 6640	**23200** 5210	1.27	**170000** 38200	32015X
75.000 2.9528	**115.000** 4.5276	**25.000** 0.9843	**118000** 26600	0.46	1.31	**30700** 6900	**24100** 5420	1.27	**167000** 37500	JLM714149/JLM714110
75.000 2.9528	**115.000** 4.5276	**31.000** 1.2205	**158000** 35400	0.30	2.01	**40900** 9180	**20900** 4690	1.96	**239000** 53700	33015
75.000 2.9528	**120.000** 4.7244	**31.000** 1.2205	**159000** 35800	0.44	1.35	**41300** 9290	**31400** 7070	1.31	**229000** 51500	JM714249/JM714210
75.000 2.9528	**125.000** 4.9213	**37.000** 1.4567	**205000** 46000	0.40	1.51	**53000** 11900	**36100** 8110	1.47	**287000** 64500	33115

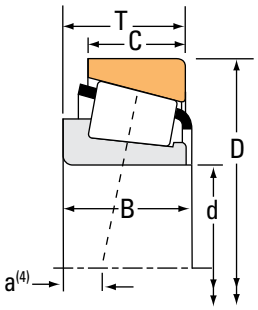
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

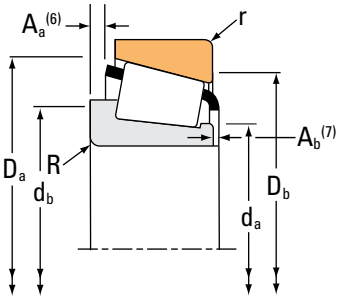
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.000 1.1417	**23.000** 0.9055	**-2.5** -0.10	**3.0** 0.12	**77.0** 3.03	**83.0** 3.27	**2.5** 0.10	**110.0** 4.33	**103.0** 4.06	**0.5** 0.02	**2.8** 0.11	76.7	25.7	0.1010	**1.13** 2.49
37.000 1.4567	**29.000** 1.1417	**-8.6** -0.34	**2.0** 0.08	**79.0** 3.11	**85.0** 3.35	**1.5** 0.06	**115.0** 4.53	**108.0** 4.25	**2.7** 0.10	**2.4** 0.10	99.5	31.6	0.0809	**1.69** 3.70
24.000 0.9449	**21.000** 0.8268	**-0.5** -0.02	**2.0** 0.08	**77.0** 3.03	**80.0** 3.15	**1.5** 0.06	**118.0** 4.65	**115.0** 4.53	**1.8** 0.07	**3.9** 0.15	63.7	24.8	0.0714	**1.23** 2.73
31.000 1.2205	**27.000** 1.0630	**-4.6** -0.18	**2.0** 0.08	**79.0** 3.11	**82.0** 3.23	**1.5** 0.06	**119.0** 4.69	**114.0** 4.49	**3.4** 0.13	**3.3** 0.13	81.4	25.6	0.0779	**1.63** 3.59
41.000 1.6142	**32.000** 1.2598	**-9.9** -0.39	**2.0** 0.08	**79.0** 3.11	**85.0** 3.35	**1.5** 0.06	**120.0** 4.72	**112.0** 4.41	**3.6** 0.14	**3.6** 0.14	104.5	25.6	0.0794	**2.10** 4.63
42.000 1.6535	**35.000** 1.3780	**-12.4** -0.49	**3.0** 0.12	**81.0** 3.17	**86.0** 3.39	**2.5** 0.10	**124.0** 4.88	**116.0** 4.57	**1.5** 0.06	**4.6** 0.18	120.7	24.5	0.0828	**2.49** 5.49
42.000 1.6535	**35.000** 1.3780	**-12.4** -0.49	**7.0** 0.28	**81.0** 3.17	**94.0** 3.70	**2.5** 0.10	**124.0** 4.88	**116.0** 4.57	**1.5** 0.06	**4.6** 0.18	120.7	24.5	0.0828	**2.45** 5.40
35.500 1.3976	**27.000** 1.0630	**8.6** 0.34	**3.0** 0.12	**82.0** 3.23	**95.0** 3.74	**3.0** 0.12	**133.0** 5.25	**117.0** 4.61	**4.3** 0.17	**5.3** 0.21	85.2	23.4	0.0984	**2.63** 5.79
35.000 1.3780	**25.000** 0.9843	**9.1** 0.36	**3.0** 0.12	**85.0** 3.35	**101.0** 3.98	**2.5** 0.10	**141.5** 5.57	**129.0** 5.08	**5.9** 0.23	**4.8** 0.19	75.8	29.5	0.0873	**2.92** 6.46
35.000 1.3780	**30.000** 1.1811	**-8.1** -0.32	**3.0** 0.12	**83.0** 3.27	**88.0** 3.46	**2.5** 0.10	**139.5** 5.49	**135.0** 5.31	**3.1** 0.12	**4.9** 0.20	102.4	27.4	0.0737	**2.97** 6.53
39.688 1.5625	**25.400** 1.0000	**4.3** 0.17	**2.0** 0.08	**82.3** 3.24	**92.0** 3.62	**3.3** 0.13	**146.0** 5.75	**126.0** 4.96	**7.4** 0.29	**4.6** 0.18	78.5	17.3	0.0927	**3.05** 6.73
51.000 2.0079	**42.000** 1.6535	**-16.8** -0.66	**3.0** 0.12	**86.0** 3.39	**94.0** 3.70	**2.5** 0.10	**141.0** 5.55	**133.0** 5.24	**4.0** 0.15	**4.9** 0.20	141.9	33.1	0.0828	**4.39** 9.69
25.000 0.9843	**19.000** 0.7480	**0.5** 0.02	**1.5** 0.06	**82.0** 3.23	**84.0** 3.31	**1.5** 0.06	**110.0** 4.33	**105.0** 4.13	**2.4** 0.09	**1.9** 0.08	81.8	49.9	0.1166	**0.91** 2.01
25.000 0.9843	**19.000** 0.7480	**0.5** 0.02	**3.0** 0.12	**81.0** 3.19	**87.0** 3.43	**2.5** 0.10	**110.0** 4.33	**104.0** 4.09	**1.5** 0.06	**2.8** 0.11	76.3	33.7	0.1030	**0.88** 1.93
31.000 1.2205	**25.500** 1.0039	**-7.6** -0.30	**1.5** 0.06	**83.0** 3.27	**90.0** 3.54	**1.5** 0.06	**110.0** 4.33	**104.0** 4.09	**1.5** 0.05	**2.5** 0.10	109.4	47.2	0.1122	**1.15** 2.54
29.500 1.1614	**25.000** 0.9843	**-2.0** -0.08	**3.0** 0.12	**82.9** 3.26	**88.0** 3.46	**2.5** 0.10	**115.0** 4.53	**108.0** 4.25	**1.5** 0.06	**3.3** 0.13	95.0	32.8	0.1220	**1.28** 2.81
37.000 1.4567	**29.000** 1.1417	**-7.4** -0.29	**2.0** 0.08	**83.0** 3.27	**88.0** 3.46	**1.5** 0.06	**120.0** 4.72	**112.0** 4.41	**2.8** 0.11	**2.4** 0.10	110.7	26.3	0.0851	**1.76** 3.87

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1)	Factors(2)		Dynamic(3)		Factors(2)	Static	Assembly Inner/Outer
			C_1	e	Y	C_{90}	C_{a90}	K	C_0	
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
75.000 2.9528	**130.000** 5.1181	**27.250** 1.0728	**158000** 35500	0.44	1.38	**40900** 9200	**30500** 6850	1.34	**189000** 42500	30215
75.000 2.9528	**130.000** 5.1181	**33.250** 1.3091	**184000** 41300	0.44	1.38	**47700** 10700	**35500** 7980	1.34	**227000** 51100	32215
75.000 2.9528	**130.000** 5.1181	**41.000** 1.6142	**236000** 53100	0.43	1.40	**61200** 13800	**44900** 10100	1.37	**316000** 71000	33215
75.000 2.9528	**145.000** 5.7087	**51.000** 2.0079	**347000** 78000	0.36	1.66	**89900** 20200	**55700** 12500	1.61	**463000** 104000	JH415647/JH415610
75.000 2.9528	**150.000** 5.9055	**42.000** 1.6535	**231000** 52000	0.87	0.69	**59900** 13500	**88900** 20000	0.67	**294000** 66200	JW7549/JW7510
75.000 2.9528	**160.000** 6.2992	**40.000** 1.5748	**248000** 55800	0.83	0.73	**64400** 14500	**90900** 20400	0.71	**278000** 62500	31315
75.000 2.9528	**160.000** 6.2992	**40.000** 1.5748	**299000** 67200	0.35	1.74	**77500** 17400	**45800** 10300	1.69	**338000** 76000	30315
75.000 2.9528	**160.000** 6.2992	**58.000** 2.2835	**357000** 80300	0.35	1.74	**92600** 20800	**54700** 12300	1.69	**421000** 94600	32315
80.000 3.1496	**125.000** 4.9213	**29.000** 1.1417	**166000** 37300	0.42	1.42	**43000** 9670	**31200** 7010	1.38	**238000** 53600	32016X
80.000 3.1496	**125.000** 4.9213	**36.000** 1.4173	**210000** 47100	0.28	2.16	**54300** 12200	**25900** 5820	2.10	**315000** 70900	33016
80.000 3.1496	**130.000** 5.1181	**35.000** 1.3780	**199000** 44700	0.39	1.54	**51500** 11600	**34200** 7700	1.50	**283000** 63500	JM515649/JM515610
80.000 3.1496	**130.000** 5.1181	**37.000** 1.4567	**209000** 47100	0.42	1.44	**54100** 12200	**38500** 8660	1.40	**300000** 67300	33116
80.000 3.1496	**130.000** 5.1181	**37.000** 1.4567	**209000** 47100	0.42	1.44	**54100** 12200	**38500** 8660	1.40	**300000** 67300	XA33116/Y33116
80.000 3.1496	**140.000** 5.5118	**28.250** 1.1122	**164000** 36800	0.42	1.43	**42400** 9530	**30500** 6860	1.39	**187000** 42000	30216
80.000 3.1496	**140.000** 5.5118	**35.250** 1.3878	**206000** 46200	0.42	1.43	**53300** 12000	**38300** 8620	1.39	**249000** 56000	32216
80.000 3.1496	**140.000** 5.5118	**46.000** 1.8110	**297000** 66700	0.43	1.41	**76900** 17300	**56000** 12600	1.37	**409000** 91900	33216
80.000 3.1496	**160.000** 6.2992	**45.000** 1.7717	**264000** 59300	0.87	0.69	**68400** 15400	**101000** 22800	0.67	**339000** 76100	JW8049/JW8010

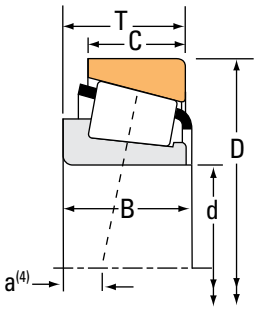
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

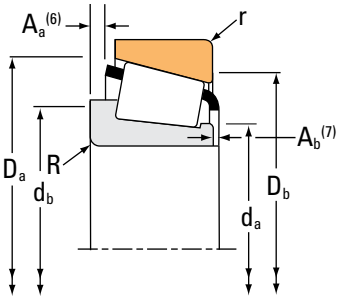
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.000 0.9843	**22.000** 0.8661	**0.0** 0.00	**2.0** 0.08	**85.0** 3.35	**88.0** 3.46	**1.5** 0.06	**124.0** 4.88	**120.0** 4.72	**2.0** 0.08	**3.8** 0.15	74.3	23.5	0.0761	**1.35** 2.97
31.000 1.2205	**27.000** 1.0630	**-3.6** -0.14	**2.0** 0.08	**84.0** 3.31	**88.0** 3.46	**1.5** 0.06	**125.0** 4.92	**117.0** 4.61	**3.5** 0.13	**3.4** 0.14	87.5	26.9	0.0806	**1.69** 3.72
41.000 1.6142	**31.000** 1.2205	**-8.6** -0.34	**2.0** 0.08	**83.0** 3.27	**89.0** 3.50	**1.5** 0.06	**125.0** 4.92	**117.0** 4.61	**4.2** 0.16	**2.8** 0.11	111.4	27.0	0.0874	**2.17** 4.77
51.000 2.0079	**42.000** 1.6535	**-14.2** -0.56	**3.0** 0.12	**89.0** 3.50	**94.0** 3.70	**2.5** 0.10	**139.0** 5.47	**129.0** 5.08	**1.5** 0.06	**3.8** 0.15	158.3	26.4	0.0931	**3.82** 8.42
38.000 1.4961	**29.000** 1.1417	**9.4** 0.37	**3.0** 0.12	**88.0** 3.46	**107.0** 4.21	**1.1** 0.05	**142.0** 5.59	**126.0** 4.96	**5.6** 0.22	**5.3** 0.21	100.3	24.2	0.1040	**3.23** 7.11
37.000 1.4567	**26.000** 1.0236	**10.2** 0.40	**3.0** 0.12	**91.0** 3.58	**108.0** 4.25	**2.5** 0.10	**151.5** 5.96	**138.0** 5.43	**6.9** 0.27	**5.0** 0.20	91.5	21.4	0.0930	**3.46** 7.63
37.000 1.4567	**31.000** 1.2205	**-8.1** -0.32	**3.0** 0.12	**89.0** 3.50	**94.0** 3.70	**2.5** 0.10	**149.0** 5.87	**145.0** 5.71	**2.7** 0.10	**5.7** 0.23	126.6	26.7	0.0841	**3.65** 8.05
55.000 2.1654	**45.000** 1.7717	**-17.3** -0.68	**3.0** 0.12	**93.0** 3.66	**97.0** 3.82	**2.5** 0.10	**149.0** 5.87	**141.0** 5.55	**6.6** 0.26	**1.5** 0.06	145.2	26.7	0.0831	**5.06** 11.15
29.000 1.1417	**22.000** 0.8661	**-1.8** -0.07	**1.5** 0.06	**87.0** 3.43	**91.0** 3.58	**1.5** 0.06	**120.0** 4.72	**114.0** 4.49	**2.8** 0.11	**2.4** 0.10	104.0	36.3	0.1234	**1.27** 2.80
36.000 1.4173	**29.500** 1.1614	**-10.2** -0.40	**1.5** 0.06	**88.0** 3.46	**90.0** 3.54	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**0.8** 0.03	**3.6** 0.14	139.4	49.4	0.0769	**1.61** 3.56
34.000 1.3386	**28.500** 1.1220	**-5.1** -0.20	**3.0** 0.12	**88.0** 3.46	**94.0** 3.70	**2.5** 0.10	**125.0** 4.92	**117.0** 4.61	**1.0** 0.04	**3.3** 0.13	118.5	31.1	0.0863	**1.71** 3.77
37.000 1.4567	**29.000** 1.1417	**-6.1** -0.24	**2.0** 0.08	**89.0** 3.50	**94.0** 3.70	**1.5** 0.06	**125.0** 4.92	**119.0** 4.69	**3.4** 0.13	**2.5** 0.10	121.6	37.9	0.0891	**1.86** 4.10
37.000 1.4567	**29.000** 1.1417	**-6.1** -0.24	**2.0** 0.08	**89.0** 3.50	**94.0** 3.70	**1.5** 0.06	**125.0** 4.92	**119.0** 4.69	**3.4** 0.13	**2.5** 0.10	121.6	37.9	0.0838	**1.85** 4.10
26.000 1.0236	**22.000** 0.8661	**0.0** 0.00	**2.5** 0.10	**89.0** 3.50	**93.0** 3.66	**2.0** 0.08	**133.0** 5.24	**127.0** 5.00	**1.8** 0.07	**3.6** 0.14	80.7	28.4	0.0771	**1.63** 3.58
33.000 1.2992	**28.000** 1.1024	**-4.6** -0.18	**2.5** 0.10	**91.0** 3.58	**96.0** 3.78	**2.0** 0.08	**134.0** 5.28	**128.0** 5.04	**3.8** 0.15	**4.1** 0.16	98.4	28.7	0.0828	**2.07** 4.55
46.000 1.8110	**35.000** 1.3780	**-10.7** -0.42	**2.5** 0.10	**89.0** 3.50	**97.0** 3.82	**2.0** 0.08	**135.0** 5.31	**125.0** 4.92	**5.3** 0.21	**2.9** 0.12	142.7	38.0	0.0948	**2.95** 6.49
41.000 1.6142	**31.000** 1.2205	**9.7** 0.38	**3.0** 0.12	**93.0** 3.67	**108.0** 4.25	**3.0** 0.12	**152.0** 5.98	**134.0** 5.28	**5.8** 0.23	**5.3** 0.21	117.3	27.2	0.1090	**4.04** 8.90

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
80.000 3.1496	**170.000** 6.6929	**42.500** 1.6732	**271000** 60900	0.83	0.73	**70200** 15800	**99100** 22300	0.71	**312000** 70100	31316
80.000 3.1496	**170.000** 6.6929	**42.500** 1.6732	**334000** 75200	0.35	1.74	**86700** 19500	**51200** 11500	1.69	**381000** 85600	30316
80.000 3.1496	**170.000** 6.6929	**61.500** 2.4213	**448000** 101000	0.35	1.74	**116000** 26100	**68700** 15400	1.69	**566000** 127000	32316
85.000 3.3465	**130.000** 5.1181	**29.000** 1.1417	**163000** 36500	0.44	1.36	**42100** 9470	**31900** 7170	1.32	**235000** 52900	32017X
85.000 3.3465	**130.000** 5.1181	**29.000** 1.1417	**163000** 36500	0.44	1.36	**42100** 9470	**31900** 7170	1.32	**235000** 52900	XAA32017X/Y32017X
85.000 3.3465	**130.000** 5.1181	**30.000** 1.1811	**161000** 36300	0.44	1.35	**41800** 9400	**31800** 7150	1.31	**245000** 55100	JM716648/JM716610
85.000 3.3465	**130.000** 5.1181	**30.000** 1.1811	**161000** 36300	0.44	1.35	**41800** 9400	**31800** 7150	1.31	**245000** 55100	JM716649/JM716610
85.000 3.3465	**130.000** 5.1181	**36.000** 1.4173	**220000** 49500	0.29	2.06	**57100** 12800	**28500** 6410	2.00	**343000** 77100	33017
85.000 3.3465	**140.000** 5.5118	**39.000** 1.5354	**238000** 53400	0.41	1.47	**61600** 13800	**42900** 9650	1.43	**339000** 76300	JHM516849/JHM516810
85.000 3.3465	**140.000** 5.5118	**41.000** 1.6142	**254000** 57100	0.41	1.48	**65800** 14800	**45800** 10300	1.44	**386000** 86800	33117
85.000 3.3465	**150.000** 5.9055	**30.500** 1.2008	**199000** 44800	0.42	1.43	**51700** 11600	**37200** 8350	1.39	**236000** 53000	30217
85.000 3.3465	**150.000** 5.9055	**38.500** 1.5157	**245000** 55100	0.42	1.43	**63600** 14300	**45700** 10300	1.39	**305000** 68700	32217
85.000 3.3465	**150.000** 5.9055	**46.000** 1.8110	**332000** 74600	0.33	1.80	**86000** 19300	**49000** 11000	1.76	**446000** 100000	JH217249/JH217210
85.000 3.3465	**150.000** 5.9055	**49.000** 1.9291	**351000** 79000	0.42	1.43	**91000** 20500	**65200** 14700	1.40	**483000** 109000	33217
85.000 3.3465	**170.000** 6.6929	**48.000** 1.8898	**319000** 71700	.80	0.75	**82700** 18600	**113000** 25500	0.73	**423000** 95200	JW8549/JW8510
85.000 3.3465	**180.000** 7.0866	**44.500** 1.7520	**284000** 63900	0.83	0.73	**73700** 16600	**104000** 23400	0.71	**366000** 82300	31317
85.000 3.3465	**180.000** 7.0866	**44.500** 1.7520	**313000** 70500	0.35	1.74	**81300** 18300	**48000** 10800	1.69	**346000** 77700	30317

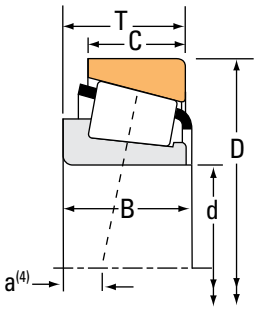
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

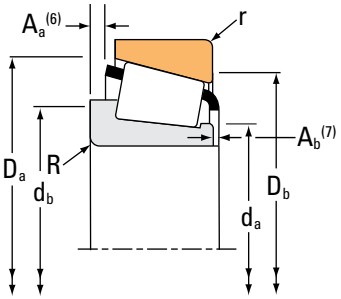
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(5)}$	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	$A_a^{(6)}$	$A_b^{(7)}$	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
39.000 1.5354	**27.000** 1.0630	**10.7** 0.42	**3.0** 0.12	**97.0** 3.82	**114.0** 4.49	**2.5** 0.10	**159.5** 6.28	**146.0** 5.75	**6.9** 0.27	**5.3** 0.21	105.0	21.4	0.0973	**4.06** 8.95
39.000 1.5354	**33.000** 1.2992	**-8.1** -0.32	**3.0** 0.12	**96.0** 3.78	**100.0** 3.94	**2.5** 0.10	**159.0** 6.26	**154.0** 6.06	**3.2** 0.12	**4.5** 0.18	147.1	37.6	0.0831	**4.31** 9.50
58.000 2.2835	**48.000** 1.8898	**-19.0** -0.75	**3.0** 0.12	**100.0** 3.94	**105.0** 4.13	**2.5** 0.10	**159.0** 6.26	**152.0** 5.98	**6.9** 0.27	**4.0** 0.16	196.5	27.7	0.0923	**6.34** 13.99
29.000 1.1417	**22.000** 0.8661	**-0.5** -0.02	**1.5** 0.06	**92.0** 3.62	**95.0** 3.74	**1.5** 0.06	**125.0** 4.92	**119.0** 4.69	**2.1** 0.08	**2.8** 0.11	109.2	34.9	0.1270	**1.33** 2.93
29.000 1.1417	**22.000** 0.8661	**-0.5** -0.02	**6.5** 0.26	**92.0** 3.62	**106.0** 4.17	**1.5** 0.06	**125.0** 4.92	**119.0** 4.69	**2.1** 0.08	**2.8** 0.11	109.2	34.9	0.1270	**1.31** 2.89
29.000 1.1417	**24.000** 0.9449	**-0.3** -0.01	**6.0** 0.24	**92.0** 3.62	**104.0** 4.09	**2.5** 0.10	**125.0** 4.92	**117.0** 4.61	**1.8** 0.07	**3.0** 0.12	117.1	38.4	0.1300	**1.32** 2.92
29.000 1.1417	**24.000** 0.9449	**-0.3** -0.01	**3.0** 0.12	**92.0** 3.62	**98.0** 3.86	**2.5** 0.10	**125.0** 4.92	**117.0** 4.61	**1.8** 0.07	**3.0** 0.12	117.1	38.4	0.1180	**1.34** 2.96
36.000 1.4173	**29.500** 1.1614	**-9.4** -0.37	**1.5** 0.06	**93.0** 3.66	**96.0** 3.78	**1.5** 0.06	**125.0** 4.92	**120.0** 4.72	**1.5** 0.05	**2.8** 0.11	157.9	55.6	0.0865	**1.73** 3.83
38.000 1.4961	**31.500** 1.2402	**-5.8** -0.23	**3.0** 0.12	**94.0** 3.70	**100.0** 3.94	**2.5** 0.10	**134.0** 5.28	**125.0** 4.92	**0.8** 0.03	**4.3** 0.17	140.9	35.2	0.0929	**2.27** 5.00
41.000 1.6142	**32.000** 1.2598	**-8.1** -0.32	**2.5** 0.10	**96.0** 3.78	**102.0** 4.02	**2.0** 0.08	**135.0** 5.31	**126.0** 4.96	**4.4** 0.17	**2.8** 0.11	160.9	39.6	0.0972	**2.45** 5.42
28.000 1.1024	**24.000** 0.9449	**-0.3** -0.01	**2.5** 0.10	**93.0** 3.66	**97.0** 3.82	**2.0** 0.08	**142.0** 5.59	**137.0** 5.39	**2.0** 0.08	**4.2** 0.17	101.2	24.9	0.0833	**2.07** 4.57
36.000 1.4173	**30.000** 1.1811	**-4.6** -0.18	**2.5** 0.10	**94.0** 3.70	**100.0** 3.94	**2.0** 0.08	**142.0** 5.59	**134.0** 5.28	**4.0** 0.16	**3.2** 0.13	121.4	32.6	0.0888	**2.62** 5.78
46.000 1.8110	**38.000** 1.4961	**-11.9** -0.47	**3.0** 0.12	**95.0** 3.74	**101.0** 3.98	**2.5** 0.10	**142.0** 5.59	**134.0** 5.28	**0.5** 0.02	**4.1** 0.16	169.3	33.3	0.0924	**3.34** 7.36
49.000 1.9291	**37.000** 1.4567	**-11.7** -0.46	**2.5** 0.10	**94.0** 3.70	**103.0** 4.06	**2.0** 0.08	**144.0** 5.67	**134.0** 5.28	**5.6** 0.22	**3.3** 0.13	167.6	33.3	0.0995	**3.60** 7.92
45.000 1.7717	**33.000** 1.2992	**7.4** 0.29	**4.0** 0.16	**100.0** 3.94	**123.0** 4.84	**4.0** 0.16	**161.5** 6.36	**142.0** 5.59	**6.4** .25	**4.8** .19	148.7	29.9	0.1160	**4.80** 10.60
41.000 1.6142	**28.000** 1.1024	**11.9** 0.47	**4.0** 0.16	**110.0** 4.33	**120.0** 4.72	**1.7** 0.07	**169.0** 6.65	**154.0** 6.06	**8.1** 0.32	**5.6** 0.22	145.7	31.3	0.1090	**4.97** 10.95
41.000 1.6142	**34.000** 1.3386	**-9.7** -0.38	**4.0** 0.16	**100.0** 3.94	**106.0** 4.17	**3.0** 0.12	**166.5** 6.56	**162.0** 6.38	**6.0** 0.23	**3.6** 0.14	143.9	41.7	0.0823	**4.78** 10.54

[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1)	Factors(2)		Dynamic(3)		Factors(2)	Static	Assembly Inner/Outer
			C_1	e	Y	C_{90}	C_{a90}	K	C_0	
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
85.000 3.3465	**180.000** 7.0866	**63.500** 2.5000	**481000** 108000	0.35	1.74	**125000** 28000	**73600** 16500	1.69	**588000** 132000	32317
90.000 3.5433	**140.000** 5.5118	**32.000** 1.2598	**183000** 41200	0.42	1.42	**47500** 10700	**34400** 7740	1.38	**264000** 59400	32018X
90.000 3.5433	**140.000** 5.5118	**32.000** 1.2598	**183000** 41200	0.42	1.42	**47500** 10700	**34400** 7740	1.38	**264000** 59400	XAA32018X/Y32018X
90.000 3.5433	**140.000** 5.5118	**39.000** 1.5354	**247000** 55600	0.27	2.23	**64100** 14400	**29500** 6630	2.17	**377000** 84700	33018
90.000 3.5433	**145.000** 5.7087	**35.000** 1.3780	**222000** 50000	0.44	1.35	**57700** 13000	**43900** 9860	1.31	**313000** 70500	JM718149/JM718110
90.000 3.5433	**150.000** 5.9055	**42.000** 1.6535	**252000** 56600	0.55	1.10	**65300** 14700	**61000** 13700	1.07	**386000** 86800	JT9049/JT9010
90.000 3.5433	**150.000** 5.9055	**45.000** 1.7717	**306000** 68800	0.40	1.51	**79400** 17800	**54000** 12100	1.47	**447000** 100000	33118
90.000 3.5433	**155.000** 6.1024	**44.000** 1.7323	**331000** 74400	0.34	1.76	**85800** 19300	**50100** 11300	1.71	**447000** 101000	JHM318448/JHM318410
90.000 3.5433	**160.000** 6.2992	**32.500** 1.2795	**240000** 54100	0.42	1.43	**62300** 14000	**44800** 10100	1.39	**295000** 66200	30218
90.000 3.5433	**160.000** 6.2992	**42.500** 1.6732	**312000** 70200	0.42	1.43	**81000** 18200	**58200** 13100	1.39	**406000** 91200	32218
90.000 3.5433	**190.000** 7.4803	**46.500** 1.8307	**324000** 72800	0.83	0.73	**84000** 18900	**119000** 26700	0.71	**421000** 94600	31318
90.000 3.5433	**190.000** 7.4803	**46.500** 1.8307	**375000** 84200	0.35	1.74	**97100** 21800	**57400** 12900	1.69	**429000** 96500	30318
90.000 3.5433	**190.000** 7.4803	**57.150** 2.2500	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	JHH221436/JHH221413
90.000 3.5433	**190.000** 7.4803	**67.500** 2.6574	**575000** 129000	0.35	1.74	**149000** 33500	**88000** 19800	1.69	**683000** 153000	32318
95.000 3.7402	**135.000** 5.3150	**20.000** 0.7874	**83000** 18700	0.58	1.03	**21500** 4840	**21500** 4830	1.00	**133000** 29900	JL819349/JL819310
95.000 3.7402	**145.000** 5.7087	**32.000** 1.2598	**186000** 41800	0.44	1.36	**48200** 10800	**36500** 8200	1.32	**274000** 61500	32019X
95.000 3.7402	**145.000** 5.7087	**39.000** 1.5354	**246000** 55300	0.28	2.16	**63800** 14300	**30400** 6830	2.10	**378000** 85100	33019

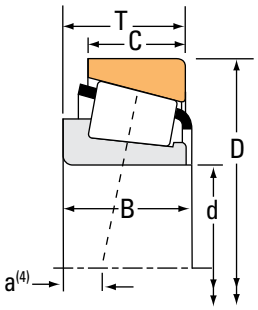
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

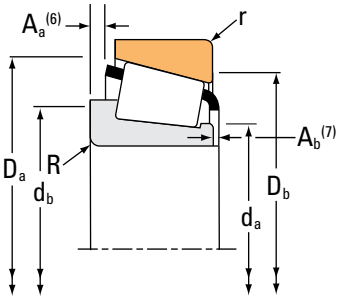
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
60.000 2.3622	**49.000** 1.9291	**-20.8** -0.82	**4.0** 0.16	**103.0** 4.06	**112.0** 4.41	**3.0** 0.12	**167.0** 6.57	**161.0** 6.34	**6.6** 0.26	**6.9** 0.27	205.6	31.5	0.0993	**7.24** 15.97
32.000 1.2598	**24.000** 0.9449	**-2.0** -0.08	**2.0** 0.08	**98.0** 3.86	**102.0** 4.02	**1.5** 0.06	**134.0** 5.28	**128.0** 5.04	**3.2** 0.12	**2.2** 0.09	127.5	41.1	0.1317	**1.70** 3.75
32.000 1.2598	**24.000** 0.9449	**-2.0** -0.08	**6.0** 0.24	**98.0** 3.86	**111.0** 4.37	**1.5** 0.06	**134.0** 5.28	**128.0** 5.04	**3.2** 0.12	**2.2** 0.09	127.5	41.1	0.1317	**1.70** 3.75
39.000 1.5354	**32.500** 1.2795	**-10.9** -0.43	**2.0** 0.08	**98.0** 3.86	**101.0** 3.98	**1.5** 0.06	**135.0** 5.31	**131.0** 5.16	**1.8** 0.07	**2.4** 0.10	183.4	56.0	0.0884	**2.20** 4.85
34.000 1.3386	**27.000** 1.0630	**-2.0** -0.08	**3.0** 0.12	**99.0** 3.90	**106.0** 4.17	**2.5** 0.10	**138.8** 5.46	**131.0** 5.16	**1.5** 0.06	**4.6** 0.18	138.0	34.9	0.0946	**2.14** 4.72
40.000 1.5748	**34.000** 1.3386	**-0.8** -0.03	**5.0** 0.20	**100.0** 3.94	**114.0** 4.49	**3.0** 0.12	**144.0** 5.67	**132.0** 5.20	**2.3** 0.09	**4.3** 0.17	163.5	48.6	0.1010	**2.90** 6.40
45.000 1.7717	**35.000** 1.3780	**-9.4** -0.37	**2.5** 0.10	**100.0** 3.94	**108.0** 4.25	**2.0** 0.08	**145.0** 5.71	**135.0** 5.31	**3.8** 0.15	**3.0** 0.12	180.1	43.2	0.1001	**3.15** 6.93
44.000 1.7323	**35.500** 1.3976	**-9.9** -0.39	**3.0** 0.12	**100.0** 3.94	**106.0** 4.17	**2.5** 0.10	**148.0** 5.83	**140.0** 5.51	**0.8** 0.03	**3.8** 0.15	178.9	32.4	0.0948	**3.32** 7.32
30.000 1.1811	**26.000** 1.0236	**-0.5** -0.02	**2.5** 0.10	**102.0** 4.02	**106.0** 4.17	**2.0** 0.08	**152.0** 5.98	**146.0** 5.75	**3.9** 0.15	**4.6** 0.18	125.9	47.7	0.0844	**2.63** 5.79
40.000 1.5748	**34.000** 1.3386	**-6.1** -0.24	**2.5** 0.10	**101.0** 3.98	**109.0** 4.29	**2.0** 0.08	**152.5** 6.00	**145.0** 5.71	**2.3** 0.09	**6.4** 0.25	157.8	44.2	0.0914	**3.47** 7.66
43.000 1.6929	**30.000** 1.1811	**13.2** 0.52	**4.0** 0.16	**117.0** 4.61	**128.0** 5.04	**3.0** 0.12	**180.0** 7.09	**164.0** 6.46	**6.9** 0.27	**6.6** 0.26	169.3	37.1	0.1140	**5.93** 13.07
43.000 1.6929	**36.000** 1.4173	**-9.4** -0.37	**4.0** 0.16	**105.0** 4.13	**112.0** 4.41	**2.5** 0.10	**176.0** 6.93	**173.0** 6.81	**3.8** 0.15	**6.4** 0.25	176.8	31.8	0.0882	**5.56** 12.25
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**106.0** 4.17	**121.0** 4.76	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.0** 0.08	**3.8** 0.15	265.6	28.4	0.1070	**7.70** 16.97
64.000 2.5197	**53.000** 2.0866	**-19.6** -0.77	**4.0** 0.16	**104.0** 4.09	**120.0** 4.72	**3.0** 0.12	**176.5** 6.95	**169.0** 6.65	**4.3** 0.17	**4.3** 0.17	226.8	30.7	0.0963	**8.51** 18.77
20.000 0.7874	**14.000** 0.5512	**10.9** 0.43	**5.0** 0.20	**102.0** 4.02	**111.0** 4.37	**2.5** 0.10	**129.0** 5.08	**123.0** 4.84	**2.0** 0.08	**2.0** 0.08	93.3	70.6	0.1170	**0.85** 1.88
32.000 1.2598	**24.000** 0.9449	**-0.5** -0.02	**2.0** 0.08	**104.0** 4.09	**107.0** 4.21	**1.5** 0.06	**139.0** 5.47	**133.0** 5.24	**2.5** 0.10	**3.0** 0.12	138.7	45.2	0.1240	**1.77** 3.91
39.000 1.5354	**32.500** 1.2795	**-10.2** -0.40	**2.0** 0.08	**102.0** 4.02	**106.0** 4.17	**1.5** 0.06	**139.0** 5.47	**133.0** 5.24	**1.3** 0.05	**3.0** 0.12	192.5	48.4	0.0907	**2.23** 4.93

[4] Negative value indicates effective center inside cone (inner-ring) backface.
[5] These maximum fillet radii will be cleared by the bearing corners.
[6] Negative value indicates cage extends beyond cone (inner-ring) backface.
[7] Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
95.000 3.7402	**145.000** 5.7087	**39.000** 1.5354	**246000** 55300	0.28	2.16	**63800** 14300	**30400** 6830	2.10	**378000** 85100	XAA33019/Y33019
95.000 3.7402	**150.000** 5.9055	**35.000** 1.3780	**215000** 48300	0.44	1.36	**55700** 12500	**42100** 9470	1.32	**316000** 71100	JM719149/JM719113
95.000 3.7402	**160.000** 6.2992	**46.000** 1.8110	**354000** 79700	0.34	1.77	**91900** 20700	**53200** 12000	1.73	**506000** 114000	JF9549/JF9510
95.000 3.7402	**170.000** 6.6929	**34.500** 1.3583	**265000** 59700	0.42	1.43	**68800** 15500	**49500** 11100	1.39	**327000** 73400	30219
95.000 3.7402	**170.000** 6.6929	**45.500** 1.7913	**316000** 71100	0.42	1.43	**82000** 18400	**59000** 13300	1.39	**401000** 90100	32219
95.000 3.7402	**200.000** 7.8740	**49.500** 1.9488	**428000** 96200	0.35	1.74	**111000** 24900	**65500** 14700	1.69	**492000** 111000	30319
95.000 3.7402	**200.000** 7.8740	**49.500** 1.9488	**360000** 81000	0.83	0.73	**93400** 21000	**132000** 29700	0.71	**438000** 98400	31319
95.000 3.7402	**200.000** 7.8740	**71.500** 2.8150	**578000** 130000	0.35	1.74	**150000** 33700	**88500** 19900	1.69	**714000** 161000	32319
100.000 3.9370	**145.000** 5.7087	**24.000** 0.9449	**125000** 28200	0.47	1.27	**32500** 7310	**26300** 5920	1.24	**172000** 38700	JP10049/JP10010
100.000 3.9370	**145.000** 5.7087	**24.000** 0.9449	**125000** 28200	0.47	1.27	**32500** 7310	**26300** 5920	1.24	**172000** 38700	JP10049A/JP10010A
100.000 3.9370	**150.000** 5.9055	**32.000** 1.2598	**195000** 43700	0.46	1.31	**50400** 11300	**39600** 8900	1.27	**295000** 66400	32020X
100.000 3.9370	**150.000** 5.9055	**32.000** 1.2598	**162000** 36500	0.50	1.20	**42100** 9470	**36200** 8130	1.16	**242000** 54400	JLM820048/JLM820012
100.000 3.9370	**150.000** 5.9055	**39.000** 1.5354	**251000** 56300	0.29	2.09	**65000** 14600	**31900** 7180	2.03	**393000** 88300	33020
100.000 3.9370	**155.000** 6.1024	**36.000** 1.4173	**231000** 52000	0.47	1.27	**60000** 13500	**48600** 10900	1.24	**355000** 79900	JM720249/JM720210
100.000 3.9370	**160.000** 6.2992	**41.000** 1.6142	**279000** 62800	0.47	1.28	**72400** 16300	**58300** 13100	1.24	**416000** 93500	JHM720249/JHM720210
100.000 3.9370	**180.000** 7.0866	**37.000** 1.4567	**301000** 67600	0.42	1.43	**78000** 17500	**56100** 12600	1.39	**375000** 84300	30220
100.000 3.9370	**180.000** 7.0866	**49.000** 1.9291	**368000** 82700	0.42	1.43	**95300** 21400	**68600** 15400	1.39	**478000** 107000	32220

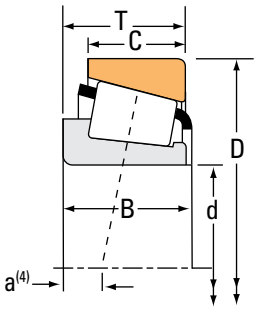
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

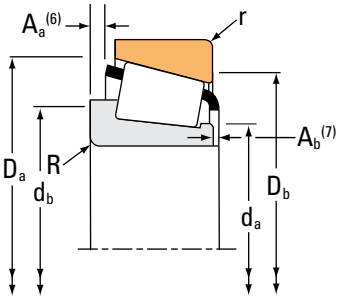
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
39.000 1.5354	**32.500** 1.2795	**-10.2** -0.40	**6.0** 0.24	**102.0** 4.02	**114.0** 4.49	**1.5** 0.06	**139.0** 5.47	**133.0** 5.24	**1.8** 0.07	**2.3** 0.09	192.5	48.4	0.0907	**2.23** 4.93
34.000 1.3386	**27.000** 1.0630	**-1.6** -0.06	**3.0** 0.12	**104.0** 4.09	**109.0** 4.29	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**2.8** 0.11	**3.6** 0.14	150.5	36.1	0.1410	**2.15** 4.75
46.000 1.8110	**38.000** 1.4961	**-10.7** -0.42	**3.0** 0.12	**105.4** 4.15	**111.0** 4.37	**3.0** 0.12	**154.0** 6.06	**145.0** 5.71	**0.8** 0.03	**3.8** 0.15	209.8	39.7	0.0939	**3.73** 8.22
32.000 1.2598	**27.000** 1.0630	**-0.8** -0.03	**3.0** 0.12	**104.0** 4.09	**109.0** 4.29	**2.5** 0.10	**159.0** 6.26	**155.0** 6.10	**3.1** 0.12	**4.5** 0.18	127.7	36.9	0.0898	**3.02** 6.65
43.000 1.6929	**37.000** 1.4567	**-6.3** -0.25	**3.0** 0.12	**106.0** 4.17	**111.0** 4.37	**2.5** 0.10	**161.0** 6.34	**152.0** 5.98	**4.7** 0.18	**3.0** 0.12	165.5	35.3	0.0984	**4.06** 8.94
45.000 1.7717	**38.000** 1.4961	**-9.4** -0.37	**4.0** 0.16	**111.0** 4.37	**118.0** 4.65	**3.0** 0.12	**184.0** 7.24	**182.0** 7.17	**3.8** 0.15	**6.1** 0.24	203.6	34.7	0.0925	**6.64** 14.65
45.000 1.7717	**32.000** 1.2598	**12.7** 0.50	**4.0** 0.16	**117.0** 4.61	**134.0** 5.28	**3.0** 0.12	**189.0** 7.44	**171.0** 6.73	**8.1** 0.32	**7.1** 0.28	167.0	29.8	0.1140	**6.63** 14.62
67.000 2.6378	**55.000** 2.1654	**-23.4** -0.92	**4.0** 0.16	**114.0** 4.49	**124.0** 4.88	**3.8** 0.15	**185.9** 7.32	**180.1** 7.09	**9.7** 0.38	**5.6** 0.22	261.5	36.5	0.1010	**9.74** 21.47
22.500 0.8858	**17.500** 0.6890	**6.1** 0.24	**3.0** 0.12	**106.0** 4.17	**112.0** 4.41	**3.0** 0.12	**140.0** 5.51	**134.0** 5.28	**1.3** 0.05	**3.8** 0.15	104.0	40.9	0.1260	**1.13** 2.49
22.500 0.8858	**17.500** 0.6890	**6.1** 0.24	**5.0** 0.20	**106.0** 4.17	**116.0** 4.57	**0.8** 0.03	**140.0** 5.51	**136.0** 5.35	**1.3** 0.05	**3.8** 0.15	104.0	40.9	0.1260	**1.15** 2.54
32.000 1.2598	**24.000** 0.9449	**0.8** 0.03	**2.0** 0.08	**108.0** 4.25	**112.0** 4.41	**1.5** 0.06	**145.0** 5.71	**137.0** 5.39	**3.5** 0.13	**2.3** 0.09	153.8	50.3	0.1296	**1.89** 4.17
30.000 1.1811	**26.000** 1.0236	**4.6** 0.18	**2.3** 0.09	**107.0** 4.21	**111.0** 4.37	**2.3** 0.09	**144.0** 5.67	**135.0** 5.31	**1.8** 0.07	**1.8** 0.07	133.1	38.3	0.1410	**1.81** 3.99
39.000 1.5354	**32.500** 1.2795	**-9.4** -0.37	**2.0** 0.08	**107.0** 4.21	**111.0** 4.37	**1.5** 0.06	**144.0** 5.67	**139.0** 5.47	**1.9** 0.07	**2.4** 0.10	206.3	65.1	0.0938	**2.36** 5.22
35.000 1.3780	**28.000** 1.1024	**0.3** 0.01	**3.0** 0.12	**109.0** 4.29	**115.0** 4.53	**2.5** 0.10	**149.0** 5.87	**140.0** 5.51	**2.3** 0.09	**3.8** 0.15	174.8	48.5	0.1040	**2.36** 5.20
40.000 1.5748	**32.000** 1.2598	**-2.5** -0.10	**3.0** 0.12	**109.4** 4.30	**117.0** 4.61	**2.5** 0.10	**153.9** 6.06	**143.0** 5.63	**2.8** 0.11	**4.3** 0.17	187.7	45.3	0.1010	**2.99** 6.60
34.000 1.3386	**29.000** 1.1417	**-0.8** -0.03	**3.0** 0.12	**115.0** 4.53	**119.0** 4.69	**2.5** 0.10	**169.0** 6.65	**163.0** 6.42	**2.1** 0.08	**4.7** 0.19	167.4	51.9	0.0927	**3.76** 8.30
46.000 1.8110	**39.000** 1.5354	**-7.1** -0.28	**3.0** 0.12	**112.0** 4.41	**117.0** 4.61	**2.5** 0.10	**170.0** 6.69	**163.0** 6.42	**5.8** 0.22	**3.3** 0.13	198.1	39.4	0.1046	**4.92** 10.84

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
100.000 3.9370	**180.000** 7.0866	**63.000** 2.4803	**488000** 110000	0.40	1.48	**127000** 28500	**87600** 19700	1.44	**679000** 153000	33220
100.000 3.9370	**215.000** 8.4646	**51.500** 2.0276	**423000** 95200	0.35	1.74	**110000** 24700	**64800** 14600	1.69	**579000** 130000	30320
100.000 3.9370	**215.000** 8.4646	**56.500** 2.2244	**416000** 93600	0.83	0.73	**108000** 24300	**152000** 34300	0.71	**526000** 118000	31320X
100.000 3.9370	**215.000** 8.4646	**66.675** 2.6250	**642000** 144000	0.33	1.84	**166000** 37400	**92800** 20900	1.79	**906000** 204000	JHH224333/JHH224315
100.000 3.9370	**215.000** 8.4646	**77.500** 3.0512	**586000** 132000	0.35	1.74	**152000** 34200	**89800** 20200	1.69	**883000** 198000	32320
105.000 4.1339	**160.000** 6.2992	**35.000** 1.3780	**227000** 51000	0.44	1.35	**58900** 13200	**44800** 10100	1.31	**339000** 76200	32021X
105.000 4.1339	**160.000** 6.2992	**43.000** 1.6929	**291000** 65400	0.28	2.12	**75400** 17000	**36500** 8200	2.07	**449000** 101000	33021
105.000 4.1339	**190.000** 7.4803	**39.000** 1.5354	**325000** 73200	0.42	1.43	**84400** 19000	**60700** 13600	1.39	**407000** 91400	30221
105.000 4.1339	**190.000** 7.4803	**53.000** 2.0866	**398000** 89600	0.42	1.43	**103000** 23200	**74300** 16700	1.39	**516000** 116000	32221
105.000 4.1338	**225.000** 8.8582	**81.500** 3.2086	**726000** 163000	0.35	1.74	**188000** 42300	**111000** 25000	1.69	**989000** 222000	32321
110.000 4.3307	**165.000** 6.4961	**35.000** 1.3780	**227000** 51100	0.50	1.21	**58900** 13200	**50100** 11300	1.18	**356000** 80100	JM822049/JM822010
110.000 4.3307	**170.000** 6.6929	**38.000** 1.4961	**282000** 63300	0.43	1.39	**73000** 16400	**53700** 12100	1.36	**433000** 97300	32022X
110.000 4.3307	**170.000** 6.6929	**47.000** 1.8504	**341000** 76600	0.29	2.09	**88300** 19900	**43400** 9750	2.03	**563000** 126000	33022
110.000 4.3307	**180.000** 7.0900	**47.000** 1.8504	**371000** 83500	0.41	1.48	**96300** 21600	**66900** 15000	1.44	**554000** 125000	JHM522649/JHM522610
110.000 4.3307	**180.000** 7.0866	**56.000** 2.2047	**412000** 92700	0.42	1.43	**107000** 24000	**76600** 17200	1.40	**635000** 143000	33122
110.000 4.3307	**200.000** 7.8740	**41.000** 1.6142	**374000** 84000	0.42	1.43	**96900** 21800	**69700** 15700	1.39	**475000** 107000	30222
110.000 4.3307	**200.000** 7.8740	**56.000** 2.2047	**493000** 111000	0.42	1.43	**128000** 28700	**91900** 20700	1.39	**668000** 150000	32222

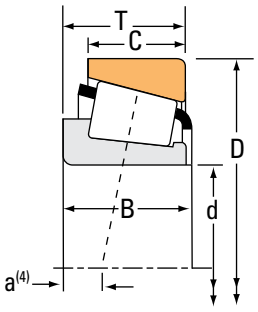
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

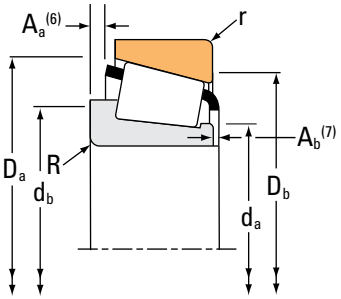
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
63.000 2.4803	**48.000** 1.8898	**-17.3** -0.68	**3.0** 0.12	**112.0** 4.41	**122.0** 4.80	**2.5** 0.10	**172.0** 6.77	**160.0** 6.30	**6.9** 0.27	**4.3** 0.17	256.3	44.0	0.1060	**6.59** 14.53
47.000 1.8504	**39.000** 1.5354	**-7.9** -0.31	**4.0** 0.16	**118.0** 4.65	**124.0** 4.88	**3.0** 0.12	**197.0** 7.76	**197.0** 7.76	**2.8** 0.11	**5.1** 0.20	282.4	51.2	0.1030	**8.37** 18.45
51.000 2.0079	**35.000** 1.3780	**11.4** 0.45	**4.0** 0.16	**122.9** 4.84	**144.0** 5.67	**3.0** 0.12	**202.0** 7.95	**183.9** 7.24	**9.7** 0.38	**8.6** 0.34	196.1	30.1	0.1200	**8.76** 19.32
66.675 2.6250	**53.975** 2.1250	**-18.9** -0.74	**7.0** 0.28	**120.0** 4.72	**131.0** 5.16	**3.3** 0.13	**201.7** 7.94	**193.0** 7.60	**4.1** 0.16	**3.6** 0.14	366.6	47.9	0.1180	**11.52** 25.40
73.000 2.8740	**60.000** 2.3622	**-26.9** -1.06	**4.0** 0.16	**124.0** 4.88	**129.0** 5.08	**3.0** 0.12	**200.0** 7.87	**193.0** 7.60	**13.0** 0.51	**6.1** 0.24	376.3	54.8	0.1150	**12.92** 28.49
35.000 1.3780	**26.000** 1.0236	**-0.3** -0.01	**2.5** 0.10	**113.0** 4.45	**119.0** 4.69	**2.0** 0.08	**154.0** 6.06	**146.0** 5.79	**3.2** 0.12	**2.7** 0.11	176.5	50.7	0.1024	**2.40** 5.28
43.000 1.6929	**34.000** 1.3386	**-12.2** -0.48	**2.5** 0.10	**113.0** 4.45	**118.0** 4.65	**2.0** 0.08	**153.0** 6.02	**147.0** 5.79	**3.1** 0.12	**3.1** 0.13	236.3	54.8	0.0975	**2.94** 6.50
36.000 1.4173	**30.000** 1.1811	**-1.3** -0.05	**3.0** 0.12	**120.0** 4.72	**124.0** 4.88	**2.5** 0.10	**179.0** 7.05	**172.0** 6.77	**4.5** 0.18	**1.1** 0.05	186.7	59.4	0.0960	**4.47** 9.86
50.000 1.9685	**43.000** 1.6929	**-7.9** -0.31	**3.0** 0.12	**120.0** 4.72	**127.0** 5.00	**2.5** 0.10	**180.0** 7.09	**171.0** 6.73	**5.1** 0.20	**2.7** 0.11	219.9	43.5	0.1082	**5.94** 13.09
77.000 3.0315	**63.000** 2.4803	**-27.2** -1.07	**4.0** 0.16	**128.0** 5.04	**138.0** 5.43	**3.0** 0.12	**209.0** 8.23	**202.0** 7.95	**11.2** 0.44	**6.3** 0.25	368.1	37.6	0.1130	**13.99** 30.85
35.000 1.3780	**26.500** 1.0433	**3.0** 0.12	**3.0** 0.12	**119.0** 4.69	**125.0** 4.92	**2.5** 0.10	**159.0** 6.26	**149.0** 5.87	**2.5** 0.10	**2.5** 0.10	191.5	45.8	0.1590	**2.45** 5.39
38.000 1.4961	**29.000** 1.1417	**-1.0** -0.04	**2.5** 0.10	**119.0** 4.69	**124.0** 4.88	**2.0** 0.08	**164.0** 6.46	**156.0** 6.14	**3.2** 0.12	**3.0** 0.12	222.1	49.3	0.1095	**3.06** 6.74
47.000 1.8504	**37.000** 1.4567	**-13.7** -0.54	**2.5** 0.10	**118.0** 4.65	**122.0** 4.80	**2.0** 0.08	**163.0** 6.42	**156.0** 6.14	**3.8** 0.15	**4.1** 0.16	299.7	60.5	0.1000	**3.82** 8.42
46.000 1.8110	**38.000** 1.4961	**-5.8** -0.23	**3.0** 0.12	**122.0** 4.80	**127.0** 5.00	**2.5** 0.10	**172.0** 6.77	**162.0** 6.38	**2.0** 0.08	**4.6** 0.18	259.2	52.1	0.1070	**4.51** 9.91
56.000 2.2047	**43.000** 1.6929	**-11.9** -0.47	**2.5** 0.10	**121.0** 4.76	**130.0** 5.12	**2.0** 0.08	**173.5** 6.83	**162.0** 6.38	**6.1** 0.24	**3.3** 0.13	285.0	57.3	0.1110	**5.38** 11.86
38.000 1.4961	**32.000** 1.2598	**-1.5** -0.06	**3.0** 0.12	**126.0** 4.96	**130.0** 5.12	**2.5** 0.10	**187.0** 7.36	**181.0** 7.13	**4.1** 0.16	**5.7** 0.23	219.5	59.8	0.1014	**5.24** 11.54
53.000 2.0866	**46.000** 1.8110	**-10.1** -0.40	**3.0** 0.12	**125.0** 4.92	**135.0** 5.31	**2.5** 0.10	**190.5** 7.50	**179.0** 7.05	**3.8** 0.15	**5.2** 0.21	277.3	55.7	0.1102	**7.28** 16.06

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
110.000 4.3307	**240.000** 9.4488	**54.500** 2.1457	**502000** 113000	0.35	1.74	**130000** 29300	**76900** 17300	1.69	**732000** 165000	30322
110.000 4.3307	**240.000** 9.4488	**63.000** 2.4803	**523000** 117000	0.83	0.73	**135000** 30500	**191000** 43000	0.71	**663000** 149000	31322X
110.000 4.3307	**240.000** 9.4488	**84.500** 3.3268	**760000** 171000	0.35	1.74	**197000** 44300	**116000** 26200	1.69	**1020000** 229000	32322
115.000 4.5276	**165.000** 6.4961	**28.000** 1.1024	**160000** 35900	0.46	1.31	**41400** 9310	**32500** 7310	1.27	**245000** 55100	JLM722948/JLM722912
120.000 4.7244	**165.000** 6.4961	**29.000** 1.1417	**179000** 40300	0.35	1.72	**46500** 10500	**27800** 6240	1.68	**308000** 69300	32924
120.000 4.7244	**170.000** 6.6929	**25.400** 1.0000	**145000** 32600	0.46	1.31	**37600** 8450	**29500** 6640	1.27	**231000** 52000	JL724348/JL724314
120.000 4.7244	**170.000** 6.6929	**27.000** 1.0630	**165000** 37200	0.47	1.27	**42900** 9640	**34700** 7800	1.24	**238000** 53500	JP12049/JP12010
120.000 4.7244	**170.000** 6.6929	**27.000** 1.0630	**165000** 37200	0.47	1.27	**42900** 9640	**34700** 7800	1.24	**238000** 53500	JP12049A/JP12010
120.000 4.7244	**180.000** 7.0866	**36.000** 1.4173	**247000** 55500	0.41	1.45	**64000** 14400	**45300** 10200	1.41	**377000** 84700	JM624649/JM624610
120.000 4.7244	**180.000** 7.0866	**38.000** 1.4961	**292000** 65700	0.46	1.31	**75800** 17000	**59500** 13400	1.27	**466000** 105000	32024X
120.000 4.7244	**180.000** 7.0866	**38.000** 1.4961	**292000** 65700	0.46	1.31	**75800** 17000	**59500** 13400	1.27	**466000** 105000	XAA32024X/Y32024X
120.000 4.7244	**180.000** 7.0866	**48.000** 1.8898	**352000** 79200	0.31	1.97	**91300** 20500	**47700** 10700	1.91	**603000** 135000	33024
120.000 4.7244	**215.000** 8.4646	**43.500** 1.7126	**374000** 84100	0.44	1.38	**97000** 21800	**72300** 16200	1.34	**508000** 114000	30224
120.000 4.7244	**215.000** 8.4646	**61.500** 2.4213	**553000** 124000	0.44	1.38	**143000** 32200	**107000** 24000	1.34	**831000** 187000	32224
120.000 4.7244	**260.000** 10.2362	**59.500** 2.3425	**624000** 140000	0.35	1.74	**162000** 36400	**95500** 21500	1.69	**807000** 181000	30324
120.000 4.7244	**260.000** 10.2362	**68.000** 2.6772	**606000** 136000	0.83	0.73	**157000** 35300	**222000** 49900	0.71	**777000** 175000	31324X
120.000 4.7244	**260.000** 10.2362	**90.500** 3.5630	**908000** 204000	0.35	1.74	**235000** 52900	**139000** 31200	1.69	**1250000** 281000	32324

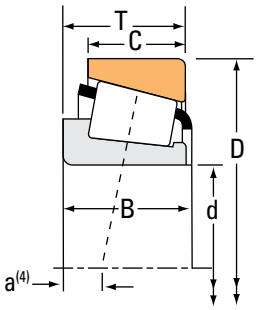
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

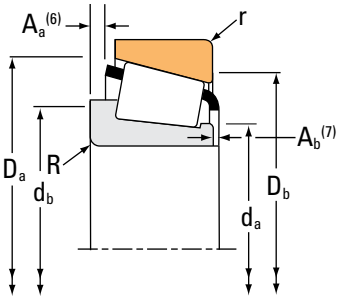
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
50.000 1.9685	**42.000** 1.6535	**-6.9** -0.27	**4.0** 0.16	**130.0** 5.12	**137.0** 5.39	**4.5** 0.18	**220.0** 8.66	**223.0** 8.78	**2.8** 0.11	**5.1** 0.20	393.4	67.6	0.1150	**11.50** 25.35
57.000 2.2441	**38.000** 1.4961	**11.7** 0.46	**4.0** 0.16	**135.0** 5.35	**150.0** 5.94	**3.0** 0.12	**224.5** 8.84	**206.0** 8.11	**13.2** 0.52	**9.1** 0.36	250.5	34.3	0.1380	**12.13** 26.73
80.000 3.1496	**65.000** 2.5591	**-27.9** -1.10	**4.0** 0.16	**136.0** 5.35	**143.0** 5.63	**3.0** 0.12	**222.5** 8.76	**215.0** 8.46	**12.4** 0.49	**6.6** 0.26	400.6	44.5	0.1160	**16.99** 37.45
27.000 1.0630	**21.000** 0.8268	**5.6** 0.22	**3.3** 0.13	**121.0** 4.76	**127.0** 5.00	**3.0** 0.12	**158.0** 6.22	**151.0** 5.94	**1.8** 0.07	**3.0** 0.12	161.0	57.2	0.1450	**1.75** 3.86
29.000 1.1417	**23.000** 0.9055	**0.3** 0.01	**1.5** 0.06	**128.0** 5.04	**130.0** 5.12	**1.5** 0.06	**160.0** 6.30	**155.0** 6.10	**2.1** 0.08	**2.5** 0.10	226.8	103.0	0.1488	**1.78** 3.92
25.400 1.0000	**19.050** 0.7500	**7.9** 0.31	**3.3** 0.13	**127.0** 5.00	**132.0** 5.20	**3.3** 0.13	**163.0** 6.42	**156.0** 6.14	**2.0** 0.08	**2.0** 0.08	170.2	70.6	0.1470	**1.62** 3.56
25.000 0.9843	**19.500** 0.7677	**7.9** 0.31	**3.0** 0.12	**127.0** 5.00	**133.0** 5.24	**3.0** 0.12	**164.5** 6.48	**157.0** 6.18	**2.3** 0.09	**4.3** 0.17	157.8	76.7	0.1310	**1.71** 3.76
25.000 0.9843	**19.500** 0.7677	**7.9** 0.31	**6.0** 0.24	**127.0** 5.00	**139.0** 5.47	**3.0** 0.12	**164.5** 6.48	**157.0** 6.18	**2.3** 0.09	**4.3** 0.17	157.8	76.7	0.1310	**1.69** 3.72
36.000 1.4173	**26.000** 1.0236	**0.0** 0.00	**3.5** 0.14	**128.0** 5.04	**135.0** 5.31	**1.5** 0.06	**173.0** 6.81	**166.0** 6.54	**3.3** 0.13	**3.3** 0.13	226.8	61.6	0.1080	**2.93** 6.46
38.000 1.4961	**29.000** 1.1417	**1.5** 0.06	**2.5** 0.10	**130.0** 5.12	**134.0** 5.28	**2.0** 0.08	**174.0** 6.85	**165.0** 6.50	**3.4** 0.13	**3.0** 0.12	255.1	58.3	0.1169	**3.27** 7.22
38.000 1.4961	**29.000** 1.1417	**1.5** 0.06	**5.0** 0.20	**130.0** 5.12	**141.0** 5.55	**2.0** 0.08	**174.0** 6.85	**165.0** 6.50	**3.4** 0.13	**3.0** 0.12	255.1	58.3	0.1169	**3.25** 7.19
48.000 1.8898	**38.000** 1.4961	**-11.9** -0.47	**2.5** 0.10	**130.0** 5.12	**134.0** 5.28	**2.0** 0.08	**172.0** 6.77	**166.0** 6.54	**3.8** 0.15	**3.3** 0.13	342.0	93.7	0.1070	**4.19** 9.24
40.000 1.5748	**34.000** 1.3386	**0.3** 0.01	**3.0** 0.12	**136.0** 5.35	**140.0** 5.51	**2.5** 0.10	**201.0** 7.91	**195.0** 7.68	**3.7** 0.14	**6.3** 0.25	252.0	64.9	0.1072	**6.24** 13.75
58.000 2.2835	**50.000** 1.9685	**-10.2** -0.40	**3.0** 0.12	**135.0** 5.31	**147.0** 5.79	**2.5** 0.10	**204.5** 8.05	**191.0** 7.52	**5.6** 0.22	**6.9** 0.27	352.0	68.1	0.1210	**9.27** 20.43
55.000 2.1654	**46.000** 1.8110	**-8.1** -0.32	**4.0** 0.16	**142.0** 5.59	**147.0** 5.79	**3.0** 0.12	**236.5** 9.31	**238.0** 9.37	**3.3** 0.13	**5.3** 0.21	387.6	53.6	0.1140	**14.17** 31.23
62.000 2.4409	**42.000** 1.6535	**13.2** 0.52	**4.0** 0.16	**147.1** 5.79	**172.0** 6.77	**3.0** 0.12	**244.1** 9.61	**223.0** 8.78	**13.5** 0.53	**10.4** 0.41	303.2	37.8	0.1380	**15.37** 33.89
86.000 3.3858	**69.000** 2.7165	**-29.5** -1.16	**4.0** 0.16	**149.0** 5.87	**155.0** 6.10	**3.0** 0.12	**239.5** 9.43	**233.0** 9.17	**14.2** 0.56	**5.6** 0.22	498.3	52.0	0.1250	**21.52** 47.45

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
125.000 4.9213	**175.000** 6.8898	**25.400** 1.0000	**150000** 33700	0.48	1.26	**38900** 8750	**31700** 7130	1.23	**246000** 55300	JL725346/JL725316
130.000 5.1181	**180.000** 7.0866	**32.000** 1.2598	**210000** 47200	0.34	1.77	**54400** 12200	**31600** 7110	1.72	**356000** 80000	32926
130.000 5.1181	**185.000** 7.2835	**29.000** 1.1417	**196000** 44000	0.47	1.27	**50800** 11400	**41100** 9250	1.24	**283000** 63600	JP13049/JP13010
130.000 5.1181	**185.000** 7.2835	**29.000** 1.1417	**196000** 44000	0.47	1.27	**50800** 11400	**41100** 9250	1.24	**283000** 63600	JP13049A/JP13010
130.000 5.1181	**200.000** 7.8740	**45.000** 1.7717	**386000** 86900	0.43	1.38	**100000** 22500	**74600** 16800	1.34	**617000** 139000	32026X
130.000 5.1181	**230.000** 9.0551	**43.750** 1.7224	**407000** 91500	0.44	1.38	**105000** 23700	**78600** 17700	1.34	**550000** 124000	30226
130.000 5.1181	**230.000** 9.0551	**67.750** 2.6673	**644000** 145000	0.44	1.38	**167000** 37600	**124000** 28000	1.34	**982000** 221000	32226
130.000 5.1181	**240.000** 9.4488	**76.000** 2.9921	**618000** 139000	0.36	1.67	**160000** 36000	**98800** 22200	1.62	**955000** 215000	JH429148/JH429111
130.000 5.1181	**280.000** 11.0236	**63.750** 2.5098	**752000** 169000	0.35	1.74	**195000** 43800	**115000** 25900	1.69	**990000** 223000	30326
130.000 5.1181	**280.000** 11.0236	**63.750** 2.5098	**691000** 155000	0.83	0.73	**179000** 40300	**253000** 56900	0.71	**966000** 217000	31326X
130.000 5.1181	**280.000** 11.0236	**98.750** 3.8878	**1120000** 252000	0.35	1.74	**291000** 65300	**172000** 38600	1.69	**1460000** 329000	32326
140.000 5.5118	**190.000** 7.4803	**32.000** 1.2598	**227000** 51000	0.36	1.67	**58900** 13200	**36300** 8160	1.62	**405000** 91100	32928
140.000 5.5118	**195.000** 7.6772	**29.000** 1.1417	**203000** 45700	0.50	1.19	**52700** 11800	**45400** 10200	1.16	**304000** 68400	JP14049/JP14010
140.000 5.5118	**210.000** 8.2677	**45.000** 1.7717	**371000** 83500	0.46	1.31	**96300** 21600	**75600** 17000	1.27	**644000** 145000	32028X
140.000 5.5118	**210.000** 8.2677	**45.000** 1.7717	**371000** 83500	0.46	1.31	**96300** 21600	**75600** 17000	1.27	**644000** 145000	XAA32028X/Y32028X
140.000 5.5118	**250.000** 9.8425	**45.750** 1.8012	**474000** 107000	0.44	1.38	**123000** 27600	**91500** 20600	1.34	**649000** 146000	30228
140.000 5.5118	**250.000** 9.8425	**71.750** 2.8248	**707000** 159000	0.44	1.38	**183000** 41200	**136000** 30700	1.34	**1070000** 241000	32228

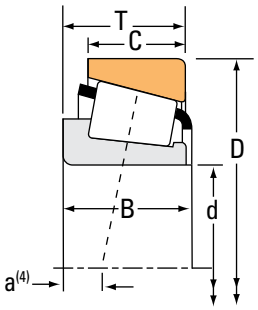
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

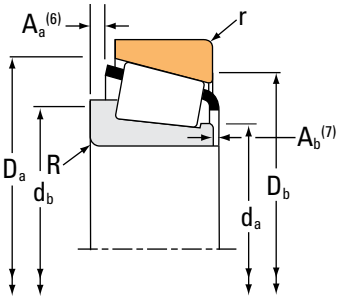
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.400 1.0000	**18.288** 0.7200	**9.1** 0.36	**3.3** 0.13	**133.0** 5.24	**138.0** 5.43	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**2.3** 0.09	**2.3** 0.09	186.6	77.7	0.1530	**1.69** 3.72
32.000 1.2598	**25.000** 0.9843	**0.0** 0.00	**2.0** 0.08	**139.0** 5.47	**141.0** 5.55	**1.5** 0.06	**174.0** 6.85	**170.0** 6.69	**1.5** 0.06	**2.3** 0.09	268.5	151.7	0.1410	**2.36** 5.19
27.000 1.0630	**21.000** 0.8268	**8.9** 0.35	**3.0** 0.12	**137.0** 5.39	**143.0** 5.63	**3.0** 0.12	**179.0** 7.05	**172.0** 6.77	**1.5** 0.06	**4.8** 0.19	192.2	60.3	0.1060	**2.16** 4.76
27.000 1.0630	**21.000** 0.8268	**9.1** 0.36	**6.0** 0.24	**139.0** 5.47	**150.0** 5.91	**3.0** 0.12	**179.0** 7.05	**172.0** 6.77	**2.0** 0.08	**4.6** 0.18	207.5	64.6	0.1030	**2.19** 4.83
45.000 1.7717	**34.000** 1.3386	**-1.0** -0.04	**2.5** 0.10	**142.0** 5.59	**148.0** 5.83	**2.0** 0.08	**193.0** 7.60	**184.0** 7.24	**3.9** 0.15	**2.0** 0.08	338.4	97.3	0.1189	**4.98** 10.98
40.000 1.5748	**34.000** 1.3386	**2.0** 0.08	**4.0** 0.16	**146.0** 5.75	**152.0** 5.98	**3.0** 0.12	**217.0** 8.54	**210.0** 8.27	**2.8** 0.11	**7.1** 0.28	287.4	77.1	0.1118	**7.06** 15.56
64.000 2.5197	**54.000** 2.1260	**-11.9** -0.47	**4.0** 0.16	**145.0** 5.71	**161.0** 6.34	**3.0** 0.12	**221.0** 8.70	**206.0** 8.11	**6.1** 0.24	**6.4** 0.25	424.6	78.3	0.1290	**11.40** 25.14
72.000 2.8346	**60.000** 2.3622	**-19.3** -0.76	**4.0** 0.16	**153.0** 6.02	**156.0** 6.14	**4.3** 0.17	**225.0** 8.86	**213.0** 8.39	**5.8** 0.23	**5.1** 0.20	474.3	87.9	0.1250	**14.25** 31.41
58.000 2.2835	**49.000** 1.9291	**-10.2** -0.40	**5.0** 0.20	**152.0** 5.98	**161.0** 6.34	**4.0** 0.16	**255.0** 10.04	**253.0** 9.96	**4.8** 0.19	**8.6** 0.34	478.0	40.1	0.1230	**17.43** 38.42
66.000 2.5984	**44.000** 1.7323	**14.7** 0.58	**5.0** 0.20	**163.0** 6.42	**186.0** 7.32	**4.0** 0.16	**262.0** 10.31	**238.0** 9.37	**15.7** 0.62	**9.4** 0.37	411.8	42.2	0.1280	**19.16** 42.23
93.000 3.6614	**78.000** 3.0709	**-28.7** -1.13	**5.0** 0.20	**156.0** 6.14	**171.0** 6.73	**5.0** 0.20	**261.0** 10.28	**251.0** 9.88	**11.4** 0.45	**6.4** 0.25	557.1	47.5	0.1290	**26.99** 59.50
32.000 1.2598	**25.000** 0.9843	**2.3** 0.09	**2.0** 0.08	**148.0** 5.83	**151.0** 5.94	**1.5** 0.06	**184.0** 7.24	**179.0** 7.05	**1.5** 0.06	**2.7** 0.11	314.5	144.7	0.1509	**2.50** 5.53
27.000 1.0630	**21.000** 0.8268	**12.2** 0.48	**3.0** 0.12	**149.0** 5.87	**153.0** 6.02	**3.0** 0.12	**189.0** 7.44	**182.0** 7.17	**1.3** 0.05	**5.6** 0.22	219.5	68.2	0.1100	**2.31** 5.07
45.000 1.7717	**34.000** 1.3386	**1.4** 0.06	**2.5** 0.10	**151.0** 5.94	**158.0** 6.22	**2.0** 0.08	**203.0** 7.99	**193.0** 7.60	**3.0** 0.12	**3.0** 0.12	374.2	108.2	0.1250	**5.29** 11.66
45.000 1.7717	**34.000** 1.3386	**1.4** 0.06	**6.5** 0.26	**151.0** 5.94	**158.0** 6.22	**2.0** 0.08	**203.0** 7.99	**193.0** 7.60	**3.9** 0.15	**2.0** 0.08	374.2	108.2	0.1249	**5.23** 11.54
42.000 1.6535	**36.000** 1.4173	**2.8** 0.11	**4.0** 0.16	**157.0** 6.18	**164.0** 6.46	**3.0** 0.12	**234.0** 9.21	**227.0** 8.94	**4.3** 0.17	**7.4** 0.29	347.8	75.8	0.1191	**8.92** 19.65
68.000 2.6772	**58.000** 2.2835	**-10.2** -0.40	**4.0** 0.16	**159.0** 6.26	**171.0** 6.73	**3.0** 0.01	**238.5** 9.39	**223.0** 8.78	**6.6** 0.26	**5.3** 0.21	492.8	64.7	0.1350	**14.33** 31.58

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
140.000 5.5118	**300.000** 11.8110	**77.000** 3.0315	**785000** 176000	0.83	0.73	**203000** 45700	**287000** 64600	0.71	**1020000** 230000	31328X
150.000 5.9055	**205.000** 8.0709	**28.575** 1.1250	**183000** 41100	0.46	1.31	**47400** 10700	**37200** 8370	1.27	**339000** 76100	JL730646/JL730612
150.000 5.9055	**210.000** 8.2677	**38.000** 1.4961	**306000** 68800	0.33	1.83	**79300** 17800	**44500** 10000	1.78	**573000** 129000	32930
150.000 5.9055	**225.000** 8.8583	**48.000** 1.8898	**418000** 94000	0.46	1.31	**108000** 24400	**85100** 19100	1.27	**730000** 164000	32030X
150.000 5.9055	**225.000** 8.8583	**59.000** 2.3228	**530000** 119000	0.36	1.65	**137000** 30900	**85800** 19300	1.60	**949000** 213000	33030
150.000 5.9055	**270.000** 10.6299	**49.000** 1.9291	**533000** 120000	0.44	1.38	**138000** 31100	**103000** 23100	1.34	**735000** 165000	30230
150.000 5.9055	**270.000** 10.6299	**77.000** 3.0315	**804000** 181000	0.44	1.38	**208000** 46800	**155000** 34900	1.34	**1230000** 276000	32230
150.000 5.9055	**320.000** 12.5984	**82.000** 3.2283	**862000** 194000	0.83	0.73	**224000** 50300	**316000** 71000	0.71	**1200000** 270000	31330X
160.000 6.2992	**220.000** 8.6614	**32.000** 1.2598	**229000** 51400	0.49	1.23	**59300** 13300	**49300** 11100	1.20	**372000** 83700	JP16049/JP16010
160.000 6.2992	**240.000** 9.4488	**46.000** 1.8110	**401000** 90200	0.44	1.37	**104000** 23400	**77900** 17500	1.34	**759000** 171000	JM734445/JM734410
160.000 6.2992	**240.000** 9.4488	**51.000** 2.0079	**487000** 109000	0.46	1.31	**126000** 28400	**99100** 22300	1.27	**867000** 195000	32032X
160.000 6.2992	**255.000** 10.0394	**63.500** 2.5000	**600000** 135000	0.26	2.27	**156000** 35000	**70400** 15800	2.21	**1040000** 233000	JHM133449/JHM133417
160.000 6.2992	**290.000** 11.4173	**52.000** 2.0472	**573000** 129000	0.44	1.38	**149000** 33400	**111000** 24900	1.34	**868000** 195000	30232
160.000 6.2992	**290.000** 11.4173	**84.000** 3.3071	**1020000** 229000	0.44	1.38	**264000** 59400	**197000** 44200	1.34	**1630000** 366000	32232
170.000 6.6929	**230.000** 9.0551	**32.000** 1.2598	**252000** 56700	0.46	1.30	**65400** 14700	**51700** 11600	1.27	**436000** 98100	JP17049/JP17010
170.000 6.6929	**230.000** 9.0551	**38.000** 1.4961	**329000** 74000	0.38	1.57	**85300** 19200	**56000** 12600	1.52	**637000** 143000	32934
170.000 6.6929	**230.000** 9.0551	**39.000** 1.5354	**316000** 71100	0.38	1.57	**82000** 18400	**53800** 12100	1.52	**590000** 133000	JHM534149/JHM534110

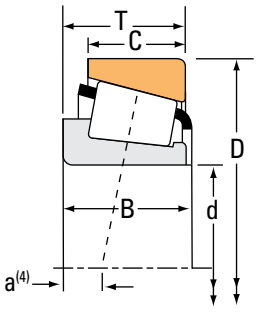
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

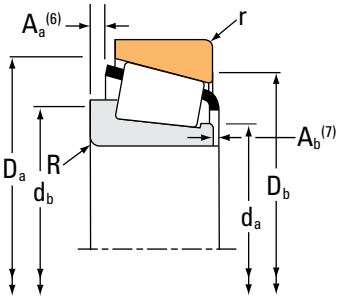
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
70.000 2.7559	**47.000** 1.8504	**16.5** 0.65	**5.0** 0.20	**171.0** 6.73	**199.0** 7.83	**4.0** 0.16	**280.4** 11.04	**257.0** 10.12	**16.5** 0.65	**9.7** 0.38	424.5	45.2	0.1290	**22.85** 50.37
28.575 1.1250	**21.438** 0.8440	**11.4** 0.45	**3.3** 0.13	**158.0** 6.22	**164.0** 6.46	**3.3** 0.13	**198.0** 7.80	**190.0** 7.48	**2.0** 0.08	**2.0** 0.08	295.2	103.6	0.1760	**2.61** 5.76
38.000 1.4961	**30.000** 1.1811	**-1.5** -0.06	**2.5** 0.10	**160.0** 6.30	**163.0** 6.42	**2.0** 0.08	**203.0** 7.99	**197.0** 7.76	**1.5** 0.06	**3.9** 0.16	428.9	157.2	0.1167	**3.99** 8.82
48.000 1.8898	**36.000** 1.4173	**1.0** 0.04	**3.0** 0.12	**163.0** 6.42	**169.0** 6.65	**2.5** 0.10	**217.0** 8.54	**206.0** 8.11	**2.9** 0.11	**4.0** 0.16	437.0	114.5	0.1314	**6.38** 14.08
59.000 2.3228	**46.000** 1.8110	**-10.9** -0.43	**3.0** 0.12	**161.0** 6.34	**169.0** 6.65	**2.5** 0.10	**218.0** 8.58	**207.0** 8.15	**4.6** 0.18	**4.6** 0.18	541.5	102.4	0.1320	**8.00** 17.63
45.000 1.7717	**38.000** 1.4961	**3.6** 0.14	**4.0** 0.16	**168.0** 6.61	**174.0** 6.85	**3.0** 0.12	**250.0** 9.84	**245.0** 9.65	**2.9** 0.11	**7.5** 0.30	407.0	78.5	0.1254	**11.03** 24.29
73.000 2.8740	**60.000** 2.3622	**-11.7** -0.46	**4.0** 0.16	**170.0** 6.69	**183.0** 7.20	**3.0** 0.12	**254.0** 10.02	**244.0** 9.61	**9.1** 0.36	**5.6** 0.22	579.4	64.2	0.1190	**17.69** 38.99
75.000 2.9528	**50.000** 1.9685	**18.0** 0.71	**5.0** 0.20	**187.0** 7.36	**210.0** 8.27	**4.0** 0.16	**300.0** 11.81	**276.0** 10.87	**18.5** 0.73	**8.9** 0.35	544.4	54.9	0.1410	**28.15** 62.07
30.000 1.1811	**23.000** 0.9055	**13.0** 0.51	**3.0** 0.12	**169.0** 6.65	**174.0** 6.85	**3.0** 0.12	**213.1** 8.39	**206.0** 8.11	**3.0** 0.12	**4.8** 0.19	294.4	123.3	0.1230	**3.11** 6.86
44.500 1.7520	**37.000** 1.4567	**5.1** 0.20	**3.0** 0.12	**173.0** 6.81	**178.0** 7.01	**2.5** 0.10	**232.0** 9.13	**222.0** 8.74	**2.0** 0.08	**4.8** 0.19	548.5	117.5	0.1160	**7.13** 15.73
51.000 2.0079	**38.000** 1.4961	**1.8** 0.07	**3.0** 0.12	**174.0** 6.85	**181.0** 7.13	**2.5** 0.10	**234.0** 9.21	**221.0** 8.70	**3.5** 0.13	**4.1** 0.16	521.7	133.9	0.1166	**7.81** 17.21
69.850 2.7500	**52.388** 2.0625	**-17.3** -0.68	**1.5** 0.06	**173.0** 6.81	**173.0** 6.81	**3.3** 0.13	**233.7** 9.20	**231.0** 9.09	**1.5** 0.06	**1.8** 0.07	668.6	103.2	0.1340	**12.45** 27.44
48.000 1.8898	**40.000** 1.5748	**5.1** 0.20	**4.0** 0.16	**178.0** 7.01	**185.0** 7.28	**3.0** 0.12	**269.0** 10.59	**266.0** 10.47	**5.3** 0.21	**6.1** 0.24	543.0	78.0	0.1160	**13.77** 30.35
80.000 3.1496	**67.000** 2.6378	**-12.7** -0.50	**4.0** 0.16	**185.0** 7.28	**197.0** 7.76	**3.0** 0.12	**274.5** 10.81	**261.0** 10.28	**8.4** 0.33	**6.6** 0.26	766.7	69.4	0.1310	**23.41** 51.62
30.000 1.1811	**23.000** 0.9055	**13.0** 0.51	**3.0** 0.12	**179.0** 7.05	**184.0** 7.24	**3.0** 0.12	**223.0** 8.78	**217.0** 8.54	**2.8** 0.11	**4.8** 0.19	361.9	156.4	0.1020	**3.44** 7.59
38.000 1.4961	**30.000** 1.1811	**3.8** 0.15	**2.5** 0.10	**179.0** 7.05	**183.0** 7.20	**2.0** 0.08	**223.0** 8.78	**215.0** 8.46	**2.0** 0.08	**4.6** 0.18	519.3	180.0	0.1305	**4.40** 9.71
38.000 1.4961	**31.000** 1.2205	**4.6** 0.18	**3.0** 0.12	**178.0** 7.01	**184.0** 7.24	**2.5** 0.10	**224.0** 8.82	**217.0** 8.54	**0.5** 0.02	**4.1** 0.16	479.6	89.8	0.1350	**4.31** 9.49

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1)	Factors(2)		Dynamic(3)		Factors(2)	Static	Assembly Inner/Outer
			C_1	e	Y	C_{90}	C_{a90}	K	C_0	
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
170.000 6.6929	**240.000** 9.4488	**46.000** 1.8110	**401000** 90200	0.44	1.37	**104000** 23400	**77900** 17500	1.34	**759000** 171000	JM734449/JM734410
170.000 6.6929	**260.000** 10.2362	**57.000** 2.2441	**576000** 129000	0.44	1.35	**149000** 33600	**114000** 25500	1.31	**1020000** 229000	32034X
170.000 6.6929	**310.000** 12.2047	**57.000** 2.4401	**680000** 153000	0.44	1.38	**176000** 39600	**131000** 29500	1.34	**1000000** 225000	30234
170.000 6.6929	**310.000** 12.2047	**91.000** 3.5827	**1110000** 250000	0.44	1.38	**288000** 64800	**215000** 48300	1.34	**1750000** 394000	32234
180.000 7.0866	**250.000** 9.8425	**45.000** 1.7717	**403000** 90600	0.48	1.25	**105000** 23500	**85900** 19300	1.22	**795000** 179000	32936
180.000 7.0866	**240.000** 9.4488	**32.000** 1.2598	**239000** 53600	0.48	1.24	**61800** 13900	**51300** 11500	1.21	**409000** 92000	JP18049/JP18010
180.000 7.0866	**250.000** 9.8425	**47.000** 1.8504	**409000** 92000	0.48	1.25	**106000** 23800	**87200** 19600	1.22	**786000** 177000	JM736149/JM736110
180.000 7.0866	**280.000** 11.0236	**64.000** 2.5197	**707000** 159000	0.42	1.42	**183000** 41200	**133000** 29800	1.38	**1240000** 280000	32036X
180.000 7.0866	**320.000** 12.5984	**57.000** 2.2441	**690000** 155000	0.45	1.33	**179000** 40200	**138000** 31000	1.30	**1050000** 235000	30236
180.000 7.0866	**320.000** 12.5984	**91.000** 3.5827	**1140000** 255000	0.46	1.30	**294000** 66200	**227000** 51000	1.27	**1900000** 427000	32236
190.000 7.4803	**260.000** 10.2362	**45.000** 1.7720	**398000** 89500	0.48	1.26	**103000** 23200	**84300** 19000	1.22	**833000** 187000	32938
190.000 7.4803	**260.000** 10.2362	**46.000** 1.8110	**407000** 91500	0.48	1.26	**105000** 23700	**86200** 19400	1.22	**807000** 181000	JM738249/JM738210
190.000 7.4803	**290.000** 11.4173	**64.000** 2.5197	**719000** 162000	0.44	1.36	**186000** 41900	**141000** 31700	1.32	**1290000** 290000	32038X
190.000 7.4803	**340.000** 13.3858	**60.000** 2.3622	**839000** 189000	0.44	1.38	**217000** 48900	**162000** 36400	1.34	**1390000** 312000	30238
190.000 7.4803	**340.000** 13.3858	**97.000** 3.8189	**1360000** 305000	0.44	1.38	**352000** 79200	**262000** 59000	1.34	**2210000** 496000	32238
200.000 7.8740	**280.000** 11.0236	**51.000** 2.0079	**530000** 119000	0.39	1.52	**137000** 30900	**92800** 20900	1.48	**1050000** 235000	32940
200.000 7.8740	**300.000** 11.8110	**65.000** 2.5591	**695000** 156000	0.52	1.15	**180000** 40500	**161000** 36200	1.12	**1280000** 287000	JHM840449/JHM840410

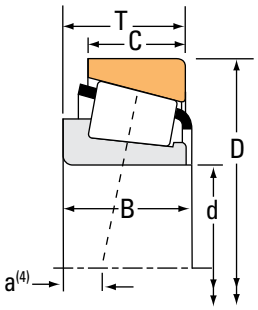
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

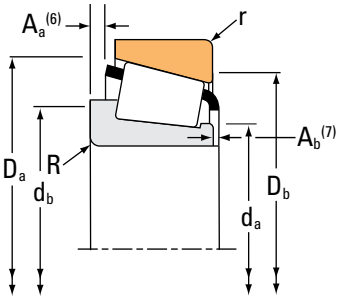
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
44.500 1.7520	**37.000** 1.4567	**5.1** 0.20	**3.0** 0.12	**180.0** 7.09	**185.0** 7.28	**2.5** 0.10	**232.0** 9.13	**222.0** 8.74	**2.0** 0.08	**4.8** 0.19	548.5	117.5	0.1160	**6.24** 13.76
57.000 2.2441	**43.000** 1.6929	**-0.3** -0.01	**3.0** 0.12	**187.0** 7.36	**192.0** 7.56	**2.5** 0.10	**249.0** 9.80	**238.0** 9.37	**5.6** 0.22	**3.8** 0.15	628.5	142.4	0.1230	**10.52** 23.18
52.000 2.0472	**43.000** 1.6929	**5.8** 0.23	**5.0** 0.20	**191.0** 7.52	**198.0** 7.80	**4.0** 0.16	**288.0** 11.34	**285.0** 11.22	**4.3** 0.17	**6.9** 0.27	615.2	89.8	0.1200	**17.10** 37.70
86.000 3.3858	**71.000** 2.7953	**-14.5** -0.57	**5.0** 0.20	**198.0** 7.80	**210.0** 8.27	**4.0** 0.16	**293.5** 11.56	**279.0** 10.98	**8.1** 0.32	**8.1** 0.32	858.1	72.5	0.1360	**28.37** 62.54
45.000 1.7717	**34.000** 1.3386	**8.9** 0.35	**2.5** 0.10	**192.0** 7.56	**195.0** 7.72	**2.0** 0.08	**243.0** 9.57	**231.0** 9.09	**4.0** 0.15	**2.3** 0.09	601.8	184.5	0.1236	**6.47** 14.27
30.000 1.1811	**23.000** 0.9055	**16.00** 0.63	**3.00** 0.12	**189.0** 7.44	**194.0** 7.64	**3.0** 0.12	**233.0** 9.17	**227.0** 8.94	**2.8** 0.11	**4.8** 0.19	369.2	161.8	0.1040	**3.53** 7.80
45.000 1.7717	**37.000** 1.4567	**8.9** 0.35	**3.0** 0.12	**190.5** 7.50	**196.0** 7.72	**2.5** 0.10	**242.6** 9.55	**232.0** 9.13	**2.8** 0.11	**4.8** 0.19	589.4	128.0	0.1230	**6.71** 14.78
64.000 2.5197	**48.000** 1.8898	**-3.6** -0.14	**3.0** 0.12	**197.0** 7.76	**203.0** 7.99	**2.5** 0.10	**270.0** 10.63	**256.0** 10.08	**6.2** 0.24	**3.8** 0.15	760.6	147.5	0.1289	**13.98** 30.81
52.000 2.0472	**43.000** 1.6929	**8.6** 0.34	**5.0** 0.20	**200.0** 7.87	**209.0** 8.23	**4.0** 0.16	**297.0** 11.71	**294.0** 11.57	**4.3** 0.17	**7.1** 0.28	676.6	100.2	0.1260	**17.95** 39.58
86.000 3.3858	**71.000** 2.7953	**-11.4** -0.45	**5.0** 0.20	**210.0** 8.27	**220.0** 8.66	**4.0** 0.16	**303.0** 11.93	**288.0** 11.34	**8.6** 0.34	**8.1** 0.32	988.6	103.7	0.1440	**30.26** 66.71
45.000 1.7717	**34.000** 1.3386	**10.4** 0.41	**2.5** 0.10	**201.0** 7.91	**205.0** 8.07	**2.0** 0.08	**251.0** 9.88	**242.1** 9.53	**3.3** 0.13	**3.8** 0.15	695.8	184.4	0.1290	**6.91** 15.23
44.000 1.7323	**36.500** 1.4370	**10.9** 0.43	**3.3** 0.12	**200.0** 7.87	**206.0** 8.11	**2.5** 0.10	**252.0** 9.92	**242.0** 9.53	**2.5** 0.10	**4.8** 0.19	653.1	146.7	0.1260	**6.89** 15.20
64.000 2.5197	**48.000** 1.8898	**-0.5** -0.02	**3.0** 0.12	**207.0** 8.15	**214.0** 8.43	**2.5** 0.10	**281.0** 11.06	**267.0** 10.51	**6.4** 0.25	**4.0** 0.16	828.7	161.7	0.1344	**14.60** 32.18
55.000 2.1654	**46.000** 1.8110	**7.1** 0.28	**5.0** 0.20	**214.9** 8.43	**222.0** 8.70	**4.0** 0.16	**318.5** 12.54	**310.0** 12.20	**3.8** 0.15	**10.7** 0.42	940.6	103.1	0.1390	**22.49** 49.58
92.000 3.6220	**75.000** 2.9528	**-15.7** -0.62	**5.0** 0.20	**219.0** 8.62	**230.0** 9.05	**4.0** 0.16	**323.0** 12.72	**305.0** 12.01	**11.2** 0.44	**9.9** 0.39	1114.6	89.9	0.1480	**36.36** 80.15
51.000 2.0079	**39.000** 1.5354	**3.0** 0.12	**3.0** 0.12	**213.0** 8.39	**217.0** 8.54	**2.5** 0.10	**272.0** 10.71	**262.0** 10.31	**4.6** 0.18	**1.4** 0.06	843.3	220.2	0.1298	**9.45** 20.84
62.000 2.4409	**51.000** 2.0079	**8.1** 0.32	**3.5** 0.14	**215.0** 8.46	**226.0** 8.90	**2.5** 0.10	**288.9** 11.37	**273.0** 10.75	**3.8** 0.15	**7.1** 0.28	853.6	126.4	0.1430	**15.57** 34.32

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

Continued on next page.







Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Y	Dynamic(3) C_{90}	C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
200.000 7.8740	**310.000** 12.2047	**70.000** 2.7559	**847000** 191000	0.43	1.39	**220000** 49400	**162000** 36400	1.36	**1520000** 342000	32040X
200.000 7.8740	**360.000** 14.1732	**64.000** 2.5197	**891000** 200000	0.44	1.38	**231000** 51900	**172000** 38700	1.34	**1330000** 299000	30240
200.000 7.8740	**360.000** 14.1732	**104.000** 4.0945	**1390000** 312000	0.41	1.48	**360000** 80900	**250000** 56300	1.44	**2250000** 506000	32240
220.000 8.6614	**300.000** 11.8110	**51.000** 2.0079	**561000** 126000	0.43	1.41	**145000** 32700	**106000** 23800	1.37	**1090000** 245000	32944
220.000 8.6614	**340.000** 13.3858	**76.000** 2.9921	**994000** 223000	0.43	1.39	**258000** 57900	**190000** 42700	1.36	**1800000** 405000	32044X
220.000 8.6614	**400.000** 15.7480	**72.000** 2.8346	**1100000** 247000	0.42	1.43	**285000** 64000	**205000** 46000	1.39	**1560000** 350000	30244
220.000 8.6614	**400.000** 15.7480	**114.000** 4.4882	**1850000** 415000	0.44	1.38	**479000** 108000	**357000** 80200	1.34	**3010000** 677000	32244
240.000 9.4488	**320.000** 12.5984	**42.000** 1.6535	**440000** 99000	0.46	1.31	**114000** 25700	**89300** 20100	1.28	**808000** 182000	JP24049/JP24010
240.000 9.4488	**320.000** 12.5984	**51.000** 2.0079	**571000** 128000	0.46	1.31	**148000** 33300	**116000** 26100	1.27	**1150000** 258000	32948
240.000 9.4488	**360.000** 14.1732	**76.000** 2.9921	**1030000** 232000	0.46	1.31	**267000** 60100	**210000** 47200	1.27	**1940000** 435000	32048X
240.000 9.4488	**440.000** 17.3228	**127.000** 5.0000	**2230000** 501000	0.44	1.38	**578000** 130000	**430000** 96700	1.34	**3680000** 828000	32248
260.000 10.2362	**360.000** 14.1732	**63.500** 2.5000	**829000** 186000	0.41	1.48	**215000** 48300	**150000** 33600	1.44	**1690000** 379000	32952
260.000 10.2362	**400.000** 15.7480	**87.000** 3.4252	**1320000** 298000	0.43	1.38	**343000** 77100	**255000** 57400	1.34	**2440000** 548000	32052X
260.000 10.2362	**480.000** 18.8976	**137.000** 5.3937	**2490000** 560000	0.43	1.39	**646000** 145000	**476000** 107000	1.36	**4140000** 930000	32252
280.000 11.0236	**380.000** 14.9606	**63.500** 2.5000	**850000** 191000	0.43	1.39	**220000** 49500	**163000** 36700	1.35	**1780000** 401000	32956
280.000 11.0236	**420.000** 16.5354	**87.000** 3.4252	**1380000** 309000	0.46	1.31	**357000** 80200	**280000** 63000	1.27	**2620000** 590000	32056X
300.000 11.8110	**420.000** 16.5354	**76.000** 2.9921	**1180000** 265000	0.39	1.52	**306000** 68700	**207000** 464000	1.48	**2430000** 547000	32960

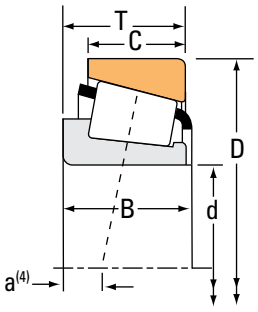
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

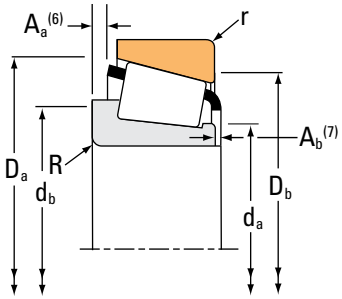
Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. a[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
70.000 2.7559	**53.000** 2.0866	**-3.3** -0.13	**3.0** 0.12	**220.0** 8.66	**225.0** 8.86	**2.5** 0.10	**297.0** 11.69	**284.0** 11.18	**7.4** 0.29	**5.6** 0.22	977.7	113.4	0.1410	**18.68** 41.18
58.000 2.2835	**48.000** 1.8898	**7.9** 0.31	**5.0** 0.20	**227.0** 8.94	**231.0** 9.09	**4.0** 0.16	**335.5** 13.21	**331.0** 13.03	**4.6** 0.18	**9.7** 0.38	876.8	106.9	0.1350	**25.67** 56.60
98.000 3.8583	**82.000** 3.2283	**-20.3** -0.80	**5.0** 0.20	**229.0** 9.21	**240.0** 9.45	**4.0** 0.16	**340.0** 13.39	**326.0** 12.83	**15.5** 0.61	**7.4** 0.29	1227.1	110.8	0.1490	**42.51** 93.72
51.000 2.0079	**39.000** 1.5354	**8.1** 0.32	**3.0** 0.12	**232.0** 9.13	**237.0** 9.33	**2.5** 0.10	**290.0** 11.42	**281.0** 11.06	**4.7** 0.18	**3.4** 0.14	909.0	153.0	0.1361	**9.89** 21.81
76.000 2.9921	**57.000** 2.2441	**-3.3** -0.13	**4.0** 0.16	**241.0** 9.49	**248.0** 9.76	**3.0** 0.12	**325.0** 12.80	**312.0** 12.28	**10.3** 0.40	**4.0** 0.16	1207.8	127.4	0.1509	**23.97** 52.86
65.000 2.5591	**54.000** 2.1260	**5.1** 0.20	**5.1** 0.20	**245.0** 9.65	**252.0** 9.92	**4.0** 0.16	**371.0** 14.61	**364.0** 14.33	**7.9** 0.31	**9.6** 0.38	1012.1	104.0	0.1400	**35.25** 77.71
108.000 4.2520	**90.000** 3.5433	**-15.0** -0.59	**5.0** 0.20	**251.0** 9.88	**268.0** 10.55	**4.0** 0.16	**379.5** 14.94	**362.0** 14.25	**11.0** 0.43	**7.0** 0.28	1607.6	113.5	0.1669	**59.41** 130.98
39.000 1.5354	**30.000** 1.1811	**19.6** 0.77	**3.0** 0.12	**252.0** 9.92	**257.0** 10.12	**1.5** 0.12	**310.0** 12.20	**304.0** 11.97	**3.3** 0.13	**5.8** 0.23	804.0	198.2	0.1330	**8.20** 18.08
51.000 2.0079	**39.000** 1.5354	**14.0** 0.55	**3.0** 0.12	**251.0** 9.88	**258.0** 10.16	**2.5** 0.10	**311.5** 12.26	**300.0** 11.81	**4.1** 0.16	**4.3** 0.17	1020.3	205.6	0.1450	**10.35** 22.83
76.000 2.9921	**57.000** 2.2441	**2.2** 0.09	**4.0** 0.16	**259.0** 10.20	**268.0** 10.55	**3.0** 0.12	**346.0** 13.62	**331.0** 13.03	**10.5** 0.41	**4.4** 0.17	1385.0	145.0	0.1610	**25.73** 56.71
120.000 4.7244	**100.000** 3.9370	**-17.5** -0.69	**5.0** 0.20	**280.0** 11.02	**293.0** 11.54	**4.0** 0.16	**415.0** 16.34	**394.0** 15.51	**10.9** 0.43	**8.6** 0.34	2021.3	103.0	0.1800	**81.12** 178.85
63.500 2.5000	**48.000** 1.8898	**6.1** 0.24	**3.0** 0.12	**275.0** 10.83	**280.0** 11.02	**3.0** 0.12	**347.5** 13.68	**337.0** 13.27	**6.1** 0.24	**4.6** 0.18	1503.1	206.8	0.1580	**18.60** 41.01
87.000 3.4252	**65.000** 2.5591	**-1.5** -0.06	**5.0** 0.20	**284.0** 11.18	**293.0** 11.54	**4.0** 0.16	**382.5** 15.06	**367.0** 14.45	**10.9** 0.43	**4.0** 0.16	1752.5	154.0	0.1711	**37.84** 83.44
130.000 5.1181	**106.000** 4.1732	**-22.8** -0.90	**6.0** 0.24	**306.0** 12.05	**315.0** 12.40	**5.0** 0.20	**454.5** 17.89	**432.0** 17.01	**18.2** 0.72	**9.3** 0.37	2419.2	141.7	0.1902	**103.96** 229.19
63.500 2.5000	**48.000** 1.8898	**11.4** 0.45	**3.0** 0.12	**296.0** 11.65	**300.0** 11.81	**2.5** 0.10	**368.0** 14.49	**356.0** 14.02	**7.3** 0.29	**3.4** 0.14	1696.5	236.2	0.1680	**19.81** 43.69
87.000 3.4252	**65.000** 2.5591	**3.8** 0.15	**5.0** 0.20	**302.0** 11.89	**314.0** 12.36	**4.0** 0.16	**402.0** 15.83	**388.1** 15.28	**11.3** 0.44	**4.1** 0.16	1981.1	175.3	0.1812	**40.30** 88.84
76.000 2.9921	**57.000** 2.2441	**4.3** 0.17	**4.0** 0.16	**318.0** 12.52	**324.0** 12.76	**3.0** 0.12	**405.5** 15.96	**393.0** 15.47	**7.9** 0.31	**6.1** 0.24	2228.2	250.1	0.1790	**31.23** 68.84

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

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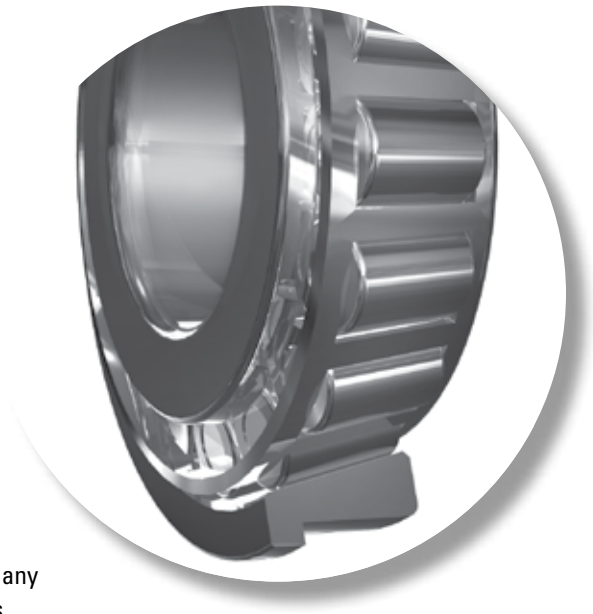


Bearing Dimensions			Load Ratings							Part Number
Bore d	O.D. D	Width T	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Assembly Inner/Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf	
300.000 11.8110	**460.000** 18.1102	**100.000** 3.9370	**1730000** 389000	0.43	1.38	**449000** 101000	**334000** 75100	1.34	**3170000** 712000	32060X
300.000 11.8110	**540.000** 21.2598	**149.000** 5.8661	**3090000** 695000	0.43	1.38	**802000** 180000	**597000** 134000	1.34	**5310000** 1190000	32260
320.000 12.5984	**480.000** 18.8976	**100.000** 3.9370	**1800000** 406000	0.46	1.31	**468000** 105000	**367000** 82600	1.27	**3420000** 768000	32064X
340.000 13.3858	**460.000** 18.1102	**76.000** 2.9921	**1220000** 274000	0.44	1.37	**316000** 71000	**237000** 53200	1.34	**2640000** 594000	32968
360.000 14.1732	**480.000** 18.8976	**76.000** 2.9921	**1250000** 281000	0.46	1.31	**324000** 72800	**254000** 57100	1.27	**2780000** 624000	32972

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

Bearing Dimensions											Geometry Factors			Bearing Weight
			Shaft			Housing			Cage					
Width B	Width C	Eff. Ctr. $a^{(4)}$	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	Backing Shoulder Dia. D_b	A_a[6]	A_b[7]	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
100.000 3.9370	**74.000** 2.9134	**-1.8** -0.07	**5.0** 0.20	**323.0** 12.72	**336.0** 13.23	**4.0** 0.16	**439.0** 17.28	**423.0** 16.65	**11.7** 0.46	**6.9** 0.27	2353.5	203.9	0.1890	**56.32** 124.17
140.000 5.5118	**115.000** 4.5276	**-17.8** -0.70	**6.0** 0.24	**345.0** 13.58	**359.0** 14.13	**5.0** 0.20	**511.0** 20.12	**483.1** 19.02	**15.8** 0.62	**8.9** 0.35	3303.4	165.8	0.2120	**139.93** 308.48
100.000 3.9370	**74.000** 2.9134	**4.3** 0.17	**5.0** 0.20	**343.0** 13.50	**357.0** 14.06	**4.0** 0.16	**461.0** 18.15	**442.0** 17.40	**13.5** 0.53	**5.3** 0.21	2667.3	201.4	0.1998	**59.62** 131.44
76.000 2.9921	**57.000** 2.2441	**14.7** 0.58	**4.0** 0.16	**359.0** 14.13	**364.0** 14.33	**3.0** 0.12	**446.0** 17.56	**432.0** 17.01	**10.5** 0.41	**4.2** 0.17	2703.6	309.5	0.1967	**34.46** 75.96
76.000 2.9921	**57.000** 2.2441	**20.6** 0.81	**4.0** 0.16	**378.0** 14.88	**385.0** 15.16	**3.0** 0.12	**466.0** 18.35	**451.0** 17.76	**10.8** 0.42	**4.2** 0.17	2984.5	344.6	0.2061	**45.22** 79.84

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.
[6]Negative value indicates cage extends beyond cone (inner-ring) backface.
[7]Negative value indicates cage that does not extend beyond cone (inner-ring) front face.

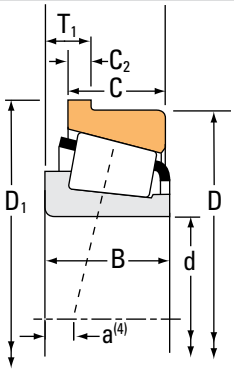


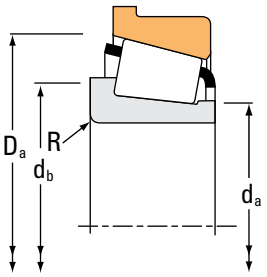
TYPE TSF

- Type TSF is a single-row bearing with a flange on the outer ring.
- The flange is used for axial location in a housing.
- Through-boring of the housing results in accurately aligned seats.
- The flange is not normally clamped in position.
- Flanged outer rings can be used with any single inner ring from the same series.
- The most commonly specified inner ring part numbers are shown in the tables provided.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective application.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
7.937 0.3125	**31.991** 1.2595	**4.458** 0.1755	**10800** 2430	0.41	1.48	**2800** 630	**1940** 437	1.44	**9230** 2070	A2031	A2126-B
9.525 0.3750	**31.991** 1.2595	**4.458** 0.1755	**10800** 2430	0.41	1.48	**2800** 630	**1940** 437	1.44	**9230** 2070	A2037	A2126-B
****11.987** 0.4719	**31.991** 1.2595	**4.458** 0.1755	**10800** 2430	0.41	1.48	**2800** 630	**1940** 437	1.44	**9230** 2070	A2047	A2126-B
12.700 0.5000	**34.988** 1.3775	**4.630** 0.1823	**13200** 2960	0.45	1.32	**3410** 767	**2640** 594	1.29	**11500** 2580	A4050	A4138-B
****14.989** 0.5901	**34.988** 1.3775	**4.630** 0.1823	**13200** 2960	0.45	1.32	**3410** 767	**2640** 594	1.29	**11500** 2580	A4059	A4138-B
15.875 0.6250	**47.000** 1.8504	**6.038** 0.2377	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05062	05185-B
15.875 0.6250	**42.862** 1.6875	**6.350** 0.2500	**31400** 7070	0.33	1.81	**8150** 1830	**4620** 1040	1.76	**29200** 6560	17580	17520-B
15.875 0.6250	**39.992** 1.5745	**4.851** 0.1910	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6062	A6157-B
16.993 0.6690	**47.000** 1.8504	**6.038** 0.2377	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05066	05185-B
16.993 0.6690	**39.992** 1.5745	**4.851** 0.1910	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6067	A6157-B
19.050 0.7500	**56.896** 2.2400	**7.455** 0.2935	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1775	1729-B
19.050 0.7500	**53.975** 1.2500	**10.317** 0.4062	**55100** 12400	0.59	1.02	**14300** 3210	**14400** 3250	0.99	**42500** 9560	21075	21212-B
19.050 0.7500	**49.225** 1.9380	**6.998** 0.2755	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09067	09195AB
19.050 0.7500	**47.000** 1.8504	**6.038** 0.2377	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05075	05185-B
19.050 0.7500	**47.000** 1.8504	**14.381** 0.5662	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05075X	05185-B
19.050 0.7500	**39.992** 1.5745	**4.851** 0.1910	**13400** 3020	0.53	1.14	**3480** 782	**3140** 705	1.11	**12300** 2770	A6075	A6157-B
***19.987** 0.7869	**47.000** 1.8504	**6.048** 0.2381	**26700** 6010	0.36	1.68	**6930** 1560	**4230** 952	1.64	**25400** 5720	05079	05185-B

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.
**For standard class (2 or 4) only, the maximum metric value is a whole millimeter dimension.

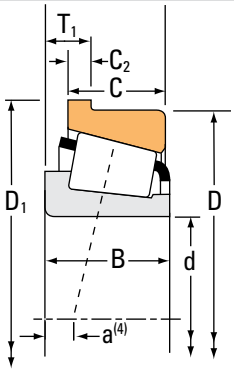
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
10.785 0.4246	**7.938** 0.3125	**-3.0** -0.12	**35.166** 1.3845	**2.388** 0.0940	**0.5** 0.02	**12.5** 0.49	**13.0** 0.51	**30.0** 1.18	1.7	3.2	0.0308	**0.05** 0.11
10.785 0.4246	**7.938** 0.3125	**-3.0** -0.12	**35.166** 1.3845	**2.388** 0.0940	**1.3** 0.05	**13.5** 0.53	**15.0** 0.59	**30.0** 1.18	1.7	3.2	0.0308	**0.05** 0.11
10.785 0.4246	**7.938** 0.3125	**-3.0** -0.12	**35.166** 1.3845	**2.388** 0.0940	**0.8** 0.03	**15.5** 0.61	**16.5** 0.65	**30.0** 1.18	1.7	3.2	0.0308	**0.04** 0.10
10.988 0.4326	**8.730** 0.3437	**-2.5** -0.10	**38.062** 1.4985	**2.362** 0.0930	**1.3** 0.05	**17.0** 0.67	**18.5** 0.73	**33.5** 1.32	2.3	4.1	0.0355	**0.05** 0.12
10.988 0.4326	**8.730** 0.3437	**-2.5** -0.10	**38.062** 1.4985	**2.362** 0.0930	**0.8** 0.03	**19.0** 0.75	**19.5** 0.77	**33.5** 1.32	2.3	4.1	0.0355	**0.04** 0.12
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**50.861** 2.0024	**2.769** 0.1090	**1.5** 0.06	**21.0** 0.83	**23.5** 0.93	**44.5** 1.75	5.8	5.5	0.0448	**0.14** 0.31
16.670 0.6563	**13.495** 0.5313	**-5.8** -0.23	**45.936** 1.8085	**3.175** 0.1250	**1.5** 0.06	**21.0** 0.83	**23.0** 0.91	**40.5** 1.59	5.3	4.5	0.0423	**0.12** 0.29
11.153 0.4391	**9.525** 0.3750	**-1.5** -0.06	**43.066** 1.6955	**2.362** 0.0930	**1.3** 0.05	**20.5** 0.81	**22.0** 0.87	**38.0** 1.50	2.9	5.6	0.0404	**0.09** 0.17
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**50.861** 2.0024	**2.769** 0.1090	**1.5** 0.06	**22.0** 0.87	**24.5** 0.96	**44.5** 1.75	5.8	5.5	0.0448	**0.14** 0.30
11.153 0.4391	**9.525** 0.3750	**-1.5** -0.06	**43.066** 1.6955	**2.362** 0.0930	**0.8** 0.03	**21.0** 0.83	**22.0** 0.87	**38.0** 1.50	2.9	5.6	0.0404	**0.09** 0.17
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**60.757** 2.3920	**3.962** 0.1560	**1.5** 0.06	**25.0** 0.98	**27.0** 1.06	**53.0** 2.09	10.6	5.4	0.0521	**0.27** 0.62
21.839 0.8598	**15.875** 0.6250	**-5.8** -0.23	**57.841** 2.2772	**3.967** 0.1562	**1.5** 0.06	**26.0** 1.03	**31.5** 1.24	**52.0** 2.05	7.0	4.1	0.0558	**0.26** 0.57
19.050 0.7500	**14.288** 0.5625	**-7.4** -0.29	**53.081** 2.0898	**3.251** 0.1280	**1.3** 0.05	**24.0** 0.94	**25.5** 1.00	**46.5** 1.83	8.0	4.0	0.0452	**0.18** 0.40
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**50.861** 2.0024	**2.769** 0.1090	**1.3** 0.05	**23.5** 0.93	**25.0** 0.98	**44.5** 1.75	5.8	5.5	0.0448	**0.13** 0.29
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**50.861** 2.0024	**2.769** 0.1090	**1.5** 0.06	**23.5** 0.93	**25.4** 1.00	**44.5** 1.75	5.8	5.5	0.0448	**0.13** 0.29
11.153 0.4391	**9.525** 0.3750	**-1.5** -0.06	**43.066** 1.6955	**2.362** 0.0930	**1.0** 0.04	**23.0** 0.91	**24.0** 0.94	**38.0** 1.50	2.9	5.6	0.0404	**0.08** 0.16
14.381 0.5662	**11.112** 0.4375	**-4.1** -0.16	**50.861** 2.0024	**2.769** 0.1090	**1.5** 0.06	**24.0** 0.94	**26.5** 1.04	**44.5** 1.75	5.8	5.5	0.0448	**0.13** 0.28

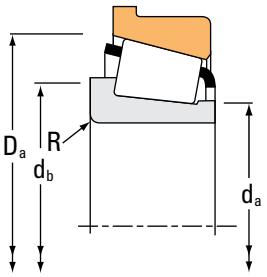
[4]Negative value indicates effective center inside cone Metric.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
**20.000 0.7874	**51.994** 2.0470	**5.080** 0.2000	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07079	07204-B
20.625 0.8120	**49.225** 1.9380	**8.809** 0.3468	**42800** 9630	0.27	2.26	**11100** 2500	**5050** 1140	2.20	**40500** 9100	09081	09195AB
20.637 0.8125	**61.912** 2.4375	**9.525** 0.3750	**88600** 19900	0.28	2.13	**23000** 5160	**11100** 2500	2.07	**89800** 20200	3660	3620-B
22.225 0.8750	**66.421** 2.6150	**8.725** 0.3435	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2684	2631-B
22.225 0.8750	**60.325** 2.3750	**7.938** 0.3125	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1975	1931-B
22.225 0.8750	**56.896** 2.2400	**7.463** 0.2938	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1755	1729-B
22.225 0.8750	**51.994** 2.0470	**5.080** 0.2000	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07087	07204-B
22.225 0.8750	**50.800** 2.0000	**5.080** 0.2000	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07087X	07210XB
22.225 0.8750	**50.005** 1.9687	**6.749** 0.2657	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07087	07196-B
23.812 0.9375	**72.000** 2.8346	**7.087** 0.2790	**58800** 13200	0.36	1.67	**15200** 3420	**9390** 2110	1.62	**60100** 13500	26093	26283-B
23.812 0.9375	**56.896** 2.2400	**7.463** 0.2938	**45400** 10200	0.31	1.95	**11800** 2650	**6200** 1390	1.90	**45300** 10200	1779	1729-B
23.812 0.9375	**51.994** 2.0470	**5.080** 0.2000	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07093	07204-B
24.981 0.9835	**51.994** 2.0470	**5.080** 0.2000	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07098	07204-B
24.981 0.9835	**50.005** 1.9687	**6.749** 0.2657	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07098	07196-B
25.400 1.0000	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3189	3120-B
25.400 1.0000	**72.625** 2.8593	**12.700** 0.5000	**82600** 18600	0.60	1.00	**21400** 4820	**22100** 4960	0.97	**64100** 14400	41100	41286-B
25.400 1.0000	**72.000** 2.8346	**7.087** 0.2790	**58800** 13200	0.36	1.67	**15200** 3420	**9390** 2110	1.62	**60100** 13500	26100	26283-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.
**For standard class (2 or 4) only, the maximum metric value is a whole millimeter dimension.

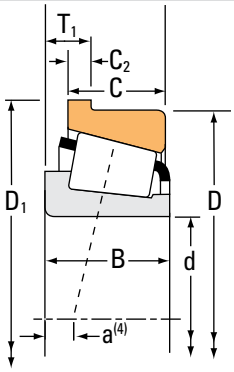
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**55.855** 2.1990	**2.769** 0.1090	**1.5** 0.06	**26.0** 1.02	**27.5** 1.08	**50.0** 1.97	7.6	7.1	0.0509	**0.17** 0.38
21.539 0.8480	**14.288** 0.5625	**-9.1** -0.36	**53.081** 2.0898	**3.251** 0.1280	**1.5** 0.06	**25.4** 1.00	**27.5** 1.08	**46.5** 1.83	8.0	4.0	0.0452	**0.18** 0.40
30.417 1.1975	**23.812** 0.9375	**-11.9** -0.47	**66.571** 2.6209	**4.762** 0.1875	**2.3** 0.09	**29.5** 1.16	**33.5** 1.32	**59.0** 2.32	17.0	6.4	0.0592	**0.49** 1.07
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**70.282** 2.7670	**3.962** 0.1560	**1.5** 0.06	**32.0** 1.26	**34.0** 1.34	**62.0** 2.44	19.3	8.0	0.0598	**0.47** 1.04
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**64.186** 2.5270	**3.967** 0.1562	**0.8** 0.03	**29.5** 1.16	**30.5** 1.20	**57.0** 2.24	12.5	6.3	0.0565	**0.30** 0.68
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**60.757** 2.3920	**3.962** 0.1560	**1.3** 0.05	**27.5** 1.08	**29.0** 1.14	**53.0** 2.09	10.6	5.4	0.0521	**0.26** 0.58
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**55.855** 2.1990	**2.769** 0.1090	**1.3** 0.05	**27.0** 1.06	**28.5** 1.12	**50.0** 1.97	7.6	7.1	0.0509	**0.16** 0.36
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**54.762** 2.1560	**2.769** 0.1090	**1.5** 0.06	**27.0** 1.06	**29.0** 1.14	**49.0** 1.93	7.6	7.1	0.0509	**0.15** 0.34
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**53.871** 2.1209	**2.779** 0.1094	**1.3** 0.05	**27.0** 1.06	**28.5** 1.12	**49.0** 1.93	7.6	7.1	0.0509	**0.13** 0.30
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**2.3** 0.09	**31.0** 1.22	**35.0** 1.38	**66.0** 2.60	16.1	10.1	0.0630	**0.43** 0.96
19.837 0.7810	**15.875** 0.6250	**-6.9** -0.27	**60.757** 2.3920	**3.962** 0.1560	**0.8** 0.03	**28.5** 1.12	**29.5** 1.16	**53.0** 2.09	10.6	5.4	0.0521	**0.25** 0.56
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**55.855** 2.1990	**2.769** 0.1090	**1.5** 0.06	**28.5** 1.12	**30.5** 1.20	**50.0** 1.97	7.6	7.1	0.0509	**0.16** 0.34
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**55.855** 2.1990	**2.769** 0.1090	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**50.0** 1.97	7.6	7.1	0.0509	**0.15** 0.33
14.260 0.5614	**9.525** 0.3750	**-2.8** -0.11	**53.871** 2.1209	**2.779** 0.1094	**1.5** 0.06	**29.0** 1.14	**31.0** 1.22	**49.0** 1.93	7.6	7.1	0.0509	**0.12** 0.27
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**0.8** 0.03	**35.0** 1.38	**35.5** 1.40	**69.0** 2.72	23.4	8.8	0.0697	**0.68** 1.49
24.257 0.9550	**17.462** 0.6875	**-4.1** -0.16	**78.082** 3.0741	**5.555** 0.2187	**2.3** 0.09	**36.5** 1.44	**41.0** 1.61	**70.0** 2.76	13.0	5.8	0.0686	**0.52** 1.16
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**1.5** 0.06	**32.5** 1.28	**34.5** 1.36	**66.0** 2.60	16.1	10.1	0.0630	**0.42** 0.94

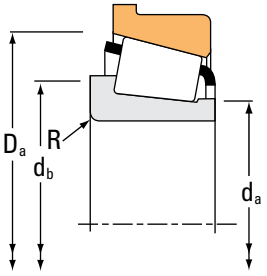
[4]Negative value indicates effective center inside cone Metric.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
25.400 1.0000	**68.262** 2.6875	**8.730** 0.3437	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02473	02420-B
25.400 1.0000	**66.421** 2.6150	**8.725** 0.3435	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2687	2631-B
25.400 1.0000	**65.088** 2.5625	**10.320** 0.4063	**54600** 12300	0.73	0.82	**14200** 3180	**17700** 3990	0.80	**55800** 12500	23100	23256-B
25.400 1.0000	**60.325** 2.3750	**7.938** 0.3125	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1986	1931-B
25.400 1.0000	**58.738** 2.3125	**7.938** 0.3125	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1986	1932-B
25.400 1.0000	**57.150** 2.2500	**7.938** 0.3125	**54500** 12300	0.35	1.73	**14100** 3180	**8380** 1880	1.69	**50100** 11300	15578	15520-B
25.400 1.0000	**50.800** 2.0000	**5.080** 0.2000	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650	07100-SA	07210XB
26.975 1.0620	**60.325** 2.3750	**7.938** 0.3125	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1987	1931-B
26.987 1.0625	**72.625** 2.8593	**12.700** 0.5000	**82600** 18600	0.60	1.00	**21400** 4820	**22100** 4960	0.97	**64100** 14400	41106	41286-B
26.987 1.0625	**66.421** 2.6150	**8.725** 0.3435	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2688	2631-B
28.575 1.1250	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3198	3120-B
28.575 1.1250	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3192	3120-B
28.575 1.1250	**72.625** 2.8593	**12.700** 0.5000	**82600** 18600	0.60	1.00	**21400** 4820	**22100** 4960	0.97	**64100** 14400	41125	41286-B
28.575 1.1250	**72.000** 2.8346	**7.087** 0.2790	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26112	26283-B
28.575 1.1250	**69.850** 2.7500	**8.733** 0.3438	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2578	2523-B
28.575 1.1250	**66.421** 2.6150	**8.725** 0.3435	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2689	2631-B
28.575 1.1250	**60.325** 2.3750	**7.938** 0.3125	**48400** 10900	0.33	1.82	**12500** 2820	**7080** 1590	1.77	**50200** 11300	1985	1931-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

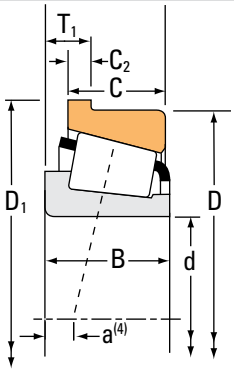
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**72.128** 2.8397	**3.967** 0.1562	**0.8** 0.03	**33.5** 1.32	**34.5** 1.36	**65.0** 2.56	17.5	8.5	0.0681	**0.48** 1.06
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**70.282** 2.7670	**3.962** 0.1560	**1.3** 0.05	**31.5** 1.24	**33.5** 1.32	**62.0** 2.44	19.3	8.0	0.0598	**0.44** 0.99
21.463 0.8450	**15.875** 0.6250	**-2.3** -0.09	**68.953** 2.7147	**3.970** 0.1563	**1.5** 0.06	**34.5** 1.36	**39.0** 1.54	**63.0** 2.48	11.3	6.6	0.0700	**0.37** 0.83
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**64.186** 2.5270	**3.967** 0.1562	**1.3** 0.05	**32.0** 1.26	**34.0** 1.34	**57.0** 2.24	12.5	6.3	0.0565	**0.29** 0.64
19.355 0.7620	**15.080** 0.5937	**-5.8** -0.23	**62.598** 2.4645	**3.967** 0.1562	**1.3** 0.05	**32.0** 1.26	**34.0** 1.34	**56.0** 2.20	12.5	6.3	0.0565	**0.27** 0.59
17.462 0.6875	**13.495** 0.5313	**-5.1** -0.20	**61.016** 2.4022	**3.970** 0.1563	**1.3** 0.05	**30.5** 1.20	**32.5** 1.28	**60.0** 2.36	12.7	10.3	0.0577	**0.24** 0.52
14.260 0.5614	**12.700** 0.5000	**-2.8** -0.11	**54.762** 2.1560	**2.769** 0.1090	**3.3** 0.13	**29.5** 1.16	**35.0** 1.38	**49.0** 1.93	7.6	7.1	0.0509	**0.14** 0.30
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**64.186** 2.5270	**3.967** 0.1562	**0.8** 0.03	**31.5** 1.24	**32.5** 1.28	**57.0** 2.24	12.5	6.3	0.0565	**0.28** 0.62
24.257 0.9550	**17.462** 0.6875	**-4.1** -0.16	**78.082** 3.0741	**5.555** 0.2187	**2.3** 0.09	**36.5** 1.44	**42.0** 1.65	**70.0** 2.76	13.0	5.8	0.0686	**0.51** 1.13
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**70.282** 2.7670	**3.962** 0.1560	**1.5** 0.06	**33.0** 1.30	**35.0** 1.38	**62.0** 2.44	19.3	8.0	0.0598	**0.43** 0.96
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**1.3** 0.05	**37.0** 1.46	**39.0** 1.54	**69.0** 2.72	23.4	8.8	0.0697	**0.65** 1.42
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**3.5** 0.14	**37.0** 1.46	**43.5** 1.71	**69.0** 2.72	23.4	8.8	0.0697	**0.64** 1.41
24.257 0.9550	**17.462** 0.6875	**-4.1** -0.16	**78.082** 3.0741	**5.555** 0.2187	**4.8** 0.19	**36.5** 1.44	**48.0** 1.89	**70.0** 2.76	13.0	5.8	0.0686	**0.49** 1.09
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**1.5** 0.06	**35.0** 1.38	**37.0** 1.46	**66.0** 2.60	16.1	10.1	0.0630	**0.40** 0.90
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**73.711** 2.9020	**3.962** 0.1560	**2.3** 0.09	**35.0** 1.38	**39.0** 1.54	**66.0** 2.60	23.6	9.6	0.0656	**0.49** 1.09
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**70.282** 2.7670	**3.962** 0.1560	**1.3** 0.05	**36.0** 1.42	**37.5** 1.48	**62.0** 2.44	19.3	8.0	0.0598	**0.42** 0.93
19.355 0.7620	**15.875** 0.6250	**-5.8** -0.23	**64.186** 2.5270	**3.967** 0.1562	**0.8** 0.03	**33.5** 1.32	**34.0** 1.34	**57.0** 2.24	12.5	6.3	0.0565	**0.27** 0.59

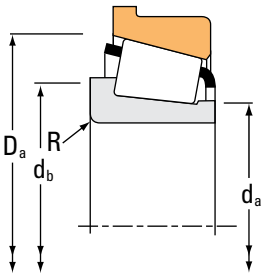
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
28.575 1.1250	**57.150** 2.2500	**7.938** 0.3215	**46000** 10300	0.35	1.73	**11900** 2680	**7070** 1590	1.69	**50100** 11300	15590	15520-B
29.367 1.1562	**66.421** 2.6150	**8.725** 0.3435	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2690	2631-B
29.367 1.1562	**66.421** 2.6150	**8.725** 0.3435	**76600** 17200	0.25	2.36	**19900** 4470	**8640** 1940	2.30	**81700** 18400	2691	2631-B
29.987 1.1806	**72.000** 2.8346	**7.087** 0.2790	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26118	26283-B
29.987 1.1806	**68.262** 2.6875	**8.730** 0.3437	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02474A	02420-B
****29.987** 1.1806	**62.000** 2.4409	**5.270** 0.2075	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17118	17244-B
30.000 1.1811	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3190	3120-B
30.000 1.1811	**72.000** 2.8346	**7.087** 0.2790	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26118-S	26283-B
30.000 1.1811	**69.012** 2.7170	**7.932** 0.3123	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14118	14276-B
30.000 1.1811	**69.012** 2.7170	**7.932** 0.3123	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14117A	14276-B
30.162 1.1875	**80.000** 3.1496	**7.938** 0.3125	**79500** 17900	0.27	2.20	**20600** 4640	**9640** 2170	2.14	**83400** 18700	334	332-B
30.162 1.1875	**80.000** 3.1496	**9.100** 0.3583	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28118	28315-B
30.162 1.1875	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3474	3420-B
30.162 1.1875	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3191	3120-B
30.162 1.1875	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3187	3120-B
30.162 1.1875	**69.850** 2.7500	**8.733** 0.3438	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2558	2523-B
30.162 1.1875	**64.292** 2.5312	**8.763** 0.3450	**60200** 13500	0.55	1.10	**15600** 3510	**14600** 3280	1.07	**71700** 16100	M86649	M86611-B

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.
**For standard class (2 or 4) only, the maximum metric value is a whole millimeter dimension.

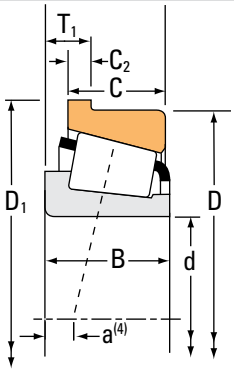
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
17.462 0.6875	**13.495** 0.5313	**-5.1** -0.20	**61.016** 2.4022	**3.970** 0.1563	**3.5** 0.14	**33.5** 1.32	**39.5** 1.56	**60.0** 2.36	12.7	10.3	0.0577	**0.22** 0.47
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**70.282** 2.7670	**3.962** 0.1560	**3.5** 0.14	**35.0** 1.38	**41.0** 1.61	**62.0** 2.44	19.3	8.0	0.0598	**0.40** 0.91
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**70.282** 2.7670	**3.962** 0.1560	**0.8** 0.03	**36.5** 1.44	**37.5** 1.48	**62.0** 2.44	19.3	8.0	0.0598	**0.41** 0.92
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**1.5** 0.06	**36.0** 1.42	**38.0** 1.50	**66.0** 2.60	16.1	10.1	0.0630	**0.39** 0.88
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**72.128** 2.8397	**3.967** 0.1562	**0.8** 0.03	**38.5** 1.52	**39.5** 1.56	**65.0** 2.56	17.5	8.5	0.0681	**0.45** 0.99
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**65.862** 2.5930	**3.556** 0.1400	**1.5** 0.06	**36.0** 1.42	**38.5** 1.52	**59.0** 2.32	11.8	7.5	0.0579	**0.23** 0.53
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**3.5** 0.14	**38.0** 1.50	**44.5** 1.75	**69.0** 2.72	23.4	8.8	0.0697	**0.63** 1.37
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**1.5** 0.06	**36.0** 1.42	**38.0** 1.50	**66.0** 2.60	16.1	10.1	0.0630	**0.39** 0.88
19.202 0.7560	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**0.8** 0.03	**36.5** 1.44	**37.0** 1.46	**65.0** 2.56	18.0	13.3	0.0668	**0.36** 0.82
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**3.5** 0.14	**41.0** 1.61	**44.0** 1.73	**65.0** 2.56	18.0	13.3	0.0668	**0.36** 0.82
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**0.8** 0.03	**38.0** 1.50	**39.0** 1.54	**77.0** 3.03	26.5	13.0	0.0676	**0.59** 1.32
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**83.858** 3.3015	**3.970** 0.1563	**1.5** 0.06	**37.5** 1.48	**40.0** 1.57	**73.0** 2.87	20.7	12.5	0.0709	**0.54** 1.21
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**0.8** 0.03	**40.0** 1.57	**41.0** 1.61	**76.0** 2.99	29.9	11.2	0.0781	**0.79** 1.73
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**69.0** 2.72	23.4	8.8	0.0697	**0.62** 1.37
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**0.8** 0.03	**38.5** 1.52	**39.0** 1.54	**69.0** 2.72	23.4	8.8	0.0697	**0.63** 1.38
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**73.711** 2.9020	**3.962** 0.1560	**2.3** 0.09	**36.5** 1.44	**40.0** 1.57	**66.0** 2.60	23.6	9.6	0.0656	**0.48** 1.06
21.433 0.8438	**16.670** 0.6563	**-3.3** -0.13	**70.000** 2.7559	**4.000** 0.1575	**1.5** 0.06	**38.0** 1.50	**44.0** 1.73	**63.0** 2.48	16.8	7.4	0.0736	**0.36** 0.79

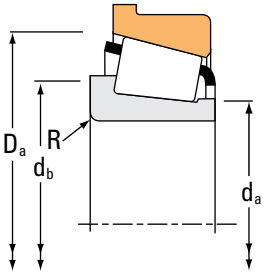
[4]Negative value indicates effective center inside cone Metric.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
30.162 1.1875	**62.000** 2.4409	**5.270** 0.2075	**43200** 9720	0.38	1.57	**11200** 2520	**7340** 1650	1.53	**44100** 9910	17119	17244-B
30.213 1.1895	**63.500** 2.5000	**8.730** 0.3437	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15118	15250-B
31.750 1.2500	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	346	332-B
31.750 1.2500	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3476	3420-B
31.750 1.2500	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3188	3120-B
31.750 1.2500	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3199	3120-B
31.750 1.2500	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3193	3120-B
31.750 1.2500	**69.850** 2.7500	**8.732** 0.3438	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2582	2523-B
31.750 1.2500	**69.850** 2.7500	**8.733** 0.3438	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2580	2523-B
31.750 1.2500	**69.012** 2.7170	**7.932** 0.3123	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14125A	14276-B
31.750 1.2500	**68.262** 2.6875	**8.730** 0.3437	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02476	02420-B
31.750 1.2500	**68.262** 2.6875	**8.730** 0.3437	**63800** 14300	0.42	1.44	**16500** 3720	**11800** 2650	1.40	**70200** 15800	02475	02420-B
31.750 1.2500	**63.500** 2.5000	**7.841** 0.3087	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15123	15250-B
31.750 1.2500	**63.500** 2.5000	**8.730** 0.3437	**59900** 13500	0.35	1.71	**15500** 3490	**9310** 2090	1.67	**53900** 12100	15125	15250-B
31.750 1.2500	**59.131** 2.3280	**6.833** 0.2690	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67047	LM67010-B
31.750 1.2500	**59.131** 2.3280	**6.833** 0.2690	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67048	LM67010-B
31.750 1.2500	**58.877** 2.3180	**6.833** 0.2690	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000	LM67048	LM67010-BA

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

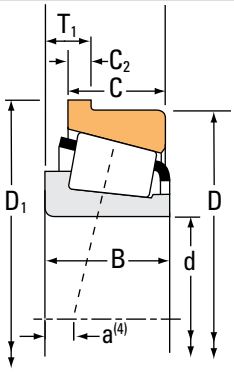
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
16.566 0.6522	**14.288** 0.5625	**-3.6** -0.14	**65.862** 2.5930	**3.556** 0.1400	**1.5** 0.06	**34.5** 1.36	**37.0** 1.46	**59.0** 2.32	11.8	7.5	0.0579	**0.23** 0.53
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**67.366** 2.6522	**3.967** 0.1562	**3.5** 0.14	**36.5** 1.44	**43.0** 1.69	**60.0** 2.36	14.6	10.0	0.0606	**0.31** 0.68
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**0.8** 0.03	**39.5** 1.56	**40.0** 1.57	**77.0** 3.03	26.5	13.0	0.0676	**0.58** 1.29
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**1.3** 0.05	**41.0** 1.61	**43.0** 1.69	**76.0** 2.99	29.9	11.2	0.0781	**0.77** 1.69
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**0.8** 0.03	**39.5** 1.56	**40.0** 1.57	**69.0** 2.72	23.4	8.8	0.0697	**0.61** 1.34
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**2.3** 0.09	**39.5** 1.56	**43.0** 1.69	**69.0** 2.72	23.4	8.8	0.0697	**0.61** 1.34
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**3.5** 0.14	**39.5** 1.56	**45.5** 1.79	**69.0** 2.72	23.4	8.8	0.0697	**0.61** 1.33
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**73.711** 2.9020	**3.962** 0.1560	**3.5** 0.14	**37.5** 1.48	**44.0** 1.73	**66.0** 2.60	23.6	9.6	0.0656	**0.46** 1.02
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**73.711** 2.9020	**3.962** 0.1560	**0.8** 0.03	**37.5** 1.48	**38.5** 1.52	**66.0** 2.60	23.6	9.6	0.0656	**0.46** 1.03
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**65.0** 2.56	18.0	13.3	0.0668	**0.35** 0.79
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**72.128** 2.8397	**3.967** 0.1562	**0.8** 0.03	**38.5** 1.52	**39.0** 1.54	**65.0** 2.56	17.5	8.5	0.0681	**0.43** 0.95
22.225 0.8750	**17.462** 0.6875	**-5.1** -0.20	**72.128** 2.8397	**3.967** 0.1562	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**65.0** 2.56	17.5	8.5	0.0681	**0.43** 0.94
19.050 0.7500	**15.875** 0.6250	**-4.8** -0.19	**67.366** 2.6522	**3.967** 0.1562	**3.5** 0.14	**38.0** 1.50	**44.0** 1.73	**60.0** 2.36	14.6	10.0	0.0606	**0.28** 0.62
20.638 0.8125	**15.875** 0.6250	**-5.8** -0.23	**67.366** 2.6522	**3.967** 0.1562	**3.5** 0.14	**36.5** 1.44	**42.5** 1.67	**60.0** 2.36	14.6	10.0	0.0606	**0.30** 0.65
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**61.912** 2.4375	**2.769** 0.1090	**2.3** 0.09	**36.0** 1.42	**40.0** 1.57	**57.0** 2.24	12.8	9.7	0.0612	**0.18** 0.41
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**61.912** 2.4375	**2.769** 0.1090	**3.5** 0.14	**36.0** 1.42	**42.5** 1.67	**57.0** 2.24	12.8	9.7	0.0612	**0.18** 0.39
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**61.722** 2.4300	**2.769** 0.1090	**3.5** 0.14	**36.0** 1.42	**42.5** 1.67	**57.0** 2.24	12.8	9.7	0.0612	**0.19** 0.40

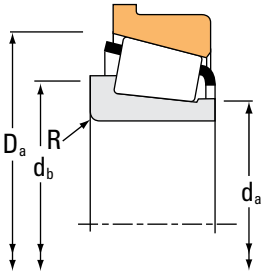
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
31.750 1.2500	**58.738** 2.3125	**6.736** 0.2652	**31700** 7130	0.47	1.27	**8220** 1850	**6670** 1500	1.23	**35000** 7880	08125	08231-B
32.004 1.2600	**72.000** 2.8346	**7.087** 0.2790	**58800** 13200	0.36	1.67	**15200** 3420	**9390** 2110	1.62	**60100** 13500	26126	26283-B
33.337 1.3125	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	335-S	332-B
33.337 1.3125	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3477	3420-B
33.337 1.3125	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3483	3420-B
33.337 1.3125	**76.200** 3.0000	**11.112** 0.4375	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89443	HM89410-B
33.337 1.3125	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3197	3120-B
33.337 1.3125	**72.625** 2.8593	**11.112** 0.4375	**94800** 21300	0.33	1.80	**24600** 5520	**14000** 3140	1.76	**102000** 22800	3196	3120-B
33.337 1.3125	**72.238** 2.8440	**8.733** 0.3438	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16131	16284-B
33.337 1.3125	**72.000** 2.8346	**7.087** 0.2790	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26131	26283-B
33.337 1.3125	**72.000** 2.8346	**7.087** 0.2790	**69600** 15700	0.36	1.67	**18100** 4060	**11100** 2500	1.62	**60100** 13500	26132	26283-B
33.337 1.3125	**69.850** 2.7500	**8.725** 0.3435	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2581	2523-B
33.337 1.3125	**69.850** 2.7500	**8.733** 0.3438	**83700** 18800	0.27	2.19	**21700** 4880	**10200** 2280	2.14	**94400** 21200	2585	2523-B
33.338 1.3125	**69.012** 2.7170	**7.938** 0.3125	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14131	14276-B
33.338 1.3125	**69.012** 2.7170	**7.938** 0.3125	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14130	14276-B
34.925 1.3750	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	449	432-B
34.925 1.3750	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	449	432AB

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

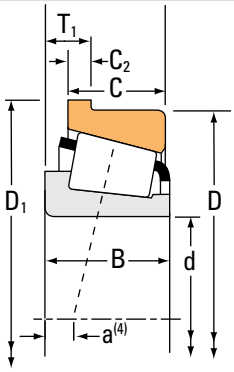
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
15.080 0.5937	**10.716** 0.4219	**-1.3** -0.05	**62.598** 2.4645	**2.769** 0.1090	**1.0** 0.04	**36.0** 1.42	**37.5** 1.48	**57.0** 2.24	10.7	10.6	0.0601	**0.17** 0.38
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**1.5** 0.06	**37.5** 1.48	**39.5** 1.56	**66.0** 2.60	16.1	10.1	0.0630	**0.38** 0.85
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**0.8** 0.03	**40.5** 1.59	**41.0** 1.61	**77.0** 3.03	26.5	13.0	0.0676	**0.57** 1.26
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**3.5** 0.14	**42.5** 1.67	**49.0** 1.93	**76.0** 2.99	29.9	11.2	0.0781	**0.74** 1.64
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**0.8** 0.03	**42.5** 1.67	**43.0** 1.69	**76.0** 2.99	29.9	11.2	0.0781	**0.75** 1.65
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**80.863** 3.1836	**4.762** 0.1875	**0.8** 0.03	**44.5** 1.75	**46.5** 1.83	**75.0** 2.95	28.9	9.9	0.0883	**0.67** 1.49
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**0.8** 0.03	**40.5** 1.59	**41.5** 1.63	**69.0** 2.72	23.4	8.8	0.0697	**0.59** 1.30
29.997 1.1810	**23.812** 0.9375	**-10.2** -0.40	**77.300** 3.0433	**4.762** 0.1875	**3.5** 0.14	**40.5** 1.59	**47.0** 1.85	**69.0** 2.72	23.4	8.8	0.0697	**0.59** 1.29
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**76.098** 2.9960	**3.970** 0.1563	**3.5** 0.14	**39.5** 1.56	**46.0** 1.81	**69.0** 2.72	20.3	14.5	0.0707	**0.41** 0.91
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**3.5** 0.14	**38.5** 1.52	**44.5** 1.75	**66.0** 2.60	16.1	10.1	0.0630	**0.36** 0.81
18.923 0.7450	**15.875** 0.6250	**-4.1** -0.16	**75.857** 2.9865	**3.962** 0.1560	**1.5** 0.06	**38.5** 1.52	**40.5** 1.59	**66.0** 2.60	16.1	10.1	0.0630	**0.37** 0.82
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**73.711** 2.9020	**3.962** 0.1560	**0.8** 0.03	**39.0** 1.54	**39.5** 1.56	**66.0** 2.60	23.6	9.6	0.0656	**0.45** 0.99
25.357 0.9983	**19.050** 0.7500	**-8.6** -0.34	**73.711** 2.9020	**3.962** 0.1560	**3.5** 0.14	**39.0** 1.54	**45.0** 1.77	**66.0** 2.60	23.6	9.6	0.0656	**0.45** 0.98
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**0.8** 0.03	**40.0** 1.57	**41.0** 1.61	**65.0** 2.56	18.0	13.3	0.0668	**0.34** 0.77
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**3.5** 0.14	**40.0** 1.57	**46.5** 1.83	**65.0** 2.56	18.0	13.3	0.0668	**0.34** 0.78
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**0.8** 0.03	**43.5** 1.71	**44.0** 1.73	**87.0** 3.43	42.5	11.3	0.0805	**1.12** 2.47
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**0.8** 0.03	**43.5** 1.71	**44.0** 1.73	**87.0** 3.43	42.5	11.3	0.0805	**1.03** 2.28

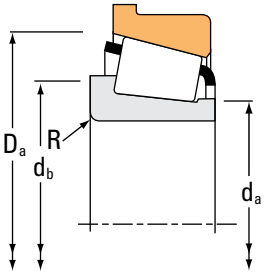
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
34.925 1.3750	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3581	3525-B
34.925 1.3750	**81.755** 3.2187	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3379	3329-B
34.925 1.3750	**80.167** 3.1562	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3379	3320-B
34.925 1.3750	**80.000** 3.1496	**7.938** 0.3125	**79500** 17900	0.27	2.20	**20600** 4640	**9640** 2170	2.14	**83400** 18700	343	332-B
34.925 1.3750	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	335	332-B
34.925 1.3750	**80.000** 3.1496	**9.101** 0.3583	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28137	28315-B
34.925 1.3750	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3478	3420-B
34.925 1.3750	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3482	3420-B
34.925 1.3750	**76.200** 3.0000	**10.320** 0.4063	**94700** 21300	0.40	1.49	**24600** 5520	**16900** 3800	1.45	**107000** 24100	31593	31520-B
34.925 1.3750	**76.200** 3.0000	**11.112** 0.4375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2796	2720-B
34.925 1.3750	**76.200** 3.0000	**11.112** 0.4375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2786	2720-B
34.925 1.3750	**76.200** 3.0000	**11.112** 0.4375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2793	2720-B
34.925 1.3750	**76.200** 3.0000	**11.112** 0.4375	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89446	HM89410-B
34.925 1.3750	**72.238** 2.8440	**8.733** 0.3438	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16137	16284-B
34.925 1.3750	**69.012** 2.7170	**7.938** 0.3125	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14137A	14276-B
34.925 1.3750	**69.012** 2.7170	**7.938** 0.3125	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14138A	14276-B
34.976 1.3770	**80.000** 3.1496	**9.101** 0.3583	**63500** 14300	0.40	1.49	**16500** 3700	**11300** 2550	1.45	**68900** 15500	28138	28315-B

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

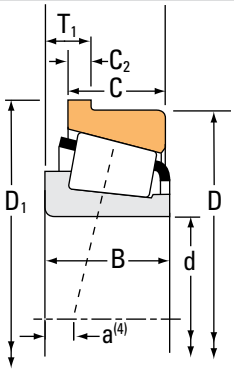
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**82.0** 3.23	39.5	12.5	0.0808	**0.95** 2.07
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**86.413** 3.4021	**4.762** 0.1875	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**77.0** 3.03	34.6	12.1	0.0744	**0.79** 1.76
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**84.826** 3.3396	**4.762** 0.1875	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**77.0** 3.03	34.6	12.1	0.0744	**0.77** 1.72
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**77.0** 3.03	26.5	13.0	0.0676	**0.55** 1.21
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**0.8** 0.03	**41.5** 1.63	**42.5** 1.67	**77.0** 3.03	26.5	13.0	0.0676	**0.55** 1.22
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**83.858** 3.3015	**3.970** 0.1563	**1.5** 0.06	**41.0** 1.61	**43.5** 1.71	**73.0** 2.87	20.7	12.5	0.0709	**0.50** 1.12
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**76.0** 2.99	29.9	11.2	0.0781	**0.72** 1.59
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**0.8** 0.03	**43.5** 1.71	**44.0** 1.73	**76.0** 2.99	29.9	11.2	0.0781	**0.73** 1.61
28.575 1.1250	**23.812** 0.9375	**-7.6** -0.30	**80.863** 3.1836	**4.762** 0.1875	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**74.0** 2.91	26.3	9.1	0.0773	**0.64** 1.42
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**82.550** 3.2500	**6.350** 0.2500	**3.5** 0.14	**41.0** 1.61	**47.5** 1.87	**73.0** 2.87	28.7	12.2	0.0725	**0.59** 1.29
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**82.550** 3.2500	**6.350** 0.2500	**5.0** 0.20	**41.0** 1.61	**51.0** 2.01	**73.0** 2.87	28.7	12.2	0.0725	**0.58** 1.26
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**82.550** 3.2500	**6.350** 0.2500	**0.8** 0.03	**41.0** 1.61	**42.0** 1.65	**73.0** 2.87	28.7	12.2	0.0725	**0.59** 1.29
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**80.863** 3.1836	**4.762** 0.1875	**3.5** 0.14	**44.5** 1.75	**56.0** 2.20	**75.0** 2.95	28.9	9.9	0.0883	**0.65** 1.45
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**76.098** 2.9960	**3.970** 0.1563	**3.5** 0.14	**40.5** 1.59	**47.0** 1.85	**69.0** 2.72	20.3	14.5	0.0707	**0.40** 0.88
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**1.5** 0.06	**41.5** 1.63	**43.5** 1.71	**65.0** 2.56	18.0	13.3	0.0668	**0.33** 0.74
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**65.0** 2.56	18.0	13.3	0.0668	**0.33** 0.74
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**83.858** 3.3015	**3.970** 0.1563	**1.5** 0.06	**41.0** 1.61	**43.5** 1.71	**73.0** 2.87	20.7	12.5	0.0709	**0.50** 1.12

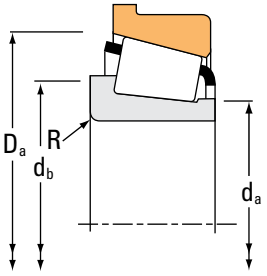
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
34.976 1.3770	**72.000** 2.8346	**6.286** 0.2475	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138	19283-B
34.976 1.3770	**69.012** 2.7170	**7.932** 0.3123	**54600** 12300	0.38	1.57	**14200** 3180	**9260** 2080	1.53	**61700** 13900	14139	14276-B
35.000 1.3780	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	441	432-B
35.000 1.3780	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	441	432AB
35.000 1.3780	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	339	332-B
35.000 1.3780	**80.000** 3.1496	**9.250** 0.3642	**87200** 19600	0.31	1.90	**22600** 5080	**12200** 2740	1.85	**86100** 19300	X30307M	Y30307RM
35.000 1.3780	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3480	3420-B
35.000 1.3780	**72.000** 2.8346	**6.286** 0.2475	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138X	19283-B
35.000 1.3780	**68.262** 2.6875	**7.539** 0.2968	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19138X	19268-B
36.512 1.4375	**88.500** 3.4843	**13.492** 0.5312	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44143	44348-B
36.512 1.4375	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3479	3420-B
36.512 1.4375	**76.200** 3.0000	**11.112** 0.4375	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89449	HM89410-B
36.512 1.4375	**76.200** 3.0000	**11.112** 0.4375	**110000** 24800	0.55	1.10	**28600** 6440	**26800** 6020	1.07	**119000** 26700	HM89448	HM89410-B
36.512 1.4375	**72.238** 2.8440	**8.733** 0.3438	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16143	16284-B
36.512 1.4375	**72.000** 2.8346	**6.286** 0.2475	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19143	19283-B
36.512 1.4375	**68.262** 2.6875	**7.539** 0.2968	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19143	19268-B
38.100 1.5000	**111.125** 4.3750	**14.288** 0.5625	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	542	532-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

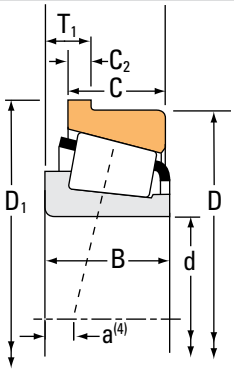
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**75.857** 2.9865	**3.556** 0.1400	**1.5** 0.06	**40.5** 1.59	**42.5** 1.67	**68.0** 2.68	17.5	11.5	0.0694	**0.33** 0.73
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**72.873** 2.8690	**3.962** 0.1560	**1.3** 0.05	**41.5** 1.63	**43.5** 1.71	**65.0** 2.56	18.0	13.3	0.0668	**0.33** 0.74
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**87.0** 3.43	42.5	11.3	0.0805	**1.11** 2.45
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**87.0** 3.43	42.5	11.3	0.0805	**1.02** 2.27
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**0.8** 0.03	**41.5** 1.63	**42.5** 1.67	**77.0** 3.03	26.5	13.0	0.0676	**0.55** 1.22
21.000 0.8268	**18.000** 0.7087	**-5.8** -0.23	**85.000** 3.3464	**4.500** 0.1772	**2.0** 0.08	**43.5** 1.71	**46.5** 1.83	**78.0** 3.07	22.9	12.6	0.0675	**0.55** 1.21
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**1.5** 0.06	**43.5** 1.71	**46.0** 1.81	**76.0** 2.99	29.9	11.2	0.0781	**0.73** 1.60
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**75.857** 2.9865	**3.556** 0.1400	**2.0** 0.08	**40.5** 1.59	**43.5** 1.71	**68.0** 2.68	17.5	11.5	0.0694	**0.33** 0.73
16.520 0.6504	**11.908** 0.4688	**-1.5** -0.06	**72.128** 2.8397	**3.571** 0.1406	**2.0** 0.08	**40.5** 1.59	**43.5** 1.71	**67.0** 2.64	17.5	11.5	0.0694	**0.28** 0.60
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**93.937** 3.6983	**5.555** 0.2187	**2.3** 0.09	**50.0** 1.97	**54.0** 2.13	**86.0** 3.39	22.9	8.7	0.0899	**0.77** 1.68
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**0.8** 0.03	**44.5** 1.75	**45.5** 1.79	**76.0** 2.99	29.9	11.2	0.0781	**0.71** 1.56
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**80.863** 3.1836	**4.762** 0.1875	**3.5** 0.14	**44.5** 1.75	**57.0** 2.24	**75.0** 2.95	28.9	9.9	0.0883	**0.63** 1.41
28.575 1.1250	**23.020** 0.9063	**-5.6** -0.22	**80.863** 3.1836	**4.762** 0.1875	**0.8** 0.03	**44.5** 1.75	**48.5** 1.91	**75.0** 2.95	28.9	9.9	0.0883	**0.63** 1.41
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**76.098** 2.9960	**3.970** 0.1563	**3.5** 0.14	**42.0** 1.65	**48.5** 1.91	**69.0** 2.72	20.3	14.5	0.0707	**0.38** 0.84
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**75.857** 2.9865	**3.556** 0.1400	**1.5** 0.06	**41.5** 1.63	**44.0** 1.73	**68.0** 2.68	17.5	11.5	0.0694	**0.32** 0.71
16.520 0.6504	**11.908** 0.4688	**-1.5** -0.06	**72.128** 2.8397	**3.571** 0.1406	**1.5** 0.06	**41.5** 1.63	**44.0** 1.73	**67.0** 2.64	17.5	11.5	0.0694	**0.27** 0.58
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**117.373** 4.6210	**6.350** 0.2500	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**100.0** 3.94	64.3	16.1	0.0938	**2.01** 4.43

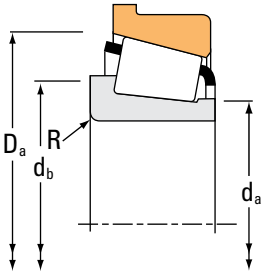
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
38.100 1.5000	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	440	432-B
38.100 1.5000	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	444	432-B
38.100 1.5000	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	440	432AB
38.100 1.5000	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	444	432AB
38.100 1.5000	**88.500** 3.4843	**13.492** 0.5312	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44150	44348-B
38.100 1.5000	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3580	3525-B
38.100 1.5000	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3583	3525-B
38.100 1.5000	**81.755** 3.2187	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3381	3329-B
38.100 1.5000	**81.755** 3.2187	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3387	3329-B
38.100 1.5000	**80.167** 3.1562	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3381	3320-B
38.100 1.5000	**80.167** 3.1562	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3387	3320-B
38.100 1.5000	**80.000** 3.1496	**7.938** 0.3125	**79500** 17900	0.27	2.20	**20600** 4640	**9640** 2170	2.14	**83400** 18700	347	332-B
38.100 1.5000	**80.000** 3.1496	**9.100** 0.3583	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28150	28315-B
38.100 1.5000	**80.000** 3.1496	**9.101** 0.3583	**63500** 14300	0.40	1.49	**16500** 3700	**11300** 2550	1.45	**68900** 15500	28151	28315-B
38.100 1.5000	**79.375** 3.1250	**10.320** 0.4063	**105000** 23500	0.37	1.64	**27100** 6100	**17000** 3820	1.60	**119000** 26800	3490	3420-B
38.100 1.5000	**76.200** 3.0000	**11.112** 0.4375	**86900** 19500	0.30	1.98	**22500** 5060	**11700** 2630	1.93	**102000** 23000	2788	2720-B
38.100 1.5000	**72.238** 2.8440	**8.733** 0.3438	**56600** 12700	0.40	1.49	**14700** 3300	**10100** 2270	1.45	**65800** 14800	16150	16284-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

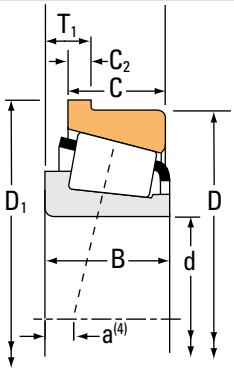
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**87.0** 3.43	42.5	11.3	0.0805	**1.08** 2.37
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**87.0** 3.43	42.5	11.3	0.0805	**1.07** 2.36
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**87.0** 3.43	42.5	11.3	0.0805	**0.99** 2.19
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**87.0** 3.43	42.5	11.3	0.0805	**0.98** 2.18
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**93.937** 3.6983	**5.555** 0.2187	**2.3** 0.09	**50.8** 2.00	**55.0** 2.17	**86.0** 3.39	22.9	8.7	0.0899	**0.75** 1.64
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**1.5** 0.06	**45.5** 1.79	**48.0** 1.89	**82.0** 3.23	39.5	12.5	0.0808	**0.91** 1.98
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**82.0** 3.23	39.5	12.5	0.0808	**0.90** 1.97
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**86.413** 3.4021	**4.762** 0.1875	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**77.0** 3.03	34.6	12.1	0.0744	**0.75** 1.66
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**86.413** 3.4021	**4.762** 0.1875	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**77.0** 3.03	34.6	12.1	0.0744	**0.75** 1.67
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**84.826** 3.3396	**4.762** 0.1875	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**77.0** 3.03	34.6	12.1	0.0744	**0.73** 1.63
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**84.826** 3.3396	**4.762** 0.1875	**0.8** 0.03	**44.5** 1.75	**45.0** 1.77	**77.0** 3.03	34.6	12.1	0.0744	**0.73** 1.63
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**3.5** 0.14	**44.0** 1.73	**50.0** 1.97	**77.0** 3.03	26.5	13.0	0.0676	**0.51** 1.14
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**83.858** 3.3015	**3.970** 0.1563	**1.5** 0.06	**43.5** 1.71	**45.5** 1.79	**73.0** 2.87	20.7	12.5	0.0709	**0.47** 1.05
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**83.858** 3.3015	**3.970** 0.1563	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**73.0** 2.87	20.7	12.5	0.0709	**0.46** 1.04
29.771 1.1721	**23.812** 0.9375	**-8.6** -0.34	**84.049** 3.3090	**4.762** 0.1875	**3.5** 0.14	**45.5** 1.80	**52.0** 2.05	**76.0** 2.99	29.9	11.2	0.0781	**0.68** 1.50
25.654 1.0100	**19.050** 0.7500	**-8.1** -0.32	**82.550** 3.2500	**6.350** 0.2500	**3.5** 0.14	**43.5** 1.71	**50.0** 1.97	**73.0** 2.87	28.7	12.2	0.0725	**0.55** 1.20
20.638 0.8125	**15.875** 0.6250	**-4.1** -0.16	**76.098** 2.9960	**3.970** 0.1563	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**69.0** 2.72	20.3	14.5	0.0707	**0.37** 0.81

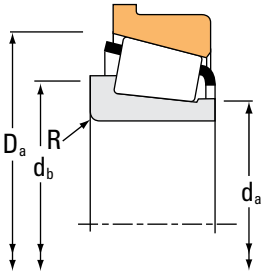
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
38.100 1.5000	**72.000** 2.8346	**6.286** 0.2475	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19150	19283-B
38.100 1.5000	**68.262** 2.6875	**7.539** 0.2968	**50700** 11400	0.44	1.35	**13100** 2960	**10000** 2250	1.31	**57800** 13000	19150	19268-B
38.100 1.5000	**65.088** 2.5625	**5.944** 0.2340	**27200** 6100	0.35	1.73	**7040** 1580	**4170** 938	1.69	**33000** 7430	13889	13836-B
38.481 1.5150	**65.088** 2.5625	**5.944** 0.2340	**27200** 6100	0.35	1.73	**7040** 1580	**4170** 938	1.69	**33000** 7430	13890	13836-B
39.687 1.5625	**120.650** 4.7500	**16.667** 0.6562	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	620	612-B
39.687 1.5625	**88.500** 3.4843	**13.492** 0.5312	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44156	44348-B
39.687 1.5625	**88.500** 3.4843	**13.492** 0.5312	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44158	44348-B
39.688 1.5625	**81.755** 3.2187	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3382	3329-B
39.688 1.5625	**81.755** 3.2187	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3386	3329-B
39.688 1.5625	**80.167** 3.1562	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3382	3320-B
39.688 1.5625	**80.167** 3.1562	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3386	3320-B
40.000 1.5748	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	442-S	432-B
40.000 1.5748	**95.000** 3.7402	**10.000** 0.3937	**154000** 34600	0.41	1.45	**39900** 8960	**28200** 6350	1.41	**166000** 37300	XGA33210	YSA33210R
40.000 1.5748	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	442-S	432AB
40.000 1.5748	**90.000** 3.5433	**10.250** 0.4035	**103000** 23200	0.35	1.74	**26800** 6020	**15800** 3550	1.69	**109000** 24600	X30308UM	YSA30308RM
40.000 1.5748	**88.500** 3.4843	**13.492** 0.5312	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44157	44348-B
40.000 1.5748	**85.725** 3.3750	**11.112** 0.4375	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3879	3820-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

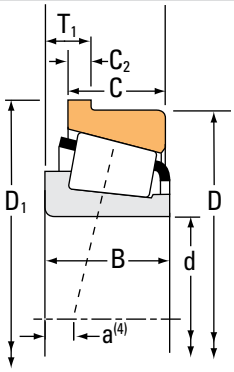
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
16.520 0.6504	**14.288** 0.5625	**-1.5** -0.06	**75.857** 2.9865	**3.556** 0.1400	**1.5** 0.06	**43.0** 1.69	**45.0** 1.77	**68.0** 2.68	17.5	11.5	0.0694	**0.31** 0.68
16.520 0.6504	**11.908** 0.4688	**-1.5** -0.06	**72.128** 2.8397	**3.571** 0.1406	**1.5** 0.06	**43.0** 1.69	**45.0** 1.77	**67.0** 2.64	17.5	11.5	0.0694	**0.26** 0.55
11.908 0.4688	**9.525** 0.3750	**-0.8** -0.03	**68.161** 2.6835	**2.769** 0.1090	**1.5** 0.06	**42.5** 1.67	**45.0** 1.77	**63.0** 2.48	14.8	23.3	0.0601	**0.16** 0.37
11.908 0.4688	**9.525** 0.3750	**-0.8** -0.03	**68.161** 2.6835	**2.769** 0.1090	**0.4** 0.02	**43.0** 1.69	**43.0** 1.69	**63.0** 2.48	14.8	23.3	0.0601	**0.16** 0.36
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**127.691** 5.0272	**7.142** 0.2812	**0.8** 0.03	**52.0** 2.05	**53.0** 2.09	**110.0** 4.33	75.9	16.2	0.0694	**2.60** 5.74
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**93.937** 3.6983	**5.555** 0.2187	**2.3** 0.09	**50.8** 2.00	**56.0** 2.20	**86.0** 3.39	22.9	8.7	0.0899	**0.73** 1.60
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**93.937** 3.6983	**5.555** 0.2187	**3.5** 0.14	**50.8** 2.00	**58.0** 2.28	**86.0** 3.39	22.9	8.7	0.0899	**0.73** 1.59
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**86.413** 3.4021	**4.762** 0.1875	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**77.0** 3.03	34.6	12.1	0.0744	**0.73** 1.61
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**86.413** 3.4021	**4.762** 0.1875	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**77.0** 3.03	34.6	12.1	0.0744	**0.73** 1.61
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**84.826** 3.3396	**4.762** 0.1875	**3.5** 0.14	**45.5** 1.79	**52.0** 2.05	**77.0** 3.03	34.6	12.1	0.0744	**0.71** 1.58
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**84.826** 3.3396	**4.762** 0.1875	**0.8** 0.03	**45.5** 1.79	**46.5** 1.83	**77.0** 3.03	34.6	12.1	0.0744	**0.71** 1.58
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**87.0** 3.43	42.5	11.3	0.0805	**1.04** 2.30
32.000 1.2598	**27.000** 1.0630	**-8.6** -0.34	**102.000** 4.0157	**5.000** 0.1968	**1.5** 0.06	**54.0** 2.13	**56.0** 2.20	**89.0** 3.50	48.4	16.9	0.0957	**1.23** 2.70
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**87.0** 3.43	42.5	11.3	0.0805	**0.95** 2.12
23.000 0.9055	**20.000** 0.7874	**-5.8** -0.23	**96.000** 3.7795	**5.000** 0.1969	**2.0** 0.08	**50.0** 1.97	**53.0** 2.09	**85.0** 3.35	31.6	15.4	0.0775	**0.77** 1.69
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**93.937** 3.6983	**5.555** 0.2187	**2.3** 0.09	**50.8** 2.00	**56.0** 2.20	**86.0** 3.39	22.9	8.7	0.0899	**0.73** 1.59
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**89.586** 3.5270	**4.762** 0.1875	**0.8** 0.03	**50.0** 1.97	**51.0** 2.01	**83.0** 3.27	37.8	13.5	0.0873	**0.84** 1.86

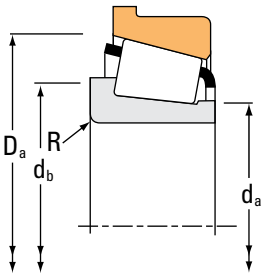
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
40.000 1.5748	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	344A	332-B
40.000 1.5748	**80.000** 3.1496	**9.100** 0.3583	**75200** 16900	0.40	1.49	**19500** 4390	**13400** 3020	1.45	**68900** 15500	28158	28315-B
41.275 1.6250	**98.425** 3.8750	**16.670** 0.6563	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53162	53387-B
41.275 1.6250	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	447	432-B
41.275 1.6250	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	447	432AB
41.275 1.6250	**88.500** 3.4843	**13.492** 0.5312	**99800** 22400	0.78	0.77	**25900** 5810	**34600** 7770	0.75	**88600** 19900	44162	44348-B
41.275 1.6250	**87.312** 3.4375	**11.099** 0.4370	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3585	3525-B
41.275 1.6250	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3576	3525-B
41.275 1.6250	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3577	3525-B
41.275 1.6250	**85.725** 3.3750	**11.112** 0.4375	**124000** 27900	0.40	1.49	**32200** 7240	**22200** 4980	1.45	**148000** 33200	3877	3820-B
41.275 1.6250	**81.755** 3.2187	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3383	3329-B
41.275 1.6250	**80.167** 3.1562	**10.320** 0.4063	**115000** 25800	0.27	2.20	**29800** 6700	**13900** 3130	2.14	**129000** 29100	3383	3320-B
41.275 1.6250	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	336	332-B
41.275 1.6250	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	342	332-B
41.275 1.6250	**79.375** 3.1250	**8.732** 0.3438	**91100** 20500	0.32	1.88	**23600** 5310	**12900** 2900	1.83	**110000** 24800	26882	26822-B
41.275 1.6250	**76.200** 3.0000	**7.292** 0.2871	**48100** 10800	0.49	1.23	**12500** 2800	**10400** 2340	1.20	**55100** 12400	11162	11300-B
42.850 1.6870	**107.950** 4.2500	**11.112** 0.4375	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	461	453-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

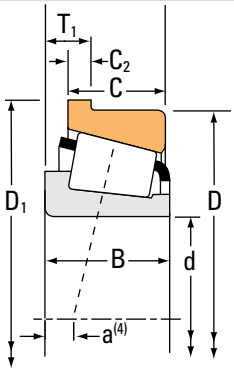
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**0.8** 0.03	**45.5** 1.79	**46.0** 1.81	**77.0** 3.03	26.5	13.0	0.0676	**0.50** 1.11
20.940 0.8244	**15.875** 0.6250	**-4.8** -0.19	**83.858** 3.3015	**3.970** 0.1563	**1.5** 0.06	**45.0** 1.77	**47.5** 1.87	**73.0** 2.87	20.7	12.5	0.0709	**0.45** 1.01
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**104.673** 4.1210	**6.350** 0.2500	**1.5** 0.06	**52.7** 2.07	**57.0** 2.24	**92.0** 3.62	26.7	9.6	0.0930	**1.10** 2.44
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**87.0** 3.43	42.5	11.3	0.0805	**1.02** 2.26
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**3.5** 0.14	**48.5** 1.91	**55.0** 2.17	**87.0** 3.43	42.5	11.3	0.0805	**0.93** 2.07
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**93.937** 3.6983	**5.555** 0.2187	**2.3** 0.09	**50.8** 2.00	**57.0** 2.24	**86.0** 3.39	22.9	8.7	0.0899	**0.71** 1.56
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**1.5** 0.06	**48.0** 1.89	**50.0** 1.97	**82.0** 3.23	39.5	12.5	0.0808	**0.86** 1.88
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**0.8** 0.03	**48.0** 1.89	**49.0** 1.93	**82.0** 3.23	39.5	12.5	0.0808	**0.86** 1.88
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**3.5** 0.14	**48.0** 1.89	**54.0** 2.13	**82.0** 3.23	39.5	12.5	0.0808	**0.85** 1.87
30.162 1.1875	**23.812** 0.9375	**-8.1** -0.32	**89.586** 3.5270	**4.762** 0.1875	**3.5** 0.14	**50.0** 1.98	**57.0** 2.24	**83.0** 3.27	37.8	13.5	0.0873	**0.82** 1.81
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**86.413** 3.4021	**4.762** 0.1875	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**77.0** 3.03	34.6	12.1	0.0744	**0.70** 1.55
30.391 1.1965	**23.812** 0.9375	**-10.9** -0.43	**84.826** 3.3396	**4.762** 0.1875	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**77.0** 3.03	34.6	12.1	0.0744	**0.68** 1.51
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**0.8** 0.03	**46.0** 1.81	**47.0** 1.85	**77.0** 3.03	26.5	13.0	0.0676	**0.49** 1.08
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**3.5** 0.14	**46.0** 1.81	**53.0** 2.09	**77.0** 3.03	26.5	13.0	0.0676	**0.48** 1.06
25.400 1.0000	**19.050** 0.7500	**-7.4** -0.29	**83.241** 3.2772	**3.970** 0.1563	**3.5** 0.14	**47.0** 1.85	**54.0** 2.13	**76.0** 2.99	32.8	13.3	0.0770	**0.55** 1.21
17.384 0.6844	**14.288** 0.5625	**-0.8** -0.03	**80.863** 3.1836	**3.571** 0.1406	**1.5** 0.06	**46.5** 1.83	**49.0** 1.93	**73.0** 2.87	19.2	16.0	0.0735	**0.35** 0.78
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**0.8** 0.03	**53.0** 2.09	**54.0** 2.13	**100.0** 3.94	58.6	17.1	0.0946	**1.40** 3.08

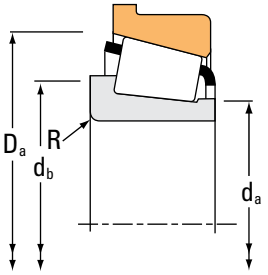
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
42.862 1.6875	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3579	3525-B
42.862 1.6875	**85.000** 3.3465	**9.525** 0.3750	**93300** 21000	0.35	1.73	**24200** 5440	**14300** 3220	1.69	**117000** 26200	2973	2924-B
42.862 1.6875	**83.058** 3.2700	**8.733** 0.3438	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25576	25521-B
42.875 1.6880	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	342-S	332-B
43.000 1.6929	**80.000** 3.1496	**7.938** 0.3125	**94300** 21200	0.27	2.20	**24400** 5490	**11400** 2570	2.14	**83400** 18700	342X	332-B
44.450 1.7500	**127.000** 5.0000	**17.462** 0.6875	**306000** 68800	0.30	2.01	**79300** 17800	**40500** 9110	1.96	**370000** 83300	6277	6220-B
44.450 1.7500	**120.650** 4.7500	**16.574** 0.6525	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	615	612-B
44.450 1.7500	**108.966** 4.2900	**14.288** 0.5625	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59175	59429-B
44.450 1.7500	**107.950** 4.2500	**11.115** 0.4376	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	460	453-B
44.450 1.7500	**101.600** 4.0000	**11.908** 0.4688	**157000** 35400	0.40	1.50	**40800** 9170	**28000** 6290	1.46	**155000** 35000	49576	49520-B
44.450 1.7500	**98.425** 3.8750	**16.670** 0.6563	**119000** 26700	0.74	0.81	**30800** 6920	**39000** 8760	0.79	**104000** 23400	53176	53387-B
44.450 1.7500	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	435	432-B
44.450 1.7500	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	438	432-B
44.450 1.7500	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	435	432AB
44.450 1.7500	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	438	432AB
44.450 1.7500	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3578	3525-B
44.450 1.7500	**85.000** 3.3465	**7.938** 0.3125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355	354-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

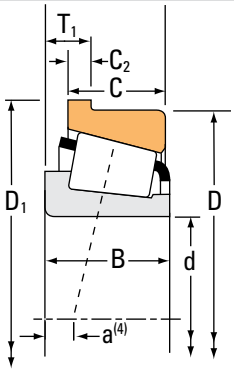
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**3.5** 0.14	**49.5** 1.95	**56.0** 2.20	**82.0** 3.23	39.5	12.5	0.0808	**0.83** 1.81
25.608 1.0082	**20.638** 0.8125	**-6.4** -0.25	**89.764** 3.5340	**4.762** 0.1875	**3.5** 0.14	**49.5** 1.95	**56.0** 2.20	**82.0** 3.23	38.2	15.7	0.0832	**0.69** 1.53
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**86.919** 3.4220	**3.970** 0.1563	**3.5** 0.14	**49.0** 1.93	**55.0** 2.17	**80.0** 3.15	35.2	14.3	0.0801	**0.60** 1.32
22.403 0.8820	**17.826** 0.7018	**-6.4** -0.25	**84.658** 3.3330	**4.762** 0.1875	**3.5** 0.14	**47.5** 1.87	**54.0** 2.13	**77.0** 3.03	26.5	13.0	0.0676	**0.46** 1.02
22.403 0.8820	**17.826** 0.7018	**-6.1** -0.24	**84.658** 3.3330	**4.762** 0.1875	**3.5** 0.14	**48.0** 1.89	**55.0** 2.17	**77.0** 3.03	26.5	13.0	0.0676	**0.46** 1.03
52.388 2.0625	**41.275** 1.6250	**-19.6** -0.77	**134.925** 5.3120	**7.938** 0.3125	**3.5** 0.14	**60.0** 2.36	**67.0** 2.64	**117.0** 4.61	103.1	18.7	0.0757	**3.68** 8.09
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**127.691** 5.0272	**7.142** 0.2812	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**110.0** 4.33	75.9	16.2	0.0694	**2.49** 5.50
36.512 1.4375	**26.988** 1.0625	**-9.7** -0.38	**115.214** 4.5360	**6.350** 0.2500	**3.5** 0.14	**56.0** 2.20	**63.0** 2.48	**101.0** 3.98	57.3	15.2	0.0999	**1.71** 3.79
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**3.5** 0.14	**54.0** 2.13	**60.0** 2.36	**100.0** 3.94	58.6	17.1	0.0946	**1.37** 3.01
31.750 1.2500	**25.400** 1.0000	**-7.1** -0.28	**107.056** 4.2148	**5.558** 0.2188	**0.8** 0.03	**54.0** 2.13	**55.0** 2.17	**98.0** 3.86	49.1	16.8	0.0946	**1.31** 2.88
28.300 1.1142	**20.638** 0.8125	**-0.3** -0.01	**104.673** 4.1210	**6.350** 0.2500	**1.3** 0.05	**52.7** 2.07	**59.0** 2.32	**92.0** 3.62	26.7	9.6	0.0930	**1.05** 2.33
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**0.8** 0.03	**51.0** 2.01	**52.0** 2.05	**87.0** 3.43	42.5	11.3	0.0805	**0.98** 2.16
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**87.0** 3.43	42.5	11.3	0.0805	**0.97** 2.15
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**0.8** 0.03	**51.0** 2.01	**52.0** 2.05	**87.0** 3.43	42.5	11.3	0.0805	**0.89** 1.98
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**87.0** 3.43	42.5	11.3	0.0805	**0.88** 1.96
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**3.5** 0.14	**51.0** 2.01	**57.0** 2.24	**82.0** 3.23	39.5	12.5	0.0808	**0.80** 1.75
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**89.659** 3.5299	**4.762** 0.1875	**2.3** 0.09	**50.0** 1.97	**54.0** 2.13	**82.0** 3.23	30.0	12.2	0.0732	**0.54** 1.19

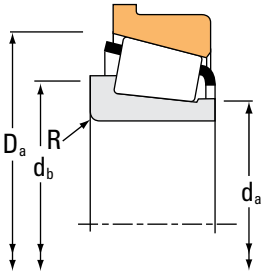
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
44.450 1.7500	**85.000** 3.3465	**7.938** 0.3125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	355X	354-B
44.450 1.7500	**83.058** 3.2700	**8.733** 0.3438	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25580	25521-B
44.450 1.7500	**79.375** 3.1250	**7.539** 0.2968	**52000** 11700	0.37	1.60	**13500** 3030	**8630** 1940	1.56	**61300** 13800	18685	18620-B
44.450 1.7500	**76.992** 3.0312	**9.126** 0.3593	**49500** 11100	0.51	1.19	**12800** 2890	**11100** 2500	1.15	**58100** 13100	12175	12303-B
44.450 1.7500	**73.025** 2.8750	**6.350** 0.2500	**57000** 12800	0.32	1.88	**14800** 3320	**8060** 1810	1.83	**78300** 17600	L102849	L102810-B
44.450 1.7500	**71.438** 2.8125	**5.969** 0.2350	**36100** 8110	0.31	1.97	**9350** 2100	**4890** 1100	1.91	**43600** 9790	LL103049	LL103010-B
44.983 1.7710	**93.264** 3.6718	**11.112** 0.4375	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3776	3720-B
44.983 1.7710	**83.058** 3.2700	**8.733** 0.3438	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25584	25521-B
45.000 1.7717	**100.000** 3.9370	**10.250** 0.4035	**129000** 29000	0.35	1.74	**33500** 7530	**19800** 4450	1.69	**139000** 31300	X30309M	Y30309RM
45.000 1.7717	**90.000** 3.5433	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	367	362-B
45.000 1.7717	**85.000** 3.3465	**7.938** 0.3125	**97000** 21800	0.31	1.96	**25100** 5650	**13200** 2960	1.91	**88800** 20000	358	354-B
45.000 1.7717	**80.000** 3.1496	**10.000** 0.3937	**113000** 25300	0.38	1.57	**29200** 6570	**19200** 4310	1.52	**119000** 26800	X33109	Y33109R
45.000 1.7717	**75.000** 2.9528	**8.000** 0.3150	**78700** 17700	0.39	1.53	**20400** 4590	**13700** 3080	1.49	**84300** 19000	X32009X	Y32009XR
45.237 1.7810	**87.312** 3.4375	**11.112** 0.4375	**113000** 25500	0.31	1.96	**29400** 6610	**15400** 3460	1.91	**134000** 30100	3586	3525-B
45.618 1.7960	**83.058** 3.2700	**8.733** 0.3438	**90500** 20300	0.33	1.79	**23500** 5270	**13500** 3020	1.74	**111000** 24900	25590	25521-B
46.037 1.8125	**95.250** 3.7500	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	436	432-B
46.037 1.8125	**92.075** 3.6250	**11.115** 0.4376	**127000** 28500	0.28	2.11	**32900** 7400	**16000** 3600	2.05	**144000** 32400	436	432AB

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

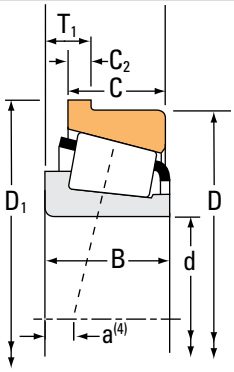
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**89.659** 3.5299	**4.762** 0.1875	**3.5** 0.14	**50.0** 1.97	**56.0** 2.20	**82.0** 3.23	30.0	12.2	0.0732	**0.53** 1.18
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**86.919** 3.4220	**3.970** 0.1563	**3.5** 0.14	**50.0** 1.97	**57.0** 2.24	**80.0** 3.15	35.2	14.3	0.0801	**0.58** 1.27
17.462 0.6875	**13.495** 0.5313	**-2.0** -0.08	**84.038** 3.3086	**3.571** 0.1406	**2.8** 0.11	**49.5** 1.95	**54.0** 2.13	**77.0** 3.03	23.9	18.7	0.0725	**0.36** 0.81
17.145 0.6750	**11.908** 0.4688	**0.0** 0.00	**80.564** 3.1718	**3.571** 0.1406	**1.5** 0.06	**49.5** 1.95	**52.0** 2.05	**75.0** 2.95	21.0	17.5	0.0766	**0.32** 0.71
18.258 0.7188	**15.083** 0.5938	**-3.8** -0.15	**76.200** 3.0000	**3.175** 0.1250	**1.5** 0.06	**49.0** 1.93	**51.0** 2.01	**71.0** 2.80	30.6	25.9	0.0751	**0.31** 0.68
12.700 0.5000	**9.525** 0.3750	**-1.3** -0.05	**74.232** 2.9225	**2.794** 0.1100	**1.5** 0.06	**48.5** 1.91	**51.0** 2.01	**69.0** 2.72	20.0	23.6	0.0637	**0.19** 0.41
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**97.937** 3.8558	**4.762** 0.1875	**3.5** 0.14	**53.0** 2.09	**59.0** 2.32	**89.9** 3.54	49.9	14.5	0.0903	**0.99** 2.16
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**86.919** 3.4220	**3.970** 0.1563	**1.5** 0.06	**51.0** 2.01	**53.0** 2.09	**80.0** 3.15	35.2	14.3	0.0801	**0.58** 1.27
25.000 0.9843	**22.000** 0.8661	**-6.1** -0.24	**106.000** 4.1732	**5.000** 0.1969	**2.0** 0.08	**56.0** 2.20	**59.0** 2.32	**95.0** 3.74	41.9	18.4	0.0851	**1.05** 2.31
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**2.0** 0.08	**51.0** 2.01	**55.0** 2.17	**86.0** 3.39	33.8	14.0	0.0773	**0.62** 1.37
21.692 0.8540	**17.462** 0.6875	**-4.8** -0.19	**89.659** 3.5299	**4.762** 0.1875	**1.5** 0.06	**50.0** 1.97	**53.0** 2.09	**82.0** 3.23	30.0	12.2	0.0732	**0.53** 1.18
26.000 1.0236	**20.500** 0.8071	**-6.6** -0.26	**85.000** 3.3465	**4.500** 0.1772	**1.5** 0.06	**52.0** 2.05	**55.0** 2.17	**79.0** 3.11	35.7	16.5	0.0843	**0.56** 1.22
20.000 0.7874	**15.500** 0.6102	**-3.3** -0.13	**79.000** 3.1102	**3.500** 0.1378	**1.0** 0.04	**51.0** 2.01	**53.0** 2.09	**74.0** 2.91	28.7	16.2	0.0788	**0.36** 0.79
30.886 1.2160	**23.812** 0.9375	**-10.2** -0.40	**91.986** 3.6215	**4.750** 0.1870	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**82.0** 3.23	39.5	12.5	0.0808	**0.79** 1.72
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**86.919** 3.4220	**3.970** 0.1563	**3.5** 0.14	**51.0** 2.01	**58.0** 2.28	**80.0** 3.15	35.2	14.3	0.0801	**0.56** 1.23
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**100.686** 3.9640	**5.558** 0.2188	**3.5** 0.14	**52.0** 2.05	**59.0** 2.32	**87.0** 3.43	42.5	11.3	0.0805	**0.95** 2.09
29.900 1.1772	**22.225** 0.8750	**-9.1** -0.36	**97.536** 3.8400	**5.558** 0.2188	**3.5** 0.14	**52.0** 2.05	**59.0** 2.32	**87.0** 3.43	42.5	11.3	0.0805	**0.86** 1.90

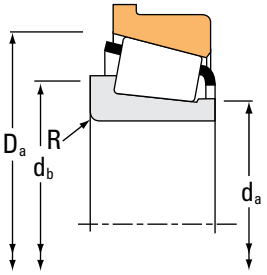
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
46.037 1.8125	**85.000** 3.3465	**9.525** 0.3750	**93300** 21000	0.35	1.73	**24200** 5440	**14300** 3220	1.69	**117000** 26200	2984	2924-B
46.037 1.8125	**79.375** 3.1250	**7.539** 0.2968	**52000** 11700	0.37	1.60	**13500** 3030	**8630** 1940	1.56	**61300** 13800	18690	18620-B
47.625 1.8750	**120.650** 4.7500	**16.574** 0.6525	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	617	612-B
47.625 1.8750	**108.966** 4.2900	**14.288** 0.5625	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59187	59429-B
47.625 1.8750	**107.950** 4.2500	**11.112** 0.4375	**136000** 30500	0.34	1.79	**35200** 7900	**20200** 4540	1.74	**166000** 37200	463	453-B
47.625 1.8750	**107.950** 4.2500	**11.112** 0.4375	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	467	453-B
47.625 1.8750	**95.250** 3.7500	**11.140** 0.4386	**147000** 33100	0.55	1.10	**38200** 8590	**35700** 8030	1.07	**157000** 35400	HM804846	HM804811-B
47.625 1.8750	**93.264** 3.6718	**11.112** 0.4375	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3779	3720-B
47.625 1.8750	**93.264** 3.6718	**11.112** 0.4375	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3778	3720-B
47.625 1.8750	**90.000** 3.5433	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	369A	362-B
47.625 1.8750	**90.000** 3.5433	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	369-S	362-B
47.625 1.8750	**88.900** 3.5000	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	369-S	362AB
49.212 1.9375	**114.300** 4.5000	**16.670** 0.6563	**224000** 50300	0.43	1.39	**58000** 13000	**42700** 9600	1.36	**256000** 57500	65390	65320-B
49.212 1.9375	**111.125** 4.3750	**14.288** 0.5625	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	545	532-B
49.212 1.9375	**90.000** 3.5433	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365-S	362-B
49.982 1.9678	**111.125** 4.3750	**14.288** 0.5625	**172000** 38700	0.30	2.02	**44600** 10000	**22700** 5090	1.97	**206000** 46200	546	532-B
49.987 1.9680	**80.962** 3.1875	**7.145** 0.2813	**60800** 13700	0.36	1.69	**15800** 3540	**9590** 2160	1.64	**88800** 20000	L305648	L305610-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

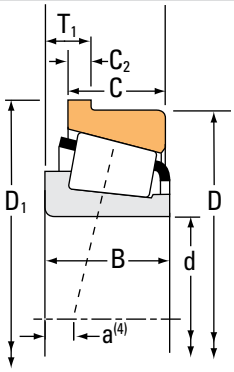
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.608 1.0082	**20.638** 0.8125	**-6.4** -0.25	**89.764** 3.5340	**4.762** 0.1875	**3.5** 0.14	**52.0** 2.05	**58.0** 2.28	**82.0** 3.23	38.2	15.7	0.0832	**0.65** 1.43
17.462 0.6875	**13.495** 0.5313	**-2.0** -0.08	**84.038** 3.3086	**3.571** 0.1406	**2.8** 0.11	**51.0** 2.01	**56.0** 2.20	**77.0** 3.03	23.9	18.7	0.0725	**0.34** 0.77
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**127.691** 5.0272	**7.142** 0.2812	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**110.0** 4.33	75.9	16.2	0.0694	**2.42** 5.33
36.512 1.4375	**26.988** 1.0625	**-9.7** -0.38	**115.214** 4.5360	**6.350** 0.2500	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**101.0** 3.98	57.3	15.2	0.0999	**1.65** 3.64
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**4.8** 0.19	**56.0** 2.20	**65.0** 2.56	**100.0** 3.94	58.6	17.1	0.0946	**1.31** 2.88
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**0.8** 0.03	**56.0** 2.20	**57.0** 2.24	**100.0** 3.94	58.6	17.1	0.0946	**1.32** 2.91
29.370 1.1563	**24.021** 0.9457	**-3.8** -0.15	**100.686** 3.9640	**5.001** 0.1969	**3.5** 0.14	**57.0** 2.26	**66.0** 2.60	**93.0** 3.66	44.8	13.8	0.1017	**1.02** 2.24
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**97.937** 3.8558	**4.762** 0.1875	**3.5** 0.14	**55.0** 2.17	**61.0** 2.40	**89.9** 3.54	49.9	14.5	0.0903	**0.94** 2.06
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**97.937** 3.8558	**4.762** 0.1875	**6.4** 0.25	**55.0** 2.17	**67.0** 2.64	**89.9** 3.54	49.9	14.5	0.0903	**0.92** 2.02
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**3.5** 0.14	**53.0** 2.09	**60.0** 2.36	**86.0** 3.39	33.8	14.0	0.0773	**0.59** 1.29
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**2.3** 0.09	**53.0** 2.09	**57.0** 2.24	**86.0** 3.39	33.8	14.0	0.0773	**0.59** 1.30
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**93.662** 3.6875	**4.762** 0.1875	**2.3** 0.09	**53.0** 2.09	**57.0** 2.24	**86.0** 3.39	33.8	14.0	0.0773	**0.58** 1.28
44.450 1.7500	**34.925** 1.3750	**-12.4** -0.49	**121.341** 4.7772	**7.145** 0.2813	**3.5** 0.14	**60.0** 2.36	**70.0** 2.76	**107.0** 4.21	63.1	13.0	0.1053	**2.27** 5.01
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**117.373** 4.6210	**6.350** 0.2500	**3.5** 0.14	**57.0** 2.24	**64.0** 2.52	**100.0** 3.94	64.3	16.1	0.0938	**1.78** 3.94
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**0.8** 0.03	**54.0** 2.13	**55.0** 2.17	**86.0** 3.39	33.8	14.0	0.0773	**0.57** 1.25
36.957 1.4550	**30.162** 1.1875	**-12.2** -0.48	**117.373** 4.6210	**6.350** 0.2500	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**100.0** 3.94	64.3	16.1	0.0938	**1.77** 3.90
18.258 0.7188	**14.288** 0.5625	**-2.5** -0.10	**84.036** 3.3085	**3.175** 0.1250	**1.5** 0.06	**55.0** 2.17	**57.0** 2.24	**78.0** 3.07	38.8	29.8	0.0841	**0.38** 0.83

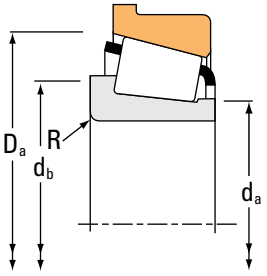
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.000 1.9685	**110.000** 4.3307	**11.250** 0.4429	**149000** 33400	0.35	1.74	**38500** 8660	**22700** 5110	1.69	**160000** 36000	X30310M	Y30310RM
50.000 1.9685	**90.000** 3.5433	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	366	362-B
50.000 1.9685	**90.000** 3.5433	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	365	362-B
50.800 2.0000	**127.000** 5.0000	**16.670** 0.6563	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65200	65500-B
50.800 2.0000	**120.650** 4.7500	**16.667** 0.6562	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	619	612-B
50.800 2.0000	**111.125** 4.3750	**15.083** 0.5938	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55200	55437-B
50.800 2.0000	**107.950** 4.2500	**11.112** 0.4375	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455	453-B
50.800 2.0000	**107.950** 4.2500	**11.115** 0.4376	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	455-S	453-B
50.800 2.0000	**104.775** 4.1250	**11.908** 0.4688	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45285	45220-B
50.800 2.0000	**104.775** 4.1250	**11.908** 0.4688	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45285A	45220-B
50.800 2.0000	**104.775** 4.1250	**11.908** 0.4688	**202000** 45500	0.40	1.49	**52400** 11800	**36100** 8110	1.45	**202000** 45400	59201	59412-B
50.800 2.0000	**104.775** 4.1250	**15.875** 0.6250	**203000** 45700	0.49	1.23	**52700** 11900	**44000** 9890	1.20	**223000** 50200	HM807046	HM807010-B
50.800 2.0000	**101.600** 4.0000	**11.908** 0.4688	**157000** 35400	0.40	1.50	**40800** 9170	**28000** 6290	1.46	**155000** 35000	49585	49520-B
50.800 2.0000	**93.264** 3.6718	**11.112** 0.4375	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3780	3720-B
50.800 2.0000	**93.264** 3.6718	**11.112** 0.4375	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3775	3720-B
50.800 2.0000	**92.075** 3.6250	**8.730** 0.3437	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28580	28521-B
50.800 2.0000	**90.000** 3.5433	**8.888** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368	362-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

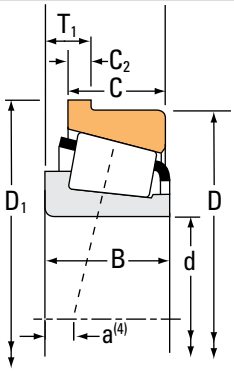
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
27.000 1.0630	**23.000** 0.9055	**-6.1** -0.24	**116.000** 4.5669	**5.000** 0.1969	**2.5** 0.10	**61.0** 2.40	**65.0** 2.56	**104.0** 4.09	51.0	17.5	0.0907	**1.30** 2.87
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**2.3** 0.09	**55.0** 2.17	**59.0** 2.32	**86.0** 3.39	33.8	14.0	0.0773	**0.56** 1.23
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**2.0** 0.08	**55.0** 2.17	**58.0** 2.28	**86.0** 3.39	33.8	14.0	0.0773	**0.56** 1.23
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**134.041** 5.2772	**7.145** 0.2813	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**120.0** 4.72	83.2	17.2	0.0827	**2.98** 6.56
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**127.691** 5.0272	**7.142** 0.2812	**3.5** 0.14	**61.0** 2.40	**67.0** 2.64	**110.0** 4.33	75.9	16.2	0.0694	**2.34** 5.16
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**116.683** 4.5938	**5.558** 0.2188	**3.5** 0.14	**63.9** 2.51	**71.0** 2.80	**107.0** 4.21	36.8	13.2	0.1085	**1.28** 2.83
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**100.0** 3.94	58.6	17.1	0.0946	**1.27** 2.78
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**100.0** 3.94	58.6	17.1	0.0946	**1.26** 2.77
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**110.231** 4.3398	**5.558** 0.2188	**2.3** 0.09	**59.0** 2.32	**63.0** 2.48	**101.0** 3.98	63.5	16.9	0.0971	**1.26** 2.77
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**110.231** 4.3398	**5.558** 0.2188	**0.8** 0.03	**59.0** 2.32	**60.0** 2.36	**101.0** 3.98	63.5	16.9	0.0971	**1.26** 2.76
36.512 1.4375	**28.575** 1.1250	**-9.7** -0.38	**110.500** 4.3504	**3.970** 0.1563	**0.8** 0.03	**61.0** 2.40	**62.0** 2.44	**101.0** 3.98	57.3	15.2	0.0999	**1.45** 3.19
36.512 1.4375	**28.575** 1.1250	**-7.4** -0.29	**114.300** 4.5000	**7.938** 0.3125	**3.5** 0.14	**63.1** 2.48	**70.0** 2.76	**103.0** 4.06	63.9	17.1	0.0760	**1.60** 3.53
31.750 1.2500	**25.400** 1.0000	**-7.1** -0.28	**107.056** 4.2148	**5.558** 0.2188	**3.5** 0.14	**59.0** 2.32	**66.0** 2.60	**98.0** 3.86	49.1	16.8	0.0946	**1.18** 2.61
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**97.937** 3.8558	**4.762** 0.1875	**3.5** 0.14	**58.0** 2.28	**64.0** 2.52	**89.9** 3.54	49.9	14.5	0.0903	**0.88** 1.93
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**97.937** 3.8558	**4.762** 0.1875	**0.8** 0.03	**58.0** 2.28	**58.0** 2.28	**89.9** 3.54	49.9	14.5	0.0903	**0.89** 1.95
25.400 1.0000	**19.845** 0.7813	**-4.8** -0.19	**95.941** 3.7772	**3.967** 0.1562	**3.5** 0.14	**57.0** 2.24	**63.0** 2.48	**89.0** 3.50	46.4	18.9	0.0912	**0.73** 1.60
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**1.5** 0.06	**56.0** 2.20	**58.0** 2.28	**86.0** 3.39	33.8	14.0	0.0773	**0.54** 1.20

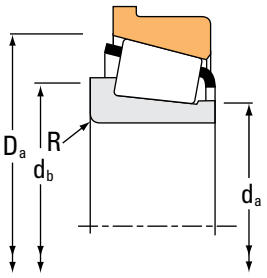
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
50.800 2.0000	**90.000** 3.5433	**8.888** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368A	362-B
50.800 2.0000	**88.900** 3.5000	**8.887** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368A	362AB
50.800 2.0000	**88.900** 3.5000	**8.888** 0.3499	**102000** 22900	0.32	1.88	**26400** 5930	**14400** 3250	1.83	**95800** 21500	368	362AB
50.800 2.0000	**85.725** 3.3750	**9.906** 0.3900	**61100** 13700	0.57	1.06	**15800** 3560	**15400** 3470	1.03	**63900** 14400	18200	18337-B
50.800 2.0000	**85.000** 3.3465	**7.539** 0.2968	**54700** 12300	0.41	1.48	**14200** 3190	**9840** 2210	1.44	**67500** 15200	18790	18720-B
50.800 2.0000	**80.962** 3.1875	**7.145** 0.2813	**60800** 13700	0.36	1.69	**15800** 3540	**9590** 2160	1.64	**88800** 20000	L305649	L305610-B
50.800 2.0000	**77.788** 3.0625	**5.969** 0.2350	**37300** 8390	0.34	1.78	**9680** 2180	**5570** 1250	1.74	**47200** 10600	LL205449	LL205410-B
52.000 2.0472	**85.725** 3.3750	**9.906** 0.3900	**51600** 11600	0.57	1.06	**13400** 3010	**13000** 2920	1.03	**63900** 14400	18204X	18337-B
52.387 2.0625	**111.125** 4.3750	**15.083** 0.5938	**126000** 28300	0.88	0.68	**32700** 7350	**49500** 11100	0.66	**119000** 26700	55206	55437-B
52.387 2.0625	**93.264** 3.6718	**11.112** 0.4375	**122000** 27500	0.34	1.77	**31700** 7120	**18300** 4120	1.73	**153000** 34300	3767	3720-B
52.387 2.0625	**92.075** 3.6250	**8.730** 0.3437	**98900** 22200	0.38	1.59	**25700** 5770	**16600** 3720	1.55	**130000** 29200	28584	28521-B
53.975 2.1250	**136.525** 5.3750	**16.662** 0.6560	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	636	632-B
53.975 2.1250	**127.000** 5.0000	**7.137** 0.2810	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	557-S	553-BA
53.975 2.1250	**127.000** 5.0000	**17.462** 0.6875	**306000** 68800	0.30	2.01	**79300** 17800	**40500** 9110	1.96	**370000** 83300	6280	6220-B
53.975 2.1250	**123.825** 4.8750	**14.288** 0.5625	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	557-S	552-B
53.975 2.1250	**120.650** 4.7500	**16.667** 0.6562	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	621	612-B
53.975 2.1250	**107.950** 4.2500	**11.115** 0.4376	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	456	453-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

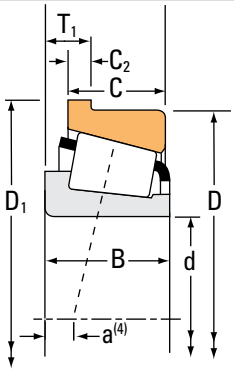
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
22.225 0.8750	**15.875** 0.6250	**-4.3** -0.17	**94.661** 3.7268	**4.762** 0.1875	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**86.0** 3.39	33.8	14.0	0.0773	**0.54** 1.19
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**93.662** 3.6875	**4.762** 0.1875	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**86.0** 3.39	33.8	14.0	0.0773	**0.53** 1.16
22.225 0.8750	**16.513** 0.6501	**-4.3** -0.17	**93.662** 3.6875	**4.762** 0.1875	**1.5** 0.06	**56.0** 2.20	**58.0** 2.28	**86.0** 3.39	33.8	14.0	0.0773	**0.53** 1.18
18.263 0.7190	**12.700** 0.5000	**2.0** 0.08	**89.586** 3.5270	**3.556** 0.1400	**1.5** 0.06	**56.0** 2.20	**59.0** 2.32	**83.0** 3.27	26.1	22.1	0.0852	**0.41** 0.91
17.462 0.6875	**13.495** 0.5313	**-0.8** -0.03	**88.570** 3.4870	**3.571** 0.1406	**3.5** 0.14	**56.0** 2.20	**62.0** 2.44	**82.0** 3.23	28.6	23.4	0.0789	**0.40** 0.89
18.258 0.7188	**14.288** 0.5625	**-2.5** -0.10	**84.036** 3.3085	**3.175** 0.1250	**1.5** 0.06	**56.0** 2.20	**58.0** 2.28	**78.0** 3.07	38.8	29.8	0.0841	**0.37** 0.81
12.700 0.5000	**9.525** 0.3750	**0.0** 0.00	**80.582** 3.1725	**2.794** 0.1100	**1.5** 0.06	**55.0** 2.17	**57.0** 2.24	**75.0** 2.95	24.2	29.1	0.0699	**0.21** 0.46
18.263 0.7190	**12.700** 0.5000	**2.0** 0.08	**89.586** 3.5270	**3.556** 0.1400	**2.0** 0.08	**57.0** 2.24	**60.0** 2.36	**83.0** 3.27	26.1	22.1	0.0852	**0.39** 0.88
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**116.683** 4.5938	**5.558** 0.2188	**3.5** 0.14	**63.9** 2.51	**72.0** 2.83	**107.0** 4.21	36.8	13.2	0.1085	**1.26** 2.77
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**97.937** 3.8558	**4.762** 0.1875	**2.3** 0.09	**59.0** 2.32	**63.0** 2.48	**89.9** 3.54	49.9	14.5	0.0903	**0.86** 1.87
25.400 1.0000	**19.845** 0.7813	**-4.8** -0.19	**95.941** 3.7772	**3.967** 0.1562	**3.5** 0.14	**58.0** 2.28	**65.0** 2.56	**89.0** 3.50	46.4	18.9	0.0912	**0.69** 1.52
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**125.0** 4.92	106.4	21.0	0.0814	**3.19** 7.04
36.678 1.4440	**34.925** 1.3750	**-9.4** -0.37	**133.248** 5.2460	**6.350** 0.2500	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**116.0** 4.57	91.0	21.1	0.1108	**2.46** 5.40
52.388 2.0625	**41.275** 1.6250	**-19.6** -0.77	**134.925** 5.3120	**7.938** 0.3125	**3.5** 0.14	**67.0** 2.64	**74.0** 2.91	**117.0** 4.61	103.1	18.7	0.0757	**3.37** 7.43
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**130.073** 5.1210	**6.350** 0.2500	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**116.0** 4.57	91.0	21.1	0.1108	**2.31** 5.08
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**127.691** 5.0272	**7.142** 0.2812	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**110.0** 4.33	75.9	16.2	0.0694	**2.25** 4.97
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**3.5** 0.14	**61.0** 2.40	**68.0** 2.68	**100.0** 3.94	58.6	17.1	0.0946	**1.20** 2.63

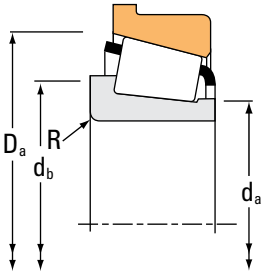
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
53.975 2.1250	**93.264** 3.6718	**10.320** 0.4063	**130000** 29200	0.33	1.82	**33600** 7560	**19000** 4270	1.77	**161000** 36200	33895	33820-B
54.813 2.1580	**135.755** 5.3447	**17.462** 0.6875	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6380	6320-B
54.987 2.1649	**135.755** 5.3447	**17.462** 0.6875	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6381	6320-B
55.000 2.1654	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	475	472-B
55.000 2.1654	**120.000** 4.7244	**12.000** 0.4724	**174000** 39100	0.35	1.74	**45100** 10100	**26600** 5990	1.69	**190000** 42700	X30311M	Y30311RM
55.000 2.1654	**110.000** 4.3307	**16.000** 0.6299	**234000** 52700	0.40	1.48	**60700** 13700	**42000** 9450	1.44	**253000** 56800	XGB-33212	Y33212R
55.000 2.1654	**96.838** 3.8125	**7.938** 0.3125	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	385	382-B
55.562 2.1875	**107.950** 4.2500	**11.112** 0.4375	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	466-S	453-B
55.575 2.1880	**96.838** 3.8125	**7.938** 0.3125	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	389	382-B
57.150 2.2500	**149.225** 5.8750	**17.462** 0.6875	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6455	6420-B
57.150 2.2500	**139.700** 5.5000	**17.462** 0.6875	**243000** 54700	0.49	1.23	**63100** 14200	**52700** 11800	1.20	**297000** 66700	65225	65550-B
57.150 2.2500	**136.525** 5.3750	**16.662** 0.6560	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	635	632-B
57.150 2.2500	**135.755** 5.3447	**17.462** 0.6875	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6375	6320-B
57.150 2.2500	**123.825** 4.8750	**14.288** 0.5625	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	555-S	552-B
57.150 2.2500	**120.650** 4.7500	**16.667** 0.6562	**207000** 46600	0.31	1.91	**53800** 12100	**28900** 6510	1.86	**244000** 54800	623	612-B
57.150 2.2500	**112.712** 4.4375	**11.112** 0.4375	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3979	3920-B
57.150 2.2500	**107.950** 4.2500	**11.115** 0.4376	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	469	453-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

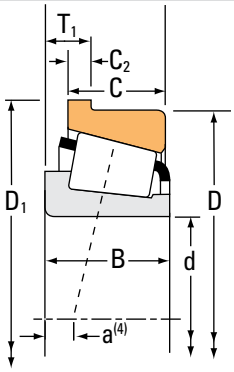
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
28.575 1.1250	**22.225** 0.8750	**-7.6** -0.30	**97.937** 3.8558	**4.762** 0.1875	**1.5** 0.06	**60.0** 2.36	**63.0** 2.48	**91.0** 3.58	52.5	18.5	0.0910	**0.79** 1.72
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**143.579** 5.6527	**7.938** 0.3125	**0.8** 0.03	**70.0** 2.76	**71.0** 2.80	**126.0** 4.96	123.5	22.4	0.0827	**4.18** 9.23
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**143.579** 5.6527	**7.938** 0.3125	**3.5** 0.14	**70.0** 2.76	**76.0** 2.99	**126.0** 4.96	123.5	22.4	0.0827	**4.17** 9.20
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**0.8** 0.03	**66.0** 2.60	**67.0** 2.64	**115.0** 4.53	77.2	23.0	0.1083	**1.70** 3.74
29.000 1.1417	**25.000** 0.9843	**-6.6** -0.26	**127.000** 5.0000	**5.500** 0.2165	**2.5** 0.10	**70.0** 2.76	**71.0** 2.80	**113.0** 4.45	62.8	24.0	0.0668	**1.68** 3.69
38.000 1.4961	**29.000** 1.1417	**-9.9** -0.39	**116.000** 4.5669	**7.000** 0.2756	**0.8** 0.03	**68.0** 2.68	**71.0** 2.80	**107.0** 4.21	76.2	20.0	0.0758	**1.72** 3.80
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**101.498** 3.9960	**4.762** 0.1875	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**94.0** 3.70	42.0	15.7	0.0859	**0.66** 1.46
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**100.0** 3.94	58.6	17.1	0.0946	**1.17** 2.58
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**101.498** 3.9960	**4.762** 0.1875	**2.3** 0.09	**61.0** 2.40	**65.0** 2.56	**94.0** 3.70	42.0	15.7	0.0859	**0.65** 1.44
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**157.061** 6.1835	**7.938** 0.3125	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**140.0** 5.51	158.3	29.1	0.0931	**5.21** 11.50
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**152.400** 6.0000	**7.938** 0.3125	**3.5** 0.14	**71.0** 2.79	**80.0** 3.15	**120.0** 4.72	83.2	17.2	0.0827	**3.61** 7.96
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**125.0** 4.92	106.4	21.0	0.0814	**3.10** 6.84
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**143.579** 5.6527	**7.938** 0.3125	**4.3** 0.17	**72.0** 2.83	**80.0** 3.15	**126.0** 4.96	123.5	22.4	0.0827	**4.08** 9.00
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**130.073** 5.1210	**6.350** 0.2500	**3.5** 0.14	**70.0** 2.76	**76.0** 2.99	**116.0** 4.57	91.0	21.1	0.1108	**2.23** 4.90
41.275 1.6250	**31.750** 1.2500	**-14.0** -0.55	**127.691** 5.0272	**7.142** 0.2812	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**110.0** 4.33	75.9	16.2	0.0694	**2.16** 4.77
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**117.373** 4.6210	**4.762** 0.1875	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**108.0** 4.25	75.2	21.3	0.1092	**1.40** 3.10
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**3.5** 0.14	**68.0** 2.68	**72.0** 2.83	**100.0** 3.94	58.6	17.1	0.0946	**1.14** 2.50

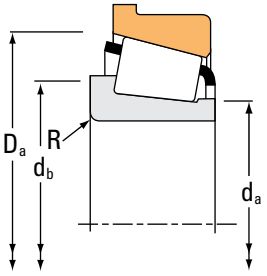
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
57.150 2.2500	**107.950** 4.2500	**11.115** 0.4376	**161000** 36100	0.34	1.79	**41700** 9370	**23900** 5380	1.74	**166000** 37200	462	453-B
57.150 2.2500	**104.775** 4.1250	**11.908** 0.4688	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45290	45220-B
57.150 2.2500	**104.775** 4.1250	**11.908** 0.4688	**153000** 34500	0.33	1.80	**39700** 8930	**22600** 5090	1.76	**189000** 42600	45291	45220-B
57.150 2.2500	**97.630** 3.8437	**9.124** 0.3592	**123000** 27700	0.40	1.49	**32000** 7180	**22000** 4950	1.45	**142000** 32000	28682	28622-B
57.150 2.2500	**96.838** 3.8125	**7.938** 0.3125	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387	382-B
57.150 2.2500	**96.838** 3.8125	**7.938** 0.3125	**108000** 24200	0.35	1.69	**28000** 6280	**16900** 3810	1.65	**107000** 24100	387A	382-B
57.150 2.2500	**87.312** 3.4375	**7.145** 0.2813	**62700** 14100	0.39	1.54	**16300** 3650	**10800** 2430	1.50	**95600** 21500	L507949	L507910-B
57.150 2.2500	**84.933** 3.3438	**5.969** 0.2350	**36100** 8120	0.37	1.62	**9370** 2110	**5940** 1340	1.58	**46800** 10500	LL408049	LL408010-B
58.737 2.3125	**112.712** 4.4375	**11.112** 0.4375	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3981	3920-B
59.931 2.3595	**150.089** 5.9090	**15.875** 0.6250	**318000** 71400	0.33	1.84	**82400** 18500	**45900** 10300	1.80	**417000** 93800	745	742-B
59.977 2.3613	**100.000** 3.9370	**9.525** 0.3750	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28980	28921-B
59.987 2.3617	**130.175** 5.1250	**16.637** 0.6550	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911244	HM911210-B
59.987 2.3617	**129.944** 5.1159	**14.288** 0.5625	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	558-S	553-SB
59.987 2.3617	**104.775** 4.1250	**10.320** 0.4063	**115000** 25800	0.39	1.55	**29700** 6680	**19700** 4440	1.51	**120000** 27000	39236	39412-B
60.000 2.3622	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	476	472-B
60.000 2.3622	**112.712** 4.4375	**11.112** 0.4375	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3977	3920-B
60.000 2.3622	**110.000** 4.3307	**10.320** 0.4063	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29580	29521-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

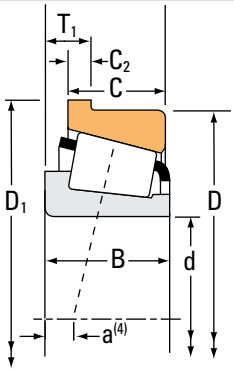
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**113.386** 4.4640	**5.558** 0.2188	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**100.0** 3.94	58.6	17.1	0.0946	**1.14** 2.50
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**110.231** 4.3398	**5.558** 0.2188	**2.3** 0.09	**65.0** 2.56	**68.0** 2.68	**101.0** 3.98	63.5	16.9	0.0971	**1.13** 2.48
30.958 1.2188	**23.812** 0.9375	**-8.1** -0.32	**110.231** 4.3398	**5.558** 0.2188	**6.4** 0.25	**65.0** 2.56	**76.0** 2.99	**101.0** 3.98	63.5	16.9	0.0971	**1.10** 2.41
24.608 0.9688	**19.446** 0.7656	**-3.3** -0.13	**101.498** 3.9960	**3.962** 0.1560	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**94.0** 3.70	54.0	22.6	0.0979	**0.75** 1.66
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**101.498** 3.9960	**4.762** 0.1875	**2.3** 0.09	**63.0** 2.48	**67.0** 2.64	**94.0** 3.70	42.0	15.7	0.0859	**0.63** 1.39
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**101.498** 3.9960	**4.762** 0.1875	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**94.0** 3.70	42.0	15.7	0.0859	**0.63** 1.38
18.258 0.7188	**14.288** 0.5625	**-0.8** -0.03	**90.488** 3.5625	**3.175** 0.1250	**1.5** 0.06	**62.0** 2.44	**65.0** 2.56	**85.0** 3.35	46.1	38.5	0.0914	**0.40** 0.88
12.700 0.5000	**9.525** 0.3750	**1.5** 0.06	**87.727** 3.4538	**2.794** 0.1100	**1.5** 0.06	**61.0** 2.40	**64.0** 2.52	**82.0** 3.23	27.4	36.3	0.0749	**0.24** 0.52
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**117.373** 4.6210	**4.762** 0.1875	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**108.0** 4.25	75.2	21.3	0.1092	**1.37** 3.03
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**157.912** 6.2170	**7.938** 0.3125	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**143.0** 5.63	159.6	26.3	0.0898	**4.40** 9.69
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**103.962** 4.0930	**3.970** 0.1563	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**98.0** 3.86	60.1	24.5	0.1032	**0.79** 1.75
30.924 1.2175	**23.812** 0.9375	**7.9** 0.31	**136.525** 5.3750	**6.350** 0.2500	**3.5** 0.14	**74.4** 2.93	**84.0** 3.31	**123.6** 4.87	56.4	16.5	0.0842	**2.09** 4.60
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**136.025** 5.3553	**6.350** 0.2500	**3.5** 0.14	**69.0** 2.72	**75.0** 2.95	**116.0** 4.57	91.0	21.1	0.1108	**2.46** 5.41
22.000 0.8661	**15.875** 0.6250	**-1.5** -0.06	**109.433** 4.3084	**4.762** 0.1875	**2.3** 0.09	**67.0** 2.64	**71.0** 2.80	**102.0** 4.02	51.7	19.5	0.0947	**0.77** 1.70
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**2.0** 0.08	**69.0** 2.72	**73.0** 2.87	**115.0** 4.53	77.2	23.0	0.1083	**1.60** 3.51
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**117.373** 4.6210	**4.762** 0.1875	**3.5** 0.14	**68.0** 2.68	**74.0** 2.91	**108.0** 4.25	75.2	21.3	0.1092	**1.34** 2.97
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**113.800** 4.4803	**3.970** 0.1563	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**105.0** 4.13	70.3	25.9	0.1112	**1.08** 2.36

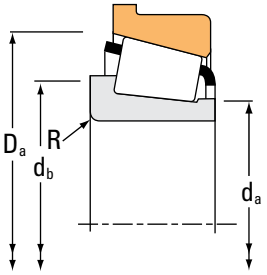
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
60.000 2.3622	**107.950** 4.2500	**10.320** 0.4063	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29580	29520-B
60.000 2.3622	**100.000** 3.9370	**8.500** 0.3346	**82500** 18500	0.47	1.27	**21400** 4810	**17300** 3890	1.24	**101000** 22800	JP6049	JP6010-B
60.325 2.3750	**161.925** 6.3750	**23.012** 0.9060	**298000** 66900	0.71	0.85	**77100** 17300	**93600** 21000	0.82	**330000** 74200	9275	9221-B
60.325 2.3750	**136.525** 5.3750	**16.662** 0.6560	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	637	632-B
60.325 2.3750	**135.755** 5.3447	**17.462** 0.6875	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6376	6320-B
60.325 2.3750	**130.175** 5.1250	**19.050** 0.7500	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911245	HM911210-B
60.325 2.3750	**123.825** 4.8750	**14.288** 0.5625	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	558	552-B
60.325 2.3750	**112.712** 4.4375	**11.112** 0.4375	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3980	3920-B
60.325 2.3750	**100.000** 3.9370	**9.525** 0.3750	**106000** 23800	0.43	1.41	**27500** 6180	**20000** 4500	1.37	**149000** 33500	28985	28921-B
61.912 2.4375	**130.175** 5.1250	**19.050** 0.7500	**198000** 44400	0.82	0.73	**51200** 11500	**71900** 16200	0.71	**183000** 41100	HM911249	HM911210-B
61.912 2.4375	**123.825** 4.8750	**14.288** 0.5625	**191000** 42900	0.35	1.73	**49400** 11100	**29300** 6590	1.69	**248000** 55700	554	552-B
63.500 2.5000	**149.225** 5.8750	**17.462** 0.6875	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6475	6420-B
63.500 2.5000	**136.525** 5.3750	**16.637** 0.6550	**323000** 72600	0.36	1.67	**83700** 18800	**51600** 11600	1.62	**335000** 75400	H414235	H414210-B
63.500 2.5000	**136.525** 5.3750	**16.662** 0.6560	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	639	632-B
63.500 2.5000	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	565	563-B
63.500 2.5000	**123.825** 4.8750	**14.288** 0.5625	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	559	552-B
63.500 2.5000	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	477	472-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

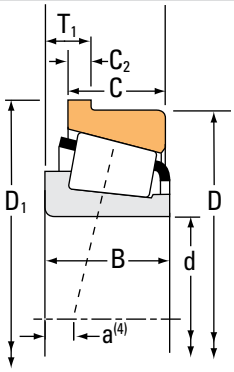
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**111.816** 4.4022	**3.970** 0.1563	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**105.0** 4.13	70.3	25.9	0.1112	**1.02** 2.25
20.000 0.7874	**15.500** 0.6102	**1.3** 0.05	**105.000** 4.1339	**3.000** 0.1181	**2.0** 0.08	**66.0** 2.60	**69.0** 2.72	**98.0** 3.86	39.5	22.5	0.0922	**0.62** 1.37
46.038 1.8125	**30.162** 1.1875	**1.8** 0.07	**171.450** 6.7500	**7.137** 0.2810	**3.5** 0.14	**89.0** 3.50	**102.0** 4.02	**153.0** 6.03	102.5	16.1	0.0984	**4.83** 10.65
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**125.0** 4.92	106.4	21.0	0.0814	**3.01** 6.63
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**143.579** 5.6527	**7.938** 0.3125	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**126.0** 4.96	123.5	22.4	0.0827	**3.95** 8.73
33.338 1.3125	**23.812** 0.9375	**5.3** 0.21	**136.525** 5.3750	**6.350** 0.2500	**5.0** 0.20	**74.0** 2.91	**93.0** 3.66	**123.6** 4.87	56.4	16.5	0.0842	**2.16** 4.75
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**130.073** 5.1210	**6.350** 0.2500	**2.3** 0.09	**72.0** 2.83	**76.0** 2.99	**116.0** 4.57	91.0	21.1	0.1108	**2.15** 4.72
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**117.373** 4.6210	**4.762** 0.1875	**3.5** 0.14	**68.0** 2.68	**75.0** 2.95	**108.0** 4.25	75.2	21.3	0.1092	**1.33** 2.95
25.400 1.0000	**19.845** 0.7813	**-2.5** -0.10	**103.962** 4.0930	**3.970** 0.1563	**3.5** 0.14	**67.0** 2.64	**73.0** 2.87	**98.0** 3.86	60.1	24.5	0.1032	**0.78** 1.73
33.338 1.3125	**23.812** 0.9375	**5.3** 0.21	**136.525** 5.3750	**6.350** 0.2500	**3.5** 0.14	**74.0** 2.91	**91.0** 3.58	**123.6** 4.87	56.4	16.5	0.0842	**2.13** 4.69
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**130.073** 5.1210	**6.350** 0.2500	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**116.0** 4.57	91.0	21.1	0.1108	**2.09** 4.61
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**157.061** 6.1835	**7.938** 0.3125	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**140.0** 5.51	158.3	29.1	0.0931	**4.96** 10.93
41.275 1.6250	**31.750** 1.2500	**-10.9** -0.43	**143.637** 5.6550	**7.112** 0.2800	**3.5** 0.14	**78.0** 3.07	**82.0** 3.23	**130.0** 5.12	112.8	22.9	0.0827	**2.94** 6.47
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**125.0** 4.92	106.4	21.0	0.0814	**2.91** 6.41
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**121.0** 4.76	101.3	24.0	0.1167	**2.16** 4.76
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**130.073** 5.1210	**6.350** 0.2500	**3.5** 0.14	**75.0** 2.95	**81.0** 3.19	**116.0** 4.57	91.0	21.1	0.1108	**2.05** 4.52
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**0.8** 0.03	**72.0** 2.83	**73.0** 2.87	**115.0** 4.53	77.2	23.0	0.1083	**1.52** 3.35

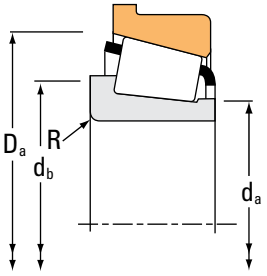
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
63.500 2.5000	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	483	472-B
63.500 2.5000	**112.712** 4.4375	**7.917** 0.3117	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	395	3920-B
63.500 2.5000	**112.712** 4.4375	**11.112** 0.4375	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3982	3920-B
63.500 2.5000	**107.950** 4.2500	**10.320** 0.4063	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29585	29520-B
63.500 2.5000	**104.775** 4.1250	**10.320** 0.4063	**115000** 25800	0.39	1.55	**29700** 6680	**19700** 4440	1.51	**120000** 27000	39250	39412-B
64.960 2.5575	**149.225** 5.8750	**17.462** 0.6875	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6464	6420-B
64.963 2.5576	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	569	563-B
65.000 2.5591	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	478	472-B
65.087 2.5625	**135.755** 5.3447	**17.462** 0.6875	**381000** 85600	0.32	1.85	**98800** 22200	**54900** 12300	1.80	**404000** 90900	6379	6320-B
65.883 2.5938	**122.238** 4.8125	**13.495** 0.5313	**280000** 63000	0.36	1.67	**72700** 16300	**44600** 10000	1.63	**327000** 73500	5595	5535-B
66.675 2.6250	**139.700** 5.5000	**17.462** 0.6875	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715341	H715310-B
66.675 2.6250	**136.525** 5.3750	**16.662** 0.6560	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	641	632-B
66.675 2.6250	**135.755** 5.3447	**17.462** 0.6875	**321000** 72300	0.32	1.85	**83300** 18700	**46300** 10400	1.80	**404000** 90900	6386	6320-B
66.675 2.6250	**130.200** 5.1260	**19.865** 0.7821	**229000** 51500	0.50	1.20	**59400** 13400	**51100** 11500	1.16	**256000** 57600	HM813844	HM813815-B
66.675 2.6250	**123.825** 4.8750	**14.288** 0.5625	**226000** 50800	0.35	1.73	**58600** 13200	**34700** 7810	1.69	**248000** 55700	560	552-B
66.675 2.6250	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	479	472-B
66.675 2.6250	**112.712** 4.4375	**11.112** 0.4375	**139000** 31200	0.40	1.49	**36000** 8090	**24800** 5570	1.45	**191000** 43000	3984	3920-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

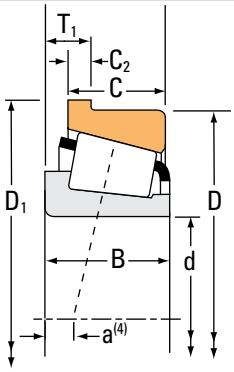
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**3.5** 0.14	**72.0** 2.83	**78.0** 3.07	**115.0** 4.53	77.2	23.0	0.1083	**1.51** 3.32
21.996 0.8660	**23.812** 0.9375	**-0.8** -0.03	**117.373** 4.6210	**4.762** 0.1875	**3.5** 0.14	**70.0** 2.76	**77.0** 3.03	**108.0** 4.25	56.0	21.4	0.0984	**1.05** 2.32
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**117.373** 4.6210	**4.762** 0.1875	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**108.0** 4.25	75.2	21.3	0.1092	**1.26** 2.79
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**111.816** 4.4022	**3.970** 0.1563	**3.5** 0.14	**71.0** 2.80	**77.0** 3.03	**105.0** 4.13	70.3	25.9	0.1112	**0.95** 2.10
22.000 0.8661	**15.875** 0.6250	**-1.5** -0.06	**109.433** 4.3084	**4.762** 0.1875	**2.0** 0.08	**69.0** 2.72	**73.0** 2.87	**102.0** 4.02	51.7	19.5	0.0947	**0.71** 1.57
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**157.061** 6.1835	**7.938** 0.3125	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**140.0** 5.51	158.3	29.1	0.0931	**4.89** 10.79
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**3.5** 0.14	**74.0** 2.91	**81.0** 3.19	**121.0** 4.76	101.3	24.0	0.1167	**2.11** 4.67
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**2.3** 0.09	**73.0** 2.87	**77.0** 3.03	**115.0** 4.53	77.2	23.0	0.1083	**1.48** 3.26
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**143.579** 5.6527	**7.938** 0.3125	**3.5** 0.14	**77.0** 3.04	**84.0** 3.31	**126.0** 4.96	123.5	22.4	0.0827	**3.75** 8.27
43.764 1.7230	**36.512** 1.4375	**-12.2** -0.48	**128.588** 5.0625	**6.350** 0.2500	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**118.0** 4.65	110.4	24.2	0.0825	**2.29** 5.05
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**152.400** 6.0000	**7.938** 0.3125	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**135.0** 5.31	147.1	33.5	0.0993	**3.67** 8.08
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**125.0** 4.92	106.4	21.0	0.0814	**2.80** 6.18
56.007 2.2050	**44.450** 1.7500	**-19.3** -0.76	**143.579** 5.6527	**7.938** 0.3125	**4.3** 0.17	**77.0** 3.04	**87.0** 3.43	**126.0** 4.96	123.5	22.4	0.0827	**3.67** 8.10
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**138.201** 5.4410	**10.340** 0.4071	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**124.0** 4.88	91.7	22.9	0.1252	**2.26** 4.98
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**130.073** 5.1210	**6.350** 0.2500	**3.5** 0.14	**77.0** 3.03	**84.0** 3.31	**116.0** 4.57	91.0	21.1	0.1108	**1.96** 4.31
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**115.0** 4.53	77.2	23.0	0.1083	**1.45** 3.17
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**117.373** 4.6210	**4.762** 0.1875	**3.5** 0.14	**74.0** 2.91	**80.0** 3.15	**108.0** 4.25	75.2	21.3	0.1092	**1.18** 2.62

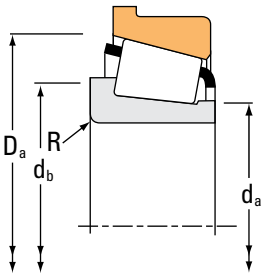
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
66.675 2.6250	**107.950** 4.2500	**10.320** 0.4063	**131000** 29400	0.46	1.31	**33800** 7610	**26600** 5970	1.27	**161000** 36300	29590	29520-B
68.262 2.6875	**161.925** 6.3750	**24.600** 0.9685	**353000** 79300	0.71	0.85	**91400** 20600	**111000** 24900	0.82	**330000** 74200	9278	9221-B
68.262 2.6875	**136.525** 5.3750	**16.662** 0.6560	**233000** 52400	0.36	1.66	**60400** 13600	**37400** 8420	1.61	**298000** 67000	642	632-B
68.262 2.6875	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	570	563-B
68.262 2.6875	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	480	472-B
68.262 2.6875	**110.000** 4.3307	**7.925** 0.3120	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100	399A	394AB
69.850 2.7500	**168.275** 6.6250	**22.225** 0.8750	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	835	832-B
69.850 2.7500	**152.400** 6.0000	**16.667** 0.6562	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	655	652-B
69.850 2.7500	**150.089** 5.9090	**15.875** 0.6250	**377000** 84700	0.33	1.84	**97600** 21900	**54400** 12200	1.80	**417000** 93800	745A	742-B
69.850 2.7500	**149.225** 5.8750	**17.462** 0.6875	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6454	6420-B
69.850 2.7500	**136.525** 5.3750	**16.662** 0.6560	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	643	632-B
69.850 2.7500	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	566	563-B
69.850 2.7500	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	482	472-B
69.850 2.7500	**112.712** 4.4375	**10.320** 0.4063	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29675	29620-B
69.850 2.7500	**112.712** 4.4375	**11.112** 0.4375	**101000** 22700	0.42	1.44	**26200** 5880	**18600** 4190	1.40	**130000** 29300	LM613449	LM613410-B
69.952 2.7540	**122.238** 4.8125	**7.938** 0.3125	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34274	34481-B
70.000 2.7559	**122.238** 4.8125	**7.938** 0.3125	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34275	34481-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

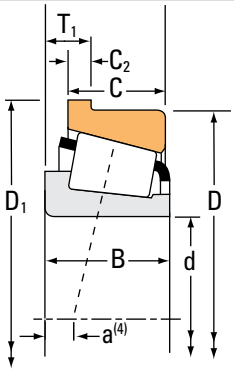
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
25.400 1.0000	**19.050** 0.7500	**-0.8** -0.03	**111.816** 4.4022	**3.970** 0.1563	**3.5** 0.14	**73.0** 2.87	**80.0** 3.15	**105.0** 4.13	70.3	25.9	0.1112	**0.88** 1.96
46.038 1.8125	**30.162** 1.1875	**0.0** 0.00	**171.450** 6.7500	**7.137** 0.2810	**3.5** 0.14	**89.0** 3.50	**106.0** 4.17	**153.0** 6.03	102.5	16.1	0.0984	**4.60** 10.13
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**125.0** 4.92	106.4	21.0	0.0814	**2.75** 6.06
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**121.0** 4.76	101.3	24.0	0.1167	**2.02** 4.45
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**3.5** 0.14	**75.0** 2.95	**82.0** 3.23	**115.0** 4.53	77.2	23.0	0.1083	**1.40** 3.08
21.996 0.8660	**18.824** 0.7411	**-0.8** -0.03	**114.673** 4.5147	**4.750** 0.1870	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**106.0** 4.17	56.0	21.4	0.0984	**0.79** 1.73
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**177.698** 6.9960	**9.525** 0.3750	**3.5** 0.14	**84.0** 3.31	**91.0** 3.58	**155.0** 6.10	197.9	34.8	0.0937	**6.28** 13.84
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**159.441** 6.2772	**7.142** 0.2812	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**141.0** 5.55	136.6	27.3	0.0919	**3.70** 8.17
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**157.912** 6.2170	**7.938** 0.3125	**3.5** 0.14	**82.0** 3.23	**88.0** 3.46	**143.0** 5.63	159.6	26.3	0.0898	**4.04** 8.89
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**157.061** 6.1835	**7.938** 0.3125	**5.0** 0.20	**85.0** 3.35	**94.0** 3.70	**140.0** 5.51	158.3	29.1	0.0931	**4.66** 10.28
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**125.0** 4.92	106.4	21.0	0.0814	**2.69** 5.93
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**3.5** 0.14	**78.0** 3.07	**85.0** 3.35	**121.0** 4.76	101.3	24.0	0.1167	**1.97** 4.34
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**3.5** 0.14	**77.0** 3.03	**83.0** 3.27	**115.0** 4.53	77.2	23.0	0.1083	**1.36** 2.99
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**116.586** 4.5900	**3.970** 0.1563	**1.5** 0.06	**77.0** 3.03	**80.0** 3.15	**110.0** 4.33	77.7	43.3	0.1170	**0.98** 2.18
21.996 0.8660	**15.875** 0.6250	**0.0** 0.00	**119.062** 4.6875	**4.762** 0.1875	**1.5** 0.06	**76.0** 2.99	**78.0** 3.07	**110.0** 4.33	60.3	23.1	0.1019	**0.82** 1.82
23.012 0.9060	**21.430** 0.8437	**1.5** 0.06	**126.901** 4.9961	**4.762** 0.1875	**2.0** 0.08	**78.0** 3.07	**81.0** 3.19	**118.0** 4.65	69.3	27.0	0.1093	**1.18** 2.60
23.012 0.9060	**21.430** 0.8437	**1.5** 0.06	**126.901** 4.9961	**4.762** 0.1875	**2.0** 0.08	**78.0** 3.07	**82.0** 3.23	**118.0** 4.65	69.3	27.0	0.1093	**1.18** 2.60

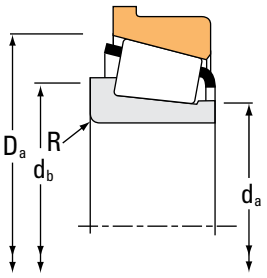
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
70.000 2.7559	**120.000** 4.7244	**11.095** 0.4368	**143000** 32200	0.38	1.56	**37200** 8360	**24500** 5500	1.52	**186000** 41900	484	472-B
70.000 2.7559	**110.000** 4.3307	**8.500** 0.3346	**91600** 20600	0.46	1.30	**23700** 5340	**18700** 4210	1.27	**112000** 25200	JP7049	JP7010-B
71.437 2.8125	**139.700** 5.5000	**17.462** 0.6875	**319000** 71700	0.47	1.27	**82700** 18600	**67000** 15100	1.24	**405000** 91000	H715345	H715310-B
71.437 2.8125	**136.525** 5.3750	**16.637** 0.6550	**323000** 72600	0.36	1.67	**83700** 18800	**51600** 11600	1.62	**335000** 75400	H414249	H414210-B
71.437 2.8125	**136.525** 5.3750	**16.662** 0.6560	**276000** 62100	0.36	1.66	**71600** 16100	**44400** 9980	1.61	**298000** 67000	645	632-B
71.437 2.8125	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567A	563-B
71.437 2.8125	**117.475** 4.6250	**11.112** 0.4375	**138000** 31100	0.44	1.38	**35900** 8060	**26800** 6020	1.34	**197000** 44300	33281	33462-B
73.025 2.8750	**152.400** 6.0000	**16.667** 0.6562	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	657	652-B
73.025 2.8750	**149.225** 5.8750	**17.462** 0.6875	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6460	6420-B
73.025 2.8750	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567	563-B
73.025 2.8750	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	567X	563-B
73.025 2.8750	**117.475** 4.6250	**11.112** 0.4375	**118000** 26500	0.51	1.18	**30600** 6870	**26700** 5990	1.15	**183000** 41200	LM814845	LM814810-B
73.025 2.8750	**112.712** 4.4375	**10.320** 0.4063	**111000** 24800	0.49	1.23	**28600** 6440	**23900** 5370	1.20	**166000** 37200	29685	29620-B
73.817 2.9062	**127.000** 5.0000	**14.288** 0.5625	**196000** 44100	0.36	1.65	**50900** 11400	**31700** 7130	1.61	**262000** 58900	568	563-B
74.612 2.9375	**139.992** 5.5115	**14.288** 0.5625	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	577	572-B
76.200 3.0000	**168.275** 6.6250	**22.225** 0.8750	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	837	832-B
76.200 3.0000	**161.925** 6.3750	**17.450** 0.6870	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	755	752-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

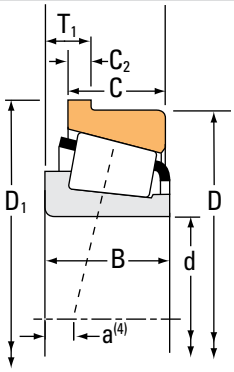
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.007 1.1420	**24.237** 0.9542	**-4.1** -0.16	**125.435** 4.9384	**5.537** 0.2180	**2.0** 0.08	**77.0** 3.03	**80.0** 3.15	**115.0** 4.53	77.2	23.0	0.1083	**1.37** 3.00
20.000 0.7874	**15.500** 0.6102	**2.5** 0.10	**116.000** 4.5669	**3.000** 0.1181	**2.0** 0.08	**76.0** 2.99	**80.0** 3.15	**105.4** 4.15	51.1	31.0	0.0995	**0.70** 1.55
46.038 1.8125	**36.512** 1.4375	**-8.6** -0.34	**152.400** 6.0000	**7.938** 0.3125	**3.5** 0.14	**88.0** 3.46	**94.0** 3.70	**135.0** 5.31	147.1	33.5	0.0993	**3.48** 7.68
41.275 1.6250	**31.750** 1.2500	**-10.9** -0.43	**143.637** 5.6550	**7.112** 0.2800	**3.5** 0.14	**83.3** 3.27	**89.0** 3.50	**130.0** 5.12	112.8	22.9	0.0827	**2.66** 5.87
41.275 1.6250	**31.750** 1.2500	**-11.2** -0.44	**143.561** 5.6520	**7.137** 0.2810	**6.4** 0.25	**81.0** 3.19	**93.0** 3.66	**125.0** 4.92	106.4	21.0	0.0814	**2.61** 5.75
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**121.0** 4.76	101.3	24.0	0.1167	**1.92** 4.23
30.162 1.1875	**23.812** 0.9375	**-2.8** -0.11	**122.133** 4.8084	**4.762** 0.1875	**3.5** 0.14	**80.0** 3.15	**87.0** 3.43	**114.0** 4.49	84.2	25.9	0.1162	**1.30** 2.86
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**159.441** 6.2772	**7.142** 0.2812	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**141.0** 5.55	136.6	27.3	0.0919	**3.59** 7.91
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**157.061** 6.1835	**7.938** 0.3125	**3.5** 0.14	**87.0** 3.43	**93.0** 3.66	**140.0** 5.51	158.3	29.1	0.0931	**4.52** 9.97
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**3.5** 0.14	**81.0** 3.19	**88.0** 3.46	**121.0** 4.76	101.3	24.0	0.1167	**1.87** 4.12
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**4.8** 0.19	**81.0** 3.19	**90.0** 3.54	**121.0** 4.76	101.3	24.0	0.1167	**1.87** 4.13
25.400 1.0000	**19.050** 0.7500	**2.3** 0.09	**122.133** 4.8084	**4.762** 0.1875	**3.5** 0.14	**81.0** 3.19	**87.0** 3.43	**116.0** 4.57	88.6	36.6	0.1239	**1.07** 2.35
25.400 1.0000	**19.050** 0.7500	**1.0** 0.04	**116.586** 4.5900	**3.970** 0.1563	**3.5** 0.14	**80.0** 3.15	**86.0** 3.39	**110.0** 4.33	77.7	43.3	0.1170	**0.91** 2.02
36.170 1.4240	**28.575** 1.1250	**-8.1** -0.32	**133.248** 5.2460	**6.350** 0.2500	**0.8** 0.03	**82.0** 3.23	**83.0** 3.27	**121.0** 4.76	101.3	24.0	0.1167	**1.85** 4.09
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**146.240** 5.7575	**6.350** 0.2500	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**134.0** 5.28	125.7	32.0	0.1295	**2.48** 5.47
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**177.698** 6.9960	**9.525** 0.3750	**0.8** 0.03	**89.0** 3.50	**90.0** 3.54	**155.0** 6.10	197.9	34.8	0.0937	**5.97** 13.15
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**169.748** 6.6830	**7.925** 0.3120	**3.5** 0.14	**92.0** 3.62	**98.0** 3.86	**150.0** 5.91	177.2	29.4	0.0945	**4.84** 10.66

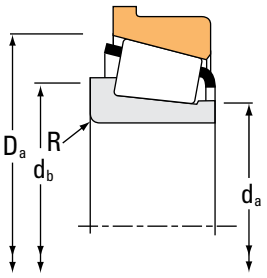
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
76.200 3.0000	**161.925** 6.3750	**19.050** 0.7500	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6575	6535-B
76.200 3.0000	**161.925** 6.3750	**24.600** 0.9685	**353000** 79300	0.71	0.85	**91400** 20600	**111000** 24900	0.82	**330000** 74200	9285	9221-B
76.200 3.0000	**149.225** 5.8750	**17.462** 0.6875	**411000** 92400	0.36	1.66	**107000** 24000	**66000** 14800	1.61	**463000** 104000	6461	6420-B
76.200 3.0000	**139.992** 5.5115	**14.288** 0.5625	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	575	572-B
76.200 3.0000	**136.525** 5.3750	**13.475** 0.5305	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495A	493-B
76.200 3.0000	**130.000** 5.1181	**13.495** 0.5313	**161000** 36200	0.42	1.43	**41800** 9390	**29900** 6730	1.39	**222000** 49800	42687	42623-B
76.200 3.0000	**125.412** 4.9375	**10.317** 0.4062	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27684	27620-B
76.200 3.0000	**122.238** 4.8125	**7.938** 0.3125	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34300	34481-B
76.200 3.0000	**122.238** 4.8125	**7.940** 0.3126	**102000** 23000	0.45	1.33	**26500** 5960	**20500** 4600	1.30	**136000** 30600	34301	34481-B
77.788 3.0625	**127.000** 5.0000	**13.495** 0.5313	**161000** 36200	0.42	1.43	**41800** 9390	**29900** 6730	1.39	**222000** 49800	42690	42620-B
77.788 3.0625	**122.238** 4.8125	**7.938** 0.3125	**121000** 27200	0.45	1.33	**31400** 7060	**24200** 5450	1.30	**136000** 30600	34306	34481-B
77.788 3.0625	**117.475** 4.6250	**11.112** 0.4375	**118000** 26500	0.51	1.18	**30600** 6870	**26700** 5990	1.15	**183000** 41200	LM814849	LM814810-B
79.375 3.1250	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595A	592-B
79.985 3.1490	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	590	592-B
80.000 3.1496	**125.000** 4.9213	**10.500** 0.4134	**107000** 24000	0.45	1.33	**27700** 6230	**21400** 4820	1.29	**141000** 31800	JP8049	JP8010-B
80.962 3.1875	**168.275** 6.6250	**22.225** 0.8750	**409000** 92000	0.30	2.00	**106000** 23800	**54300** 12200	1.95	**522000** 117000	838	832-B
80.962 3.1875	**139.992** 5.5115	**14.288** 0.5625	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	581	572-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

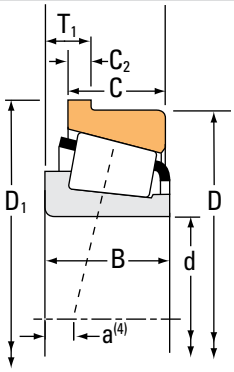
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**171.450** 6.7500	**7.938** 0.3125	**6.4** 0.25	**92.0** 3.62	**104.0** 4.09	**155.0** 6.10	198.6	33.5	0.1037	**5.47** 12.07
46.038 1.8125	**30.162** 1.1875	**0.0** 0.00	**171.450** 6.7500	**7.137** 0.2810	**3.5** 0.14	**89.0** 3.50	**111.0** 4.37	**153.0** 6.03	102.5	16.1	0.0984	**4.27** 9.41
54.229 2.1350	**44.450** 1.7500	**-15.0** -0.59	**157.061** 6.1835	**7.938** 0.3125	**3.5** 0.14	**89.0** 3.52	**96.0** 3.78	**140.0** 5.51	158.3	29.1	0.0931	**4.36** 9.63
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**146.240** 5.7575	**6.350** 0.2500	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**134.0** 5.28	125.7	32.0	0.1295	**2.42** 5.35
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**141.961** 5.5890	**5.537** 0.2180	**3.5** 0.14	**86.0** 3.39	**92.0** 3.62	**131.0** 5.16	104.6	29.3	0.1252	**1.86** 4.09
31.000 1.2205	**22.225** 0.8750	**-2.8** -0.11	**135.456** 5.3329	**5.558** 0.2188	**3.5** 0.14	**84.0** 3.31	**90.0** 3.54	**124.0** 4.88	96.2	28.6	0.1197	**1.61** 3.55
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**130.076** 5.1211	**4.762** 0.1875	**3.5** 0.14	**84.0** 3.31	**91.0** 3.58	**123.0** 4.84	98.2	41.8	0.1198	**1.25** 2.76
23.012 0.9060	**21.430** 0.8437	**1.5** 0.06	**126.901** 4.9961	**4.762** 0.1875	**2.0** 0.08	**83.0** 3.27	**86.0** 3.39	**118.0** 4.65	69.3	27.0	0.1093	**1.05** 2.32
23.012 0.9060	**21.430** 0.8437	**1.5** 0.06	**126.901** 4.9961	**4.762** 0.1875	**3.5** 0.14	**83.0** 3.27	**89.0** 3.50	**118.0** 4.65	69.3	27.0	0.1093	**1.04** 2.30
31.000 1.2205	**22.225** 0.8750	**-2.8** -0.11	**133.248** 5.2460	**5.558** 0.2188	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**124.0** 4.88	96.2	28.6	0.1197	**1.43** 3.14
23.012 0.9060	**21.430** 0.8437	**1.5** 0.06	**126.901** 4.9961	**4.762** 0.1875	**3.5** 0.14	**84.0** 3.31	**91.0** 3.58	**118.0** 4.65	69.3	27.0	0.1093	**1.00** 2.22
25.400 1.0000	**19.050** 0.7500	**2.3** 0.09	**122.133** 4.8084	**4.762** 0.1875	**3.5** 0.14	**85.0** 3.35	**91.0** 3.58	**116.0** 4.57	88.6	36.6	0.1239	**0.96** 2.11
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**144.0** 5.67	151.4	38.3	0.1416	**3.18** 7.00
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**144.0** 5.67	151.4	38.3	0.1416	**3.16** 6.95
22.500 0.8858	**17.500** 0.6890	**2.3** 0.09	**132.000** 5.1969	**4.000** 0.1575	**2.0** 0.08	**86.0** 3.39	**89.0** 3.50	**129.0** 5.08	69.7	37.4	0.1095	**1.02** 2.22
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**177.698** 6.9960	**9.525** 0.3750	**0.8** 0.03	**93.0** 3.66	**94.0** 3.70	**155.0** 6.10	197.9	34.8	0.0937	**5.71** 12.58
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**146.240** 5.7575	**6.350** 0.2500	**3.5** 0.14	**90.0** 3.54	**96.0** 3.78	**134.0** 5.28	125.7	32.0	0.1295	**2.26** 4.98

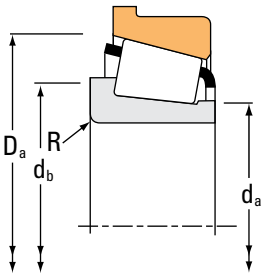
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
80.962 3.1875	**136.525** 5.3750	**13.475** 0.5305	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	496	493-B
80.962 3.1875	**133.350** 5.2500	**12.700** 0.5000	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47681	47620-B
82.550 3.2500	**168.275** 6.6250	**22.225** 0.8750	**409000** 92000	0.30	2.00	**106000** 23800	**54300** 12200	1.95	**522000** 117000	839	832-B
82.550 3.2500	**168.275** 6.6250	**22.225** 0.8750	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	842	832-B
82.550 3.2500	**161.925** 6.3750	**17.450** 0.6870	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	757	752-B
82.550 3.2500	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	595	592-B
82.550 3.2500	**152.400** 6.0000	**16.667** 0.6562	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	663	652-B
82.550 3.2500	**139.992** 5.5115	**14.288** 0.5625	**207000** 46500	0.40	1.49	**53600** 12100	**37100** 8330	1.45	**291000** 65400	580	572-B
82.550 3.2500	**136.525** 5.3750	**13.475** 0.5305	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	495	493-B
82.550 3.2500	**133.350** 5.2500	**12.700** 0.5000	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47686	47620-B
82.550 3.2500	**133.350** 5.2500	**12.700** 0.5000	**214000** 48100	0.40	1.48	**55500** 12500	**38400** 8640	1.44	**262000** 58900	47685	47620-B
82.550 3.2500	**125.412** 4.9375	**10.317** 0.4062	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27687	27620-B
82.550 3.2500	**115.888** 4.5625	**7.938** 0.3125	**90200** 20300	0.31	1.95	**23400** 5260	**12300** 2770	1.90	**147000** 33100	L116149	L116110-B
83.345 3.2813	**125.412** 4.9375	**10.317** 0.4062	**117000** 26300	0.42	1.44	**30400** 6830	**21600** 4860	1.40	**178000** 39900	27690	27620-B
84.138 3.3125	**136.525** 5.3750	**13.475** 0.5305	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	498	493-B
85.000 3.3465	**130.000** 5.1181	**11.557** 0.4550	**161000** 36300	0.44	1.35	**41800** 9400	**31800** 7150	1.31	**245000** 55100	JM716649	JM716610-B
85.725 3.3750	**168.275** 6.6250	**18.255** 0.7187	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	677	672-B

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

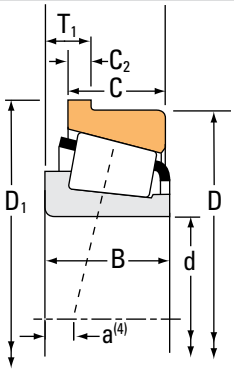
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**141.961** 5.5890	**5.537** 0.2180	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**131.0** 5.16	104.6	29.3	0.1252	**1.72** 3.79
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**138.811** 5.4650	**5.558** 0.2188	**3.5** 0.14	**89.0** 3.50	**95.0** 3.74	**130.0** 5.12	119.4	29.2	0.1273	**1.90** 4.18
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**177.698** 6.9960	**9.525** 0.3750	**0.8** 0.03	**94.0** 3.70	**95.0** 3.74	**155.0** 6.10	197.9	34.8	0.0937	**5.62** 12.38
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**177.698** 6.9960	**9.525** 0.3750	**3.5** 0.14	**94.0** 3.70	**101.0** 3.98	**155.0** 6.10	197.9	34.8	0.0937	**5.60** 12.35
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**169.748** 6.6830	**7.925** 0.3120	**3.5** 0.14	**94.0** 3.70	**100.0** 3.94	**150.0** 5.91	177.2	29.4	0.0945	**4.53** 9.98
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**93.0** 3.66	**100.0** 3.94	**144.0** 5.67	151.4	38.3	0.1416	**3.06** 6.75
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**159.441** 6.2772	**7.142** 0.2812	**3.5** 0.14	**92.0** 3.62	**99.0** 3.90	**141.0** 5.55	136.6	27.3	0.0919	**3.21** 7.08
36.098 1.4212	**28.575** 1.1250	**-5.3** -0.21	**146.240** 5.7575	**6.350** 0.2500	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**134.0** 5.28	125.7	32.0	0.1295	**2.20** 4.87
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**141.961** 5.5890	**5.537** 0.2180	**3.5** 0.14	**90.0** 3.54	**97.0** 3.82	**131.0** 5.16	104.6	29.3	0.1252	**1.67** 3.68
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**138.811** 5.4650	**5.558** 0.2188	**3.5** 0.14	**92.0** 3.62	**98.0** 3.86	**130.0** 5.12	119.4	29.2	0.1273	**1.85** 4.08
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**138.811** 5.4650	**5.558** 0.2188	**0.8** 0.03	**90.0** 3.54	**91.0** 3.58	**130.0** 5.12	119.4	29.2	0.1273	**1.86** 4.09
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**130.076** 5.1211	**4.762** 0.1875	**3.5** 0.14	**89.0** 3.50	**96.0** 3.78	**123.0** 4.84	98.2	41.8	0.1198	**1.10** 2.43
21.433 0.8438	**16.670** 0.6563	**-1.3** -0.05	**119.855** 4.7187	**3.970** 0.1563	**1.5** 0.06	**87.0** 3.43	**90.0** 3.54	**113.0** 4.45	97.2	64.3	0.1079	**0.68** 1.51
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**130.076** 5.1211	**4.762** 0.1875	**3.5** 0.14	**89.0** 3.50	**96.0** 3.78	**123.0** 4.84	98.2	41.8	0.1198	**1.08** 2.38
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**141.961** 5.5890	**5.537** 0.2180	**3.5** 0.14	**91.0** 3.58	**98.0** 3.86	**131.0** 5.16	104.6	29.3	0.1252	**1.62** 3.57
29.000 1.1417	**24.000** 0.9449	**-0.3** -0.01	**135.448** 5.3346	**5.558** 0.2188	**3.0** 0.12	**92.0** 3.62	**98.0** 3.86	**127.0** 5.00	117.1	38.4	0.1303	**1.39** 3.07
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**175.336** 6.9030	**7.142** 0.2812	**3.5** 0.14	**99.0** 3.90	**105.0** 4.13	**160.0** 6.30	182.5	37.3	0.1056	**4.23** 9.33

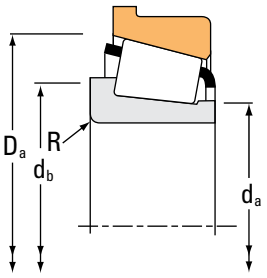
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
85.725 3.3750	**168.275** 6.6250	**22.225** 0.8750	**485000** 109000	0.30	2.00	**126000** 28300	**64400** 14500	1.95	**522000** 117000	841	832-B
85.725 3.3750	**161.925** 6.3750	**17.450** 0.6870	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	758	752-B
85.725 3.3750	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	596	592-B
85.725 3.3750	**152.400** 6.0000	**16.667** 0.6562	**247000** 55500	0.41	1.47	**64000** 14400	**44800** 10100	1.43	**335000** 75300	665	652-B
85.725 3.3750	**136.525** 5.3750	**13.475** 0.5305	**154000** 34700	0.44	1.35	**40000** 9000	**30500** 6850	1.31	**216000** 48600	497	493-B
87.312 3.4375	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	596-S	592-B
88.900 3.5000	**200.000** 7.8740	**27.361** 1.0772	**482000** 108000	0.63	0.95	**125000** 28100	**135000** 30400	0.92	**519000** 117000	98350	98788-B
88.900 3.5000	**190.500** 7.5000	**22.225** 0.8750	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	855	854-B
88.900 3.5000	**190.500** 7.5000	**22.225** 0.8750	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221434	HH221410-B
88.900 3.5000	**180.975** 7.1250	**17.462** 0.6875	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	775	772-B
88.900 3.5000	**168.275** 6.6250	**18.255** 0.7187	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	679	672-B
88.900 3.5000	**161.925** 6.3750	**17.450** 0.6870	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	766	752-B
88.900 3.5000	**161.925** 6.3750	**17.462** 0.6875	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	759	752-B
88.900 3.5000	**161.925** 6.3750	**19.050** 0.7500	**439000** 98800	0.40	1.50	**114000** 25600	**78100** 17600	1.46	**523000** 118000	6580	6535-B
88.900 3.5000	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	593	592-B
88.900 3.5000	**149.225** 5.8750	**12.700** 0.5000	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42350	42587-B
90.000 3.5433	**135.000** 5.3150	**10.500** 0.4134	**128000** 28800	0.49	1.21	**33300** 7480	**28100** 6330	1.18	**155000** 34900	JP9049	JP9010-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

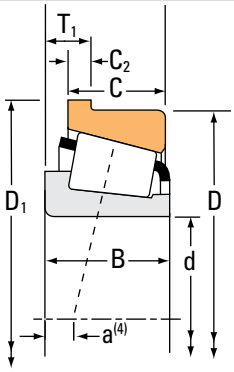
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
56.363 2.2190	**41.275** 1.6250	**-18.5** -0.73	**177.698** 6.9960	**9.525** 0.3750	**3.5** 0.14	**97.0** 3.82	**104.0** 4.09	**155.0** 6.10	197.9	34.8	0.0937	**5.42** 11.95
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**169.748** 6.6830	**7.925** 0.3120	**3.5** 0.14	**100.0** 3.94	**106.0** 4.17	**150.0** 5.91	177.2	29.4	0.0945	**4.38** 9.65
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**96.0** 3.78	**102.0** 4.02	**144.0** 5.67	151.4	38.3	0.1416	**2.94** 6.48
41.275 1.6250	**31.750** 1.2500	**-7.9** -0.31	**159.441** 6.2772	**7.142** 0.2812	**3.5** 0.14	**95.0** 3.74	**102.0** 4.02	**141.0** 5.55	136.6	27.3	0.0919	**3.07** 6.77
29.769 1.1720	**22.225** 0.8750	**-0.8** -0.03	**141.961** 5.5890	**5.537** 0.2180	**3.5** 0.14	**93.0** 3.66	**99.0** 3.90	**131.0** 5.16	104.6	29.3	0.1252	**1.57** 3.46
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**97.0** 3.82	**103.0** 4.06	**144.0** 5.67	151.4	38.3	0.1416	**2.88** 6.35
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**209.550** 8.2500	**9.525** 0.3750	**3.5** 0.14	**112.0** 4.41	**118.0** 4.65	**188.0** 7.40	203.4	37.5	0.1197	**7.72** 17.02
57.531 2.2650	**44.450** 1.7500	**-15.2** -0.60	**199.923** 7.8710	**9.525** 0.3750	**8.0** 0.31	**103.0** 4.06	**118.0** 4.65	**174.0** 6.85	264.1	44.9	0.1072	**7.88** 17.39
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**199.923** 7.8710	**11.112** 0.4375	**8.0** 0.31	**105.0** 4.13	**120.0** 4.72	**179.0** 7.05	265.6	28.4	0.1072	**8.05** 17.72
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**188.798** 7.4330	**7.938** 0.3125	**4.8** 0.19	**103.0** 4.06	**112.0** 4.41	**168.0** 6.61	227.3	41.3	0.1067	**5.88** 12.97
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**175.336** 6.9030	**7.142** 0.2812	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**160.0** 6.30	182.5	37.3	0.1056	**4.09** 9.02
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**169.748** 6.6830	**7.925** 0.3120	**7.0** 0.28	**99.0** 3.90	**113.0** 4.45	**150.0** 5.91	177.2	29.4	0.0945	**4.17** 9.17
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**169.748** 6.6830	**7.925** 0.3120	**3.5** 0.14	**101.0** 3.98	**108.0** 4.25	**150.0** 5.91	177.2	29.4	0.0945	**4.22** 9.28
55.100 2.1693	**42.862** 1.6875	**-13.2** -0.52	**171.450** 6.7500	**7.938** 0.3125	**3.5** 0.14	**102.0** 4.02	**117.0** 4.61	**155.0** 6.10	198.6	33.5	0.1037	**4.77** 10.53
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**98.0** 3.86	**104.0** 4.09	**144.0** 5.67	151.4	38.3	0.1416	**2.82** 6.21
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**154.681** 6.0898	**5.558** 0.2188	**3.0** 0.12	**98.0** 3.86	**104.0** 4.09	**152.0** 5.98	129.7	37.2	0.1386	**2.14** 4.72
22.500 0.8858	**17.500** 0.6890	**5.6** 0.22	**142.000** 5.5906	**4.000** 0.1575	**2.0** 0.08	**97.0** 3.82	**100.0** 3.94	**133.0** 5.24	83.8	46.1	0.1196	**1.13** 2.49

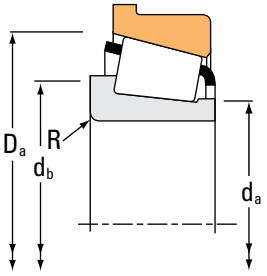
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Factors[2] Y	Dynamic[3] C_{90}	Dynamic[3] C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
90.488 3.5625	**161.925** 6.3750	**17.450** 0.6870	**327000** 73600	0.34	1.76	**84800** 19100	**49500** 11100	1.71	**441000** 99200	760	752-B
92.075 3.6250	**168.275** 6.6250	**18.255** 0.7187	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	681	672-B
92.075 3.6250	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	598	592-B
92.075 3.6250	**149.225** 5.8750	**12.700** 0.5000	**163000** 36600	0.49	1.22	**42200** 9490	**35600** 8000	1.19	**241000** 54300	42362	42587-B
92.075 3.6250	**142.875** 5.6250	**15.080** 0.5937	**197000** 44300	0.45	1.34	**51100** 11500	**39200** 8810	1.30	**307000** 69000	47890	47825-B
93.662 3.6875	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	597	592-B
93.662 3.6875	**149.225** 5.8750	**12.700** 0.5000	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42368	42587-B
95.250 3.7500	**190.500** 7.5000	**22.225** 0.8750	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	864	854-B
95.250 3.7500	**190.500** 7.5000	**22.225** 0.8750	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221440	HH221410-B
95.250 3.7500	**180.975** 7.1250	**17.462** 0.6875	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	776	772-B
95.250 3.7500	**180.975** 7.1250	**17.462** 0.6875	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	777	772-B
95.250 3.7500	**171.450** 6.7500	**17.462** 0.6875	**403000** 90500	0.37	1.63	**104000** 23500	**65600** 14700	1.59	**474000** 107000	77375	77675-B
95.250 3.7500	**168.275** 6.6250	**18.255** 0.7187	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	683	672-B
95.250 3.7500	**161.925** 6.3750	**16.667** 0.6562	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52375	52637-B
95.250 3.7500	**160.000** 6.2992	**16.667** 0.6562	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52375	52630XB
95.250 3.7500	**152.400** 6.0000	**15.875** 0.6250	**216000** 48600	0.44	1.36	**56000** 12600	**42400** 9530	1.32	**319000** 71600	594	592-B
95.250 3.7500	**149.225** 5.8750	**12.700** 0.5000	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42375	42587-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

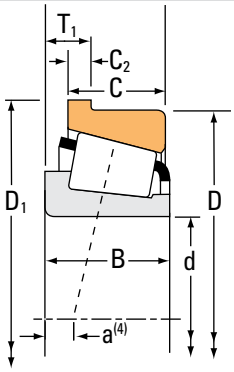
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**169.748** 6.6830	**7.925** 0.3120	**3.5** 0.14	**101.0** 3.98	**110.0** 4.33	**150.0** 5.91	177.2	29.4	0.0945	**4.13** 9.10
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**175.336** 6.9030	**7.142** 0.2812	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**160.0** 6.30	182.5	37.3	0.1056	**3.94** 8.70
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**144.0** 5.67	151.4	38.3	0.1416	**2.69** 5.93
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**154.681** 6.0898	**5.558** 0.2188	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**152.0** 5.98	129.7	37.2	0.1386	**2.04** 4.48
34.925 1.3750	**26.195** 1.0313	**-1.0** -0.04	**149.123** 5.8710	**7.938** 0.3125	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**142.0** 5.59	153.2	38.1	0.1428	**2.01** 4.43
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**102.0** 4.02	**109.0** 4.29	**144.0** 5.67	151.4	38.3	0.1416	**2.62** 5.78
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**154.681** 6.0898	**5.558** 0.2188	**3.0** 0.12	**102.0** 4.02	**107.0** 4.21	**152.0** 5.98	129.7	37.2	0.1386	**1.99** 4.38
57.531 2.2650	**44.450** 1.7500	**-15.2** -0.60	**199.923** 7.8710	**9.525** 0.3750	**8.0** 0.31	**108.0** 4.25	**123.0** 4.84	**174.0** 6.85	264.1	44.9	0.1072	**7.46** 16.46
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**199.923** 7.8710	**11.112** 0.4375	**8.0** 0.31	**110.0** 4.33	**125.0** 4.92	**179.0** 7.05	265.6	28.4	0.1072	**7.63** 16.80
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**188.798** 7.4330	**7.938** 0.3125	**3.5** 0.14	**107.0** 4.21	**114.0** 4.49	**168.0** 6.61	227.3	41.3	0.1067	**5.55** 12.23
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**188.798** 7.4330	**7.938** 0.3125	**9.7** 0.38	**107.0** 4.21	**126.0** 4.96	**168.0** 6.61	227.3	41.3	0.1067	**5.45** 12.02
48.260 1.9000	**38.100** 1.5000	**-9.7** -0.38	**179.283** 7.0584	**7.938** 0.3125	**3.5** 0.14	**106.0** 4.17	**113.0** 4.45	**161.0** 6.34	206.2	37.7	0.1017	**4.72** 10.40
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**175.336** 6.9030	**7.142** 0.2812	**3.5** 0.14	**106.0** 4.17	**113.0** 4.45	**160.0** 6.30	182.5	37.3	0.1056	**3.79** 8.36
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**168.173** 6.6210	**6.350** 0.2500	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**155.0** 6.10	175.4	41.7	0.1519	**2.99** 6.59
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**166.345** 6.5490	**6.350** 0.2500	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**155.0** 6.10	175.4	41.7	0.1519	**2.91** 6.41
36.322 1.4300	**30.162** 1.1875	**-2.5** -0.10	**158.648** 6.2460	**6.350** 0.2500	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**144.0** 5.67	151.4	38.3	0.1416	**2.56** 5.63
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**154.681** 6.0898	**5.558** 0.2188	**3.0** 0.12	**103.0** 4.06	**108.0** 4.25	**152.0** 5.98	129.7	37.2	0.1386	**1.94** 4.28

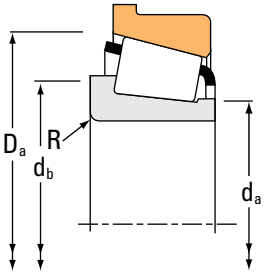
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
95.250 3.7500	**142.875** 5.6250	**15.080** 0.5937	**197000** 44300	0.45	1.34	**51100** 11500	**39200** 8810	1.30	**307000** 69000	47896	47825-B
96.838 3.8125	**149.225** 5.8750	**12.700** 0.5000	**193000** 43400	0.49	1.22	**50100** 11300	**42200** 9480	1.19	**241000** 54300	42381	42587-B
98.425 3.8750	**212.725** 8.3750	**23.812** 0.9375	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224332	HH224310-B
98.425 3.8750	**190.500** 7.5000	**22.225** 0.8750	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221442	HH221410-B
98.425 3.8750	**180.975** 7.1250	**17.462** 0.6875	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	779	772-B
98.425 3.8750	**168.275** 6.6250	**18.255** 0.7187	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	685	672-B
98.425 3.8750	**161.925** 6.3750	**16.667** 0.6562	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52387	52637-B
99.982 3.9363	**190.500** 7.5000	**22.225** 0.8750	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221447	HH221410-B
100.000 3.9370	**180.975** 7.1250	**17.462** 0.6875	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	783	772-B
100.000 3.9370	**145.000** 5.7087	**10.500** 0.4134	**125000** 28200	0.47	1.27	**32500** 7310	**26300** 5920	1.24	**172000** 38700	JP10049	JP10010-B
101.600 4.0000	**212.725** 8.3750	**23.812** 0.9375	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	941	932-B
101.600 4.0000	**200.000** 7.8740	**27.361** 1.0772	**482000** 108000	0.63	0.95	**125000** 28100	**135000** 30400	0.92	**519000** 117000	98400	98788-B
101.600 4.0000	**190.500** 7.5000	**22.225** 0.8750	**458000** 103000	0.33	1.79	**119000** 26700	**68000** 15300	1.74	**630000** 142000	861	854-B
101.600 4.0000	**190.500** 7.5000	**22.225** 0.8750	**534000** 120000	0.33	1.79	**138000** 31100	**79300** 17800	1.74	**692000** 156000	HH221449	HH221410-B
101.600 4.0000	**180.975** 7.1250	**17.462** 0.6875	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	780	772-B
101.600 4.0000	**168.275** 6.6250	**18.255** 0.7187	**265000** 59500	0.47	1.28	**68600** 15400	**55300** 12400	1.24	**386000** 86700	687	672-B
101.600 4.0000	**161.925** 6.3750	**16.667** 0.6562	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52400	52637-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

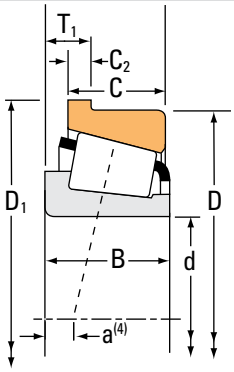
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. a[4]	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
34.925 1.3750	**26.195** 1.0313	**-1.0** -0.04	**149.123** 5.8710	**7.938** 0.3125	**3.5** 0.14	**103.0** 4.06	**110.0** 4.33	**142.0** 5.59	153.2	38.1	0.1428	**1.89** 4.14
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**154.681** 6.0898	**5.558** 0.2188	**3.5** 0.14	**105.0** 4.13	**112.0** 4.41	**152.0** 5.98	129.7	37.2	0.1386	**1.88** 4.15
66.675 2.6250	**53.975** 2.1250	**-18.8** -0.74	**223.733** 8.8084	**11.112** 0.4375	**3.5** 0.14	**119.0** 4.69	**123.0** 4.84	**204.0** 8.03	366.6	47.9	0.1182	**12.45** 27.43
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**199.923** 7.8710	**11.112** 0.4375	**3.5** 0.14	**113.0** 4.45	**119.0** 4.69	**179.0** 7.05	265.6	28.4	0.1072	**7.47** 16.46
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**188.798** 7.4330	**7.938** 0.3125	**3.5** 0.14	**110.0** 4.33	**116.0** 4.57	**168.0** 6.61	227.3	41.3	0.1067	**5.37** 11.83
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**175.336** 6.9030	**7.142** 0.2812	**3.5** 0.14	**109.0** 4.29	**116.0** 4.57	**160.0** 6.30	182.5	37.3	0.1056	**3.64** 8.02
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**168.173** 6.6210	**6.350** 0.2500	**3.5** 0.14	**108.0** 4.25	**114.0** 4.49	**155.0** 6.10	175.4	41.7	0.1519	**2.85** 6.28
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**199.923** 7.8710	**11.112** 0.4375	**6.4** 0.25	**114.0** 4.49	**126.0** 4.96	**179.0** 7.05	265.6	28.4	0.1072	**7.33** 16.14
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**188.798** 7.4330	**7.938** 0.3125	**3.5** 0.14	**111.0** 4.37	**118.0** 4.65	**168.0** 6.61	227.3	41.3	0.1067	**5.28** 11.63
22.500 0.8858	**17.500** 0.6890	**6.1** 0.24	**152.000** 5.9843	**4.000** 0.1575	**3.0** 0.12	**106.0** 4.17	**112.0** 4.41	**142.0** 5.59	104.0	40.9	0.1264	**1.19** 2.61
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**223.736** 8.8085	**11.112** 0.4375	**7.0** 0.28	**117.0** 4.61	**130.0** 5.12	**199.0** 7.83	338.6	39.8	0.1153	**11.33** 24.96
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**209.550** 8.2500	**9.525** 0.3750	**3.5** 0.14	**120.6** 4.75	**128.0** 5.04	**188.0** 7.40	203.4	37.5	0.1197	**6.98** 15.40
57.531 2.2650	**44.450** 1.7500	**-15.2** -0.60	**199.923** 7.8710	**9.525** 0.3750	**8.0** 0.31	**114.0** 4.49	**129.0** 5.08	**174.0** 6.85	264.1	44.9	0.1072	**7.06** 15.58
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**199.923** 7.8710	**11.112** 0.4375	**8.0** 0.31	**115.9** 4.56	**131.0** 5.16	**179.0** 7.05	265.6	28.4	0.1072	**7.22** 15.91
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**188.798** 7.4330	**7.938** 0.3125	**3.5** 0.14	**113.0** 4.45	**119.0** 4.69	**168.0** 6.61	227.3	41.3	0.1067	**5.18** 11.42
41.275 1.6250	**30.162** 1.1875	**-2.8** -0.11	**175.336** 6.9030	**7.142** 0.2812	**3.5** 0.14	**112.0** 4.41	**118.0** 4.65	**160.0** 6.30	182.5	37.3	0.1056	**3.47** 7.66
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**168.173** 6.6210	**6.350** 0.2500	**3.5** 0.14	**111.0** 4.37	**117.0** 4.61	**155.0** 6.10	175.4	41.7	0.1519	**2.72** 5.99

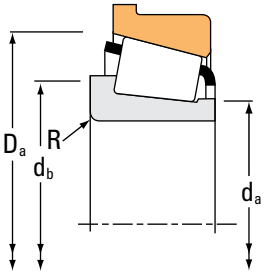
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
101.600 4.0000	**160.000** 6.2992	**16.667** 0.6562	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52400	52630XB
101.600 4.0000	**157.162** 6.1875	**16.667** 0.6562	**223000** 50200	0.47	1.26	**57900** 13000	**47100** 10600	1.23	**343000** 77000	52400	52618-B
104.775 4.1250	**190.500** 7.5000	**20.638** 0.8125	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71412	71750-B
104.775 4.1250	**180.975** 7.1250	**17.462** 0.6875	**346000** 77800	0.39	1.56	**89700** 20200	**59200** 13300	1.51	**495000** 111000	782	772-B
107.950 4.2500	**212.725** 8.3750	**23.812** 0.9375	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	936	932-B
107.950 4.2500	**212.725** 8.3750	**23.812** 0.9375	**680000** 153000	0.33	1.84	**176000** 39600	**98300** 22100	1.79	**906000** 204000	HH224340	HH224310-B
107.950 4.2500	**190.500** 7.5000	**20.638** 0.8125	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71425	71750-B
107.950 4.2500	**165.100** 6.5000	**15.875** 0.6250	**226000** 50900	0.50	1.21	**58700** 13200	**50000** 11200	1.18	**355000** 79700	56425	56650-B
109.538 4.3125	**158.750** 6.2500	**11.908** 0.4688	**115000** 25900	0.61	0.99	**29900** 6710	**31000** 6960	0.96	**179000** 40100	37431	37625-B
109.992 4.3304	**177.800** 7.0000	**18.258** 0.7188	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64433	64700-B
111.125 4.3750	**190.500** 7.5000	**20.638** 0.8125	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71437	71750-B
114.300 4.5000	**212.725** 8.3750	**23.812** 0.9375	**572000** 129000	0.33	1.84	**148000** 33300	**82700** 18600	1.79	**786000** 177000	938	932-B
114.300 4.5000	**190.500** 7.5000	**20.638** 0.8125	**364000** 81700	0.42	1.44	**94300** 21200	**67100** 15100	1.40	**543000** 122000	71450	71750-B
114.300 4.5000	**177.800** 7.0000	**18.258** 0.7188	**275000** 61800	0.52	1.16	**71200** 16000	**62900** 14100	1.13	**419000** 94200	64450	64700-B
115.000 4.5276	**165.000** 6.4961	**12.500** 0.4921	**160000** 35900	0.46	1.31	**41400** 9310	**32500** 7310	1.27	**245000** 55100	JLM722948	JLM722912-B
117.475 4.6250	**180.975** 7.1250	**16.667** 0.6562	**232000** 52100	0.50	1.21	**60100** 13500	**51100** 11500	1.18	**271000** 61000	68462	68712-B
120.000 4.7244	**180.000** 7.0866	**16.350** 0.6437	**247000** 55500	0.41	1.45	**64000** 14400	**45300** 10200	1.41	**377000** 84700	JM624649	JM624610-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

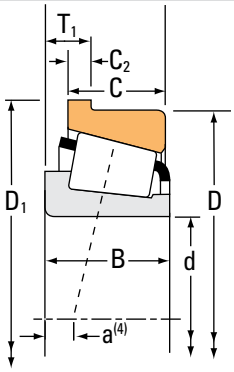
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**166.345** 6.5490	**6.350** 0.2500	**3.5** 0.14	**111.0** 4.37	**117.0** 4.61	**155.0** 6.10	175.4	41.7	0.1519	**2.64** 5.81
36.116 1.4219	**26.195** 1.0313	**-0.5** -0.02	**163.512** 6.4375	**6.350** 0.2500	**3.5** 0.14	**111.0** 4.37	**117.0** 4.61	**155.0** 6.10	175.4	41.7	0.1519	**2.47** 5.44
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.938** 0.3125	**3.5** 0.14	**118.0** 4.65	**124.0** 4.88	**181.0** 7.13	269.2	49.5	0.1156	**5.94** 13.10
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**188.798** 7.4330	**7.938** 0.3125	**3.5** 0.14	**116.0** 4.57	**122.0** 4.80	**168.0** 6.61	227.3	41.3	0.1067	**4.99** 10.99
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**223.736** 8.8085	**11.112** 0.4375	**8.0** 0.31	**122.0** 4.80	**137.0** 5.39	**199.0** 7.83	338.6	39.8	0.1153	**10.77** 23.72
66.675 2.6250	**53.975** 2.1250	**-18.8** -0.74	**223.733** 8.8084	**11.112** 0.4375	**8.0** 0.31	**126.0** 4.96	**139.0** 5.47	**204.0** 8.03	366.6	47.9	0.1182	**11.57** 25.50
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.938** 0.3125	**3.6** 0.14	**120.0** 4.72	**126.0** 4.96	**181.0** 7.13	269.2	49.5	0.1156	**5.74** 12.67
36.512 1.4375	**26.988** 1.0625	**2.0** 0.08	**171.348** 6.7460	**6.350** 0.2500	**3.5** 0.14	**117.0** 4.61	**123.0** 4.84	**162.0** 6.38	190.9	47.7	0.1584	**2.74** 6.03
21.438 0.8440	**15.875** 0.6250	**13.7** 0.54	**163.413** 6.4336	**4.762** 0.1875	**3.5** 0.14	**116.0** 4.57	**123.0** 4.84	**153.0** 6.02	123.7	57.1	0.1443	**1.39** 3.07
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**184.841** 7.2772	**7.145** 0.2813	**3.5** 0.14	**121.0** 4.76	**128.0** 5.04	**174.0** 6.85	218.8	45.3	0.1153	**3.92** 8.65
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.938** 0.3125	**3.6** 0.14	**123.0** 4.84	**129.0** 5.08	**181.0** 7.13	269.2	49.5	0.1156	**5.53** 12.20
66.675 2.6250	**53.975** 2.1250	**-19.8** -0.78	**223.736** 8.8085	**11.112** 0.4375	**7.0** 0.28	**128.0** 5.04	**141.0** 5.55	**199.0** 7.83	338.6	39.8	0.1153	**10.20** 22.47
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.938** 0.3125	**3.6** 0.14	**125.0** 4.92	**132.0** 5.20	**181.0** 7.13	269.2	49.5	0.1156	**5.32** 11.73
41.275 1.6250	**30.162** 1.1875	**1.3** 0.05	**184.841** 7.2772	**7.145** 0.2813	**3.5** 0.14	**125.0** 4.92	**131.0** 5.16	**174.0** 6.85	218.8	45.3	0.1153	**3.67** 8.11
27.000 1.0630	**21.000** 0.8268	**5.6** 0.22	**172.000** 6.7717	**5.500** 0.2165	**3.3** 0.13	**121.0** 4.76	**127.0** 5.00	**160.0** 6.30	161.0	57.2	0.1449	**1.83** 4.03
31.750 1.2500	**25.400** 1.0000	**5.3** 0.21	**188.016** 7.4022	**7.145** 0.2813	**3.5** 0.14	**125.0** 4.92	**132.0** 5.20	**172.0** 6.77	163.1	51.7	0.1026	**2.87** 6.33
36.000 1.4173	**26.000** 1.0236	**0.0** 0.00	**188.000** 7.4016	**6.580** 0.2590	**3.5** 0.14	**128.0** 5.04	**135.0** 5.31	**175.0** 6.89	226.8	61.6	0.1084	**3.04** 6.70

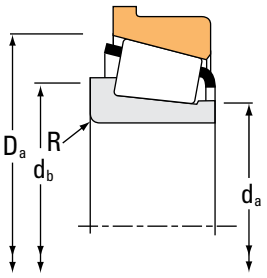
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic[1] C_1	Factors[2] e	Y	Dynamic[3] C_{90}	C_{a90}	Factors[2] K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
120.650 4.7500	**234.950** 9.2500	**25.400** 1.0000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95475	95925-B
120.650 4.7500	**160.338** 6.3125	**8.733** 0.3438	**97500** 21900	0.43	1.38	**25300** 5680	**18800** 4230	1.34	**206000** 46400	L624549	L624510-B
123.825 4.8750	**182.562** 7.1875	**12.700** 0.5000	**268000** 60200	0.31	1.97	**69400** 15600	**36300** 8160	1.91	**493000** 111000	48286	48220-B
127.000 5.0000	**234.950** 9.2500	**25.400** 1.0000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95500	95925-B
127.000 5.0000	**215.900** 8.5000	**20.638** 0.8125	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74500	74850-B
127.000 5.0000	**182.562** 7.1875	**12.700** 0.5000	**268000** 60200	0.31	1.97	**69400** 15600	**36300** 8160	1.91	**493000** 111000	48290	48220-B
130.000 5.1181	**185.000** 7.2835	**13.000** 0.5118	**196000** 44000	0.47	1.27	**50800** 11400	**41100** 9250	1.24	**283000** 63600	JP13049	JP13010-B
130.175 5.1250	**196.850** 7.7500	**15.083** 0.5938	**368000** 82600	0.34	1.74	**95300** 21400	**56100** 12600	1.70	**625000** 141000	67389	67322-B
133.350 5.2500	**234.950** 9.2500	**25.400** 1.0000	**629000** 141000	0.37	1.62	**163000** 36700	**103000** 23200	1.58	**931000** 209000	95525	95925-B
133.350 5.2500	**215.900** 8.5000	**20.638** 0.8125	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74525	74850-B
133.350 5.2500	**190.500** 7.5000	**11.908** 0.4688	**283000** 63600	0.32	1.87	**73300** 16500	**40300** 9060	1.82	**542000** 122000	48385	48320-B
136.525 5.3750	**254.000** 10.0000	**30.162** 1.1875	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99537	99100-B
136.525 5.3750	**215.900** 8.5000	**20.638** 0.8125	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74537	74850-B
139.700 5.5000	**254.000** 10.0000	**30.162** 1.1875	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99550	99100-B
139.700 5.5000	**241.300** 9.5000	**22.225** 0.8750	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231132	HM231115-B
139.700 5.5000	**215.900** 8.5000	**20.638** 0.8125	**382000** 85900	0.49	1.23	**99000** 22300	**82600** 18600	1.20	**614000** 138000	74550	74850-B
140.000 5.5118	**195.000** 7.6772	**13.000** 0.5118	**203000** 45700	0.50	1.19	**52700** 11800	**45400** 10200	1.16	**304000** 68400	JP14049	JP14010-B

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
[2] Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

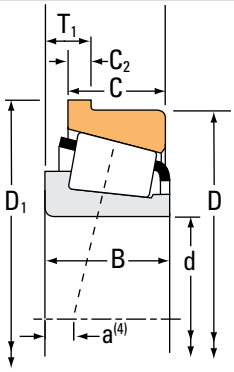
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**245.958** 9.6834	**11.112** 0.4375	**6.4** 0.25	**137.0** 5.39	**149.0** 5.87	**217.0** 8.54	453.9	59.4	0.1323	**12.91** 28.47
21.433 0.8438	**16.670** 0.6563	**8.4** 0.33	**164.203** 6.4647	**3.970** 0.1563	**1.5** 0.06	**127.0** 5.00	**129.0** 5.08	**157.0** 6.18	195.2	139.1	0.1509	**1.20** 2.63
38.100 1.5000	**33.338** 1.3125	**-5.6** -0.22	**188.811** 7.4335	**6.350** 0.2500	**3.5** 0.14	**133.0** 5.24	**139.0** 5.47	**177.0** 6.97	353.0	91.4	0.1138	**3.61** 7.96
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**245.958** 9.6834	**11.112** 0.4375	**6.4** 0.25	**142.0** 5.59	**154.0** 6.06	**217.0** 8.54	453.9	59.4	0.1323	**12.30** 27.12
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**223.733** 8.8084	**7.938** 0.3125	**3.5** 0.14	**141.0** 5.55	**148.0** 5.83	**209.0** 8.23	362.9	68.5	0.1338	**7.12** 15.71
38.100 1.5000	**33.338** 1.3125	**-5.6** -0.22	**188.811** 7.4335	**6.350** 0.2500	**3.5** 0.14	**135.0** 5.31	**141.0** 5.55	**177.0** 6.97	353.0	91.4	0.1138	**3.43** 7.55
27.000 1.0630	**21.000** 0.8268	**8.9** 0.35	**192.000** 7.5591	**5.000** 0.1969	**3.0** 0.12	**137.0** 5.39	**143.0** 5.63	**188.0** 7.40	192.2	60.3	0.1064	**2.24** 4.95
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**203.891** 8.0272	**7.145** 0.2813	**3.5** 0.14	**141.0** 5.55	**147.0** 5.79	**191.0** 7.52	383.7	70.1	0.1220	**5.06** 11.15
63.500 2.5000	**49.212** 1.9375	**-14.0** -0.55	**245.958** 9.6834	**11.112** 0.4375	**9.7** 0.38	**148.0** 5.83	**166.0** 6.54	**217.0** 8.54	453.9	59.4	0.1323	**11.56** 25.49
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**223.733** 8.8084	**7.938** 0.3125	**3.5** 0.14	**146.0** 5.75	**152.0** 5.98	**209.0** 8.23	362.9	68.5	0.1338	**6.64** 14.64
39.688 1.5625	**33.338** 1.3125	**-4.1** -0.16	**195.956** 7.7148	**5.558** 0.2188	**3.5** 0.14	**142.0** 5.59	**148.0** 5.83	**186.0** 7.32	403.8	105.1	0.1209	**3.61** 7.94
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**264.973** 10.4320	**11.112** 0.4375	**7.0** 0.28	**156.0** 6.14	**167.0** 6.57	**238.0** 9.37	555.5	73.5	0.1459	**14.79** 32.61
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**223.733** 8.8084	**7.938** 0.3125	**3.5** 0.14	**148.0** 5.83	**155.0** 6.10	**209.0** 8.23	362.9	68.5	0.1338	**6.39** 14.09
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**264.973** 10.4320	**11.112** 0.4375	**7.0** 0.28	**156.0** 6.14	**170.0** 6.69	**238.0** 9.37	555.5	73.5	0.1459	**14.40** 31.76
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**250.723** 9.8710	**9.525** 0.3750	**3.5** 0.14	**156.0** 6.14	**160.0** 6.30	**224.0** 8.82	532.8	85.9	0.1327	**10.73** 23.65
47.625 1.8750	**34.925** 1.3750	**2.3** 0.09	**223.733** 8.8084	**7.938** 0.3125	**3.5** 0.14	**151.0** 5.94	**158.0** 6.22	**209.0** 8.23	362.9	68.5	0.1338	**6.13** 13.52
27.000 1.0630	**21.000** 0.8268	**11.9** 0.47	**202.000** 7.9528	**5.000** 0.1969	**3.0** 0.12	**148.0** 5.83	**153.0** 6.02	**198.0** 7.80	219.5	68.2	0.1133	**2.40** 5.30

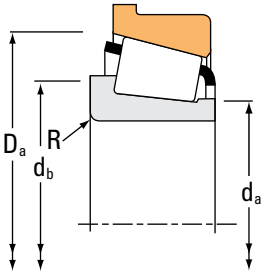
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
142.875 5.6250	**241.300** 9.5000	**22.225** 0.8750	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231136	HM231115-B
142.875 5.6250	**200.025** 7.8750	**12.700** 0.5000	**286000** 64400	0.34	1.78	**74300** 16700	**42800** 9610	1.74	**560000** 126000	48685	48620-B
142.875 5.6250	**193.675** 7.6250	**9.525** 0.3750	**196000** 44200	0.37	1.63	**50900** 11400	**32100** 7220	1.59	**394000** 88600	36686	36620-B
146.050 5.7500	**254.000** 10.0000	**30.162** 1.1875	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99575	99100-B
146.050 5.7500	**241.300** 9.5000	**22.225** 0.8750	**515000** 116000	0.44	1.36	**134000** 30000	**101000** 22700	1.32	**810000** 182000	82576	82950-B
146.050 5.7500	**241.300** 9.5000	**22.225** 0.8750	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231140	HM231115-B
146.050 5.7500	**193.675** 7.6250	**9.525** 0.3750	**196000** 44200	0.37	1.63	**50900** 11400	**32100** 7220	1.59	**394000** 88600	36690	36620-B
149.225 5.8750	**254.000** 10.0000	**30.162** 1.1875	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99587	99100-B
149.225 5.8750	**241.300** 9.5000	**22.225** 0.8750	**597000** 134000	0.32	1.88	**155000** 34800	**84500** 19000	1.83	**932000** 210000	HM231149	HM231115-B
150.000 5.9055	**205.000** 8.0709	**12.000** 0.4724	**194000** 43500	0.46	1.31	**50200** 11300	**39400** 8860	1.27	**339000** 76100	JL730646	JL730612-B
152.400 6.0000	**254.000** 10.0000	**30.162** 1.1875	**660000** 148000	0.41	1.47	**171000** 38500	**119000** 26800	1.43	**1030000** 231000	99600	99100-B
152.400 6.0000	**192.088** 7.5625	**9.970** 0.3925	**143000** 32000	0.42	1.44	**37000** 8310	**26300** 5920	1.40	**277000** 62200	L630349	L630310-B
158.750 6.2500	**225.425** 8.8750	**13.495** 0.5313	**303000** 68200	0.38	1.57	**78600** 17700	**51600** 11600	1.52	**635000** 143000	46780	46720-B
160.325 6.3120	**288.925** 11.3750	**26.988** 1.0625	**976000** 219000	0.32	1.88	**253000** 56900	**138000** 31100	1.83	**1240000** 278000	HM237532	HM237510-B
165.100 6.5000	**254.000** 10.0000	**22.225** 0.8750	**498000** 112000	0.37	1.62	**129000** 29000	**81600** 18300	1.58	**644000** 145000	86650	86100-B
165.100 6.5000	**247.650** 9.7500	**16.670** 0.6563	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67780	67720-B
165.100 6.5000	**225.425** 8.8750	**13.495** 0.5313	**303000** 68200	0.38	1.57	**78600** 17700	**51600** 11600	1.52	**635000** 143000	46790	46720-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

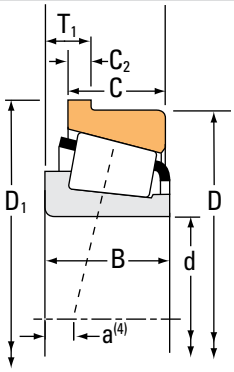
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**250.723** 9.8710	**9.525** 0.3750	**3.5** 0.14	**158.0** 6.22	**162.0** 6.38	**224.0** 8.82	532.8	85.9	0.1327	**10.42** 22.96
39.688 1.5625	**34.130** 1.3437	**-3.0** -0.12	**205.481** 8.0898	**5.555** 0.2187	**3.5** 0.14	**151.0** 5.94	**158.0** 6.22	**194.0** 7.64	439.6	130.5	0.1261	**3.87** 8.54
28.575 1.1250	**23.020** 0.9063	**4.8** 0.19	**197.541** 7.7772	**3.970** 0.1563	**1.5** 0.06	**151.0** 5.94	**153.0** 6.02	**190.0** 7.48	366.1	152.5	0.1768	**2.46** 5.42
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**264.973** 10.4320	**11.112** 0.4375	**7.0** 0.28	**162.0** 6.38	**175.0** 6.89	**238.0** 9.37	555.5	73.5	0.1459	**13.66** 30.11
56.642 2.2300	**44.450** 1.7500	**-3.6** -0.14	**250.723** 9.8710	**9.525** 0.3750	**3.5** 0.14	**160.0** 6.30	**166.0** 6.54	**226.0** 8.90	460.5	81.1	0.1405	**10.33** 22.77
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**250.723** 9.8710	**9.525** 0.3750	**3.5** 0.14	**160.0** 6.30	**164.0** 6.46	**224.0** 8.82	532.8	85.9	0.1327	**10.10** 22.26
28.575 1.1250	**23.020** 0.9063	**4.8** 0.19	**197.541** 7.7772	**3.970** 0.1563	**1.5** 0.06	**153.0** 6.02	**155.0** 6.10	**190.0** 7.48	366.1	152.5	0.1768	**2.30** 5.07
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**264.973** 10.4320	**11.112** 0.4375	**7.0** 0.28	**170.0** 6.69	**181.0** 7.13	**238.0** 9.37	555.5	73.5	0.1459	**13.32** 29.37
56.642 2.2300	**44.450** 1.7500	**-11.4** -0.45	**250.723** 9.8710	**9.525** 0.3750	**3.5** 0.14	**163.0** 6.42	**167.0** 6.57	**224.0** 8.82	532.8	85.9	0.1327	**9.77** 21.54
28.575 1.1250	**21.438** 0.8440	**11.4** 0.45	**210.000** 8.2677	**4.862** 0.1914	**3.3** 0.13	**158.0** 6.22	**164.0** 6.46	**200.0** 7.87	295.2	103.6	0.1763	**2.67** 5.90
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**264.973** 10.4320	**11.112** 0.4375	**7.0** 0.28	**169.7** 6.68	**181.0** 7.13	**238.0** 9.37	555.5	73.5	0.1459	**12.87** 28.39
24.000 0.9449	**19.000** 0.7480	**10.2** 0.40	**197.371** 7.7705	**3.967** 0.1562	**2.0** 0.08	**158.0** 6.22	**162.0** 6.38	**190.0** 7.48	293.3	163.8	0.1698	**1.63** 3.59
39.688 1.5625	**33.338** 1.3125	**2.5** 0.10	**230.881** 9.0898	**5.558** 0.2188	**3.5** 0.14	**169.0** 6.65	**176.0** 6.93	**219.0** 8.62	572.0	174.7	0.1432	**5.18** 11.45
63.500 2.5000	**47.625** 1.8750	**-11.7** -0.46	**299.933** 11.8084	**11.112** 0.4375	**7.0** 0.28	**181.0** 7.13	**192.0** 7.56	**279.0** 10.98	751.2	101.5	0.1168	**17.94** 39.56
46.038 1.8125	**33.338** 1.3125	**-1.5** -0.06	**263.525** 10.3750	**9.525** 0.3750	**4.8** 0.19	**176.0** 6.93	**185.0** 7.28	**239.0** 9.41	466.3	111.9	0.1041	**7.99** 17.62
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**254.691** 10.0272	**7.145** 0.2813	**3.5** 0.14	**179.0** 7.05	**185.0** 7.28	**241.0** 9.49	622.3	122.6	0.1214	**8.47** 18.68
39.688 1.5625	**33.338** 1.3125	**2.5** 0.10	**230.881** 9.0898	**5.558** 0.2188	**3.5** 0.14	**174.0** 6.85	**181.0** 7.13	**219.0** 8.62	572.0	174.7	0.1432	**4.67** 10.31

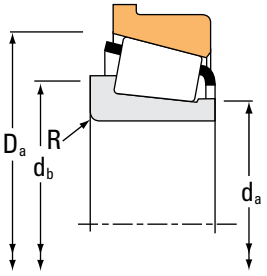
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
171.450 6.7500	**260.350** 10.2500	**25.400** 1.0000	**654000** 147000	0.40	1.49	**169000** 38100	**117000** 26200	1.45	**1180000** 265000	HM535349	HM535310-B
174.625 6.8750	**288.925** 11.3750	**26.988** 1.0625	**660000** 148000	0.47	1.28	**171000** 38500	**137000** 30800	1.25	**1070000** 242000	94687	94113-B
174.625 6.8750	**288.925** 11.3750	**26.988** 1.0625	**976000** 219000	0.32	1.88	**253000** 56900	**138000** 31100	1.83	**1240000** 278000	HM237542	HM237510-B
177.800 7.0000	**288.925** 11.3750	**26.988** 1.0625	**660000** 148000	0.47	1.28	**171000** 38500	**137000** 30800	1.25	**1070000** 242000	94700	94113-B
177.800 7.0000	**247.650** 9.7500	**16.670** 0.6563	**405000** 91100	0.44	1.36	**105000** 23600	**79000** 17800	1.33	**779000** 175000	67790	67720-B
179.975 7.0856	**317.500** 12.5000	**28.575** 1.1250	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93708	93125-B
190.500 7.5000	**317.500** 12.5000	**28.575** 1.1250	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93750	93125-B
190.500 7.5000	**266.700** 10.5000	**16.670** 0.6563	**416000** 93600	0.48	1.26	**108000** 24300	**88200** 19800	1.22	**835000** 188000	67885	67820-B
193.675 7.6250	**282.575** 11.1250	**23.812** 0.9375	**509000** 114000	0.42	1.44	**132000** 29700	**93900** 21100	1.41	**692000** 156000	87762	87111-B
200.025 7.8750	**317.500** 12.5000	**28.575** 1.1250	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93787	93125-B
203.200 8.0000	**317.500** 12.5000	**28.575** 1.1250	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93800	93125-B
203.200 8.0000	**282.575** 11.1250	**16.670** 0.6563	**503000** 113000	0.51	1.18	**130000** 29300	**114000** 25500	1.15	**876000** 197000	67983	67920-B
206.375 8.1250	**282.575** 11.1250	**16.670** 0.6563	**503000** 113000	0.51	1.18	**130000** 29300	**114000** 25500	1.15	**876000** 197000	67985	67920-B
209.550 8.2500	**317.500** 12.5000	**28.575** 1.1250	**731000** 164000	0.52	1.15	**190000** 42600	**170000** 38200	1.12	**1290000** 290000	93825	93125-B
215.900 8.5000	**406.400** 16.0000	**41.275** 1.6250	**1470000** 331000	0.39	1.52	**382000** 85900	**257000** 57800	1.48	**2250000** 506000	EE820085	820160-B
215.900 8.5000	**285.750** 11.2500	**19.050** 0.7500	**430000** 96600	0.48	1.25	**111000** 25000	**91800** 20600	1.21	**892000** 200000	LM742749	LM742710-B
220.662 8.6875	**314.325** 12.3750	**22.225** 0.8750	**695000** 156000	0.33	1.80	**180000** 40500	**103000** 23100	1.76	**1370000** 308000	M244249	M244210-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

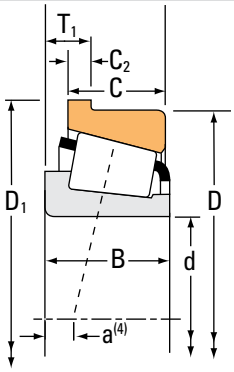
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
66.675 2.6250	**52.388** 2.0625	**-8.6** -0.34	**271.374** 10.6840	**11.112** 0.4375	**3.5** 0.14	**186.1** 7.40	**192.0** 7.56	**250.0** 9.84	749.5	115.6	0.1263	**12.73** 28.06
63.500 2.5000	**47.625** 1.8750	**-0.8** -0.03	**299.933** 11.8084	**11.112** 0.4375	**7.0** 0.28	**193.0** 7.60	**204.0** 8.03	**272.0** 10.71	692.3	93.9	0.1287	**16.39** 36.12
63.500 2.5000	**47.625** 1.8750	**-11.7** -0.46	**299.933** 11.8084	**11.112** 0.4375	**7.0** 0.28	**191.0** 7.52	**202.0** 7.95	**279.0** 10.98	751.2	101.5	0.1168	**16.06** 35.42
63.500 2.5000	**47.625** 1.8750	**-0.8** -0.03	**299.933** 11.8084	**11.112** 0.4375	**7.0** 0.28	**195.0** 7.68	**207.0** 8.15	**272.0** 10.71	692.3	93.9	0.1287	**16.01** 35.30
47.625 1.8750	**38.100** 1.5000	**4.8** 0.19	**254.691** 10.0272	**7.145** 0.2813	**3.5** 0.14	**188.0** 7.40	**194.0** 7.64	**241.0** 9.49	622.3	122.6	0.1214	**7.20** 15.87
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**328.524** 12.9340	**11.112** 0.4375	**3.5** 0.14	**204.0** 8.03	**209.0** 8.23	**300.0** 11.81	912.5	126.1	0.1460	**21.71** 47.87
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**328.524** 12.9340	**11.112** 0.4375	**4.3** 0.17	**212.0** 8.35	**218.0** 8.58	**300.0** 11.81	912.5	126.1	0.1460	**20.21** 44.55
46.833 1.8438	**38.100** 1.5000	**10.2** 0.40	**273.741** 10.7772	**7.145** 0.2813	**3.5** 0.14	**203.0** 7.99	**209.0** 8.23	**259.0** 10.20	727.9	146.6	0.1310	**8.08** 17.82
47.625 1.8750	**36.512** 1.4375	**3.8** 0.15	**291.998** 11.4960	**9.525** 0.3750	**3.5** 0.14	**206.0** 8.11	**211.0** 8.31	**272.0** 10.71	574.6	130.8	0.1155	**9.48** 20.90
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**328.524** 12.9340	**11.112** 0.4375	**4.3** 0.17	**219.0** 8.62	**225.0** 8.86	**300.0** 11.81	912.5	126.1	0.1460	**18.75** 41.34
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**328.524** 12.9340	**11.112** 0.4375	**4.3** 0.17	**222.0** 8.74	**227.0** 8.94	**300.0** 11.81	912.5	126.1	0.1460	**18.25** 40.24
46.038 1.8125	**36.512** 1.4375	**16.0** 0.63	**289.616** 11.4022	**7.145** 0.2813	**3.5** 0.14	**216.0** 8.50	**222.0** 8.74	**275.0** 10.83	819.5	172.0	0.1388	**8.81** 19.44
46.038 1.8125	**36.512** 1.4375	**16.0** 0.63	**289.616** 11.4022	**7.145** 0.2813	**3.5** 0.14	**219.0** 8.62	**224.0** 8.82	**275.0** 10.83	819.5	172.0	0.1388	**8.44** 18.62
63.500 2.5000	**46.038** 1.8125	**7.9** 0.31	**328.524** 12.9340	**11.112** 0.4375	**4.3** 0.17	**226.9** 8.93	**233.0** 9.17	**300.0** 11.81	912.5	126.1	0.1460	**17.23** 37.98
93.662 3.6875	**69.850** 2.7500	**-12.4** -0.49	**425.450** 16.7500	**17.462** 0.6875	**6.4** 0.25	**241.0** 9.49	**251.0** 9.88	**385.1** 15.16	1326.8	111.9	0.1509	**53.70** 118.42
46.038 1.8125	**34.925** 1.3750	**14.2** 0.56	**293.685** 11.5624	**7.938** 0.3125	**3.5** 0.14	**227.0** 8.94	**233.0** 9.17	**280.0** 11.02	866.9	225.2	0.1388	**7.82** 17.24
61.912 2.4375	**49.212** 1.9375	**-4.6** -0.18	**323.850** 12.7500	**9.525** 0.3750	**6.4** 0.25	**235.0** 9.25	**245.0** 9.65	**300.0** 11.81	1149.7	141.4	0.1360	**14.89** 32.85

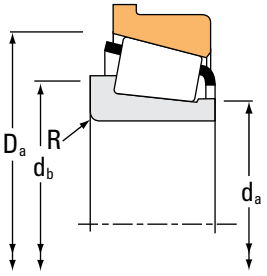
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
220.662 8.6875	**314.325** 12.3750	**22.225** 0.8750	**649000** 146000	0.33	1.80	**168000** 37800	**95800** 21500	1.76	**1240000** 279000	M244249A	M244210-B
228.600 9.0000	**355.600** 14.0000	**31.750** 1.2500	**759000** 171000	0.59	1.02	**197000** 44200	**199000** 44700	0.99	**1420000** 319000	96900	96140-B
228.600 9.0000	**327.025** 12.8750	**25.400** 1.0000	**558000** 126000	0.41	1.48	**145000** 32500	**101000** 22700	1.44	**1070000** 240000	8573	8520-B
234.950 9.2500	**328.612** 12.9375	**26.988** 1.0625	**552000** 124000	0.49	1.23	**143000** 32200	**119000** 26800	1.20	**821000** 185000	88925	88129-B
241.300 9.5000	**368.300** 14.5000	**26.988** 1.0625	**844000** 190000	0.34	1.75	**219000** 49200	**129000** 28900	1.70	**1530000** 345000	EE125095	125145-B
241.300 9.5000	**327.025** 12.8750	**25.400** 1.0000	**527000** 119000	0.41	1.48	**137000** 30700	**95200** 21400	1.44	**1070000** 240000	8578	8520-B
244.475 9.6250	**381.000** 15.0000	**34.925** 1.3750	**907000** 204000	0.52	1.16	**235000** 52900	**208000** 46800	1.13	**1690000** 381000	EE126097	126150-B
253.975 9.9990	**330.000** 12.9921	**17.000** 0.6693	**360000** 80800	0.56	1.07	**93200** 21000	**89100** 20000	1.05	**715000** 161000	L848849	JL848815-B
254.000 10.0000	**403.225** 15.8750	**38.100** 1.5000	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275100	275158-B
254.000 10.0000	**358.775** 14.1250	**30.162** 1.1875	**914000** 206000	0.33	1.80	**237000** 53300	**135000** 30300	1.76	**1850000** 416000	M249749	M249710-B
254.000 10.0000	**358.775** 14.1250	**30.162** 1.1875	**835000** 188000	0.33	1.80	**217000** 48700	**123000** 27700	1.76	**1630000** 366000	M249749AH	M249711-B
254.000 10.0000	**315.912** 12.4375	**14.526** 0.5719	**255000** 57300	0.43	1.39	**66100** 14900	**48700** 10900	1.36	**561000** 126000	LL648449	LL648415-B
260.350 10.2500	**400.050** 15.7500	**38.100** 1.5000	**949000** 213000	0.39	1.52	**246000** 55300	**166000** 37400	1.48	**1450000** 326000	EE221026	221575-B
264.975 10.4321	**349.948** 13.7775	**18.699** 0.7362	**333000** 74900	0.54	1.11	**86300** 19400	**79600** 17900	1.08	**750000** 169000	L853042	L853011-B
266.700 10.5000	**403.225** 15.8750	**38.100** 1.5000	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275105	275158-B
266.700 10.5000	**355.600** 14.0000	**22.225** 0.8750	**880000** 198000	0.36	1.67	**228000** 51300	**141000** 31600	1.62	**1510000** 339000	LM451349	LM451310-B
273.050 10.7500	**403.225** 15.8750	**38.100** 1.5000	**1010000** 228000	0.40	1.49	**262000** 59000	**181000** 40600	1.45	**1600000** 359000	EE275108	275158-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

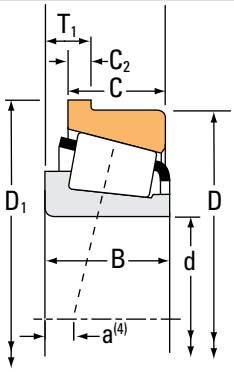
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
66.675 2.6250	**49.212** 1.9375	**-4.6** -0.18	**323.850** 12.7500	**9.525** 0.3750	**1.5** 0.06	**235.0** 9.25	**235.0** 9.25	**300.0** 11.81	1073.1	132.4	0.1327	**15.28** 33.70
66.675 2.6250	**47.625** 1.8750	**17.0** 0.67	**366.624** 14.4340	**11.112** 0.4375	**7.0** 0.28	**249.0** 9.80	**260.0** 10.24	**334.0** 13.15	1140.0	160.6	0.1626	**24.33** 53.64
52.388 2.0625	**36.512** 1.4375	**7.6** 0.30	**336.448** 13.2460	**9.525** 0.3750	**6.4** 0.25	**244.0** 9.61	**255.0** 10.04	**313.0** 12.32	1050.5	172.4	0.1401	**13.74** 30.30
49.212 1.9375	**34.925** 1.3750	**14.2** 0.56	**339.725** 13.3750	**9.525** 0.3750	**6.4** 0.25	**246.0** 9.69	**258.0** 10.16	**309.0** 12.17	800.1	189.1	0.1352	**11.83** 26.09
68.262 2.6875	**53.975** 2.1250	**-2.3** -0.09	**380.898** 14.9960	**12.700** 0.5000	**6.4** 0.25	**257.0** 10.12	**269.0** 10.59	**354.1** 13.94	1309.0	221.1	0.1432	**24.83** 54.75
52.388 2.0625	**36.512** 1.4375	**7.6** 0.30	**336.448** 13.2460	**9.525** 0.3750	**6.4** 0.25	**253.0** 9.96	**264.0** 10.39	**313.0** 12.32	1050.5	172.4	0.1401	**11.81** 26.05
76.200 3.0000	**57.150** 2.2500	**9.7** 0.38	**393.598** 15.4960	**12.700** 0.5000	**6.4** 0.25	**266.0** 10.47	**275.0** 10.83	**358.0** 14.09	1321.8	168.9	0.1640	**31.90** 70.32
41.500 1.6339	**28.000** 1.1024	**32.0** 1.26	**342.000** 13.4646	**6.000** 0.2362	**1.5** 0.06	**266.0** 10.47	**266.0** 10.47	**320.0** 12.60	868.9	255.1	0.1442	**8.31** 18.34
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**417.408** 16.4334	**14.288** 0.5625	**6.4** 0.25	**277.0** 10.91	**287.0** 11.30	**389.0** 15.31	1451.8	201.3	0.1555	**31.88** 70.28
71.438 2.8125	**53.975** 2.1250	**-6.9** -0.27	**371.475** 14.6250	**12.700** 0.5000	**3.5** 0.14	**270.0** 10.63	**274.0** 10.79	**343.0** 13.50	1626.0	173.0	0.1526	**22.21** 48.96
76.200 3.0000	**53.975** 2.1250	**-6.9** -0.27	**384.175** 15.1250	**12.700** 0.5000	**1.5** 0.06	**270.0** 10.63	**270.0** 10.63	**343.0** 13.50	1485.4	158.7	0.1477	**23.06** 50.86
31.750 1.2500	**22.225** 0.8750	**22.4** 0.88	**323.924** 12.7529	**5.001** 0.1969	**3.5** 0.14	**262.0** 10.31	**268.0** 10.55	**305.0** 12.01	817.0	322.2	0.1295	**5.03** 11.09
67.470 2.6563	**46.038** 1.8125	**0.8** 0.03	**414.233** 16.3084	**14.288** 0.5625	**9.7** 0.38	**280.0** 11.02	**296.0** 11.65	**383.0** 15.08	1320.8	207.5	0.1497	**27.98** 61.69
34.925 1.3750	**23.812** 0.9375	**35.1** 1.38	**357.950** 14.0925	**5.999** 0.2362	**3.5** 0.14	**280.0** 11.02	**285.0** 11.22	**342.0** 13.46	1057.3	350.4	0.1517	**8.89** 19.61
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**417.408** 16.4334	**14.288** 0.5625	**6.4** 0.25	**287.0** 11.30	**296.0** 11.65	**389.0** 15.31	1451.8	201.3	0.1555	**29.03** 64.01
57.150 2.2500	**44.450** 1.7500	**5.1** 0.20	**365.125** 14.3750	**9.525** 0.3750	**3.5** 0.14	**281.0** 11.06	**285.0** 11.22	**344.0** 13.54	1554.1	212.2	0.1536	**15.69** 34.61
69.850 2.7500	**46.038** 1.8125	**2.5** 0.10	**417.408** 16.4334	**14.288** 0.5625	**6.4** 0.25	**291.0** 11.46	**301.0** 11.85	**389.0** 15.31	1451.8	201.3	0.1555	**27.65** 60.95

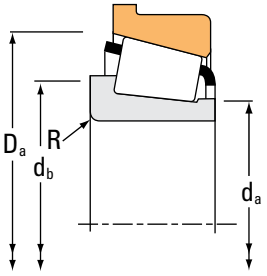
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
276.225 10.8750	**349.948** 13.7775	**18.699** 0.7362	**333000** 74900	0.54	1.11	**86300** 19400	**79600** 17900	1.08	**750000** 169000	L853049	L853011-B
280.000 11.0236	**406.400** 16.0000	**28.575** 1.1250	**924000** 208000	0.39	1.55	**240000** 53900	**158000** 35600	1.51	**1820000** 409000	EE128114	128160-B
280.192 11.0312	**406.400** 16.0000	**28.575** 1.1250	**868000** 195000	0.39	1.55	**225000** 50600	**149000** 33400	1.51	**1660000** 374000	EE128111	128160-B
280.192 11.0312	**406.400** 16.0000	**28.575** 1.1250	**924000** 208000	0.39	1.55	**240000** 53900	**158000** 35600	1.51	**1820000** 409000	EE128110	128160-B
285.750 11.2500	**380.898** 14.9960	**25.400** 1.0000	**722000** 162000	0.43	1.39	**187000** 42100	**138000** 31100	1.35	**1720000** 387000	LM654649	LM654610-B
289.975 11.4163	**404.950** 15.9429	**22.225** 0.8750	**586000** 132000	0.36	1.67	**152000** 34200	**93500** 21000	1.63	**1310000** 295000	L357040	L357019-B
298.450 11.7500	**444.500** 17.5000	**36.512** 1.4375	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291175	291750-B
304.800 12.0000	**444.500** 17.5000	**36.512** 1.4375	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291201	291750-B
304.800 12.0000	**406.400** 16.0000	**25.400** 1.0000	**769000** 173000	0.44	1.36	**199000** 44800	**151000** 33900	1.32	**1740000** 392000	LM757049	LM757010-B
304.800 12.0000	**404.950** 15.9429	**22.225** 0.8750	**586000** 132000	0.36	1.67	**152000** 34200	**93500** 21000	1.63	**1310000** 295000	L357049	L357019-B
317.500 12.5000	**444.500** 17.5000	**36.512** 1.4375	**887000** 199000	0.38	1.59	**230000** 51700	**149000** 33400	1.55	**1390000** 312000	EE291250	291750-B
330.200 13.0000	**482.600** 19.0000	**36.512** 1.4375	**1030000** 231000	0.42	1.44	**266000** 59900	**190000** 42700	1.40	**1770000** 398000	EE203130	203190-B
330.200 13.0000	**482.600** 19.0000	**41.275** 1.6250	**1250000** 281000	0.39	1.54	**324000** 72900	**217000** 48700	1.49	**2320000** 523000	EE526130	526190-B
346.075 13.6250	**482.600** 19.0000	**36.512** 1.4375	**1030000** 231000	0.42	1.44	**266000** 59900	**190000** 42700	1.40	**1770000** 398000	EE203136	203190-B
349.250 13.7500	**501.650** 19.7500	**34.925** 1.3750	**1350000** 304000	0.37	1.63	**350000** 78700	**220000** 49500	1.59	**2780000** 626000	EE333137	333197-B
371.475 14.6250	**508.000** 20.0000	**38.100** 1.5000	**1050000** 236000	0.44	1.36	**273000** 61300	**206000** 46200	1.33	**1870000** 420000	EE231462	232000-B
374.650 14.7500	**522.288** 20.5625	**38.100** 1.5000	**1390000** 313000	0.39	1.56	**360000** 81000	**238000** 53500	1.51	**2950000** 663000	LM565943	LM565910-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

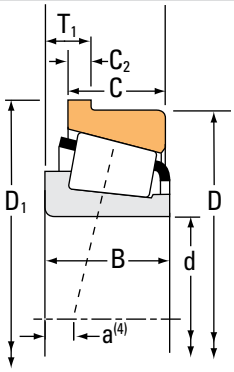
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
34.925 1.3750	**23.812** 0.9375	**35.1** 1.38	**357.950** 14.0925	**5.999** 0.2362	**3.5** 0.14	**288.0** 11.34	**293.0** 11.54	**342.0** 13.46	1057.3	350.4	0.1517	**7.61** 16.78
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**418.998** 16.4960	**12.700** 0.5000	**6.4** 0.25	**307.0** 12.09	**308.0** 12.13	**384.0** 15.12	1727.7	255.2	0.1628	**29.02** 64.00
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**418.998** 16.4960	**12.700** 0.5000	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**384.0** 15.12	1622.7	240.4	0.1592	**27.99** 61.73
67.673 2.6643	**53.975** 2.1250	**6.6** 0.26	**418.998** 16.4960	**12.700** 0.5000	**6.8** 0.27	**307.0** 12.09	**309.0** 12.17	**384.0** 15.12	1727.7	255.2	0.1628	**28.95** 63.85
65.088 2.5625	**49.212** 1.9375	**11.4** 0.45	**390.423** 15.3710	**9.525** 0.3750	**3.5** 0.14	**302.0** 11.89	**306.0** 12.05	**368.0** 14.49	1916.4	265.6	0.1744	**20.07** 44.22
50.800 2.0000	**38.100** 1.5000	**12.7** 0.50	**419.923** 16.5324	**9.525** 0.3750	**6.4** 0.25	**308.0** 12.13	**318.0** 12.52	**380.0** 14.96	1753.3	301.0	0.1585	**20.08** 44.25
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**457.098** 17.9960	**12.700** 0.5000	**8.0** 0.31	**320.0** 12.60	**332.0** 13.07	**428.0** 16.85	1579.2	244.8	0.1557	**30.48** 67.19
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**457.098** 17.9960	**12.700** 0.5000	**8.0** 0.31	**324.0** 12.76	**337.0** 13.27	**428.0** 16.85	1579.2	244.8	0.1557	**29.02** 63.97
63.500 2.5000	**47.625** 1.8750	**16.3** 0.64	**419.100** 16.5000	**9.525** 0.3750	**6.4** 0.25	**322.0** 12.68	**331.0** 13.03	**393.0** 15.47	1988.6	260.3	0.1775	**22.05** 48.61
50.800 2.0000	**38.100** 1.5000	**12.7** 0.50	**419.923** 16.5324	**9.525** 0.3750	**6.4** 0.25	**319.0** 12.56	**329.0** 12.95	**380.0** 14.96	1753.3	301.0	0.1585	**17.32** 38.17
61.912 2.4375	**39.688** 1.5625	**7.6** 0.30	**457.098** 17.9960	**12.700** 0.5000	**8.0** 0.31	**334.0** 13.15	**346.0** 13.62	**428.0** 16.85	1579.2	244.8	0.1557	**26.00** 57.32
63.500 2.5000	**44.450** 1.7500	**16.3** 0.64	**496.788** 19.5586	**14.288** 0.5625	**6.8** 0.27	**354.0** 13.94	**364.0** 14.33	**466.0** 18.35	2138.1	336.0	0.1778	**37.38** 82.39
80.167 3.1562	**60.325** 2.3750	**4.8** 0.19	**498.373** 19.6210	**15.875** 0.6250	**6.4** 0.25	**351.0** 13.82	**360.0** 14.17	**464.0** 18.27	2283.3	287.2	0.1790	**46.63** 102.79
63.500 2.5000	**44.450** 1.7500	**16.3** 0.64	**496.788** 19.5586	**14.288** 0.5625	**6.8** 0.27	**366.0** 14.41	**376.0** 14.80	**466.0** 18.35	2138.1	336.0	0.1778	**33.18** 73.14
84.138 3.3125	**69.850** 2.7500	**3.6** 0.14	**515.838** 20.3086	**14.288** 0.5625	**6.4** 0.25	**372.0** 14.65	**382.0** 15.04	**486.0** 19.13	3037.5	334.7	0.1928	**54.36** 119.85
66.675 2.6250	**50.800** 2.0000	**19.6** 0.77	**522.188** 20.5586	**14.288** 0.5625	**6.4** 0.25	**390.0** 15.35	**400.0** 15.75	**489.0** 19.25	2386.0	366.8	0.1874	**37.37** 82.40
84.138 3.3125	**61.912** 2.4375	**8.9** 0.35	**536.476** 21.1211	**14.288** 0.5625	**6.4** 0.25	**397.0** 15.63	**407.0** 16.02	**507.0** 19.96	3379.9	375.8	0.2028	**52.86** 116.53

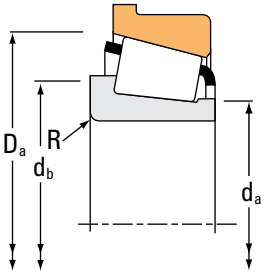
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
377.825 14.8750	**522.288** 20.5625	**38.100** 1.5000	**1390000** 313000	0.39	1.56	**360000** 81000	**238000** 53500	1.51	**2950000** 663000	LM565946	LM565910-B
381.000 15.0000	**522.288** 20.5625	**38.100** 1.5000	**1390000** 313000	0.39	1.56	**360000** 81000	**238000** 53500	1.51	**2950000** 663000	LM565949	LM565910-B
381.000 15.0000	**479.425** 18.8750	**23.812** 0.9375	**594000** 133000	0.50	1.21	**154000** 34600	**130000** 29300	1.18	**1380000** 311000	L865547	L865512-B
396.875 15.6250	**549.275** 21.6250	**38.100** 1.5000	**1430000** 322000	0.41	1.47	**371000** 83500	**259000** 58200	1.43	**3130000** 704000	LM567943	LM567910-B
403.225 15.8750	**460.375** 18.1250	**12.700** 0.5000	**230000** 51700	0.40	1.49	**59600** 13400	**41000** 9210	1.45	**708000** 159000	LL566848	LL566810-B
406.400 16.0000	**549.275** 21.6250	**38.100** 1.5000	**1430000** 322000	0.41	1.47	**371000** 83500	**259000** 58200	1.43	**3130000** 704000	LM567949	LM567910-B
406.400 16.0000	**508.000** 20.0000	**25.400** 1.0000	**859000** 193000	0.37	1.64	**223000** 50100	**139000** 31300	1.60	**2230000** 502000	L467549	L467510-B
431.800 17.0000	**533.400** 21.0000	**20.638** 0.8125	**624000** 140000	0.31	1.96	**162000** 36400	**84700** 19000	1.91	**1520000** 342000	80385	80325-B
450.850 17.7500	**603.250** 23.7500	**39.688** 1.5625	**1490000** 335000	0.45	1.32	**386000** 86800	**300000** 67300	1.29	**3440000** 773000	LM770945	LM770910-B
457.200 18.0000	**603.250** 23.7500	**39.688** 1.5625	**1490000** 335000	0.45	1.32	**386000** 86800	**300000** 67300	1.29	**3440000** 773000	LM770949	LM770910-B
457.200 18.0000	**596.900** 23.5000	**76.200** 3.0000	**1410000** 318000	0.40	1.48	**367000** 82400	**254000** 57100	1.44	**2890000** 649000	EE244180	244235-B
482.600 19.0000	**634.873** 24.9950	**31.750** 1.2500	**1470000** 330000	0.34	1.75	**380000** 85500	**223000** 50200	1.70	**3660000** 822000	EE243190	243250-B
488.950 19.2500	**660.400** 26.0000	**38.100** 1.5000	**2370000** 533000	0.31	1.95	**614000** 138000	**323000** 72600	1.90	**4590000** 1030000	EE640192	640260-B
489.026 19.2530	**634.873** 24.9950	**31.750** 1.2500	**1470000** 330000	0.34	1.75	**380000** 85500	**223000** 50200	1.70	**3660000** 822000	EE243192	243250-B
498.475 19.6250	**634.873** 24.9950	**31.750** 1.2500	**1470000** 330000	0.34	1.75	**380000** 85500	**223000** 50200	1.70	**3660000** 822000	EE243196	243250-B
596.900 23.5000	**685.800** 27.0000	**13.492** 0.5312	**344000** 77300	0.53	1.14	**89200** 20000	**80400** 18100	1.11	**963000** 217000	680235	680270-B
647.700 25.5000	**736.600** 29.0000	**13.495** 0.5313	**406000** 91300	0.35	1.71	**105000** 23700	**63200** 14200	1.67	**1170000** 264000	LL380849	LL380810-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

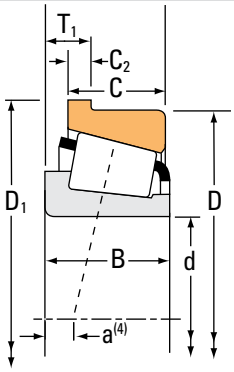
Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius $R^{(5)}$	Backing Shoulder Dia. d_a	d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
84.138 3.3125	**61.912** 2.4375	**8.9** 0.35	**536.476** 21.1211	**14.288** 0.5625	**6.4** 0.25	**399.0** 15.71	**409.0** 16.10	**507.0** 19.96	3379.9	375.8	0.2028	**51.62** 113.80
84.138 3.3125	**61.912** 2.4375	**8.9** 0.35	**536.476** 21.1211	**14.288** 0.5625	**6.4** 0.25	**402.0** 15.83	**411.0** 16.18	**507.0** 19.96	3379.9	375.8	0.2028	**50.42** 111.16
47.625 1.8750	**34.925** 1.3750	**42.9** 1.69	**489.737** 19.2810	**9.525** 0.3750	**6.4** 0.25	**395.0** 15.55	**407.0** 16.02	**465.0** 18.31	2256.6	529.8	0.1897	**18.97** 41.81
84.138 3.3125	**61.912** 2.4375	**15.5** 0.61	**563.463** 22.1836	**14.288** 0.5625	**6.4** 0.25	**420.0** 16.54	**430.0** 16.93	**531.0** 20.91	3796.2	424.8	0.2143	**58.63** 129.27
28.575 1.1250	**22.225** 0.8750	**41.4** 1.63	**469.900** 18.5000	**6.350** 0.2500	**3.5** 0.14	**414.0** 16.30	**418.0** 16.46	**452.0** 17.80	2302.0	1585.3	0.2225	**7.00** 15.44
84.138 3.3125	**61.912** 2.4375	**15.5** 0.61	**563.463** 22.1836	**14.288** 0.5625	**6.4** 0.25	**427.0** 16.81	**437.0** 17.20	**531.0** 20.91	3796.2	424.8	0.2143	**54.17** 119.42
61.912 2.4375	**47.625** 1.8750	**20.3** 0.80	**519.013** 20.4336	**11.112** 0.4375	**3.3** 0.13	**423.0** 16.65	**426.0** 16.77	**492.0** 19.37	3716.5	673.8	0.2038	**27.95** 61.62
46.038 1.8125	**34.925** 1.3750	**23.4** 0.92	**542.925** 21.3750	**9.525** 0.3750	**3.3** 0.13	**446.0** 17.56	**450.0** 17.72	**510.0** 20.08	3209.2	802.4	0.1815	**21.04** 46.37
84.138 3.3125	**60.325** 2.3750	**30.5** 1.20	**617.438** 24.3086	**14.288** 0.5625	**6.4** 0.25	**474.0** 18.66	**484.0** 19.06	**579.7** 22.82	4660.5	534.5	0.2366	**65.09** 143.51
84.138 3.3125	**60.325** 2.3750	**30.5** 1.20	**617.438** 24.3086	**14.288** 0.5625	**6.4** 0.25	**479.0** 18.86	**489.0** 19.25	**579.7** 22.82	4660.5	534.5	0.2366	**61.09** 134.69
73.025 2.8750	**53.975** 2.1250	**26.7** 1.05	**611.200** 24.0630	**14.300** 0.5630	**9.7** 0.38	**478.0** 18.82	**494.0** 19.45	**570.0** 22.47	4411.8	627.1	0.2233	**51.04** 112.51
80.962 3.1875	**63.500** 2.5000	**19.1** 0.75	**649.199** 25.5590	**14.288** 0.5625	**6.4** 0.25	**510.0** 20.08	**516.0** 20.31	**618.0** 24.33	6057.3	726.6	0.2350	**67.90** 149.71
94.458 3.7188	**69.850** 2.7500	**4.8** 0.19	**676.275** 26.6250	**14.288** 0.5625	**6.4** 0.25	**513.0** 20.20	**522.0** 20.55	**642.0** 25.28	6322.4	601.7	0.2310	**90.10** 198.61
80.962 3.1875	**63.500** 2.5000	**19.1** 0.75	**649.199** 25.5590	**14.288** 0.5625	**6.4** 0.25	**516.0** 20.31	**522.0** 20.55	**618.0** 24.33	6057.3	726.6	0.2350	**64.58** 142.37
80.962 3.1875	**63.500** 2.5000	**19.1** 0.75	**649.199** 25.5590	**14.288** 0.5625	**6.4** 0.25	**522.0** 20.55	**528.0** 20.79	**618.0** 24.33	6057.3	726.6	0.2350	**60.14** 132.60
31.750 1.2500	**25.400** 1.0000	**96.0** 3.78	**692.841** 27.2772	**7.142** 0.2812	**3.5** 0.14	**615.0** 24.21	**615.0** 24.21	**669.0** 26.34	3739.1	1810.4	0.2225	**16.93** 37.33
31.750 1.2500	**25.400** 1.0000	**64.3** 2.53	**743.636** 29.2770	**7.145** 0.2813	**3.5** 0.14	**660.0** 25.98	**666.0** 26.22	**720.0** 28.35	5165.7	2840.6	0.2172	**19.15** 42.21

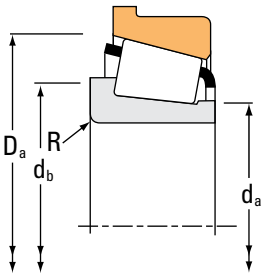
[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

Continued on next page.

TYPE TSF







Bearing Dimensions			Load Ratings							Part Number	
Bore d	O.D. D	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0	Inner	Outer
mm in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf		
736.600 29.0000	**825.500** 32.5000	**12.700** 0.5000	**424000** 95300	0.40	1.51	**110000** 24700	**74800** 16800	1.47	**1300000** 291000	LL582949	LL582910-B
1063.625 41.8750	**1219.200** 48.0000	**34.925** 1.3750	**1720000** 386000	0.48	1.26	**445000** 100000	**362000** 81400	1.23	**5660000** 1270000	LL788345	LL788310-B
1066.800 42.0000	**1219.200** 48.0000	**34.925** 1.3750	**1720000** 386000	0.48	1.26	**445000** 100000	**362000** 81400	1.23	**5660000** 1270000	LL788349	LL788310-B
1270.000 50.0000	**1435.100** 56.5000	**36.512** 1.4375	**1840000** 414000	0.57	1.05	**478000** 107000	**467000** 105000	1.02	**6650000** 1500000	LL889049	LL889010-B

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

Bearing Dimensions									Geometry Factors			Bearing Weight
					Shaft			Housing				
Width B	Width C	Eff. Ctr. $a^{(4)}$	Outer Ring Flange O.D. D_1	Flange Width C_2	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	G_1	G_2	C_g	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
31.750 1.2500	**25.400** 1.0000	**86.9** 3.42	**833.435** 32.8124	**6.350** 0.2500	**3.5** 0.14	**753.1** 29.65	**753.1** 29.65	**807.0** 31.77	6526.9	3683.4	0.2436	**21.01** 46.30
65.088 2.5625	**42.862** 1.6875	**142.5** 5.61	**1231.900** 48.5000	**12.700** 0.5000	**3.3** 0.13	**1085.0** 42.72	**1090.0** 42.91	**1200.0** 47.24	22182.4	4652.2	0.3922	**113.74** 250.78
65.088 2.5625	**42.862** 1.6875	**142.5** 5.61	**1231.900** 48.5000	**12.700** 0.5000	**3.3** 0.13	**1090.0** 42.91	**1090.0** 42.91	**1200.0** 47.24	22182.4	4652.2	0.3922	**111.04** 244.81
65.088 2.5625	**47.625** 1.8750	**216.9** 8.54	**1454.150** 57.2500	**14.288** 0.5625	**6.4** 0.25	**1300.0** 51.18	**1305.0** 51.38	**1415.0** 55.71	31422.7	5654.9	0.4637	**151.19** 333.35

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.

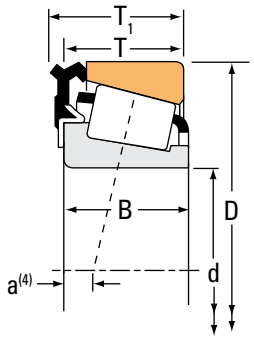


TYPE TSL

- TSL is a single-row bearing with a DUO-FACE PLUS seal pressed on to the large rib of the inner ring.
- One lip of the DUO-FACE PLUS seal operates in the housing bore, the other lip seals against the hardened and ground surface of the outer-ring front face.
- This bearing provides an effective means to integrate a seal into grease-lubricated applications operating at moderate speeds.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective application.

TYPE TSL





Bearing Dimensions				Load Ratings						
Bore d	O.D. D	Width T	Width T_1	Dynamic(1) C_1	Factors(2) e	Factors(2) Y	Dynamic(3) C_{90}	Dynamic(3) C_{a90}	Factors(2) K	Static C_0
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf			**N** lbf	**N** lbf		**N** lbf
19.050 0.7500	**45.237** 1.7810	**15.494** 0.6100	**16.281** 0.6410	**39100** 8800	0.30	2.00	**10100** 2280	**5220** 1170	1.94	**32000** 7200
19.050 0.7500	**45.237** 1.7810	**16.281** 0.6410	**17.400** 0.6850	**39100** 8800	0.30	2.00	**10100** 2280	**5220** 1170	1.94	**32000** 7200
21.430 0.8437	**50.005** 1.9687	**18.313** 0.7210	**19.430** 0.7650	**52200** 11700	0.28	2.16	**13500** 3040	**6440** 1450	2.10	**43500** 9780
25.400 1.0000	**50.005** 1.9687	**14.206** 0.5593	**15.400** 0.6060	**29100** 6540	0.40	1.49	**7550** 1700	**5190** 1170	1.45	**29600** 6650
25.400 1.0000	**50.292** 1.9800	**14.224** 0.5600	**14.935** 0.5880	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400
25.400 1.0000	**50.292** 1.9800	**14.935** 0.5880	**16.130** 0.6350	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400
25.400 1.0000	**50.292** 1.9800	**14.935** 0.5880	**16.130** 0.6350	**35600** 8010	0.37	1.60	**9230** 2080	**5910** 1330	1.56	**32900** 7400
31.750 1.2500	**59.131** 2.3280	**16.637** 0.6550	**17.780** 0.7000	**46700** 10500	0.41	1.46	**12100** 2720	**8550** 1920	1.42	**44600** 10000
34.925 1.3750	**65.088** 2.5625	**18.796** 0.7400	**19.940** 0.7850	**64600** 14500	0.38	1.59	**16700** 3760	**10800** 2430	1.55	**63100** 14200
38.100 1.5000	**65.088** 2.5625	**18.796** 0.7400	**19.940** 0.7850	**48600** 10900	0.33	1.80	**12600** 2830	**7170** 1610	1.76	**60300** 13600
38.100 1.5000	**69.012** 2.7170	**19.050** 0.7500	**20.190** 0.7950	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300
38.100 1.5000	**69.012** 2.7170	**19.812** 0.7800	**20.960** 0.8250	**67200** 15100	0.40	1.49	**17400** 3920	**12000** 2700	1.45	**67900** 15300
63.500 2.5000	**110.000** 4.3307	**23.218** 0.9141	**23.218** 0.9141	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100
68.262 2.6875	**110.000** 4.3307	**23.218** 0.9141	**24.640** 0.9700	**98900** 22200	0.40	1.49	**25600** 5760	**17600** 3970	1.45	**125000** 28100

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method.
(2) Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values.

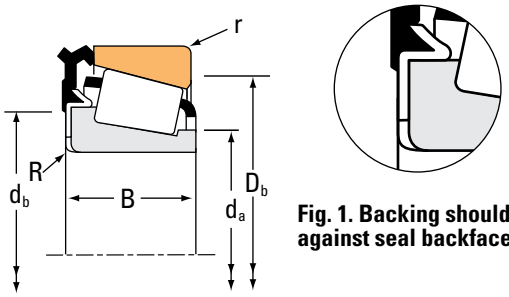


Fig. 1. Backing shoulder against seal backface.

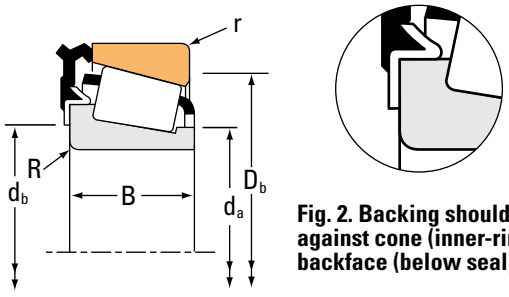


Fig. 2. Backing shoulder against cone (inner-ring) backface (below seal).

Part Number				Bearing Dimensions							Geometry Factors			Bearing Weight
				Bearing		Shaft			Housing					
Inner	Outer	Seal	Fig.	Inner Ring Width B	Eff. Ctr. a[4]	Max. Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_a	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[5]	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
LM11949	LM11910	LM11900EA	2	**16.637** 0.6550	**-5.6** -0.22	**1.3** 0.05	**23.5** 0.93	**25.0** 0.98	**1.3** 0.05	**39.5** 1.56	6.6	5.5	0.0441	**0.12** 0.28
LM11949	LM11910	LM11900LA	1	**16.637** 0.6550	**-5.6** -0.22	**1.3** 0.05	**23.5** 0.93	**25.0** 0.98	**1.3** 0.05	**39.5** 1.56	6.6	5.5	0.0441	**0.12** 0.28
M12649	M12610	M12600LA	1	**18.288** 0.7200	**-6.4** -0.25	**1.3** 0.05	**27.5** 1.08	**29.5** 1.16	**1.3** 0.05	**44.0** 1.73	9.1	5.6	0.0479	**0.17** 0.37
07100	07196	07000LA	1	**14.260** 0.5614	**-2.8** -0.11	**1.0** 0.04	**29.5** 1.16	**30.5** 1.20	**1.0** 0.04	**44.5** 1.75	7.6	7.1	0.0509	**0.11** 0.25
L44642	L44610	L44600LC	1	**14.732** 0.5800	**-3.3** -0.13	**3.5** 0.14	**29.5** 1.16	**36.0** 1.42	**1.3** 0.05	**44.5** 1.75	8.9	8.9	0.0526	**0.13** 0.27
L44643	L44610	L44600LA	2	**14.732** 0.5800	**-3.3** -0.13	**1.3** 0.05	**30.0** 1.18	**32.0** 1.26	**1.3** 0.05	**44.5** 1.75	8.9	8.9	0.0526	**0.13** 0.28
L44643X	L44610	L44600LB	2	**14.732** 0.5800	**-3.3** -0.13	**1.3** 0.05	**29.5** 1.16	**31.8** 1.25	**1.3** 0.05	**44.5** 1.75	8.9	8.9	0.0526	**0.13** 0.28
LM67048	LM67010	LM67000LA	1	**16.764** 0.6600	**-3** -0.12	**3.5** 0.14	**36.0** 1.42	**42.5** 1.67	**1.3** 0.05	**52.0** 2.05	12.8	9.7	0.0612	**0.18** 0.39
LM48548	LM48510	LM48500LA	1	**18.288** 0.7200	**-3.6** -0.14	**3.5** 0.14	**41.5** 1.63	**48.0** 1.89	**1.3** 0.05	**58.0** 2.28	18.0	10.6	0.0666	**0.25** 0.54
LM29748	LM29710	LM29700LA	1	**18.288** 0.7200	**-4.1** -0.16	**3.5** 0.14	**42.5** 1.67	**49.0** 1.93	**1.3** 0.05	**58.9** 2.32	20.4	15.0	0.0666	**0.23** 0.50
13685	13621A	13600LA	1	**19.050** 0.7500	**-3** -0.12	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**2.3** 0.09	**61.0** 2.40	20.7	12.2	0.0713	**0.27** 0.60
13685	13621	13600LA	1	**19.050** 0.7500	**-3** -0.12	**3.5** 0.14	**43.0** 1.69	**49.5** 1.95	**2.3** 0.09	**61.0** 2.40	20.7	12.2	0.0713	**0.28** 0.62
390A	394A	395LC	1	**21.996** 0.8660	**-0.8** -0.03	**1.5** 0.06	**70.0** 2.76	**73.0** 2.87	**1.3** 0.05	**101.0** 3.98	56.0	21.4	0.0984	**0.84** 1.84
399A	394A	395LA	1	**21.996** 0.8660	**-0.8** -0.03	**2.3** 0.09	**74.0** 2.91	**78.0** 3.07	**1.3** 0.05	**101.0** 3.98	56.0	21.4	0.0984	**0.75** 1.65

[4]Negative value indicates effective center inside cone (inner-ring) backface.
[5]These maximum fillet radii will be cleared by the bearing corners.



TYPE TDO

- TDO consists of a single-piece (double) outer ring and two single inner rings.
- This configuration offers a wide effective bearing spread to support loads created by overturning moments.
- These bearings can be used at fixed positions or allowed to float in the housing bore to compensate for shaft expansion.

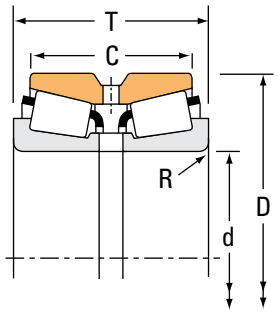
DOUBLE-OUTER RING CONFIGURATIONS

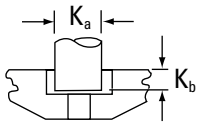
D	D suffix has a groove with oil holes for lubrication through the outer ring.
CD	CD suffix now replaces the DC suffix listed for part numbers in previous publications. Same features as D suffix, but CD also has groove with oil holes. One lubrication hole is counterbored to accept an anti-rotational pin. Default configuration for most series.

- TDO bearings are usually supplied complete with an inner-ring spacer as a pre-set assembly.
- To suit the application duty, the built-in setting value needs to be established by your Timken engineer before an order is placed.
- For spacer configuration information, contact your Timken engineer.
- Double outer ring can be used with any single inner ring from the same series.
- The tables list regularly specified inner-ring part numbers.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective solution.

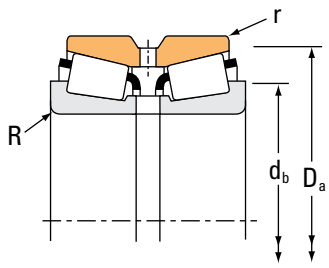
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
11.987 0.4719	**30.480** 1.2000	**25.400** 1.0000	**21.260** 0.8370	**18800** 4230	0.41	1.67	2.48	**2800** 630	**1940** 437	**4880** 1100	1.44
14.989 0.5901	**34.988** 1.3775	**25.174** 0.9911	**20.638** 0.8125	**22900** 5150	0.45	1.49	2.22	**3410** 767	**2640** 594	**5940** 1330	1.29
16.993 0.6690	**47.000** 1.8504	**31.750** 1.2500	**25.212** 0.9926	**46500** 10500	0.36	1.89	2.82	**6930** 1560	**4230** 952	**12100** 2710	1.64
19.050 0.7500	**47.000** 1.8504	**31.750** 1.2500	**25.212** 0.9926	**46500** 10500	0.36	1.89	2.82	**6930** 1560	**4230** 952	**12100** 2710	1.64
19.050 0.7500	**57.150** 2.2500	**49.212** 1.9375	**36.512** 1.4375	**95900** 21600	0.59	1.14	1.70	**14300** 3210	**14400** 3250	**24900** 5590	0.99
19.987 0.7869	**47.000** 1.8504	**31.750** 1.2500	**25.212** 0.9926	**46500** 10500	0.36	1.89	2.82	**6930** 1560	**4230** 952	**12100** 2710	1.64
20.000 0.7874	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**50700** 11400	0.40	1.68	2.50	**7550** 1700	**5190** 1170	**13100** 2950	1.45
24.384 0.9600	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**160000** 36000	0.67	1.01	1.50	**23900** 5360	**27300** 6130	**41500** 9340	0.87
24.981 0.9835	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**50700** 11400	0.40	1.68	2.50	**7550** 1700	**5190** 1170	**13100** 2950	1.45
24.981 0.9835	**62.000** 2.4409	**39.688** 1.5625	**36.258** 1.4275	**75300** 16900	0.38	1.77	2.63	**11200** 2520	**7340** 1650	**19500** 4390	1.53
25.000 0.9843	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**50700** 11400	0.40	1.68	2.50	**7550** 1700	**5190** 1170	**13100** 2950	1.45
25.000 0.9843	**62.000** 2.4409	**39.688** 1.5625	**36.258** 1.4275	**75300** 16900	0.38	1.77	2.63	**11200** 2520	**7340** 1650	**19500** 4390	1.53
25.400 1.0000	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**50700** 11400	0.40	1.68	2.50	**7550** 1700	**5190** 1170	**13100** 2950	1.45
25.400 1.0000	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**50700** 11400	0.40	1.68	2.50	**7550** 1700	**5190** 1170	**13100** 2950	1.45
25.400 1.0000	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
25.400 1.0000	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
25.400 1.0000	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**102000** 23000	0.36	1.87	2.79	**15200** 3420	**9390** 2110	**26500** 5960	1.62

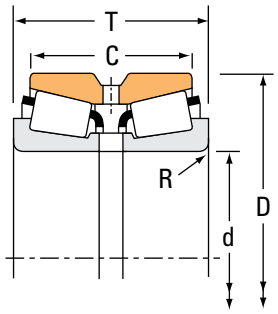
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

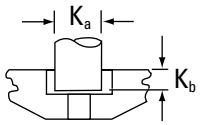
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
A2047	A2120D	**0.8** 0.03	**16.5** 0.65	**0.4** 0.02	**28.0** 1.10	– –	– –	1.7	3.2	0.0308	**0.09** 0.19
A4059	A4138D	**0.8** 0.03	**19.5** 0.77	**0.6** 0.03	**31.5** 1.24	– –	– –	2.3	4.1	0.0355	**0.11** 0.26
05066	05185D	**1.5** 0.06	**24.5** 0.96	**0.8** 0.03	**42.5** 1.67	– –	– –	5.8	5.5	0.0448	**0.29** 0.62
05075	05185D	**1.3** 0.05	**25.0** 0.98	**0.8** 0.03	**42.5** 1.67	– –	– –	5.8	5.5	0.0448	**0.27** 0.59
21075	21226D	**1.5** 0.06	**31.5** 1.24	**0.8** 0.03	**51.0** 2.01	– –	– –	7.0	4.1	0.0558	**0.65** 1.44
05079	05185D	**1.5** 0.06	**26.5** 1.04	**0.8** 0.03	**42.5** 1.67	– –	– –	5.8	5.5	0.0448	**0.27** 0.57
07079	07196D	**1.5** 0.06	**27.5** 1.08	**0.6** 0.03	**46.5** 1.83	– –	– –	7.6	7.1	0.0509	**0.31** 0.70
43096	43319D	**0.8** 0.03	**40.5** 1.59	**1.5** 0.06	**74.0** 2.91	– –	– –	16.8	7.6	0.0774	**1.43** 3.14
07098	07196D	**1.5** 0.06	**31.0** 1.22	**0.6** 0.03	**46.5** 1.83	– –	– –	7.6	7.1	0.0509	**0.27** 0.61
17098	17245D	**1.5** 0.06	**33.0** 1.30	**0.8** 0.03	**57.0** 2.24	– –	– –	11.8	7.5	0.0579	**0.60** 1.33
07097	07196D	**1.5** 0.06	**31.0** 1.22	**0.6** 0.03	**46.5** 1.83	– –	– –	7.6	7.1	0.0509	**0.27** 0.61
17098X	17245D	**1.5** 0.06	**33.0** 1.30	**0.8** 0.03	**57.0** 2.24	– –	– –	11.8	7.5	0.0579	**0.60** 1.33
07100-S	07196D	**1.5** 0.06	**31.5** 1.24	**0.6** 0.03	**46.5** 1.83	– –	– –	7.6	7.1	0.0509	**0.27** 0.60
07100-SA	07196D	**3.3** 0.13	**35.0** 1.38	**0.6** 0.03	**46.5** 1.83	– –	– –	7.6	7.1	0.0509	**0.27** 0.59
15101	15251D	**0.8** 0.03	**32.5** 1.28	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.73** 1.59
15100-S	15251D	**1.3** 0.05	**33.5** 1.32	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.73** 1.59
26100	26282D	**1.5** 0.06	**34.5** 1.36	**0.4** 0.02	**65.0** 2.56	– –	– –	16.1	10.1	0.0630	**0.89** 1.96

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

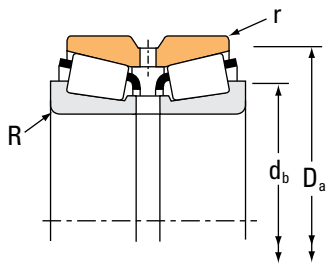
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
28.575 1.1250	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
28.575 1.1250	**76.200** 3.0000	**47.625** 1.8750	**38.100** 1.5000	**114000** 25700	0.45	1.49	2.21	**17000** 3830	**13200** 2980	**29700** 6670	1.29
28.575 1.1250	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**160000** 36000	0.67	1.01	1.50	**23900** 5360	**27300** 6130	**41500** 9340	0.87
29.987 1.1806	**62.000** 2.4409	**39.688** 1.5625	**36.258** 1.4275	**75300** 16900	0.38	1.77	2.63	**11200** 2520	**7340** 1650	**19500** 4390	1.53
29.987 1.1806	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
29.987 1.1806	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**121000** 27300	0.36	1.87	2.79	**18100** 4060	**11100** 2500	**31400** 7070	1.62
29.987 1.1806	**71.973** 2.8336	**42.760** 1.6835	**36.512** 1.4375	**121000** 27300	0.36	1.87	2.79	**18100** 4060	**11100** 2500	**31400** 7070	1.62
30.000 1.1811	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
30.000 1.1811	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
30.162 1.1875	**58.738** 2.3125	**32.542** 1.2812	**24.608** 0.9688	**55200** 12400	0.47	1.42	2.12	**8220** 1850	**6670** 1500	**14300** 3220	1.23
30.162 1.1875	**62.000** 2.4409	**39.688** 1.5625	**36.258** 1.4275	**75300** 16900	0.38	1.77	2.63	**11200** 2520	**7340** 1650	**19500** 4390	1.53
30.162 1.1875	**66.421** 2.6150	**44.450** 1.7500	**38.100** 1.5000	**97300** 21900	0.34	1.99	2.96	**14500** 3260	**8420** 1890	**25200** 5670	1.72
30.162 1.1875	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**160000** 36000	0.67	1.01	1.50	**23900** 5360	**27300** 6130	**41500** 9340	0.87
30.213 1.1895	**63.500** 2.5000	**40.638** 1.8125	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
31.750 1.2500	**58.738** 2.3125	**32.542** 1.2812	**24.608** 0.9688	**55200** 12400	0.47	1.42	2.12	**8220** 1850	**6670** 1500	**14300** 3220	1.23
31.750 1.2500	**63.500** 2.5000	**44.260** 1.7425	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
31.750 1.2500	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67

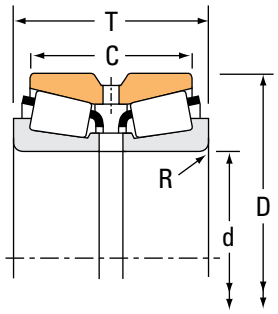
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

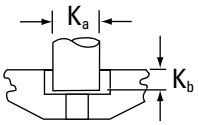
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
15112	15251D	**3.5** 0.14	**40.0** 1.57	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.66** 1.45
02872	02823D	**0.8** 0.03	**37.5** 1.48	**0.8** 0.03	**70.0** 2.76	– –	– –	20.6	10.1	0.0740	**1.13** 2.49
43112	43319D	**0.8** 0.03	**42.5** 1.67	**1.5** 0.06	**74.0** 2.91	– –	– –	16.8	7.6	0.0774	**1.37** 3.01
17118	17245D	**1.5** 0.06	**38.5** 1.52	**0.8** 0.03	**57.0** 2.24	– –	– –	11.8	7.5	0.0579	**0.53** 1.18
15117	15251D	**1.3** 0.05	**36.5** 1.44	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.66** 1.43
26118	26282D	**1.5** 0.06	**38.0** 1.50	**0.4** 0.02	**65.0** 2.56	– –	– –	16.1	10.1	0.0630	**0.83** 1.83
26118	26284D	**1.5** 0.06	**38.0** 1.50	**0.8** 0.03	**65.0** 2.56	– –	– –	16.1	10.1	0.0630	**0.84** 1.85
14118	14276D	**0.8** 0.03	**37.0** 1.46	**0.8** 0.03	**63.0** 2.48	– –	– –	18.0	13.3	0.0668	**0.78** 1.75
14117A	14276D	**3.5** 0.14	**44.0** 1.73	**0.8** 0.03	**63.0** 2.48	– –	– –	18.0	13.3	0.0668	**0.78** 1.75
08118	08231D	**3.5** 0.14	**41.5** 1.63	**0.4** 0.02	**55.0** 2.17	– –	– –	10.7	10.6	0.0601	**0.38** 0.81
17119	17245D	**1.5** 0.06	**37.0** 1.46	**0.8** 0.03	**57.0** 2.24	– –	– –	11.8	7.5	0.0579	**0.53** 1.19
24118	24262D	**1.5** 0.06	**37.5** 1.48	**0.8** 0.03	**61.0** 2.40	– –	– –	14.0	8.3	0.0589	**0.69** 1.53
43118	43319D	**1.5** 0.06	**45.0** 1.77	**1.5** 0.06	**74.0** 2.91	– –	– –	16.8	7.6	0.0774	**1.33** 2.93
15119	15251D	**1.5** 0.06	**37.5** 1.48	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.64** 1.43
08125	08231D	**1.0** 0.04	**37.5** 1.48	**0.4** 0.02	**55.0** 2.17	– –	– –	10.7	10.6	0.0601	**0.36** 0.79
15123	15251D	**3.5** 0.14	**44.0** 1.73	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.58** 1.30
15125	15251D	**3.5** 0.14	**42.5** 1.67	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.62** 1.35

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

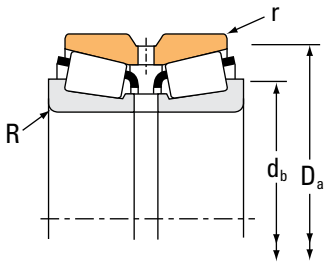
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
31.750 1.2500	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
31.750 1.2500	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
31.750 1.2500	**69.850** 2.7500	**66.675** 2.6250	**57.150** 2.2500	**146000** 32800	0.27	2.47	3.67	**21700** 4880	**10200** 2280	**37800** 8500	2.14
31.750 1.2500	**76.200** 3.0000	**47.625** 1.8750	**38.100** 1.5000	**114000** 25700	0.45	1.49	2.21	**17000** 3830	**13200** 2980	**29700** 6670	1.29
31.750 1.2500	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**160000** 36000	0.67	1.01	1.50	**23900** 5360	**27300** 6130	**41500** 9340	0.87
31.750 1.2500	**82.550** 3.2500	**66.678** 2.6251	**55.562** 2.1875	**182000** 41000	0.37	1.85	2.75	**27100** 6100	**17000** 3820	**47200** 10600	1.60
33.338 1.3125	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
33.337 1.3125	**69.850** 2.7500	**66.675** 2.6250	**57.150** 2.2500	**146000** 32800	0.27	2.47	3.67	**21700** 4880	**10200** 2280	**37800** 8500	2.14
33.337 1.3125	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**121000** 27300	0.36	1.87	2.79	**18100** 4060	**11100** 2500	**31400** 7070	1.62
33.337 1.3125	**71.973** 2.8336	**42.760** 1.6835	**36.512** 1.4375	**121000** 27300	0.36	1.87	2.79	**18100** 4060	**11100** 2500	**31400** 7070	1.62
33.337 1.3125	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**160000** 36000	0.67	1.01	1.50	**23900** 5360	**27300** 6130	**41500** 9340	0.87
33.337 1.3125	**80.962** 3.1875	**55.563** 2.1875	**39.688** 1.5625	**160000** 36000	0.67	1.01	1.50	**23900** 5360	**27300** 6130	**41500** 9340	0.87
34.925 1.3750	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
34.925 1.3750	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
34.925 1.3750	**76.200** 3.0000	**47.625** 1.8750	**38.100** 1.5000	**114000** 25700	0.45	1.49	2.21	**17000** 3830	**13200** 2980	**29700** 6670	1.29
34.925 1.3750	**76.200** 3.0000	**47.625** 1.8750	**38.100** 1.5000	**114000** 25700	0.45	1.49	2.21	**17000** 3830	**13200** 2980	**29700** 6670	1.29
34.925 1.3750	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**131000** 29500	0.40	1.68	2.50	**19500** 4390	**13400** 3020	**34000** 7640	1.45

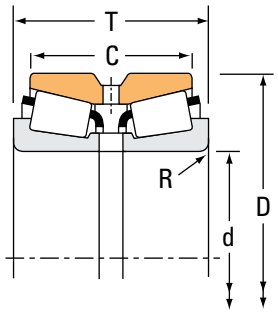
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

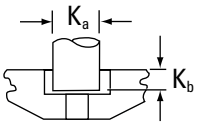
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
15126	15251D	**0.8** 0.03	**38.5** 1.52	**0.8** 0.03	**59.0** 2.32	– –	– –	14.6	10.0	0.0606	**0.62** 1.37
14125A	14276D	**3.5** 0.14	**45.0** 1.77	**0.8** 0.03	**63.0** 2.48	– –	– –	18.0	13.3	0.0668	**0.75** 1.68
2580	2524YD	**0.8** 0.03	**38.5** 1.52	**0.8** 0.03	**64.0** 2.52	– –	– –	23.6	9.6	0.0656	**1.18** 2.61
02875	02823D	**3.5** 0.14	**45.5** 1.79	**0.8** 0.03	**70.0** 2.76	– –	– –	20.6	10.1	0.0740	**1.07** 2.35
43125	43319D	**1.5** 0.06	**44.0** 1.73	**1.5** 0.06	**74.0** 2.91	– –	– –	16.8	7.6	0.0774	**1.31** 2.88
3476	3423D	**1.3** 0.05	**43.0** 1.69	**0.8** 0.03	**75.0** 2.95	– –	– –	29.9	11.2	0.0781	**1.84** 4.05
14131	14276D	**0.8** 0.03	**41.0** 1.61	**0.8** 0.03	**63.0** 2.48	– –	– –	18.0	13.3	0.0668	**0.73** 1.63
2585	2523D	**3.5** 0.14	**45.0** 1.77	**0.8** 0.03	**64.0** 2.52	– –	– –	23.6	9.6	0.0656	**1.15** 2.51
26131	26282D	**3.5** 0.14	**44.5** 1.75	**0.4** 0.02	**65.0** 2.56	– –	– –	16.1	10.1	0.0630	**0.76** 1.67
26131	26284D	**3.5** 0.14	**44.5** 1.75	**0.8** 0.03	**65.0** 2.56	– –	– –	16.1	10.1	0.0630	**0.78** 1.71
43131	43319D	**3.5** 0.14	**51.0** 2.01	**1.5** 0.06	**74.0** 2.91	– –	– –	16.8	7.6	0.0774	**1.27** 2.78
43132	43319D	**2.0** 0.08	**48.0** 1.89	**1.5** 0.06	**74.0** 2.91	– –	– –	16.8	7.6	0.0774	**1.27** 2.80
14137A	14276D	**1.5** 0.06	**43.5** 1.71	**0.8** 0.03	**63.0** 2.48	– –	– –	18.0	13.3	0.0668	**0.71** 1.57
14138A	14276D	**3.5** 0.14	**48.0** 1.89	**0.8** 0.03	**63.0** 2.48	– –	– –	18.0	13.3	0.0668	**0.71** 1.56
02877	02823D	**3.5** 0.14	**48.5** 1.91	**0.8** 0.03	**70.0** 2.76	– –	– –	20.6	10.1	0.0740	**1.01** 2.21
02878	02823D	**0.8** 0.03	**42.5** 1.67	**0.8** 0.03	**70.0** 2.76	– –	– –	20.6	10.1	0.0740	**1.01** 2.24
28137	28318D	**1.5** 0.06	**43.5** 1.71	**0.8** 0.03	**73.0** 2.87	– –	– –	20.7	12.5	0.0709	**1.05** 2.31

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

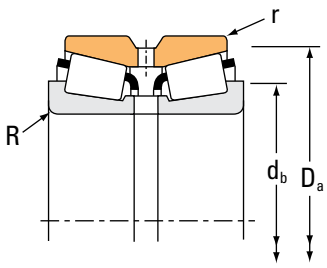
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
34.925 1.3750	**80.035** 3.1510	**57.150** 2.2500	**44.958** 1.7700	**136000** 30500	0.56	1.20	1.79	**20200** 4550	**19400** 4370	**35200** 7920	1.04
34.976 1.3770	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
36.512 1.4375	**82.550** 3.2500	**66.678** 2.6251	**55.562** 2.1875	**182000** 41000	0.37	1.85	2.75	**27100** 6100	**17000** 3820	**47200** 10600	1.60
36.512 1.4375	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74
36.512 1.4375	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**174000** 39100	0.78	0.86	1.29	**25900** 5810	**34600** 7770	**45000** 10100	0.75
38.100 1.5000	**63.500** 2.5000	**38.100** 1.5000	**31.750** 1.2500	**47300** 10600	0.35	1.95	2.90	**7040** 1580	**4170** 938	**12300** 2760	1.69
38.100 1.5000	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**117000** 26300	0.40	1.68	2.50	**17400** 3920	**12000** 2700	**30300** 6820	1.45
38.100 1.5000	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**117000** 26300	0.40	1.68	2.50	**17400** 3920	**12000** 2700	**30300** 6820	1.45
38.100 1.5000	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**131000** 29500	0.40	1.68	2.50	**19500** 4390	**13400** 3020	**34000** 7640	1.45
38.100 1.5000	**80.035** 3.1510	**57.150** 2.2500	**44.958** 1.7700	**136000** 30500	0.56	1.20	1.79	**20200** 4550	**19400** 4370	**35200** 7920	1.04
38.100 1.5000	**80.035** 3.1510	**57.150** 2.2500	**44.958** 1.7700	**136000** 30500	0.56	1.20	1.79	**20200** 4550	**19400** 4370	**35200** 7920	1.04
38.100 1.5000	**82.550** 3.2500	**66.678** 2.6251	**55.562** 2.1875	**182000** 41000	0.37	1.85	2.75	**27100** 6100	**17000** 3820	**47200** 10600	1.60
38.100 1.5000	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74
38.100 1.5000	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**174000** 39100	0.78	0.86	1.29	**25900** 5810	**34600** 7770	**45000** 10100	0.75
38.100 1.5000	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
38.100 1.5000	**95.250** 3.7500	**65.090** 2.5626	**44.450** 1.7500	**207000** 46500	0.74	0.91	1.36	**30800** 6920	**39000** 8760	**53600** 12000	0.79
38.100 1.5000	**111.125** 4.3750	**79.375** 3.1250	**63.500** 2.5000	**300000** 67400	0.30	2.28	3.39	**44600** 10000	**22700** 5090	**77700** 17500	1.97

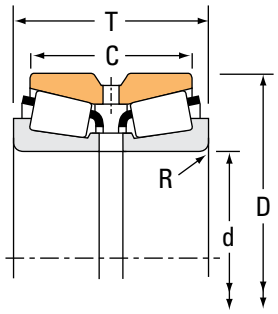
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

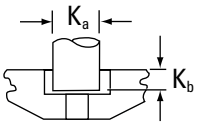
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
27875	27820D	**0.8** 0.03	**45.5** 1.79	**0.8** 0.03	**75.0** 2.95	– –	– –	24.6	12.6	0.0839	**1.32** 2.93
14139	14276D	**1.3** 0.05	**43.5** 1.71	**0.8** 0.03	**63.0** 2.48	– –	– –	18.0	13.3	0.0668	**0.71** 1.57
3479	3423D	**0.8** 0.03	**45.5** 1.79	**0.8** 0.03	**75.0** 2.95	– –	– –	29.9	11.2	0.0781	**1.71** 3.77
25570	25520D	**3.5** 0.14	**51.0** 2.01	**0.8** 0.03	**77.0** 3.03	– –	– –	35.2	14.3	0.0801	**1.53** 3.36
44143	44363D	**2.3** 0.09	**54.0** 2.13	**1.5** 0.06	**85.0** 3.35	– –	– –	22.9	8.7	0.0899	**1.72** 3.78
13889	13835D	**1.5** 0.06	**45.0** 1.77	**0.4** 0.02	**60.0** 2.36	– –	– –	14.8	23.3	0.0601	**0.32** 0.70
13685	13621D	**3.5** 0.14	**49.5** 1.95	**0.8** 0.03	**65.0** 2.56	– –	– –	20.7	12.2	0.0713	**0.66** 1.45
13687	13621D	**2.0** 0.08	**46.5** 1.83	**0.8** 0.03	**65.0** 2.56	– –	– –	20.7	12.2	0.0713	**0.66** 1.46
28150	28318D	**1.5** 0.06	**45.5** 1.79	**0.8** 0.03	**73.0** 2.87	– –	– –	20.7	12.5	0.0709	**0.98** 2.16
27880	27820D	**0.8** 0.03	**48.0** 1.89	**0.8** 0.03	**75.0** 2.95	– –	– –	24.6	12.6	0.0839	**1.22** 2.69
27881	27820D	**3.5** 0.14	**53.0** 2.09	**0.8** 0.03	**75.0** 2.95	– –	– –	24.6	12.6	0.0839	**1.20** 2.66
3490	3423D	**3.5** 0.14	**52.0** 2.05	**0.8** 0.03	**75.0** 2.95	– –	– –	29.9	11.2	0.0781	**1.65** 3.64
25572	25520D	**0.8** 0.03	**46.0** 1.81	**0.8** 0.03	**77.0** 3.03	– –	– –	35.2	14.3	0.0801	**1.49** 3.26
44150	44363D	**2.3** 0.09	**55.0** 2.17	**1.5** 0.06	**85.0** 3.35	– –	– –	22.9	8.7	0.0899	**1.67** 3.69
33880	33821D	**3.5** 0.14	**54.0** 2.13	**0.8** 0.03	**90.0** 3.54	– –	– –	52.5	18.5	0.0910	**2.26** 4.97
53150	53376D	**1.5** 0.06	**55.0** 2.17	**0.8** 0.03	**89.0** 3.50	– –	– –	26.7	9.6	0.0930	**2.08** 4.62
542	533D	**3.5** 0.14	**55.0** 2.17	**1.5** 0.06	**100.0** 3.94	– –	– –	64.3	16.1	0.0938	**4.04** 8.88

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

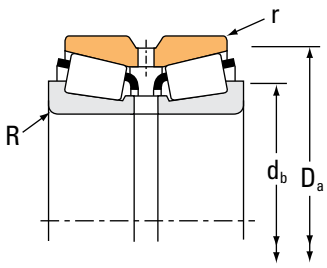
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
38.481 1.5150	**63.500** 2.5000	**38.100** 1.5000	**31.750** 1.2500	**47300** 10600	0.35	1.95	2.90	**7040** 1580	**4170** 938	**12300** 2760	1.69
39.687 1.5625	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**174000** 39100	0.78	0.86	1.29	**25900** 5810	**34600** 7770	**45000** 10100	0.75
39.980 1.5740	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**111000** 24800	0.40	1.68	2.50	**16500** 3700	**11300** 2550	**28700** 6440	1.45
40.000 1.5748	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**131000** 29500	0.40	1.68	2.50	**19500** 4390	**13400** 3020	**34000** 7640	1.45
40.000 1.5748	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**169000** 38000	0.31	2.20	3.28	**25100** 5650	**13200** 2960	**43800** 9840	1.91
40.000 1.5748	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**169000** 38000	0.31	2.20	3.28	**25100** 5650	**13200** 2960	**43800** 9840	1.91
41.275 1.6250	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
41.275 1.6250	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**174000** 39100	0.78	0.86	1.29	**25900** 5810	**34600** 7770	**45000** 10100	0.75
41.275 1.6250	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**221000** 49700	0.28	2.37	3.53	**32900** 7400	**16000** 3600	**57300** 12900	2.05
41.275 1.6250	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**236000** 53100	0.34	2.01	3.00	**35200** 7900	**20200** 4540	**61200** 13800	1.74
42.862 1.6875	**82.550** 3.2500	**44.450** 1.7500	**34.925** 1.3750	**135000** 30300	0.43	1.57	2.34	**20100** 4510	**14800** 3320	**35000** 7860	1.36
42.862 1.6875	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74
44.450 1.7500	**79.375** 3.1250	**41.272** 1.6249	**33.338** 1.3125	**90600** 20400	0.37	1.80	2.69	**13500** 3030	**8630** 1940	**23500** 5280	1.56
44.450 1.7500	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74
44.450 1.7500	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74
44.450 1.7500	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**169000** 38000	0.31	2.20	3.28	**25100** 5650	**13200** 2960	**43800** 9840	1.91
44.450 1.7500	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**169000** 38000	0.31	2.20	3.28	**25100** 5650	**13200** 2960	**43800** 9840	1.91

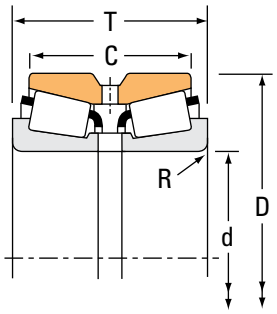
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

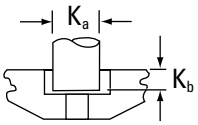
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
13890	13835D	**0.4** 0.02	**43.0** 1.69	**0.4** 0.02	**60.0** 2.36	– –	– –	14.8	23.3	0.0601	**0.41** 0.91
44156	44363D	**2.3** 0.09	**56.0** 2.20	**1.5** 0.06	**85.0** 3.35	– –	– –	22.9	8.7	0.0899	**1.63** 3.62
28159	28318D	**3.5** 0.14	**52.0** 2.05	**0.8** 0.03	**73.0** 2.87	– –	– –	20.7	12.5	0.0709	**0.93** 2.07
28158	28318D	**1.5** 0.06	**47.5** 1.87	**0.8** 0.03	**73.0** 2.87	– –	– –	20.7	12.5	0.0709	**0.94** 2.07
357	353D	**2.3** 0.09	**51.0** 2.01	**0.8** 0.03	**82.0** 3.23	– –	– –	30.0	12.2	0.0732	**1.53** 3.37
350A	353D	**0.8** 0.03	**47.5** 1.87	**0.8** 0.03	**82.0** 3.23	– –	– –	30.0	12.2	0.0732	**1.53** 3.38
365A	363D	**3.5** 0.14	**55.0** 2.17	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.40** 3.11
44162	44363D	**2.3** 0.09	**57.0** 2.24	**1.5** 0.06	**85.0** 3.35	– –	– –	22.9	8.7	0.0899	**1.59** 3.53
447	432D	**3.5** 0.14	**55.0** 2.17	**0.8** 0.03	**87.0** 3.43	– –	– –	42.5	11.3	0.0805	**2.10** 4.65
464	452D	**2.3** 0.09	**56.0** 2.20	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**3.06** 6.77
22168	22325D	**2.3** 0.09	**52.0** 2.05	**0.8** 0.03	**76.0** 2.99	– –	– –	23.7	14.4	0.0758	**1.01** 2.24
25578	25520D	**2.3** 0.09	**53.0** 2.09	**0.8** 0.03	**77.0** 3.03	– –	– –	35.2	14.3	0.0801	**1.48** 3.28
18685	18620D	**2.8** 0.11	**54.0** 2.13	**0.8** 0.03	**74.0** 2.91	– –	– –	23.9	18.7	0.0725	**0.78** 1.70
25580	25520D	**3.5** 0.14	**57.0** 2.24	**0.8** 0.03	**77.0** 3.03	– –	– –	35.2	14.3	0.0801	**1.31** 2.87
25581	25520D	**0.5** 0.02	**51.0** 2.01	**0.8** 0.03	**77.0** 3.03	– –	– –	35.2	14.3	0.0801	**1.31** 2.92
355	353D	**2.3** 0.09	**54.0** 2.13	**0.8** 0.03	**82.0** 3.23	– –	– –	30.0	12.2	0.0732	**1.40** 3.08
355A	353D	**0.8** 0.03	**51.0** 2.01	**0.8** 0.03	**82.0** 3.23	– –	– –	30.0	12.2	0.0732	**1.41** 3.10

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

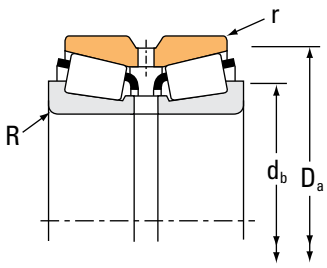
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
44.450 1.7500	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
44.450 1.7500	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**221000** 49700	0.28	2.37	3.53	**32900** 7400	**16000** 3600	**57300** 12900	2.05
44.450 1.7500	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**221000** 49700	0.28	2.37	3.53	**32900** 7400	**16000** 3600	**57300** 12900	2.05
44.450 1.7500	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
44.450 1.7500	**95.250** 3.7500	**65.090** 2.5626	**44.450** 1.7500	**207000** 46500	0.74	0.91	1.36	**30800** 6920	**39000** 8760	**53600** 12000	0.79
44.450 1.7500	**95.250** 3.7500	**65.090** 2.5626	**44.450** 1.7500	**207000** 46500	0.74	0.91	1.36	**30800** 6920	**39000** 8760	**53600** 12000	0.79
44.450 1.7500	**98.425** 3.8750	**65.090** 2.5626	**44.450** 1.7500	**207000** 46500	0.74	0.91	1.36	**30800** 6920	**39000** 8760	**53600** 12000	0.79
44.450 1.7500	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**236000** 53100	0.34	2.01	3.00	**35200** 7900	**20200** 4540	**61200** 13800	1.74
44.450 1.7500	**112.712** 4.4375	**65.088** 2.5625	**46.038** 1.8125	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
44.450 1.7500	**112.712** 4.4375	**65.088** 2.5625	**46.038** 1.8125	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
44.983 1.7710	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74
44.983 1.7710	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
45.000 1.7717	**85.000** 3.3465	**50.750** 1.9980	**40.000** 1.5748	**181000** 40600	0.40	1.67	2.48	**26900** 6050	**18700** 4190	**46800** 10500	1.44
45.000 1.7717	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
45.000 1.7717	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**169000** 38000	0.31	2.20	3.28	**25100** 5650	**13200** 2960	**43800** 9840	1.91
45.000 1.7717	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**142000** 32000	0.31	2.20	3.28	**21200** 4770	**11100** 2500	**36900** 8310	1.91
45.618 1.7960	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74

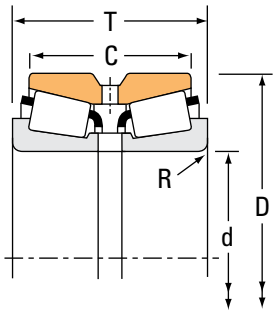
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

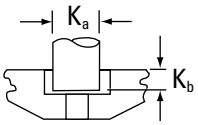
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
3782	3729D	**3.5** 0.14	**58.0** 2.28	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**2.07** 4.53
435	432D	**0.8** 0.03	**52.0** 2.05	**0.8** 0.03	**87.0** 3.43	– –	– –	42.5	11.3	0.0805	**2.01** 4.44
438	432D	**3.5** 0.14	**57.0** 2.24	**0.8** 0.03	**87.0** 3.43	– –	– –	42.5	11.3	0.0805	**1.99** 4.41
33885	33821D	**0.8** 0.03	**53.0** 2.09	**0.8** 0.03	**90.0** 3.54	– –	– –	52.5	18.5	0.0910	**2.11** 4.66
53177	53376D	**3.5** 0.14	**63.0** 2.48	**0.8** 0.03	**89.0** 3.50	– –	– –	26.7	9.6	0.0930	**1.89** 4.15
53178	53376D	**2.0** 0.08	**60.0** 2.36	**0.8** 0.03	**89.0** 3.50	– –	– –	26.7	9.6	0.0930	**1.89** 4.18
53177	53390D	**3.5** 0.14	**63.0** 2.48	**1.5** 0.06	**90.0** 3.54	– –	– –	26.7	9.6	0.0930	**2.07** 4.56
458	452D	**0.8** 0.03	**55.0** 2.17	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.99** 6.56
55175	55444D	**3.5** 0.14	**67.0** 2.64	**1.5** 0.06	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**3.02** 6.67
55176	55444D	**0.8** 0.03	**61.0** 2.40	**1.5** 0.06	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**3.04** 6.70
25584	25520D	**1.5** 0.06	**53.0** 2.09	**0.8** 0.03	**77.0** 3.03	– –	– –	35.2	14.3	0.0801	**1.31** 2.87
3776	3729D	**3.5** 0.14	**59.0** 2.32	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**2.04** 4.47
X32209	32209AD	**1.5** 0.06	**54.0** 2.13	**0.8** 0.03	**81.0** 3.19	– –	– –	30.5	13.8	0.0809	**0.80** 1.76
367	363D	**2.0** 0.08	**55.0** 2.17	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.33** 2.93
358	353D	**1.5** 0.06	**53.0** 2.09	**0.8** 0.03	**82.0** 3.23	– –	– –	30.0	12.2	0.0732	**1.38** 3.05
358A	353D	**3.5** 0.14	**57.0** 2.24	**0.8** 0.03	**82.0** 3.23	– –	– –	30.0	12.2	0.0732	**1.39** 3.04
25590	25520D	**3.5** 0.14	**58.0** 2.28	**0.8** 0.03	**77.0** 3.03	– –	– –	35.2	14.3	0.0801	**1.27** 2.80

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

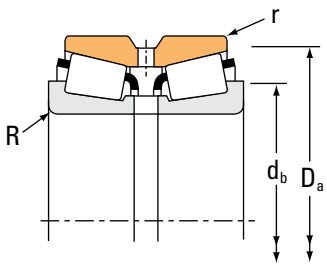
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
46.037 1.8125	**79.375** 3.1250	**41.272** 1.6249	**33.338** 1.3125	**90600** 20400	0.37	1.80	2.69	**13500** 3030	**8630** 1940	**23500** 5280	1.56
46.037 1.8125	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**169000** 38000	0.31	2.20	3.28	**25100** 5650	**13200** 2960	**43800** 9840	1.91
46.037 1.8125	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**221000** 49700	0.28	2.37	3.53	**32900** 7400	**16000** 3600	**57300** 12900	2.05
47.625 1.8750	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
47.625 1.8750	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
47.625 1.8750	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
47.625 1.8750	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
47.625 1.8750	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
47.625 1.8750	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
47.625 1.8750	**109.982** 4.3300	**63.500** 2.5000	**42.865** 1.6876	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
47.625 1.8750	**112.712** 4.4375	**65.088** 2.5625	**46.038** 1.8125	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
47.625 1.8750	**117.475** 4.6250	**73.025** 2.8750	**53.975** 2.1250	**307000** 69100	0.63	1.08	1.60	**45800** 10300	**49100** 11000	**79700** 17900	0.93
49.212 1.9375	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
49.974 1.9675	**109.982** 4.3300	**63.500** 2.5000	**42.865** 1.6876	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
49.974 1.9675	**112.712** 4.4375	**65.088** 2.5625	**46.038** 1.8125	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
50.000 1.9685	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
50.000 1.9685	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83

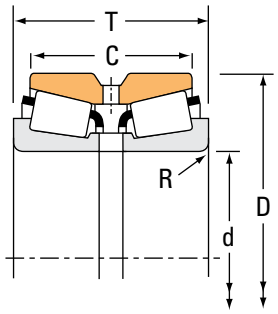
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

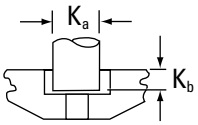
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
18690	18620D	**2.8** 0.11	**56.0** 2.20	**0.8** 0.03	**74.0** 2.91	– –	– –	23.9	18.7	0.0725	**0.74** 1.64
359-S	353D	**2.3** 0.09	**55.0** 2.17	**0.8** 0.03	**82.0** 3.23	– –	– –	30.0	12.2	0.0732	**1.37** 2.99
436	432D	**3.5** 0.14	**59.0** 2.32	**0.8** 0.03	**87.0** 3.43	– –	– –	42.5	11.3	0.0805	**1.95** 4.29
369A	363D	**3.5** 0.14	**60.0** 2.36	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.27** 2.78
369-S	363D	**2.3** 0.09	**57.0** 2.24	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.27** 2.79
3779	3729D	**3.5** 0.14	**61.0** 2.40	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**1.94** 4.27
386A	384ED	**0.8** 0.03	**56.0** 2.20	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.73** 3.78
386A	384D	**0.8** 0.03	**56.0** 2.20	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.78** 3.91
467	452D	**0.8** 0.03	**57.0** 2.24	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.87** 6.35
55187	55433D	**3.5** 0.14	**69.0** 2.72	**0.5** 0.02	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.76** 6.11
55187	55444D	**3.5** 0.14	**69.0** 2.72	**1.5** 0.06	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.90** 6.41
66187	66462D	**3.5** 0.14	**69.0** 2.72	**0.8** 0.03	**111.0** 4.37	– –	– –	50.2	16.4	0.0751	**3.77** 8.31
3781	3729D	**3.5** 0.14	**62.0** 2.44	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**1.88** 4.14
55197	55433D	**2.0** 0.08	**68.0** 2.68	**0.5** 0.02	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.69** 5.93
55197	55444D	**2.0** 0.08	**68.0** 2.68	**1.5** 0.06	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.83** 6.24
365	363D	**2.0** 0.08	**58.0** 2.28	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.21** 2.64
366	363D	**2.3** 0.09	**59.0** 2.32	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.20** 2.62

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

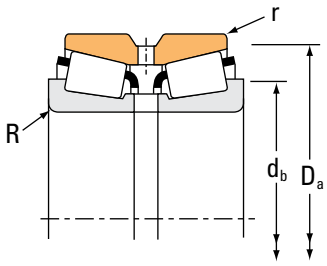
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
50.000 1.9685	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
50.000 1.9685	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
50.800 2.0000	**80.962** 3.1875	**42.865** 1.6876	**34.925** 1.3750	**106000** 23800	0.36	1.90	2.83	**15800** 3540	**9590** 2160	**27400** 6170	1.64
50.800 2.0000	**89.985** 3.5427	**50.400** 1.9843	**49.950** 1.9665	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
50.800 2.0000	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
50.800 2.0000	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
50.800 2.0000	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
50.800 2.0000	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
50.800 2.0000	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
50.800 2.0000	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
50.800 2.0000	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
50.800 2.0000	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
50.800 2.0000	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
50.800 2.0000	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
50.800 2.0000	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
50.800 2.0000	**109.982** 4.3300	**63.500** 2.5000	**42.865** 1.6876	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
50.800 2.0000	**109.982** 4.3300	**63.500** 2.5000	**42.865** 1.6876	**263000** 59200	0.88	0.76	1.14	**39200** 8810	**59300** 13300	**68200** 15300	0.66

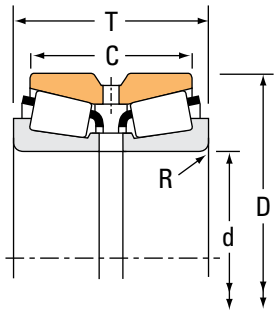
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

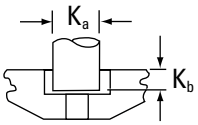
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
465	452D	**2.3** 0.09	**62.0** 2.44	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.79** 6.15
396	394D	**0.8** 0.03	**61.0** 2.40	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**2.22** 4.92
L305649	L305610D	**1.5** 0.06	**58.0** 2.28	**0.8** 0.03	**77.0** 3.03	– –	– –	38.8	29.8	0.0841	**0.77** 1.71
368A	362XD	**3.5** 0.14	**62.0** 2.44	**0.5** 0.02	**86.3** 3.40	– –	– –	33.8	14.0	0.0773	**1.27** 2.79
368	363D	**1.5** 0.06	**58.0** 2.28	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.16** 2.57
368A	363D	**3.5** 0.14	**62.0** 2.44	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.17** 2.56
3775	3729D	**0.8** 0.03	**58.0** 2.28	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**1.83** 4.03
3780	3729D	**3.5** 0.14	**64.0** 2.52	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**1.82** 4.02
3784	3729D	**6.4** 0.25	**70.0** 2.76	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**1.78** 3.93
33889	33821D	**3.5** 0.14	**64.0** 2.52	**0.8** 0.03	**90.0** 3.54	– –	– –	52.5	18.5	0.0910	**1.86** 4.08
385A	384ED	**2.3** 0.09	**61.0** 2.40	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.60** 3.52
385A	-	**2.3** 0.09	**61.0** 2.40	**0.8** 0.03	**93.0** 3.66	**7.94** 0.31	**4.77** 0.19	42.0	15.7	0.0859	**1.70** 3.76
385A	384CD	**2.3** 0.09	**61.0** 2.40	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.71** 3.77
455	452D	**0.8** 0.03	**60.0** 2.36	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.75** 6.04
455-S	452D	**3.5** 0.14	**65.0** 2.56	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.75** 6.05
55200	55433D	**3.5** 0.14	**71.0** 2.80	**0.5** 0.02	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.67** 5.90
55200C	55433D	**3.5** 0.14	**71.0** 2.80	**0.5** 0.02	**105.0** 4.13	– –	– –	48.7	18.1	0.1198	**2.86** 6.29

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

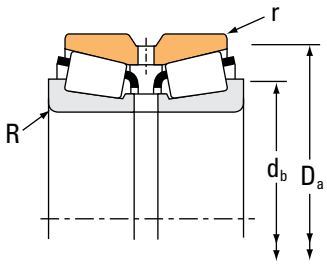
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
50.800 2.0000	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
50.800 2.0000	**112.712** 4.4375	**65.088** 2.5625	**46.038** 1.8125	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
50.800 2.0000	**117.475** 4.6250	**73.025** 2.8750	**53.975** 2.1250	**307000** 69100	0.63	1.08	1.60	**45800** 10300	**49100** 11000	**79700** 17900	0.93
50.800 2.0000	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
51.592 2.0312	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
52.387 2.0625	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
52.387 2.0625	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
52.387 2.0625	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
52.387 2.0625	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
52.387 2.0625	**109.982** 4.3300	**63.500** 2.5000	**42.865** 1.6876	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
52.387 2.0625	**112.712** 4.4375	**65.088** 2.5625	**46.038** 1.8125	**220000** 49400	0.88	0.76	1.14	**32700** 7350	**49500** 11100	**56900** 12800	0.66
53.975 2.1250	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
53.975 2.1250	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
53.975 2.1250	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
53.975 2.1250	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
53.975 2.1250	**111.125** 4.3750	**79.375** 3.1250	**63.500** 2.5000	**355000** 79800	0.30	2.28	3.39	**52900** 11900	**26800** 6040	**92100** 20700	1.97
53.975 2.1250	**117.475** 4.6250	**73.025** 2.8750	**53.975** 2.1250	**307000** 69100	0.63	1.08	1.60	**45800** 10300	**49100** 11000	**79700** 17900	0.93

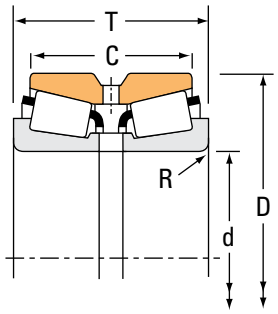
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

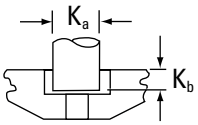
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
398	394D	**0.8** 0.03	**62.0** 2.44	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**2.28** 5.04
55200	55444D	**3.5** 0.14	**71.0** 2.80	**1.5** 0.06	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.78** 6.14
66200	66462D	**3.5** 0.14	**71.0** 2.80	**0.8** 0.03	**111.0** 4.37	– –	– –	50.2	16.4	0.0751	**3.65** 8.05
555	552D	**2.3** 0.09	**66.0** 2.60	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.76** 10.51
368-S	363D	**2.0** 0.08	**59.0** 2.32	**0.8** 0.03	**84.0** 3.31	– –	– –	33.8	14.0	0.0773	**1.15** 2.54
3767	3729D	**2.3** 0.09	**63.0** 2.48	**0.8** 0.03	**87.9** 3.46	– –	– –	49.9	14.5	0.0903	**1.78** 3.90
33890	33821D	**1.5** 0.06	**61.0** 2.40	**0.8** 0.03	**90.0** 3.54	– –	– –	52.5	18.5	0.0910	**1.83** 4.00
33891	33821D	**3.5** 0.14	**66.0** 2.60	**0.8** 0.03	**90.0** 3.54	– –	– –	52.5	18.5	0.0910	**1.81** 3.97
468	452D	**1.5** 0.06	**62.0** 2.44	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.63** 5.80
55206	55433D	**3.5** 0.14	**72.0** 2.83	**0.5** 0.02	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.61** 5.73
55206	55444D	**3.5** 0.14	**72.0** 2.83	**1.5** 0.06	**105.0** 4.13	– –	– –	36.8	13.2	0.1085	**2.73** 5.98
33895	33821D	**1.5** 0.06	**63.0** 2.48	**0.8** 0.03	**90.0** 3.54	– –	– –	52.5	18.5	0.0910	**1.75** 3.84
389A	384ED	**0.8** 0.03	**61.0** 2.40	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.52** 3.34
389A	384D	**0.8** 0.03	**61.0** 2.40	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.60** 3.52
456	452D	**3.5** 0.14	**68.0** 2.68	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.61** 5.74
539	533D	**3.5** 0.14	**68.0** 2.68	**1.5** 0.06	**100.0** 3.94	– –	– –	64.3	16.1	0.0938	**3.33** 7.35
66212	66462D	**3.5** 0.14	**73.0** 2.87	**0.8** 0.03	**111.0** 4.37	– –	– –	50.2	16.4	0.0751	**3.58** 7.87

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

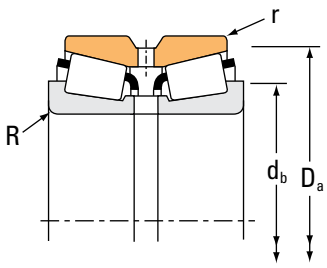
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
53.975 2.1250	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**394000** 88500	0.35	1.95	2.90	**58600** 13200	**34700** 7810	**102000** 22900	1.69
53.975 2.1250	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**412000** 92600	0.87	0.78	1.16	**61300** 13800	**90900** 20400	**107000** 24000	0.67
54.987 2.1649	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
55.000 2.1654	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
55.000 2.1654	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
55.000 2.1654	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
55.000 2.1654	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
55.000 2.1654	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
55.562 2.1875	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
55.575 2.1880	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**92.075** 3.6250	**42.070** 1.6563	**34.130** 1.3437	**109000** 24500	0.39	1.74	2.59	**16300** 3650	**10800** 2430	**28300** 6360	1.50
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65

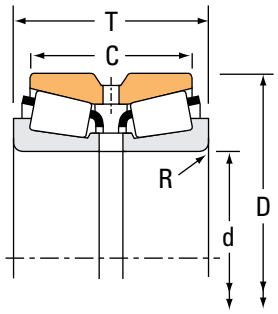
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

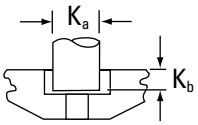
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
557-S	552D	**3.5** 0.14	**73.0** 2.87	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.65** 10.24
78215C	78549D	**3.5** 0.14	**84.0** 3.31	**1.5** 0.06	**131.0** 5.16	– –	– –	71.3	17.6	0.0926	**5.81** 12.80
466	452D	**2.3** 0.09	**66.0** 2.60	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.59** 5.68
385	384ED	**2.3** 0.09	**65.0** 2.56	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.48** 3.26
385X	384ED	**3.5** 0.14	**67.0** 2.64	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.48** 3.25
385	384D	**2.3** 0.09	**65.0** 2.56	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.55** 3.42
385X	384D	**3.5** 0.14	**67.0** 2.64	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.55** 3.41
475	472D	**0.8** 0.03	**67.0** 2.64	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**3.65** 8.05
466-S	452D	**2.3** 0.09	**66.0** 2.60	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.55** 5.63
389	384ED	**2.3** 0.09	**65.0** 2.56	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.45** 3.21
L507949	L507914D	**1.5** 0.06	**65.0** 2.56	**0.8** 0.03	**86.0** 3.39	– –	– –	46.1	38.5	0.0914	**1.08** 2.36
387	384ED	**2.3** 0.09	**67.0** 2.64	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.41** 3.09
387A	384ED	**3.5** 0.14	**70.0** 2.76	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.42** 3.11
387AS	384ED	**5.0** 0.20	**73.0** 2.87	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.42** 3.09
387-S	384ED	**0.8** 0.03	**64.0** 2.52	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.42** 3.13
387	384D	**2.3** 0.09	**67.0** 2.64	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.49** 3.28
387A	384D	**3.5** 0.14	**70.0** 2.76	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.49** 3.27

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

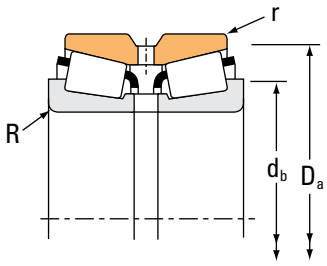
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**100.000** 3.9370	**105.131** 4.1390	**95.606** 3.7640	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
57.150 2.2500	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
57.150 2.2500	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
57.150 2.2500	**114.287** 4.4995	**58.738** 2.3125	**46.038** 1.8125	**192000** 43300	0.49	1.38	2.06	**28600** 6440	**23900** 5370	**49900** 11200	1.20
57.150 2.2500	**117.475** 4.6250	**66.675** 2.6250	**53.975** 2.1250	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
57.150 2.2500	**117.475** 4.6250	**73.025** 2.8750	**53.975** 2.1250	**307000** 69100	0.63	1.08	1.60	**45800** 10300	**49100** 11000	**79700** 17900	0.93
57.150 2.2500	**123.825** 4.8750	**77.788** 3.0625	**55.562** 2.1875	**373000** 83900	0.74	0.92	1.36	**55500** 12500	**70100** 15800	**96700** 21700	0.79
57.150 2.2500	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**394000** 88500	0.35	1.95	2.90	**58600** 13200	**34700** 7810	**102000** 22900	1.69
57.150 2.2500	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**406000** 91200	0.36	1.86	2.78	**60400** 13600	**37400** 8420	**105000** 23600	1.61
57.150 2.2500	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**353000** 79300	0.87	0.78	1.16	**52600** 11800	**77900** 17500	**91500** 20600	0.67
57.531 2.2650	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.531 2.2650	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
59.972 2.3611	**129.982** 5.1174	**69.850** 2.7500	**47.625** 1.8750	**319000** 71700	0.67	1.01	1.51	**47500** 10700	**54100** 12200	**82700** 18600	0.88
59.977 2.3613	**100.000** 3.9370	**55.560** 2.1874	**44.450** 1.7500	**185000** 41500	0.43	1.59	2.36	**27500** 6180	**20000** 4500	**47900** 10800	1.37

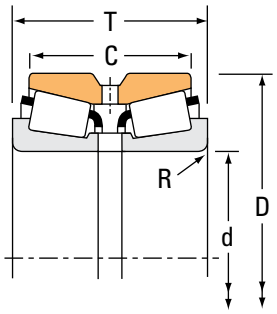
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

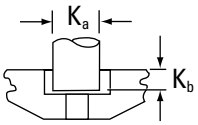
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
387AS	384D	**5.0** 0.20	**73.0** 2.87	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.49** 3.25
387-S	384D	**0.8** 0.03	**64.0** 2.52	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.49** 3.29
387A	384XD	**3.5** 0.14	**70.0** 2.76	**0.8** 0.03	**94.0** 3.70	– –	– –	42.0	15.7	0.0859	**2.92** 6.42
462	452D	**2.3** 0.09	**67.0** 2.64	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.48** 5.48
469	452D	**3.5** 0.14	**72.0** 2.83	**0.8** 0.03	**100.0** 3.94	– –	– –	58.6	17.1	0.0946	**2.48** 5.47
390	394D	**2.3** 0.09	**70.0** 2.76	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**2.08** 4.58
29665	29622D	**3.5** 0.14	**75.0** 2.95	**0.8** 0.03	**109.0** 4.29	– –	– –	77.7	43.3	0.1170	**2.76** 6.07
33225	33462D	**3.5** 0.14	**74.0** 2.91	**0.8** 0.03	**112.0** 4.41	– –	– –	84.2	25.9	0.1162	**3.43** 7.57
66225	66462D	**3.5** 0.14	**76.0** 2.99	**0.8** 0.03	**111.0** 4.37	– –	– –	50.2	16.4	0.0751	**3.35** 7.37
72225C	72488D	**3.5** 0.14	**81.0** 3.19	**1.5** 0.06	**115.0** 4.53	– –	– –	57.4	15.9	0.0825	**4.14** 9.13
555-S	552D	**3.5** 0.14	**76.0** 2.99	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.48** 9.88
635	632D	**3.5** 0.14	**75.0** 2.95	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**6.76** 14.88
78225	78549D	**3.5** 0.14	**83.0** 3.27	**1.5** 0.06	**131.0** 5.16	– –	– –	62.6	19.1	0.0884	**5.40** 11.91
388A	384ED	**3.5** 0.14	**70.0** 2.76	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.44** 3.17
388A	384D	**3.5** 0.14	**70.0** 2.76	**0.8** 0.03	**93.0** 3.66	– –	– –	42.0	15.7	0.0859	**1.46** 3.23
66589	66522D	**0.8** 0.03	**74.0** 2.91	**0.8** 0.03	**118.0** 4.65	– –	– –	57.0	18.3	0.0797	**3.94** 8.68
28980	28921D	**3.5** 0.14	**73.0** 2.87	**0.8** 0.03	**96.0** 3.78	– –	– –	60.1	24.5	0.1032	**1.67** 3.67

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

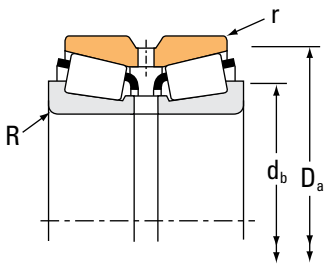
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
59.987 2.3617	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
60.000 2.3622	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
60.000 2.3622	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
60.000 2.3622	**129.982** 5.1174	**69.850** 2.7500	**47.625** 1.8750	**319000** 71700	0.67	1.01	1.51	**47500** 10700	**54100** 12200	**82700** 18600	0.88
60.325 2.3750	**100.000** 3.9370	**55.560** 2.1874	**44.450** 1.7500	**185000** 41500	0.43	1.59	2.36	**27500** 6180	**20000** 4500	**47900** 10800	1.37
60.325 2.3750	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**394000** 88500	0.35	1.95	2.90	**58600** 13200	**34700** 7810	**102000** 22900	1.69
60.325 2.3750	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
60.325 2.3750	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**406000** 91200	0.36	1.86	2.78	**60400** 13600	**37400** 8420	**105000** 23600	1.61
61.912 2.4375	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
61.912 2.4375	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
62.737 2.4700	**100.000** 3.9370	**55.560** 2.1874	**44.450** 1.7500	**185000** 41500	0.43	1.59	2.36	**27500** 6180	**20000** 4500	**47900** 10800	1.37
63.500 2.5000	**94.458** 3.7188	**42.860** 1.6874	**34.925** 1.3750	**117000** 26200	0.42	1.59	2.37	**17400** 3910	**12600** 2840	**30200** 6800	1.38
63.500 2.5000	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
63.500 2.5000	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
63.500 2.5000	**112.712** 4.4375	**55.562** 2.1875	**42.862** 1.6875	**227000** 51100	0.46	1.47	2.19	**33800** 7610	**26600** 5970	**58900** 13200	1.27
63.500 2.5000	**117.475** 4.6250	**66.675** 2.6250	**53.975** 2.1250	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
63.500 2.5000	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52

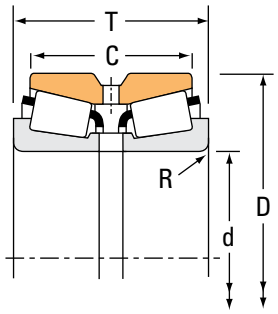
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

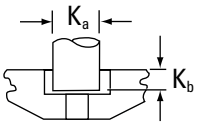
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
558-S	552D	**3.5** 0.14	**75.0** 2.95	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.31** 9.50
397	394D	**0.8** 0.03	**69.0** 2.72	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**2.02** 4.43
476	472D	**2.0** 0.08	**73.0** 2.87	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**3.43** 7.54
66585	66522D	**3.5** 0.14	**79.0** 3.11	**0.8** 0.03	**118.0** 4.65	– –	– –	57.0	18.3	0.0797	**3.92** 8.64
28985	28921D	**3.5** 0.14	**73.0** 2.87	**0.8** 0.03	**96.0** 3.78	– –	– –	60.1	24.5	0.1032	**1.64** 3.62
558	552D	**2.3** 0.09	**76.0** 2.99	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.32** 9.50
558A	552D	**3.5** 0.14	**76.0** 2.99	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.30** 9.47
637	632D	**3.5** 0.14	**78.0** 3.07	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**6.55** 14.40
392	394D	**0.8** 0.03	**70.0** 2.76	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**1.96** 4.35
554	552D	**3.5** 0.14	**77.0** 3.03	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.19** 9.26
28995	28921D	**3.5** 0.14	**75.0** 2.95	**0.8** 0.03	**96.0** 3.78	– –	– –	60.1	24.5	0.1032	**1.54** 3.42
L610549	L610510D	**1.5** 0.06	**71.0** 2.80	**0.8** 0.03	**91.0** 3.58	– –	– –	56.7	50.3	0.1006	**0.99** 2.17
395	394D	**3.5** 0.14	**77.0** 3.03	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**1.86** 4.12
390A	394D	**1.5** 0.06	**73.0** 2.87	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**1.90** 4.18
29586	29526D	**1.5** 0.06	**73.0** 2.87	**0.8** 0.03	**105.0** 4.13	– –	– –	70.3	25.9	0.1112	**2.19** 4.81
33251	33462D	**0.8** 0.03	**73.0** 2.87	**0.8** 0.03	**112.0** 4.41	– –	– –	84.2	25.9	0.1162	**3.18** 7.02
477	472D	**0.8** 0.03	**73.0** 2.87	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**3.25** 7.17

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

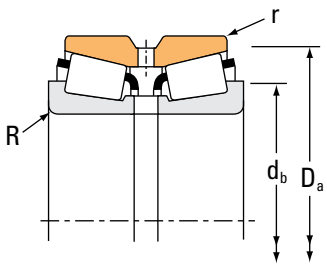
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
63.500 2.5000	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
63.500 2.5000	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**394000** 88500	0.35	1.95	2.90	**58600** 13200	**34700** 7810	**102000** 22900	1.69
63.500 2.5000	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
63.500 2.5000	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**481000** 108000	0.36	1.86	2.78	**71600** 16100	**44400** 9980	**125000** 28000	1.61
63.500 2.5000	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**353000** 79300	0.87	0.78	1.16	**52600** 11800	**77900** 17500	**91500** 20600	0.67
63.500 2.5000	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**656000** 147000	0.33	2.08	3.09	**97600** 21900	**54400** 12200	**170000** 38200	1.80
64.960 2.5575	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**553000** 124000	0.33	2.08	3.09	**82400** 18500	**45900** 10300	**143000** 32200	1.80
64.963 2.5576	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
64.987 2.5586	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**353000** 79300	0.87	0.78	1.16	**52600** 11800	**77900** 17500	**91500** 20600	0.67
65.000 2.5591	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
66.675 2.6250	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
66.675 2.6250	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
66.675 2.6250	**117.475** 4.6250	**66.675** 2.6250	**53.975** 2.1250	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
66.675 2.6250	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
66.675 2.6250	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**394000** 88500	0.35	1.95	2.90	**58600** 13200	**34700** 7810	**102000** 22900	1.69
66.675 2.6250	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**481000** 108000	0.36	1.86	2.78	**71600** 16100	**44400** 9980	**125000** 28000	1.61
68.262 2.6875	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45

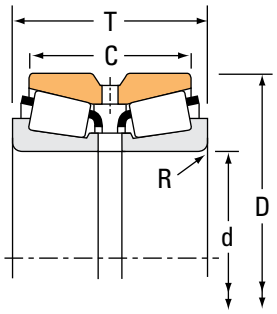
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

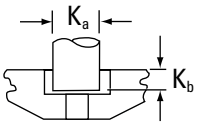
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
483	472D	**3.5** 0.14	**78.0** 3.07	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**3.25** 7.19
559	552D	**3.5** 0.14	**81.0** 3.19	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**4.25** 9.40
565	563D	**3.5** 0.14	**80.0** 3.15	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**4.53** 9.99
639	632D	**3.5** 0.14	**81.0** 3.19	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**6.28** 13.82
78250	78549D	**2.3** 0.09	**85.0** 3.35	**1.5** 0.06	**131.0** 5.16	– –	– –	62.6	19.1	0.0884	**5.10** 11.24
745-S	742D	**3.5** 0.14	**84.0** 3.31	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**9.77** 21.54
747-S	742D	**3.5** 0.14	**85.0** 3.35	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**9.74** 21.47
569	563D	**3.5** 0.14	**81.0** 3.19	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**4.43** 9.79
78255X	78549D	**3.5** 0.14	**89.0** 3.50	**1.5** 0.06	**131.0** 5.16	– –	– –	62.6	19.1	0.0884	**4.99** 11.00
478	472D	**2.3** 0.09	**77.0** 3.03	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**3.17** 7.00
395A	394D	**0.8** 0.03	**73.0** 2.87	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**1.76** 3.89
395-S	394D	**3.5** 0.14	**79.0** 3.11	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**1.76** 3.88
33262	33462D	**3.5** 0.14	**81.0** 3.19	**0.8** 0.03	**112.0** 4.41	– –	– –	84.2	25.9	0.1162	**2.95** 6.52
479	472D	**2.3** 0.09	**78.0** 3.07	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**3.11** 6.83
560	552D	**3.5** 0.14	**84.0** 3.31	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**3.89** 8.59
641	632D	**3.5** 0.14	**83.0** 3.27	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**6.06** 13.35
399A	394D	**2.3** 0.09	**78.0** 3.07	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**1.69** 3.72

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

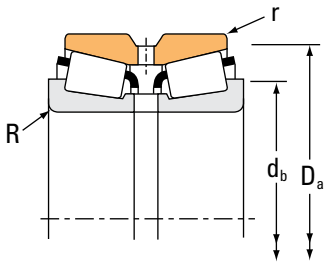
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
68.262 2.6875	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
68.262 2.6875	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
68.262 2.6875	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
68.262 2.6875	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
68.262 2.6875	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**406000** 91200	0.36	1.86	2.78	**60400** 13600	**37400** 8420	**105000** 23600	1.61
68.262 2.6875	**161.925** 6.3750	**105.562** 4.1560	**70.637** 2.7810	**614000** 138000	0.71	0.95	1.42	**91400** 20600	**111000** 24900	**159000** 35800	0.82
69.850 2.7500	**114.287** 4.4995	**58.738** 2.3125	**46.038** 1.8125	**192000** 43300	0.49	1.38	2.06	**28600** 6440	**23900** 5370	**49900** 11200	1.20
69.850 2.7500	**117.475** 4.6250	**66.675** 2.6250	**53.975** 2.1250	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
69.850 2.7500	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
69.850 2.7500	**120.000** 4.7244	**71.438** 2.8125	**58.738** 2.3125	**311000** 70000	0.36	1.87	2.79	**46300** 10400	**28600** 6420	**80700** 18100	1.62
69.850 2.7500	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
69.850 2.7500	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**481000** 108000	0.36	1.86	2.78	**71600** 16100	**44400** 9980	**125000** 28000	1.61
69.850 2.7500	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
69.850 2.7500	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**553000** 124000	0.33	2.08	3.09	**82400** 18500	**45900** 10300	**143000** 32200	1.80
69.850 2.7500	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**656000** 147000	0.33	2.08	3.09	**97600** 21900	**54400** 12200	**170000** 38200	1.80
69.850 2.7500	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**844000** 190000	0.30	2.26	3.36	**126000** 28300	**64400** 14500	**219000** 49200	1.95
69.914 2.7525	**177.800** 7.0000	**109.538** 4.3125	**74.612** 2.9375	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76

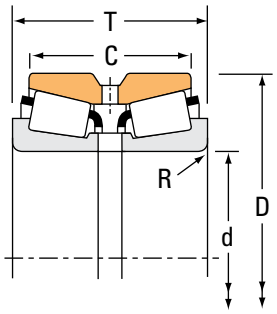
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

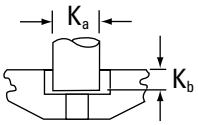
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
399AS	394D	**5.0** 0.20	**83.0** 3.27	**0.8** 0.03	**104.4** 4.11	– –	– –	56.0	21.4	0.0984	**1.65** 3.64
480	472D	**3.5** 0.14	**82.0** 3.23	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**2.98** 6.58
560-S	552D	**3.5** 0.14	**83.0** 3.27	**1.5** 0.06	**115.0** 4.53	– –	– –	91.0	21.1	0.1108	**3.79** 8.35
570	563D	**3.5** 0.14	**83.0** 3.27	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**4.23** 9.31
642	632D	**3.5** 0.14	**85.0** 3.35	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**5.93** 13.04
9278	9220D	**3.5** 0.14	**106.0** 4.17	**0.8** 0.03	**153.0** 6.03	– –	– –	102.5	16.1	0.0984	**9.42** 20.77
29675	29622D	**1.5** 0.06	**80.0** 3.15	**0.8** 0.03	**109.0** 4.29	– –	– –	77.7	43.3	0.1170	**2.20** 4.86
33275	33462D	**3.5** 0.14	**85.0** 3.35	**0.8** 0.03	**112.0** 4.41	– –	– –	84.2	25.9	0.1162	**2.81** 6.20
482	472D	**3.5** 0.14	**83.0** 3.27	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**2.90** 6.40
47487	47420D	**3.5** 0.14	**84.0** 3.31	**0.8** 0.03	**114.0** 4.49	– –	– –	98.4	26.3	0.1153	**3.12** 6.86
566	563D	**3.5** 0.14	**85.0** 3.35	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**4.12** 9.07
643	632D	**3.5** 0.14	**86.0** 3.39	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**5.78** 12.73
655	654D	**3.5** 0.14	**88.0** 3.46	**1.5** 0.06	**141.0** 5.55	– –	– –	136.6	27.3	0.0919	**8.08** 17.84
744A	742D	**5.0** 0.20	**91.0** 3.58	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**9.32** 20.54
745A	742D	**3.5** 0.14	**88.0** 3.46	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**9.35** 20.61
835	834D	**3.5** 0.14	**91.0** 3.58	**0.8** 0.03	**155.0** 6.10	– –	– –	197.9	34.8	0.0937	**14.37** 31.68
9382	9320D	**3.5** 0.14	**101.0** 3.98	**2.3** 0.09	**164.0** 6.46	– –	– –	117.9	18.6	0.1053	**12.79** 28.19

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

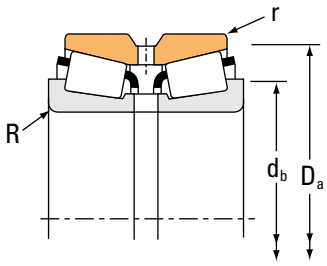
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
69.952 2.7540	**121.442** 4.7812	**52.390** 2.0626	**38.100** 1.5000	**178000** 40000	0.45	1.50	2.23	**26500** 5960	**20500** 4600	**46100** 10400	1.30
70.000 2.7559	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
70.637 2.7810	**114.287** 4.4995	**58.738** 2.3125	**46.038** 1.8125	**192000** 43300	0.49	1.38	2.06	**28600** 6440	**23900** 5370	**49900** 11200	1.20
71.437 2.8125	**117.475** 4.6250	**66.675** 2.6250	**53.975** 2.1250	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
71.437 2.8125	**120.000** 4.7244	**71.438** 2.8125	**58.738** 2.3125	**311000** 70000	0.36	1.87	2.79	**46300** 10400	**28600** 6420	**80700** 18100	1.62
71.437 2.8125	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
71.437 2.8125	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
71.437 2.8125	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
71.437 2.8125	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**481000** 108000	0.36	1.86	2.78	**71600** 16100	**44400** 9980	**125000** 28000	1.61
71.437 2.8125	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**481000** 108000	0.36	1.86	2.78	**71600** 16100	**44400** 9980	**125000** 28000	1.61
73.025 2.8750	**114.287** 4.4995	**58.738** 2.3125	**46.038** 1.8125	**192000** 43300	0.49	1.38	2.06	**28600** 6440	**23900** 5370	**49900** 11200	1.20
73.025 2.8750	**117.475** 4.6250	**66.675** 2.6250	**53.975** 2.1250	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
73.025 2.8750	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
73.025 2.8750	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
73.025 2.8750	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
73.025 2.8750	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
73.025 2.8750	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**656000** 147000	0.33	2.08	3.09	**97600** 21900	**54400** 12200	**170000** 38200	1.80

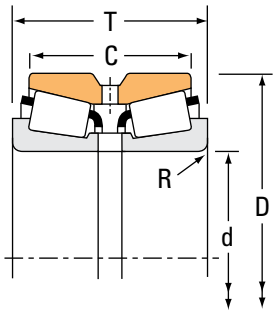
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

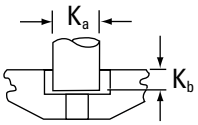
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
34274	34478D	**2.0** 0.08	**81.0** 3.19	**0.8** 0.03	**116.0** 4.57	– –	– –	69.3	27.0	0.1093	**2.27** 4.99
484	472D	**2.0** 0.08	**80.0** 3.15	**0.8** 0.03	**114.0** 4.49	– –	– –	77.2	23.0	0.1083	**2.93** 6.44
29680	29622D	**1.3** 0.05	**80.0** 3.15	**0.8** 0.03	**109.0** 4.29	– –	– –	77.7	43.3	0.1170	**2.18** 4.82
33281	33462D	**3.5** 0.14	**87.0** 3.43	**0.8** 0.03	**112.0** 4.41	– –	– –	84.2	25.9	0.1162	**2.73** 6.02
47490	47420D	**3.5** 0.14	**86.0** 3.39	**0.8** 0.03	**114.0** 4.49	– –	– –	98.4	26.3	0.1153	**3.01** 6.65
567A	563D	**3.5** 0.14	**86.0** 3.39	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**4.02** 8.86
567-S	563D	**6.4** 0.25	**92.0** 3.62	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**3.96** 8.75
495-S	493D	**3.5** 0.14	**88.0** 3.46	**0.8** 0.03	**130.0** 5.12	– –	– –	104.6	29.3	0.1252	**4.41** 9.70
644	632D	**3.5** 0.14	**87.0** 3.43	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**5.70** 12.56
645	632D	**6.4** 0.25	**93.0** 3.66	**1.5** 0.06	**125.0** 4.92	– –	– –	106.4	21.0	0.0814	**5.64** 12.40
29685	29622D	**3.5** 0.14	**86.0** 3.39	**0.8** 0.03	**109.0** 4.29	– –	– –	77.7	43.3	0.1170	**2.06** 4.53
33287	33462D	**3.5** 0.14	**88.0** 3.46	**0.8** 0.03	**112.0** 4.41	– –	– –	84.2	25.9	0.1162	**2.64** 5.81
567	563D	**3.5** 0.14	**88.0** 3.46	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**3.90** 8.59
567X	563D	**4.8** 0.19	**90.0** 3.54	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**3.92** 8.66
576	572D	**3.5** 0.14	**90.0** 3.54	**0.8** 0.03	**133.0** 5.24	– –	– –	125.7	32.0	0.1295	**5.47** 12.05
657	654D	**3.5** 0.14	**91.0** 3.58	**1.5** 0.06	**141.0** 5.55	– –	– –	136.6	27.3	0.0919	**7.81** 17.23
744	742D	**3.5** 0.14	**91.0** 3.58	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**9.03** 19.90

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

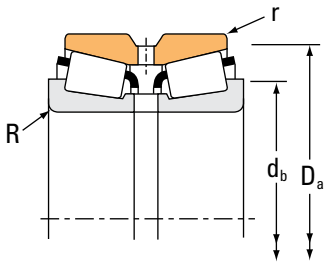
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
73.817 2.9062	**114.287** 4.4995	**58.738** 2.3125	**46.038** 1.8125	**192000** 43300	0.49	1.38	2.06	**28600** 6440	**23900** 5370	**49900** 11200	1.20
73.817 2.9062	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
74.612 2.9375	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
74.976 2.9518	**121.442** 4.7812	**52.390** 2.0626	**38.100** 1.5000	**178000** 40000	0.45	1.50	2.23	**26500** 5960	**20500** 4600	**46100** 10400	1.30
76.200 3.0000	**109.538** 4.3125	**42.860** 1.6874	**34.925** 1.3750	**120000** 27100	0.50	1.34	2.00	**17900** 4030	**15400** 3470	**31200** 7020	1.16
76.200 3.0000	**121.442** 4.7812	**52.390** 2.0626	**38.100** 1.5000	**178000** 40000	0.45	1.50	2.23	**26500** 5960	**20500** 4600	**46100** 10400	1.30
76.200 3.0000	**121.442** 4.7812	**52.390** 2.0626	**38.100** 1.5000	**178000** 40000	0.45	1.50	2.23	**26500** 5960	**20500** 4600	**46100** 10400	1.30
76.200 3.0000	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
76.200 3.0000	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
76.200 3.0000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
76.200 3.0000	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
76.200 3.0000	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**656000** 147000	0.33	2.08	3.09	**97600** 21900	**54400** 12200	**170000** 38200	1.80
76.200 3.0000	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71
76.200 3.0000	**161.925** 6.3750	**105.562** 4.1560	**70.637** 2.7810	**614000** 138000	0.71	0.95	1.42	**91400** 20600	**111000** 24900	**159000** 35800	0.82
76.200 3.0000	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**844000** 190000	0.30	2.26	3.36	**126000** 28300	**64400** 14500	**219000** 49200	1.95
76.200 3.0000	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**844000** 190000	0.30	2.26	3.36	**126000** 28300	**64400** 14500	**219000** 49200	1.95
76.200 3.0000	**177.800** 7.0000	**109.538** 4.3125	**74.612** 2.9375	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76

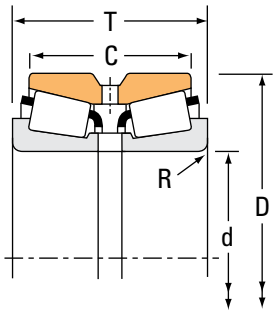
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

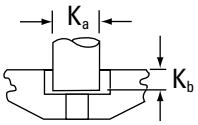
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
29688	29622D	**1.5** 0.06	**83.0** 3.27	**0.8** 0.03	**109.0** 4.29	– –	– –	77.7	43.3	0.1170	**2.04** 4.49
568	563D	**0.8** 0.03	**83.0** 3.27	**1.5** 0.06	**119.0** 4.69	– –	– –	101.3	24.0	0.1167	**3.86** 8.53
577	572D	**3.5** 0.14	**91.0** 3.58	**0.8** 0.03	**133.0** 5.24	– –	– –	125.7	32.0	0.1295	**5.41** 11.91
34294	34478D	**2.0** 0.08	**85.0** 3.35	**0.8** 0.03	**116.0** 4.57	– –	– –	69.3	27.0	0.1093	**2.02** 4.47
L814749	L814710D	**1.5** 0.06	**84.0** 3.31	**0.8** 0.03	**105.0** 4.13	– –	– –	76.0	58.3	0.1164	**1.26** 2.78
34300	34478D	**2.0** 0.08	**86.0** 3.39	**0.8** 0.03	**116.0** 4.57	– –	– –	69.3	27.0	0.1093	**1.98** 4.37
34301	34478D	**3.5** 0.14	**89.0** 3.50	**0.8** 0.03	**116.0** 4.57	– –	– –	69.3	27.0	0.1093	**1.96** 4.32
495A	493D	**3.5** 0.14	**92.0** 3.62	**0.8** 0.03	**130.0** 5.12	– –	– –	104.6	29.3	0.1252	**4.04** 8.90
575	572D	**3.5** 0.14	**92.0** 3.62	**0.8** 0.03	**133.0** 5.24	– –	– –	125.7	32.0	0.1295	**5.23** 11.53
590A	592D	**3.5** 0.14	**95.0** 3.74	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**6.78** 14.94
659	654D	**3.5** 0.14	**93.0** 3.66	**1.5** 0.06	**141.0** 5.55	– –	– –	136.6	27.3	0.0919	**7.54** 16.63
748-S	742D	**3.5** 0.14	**93.0** 3.66	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**8.73** 19.25
755	752D	**3.5** 0.14	**98.0** 3.86	**1.5** 0.06	**150.0** 5.91	– –	– –	177.2	29.4	0.0945	**10.04** 22.12
9285	9220D	**3.5** 0.14	**111.0** 4.37	**0.8** 0.03	**153.0** 6.03	– –	– –	102.5	16.1	0.0984	**8.66** 19.11
837	834D	**0.8** 0.03	**90.0** 3.54	**0.8** 0.03	**155.0** 6.10	– –	– –	197.9	34.8	0.0937	**13.63** 30.04
843	834D	**6.4** 0.25	**101.0** 3.98	**0.8** 0.03	**155.0** 6.10	– –	– –	197.9	34.8	0.0937	**13.59** 29.96
9380	9320D	**3.5** 0.14	**105.0** 4.13	**2.3** 0.09	**164.0** 6.46	– –	– –	117.9	18.6	0.1053	**12.16** 26.80

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

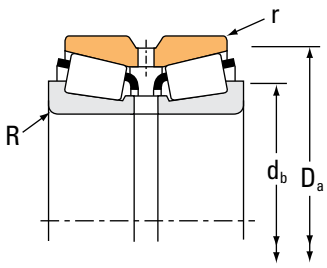
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
76.200 3.0000	**177.800** 7.0000	**115.888** 4.5625	**74.612** 2.9375	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76
76.200 3.0000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
77.788 3.0625	**121.442** 4.7812	**52.390** 2.0626	**38.100** 1.5000	**211000** 47400	0.45	1.50	2.23	**31400** 7060	**24200** 5450	**54700** 12300	1.30
77.788 3.0625	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
79.375 3.1250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
79.985 3.1490	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
79.985 3.1490	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
80.000 3.1496	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**553000** 124000	0.33	2.08	3.09	**82400** 18500	**45900** 10300	**143000** 32200	1.80
80.000 3.1496	**200.025** 7.8750	**108.268** 4.5625	**80.216** 3.1581	**839000** 189000	0.63	1.07	1.59	**125000** 28100	**135000** 30400	**217000** 48900	0.92
80.962 3.1875	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
80.962 3.1875	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
80.962 3.1875	**152.400** 6.0000	**88.900** 3.5000	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
82.550 3.2500	**115.888** 4.5625	**47.625** 1.8750	**39.690** 1.5626	**157000** 35300	0.31	2.19	3.26	**23400** 5260	**12300** 2770	**40700** 9150	1.90
82.550 3.2500	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
82.550 3.2500	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
82.550 3.2500	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
82.550 3.2500	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32

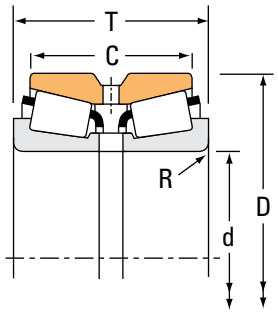
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

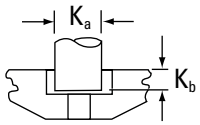
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
9378	9320D	**3.5** 0.14	**105.0** 4.13	**2.3** 0.09	**164.0** 6.46	– –	– –	117.9	18.6	0.1053	**12.68** 27.98
HH221430	HH221410D	**3.5** 0.14	**101.0** 3.98	**1.5** 0.06	**179.0** 7.05	– –	– –	265.6	28.4	0.1072	**18.09** 39.85
34306	34478D	**3.5** 0.14	**91.0** 3.58	**0.8** 0.03	**116.0** 4.57	– –	– –	69.3	27.0	0.1093	**1.86** 4.11
495AS	493D	**3.5** 0.14	**93.0** 3.66	**0.8** 0.03	**130.0** 5.12	– –	– –	104.6	29.3	0.1252	**3.99** 8.80
595A	592D	**3.5** 0.14	**98.0** 3.86	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**6.51** 14.35
578	572D	**3.5** 0.14	**95.0** 3.74	**0.8** 0.03	**133.0** 5.24	– –	– –	125.7	32.0	0.1295	**3.52** 7.76
590	592D	**3.5** 0.14	**98.0** 3.86	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**4.48** 9.87
748	742D	**3.0** 0.12	**96.0** 3.78	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**8.38** 18.45
98316	98789D	**3.5** 0.14	**111.0** 4.37	**2.3** 0.09	**188.0** 7.40	– –	– –	203.4	37.5	0.1197	**17.28** 38.11
496	493D	**3.5** 0.14	**95.0** 3.74	**0.8** 0.03	**130.0** 5.12	– –	– –	104.6	29.3	0.1252	**3.74** 8.23
581	572D	**3.5** 0.14	**96.0** 3.78	**0.8** 0.03	**133.0** 5.24	– –	– –	125.7	32.0	0.1295	**4.88** 10.75
662	654D	**3.5** 0.14	**98.0** 3.86	**1.5** 0.06	**141.0** 5.55	– –	– –	136.6	27.3	0.0919	**6.77** 14.96
L116149	L116110D	**1.5** 0.06	**90.0** 3.54	**0.8** 0.03	**111.0** 4.37	– –	– –	97.2	64.3	0.1079	**0.98** 2.17
495	493D	**3.5** 0.14	**97.0** 3.82	**0.8** 0.03	**130.0** 5.12	– –	– –	104.6	29.3	0.1252	**3.63** 8.00
580	572D	**3.5** 0.14	**98.0** 3.86	**0.8** 0.03	**133.0** 5.24	– –	– –	125.7	32.0	0.1295	**4.74** 10.47
582	572D	**6.8** 0.27	**104.0** 4.09	**0.8** 0.03	**133.0** 5.24	– –	– –	125.7	32.0	0.1295	**4.69** 10.33
595	592D	**3.5** 0.14	**100.0** 3.94	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**6.26** 13.80

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

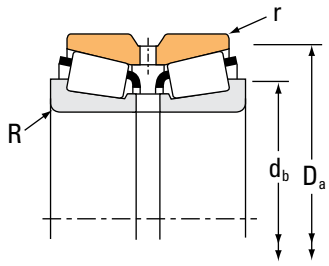
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
82.550 3.2500	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
82.550 3.2500	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**656000** 147000	0.33	2.08	3.09	**97600** 21900	**54400** 12200	**170000** 38200	1.80
82.550 3.2500	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71
82.550 3.2500	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**844000** 190000	0.30	2.26	3.36	**126000** 28300	**64400** 14500	**219000** 49200	1.95
84.138 3.3125	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
84.138 3.3125	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
84.138 3.3125	**177.800** 7.0000	**109.538** 4.3125	**74.612** 2.9375	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76
85.000 3.3465	**200.025** 7.8750	**108.268** 4.5625	**80.216** 3.1581	**839000** 189000	0.63	1.07	1.59	**125000** 28100	**135000** 30400	**217000** 48900	0.92
85.025 3.3475	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**656000** 147000	0.33	2.08	3.09	**97600** 21900	**54400** 12200	**170000** 38200	1.80
85.725 3.3750	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
85.725 3.3750	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
85.725 3.3750	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
85.725 3.3750	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71
85.725 3.3750	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
85.725 3.3750	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**844000** 190000	0.30	2.26	3.36	**126000** 28300	**64400** 14500	**219000** 49200	1.95
87.312 3.4375	**123.825** 4.8750	**50.797** 1.9999	**42.862** 1.6875	**161000** 36300	0.33	2.05	3.05	**24000** 5400	**13600** 3050	**41800** 9400	1.77
87.312 3.4375	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32

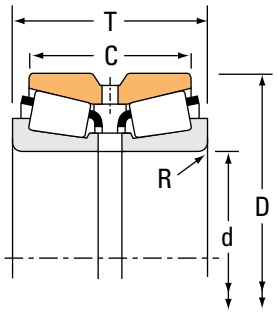
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

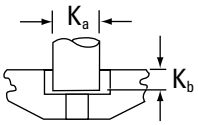
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
663	654D	**3.5** 0.14	**99.0** 3.90	**1.5** 0.06	**141.0** 5.55	– –	– –	136.6	27.3	0.0919	**6.94** 15.32
749A	742D	**3.5** 0.14	**99.0** 3.90	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**8.10** 17.88
757	752D	**3.5** 0.14	**100.0** 3.94	**1.5** 0.06	**150.0** 5.91	– –	– –	177.2	29.4	0.0945	**9.43** 20.80
842	834D	**3.5** 0.14	**101.0** 3.98	**0.8** 0.03	**155.0** 6.10	– –	– –	197.9	34.8	0.0937	**13.02** 28.73
498	493D	**3.5** 0.14	**98.0** 3.86	**0.8** 0.03	**130.0** 5.12	– –	– –	104.6	29.3	0.1252	**3.53** 7.79
664	654D	**3.5** 0.14	**100.0** 3.94	**1.5** 0.06	**141.0** 5.55	– –	– –	136.6	27.3	0.0919	**6.82** 15.02
9386H	9320D	**3.5** 0.14	**111.0** 4.37	**2.3** 0.09	**164.0** 6.46	– –	– –	117.9	18.6	0.1053	**11.07** 24.39
98335	98789D	**3.5** 0.14	**115.0** 4.53	**2.3** 0.09	**188.0** 7.40	– –	– –	203.4	37.5	0.1197	**16.86** 37.17
749	742D	**3.5** 0.14	**101.0** 3.98	**1.5** 0.06	**143.0** 5.63	– –	– –	159.6	26.3	0.0898	**7.89** 17.38
497	493D	**3.5** 0.14	**99.0** 3.90	**0.8** 0.03	**130.0** 5.12	– –	– –	104.6	29.3	0.1252	**3.42** 7.56
596	592D	**3.5** 0.14	**102.0** 4.02	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**6.07** 13.39
665	654D	**3.5** 0.14	**102.0** 4.02	**1.5** 0.06	**141.0** 5.55	– –	– –	136.6	27.3	0.0919	**6.67** 14.72
758	752D	**3.5** 0.14	**106.0** 4.17	**1.5** 0.06	**150.0** 5.91	– –	– –	177.2	29.4	0.0945	**9.08** 20.02
677	672D	**3.5** 0.14	**105.0** 4.13	**0.8** 0.03	**160.0** 6.30	– –	– –	182.5	37.3	0.1056	**9.18** 20.23
841	834D	**3.5** 0.14	**104.0** 4.09	**0.8** 0.03	**155.0** 6.10	– –	– –	197.9	34.8	0.0937	**12.58** 27.73
L217847	L217810D	**1.5** 0.06	**96.0** 3.78	**0.8** 0.03	**119.0** 4.69	– –	– –	111.3	74.8	0.1152	**1.79** 3.92
596-S	592D	**3.5** 0.14	**103.0** 4.06	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.96** 13.13

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

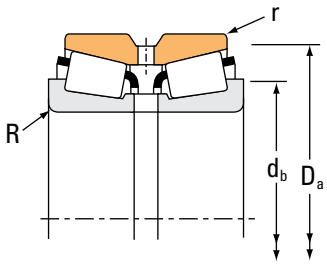
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
87.312 3.4375	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
87.960 3.4630	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
88.900 3.5000	**123.825** 4.8750	**50.797** 1.9999	**42.862** 1.6875	**161000** 36300	0.33	2.05	3.05	**24000** 5400	**13600** 3050	**41800** 9400	1.77
88.900 3.5000	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
88.900 3.5000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
88.900 3.5000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
88.900 3.5000	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71
88.900 3.5000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
88.900 3.5000	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**844000** 190000	0.30	2.26	3.36	**126000** 28300	**64400** 14500	**219000** 49200	1.95
88.900 3.5000	**180.975** 7.1250	**104.774** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
88.900 3.5000	**190.500** 7.5000	**127.000** 5.0000	**101.600** 4.0000	**797000** 179000	0.33	2.02	3.00	**119000** 26700	**68000** 15300	**207000** 46400	1.74
88.900 3.5000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
88.900 3.5000	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**839000** 189000	0.63	1.07	1.59	**125000** 28100	**135000** 30400	**217000** 48900	0.92
89.891 3.5390	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**712000** 160000	0.30	2.26	3.36	**106000** 23800	**54300** 12200	**185000** 41500	1.95
89.916 3.5400	**189.967** 7.4790	**85.852** 3.3800	**54.102** 2.1300	**499000** 112000	0.87	0.78	1.16	**74300** 16700	**110000** 24800	**129000** 29100	0.67
89.980 3.5425	**161.900** 6.3740	**69.850** 2.7500	**44.450** 1.7500	**354000** 79500	0.73	0.92	1.37	**52600** 11800	**65900** 14800	**91700** 20600	0.80
90.488 3.5625	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71

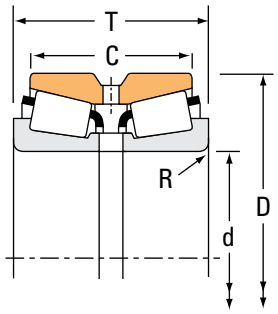
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

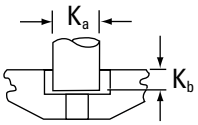
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
HH221432	HH221410D	**8.0** 0.31	**118.0** 4.65	**1.5** 0.06	**179.0** 7.05	– –	– –	265.6	28.4	0.1072	**16.75** 36.90
42346	42587D	**3.0** 0.12	**103.0** 4.06	**0.8** 0.03	**143.0** 5.63	– –	– –	129.7	37.2	0.1386	**4.41** 9.73
L217849	L217810D	**1.5** 0.06	**97.0** 3.82	**0.8** 0.03	**119.0** 4.69	– –	– –	111.3	74.8	0.1152	**1.69** 3.72
42350	42587D	**3.0** 0.12	**104.0** 4.09	**0.8** 0.03	**143.0** 5.63	– –	– –	129.7	37.2	0.1386	**4.35** 9.59
593	592D	**3.5** 0.14	**104.0** 4.09	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.80** 12.79
593A	592D	**6.4** 0.25	**110.0** 4.33	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.76** 12.67
759	752D	**3.5** 0.14	**108.0** 4.25	**1.5** 0.06	**150.0** 5.91	– –	– –	177.2	29.4	0.0945	**8.71** 19.18
679	672D	**3.5** 0.14	**107.0** 4.21	**0.8** 0.03	**160.0** 6.30	– –	– –	182.5	37.3	0.1056	**8.82** 19.44
850	834D	**3.5** 0.14	**106.0** 4.17	**0.8** 0.03	**155.0** 6.10	– –	– –	197.9	34.8	0.0937	**12.15** 26.78
775	774D	**4.8** 0.19	**112.0** 4.41	**1.5** 0.06	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**12.02** 26.52
855	854D	**8.0** 0.31	**118.0** 4.65	**1.5** 0.06	**174.0** 6.85	– –	– –	264.1	44.9	0.1072	**16.69** 36.77
HH221434	HH221410D	**8.0** 0.31	**120.0** 4.72	**1.5** 0.06	**179.0** 7.05	– –	– –	265.6	28.4	0.1072	**16.53** 36.42
98350	98789D	**3.5** 0.14	**118.0** 4.65	**2.3** 0.09	**188.0** 7.40	– –	– –	203.4	37.5	0.1197	**16.38** 36.08
850A	834D	**3.5** 0.14	**107.0** 4.21	**0.8** 0.03	**155.0** 6.10	– –	– –	197.9	34.8	0.0937	**12.07** 26.64
HM921343	HM921310D	**3.5** 0.14	**117.0** 4.61	**1.5** 0.06	**181.0** 7.13	– –	– –	137.2	32.0	0.1143	**10.44** 23.02
M919048	M919010D	**3.5** 0.14	**109.0** 4.29	**1.5** 0.06	**154.0** 6.06	– –	– –	102.3	30.7	0.0990	**5.40** 11.91
760	752D	**3.5** 0.14	**110.0** 4.33	**1.5** 0.06	**150.0** 5.91	– –	– –	177.2	29.4	0.0945	**8.58** 18.91

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

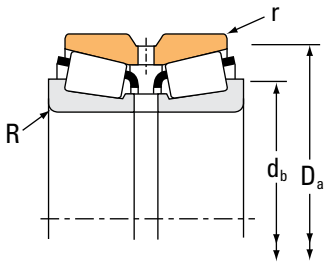
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	Factors[2] e	Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
92.075 3.6250	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**284000** 63800	0.49	1.37	2.04	**42200** 9490	**35600** 8000	**73500** 16500	1.19
92.075 3.6250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
92.075 3.6250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
92.075 3.6250	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
92.075 3.6250	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
93.662 3.6875	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
93.662 3.6875	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
95.250 3.7500	**130.175** 5.1250	**47.622** 1.8749	**39.688** 1.5625	**166000** 37300	0.35	1.93	2.88	**24700** 5560	**14800** 3320	**43100** 9680	1.67
95.250 3.7500	**136.525** 5.3750	**68.260** 2.6874	**57.150** 2.2500	**243000** 54600	0.28	2.38	3.54	**36200** 8140	**17600** 3950	**63000** 14200	2.06
95.250 3.7500	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
95.250 3.7500	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
95.250 3.7500	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
95.250 3.7500	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
95.250 3.7500	**161.925** 6.3750	**82.547** 3.2499	**61.912** 2.4375	**389000** 87500	0.47	1.42	2.12	**57900** 13000	**47100** 10600	**101000** 22700	1.23
95.250 3.7500	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
95.250 3.7500	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
95.250 3.7500	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74

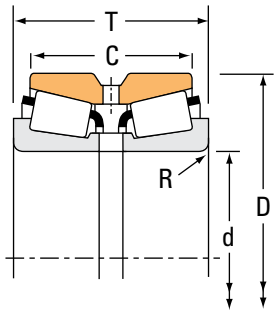
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

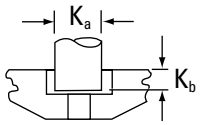
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
42362	42587D	**3.5** 0.14	**107.0** 4.21	**0.8** 0.03	**143.0** 5.63	– –	– –	129.7	37.2	0.1386	**4.08** 8.97
598	592D	**3.5** 0.14	**107.0** 4.21	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.50** 12.11
598X	592D	**3.5** 0.14	**107.0** 4.21	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.52** 12.15
681	672D	**3.5** 0.14	**110.0** 4.33	**0.8** 0.03	**160.0** 6.30	– –	– –	182.5	37.3	0.1056	**8.52** 18.80
778	774D	**3.5** 0.14	**111.0** 4.37	**1.5** 0.06	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**11.73** 25.84
42368	42587D	**3.0** 0.12	**107.0** 4.21	**0.8** 0.03	**143.0** 5.63	– –	– –	129.7	37.2	0.1386	**4.03** 8.86
597	592D	**3.5** 0.14	**109.0** 4.29	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.37** 11.86
L319249	L319210D	**1.5** 0.06	**103.0** 4.06	**0.8** 0.03	**125.0** 4.92	– –	– –	125.3	90.8	0.1220	**1.73** 3.83
LM119348	LM119311D	**2.3** 0.09	**105.0** 4.13	**0.8** 0.03	**131.0** 5.16	– –	– –	149.4	84.1	0.1213	**2.95** 6.52
42375	42587D	**3.0** 0.12	**108.0** 4.25	**0.8** 0.03	**143.0** 5.63	– –	– –	129.7	37.2	0.1386	**3.90** 8.59
42376	42587D	**3.5** 0.14	**109.0** 4.29	**0.8** 0.03	**143.0** 5.63	– –	– –	129.7	37.2	0.1386	**3.90** 8.57
594	592D	**3.5** 0.14	**110.0** 4.33	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.22** 11.49
594A	592D	**5.0** 0.20	**113.0** 4.45	**0.8** 0.03	**144.0** 5.67	– –	– –	151.4	38.3	0.1416	**5.20** 11.46
52375	52637D	**3.5** 0.14	**112.0** 4.41	**0.8** 0.03	**154.0** 6.06	– –	– –	175.4	41.7	0.1519	**6.49** 14.33
683	672D	**3.5** 0.14	**113.0** 4.45	**0.8** 0.03	**160.0** 6.30	– –	– –	182.5	37.3	0.1056	**8.17** 18.02
776	774D	**3.5** 0.14	**114.0** 4.49	**1.5** 0.06	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**11.56** 25.47
HH221440	HH221410D	**8.0** 0.31	**125.0** 4.92	**1.5** 0.06	**179.0** 7.05	– –	– –	265.6	28.4	0.1072	**15.61** 34.39

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

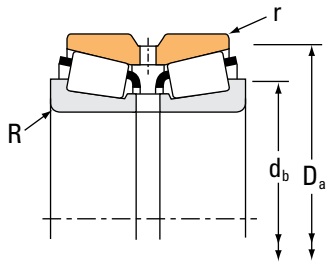
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
96.838 3.8125	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
98.425 3.8750	**161.925** 6.3750	**82.547** 3.2499	**61.912** 2.4375	**389000** 87500	0.47	1.42	2.12	**57900** 13000	**47100** 10600	**101000** 22700	1.23
98.425 3.8750	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
98.425 3.8750	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
98.425 3.8750	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
98.425 3.8750	**190.500** 7.5000	**127.000** 5.0000	**101.600** 4.0000	**797000** 179000	0.33	2.02	3.00	**119000** 26700	**68000** 15300	**207000** 46400	1.74
98.425 3.8750	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
98.425 3.8750	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
98.425 3.8750	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
99.975 3.9360	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
99.979 3.9362	**196.850** 7.7500	**103.378** 4.0700	**74.422** 2.9300	**656000** 148000	0.61	1.11	1.66	**97700** 22000	**101000** 22800	**170000** 38300	0.96
99.982 3.9363	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
100.000 3.9370	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
100.000 3.9370	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
100.000 3.9370	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**839000** 189000	0.63	1.07	1.59	**125000** 28100	**135000** 30400	**217000** 48900	0.92
100.012 3.9375	**161.925** 6.3750	**82.547** 3.2499	**61.912** 2.4375	**389000** 87500	0.47	1.42	2.12	**57900** 13000	**47100** 10600	**101000** 22700	1.23
101.600 4.0000	**146.050** 5.7500	**49.212** 1.9375	**39.688** 1.5625	**167000** 37600	0.39	1.72	2.56	**24900** 5600	**16700** 3760	**43300** 9740	1.49

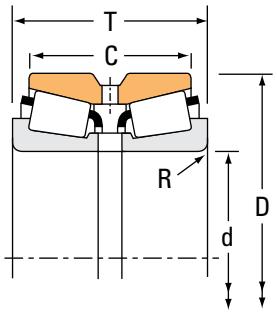
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

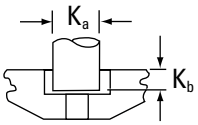
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
42381	42587D	**3.5** 0.14	**112.0** 4.41	**0.8** 0.03	**143.0** 5.63	– –	– –	129.7	37.2	0.1386	**3.78** 8.33
52387	52637D	**3.5** 0.14	**114.0** 4.49	**0.8** 0.03	**154.0** 6.06	– –	– –	175.4	41.7	0.1519	**6.16** 13.58
685	672D	**3.5** 0.14	**116.0** 4.57	**0.8** 0.03	**160.0** 6.30	– –	– –	182.5	37.3	0.1056	**7.85** 17.29
779	773D	**3.5** 0.14	**116.0** 4.57	**0.8** 0.03	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.97** 24.18
779	774D	**3.5** 0.14	**116.0** 4.57	**1.5** 0.06	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.98** 24.20
866	854D	**3.5** 0.14	**118.0** 4.65	**1.5** 0.06	**174.0** 6.85	– –	– –	264.1	44.9	0.1072	**15.41** 33.97
HH221442	HH221410D	**3.5** 0.14	**119.0** 4.69	**1.5** 0.06	**179.0** 7.05	– –	– –	265.6	28.4	0.1072	**15.24** 33.61
943	932CD	**3.5** 0.14	**120.0** 4.72	**1.5** 0.06	**193.1** 7.60	**22.23** 0.88	**8.73** 0.34	338.6	39.8	0.1153	**23.16** 51.08
HH224332	HH224310CD	**3.5** 0.14	**123.0** 4.84	**1.5** 0.06	**201.7** 7.94	**25.40** 1.00	**7.95** 0.31	366.6	47.9	0.1182	**23.40** 51.56
HH224334	HH224310CD	**3.5** 0.14	**124.0** 4.88	**1.5** 0.06	**201.7** 7.94	**25.40** 1.00	**7.95** 0.31	366.6	47.9	0.1182	**23.21** 51.17
HM821547	HM821511D	**3.5** 0.14	**123.0** 4.84	**1.5** 0.06	**187.0** 7.36	– –	– –	166.2	24.2	0.1100	**12.42** 27.39
HH221447	HH221410D	**6.4** 0.25	**126.0** 4.96	**1.5** 0.06	**179.0** 7.05	– –	– –	265.6	28.4	0.1072	**14.89** 32.80
783	773D	**3.5** 0.14	**118.0** 4.65	**0.8** 0.03	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.83** 23.87
783	774D	**3.5** 0.14	**118.0** 4.65	**1.5** 0.06	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.78** 23.74
98394X	98789D	**3.5** 0.14	**126.0** 4.96	**2.3** 0.09	**188.0** 7.40	– –	– –	203.4	37.5	0.1197	**14.94** 32.93
52393	52637D	**3.5** 0.14	**116.0** 4.57	**0.8** 0.03	**154.0** 6.06	– –	– –	175.4	41.7	0.1519	**6.38** 14.09
L521945	L521910D	**1.5** 0.06	**112.0** 4.41	**0.8** 0.03	**141.0** 5.55	– –	– –	152.1	107.9	0.1346	**2.51** 5.55

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

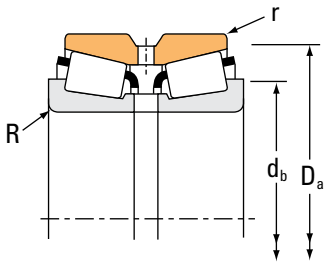
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
101.600 4.0000	**146.050** 5.7500	**49.212** 1.9375	**38.895** 1.5313	**223000** 50100	0.39	1.74	2.59	**33200** 7460	**22000** 4950	**57800** 13000	1.51
101.600 4.0000	**161.925** 6.3750	**82.547** 3.2499	**61.912** 2.4375	**389000** 87500	0.47	1.42	2.12	**57900** 13000	**47100** 10600	**101000** 22700	1.23
101.600 4.0000	**161.925** 6.3750	**82.547** 3.2499	**61.912** 2.4375	**389000** 87500	0.47	1.42	2.12	**57900** 13000	**47100** 10600	**101000** 22700	1.23
101.600 4.0000	**165.100** 6.5000	**106.350** 4.1870	**114.300** 4.5000	**470000** 106000	0.26	2.55	3.80	**70000** 15700	**31700** 7130	**122000** 27400	2.21
101.600 4.0000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
101.600 4.0000	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
101.600 4.0000	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
101.600 4.0000	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
101.600 4.0000	**190.500** 7.5000	**127.000** 5.0000	**101.600** 4.0000	**797000** 179000	0.33	2.02	3.00	**119000** 26700	**68000** 15300	**207000** 46400	1.74
101.600 4.0000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
101.600 4.0000	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**839000** 189000	0.63	1.07	1.59	**125000** 28100	**135000** 30400	**217000** 48900	0.92
101.600 4.0000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
101.600 4.0000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
101.600 4.0000	**214.312** 8.4375	**115.888** 4.5625	**84.138** 3.3125	**970000** 218000	0.67	1.00	1.49	**144000** 32500	**167000** 37500	**251000** 56500	0.87
104.775 4.1250	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
104.775 4.1250	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
104.775 4.1250	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51

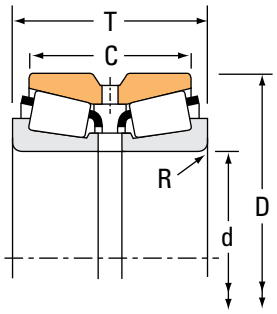
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

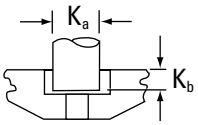
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
LM520349	LM520310D	**1.5** 0.06	**110.0** 4.33	**0.8** 0.03	**140.0** 5.51	– –	– –	120.9	58.5	0.1249	**2.44** 5.37
52400	52637D	**3.5** 0.14	**117.0** 4.61	**0.8** 0.03	**154.0** 6.06	– –	– –	175.4	41.7	0.1519	**5.85** 12.89
52401	52637D	**8.0** 0.31	**128.0** 5.04	**0.8** 0.03	**154.0** 6.06	– –	– –	175.4	41.7	0.1519	**5.82** 12.83
HM120848	HM120817XD	**1.5** 0.06	**112.0** 4.41	**1.0** 0.04	**154.7** 6.09	– –	– –	226.8	59.7	0.0941	**8.87** 19.53
687	672D	**3.5** 0.14	**118.0** 4.65	**0.8** 0.03	**160.0** 6.30	– –	– –	182.5	37.3	0.1056	**7.47** 16.49
780	773D	**3.5** 0.14	**119.0** 4.69	**0.8** 0.03	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.58** 23.33
780	774D	**3.5** 0.14	**119.0** 4.69	**1.5** 0.06	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.63** 23.42
780	774CD	**3.5** 0.14	**119.0** 4.69	**1.5** 0.06	**168.0** 6.61	**19.05** 0.75	**7.13** 0.28	227.3	41.3	0.1067	**10.63** 23.42
861	854D	**8.0** 0.31	**129.0** 5.08	**1.5** 0.06	**174.0** 6.85	– –	– –	264.1	44.9	0.1072	**14.85** 32.71
HH221449	HH221410D	**8.0** 0.31	**131.0** 5.16	**1.5** 0.06	**179.0** 7.05	– –	– –	265.6	28.4	0.1072	**14.69** 32.40
98400	98789D	**3.5** 0.14	**128.0** 5.04	**2.3** 0.09	**188.0** 7.40	**–** –	**–** –	203.4	37.5	0.1197	**14.59** 32.17
941	932CD	**7.0** 0.28	**130.0** 5.12	**1.5** 0.06	**193.1** 7.60	**22.23** 0.88	**8.73** 0.34	338.6	39.8	0.1153	**22.56** 49.74
HH224335	HH224310CD	**7.0** 0.28	**132.0** 5.20	**1.5** 0.06	**201.7** 7.94	**25.40** 1.00	**7.95** 0.31	366.6	47.9	0.1182	**22.87** 50.44
H924033	H924010D	**3.5** 0.14	**132.0** 5.20	**1.5** 0.06	**205.0** 8.07	– –	– –	245.6	32.2	0.1299	**18.56** 40.91
782	773D	**3.5** 0.14	**122.0** 4.80	**0.8** 0.03	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.25** 22.60
786	773D	**6.4** 0.25	**128.0** 5.04	**0.8** 0.03	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.14** 22.35
787	773D	**7.0** 0.28	**129.0** 5.08	**0.8** 0.03	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.13** 22.37

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

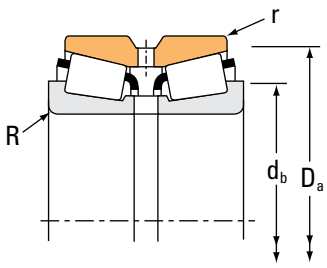
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
104.775 4.1250	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
104.775 4.1250	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
106.362 4.1875	**165.100** 6.5000	**82.550** 3.2500	**63.500** 2.5000	**394000** 88600	0.50	1.36	2.02	**58700** 13200	**50000** 11200	**102000** 23000	1.18
106.362 4.1875	**165.100** 6.5000	**82.550** 3.2500	**63.500** 2.5000	**394000** 88600	0.50	1.36	2.02	**58700** 13200	**50000** 11200	**102000** 23000	1.18
107.950 4.2500	**146.050** 5.7500	**49.212** 1.9375	**39.688** 1.5625	**155000** 34800	0.39	1.72	2.56	**23100** 5180	**15500** 3480	**40100** 9020	1.49
107.950 4.2500	**158.750** 6.2500	**53.978** 2.1251	**39.688** 1.5625	**238000** 53400	0.61	1.11	1.66	**35400** 7960	**36700** 8250	**61600** 13900	0.96
107.950 4.2500	**159.987** 6.2987	**74.612** 2.9375	**58.738** 2.3125	**404000** 90800	0.40	1.68	2.50	**60100** 13500	**41400** 9300	**105000** 23500	1.45
107.950 4.2500	**165.100** 6.5000	**82.550** 3.2500	**63.500** 2.5000	**394000** 88600	0.50	1.36	2.02	**58700** 13200	**50000** 11200	**102000** 23000	1.18
107.950 4.2500	**165.100** 6.5000	**82.550** 3.2500	**63.500** 2.5000	**394000** 88600	0.50	1.36	2.02	**58700** 13200	**50000** 11200	**102000** 23000	1.18
107.950 4.2500	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
107.950 4.2500	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
107.950 4.2500	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
109.538 4.3125	**158.750** 6.2500	**53.978** 2.1251	**39.688** 1.5625	**201000** 45100	0.61	1.11	1.66	**29900** 6710	**31000** 6960	**52000** 11700	0.96
109.952 4.3288	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
109.987 4.3302	**159.987** 6.2987	**74.612** 2.9375	**58.738** 2.3125	**341000** 76600	0.40	1.68	2.50	**50700** 11400	**34900** 7850	**88400** 19900	1.45
109.987 4.3302	**159.987** 6.2987	**74.612** 2.9375	**58.738** 2.3125	**404000** 90800	0.40	1.68	2.50	**60100** 13500	**41400** 9300	**105000** 23500	1.45
109.992 4.3304	**177.800** 7.0000	**92.075** 3.6250	**69.850** 2.7500	**478000** 108000	0.52	1.31	1.95	**71200** 16000	**62900** 14100	**124000** 27900	1.13

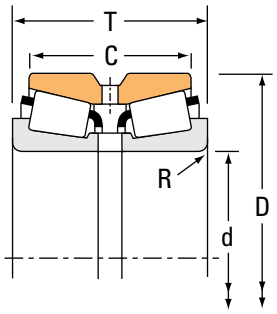
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

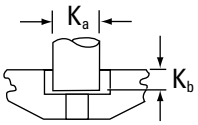
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
782	774D	**3.5** 0.14	**122.0** 4.80	**1.5** 0.06	**168.0** 6.61	– –	– –	227.3	41.3	0.1067	**10.20** 22.47
71412	71751D	**3.5** 0.14	**124.0** 4.88	**1.5** 0.06	**181.0** 7.13	– –	– –	269.2	49.5	0.1156	**12.34** 27.21
56418	56650CD	**3.5** 0.14	**122.0** 4.80	**0.8** 0.03	**159.0** 6.26	**14.29** 0.56	**5.56** 0.22	190.9	47.7	0.1584	**5.97** 13.15
56418	56650D	**3.5** 0.14	**122.0** 4.80	**0.8** 0.03	**159.0** 6.26	– –	– –	190.9	47.7	0.1584	**5.95** 13.12
L521949	L521910D	**1.5** 0.06	**116.0** 4.57	**0.8** 0.03	**141.0** 5.55	– –	– –	152.1	107.9	0.1346	**2.18** 4.80
37425	37626D	**3.5** 0.14	**122.0** 4.80	**0.8** 0.03	**152.0** 5.98	– –	– –	123.7	57.1	0.1443	**3.21** 7.07
LM522546	LM522510D	**3.5** 0.14	**122.0** 4.80	**0.8** 0.03	**154.0** 6.06	– –	– –	231.6	63.4	0.1576	**5.05** 11.11
56425	56650D	**3.5** 0.14	**123.0** 4.84	**0.8** 0.03	**159.0** 6.26	– –	– –	190.9	47.7	0.1584	**6.37** 14.05
56425	56650CD	**3.5** 0.14	**123.0** 4.84	**0.8** 0.03	**159.0** 6.26	**14.29** 0.56	**5.56** 0.22	190.9	47.7	0.1584	**6.37** 14.05
71425	71751D	**3.6** 0.14	**126.0** 4.96	**1.5** 0.06	**181.0** 7.13	– –	– –	269.2	49.5	0.1156	**11.89** 26.24
936	932CD	**8.0** 0.31	**137.0** 5.39	**1.5** 0.06	**193.1** 7.60	**22.23** 0.88	**8.73** 0.34	338.6	39.8	0.1153	**21.52** 47.42
HH224340	HH224310CD	**8.0** 0.31	**139.0** 5.47	**1.5** 0.06	**201.7** 7.94	**25.40** 1.00	**7.95** 0.31	366.6	47.9	0.1182	**21.63** 47.68
37431	37626D	**3.5** 0.14	**123.0** 4.84	**0.8** 0.03	**152.0** 5.98	– –	– –	123.7	57.1	0.1443	**3.15** 6.94
71432	71751D	**3.5** 0.14	**128.0** 5.04	**1.5** 0.06	**181.0** 7.13	– –	– –	269.2	49.5	0.1156	**12.02** 26.52
LM522548	LM522510D	**8.0** 0.31	**133.0** 5.24	**0.8** 0.03	**154.0** 6.06	– –	– –	231.6	63.4	0.1576	**4.71** 10.37
LM522549	LM522510D	**3.5** 0.14	**124.0** 4.88	**0.8** 0.03	**154.0** 6.06	– –	– –	231.6	63.4	0.1576	**4.85** 10.69
64433	64700D	**3.5** 0.14	**128.0** 5.04	**0.8** 0.03	**172.0** 6.77	– –	– –	218.8	45.3	0.1153	**8.31** 18.31

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

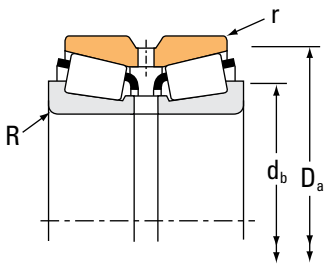
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
111.125 4.3750	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
114.300 4.5000	**177.800** 7.0000	**92.075** 3.6250	**69.850** 2.7500	**478000** 108000	0.52	1.31	1.95	**71200** 16000	**62900** 14100	**124000** 27900	1.13
114.300 4.5000	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
114.300 4.5000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
114.300 4.5000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
114.975 4.5266	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
115.087 4.5310	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
119.964 4.7230	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
120.650 4.7500	**161.925** 6.3750	**63.500** 2.5000	**53.975** 2.1250	**183000** 41200	0.43	1.55	2.31	**27300** 6140	**20300** 4570	**47500** 10700	1.34
120.650 4.7500	**174.625** 6.8750	**77.788** 3.0625	**61.912** 2.4375	**426000** 95700	0.33	2.03	3.02	**63400** 14200	**36100** 8110	**110000** 24800	1.76
120.650 4.7500	**182.562** 7.1875	**85.725** 3.3750	**73.025** 2.8750	**466000** 105000	0.31	2.21	3.29	**69400** 15600	**36300** 8160	**121000** 27200	1.91
120.650 4.7500	**206.375** 8.1250	**107.950** 4.2500	**82.550** 3.2500	**658000** 148000	0.46	1.47	2.19	**98000** 22000	**77000** 17300	**171000** 38400	1.27
120.650 4.7500	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
123.825 4.8750	**182.562** 7.1875	**85.725** 3.3750	**73.025** 2.8750	**466000** 105000	0.31	2.21	3.29	**69400** 15600	**36300** 8160	**121000** 27200	1.91
124.943 4.9190	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
127.000 5.0000	**169.975** 6.6919	**58.738** 2.3125	**49.212** 1.9375	**249000** 55900	0.33	2.03	3.02	**37000** 8320	**21100** 4740	**64500** 14500	1.76
127.000 5.0000	**182.562** 7.1875	**85.725** 3.3750	**73.025** 2.8750	**466000** 105000	0.31	2.21	3.29	**69400** 15600	**36300** 8160	**121000** 27200	1.91

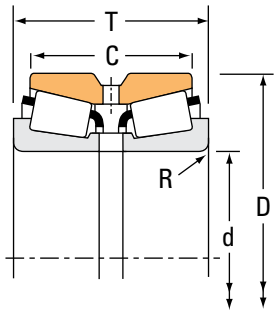
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

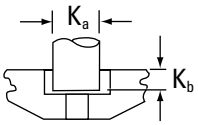
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
71437	71751D	**3.6** 0.14	**129.0** 5.08	**1.5** 0.06	**181.0** 7.13	– –	– –	269.2	49.5	0.1156	**11.52** 25.41
64450	64700D	**3.5** 0.14	**131.0** 5.16	**0.8** 0.03	**172.0** 6.77	– –	– –	218.8	45.3	0.1153	**7.81** 17.21
71450	71751D	**3.6** 0.14	**132.0** 5.20	**1.5** 0.06	**181.0** 7.13	– –	– –	269.2	49.5	0.1156	**11.12** 24.50
938	932CD	**7.0** 0.28	**141.0** 5.55	**1.5** 0.06	**193.1** 7.60	**22.23** 0.88	**8.73** 0.34	338.6	39.8	0.1153	**20.31** 44.78
HH224346	HH224310CD	**7.0** 0.28	**143.0** 5.63	**1.5** 0.06	**201.7** 7.94	**25.40** 1.00	**7.95** 0.31	366.6	47.9	0.1182	**20.46** 45.09
HH224349	HH224310CD	**7.0** 0.28	**144.0** 5.67	**1.5** 0.06	**201.7** 7.94	**25.40** 1.00	**7.95** 0.31	366.6	47.9	0.1182	**20.33** 44.84
71453	71751D	**3.5** 0.14	**133.0** 5.24	**1.5** 0.06	**181.0** 7.13	– –	– –	269.2	49.5	0.1156	**10.91** 24.06
74472	74851CD	**3.5** 0.14	**142.0** 5.59	**1.5** 0.06	**208.0** 8.19	**19.05** 0.75	**7.13** 0.28	362.9	68.5	0.1338	**15.86** 34.95
L624549	L624514D	**1.5** 0.06	**129.0** 5.08	**0.8** 0.03	**156.0** 6.14	– –	– –	195.2	139.1	0.1509	**3.24** 7.11
M224749	M224710D	**3.5** 0.14	**135.0** 5.31	**0.8** 0.03	**167.9** 6.61	– –	– –	279.1	86.6	0.1575	**5.65** 12.49
48282	48220D	**3.5** 0.14	**137.0** 5.39	**0.8** 0.03	**176.0** 6.93	– –	– –	353.0	91.4	0.1138	**7.83** 17.29
795	792CD	**3.3** 0.13	**139.0** 5.47	**0.8** 0.03	**198.0** 7.80	**19.05** 0.75	**7.95** 0.31	326.4	62.0	0.1269	**13.69** 30.20
95475	95927CD	**6.4** 0.25	**149.0** 5.87	**1.5** 0.06	**217.0** 8.54	**22.23** 0.88	**8.73** 0.34	453.9	59.4	0.1323	**26.75** 59.00
48286	48220D	**3.5** 0.14	**139.0** 5.47	**0.8** 0.03	**176.0** 6.93	– –	– –	353.0	91.4	0.1138	**7.54** 16.65
95491	95927CD	**6.4** 0.25	**152.0** 5.98	**1.5** 0.06	**217.0** 8.54	**22.23** 0.88	**8.73** 0.34	453.9	59.4	0.1323	**25.68** 56.62
L225849	L225812D	**1.5** 0.06	**136.0** 5.35	**1.0** 0.04	**164.0** 6.46	– –	– –	253.2	134.6	0.1511	**3.41** 7.51
48290	48220D	**3.5** 0.14	**141.0** 5.55	**0.8** 0.03	**176.0** 6.93	– –	– –	353.0	91.4	0.1138	**7.09** 15.62

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

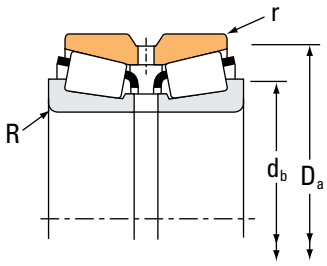
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
127.000 5.0000	**196.850** 7.7500	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
127.000 5.0000	**200.025** 7.8750	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
127.000 5.0000	**206.375** 8.1250	**107.950** 4.2500	**82.550** 3.2500	**587000** 132000	0.46	1.47	2.19	**87300** 19600	**68600** 15400	**152000** 34200	1.27
127.000 5.0000	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
127.000 5.0000	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
127.000 5.0000	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
128.588 5.0625	**206.375** 8.1250	**107.950** 4.2500	**82.550** 3.2500	**658000** 148000	0.46	1.47	2.19	**98000** 22000	**77000** 17300	**171000** 38400	1.27
130.000 5.1181	**206.375** 8.1250	**107.950** 4.2500	**82.550** 3.2500	**658000** 148000	0.46	1.47	2.19	**98000** 22000	**77000** 17300	**171000** 38400	1.27
130.175 5.1250	**196.850** 7.7500	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
130.175 5.1250	**200.025** 7.8750	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
130.175 5.1250	**206.375** 8.1250	**107.950** 4.2500	**82.550** 3.2500	**658000** 148000	0.46	1.47	2.19	**98000** 22000	**77000** 17300	**171000** 38400	1.27
133.350 5.2500	**177.008** 6.9688	**57.150** 2.2500	**47.625** 1.8750	**256000** 57600	0.35	1.94	2.89	**38100** 8570	**22700** 5110	**66400** 14900	1.68
133.350 5.2500	**190.500** 7.5000	**85.725** 3.3750	**73.025** 2.8750	**492000** 111000	0.32	2.10	3.13	**73300** 16500	**40300** 9060	**128000** 28700	1.82
133.350 5.2500	**196.850** 7.7500	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
133.350 5.2500	**196.850** 7.7500	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
133.350 5.2500	**200.025** 7.8750	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
133.350 5.2500	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20

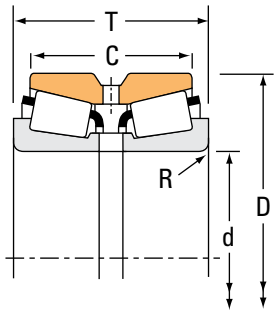
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

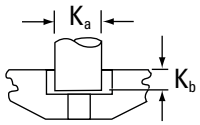
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
67388	67322D	**3.5** 0.14	**144.0** 5.67	**0.8** 0.03	**190.0** 7.48	– –	– –	383.7	70.1	0.1220	**10.71** 23.62
67388	67325D	**3.5** 0.14	**144.0** 5.67	**0.8** 0.03	**191.0** 7.52	– –	– –	383.7	70.1	0.1220	**11.36** 25.06
798	792CD	**3.3** 0.13	**146.0** 5.75	**0.8** 0.03	**198.0** 7.80	**19.05** 0.75	**7.95** 0.31	307.9	58.6	0.1243	**12.49** 27.52
74500	74851CD	**3.5** 0.14	**148.0** 5.83	**1.5** 0.06	**208.0** 8.19	**19.05** 0.75	**7.13** 0.28	362.9	68.5	0.1338	**14.81** 32.66
HM926747	HM926710CD	**3.5** 0.14	**156.0** 6.14	**2.3** 0.09	**219.5** 8.64	**19.05** 0.75	**8.73** 0.34	295.4	39.0	0.1416	**18.24** 40.22
95500	95927CD	**6.4** 0.25	**154.0** 6.06	**1.5** 0.06	**217.0** 8.54	**22.23** 0.88	**8.73** 0.34	453.9	59.4	0.1323	**25.35** 55.89
799	792CD	**3.3** 0.13	**146.0** 5.75	**0.8** 0.03	**198.0** 7.80	**19.05** 0.75	**7.95** 0.31	326.4	62.0	0.1269	**12.43** 27.42
797	792CD	**3.5** 0.14	**148.0** 5.83	**0.8** 0.03	**198.0** 7.80	**19.05** 0.75	**7.95** 0.31	326.4	62.0	0.1269	**12.12** 26.75
67389	67322D	**3.5** 0.14	**147.0** 5.79	**0.8** 0.03	**190.0** 7.48	– –	– –	383.7	70.1	0.1220	**10.15** 22.39
67389	67325D	**3.5** 0.14	**147.0** 5.79	**0.8** 0.03	**191.0** 7.52	– –	– –	383.7	70.1	0.1220	**10.80** 23.82
799A	792CD	**3.5** 0.14	**148.0** 5.83	**0.8** 0.03	**198.0** 7.80	**19.05** 0.75	**7.95** 0.31	326.4	62.0	0.1269	**12.16** 26.81
L327249	L327210D	**1.5** 0.06	**142.0** 5.59	**0.8** 0.03	**171.0** 6.73	– –	– –	280.1	155.8	0.1585	**3.67** 8.09
48385	48320D	**3.5** 0.14	**148.0** 5.83	**0.8** 0.03	**184.0** 7.24	– –	– –	403.8	105.1	0.1209	**7.42** 16.35
67390	67322D	**3.5** 0.14	**150.0** 5.91	**0.8** 0.03	**190.0** 7.48	– –	– –	383.7	70.1	0.1220	**9.64** 21.28
67391	67322D	**8.0** 0.31	**157.0** 6.18	**0.8** 0.03	**190.0** 7.48	– –	– –	383.7	70.1	0.1220	**9.58** 21.12
67390	67325D	**3.5** 0.14	**150.0** 5.91	**0.8** 0.03	**191.0** 7.52	– –	– –	383.7	70.1	0.1220	**10.29** 22.71
74525	74851CD	**3.5** 0.14	**152.0** 5.98	**1.5** 0.06	**208.0** 8.19	**19.05** 0.75	**7.13** 0.28	362.9	68.5	0.1338	**13.84** 30.50

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

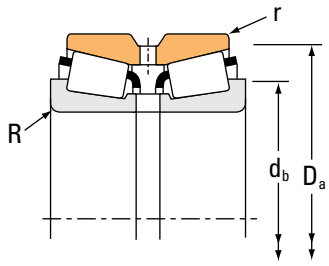
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
133.350 5.2500	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
133.350 5.2500	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
136.525 5.3750	**190.500** 7.5000	**85.725** 3.3750	**73.025** 2.8750	**492000** 111000	0.32	2.10	3.13	**73300** 16500	**40300** 9060	**128000** 28700	1.82
136.525 5.3750	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
136.525 5.3750	**228.600** 9.0000	**123.825** 4.8750	**98.425** 3.8750	**906000** 204000	0.42	1.60	2.39	**135000** 30300	**97200** 21800	**235000** 52800	1.39
136.525 5.3750	**254.000** 10.0000	**149.225** 5.8750	**111.125** 4.3750	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43
139.700 5.5000	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
139.700 5.5000	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
139.700 5.5000	**222.250** 8.7500	**75.692** 2.9800	**53.975** 2.1250	**510000** 115000	0.44	1.54	2.30	**75900** 17100	**56800** 12800	**132000** 29700	1.34
139.700 5.5000	**228.600** 9.0000	**123.825** 4.8750	**98.425** 3.8750	**906000** 204000	0.42	1.60	2.39	**135000** 30300	**97200** 21800	**235000** 52800	1.39
139.700 5.5000	**228.600** 9.0000	**123.825** 4.8750	**98.425** 3.8750	**906000** 204000	0.42	1.60	2.39	**135000** 30300	**97200** 21800	**235000** 52800	1.39
139.700 5.5000	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
139.700 5.5000	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**897000** 202000	0.44	1.53	2.27	**134000** 30000	**101000** 22700	**232000** 52300	1.32
139.700 5.5000	**254.000** 10.0000	**149.225** 5.8750	**111.125** 4.3750	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43
139.700 5.5000	**307.975** 12.1250	**200.025** 7.8750	**155.575** 6.1250	**2010000** 451000	0.33	2.07	3.08	**299000** 67200	**167000** 37500	**520000** 117000	1.79
139.700 5.5000	**307.975** 12.1250	**200.025** 7.8750	**155.575** 6.1250	**2010000** 451000	0.33	2.07	3.08	**299000** 67200	**167000** 37500	**520000** 117000	1.79
142.875 5.6250	**200.025** 7.8750	**87.315** 3.4376	**73.025** 2.8750	**499000** 112000	0.34	2.01	2.99	**74300** 16700	**42800** 9610	**129000** 29100	1.74

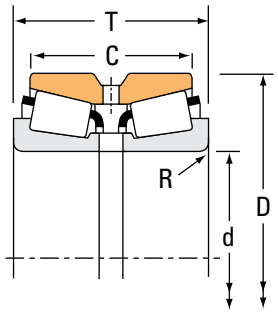
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

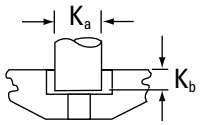
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
95525	95927CD	**9.7** 0.38	**166.0** 6.54	**1.5** 0.06	**217.0** 8.54	**22.23** 0.88	**8.73** 0.34	453.9	59.4	0.1323	**23.65** 52.14
95528	95927CD	**4.8** 0.19	**157.0** 6.18	**1.5** 0.06	**217.0** 8.54	**22.23** 0.88	**8.73** 0.34	453.9	59.4	0.1323	**23.89** 52.67
48393	48320D	**3.5** 0.14	**151.0** 5.94	**0.8** 0.03	**184.0** 7.24	– –	– –	403.8	105.1	0.1209	**6.99** 15.41
74537	74851CD	**3.5** 0.14	**155.0** 6.10	**1.5** 0.06	**208.0** 8.19	**19.05** 0.75	**7.13** 0.28	362.9	68.5	0.1338	**13.21** 29.09
896	892CD	**3.5** 0.14	**156.0** 6.14	**1.5** 0.06	**216.0** 8.50	**22.23** 0.88	**7.13** 0.28	430.5	78.3	0.1355	**18.81** 41.47
99537	99102CD	**7.0** 0.28	**167.0** 6.57	**1.5** 0.06	**238.0** 9.37	**22.23** 0.88	**7.95** 0.31	555.5	73.5	0.1459	**30.76** 67.79
74550	74851CD	**3.5** 0.14	**158.0** 6.22	**1.5** 0.06	**208.0** 8.19	**19.05** 0.75	**7.13** 0.28	362.9	68.5	0.1338	**12.73** 28.06
74550A	74851CD	**6.4** 0.25	**166.0** 6.54	**1.5** 0.06	**208.0** 8.19	**19.05** 0.75	**7.13** 0.28	362.9	68.5	0.1338	**12.71** 28.01
73551	73876CD	**3.5** 0.14	**156.0** 6.14	**2.3** 0.09	**207.0** 8.15	**11.11** 0.44	**6.35** 0.25	244.4	82.0	0.1122	**9.36** 20.61
898	892CD	**3.5** 0.14	**160.0** 6.30	**1.5** 0.06	**216.0** 8.50	**22.23** 0.88	**7.13** 0.28	430.5	78.3	0.1355	**18.09** 39.89
898A	892CD	**6.4** 0.25	**165.0** 6.50	**1.5** 0.06	**216.0** 8.50	**22.23** 0.88	**7.13** 0.28	430.5	78.3	0.1355	**17.99** 39.67
HM231132	HM231111CD	**3.5** 0.14	**160.0** 6.30	**1.5** 0.06	**224.0** 8.82	**22.23** 0.88	**7.92** 0.31	532.8	85.9	0.1327	**21.68** 47.79
82550	82951CD	**3.5** 0.14	**161.0** 6.34	**1.5** 0.06	**226.0** 8.90	**22.23** 0.88	**8.73** 0.34	460.5	81.1	0.1405	**23.09** 50.93
99550	99102CD	**7.0** 0.28	**170.0** 6.69	**1.5** 0.06	**238.0** 9.37	**22.23** 0.88	**7.95** 0.31	555.5	73.5	0.1459	**30.15** 66.47
HH234031	HH234011CD	**9.7** 0.38	**180.0** 7.09	**2.3** 0.09	**285.0** 11.24	**28.58** 1.13	**10.31** 0.41	718.4	62.1	0.1157	**65.90** 145.26
HH234032	HH234011CD	**9.7** 0.38	**180.0** 7.09	**2.3** 0.09	**285.0** 11.24	**28.58** 1.13	**10.31** 0.41	718.4	62.1	0.1157	**66.18** 145.90
48685	48620D	**3.5** 0.14	**158.0** 6.22	**0.8** 0.03	**193.0** 7.60	– –	– –	439.6	130.5	0.1261	**8.02** 17.68

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

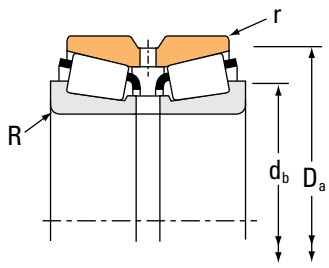
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
142.875 5.6250	**222.250** 8.7500	**75.692** 2.9800	**53.975** 2.1250	**510000** 115000	0.44	1.54	2.30	**75900** 17100	**56800** 12800	**132000** 29700	1.34
142.875 5.6250	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**897000** 202000	0.44	1.53	2.27	**134000** 30000	**101000** 22700	**232000** 52300	1.32
146.050 5.7500	**193.675** 7.6250	**65.085** 2.5624	**53.975** 2.1250	**342000** 76900	0.37	1.83	2.73	**50900** 11400	**32100** 7220	**88600** 19900	1.59
146.050 5.7500	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
146.050 5.7500	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**897000** 202000	0.44	1.53	2.27	**134000** 30000	**101000** 22700	**232000** 52300	1.32
146.050 5.7500	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**699000** 157000	0.35	1.92	2.86	**104000** 23400	**62700** 14100	**181000** 40800	1.66
146.050 5.7500	**254.000** 10.0000	**149.225** 5.8750	**111.125** 4.3750	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43
149.225 5.8750	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
149.225 5.8750	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
149.225 5.8750	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**897000** 202000	0.44	1.53	2.27	**134000** 30000	**101000** 22700	**232000** 52300	1.32
149.225 5.8750	**254.000** 10.0000	**149.225** 5.8750	**111.125** 4.3750	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43
150.000 5.9055	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**699000** 157000	0.35	1.92	2.86	**104000** 23400	**62700** 14100	**181000** 40800	1.66
150.812 5.9375	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**699000** 157000	0.35	1.92	2.86	**104000** 23400	**62700** 14100	**181000** 40800	1.66
152.400 6.0000	**203.200** 8.0000	**92.075** 3.6250	**79.375** 3.1250	**493000** 111000	0.35	1.94	2.89	**73400** 16500	**43700** 9810	**128000** 28700	1.68
152.400 6.0000	**222.250** 8.7500	**100.010** 3.9374	**76.200** 3.0000	**607000** 136000	0.33	2.03	3.02	**90400** 20300	**51500** 11600	**157000** 35400	1.76
152.400 6.0000	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**699000** 157000	0.35	1.92	2.86	**104000** 23400	**62700** 14100	**181000** 40800	1.66
152.400 6.0000	**254.000** 10.0000	**149.225** 5.8750	**111.125** 4.3750	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43

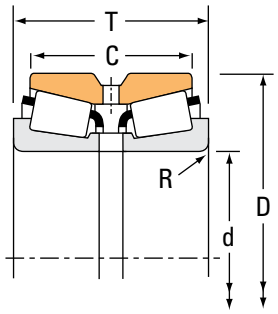
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

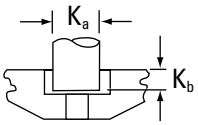
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
73562	73876CD	**3.5** 0.14	**159.0** 6.26	**2.3** 0.09	**207.0** 8.15	**11.11** 0.44	**6.35** 0.25	244.4	82.0	0.1122	**8.94** 19.70
82562	82951CD	**3.5** 0.14	**163.0** 6.42	**1.5** 0.06	**226.0** 8.90	**22.23** 0.88	**8.73** 0.34	460.5	81.1	0.1405	**22.49** 49.58
36690	36620D	**1.5** 0.06	**155.0** 6.10	**0.8** 0.03	**188.0** 7.40	– –	– –	366.1	152.5	0.1768	**4.89** 10.80
HM231140	HM231111CD	**3.5** 0.14	**164.0** 6.46	**1.5** 0.06	**224.0** 8.82	**22.23** 0.88	**7.92** 0.31	532.8	85.9	0.1327	**20.26** 44.66
82576	82951CD	**3.5** 0.14	**166.0** 6.54	**1.5** 0.06	**226.0** 8.90	**22.23** 0.88	**8.73** 0.34	460.5	81.1	0.1405	**21.80** 48.09
81575	81963CD	**3.5** 0.14	**166.1** 6.54	**1.5** 0.06	**229.1** 9.02	**19.05** 0.75	**7.95** 0.31	413.0	98.4	0.1250	**17.83** 39.30
99575	99102CD	**7.0** 0.28	**175.0** 6.89	**1.5** 0.06	**238.0** 9.37	**22.23** 0.88	**7.95** 0.31	555.5	73.5	0.1459	**28.57** 62.96
HM231148	HM231111CD	**6.4** 0.25	**172.0** 6.77	**1.5** 0.06	**224.0** 8.82	**22.23** 0.88	**7.92** 0.31	532.8	85.9	0.1327	**19.50** 42.99
HM231149	HM231111CD	**3.5** 0.14	**167.0** 6.57	**1.5** 0.06	**224.0** 8.82	**22.23** 0.88	**7.92** 0.31	532.8	85.9	0.1327	**19.60** 43.22
82587	82951CD	**3.5** 0.14	**169.0** 6.65	**1.5** 0.06	**226.0** 8.90	**22.23** 0.88	**8.73** 0.34	460.5	81.1	0.1405	**20.98** 46.27
99587	99102CD	**7.0** 0.28	**181.0** 7.13	**1.5** 0.06	**238.0** 9.37	**22.23** 0.88	**7.95** 0.31	555.5	73.5	0.1459	**27.99** 61.69
81590	81963CD	**3.5** 0.14	**168.9** 6.65	**1.5** 0.06	**229.1** 9.02	**19.05** 0.75	**7.95** 0.31	413.0	98.4	0.1250	**17.18** 37.89
81593	81963CD	**3.5** 0.14	**168.9** 6.65	**1.5** 0.06	**229.1** 9.02	**19.05** 0.75	**7.95** 0.31	413.0	98.4	0.1250	**16.99** 37.47
LM330448	LM330410D	**3.3** 0.13	**166.0** 6.54	**0.8** 0.03	**197.0** 7.76	– –	– –	456.5	134.8	0.1289	**7.55** 16.63
M231649	M231610CD	**3.5** 0.14	**169.0** 6.65	**0.8** 0.03	**213.0** 8.39	**19.05** 0.75	**7.13** 0.28	486.5	120.1	0.1300	**11.77** 25.96
81600	81963CD	**3.5** 0.14	**170.9** 6.73	**1.5** 0.06	**229.1** 9.02	**19.05** 0.75	**7.95** 0.31	413.0	98.4	0.1250	**17.20** 37.90
99600	99102CD	**7.0** 0.28	**181.0** 7.13	**1.5** 0.06	**238.0** 9.37	**22.23** 0.88	**7.95** 0.31	555.5	73.5	0.1459	**26.98** 59.49

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

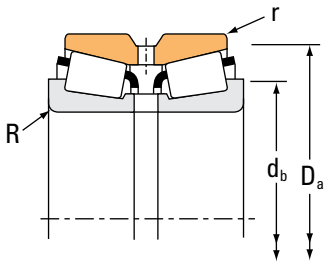
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
152.400 6.0000	**268.288** 10.5625	**160.338** 6.3125	**125.412** 4.9375	**1370000** 307000	0.39	1.74	2.59	**203000** 45700	**135000** 30300	**354000** 79600	1.51
152.400 6.0000	**307.975** 12.1250	**200.025** 7.8750	**146.050** 5.7500	**1830000** 412000	0.33	2.07	3.08	**273000** 61400	**152000** 34300	**475000** 107000	1.79
152.400 6.0000	**307.975** 12.1250	**200.025** 7.8750	**155.575** 6.1250	**2010000** 451000	0.33	2.07	3.08	**299000** 67200	**167000** 37500	**520000** 117000	1.79
152.400 6.0000	**307.975** 12.1250	**200.025** 7.8750	**155.575** 6.1250	**2130000** 478000	0.33	2.07	3.08	**316000** 71100	**177000** 39700	**551000** 124000	1.79
153.988 6.0625	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**699000** 157000	0.35	1.92	2.86	**104000** 23400	**62700** 14100	**181000** 40800	1.66
158.750 6.2500	**225.425** 8.8750	**85.725** 3.3750	**69.850** 2.7500	**528000** 119000	0.38	1.76	2.62	**78600** 17700	**51600** 11600	**137000** 30800	1.52
159.950 6.2973	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**699000** 157000	0.35	1.92	2.86	**104000** 23400	**62700** 14100	**181000** 40800	1.66
159.950 6.2973	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**699000** 157000	0.35	1.92	2.86	**104000** 23400	**62700** 14100	**181000** 40800	1.66
160.325 6.3120	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1700000** 382000	0.32	2.12	3.15	**253000** 56900	**138000** 31100	**441000** 99100	1.83
165.100 6.5000	**225.425** 8.8750	**85.725** 3.3750	**69.850** 2.7500	**528000** 119000	0.38	1.76	2.62	**78600** 17700	**51600** 11600	**137000** 30800	1.52
165.100 6.5000	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
165.100 6.5000	**254.000** 10.0000	**101.600** 4.0000	**76.200** 3.0000	**893000** 201000	0.32	2.12	3.15	**133000** 29900	**72600** 16300	**231000** 52000	1.83
165.100 6.5000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
165.100 6.5000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1700000** 382000	0.32	2.12	3.15	**253000** 56900	**138000** 31100	**441000** 99100	1.83
166.688 6.5625	**225.425** 8.8750	**85.725** 3.3750	**69.850** 2.7500	**528000** 119000	0.38	1.76	2.62	**78600** 17700	**51600** 11600	**137000** 30800	1.52
168.275 6.6250	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
170.000 6.6929	**254.000** 10.0000	**101.600** 4.0000	**76.200** 3.0000	**893000** 201000	0.32	2.12	3.15	**133000** 29900	**72600** 16300	**231000** 52000	1.83

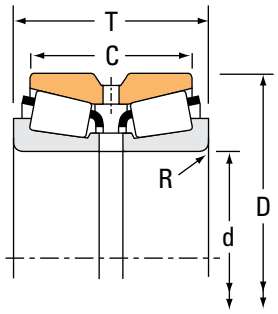
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

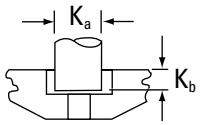
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE107060	107105CD	**6.4** 0.25	**181.0** 7.13	**1.5** 0.06	**249.4** 9.82	**28.58** 1.13	**10.34** 0.41	606.1	76.3	0.1163	**34.82** 76.74
EE450601	451215CD	**9.7** 0.38	**189.0** 7.44	**2.3** 0.09	**274.8** 10.82	**28.58** 1.13	**11.91** 0.47	747.4	76.3	0.1176	**60.77** 133.98
HH234048	HH234011CD	**9.7** 0.38	**191.0** 7.52	**2.3** 0.09	**285.0** 11.24	**28.58** 1.13	**10.31** 0.41	718.4	62.1	0.1157	**61.38** 135.32
HH234049	HH234011CD	**9.7** 0.38	**191.0** 7.52	**2.3** 0.09	**285.0** 11.24	**28.58** 1.13	**10.31** 0.41	718.4	62.1	0.1157	**61.66** 135.93
81606	81963CD	**3.5** 0.14	**172.0** 6.77	**1.5** 0.06	**229.1** 9.02	**19.05** 0.75	**7.95** 0.31	413.0	98.4	0.1250	**16.54** 36.46
46780	46720CD	**3.5** 0.14	**176.0** 6.93	**0.8** 0.03	**218.0** 8.58	**15.88** 0.63	**5.56** 0.22	572.0	174.7	0.1432	**10.58** 23.34
81629	81963CD	**3.5** 0.14	**176.0** 6.93	**1.5** 0.06	**229.1** 9.02	**19.05** 0.75	**7.95** 0.31	413.0	98.4	0.1250	**15.22** 33.56
81630	81963CD	**3.5** 0.14	**176.0** 6.93	**1.5** 0.06	**229.1** 9.02	**19.05** 0.75	**7.95** 0.31	413.0	98.4	0.1250	**15.40** 33.95
HM237532	HM237510CD	**7.0** 0.28	**192.0** 7.56	**1.5** 0.06	**271.5** 10.69	**22.23** 0.88	**8.73** 0.34	751.2	101.5	0.1168	**37.00** 81.55
46790	46720CD	**3.5** 0.14	**181.0** 7.13	**0.8** 0.03	**218.0** 8.58	**15.88** 0.63	**5.56** 0.22	572.0	174.7	0.1432	**9.54** 21.02
67780	67720CD	**3.5** 0.14	**185.0** 7.28	**0.8** 0.03	**240.0** 9.45	**19.05** 0.75	**7.13** 0.28	622.3	122.6	0.1214	**16.76** 36.96
M235145	M235113CD	**4.8** 0.19	**185.0** 7.28	**1.5** 0.06	**240.0** 9.45	**19.05** 0.75	**7.95** 0.31	531.4	107.5	0.1037	**16.54** 36.44
94649	94114CD	**7.0** 0.28	**197.0** 7.76	**1.5** 0.06	**272.0** 10.71	**22.23** 0.88	**10.34** 0.41	692.3	93.9	0.1287	**36.99** 81.56
HM237535	HM237510CD	**7.0** 0.28	**195.0** 7.68	**1.5** 0.06	**271.5** 10.69	**22.23** 0.88	**8.73** 0.34	751.2	101.5	0.1168	**35.79** 78.88
46792	46720CD	**3.5** 0.14	**182.0** 7.17	**0.8** 0.03	**218.0** 8.58	**15.88** 0.63	**5.56** 0.22	572.0	174.7	0.1432	**9.28** 20.44
67782	67720CD	**3.5** 0.14	**187.0** 7.36	**0.8** 0.03	**240.0** 9.45	**19.05** 0.75	**7.13** 0.28	622.3	122.6	0.1214	**16.02** 35.34
M235149	M235113CD	**4.8** 0.19	**189.0** 7.44	**1.5** 0.06	**240.0** 9.45	**19.05** 0.75	**7.95** 0.31	531.4	107.5	0.1037	**15.43** 34.00

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

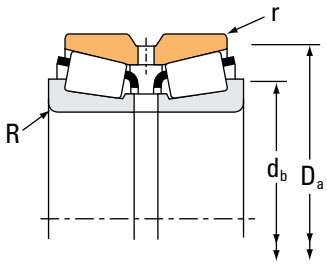
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
171.450 6.7500	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
174.625 6.8750	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
174.625 6.8750	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
174.625 6.8750	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
174.625 6.8750	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1700000** 382000	0.32	2.12	3.15	**253000** 56900	**138000** 31100	**441000** 99100	1.83
177.800 7.0000	**227.012** 8.9375	**66.672** 2.6249	**52.388** 2.0625	**364000** 81800	0.44	1.53	2.28	**54200** 12200	**40900** 9190	**94400** 21200	1.33
177.800 7.0000	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
177.800 7.0000	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
177.800 7.0000	**269.875** 10.6250	**119.062** 4.6875	**93.662** 3.6875	**884000** 199000	0.33	2.03	3.02	**132000** 29600	**74900** 16800	**229000** 51500	1.76
177.800 7.0000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
177.800 7.0000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1700000** 382000	0.32	2.12	3.15	**253000** 56900	**138000** 31100	**441000** 99100	1.83
177.800 7.0000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1700000** 382000	0.32	2.12	3.15	**253000** 56900	**138000** 31100	**441000** 99100	1.83
177.800 7.0000	**320.675** 12.6250	**185.738** 7.3125	**138.112** 5.4375	**1660000** 374000	0.40	1.69	2.51	**247000** 55600	**169000** 38100	**431000** 96900	1.46
177.800 7.0000	**320.675** 12.6250	**185.738** 7.3125	**138.112** 5.4375	**1830000** 410000	0.32	2.12	3.15	**272000** 61100	**148000** 33400	**473000** 106000	1.83
179.975 7.0856	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
184.150 7.2500	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**725000** 163000	0.48	1.41	2.11	**108000** 24300	**88200** 19800	**188000** 42300	1.22
187.325 7.3750	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**725000** 163000	0.48	1.41	2.11	**108000** 24300	**88200** 19800	**188000** 42300	1.22

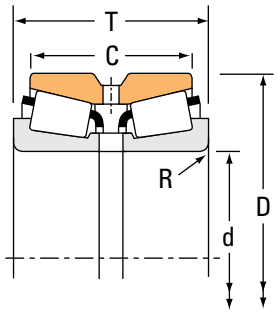
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

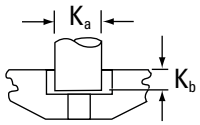
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
94675	94114CD	**7.0** 0.28	**202.0** 7.95	**1.5** 0.06	**272.0** 10.71	**22.23** 0.88	**10.34** 0.41	692.3	93.9	0.1287	**35.08** 77.34
67786	67720CD	**8.0** 0.31	**200.0** 7.87	**0.8** 0.03	**240.0** 9.45	**19.05** 0.75	**7.13** 0.28	622.3	122.6	0.1214	**14.61** 32.20
67787	67720CD	**3.5** 0.14	**192.0** 7.56	**0.8** 0.03	**240.0** 9.45	**19.05** 0.75	**7.13** 0.28	622.3	122.6	0.1214	**14.69** 32.40
94687	94114CD	**7.0** 0.28	**204.0** 8.03	**1.5** 0.06	**272.0** 10.71	**22.23** 0.88	**10.34** 0.41	692.3	93.9	0.1287	**34.23** 75.46
HM237542	HM237510CD	**7.0** 0.28	**202.0** 7.95	**1.5** 0.06	**271.5** 10.69	**22.23** 0.88	**8.73** 0.34	751.2	101.5	0.1168	**33.13** 73.04
36990	36920CD	**1.5** 0.06	**188.0** 7.40	**0.8** 0.03	**221.0** 8.70	**11.11** 0.44	**4.65** 0.18	514.8	241.1	0.1434	**6.13** 13.54
67790	67720CD	**3.5** 0.14	**194.0** 7.64	**0.8** 0.03	**240.0** 9.45	**19.05** 0.75	**7.13** 0.28	622.3	122.6	0.1214	**14.01** 30.87
67791	67720CD	**10.5** 0.41	**208.0** 8.19	**0.8** 0.03	**240.0** 9.45	**19.05** 0.75	**7.13** 0.28	622.3	122.6	0.1214	**13.81** 30.46
M238840	M238810CD	**3.5** 0.14	**198.0** 7.80	**1.5** 0.06	**256.0** 10.08	**19.05** 0.75	**7.95** 0.31	788.3	118.1	0.1201	**22.99** 50.70
94700	94114CD	**7.0** 0.28	**207.0** 8.15	**1.5** 0.06	**272.0** 10.71	**22.23** 0.88	**10.34** 0.41	692.3	93.9	0.1287	**33.31** 73.47
HM237545	HM237510CD	**7.0** 0.28	**205.0** 8.07	**1.5** 0.06	**271.5** 10.69	**22.23** 0.88	**8.73** 0.34	751.2	101.5	0.1168	**32.29** 71.19
HM237545H	HM237510CD	**7.0** 0.28	**207.0** 8.15	**1.5** 0.06	**271.5** 10.69	**22.23** 0.88	**8.73** 0.34	751.2	101.5	0.1168	**32.42** 71.49
EE222070	222127CD	**3.5** 0.14	**204.0** 8.03	**1.5** 0.06	**298.0** 11.73	**28.58** 1.13	**11.91** 0.47	947.4	104.7	0.1362	**60.47** 133.30
H239640	H239612CD	**3.5** 0.14	**202.0** 7.95	**1.5** 0.06	**301.0** 11.84	**28.58** 1.13	**10.31** 0.41	905.7	90.3	0.1242	**57.18** 126.05
93708	93127CD	**3.5** 0.14	**209.0** 8.23	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**46.95** 103.54
67883	67820CD	**3.5** 0.14	**204.0** 8.03	**0.8** 0.03	**259.0** 10.20	**22.23** 0.88	**7.13** 0.28	727.9	146.6	0.1310	**18.18** 40.07
67884	67820CD	**3.5** 0.14	**206.0** 8.11	**0.8** 0.03	**259.0** 10.20	**22.23** 0.88	**7.13** 0.28	727.9	146.6	0.1310	**17.42** 38.39

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

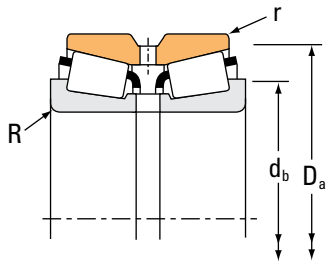
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
187.325 7.3750	**269.875** 10.6250	**119.062** 4.6875	**93.662** 3.6875	**955000** 215000	0.33	2.03	3.02	**142000** 32000	**80900** 18200	**247000** 55600	1.76
187.325 7.3750	**320.675** 12.6250	**185.738** 7.3125	**138.112** 5.4375	**1830000** 410000	0.32	2.12	3.15	**272000** 61100	**148000** 33400	**473000** 106000	1.83
190.500 7.5000	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**725000** 163000	0.48	1.41	2.11	**108000** 24300	**88200** 19800	**188000** 42300	1.22
190.500 7.5000	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
190.500 7.5000	**368.300** 14.5000	**193.675** 7.6250	**136.525** 5.3750	**2030000** 457000	0.40	1.68	2.50	**303000** 68100	**208000** 46800	**527000** 118000	1.45
192.088 7.5625	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**725000** 163000	0.48	1.41	2.11	**108000** 24300	**88200** 19800	**188000** 42300	1.22
196.850 7.7500	**257.175** 10.1250	**85.725** 3.3750	**66.675** 2.6250	**554000** 125000	0.45	1.51	2.25	**82500** 18600	**63100** 14200	**144000** 32300	1.31
196.850 7.7500	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
200.025 7.8750	**292.100** 11.5000	**125.415** 4.9376	**101.600** 4.0000	**1040000** 235000	0.33	2.03	3.02	**156000** 35000	**88500** 19900	**271000** 60900	1.76
200.025 7.8750	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
200.025 7.8750	**333.375** 13.1250	**149.225** 5.8750	**114.300** 4.5000	**1600000** 359000	0.44	1.54	2.29	**238000** 53400	**179000** 40200	**414000** 93000	1.33
200.025 7.8750	**384.175** 15.1250	**238.125** 9.3750	**193.675** 7.6250	**2920000** 656000	0.33	2.03	3.02	**434000** 97600	**247000** 55600	**756000** 170000	1.76
200.025 7.8750	**384.175** 15.1250	**238.125** 9.3750	**193.675** 7.6250	**3080000** 693000	0.33	2.03	3.02	**459000** 103000	**261000** 58800	**800000** 180000	1.76
203.200 8.0000	**282.575** 11.1250	**101.600** 4.0000	**82.550** 3.2500	**875000** 197000	0.51	1.33	1.97	**130000** 29300	**114000** 25500	**227000** 51000	1.15
203.200 8.0000	**292.100** 11.5000	**109.538** 4.3125	**84.138** 3.3125	**1170000** 263000	0.40	1.69	2.51	**174000** 39100	**119000** 26800	**303000** 68200	1.46
203.200 8.0000	**292.100** 11.5000	**125.415** 4.9376	**101.600** 4.0000	**1040000** 235000	0.33	2.03	3.02	**156000** 35000	**88500** 19900	**271000** 60900	1.76
203.200 8.0000	**292.100** 11.5000	**125.415** 4.9376	**101.600** 4.0000	**1200000** 269000	0.33	2.03	3.02	**178000** 40100	**102000** 22800	**311000** 69800	1.76

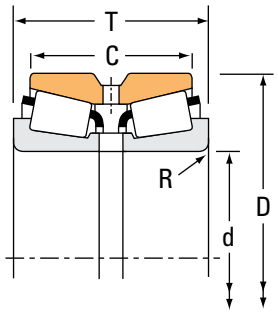
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

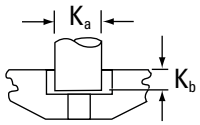
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
M238849	M238810CD	**3.5** 0.14	**205.0** 8.07	**1.5** 0.06	**256.0** 10.08	**19.05** 0.75	**7.95** 0.31	788.3	118.1	0.1201	**20.41** 44.98
H239649	H239612CD	**5.5** 0.22	**214.0** 8.43	**1.5** 0.06	**301.0** 11.84	**28.58** 1.13	**10.31** 0.41	905.7	90.3	0.1242	**53.16** 117.18
67885	67820CD	**3.5** 0.14	**209.0** 8.23	**0.8** 0.03	**259.0** 10.20	**22.23** 0.88	**7.13** 0.28	727.9	146.6	0.1310	**16.70** 36.81
93750	93127CD	**4.3** 0.17	**218.0** 8.58	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**43.25** 95.35
EE420751	421451CD	**6.4** 0.25	**227.0** 8.94	**1.5** 0.06	**334.4** 13.16	**25.40** 1.00	**11.91** 0.47	1150.5	128.2	0.1450	**84.09** 185.38
67887	67820CD	**10.5** 0.41	**223.0** 8.78	**0.8** 0.03	**259.0** 10.20	**22.23** 0.88	**7.13** 0.28	727.9	146.6	0.1310	**15.86** 34.97
LM739749	LM739710CD	**3.5** 0.14	**213.0** 8.39	**0.8** 0.03	**251.0** 9.88	**14.29** 0.56	**6.35** 0.25	761.7	232.3	0.1296	**11.13** 24.55
93775	93127CD	**4.3** 0.17	**223.0** 8.78	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**41.22** 90.89
M241543	M241510CD	**3.5** 0.14	**219.0** 8.62	**1.5** 0.06	**279.0** 10.98	**19.05** 0.75	**8.73** 0.34	954.1	127.9	0.1279	**26.22** 57.82
93787	93127CD	**4.3** 0.17	**225.0** 8.86	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**40.20** 88.66
HM743337	HM743310CD	**6.4** 0.25	**231.0** 9.09	**1.5** 0.06	**317.0** 12.48	**25.40** 1.00	**8.73** 0.34	1017.2	140.1	0.1433	**49.59** 109.32
H247535	H247510CD	**6.4** 0.25	**241.0** 9.49	**1.5** 0.06	**362.1** 14.26	**28.58** 1.13	**11.91** 0.47	1964.4	148.4	0.1638	**123.87** 273.09
H247536	H247510CD	**6.4** 0.25	**241.0** 9.49	**1.5** 0.06	**362.1** 14.26	**28.58** 1.13	**11.91** 0.47	2077.6	156.6	0.1671	**127.26** 280.53
67983	67920CD	**3.5** 0.14	**222.0** 8.74	**0.8** 0.03	**275.0** 10.83	**19.05** 0.75	**7.13** 0.28	819.5	172.0	0.1388	**18.43** 40.63
M541349	M541310CD	**3.5** 0.14	**221.0** 8.70	**0.8** 0.03	**281.0** 11.06	**19.05** 0.75	**7.95** 0.31	751.6	147.3	0.1253	**21.67** 47.78
M241547	M241510CD	**3.5** 0.14	**221.0** 8.70	**1.5** 0.06	**279.0** 10.98	**19.05** 0.75	**8.73** 0.34	954.1	127.9	0.1279	**25.17** 55.48
M241547H	M241510CD	**3.5** 0.14	**221.0** 8.70	**1.5** 0.06	**279.0** 10.98	**19.05** 0.75	**8.73** 0.34	954.1	127.9	0.1279	**25.17** 55.48

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

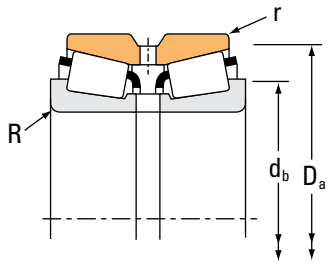
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
203.200 8.0000	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
203.200 8.0000	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1570000** 352000	0.52	1.29	1.92	**233000** 52500	**209000** 47000	**406000** 91300	1.12
203.200 8.0000	**368.300** 14.5000	**193.675** 7.6250	**136.525** 5.3750	**2030000** 457000	0.40	1.68	2.50	**303000** 68100	**208000** 46800	**527000** 118000	1.45
203.238 8.0015	**406.400** 16.0000	**196.850** 7.7500	**127.000** 5.0000	**2120000** 477000	0.80	0.85	1.26	**316000** 71000	**431000** 97000	**550000** 124000	0.73
204.788 8.0625	**292.100** 11.5000	**125.415** 4.9376	**101.600** 4.0000	**1040000** 235000	0.33	2.03	3.02	**156000** 35000	**88500** 19900	**271000** 60900	1.76
206.375 8.1250	**282.575** 11.1250	**101.600** 4.0000	**82.550** 3.2500	**875000** 197000	0.51	1.33	1.97	**130000** 29300	**114000** 25500	**227000** 51000	1.15
206.375 8.1250	**317.500** 12.5000	**127.000** 5.0000	**88.900** 3.5000	**919000** 207000	0.31	2.15	3.21	**137000** 30800	**73400** 16500	**238000** 53600	1.86
206.375 8.1250	**336.550** 13.2500	**211.137** 8.3125	**169.862** 6.6875	**2360000** 530000	0.33	2.03	3.02	**351000** 79000	**200000** 45000	**612000** 137000	1.76
209.550 8.2500	**282.575** 11.1250	**101.600** 4.0000	**82.550** 3.2500	**875000** 197000	0.51	1.33	1.97	**130000** 29300	**114000** 25500	**227000** 51000	1.15
209.550 8.2500	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
209.550 8.2500	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
209.550 8.2500	**319.976** 12.5975	**146.050** 5.7500	**111.215** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
209.550 8.2500	**333.375** 13.1250	**149.225** 5.8750	**114.300** 4.5000	**1600000** 359000	0.44	1.54	2.29	**238000** 53400	**179000** 40200	**414000** 93000	1.33
209.550 8.2500	**355.600** 14.0000	**152.400** 6.0000	**111.125** 4.3750	**1320000** 297000	0.59	1.14	1.70	**197000** 44200	**199000** 44700	**343000** 77000	0.99
212.725 8.3750	**285.750** 11.2500	**98.425** 3.8750	**76.200** 3.0000	**748000** 168000	0.48	1.40	2.09	**111000** 25000	**91800** 20600	**194000** 43600	1.21
215.900 8.5000	**285.750** 11.2500	**98.425** 3.8750	**76.200** 3.0000	**659000** 148000	0.48	1.40	2.09	**98100** 22100	**80800** 18200	**171000** 38400	1.21
215.900 8.5000	**285.750** 11.2500	**98.425** 3.8750	**76.200** 3.0000	**748000** 168000	0.48	1.40	2.09	**111000** 25000	**91800** 20600	**194000** 43600	1.21

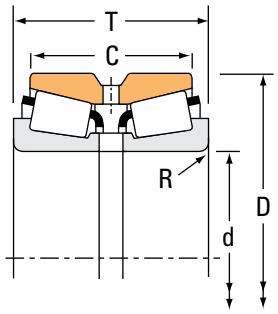
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

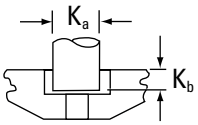
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
93800	93127CD	**4.3** 0.17	**227.0** 8.94	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**39.15** 86.33
DX641856	DX979640	**4.3** 0.17	**227.0** 8.94	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**39.15** 86.33
EE420801	421451CD	**3.3** 0.13	**230.1** 9.06	**1.5** 0.06	**334.4** 13.16	**25.40** 1.00	**11.91** 0.47	1150.5	128.2	0.1450	**78.57** 173.20
EE114081	114161D	**6.4** 0.25	**246.0** 9.69	**3.3** 0.13	**373.7** 14.71	– –	– –	794.7	80.2	0.1571	**101.81** 224.48
M241549	M241510CD	**3.5** 0.14	**223.0** 8.78	**1.5** 0.06	**279.0** 10.98	**19.05** 0.75	**8.73** 0.34	954.1	127.9	0.1279	**24.66** 54.35
67985	67920CD	**3.5** 0.14	**224.0** 8.82	**0.8** 0.03	**275.0** 10.83	**19.05** 0.75	**7.13** 0.28	819.5	172.0	0.1388	**17.63** 38.87
EE132084	132126D	**4.0** 0.16	**227.1** 8.94	**1.5** 0.06	**293.1** 11.54	– –	– –	797.8	124.6	0.1174	**33.32** 73.45
H242649	H242610CD	**3.3** 0.13	**231.0** 9.09	**1.5** 0.06	**318.0** 12.51	**28.58** 1.13	**10.34** 0.41	1404.1	134.8	0.1465	**68.60** 151.22
67989	67920CD	**3.5** 0.14	**227.0** 8.94	**0.8** 0.03	**275.0** 10.83	**19.05** 0.75	**7.13** 0.28	819.5	172.0	0.1388	**16.98** 37.43
93825	93127CD	**4.3** 0.17	**233.0** 9.17	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**37.02** 81.62
93825A	93127CD	**12.7** 0.50	**250.0** 9.84	**1.5** 0.06	**298.5** 11.75	**22.23** 0.88	**10.31** 0.41	912.5	126.1	0.1460	**36.70** 80.90
93825	93128XD	**4.3** 0.17	**233.0** 9.17	**1.5** 0.06	**300.0** 11.81	– –	– –	912.5	126.1	0.1460	**37.23** 82.08
HM743345	HM743310CD	**6.4** 0.25	**238.0** 9.37	**1.5** 0.06	**317.0** 12.48	**25.40** 1.00	**8.73** 0.34	1017.2	140.1	0.1433	**46.00** 101.41
96825	96140CD	**7.0** 0.28	**246.0** 9.69	**1.5** 0.06	**334.0** 13.15	**25.40** 1.00	**9.52** 0.38	1140.0	160.6	0.1626	**57.24** 126.20
LM742745	LM742710CD	**3.5** 0.14	**230.0** 9.06	**0.8** 0.03	**279.0** 10.98	**17.45** 0.69	**7.13** 0.28	866.9	225.2	0.1388	**16.58** 36.55
LM742748	LM742710CD	**3.5** 0.14	**233.0** 9.17	**0.8** 0.03	**279.0** 10.98	**17.45** 0.69	**7.13** 0.28	808.2	210.6	0.1354	**15.54** 34.25
LM742749	LM742710CD	**3.5** 0.14	**233.0** 9.17	**0.8** 0.03	**279.0** 10.98	**17.45** 0.69	**7.13** 0.28	866.9	225.2	0.1388	**15.78** 34.78

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

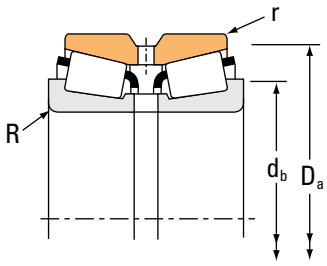
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
215.900 8.5000	**287.338** 11.3125	**69.850** 2.7500	**50.800** 2.0000	**416000** 93600	0.39	1.75	2.61	**62000** 13900	**40900** 9190	**108000** 24300	1.52
215.900 8.5000	**355.600** 14.0000	**152.400** 6.0000	**111.125** 4.3750	**1390000** 312000	0.33	2.04	3.04	**206000** 46400	**117000** 26200	**359000** 80800	1.77
215.900 8.5000	**355.600** 14.0000	**158.750** 6.2500	**117.475** 4.6250	**1390000** 312000	0.33	2.04	3.04	**206000** 46400	**117000** 26200	**359000** 80800	1.77
215.900 8.5000	**371.475** 14.6250	**174.625** 6.8750	**136.525** 5.3750	**1920000** 432000	0.40	1.68	2.50	**286000** 64300	**197000** 44200	**498000** 112000	1.45
215.900 8.5000	**406.400** 16.0000	**195.262** 7.6875	**147.638** 5.8125	**2560000** 577000	0.39	1.72	2.55	**382000** 85900	**257000** 57800	**665000** 149000	1.48
219.969 8.6602	**287.338** 11.3125	**69.850** 2.7500	**50.800** 2.0000	**416000** 93600	0.39	1.75	2.61	**62000** 13900	**40900** 9190	**108000** 24300	1.52
220.000 8.6614	**340.000** 13.3858	**164.000** 6.4567	**130.000** 5.1181	**1730000** 389000	0.43	1.57	2.34	**258000** 57900	**190000** 42700	**449000** 101000	1.36
220.662 8.6875	**314.325** 12.3750	**131.762** 5.1875	**106.362** 4.1875	**1490000** 335000	0.33	2.03	3.02	**222000** 49900	**126000** 28400	**386000** 86800	1.76
220.662 8.6875	**314.325** 12.3750	**131.762** 5.1875	**106.362** 4.1875	**1210000** 272000	0.33	2.03	3.02	**180000** 40500	**103000** 23100	**314000** 70500	1.76
220.662 8.6875	**314.325** 12.3750	**131.762** 5.1875	**106.362** 4.1875	**1390000** 312000	0.33	2.03	3.02	**207000** 46500	**118000** 26500	**360000** 80900	1.76
225.425 8.8750	**355.600** 14.0000	**152.600** 6.0000	**152.600** 6.0000	**1390000** 312000	0.33	2.04	3.04	**206000** 46400	**117000** 26200	**359000** 80800	1.77
225.425 8.8750	**355.600** 14.0000	**158.750** 6.2500	**158.750** 6.2500	**1390000** 312000	0.33	2.04	3.04	**206000** 46400	**117000** 26200	**359000** 80800	1.77
225.425 8.8750	**400.050** 15.7500	**187.325** 7.3750	**136.525** 5.3750	**1960000** 440000	0.44	1.54	2.29	**291000** 65500	**219000** 49300	**507000** 114000	1.33
228.397 8.9920	**431.800** 17.0000	**196.850** 7.7500	**111.125** 4.3750	**2220000** 499000	0.88	0.76	1.14	**330000** 74300	**500000** 112000	**575000** 129000	0.66
228.460 8.9945	**431.800** 17.0000	**196.850** 7.7500	**111.125** 4.3750	**2220000** 499000	0.88	0.76	1.14	**330000** 74300	**500000** 112000	**575000** 129000	0.66
228.600 9.0000	**327.025** 12.8750	**114.300** 4.5000	**82.550** 3.2500	**972000** 219000	0.41	1.66	2.47	**145000** 32500	**101000** 22700	**252000** 56700	1.44
228.600 9.0000	**355.600** 14.0000	**152.400** 6.0000	**111.125** 4.3750	**1320000** 297000	0.59	1.14	1.70	**197000** 44200	**199000** 44700	**343000** 77000	0.99

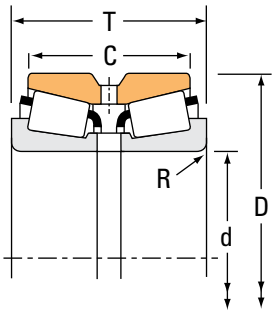
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

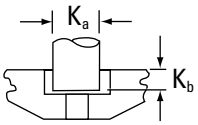
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
543085	543115D	**3.5** 0.14	**232.0** 9.13	**0.8** 0.03	**276.0** 10.87	– –	– –	608.5	232.3	0.1135	**11.47** 25.30
EE130851	131401CD	**6.8** 0.27	**248.0** 9.76	**1.5** 0.06	**330.0** 12.99	**22.23** 0.88	**8.73** 0.34	1162.0	167.6	0.1358	**53.77** 118.52
EE130851	131402D	**6.8** 0.27	**248.0** 9.76	**0.8** 0.03	**331.8** 13.06	– –	– –	1162.0	167.6	0.1358	**53.62** 118.19
EE420850	421462XD	**1.5** 0.06	**236.0** 9.29	**1.5** 0.06	**334.4** 13.16	– –	– –	1150.5	128.2	0.1450	**71.26** 157.10
EE820085	820161CD	**6.4** 0.25	**251.0** 9.88	**1.5** 0.06	**372.1** 14.65	**28.58** 1.13	**11.91** 0.47	1326.8	111.9	0.1509	**106.33** 234.46
543086	543115D	**3.5** 0.14	**235.0** 9.25	**0.8** 0.03	**276.0** 10.87	– –	– –	608.5	232.3	0.1135	**10.71** 23.61
X32044XM	NP099132	**4.0** 0.16	**248.0** 9.76	**1.0** 0.04	**326.5** 12.85	– –	– –	1207.8	127.4	0.1509	**50.74** 111.88
DX596094	DX198514	**6.4** 0.25	**245.0** 9.65	**1.5** 0.06	**300.0** 11.81	**22.23** 0.88	**9.52** 0.38	1149.7	141.4	0.1360	**31.26** 68.92
M244249	M244210CD	**6.4** 0.25	**245.0** 9.65	**1.5** 0.06	**300.0** 11.81	**22.23** 0.88	**9.52** 0.38	1149.7	141.4	0.1360	**29.97** 66.07
NP995051	M244210CD	**6.4** 0.25	**245.0** 9.65	**1.5** 0.06	**300.0** 11.81	**22.23** 0.88	**9.52** 0.38	1149.7	141.4	0.1360	**30.09** 66.30
EE130889	131401CD	**6.8** 0.27	**255.0** 10.04	**1.5** 0.06	**330.0** 12.99	**22.23** 0.88	**8.73** 0.34	1162.0	167.6	0.1358	**48.69** 107.38
EE130889	131402D	**6.8** 0.27	**255.0** 10.04	**0.8** 0.03	**331.8** 13.06	– –	– –	1162.0	167.6	0.1358	**48.90** 107.83
EE430888	431576CD	**1.5** 0.06	**251.0** 9.88	**1.5** 0.06	**364.2** 14.34	**28.58** 1.13	**11.91** 0.47	1351.2	142.8	0.1572	**90.91** 200.41
EE113089	113171D	**6.4** 0.25	**274.0** 10.79	**3.3** 0.13	**397.2** 15.64	– –	– –	966.7	98.1	0.1723	**109.66** 241.73
EE113091	113171D	**6.4** 0.25	**274.0** 10.79	**3.3** 0.13	**397.2** 15.64	– –	– –	966.7	98.1	0.1723	**107.78** 237.60
8573	8520CD	**6.4** 0.25	**255.0** 10.04	**1.5** 0.06	**312.0** 12.28	**19.05** 0.75	**7.92** 0.31	1050.5	172.4	0.1401	**28.22** 62.23
96900	96140CD	**7.0** 0.28	**260.0** 10.24	**1.5** 0.06	**334.0** 13.15	**25.40** 1.00	**9.52** 0.38	1140.0	160.6	0.1626	**49.73** 109.66

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

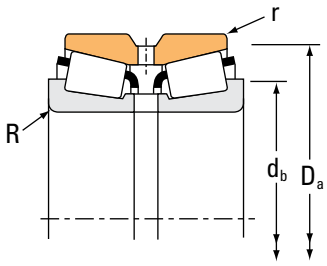
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
228.600 9.0000	**355.600** 14.0000	**152.400** 6.0000	**111.125** 4.3750	**1470000** 330000	0.33	2.04	3.04	**219000** 49100	**124000** 27800	**381000** 85600	1.77
228.600 9.0000	**355.600** 14.0000	**152.400** 6.0000	**114.300** 4.5000	**1660000** 372000	0.47	1.43	2.12	**247000** 55400	**200000** 44900	**429000** 96500	1.24
228.600 9.0000	**355.600** 14.0000	**158.750** 6.2500	**117.475** 4.6250	**1470000** 330000	0.33	2.04	3.04	**219000** 49100	**124000** 27800	**381000** 85600	1.77
228.600 9.0000	**358.775** 14.1250	**152.400** 6.0000	**117.475** 4.6250	**1590000** 358000	0.33	2.03	3.02	**237000** 53300	**135000** 30300	**413000** 92800	1.76
228.600 9.0000	**400.050** 15.7500	**187.325** 7.3750	**136.525** 5.3750	**1960000** 440000	0.44	1.54	2.29	**291000** 65500	**219000** 49300	**507000** 114000	1.33
228.600 9.0000	**425.450** 16.7500	**209.550** 8.2500	**158.750** 6.2500	**2960000** 665000	0.33	2.03	3.02	**440000** 99000	**251000** 56400	**767000** 172000	1.76
228.600 9.0000	**488.950** 19.2500	**254.000** 10.0000	**152.400** 6.0000	**3910000** 879000	0.94	0.72	1.07	**582000** 131000	**934000** 210000	**1010000** 228000	0.62
231.775 9.1250	**358.775** 14.1250	**152.400** 6.0000	**117.475** 4.6250	**1590000** 358000	0.33	2.03	3.02	**237000** 53300	**135000** 30300	**413000** 92800	1.76
234.950 9.2500	**311.150** 12.2500	**98.425** 3.8750	**73.025** 2.8750	**768000** 173000	0.36	1.86	2.77	**114000** 25700	**70900** 15900	**199000** 44800	1.61
234.950 9.2500	**327.025** 12.8750	**114.300** 4.5000	**82.550** 3.2500	**935000** 210000	0.41	1.66	2.47	**139000** 31300	**96900** 21800	**242000** 54500	1.44
234.950 9.2500	**355.600** 14.0000	**152.400** 6.0000	**111.125** 4.3750	**1320000** 297000	0.59	1.14	1.70	**197000** 44200	**199000** 44700	**343000** 77000	0.99
234.950 9.2500	**384.175** 15.1250	**238.125** 9.3750	**193.675** 7.6250	**3270000** 734000	0.33	2.03	3.02	**486000** 109000	**277000** 62200	**847000** 190000	1.76
234.950 9.2500	**384.175** 15.1250	**238.125** 9.3750	**193.675** 7.6250	**2920000** 656000	0.33	2.03	3.02	**434000** 97600	**247000** 55600	**756000** 170000	1.76
237.330 9.3437	**358.775** 14.1250	**152.400** 6.0000	**117.475** 4.6250	**1590000** 358000	0.33	2.03	3.02	**237000** 53300	**135000** 30300	**413000** 92800	1.76
241.300 9.5000	**327.025** 12.8750	**114.300** 4.5000	**82.550** 3.2500	**918000** 206000	0.41	1.66	2.47	**137000** 30700	**95200** 21400	**238000** 53500	1.44
241.300 9.5000	**349.148** 13.7460	**127.000** 5.0000	**101.600** 4.0000	**1150000** 258000	0.35	1.91	2.85	**171000** 38500	**103000** 23300	**298000** 67000	1.65
241.300 9.5000	**350.838** 13.8125	**127.000** 5.0000	**101.600** 4.0000	**1150000** 258000	0.35	1.91	2.85	**171000** 38500	**103000** 23300	**298000** 67000	1.65

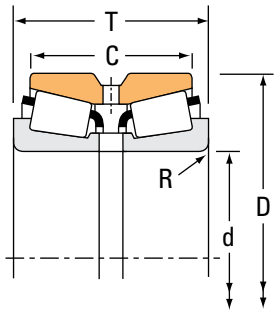
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

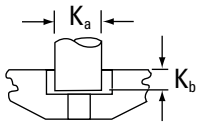
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE130902	131401CD	**6.8** 0.27	**257.0** 10.12	**1.5** 0.06	**330.0** 12.99	**22.23** 0.88	**8.73** 0.34	1162.0	167.6	0.1358	**48.41** 106.71
HM746646	HM746610CD	**6.4** 0.25	**258.0** 10.16	**1.5** 0.06	**338.7** 13.34	**25.40** 1.00	**9.52** 0.38	1185.7	149.4	0.1542	**55.11** 121.49
EE130902	131402D	**6.8** 0.27	**257.0** 10.12	**0.8** 0.03	**331.8** 13.06	– –	– –	1162.0	167.6	0.1358	**48.76** 107.48
M249732	M249710CD	**3.5** 0.14	**256.0** 10.08	**1.5** 0.06	**343.0** 13.50	**25.40** 1.00	**8.73** 0.34	1626.0	173.0	0.1526	**56.43** 124.42
EE430900	431576CD	**10.5** 0.41	**271.0** 10.67	**1.5** 0.06	**364.2** 14.34	**28.58** 1.13	**11.91** 0.47	1351.2	142.8	0.1572	**88.47** 195.04
EE700091	700168D	**7.0** 0.28	**266.0** 10.47	**1.5** 0.06	**384.3** 15.13	– –	– –	1488.7	109.7	0.1480	**115.99** 255.71
HH949549	HH949510D	**6.4** 0.25	**297.0** 11.69	**1.5** 0.06	**456.0** 17.95	– –	– –	1295.5	91.5	0.1931	**204.99** 451.94
M249734	M249710CD	**6.4** 0.25	**263.0** 10.35	**1.5** 0.06	**343.0** 13.50	**25.40** 1.00	**8.73** 0.34	1626.0	173.0	0.1526	**54.98** 121.22
LM446349	LM446310D	**3.5** 0.14	**252.0** 9.92	**0.8** 0.03	**301.0** 11.85	**17.46** 0.69	**6.91** 0.27	1008.4	243.6	0.1328	**18.04** 39.75
8574	8520CD	**6.4** 0.25	**259.0** 10.20	**1.5** 0.06	**312.0** 12.28	**19.05** 0.75	**7.92** 0.31	1010.5	166.1	0.1382	**26.16** 57.67
96925	96140CD	**7.0** 0.28	**265.0** 10.43	**1.5** 0.06	**334.0** 13.15	**25.40** 1.00	**9.52** 0.38	1140.0	160.6	0.1626	**46.94** 103.50
H247548	H247510CD	**6.4** 0.25	**269.0** 10.59	**1.5** 0.06	**362.1** 14.26	**28.58** 1.13	**11.91** 0.47	2077.6	156.6	0.1671	**105.89** 233.45
H247549	H247510CD	**6.4** 0.25	**273.0** 10.75	**1.5** 0.06	**362.1** 14.26	**28.58** 1.13	**11.91** 0.47	1964.4	148.4	0.1638	**102.68** 226.40
M249736	M249710CD	**6.4** 0.25	**267.0** 10.51	**1.5** 0.06	**343.0** 13.50	**25.40** 1.00	**8.73** 0.34	1626.0	173.0	0.1526	**51.88** 114.37
8578	8520CD	**6.4** 0.25	**264.0** 10.39	**1.5** 0.06	**312.0** 12.28	**19.05** 0.75	**7.92** 0.31	1050.5	172.4	0.1401	**23.96** 52.86
EE127095	127136CD	**6.4** 0.25	**267.0** 10.51	**1.5** 0.06	**329.0** 12.95	**22.23** 0.88	**9.52** 0.38	1178.6	164.4	0.1392	**35.35** 77.93
EE127095	127137D	**6.4** 0.25	**267.0** 10.51	**1.5** 0.06	**329.0** 12.95	– –	– –	1178.6	164.4	0.1392	**36.87** 81.29

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

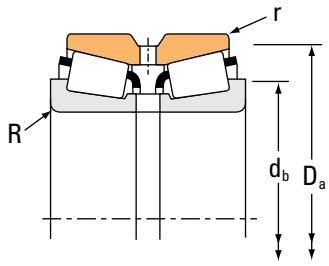
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
241.300 9.5000	**355.498** 13.9960	**127.000** 5.0000	**101.600** 4.0000	**1150000** 258000	0.35	1.91	2.85	**171000** 38500	**103000** 23300	**298000** 67000	1.65
241.300 9.5000	**368.300** 14.5000	**120.650** 4.7500	**85.725** 3.3750	**1120000** 252000	0.36	1.86	2.77	**167000** 37500	**104000** 23300	**290000** 65200	1.61
241.300 9.5000	**393.700** 15.5000	**157.162** 6.1875	**109.538** 4.3125	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
241.300 9.5000	**406.400** 16.0000	**155.575** 6.1250	**107.950** 4.2500	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
241.300 9.5000	**406.400** 16.0000	**215.900** 8.5000	**184.150** 7.2500	**3260000** 732000	0.33	2.03	3.02	**485000** 109000	**276000** 62000	**844000** 190000	1.76
241.300 9.5000	**444.500** 17.5000	**209.550** 8.2500	**158.750** 6.2500	**3170000** 713000	0.34	2.00	2.98	**472000** 106000	**273000** 61300	**822000** 185000	1.73
241.300 9.5000	**488.950** 19.2500	**254.000** 10.0000	**196.850** 7.7500	**4220000** 948000	0.31	2.16	3.21	**628000** 141000	**336000** 75600	**1090000** 246000	1.87
244.475 9.6250	**380.898** 14.9960	**171.450** 6.7500	**127.000** 5.0000	**1580000** 355000	0.52	1.31	1.95	**235000** 52900	**208000** 46800	**410000** 92100	1.13
244.475 9.6250	**381.000** 15.0000	**171.450** 6.7500	**127.000** 5.0000	**1580000** 355000	0.52	1.31	1.95	**235000** 52900	**208000** 46800	**410000** 92100	1.13
247.650 9.7500	**368.300** 14.5000	**120.650** 4.7500	**85.725** 3.3750	**1120000** 252000	0.36	1.86	2.77	**167000** 37500	**104000** 23300	**290000** 65200	1.61
247.650 9.7500	**381.000** 15.0000	**158.750** 6.2500	**123.825** 4.8750	**2000000** 450000	0.33	2.03	3.02	**298000** 67000	**170000** 38100	**519000** 117000	1.76
247.650 9.7500	**406.400** 16.0000	**247.650** 9.7500	**203.200** 8.0000	**3620000** 814000	0.33	2.03	3.02	**539000** 121000	**307000** 69000	**939000** 211000	1.76
247.650 9.7500	**406.400** 16.0000	**247.650** 9.7500	**206.200** 8.1181	**3830000** 860000	0.33	2.03	3.02	**570000** 128000	**324000** 72900	**992000** 223000	1.76
249.250 9.8130	**380.898** 14.9960	**171.450** 6.7500	**127.000** 5.0000	**1580000** 355000	0.52	1.31	1.95	**235000** 52900	**208000** 46800	**410000** 92100	1.13
249.250 9.8130	**381.000** 15.0000	**171.450** 6.7500	**127.000** 5.0000	**1580000** 355000	0.52	1.31	1.95	**235000** 52900	**208000** 46800	**410000** 92100	1.13
254.000 10.0000	**323.850** 12.7500	**63.500** 2.5000	**50.800** 2.0000	**263000** 59100	0.35	1.95	2.90	**39200** 8800	**23200** 5220	**68200** 15300	1.69
254.000 10.0000	**347.662** 13.6875	**95.250** 3.7500	**69.850** 2.7500	**1070000** 240000	0.33	2.03	3.02	**159000** 35700	**90500** 20300	**277000** 62200	1.76

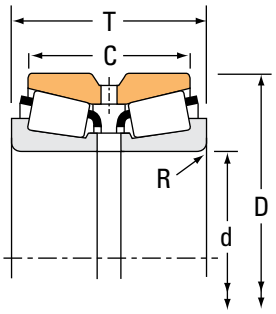
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

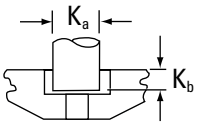
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE127095	127139D	**6.4** 0.25	**267.0** 10.51	**1.5** 0.06	**329.0** 12.95	– –	– –	1178.6	164.4	0.1392	**38.19** 84.19
EE170950	171451CD	**6.4** 0.25	**269.0** 10.59	**1.5** 0.06	**337.0** 13.27	**19.05** 0.75	**10.34** 0.41	1068.6	171.6	0.1354	**40.00** 88.17
EE275095	275156D	**6.4** 0.25	**278.0** 10.94	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**66.21** 145.97
EE275095	275161D	**6.4** 0.25	**278.0** 10.94	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**71.84** 158.39
H249148	H249111CD	**6.4** 0.25	**273.0** 10.75	**1.5** 0.06	**385.0** 15.16	**28.58** 1.13	**11.91** 0.47	1709.2	135.5	0.1556	**104.28** 229.92
EE923095	923176D	**6.4** 0.25	**277.0** 10.91	**1.5** 0.06	**407.0** 16.02	– –	– –	1626.7	136.5	0.1531	**131.76** 290.50
EE295950	295192D	**6.4** 0.25	**285.0** 11.22	**1.5** 0.06	**450.5** 17.74	– –	– –	2247.3	171.9	0.1664	**214.36** 472.59
EE126097	126149D	**6.4** 0.25	**275.0** 10.83	**1.5** 0.06	**358.0** 14.09	– –	– –	1321.8	168.9	0.1640	**63.84** 140.74
EE126097	126151CD	**6.4** 0.25	**275.0** 10.83	**1.5** 0.06	**358.0** 14.09	**28.58** 1.13	**11.91** 0.47	1321.8	168.9	0.1640	**65.16** 143.63
EE170975	171451CD	**6.4** 0.25	**274.0** 10.79	**1.5** 0.06	**337.0** 13.27	**19.05** 0.75	**10.34** 0.41	1068.6	171.6	0.1354	**37.51** 82.73
M252337	M252310CD	**6.4** 0.25	**280.0** 11.02	**1.5** 0.06	**364.0** 14.32	**28.58** 1.13	**10.31** 0.41	1839.2	226.1	0.1588	**62.37** 137.51
HH249949	HH249910CD	**6.4** 0.25	**284.0** 11.18	**1.5** 0.06	**383.0** 15.08	**28.58** 1.13	**11.91** 0.47	2373.9	173.3	0.1746	**125.39** 276.44
NP985601	NP490062	**6.4** 0.25	**287.0** 11.30	**1.5** 0.06	**383.5** 15.10	**28.58** 1.13	**11.91** 0.47	2373.9	173.3	0.1730	**123.87** 273.18
EE126098	126149D	**6.4** 0.25	**279.0** 10.98	**1.5** 0.06	**358.0** 14.09	– –	– –	1321.8	168.9	0.1640	**62.77** 138.40
EE126098	126151CD	**6.4** 0.25	**279.0** 10.98	**1.5** 0.06	**358.0** 14.09	**28.58** 1.13	**11.91** 0.47	1321.8	168.9	0.1640	**62.66** 138.15
29875	29820D	**1.5** 0.06	**267.0** 10.51	**0.8** 0.03	**312.0** 12.28	– –	– –	906.8	658.2	0.1567	**11.05** 24.34
LM249748	LM249710CD	**3.5** 0.14	**272.0** 10.71	**1.5** 0.06	**333.0** 13.11	**15.86** 0.62	**7.13** 0.28	1003.8	166.1	0.1287	**22.68** 50.02

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

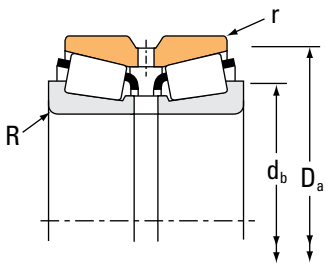
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
254.000 10.0000	**358.775** 14.1250	**152.400** 6.0000	**117.475** 4.6250	**1590000** 358000	0.33	2.03	3.02	**237000** 53300	**135000** 30300	**413000** 92800	1.76
254.000 10.0000	**365.125** 14.3750	**130.175** 5.1250	**98.425** 3.8750	**1180000** 266000	0.37	1.80	2.69	**176000** 39600	**113000** 25400	**307000** 68900	1.56
254.000 10.0000	**393.700** 15.5000	**157.162** 6.1875	**109.538** 4.3125	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
254.000 10.0000	**406.400** 16.0000	**155.575** 6.1250	**107.950** 4.2500	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
254.000 10.0000	**422.275** 16.6250	**173.038** 6.8125	**128.588** 5.0625	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
254.000 10.0000	**422.275** 16.6250	**173.038** 6.8125	**128.588** 5.0625	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
254.000 10.0000	**422.275** 16.6250	**178.592** 7.0312	**139.700** 5.5000	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
254.000 10.0000	**422.275** 16.6250	**178.592** 7.0312	**139.700** 5.5000	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
254.000 10.0000	**431.724** 16.9970	**173.038** 6.8125	**128.588** 5.0625	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
254.000 10.0000	**431.724** 16.9970	**173.038** 6.8125	**128.588** 5.0625	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
254.000 10.0000	**444.500** 17.5000	**165.100** 6.5000	**114.300** 4.5000	**2050000** 460000	0.34	1.98	2.95	**305000** 68500	**178000** 40000	**531000** 119000	1.71
254.000 10.0000	**495.300** 19.5000	**162.245** 6.3876	**120.650** 4.7500	**2700000** 607000	0.40	1.68	2.50	**402000** 90300	**277000** 62200	**700000** 157000	1.45
254.000 10.0000	**495.300** 19.5000	**168.595** 6.6376	**127.000** 5.0000	**2700000** 607000	0.40	1.68	2.50	**402000** 90300	**277000** 62200	**700000** 157000	1.45
254.000 10.0000	**533.400** 21.0000	**276.225** 10.8750	**165.100** 6.5000	**4670000** 1050000	0.94	0.72	1.07	**696000** 156000	**1120000** 251000	**1210000** 272000	0.62
260.350 10.2500	**365.125** 14.3750	**130.175** 5.1250	**98.425** 3.8750	**1180000** 266000	0.37	1.80	2.69	**176000** 39600	**113000** 25400	**307000** 68900	1.56
260.350 10.2500	**400.050** 15.7500	**155.575** 6.1250	**107.950** 4.2500	**1650000** 372000	0.39	1.71	2.55	**246000** 55300	**166000** 37400	**429000** 96300	1.48
260.350 10.2500	**419.100** 16.5000	**184.150** 7.2500	**136.525** 5.3750	**1960000** 440000	0.60	1.12	1.66	**291000** 65500	**302000** 67800	**507000** 114000	0.97

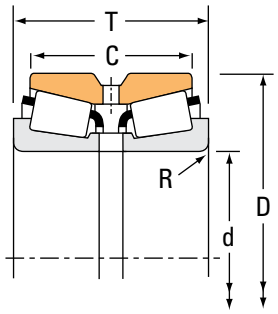
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

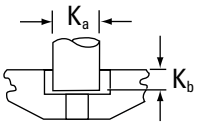
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
M249749	M249710CD	**3.5** 0.14	**274.0** 10.79	**1.5** 0.06	**343.0** 13.50	**25.40** 1.00	**8.73** 0.34	1626.0	173.0	0.1526	**44.79** 98.76
EE134100	134144CD	**6.4** 0.25	**281.0** 11.06	**1.5** 0.06	**347.0** 13.66	**22.23** 0.88	**10.34** 0.41	1327.7	187.2	0.1474	**39.21** 86.45
EE275100	275156D	**6.4** 0.25	**287.0** 11.30	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**60.81** 134.04
EE275100	275161D	**6.4** 0.25	**287.0** 11.30	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**66.44** 146.46
HM252343	HM252311D	**6.8** 0.27	**287.0** 11.30	**1.5** 0.06	**400.0** 15.73	– –	– –	1504.3	147.8	0.1482	**84.84** 187.02
HM252344	HM252311D	**6.8** 0.27	**287.0** 11.30	**1.5** 0.06	**400.0** 15.73	– –	– –	1551.8	152.3	0.1498	**89.43** 197.15
HM252343	HM252310CD	**6.8** 0.27	**287.0** 11.30	**1.5** 0.06	**400.0** 15.73	**28.58** 1.13	**11.91** 0.47	1504.3	147.8	0.1482	**86.16** 189.93
HM252344	HM252310CD	**6.8** 0.27	**287.0** 11.30	**1.5** 0.06	**400.0** 15.73	**28.58** 1.13	**11.91** 0.47	1551.8	152.3	0.1498	**90.75** 200.06
HM252343	HM252315D	**6.8** 0.27	**287.0** 11.30	**1.5** 0.06	**398.3** 15.68	– –	– –	1504.3	147.8	0.1482	**89.83** 198.03
HM252344	HM252315D	**6.8** 0.27	**287.0** 11.30	**1.5** 0.06	**398.3** 15.68	– –	– –	1551.8	152.3	0.1498	**94.42** 208.16
EE822100	822176D	**6.4** 0.25	**288.0** 11.34	**1.5** 0.06	**405.4** 15.96	– –	– –	1363.4	186.1	0.1442	**94.11** 207.47
EE941002	941951XD	**6.4** 0.25	**301.0** 11.85	**1.5** 0.06	**463.4** 18.25	– –	– –	1771.6	187.4	0.1657	**132.72** 292.60
EE941002	941953D	**6.4** 0.25	**301.0** 11.85	**1.5** 0.06	**463.4** 18.25	– –	– –	1771.6	187.4	0.1657	**133.71** 294.78
HH953749	HH953710D	**6.4** 0.25	**328.0** 12.91	**1.5** 0.06	**495.7** 19.51	– –	– –	1668.7	104.2	0.2101	**266.11** 586.68
EE134102	134144CD	**6.4** 0.25	**286.0** 11.26	**1.5** 0.06	**347.0** 13.66	**22.23** 0.88	**10.34** 0.41	1327.7	187.2	0.1474	**36.73** 80.99
EE221026	221576CD	**9.7** 0.38	**296.0** 11.65	**1.5** 0.06	**371.5** 14.63	**22.23** 0.88	**10.31** 0.41	1320.8	207.5	0.1497	**59.83** 131.92
EE435102	435165CD	**6.4** 0.25	**295.0** 11.61	**1.5** 0.06	**395.1** 15.56	**28.58** 1.13	**11.91** 0.47	1480.2	123.2	0.1787	**88.36** 194.77

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

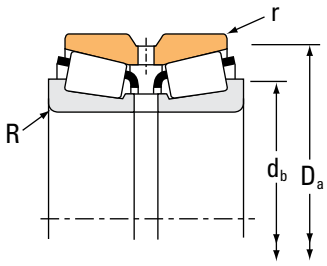
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
260.350 10.2500	**419.100** 16.5000	**184.150** 7.2500	**136.525** 5.3750	**1960000** 440000	0.60	1.12	1.66	**291000** 65500	**302000** 67800	**507000** 114000	0.97
260.350 10.2500	**422.275** 16.6250	**173.038** 6.8125	**128.588** 5.0625	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**422.275** 16.6250	**178.592** 7.0312	**139.700** 5.5000	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**422.275** 16.6250	**178.592** 7.0312	**139.700** 5.5000	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
260.350 10.2500	**422.910** 16.6500	**178.592** 7.0312	**139.700** 5.5000	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**431.724** 16.9970	**173.038** 6.8125	**128.588** 5.0625	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
260.350 10.2500	**488.950** 19.2500	**254.000** 10.0000	**196.850** 7.7500	**4220000** 948000	0.31	2.16	3.21	**628000** 141000	**336000** 75600	**1090000** 246000	1.87
260.350 10.2500	**488.950** 19.2500	**254.000** 10.0000	**196.850** 7.7500	**4220000** 948000	0.31	2.16	3.21	**628000** 141000	**336000** 75600	**1090000** 246000	1.87
263.525 10.3750	**355.600** 14.0000	**127.000** 5.0000	**101.600** 4.0000	**1400000** 315000	0.36	1.87	2.79	**209000** 46900	**129000** 28900	**363000** 81600	1.62
266.700 10.5000	**323.850** 12.7500	**63.500** 2.5000	**50.800** 2.0000	**263000** 59100	0.35	1.95	2.90	**39200** 8800	**23200** 5220	**68200** 15300	1.69
266.700 10.5000	**355.600** 14.0000	**127.000** 5.0000	**101.600** 4.0000	**1530000** 345000	0.36	1.87	2.79	**228000** 51300	**141000** 31600	**397000** 89300	1.62
266.700 10.5000	**393.700** 15.5000	**157.162** 6.1875	**109.538** 4.3125	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
266.700 10.5000	**393.700** 15.5000	**157.162** 6.1875	**109.538** 4.3125	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
266.700 10.5000	**406.400** 16.0000	**155.575** 6.1250	**107.950** 4.2500	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
269.875 10.6250	**381.000** 15.0000	**158.750** 6.2500	**123.825** 4.8750	**2000000** 450000	0.33	2.03	3.02	**298000** 67000	**170000** 38100	**519000** 117000	1.76
273.050 10.7500	**393.700** 15.5000	**157.162** 6.1875	**109.538** 4.3125	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
273.050 10.7500	**393.700** 15.5000	**157.162** 6.1875	**109.538** 4.3125	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45

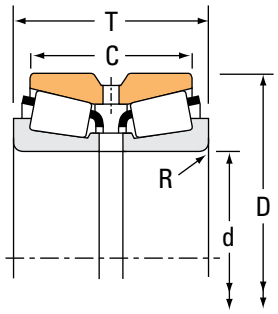
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

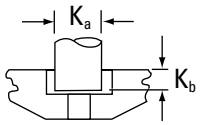
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE435102	435165D	**6.4** 0.25	**295.0** 11.61	**1.5** 0.06	**395.1** 15.56	– –	– –	1480.2	123.2	0.1787	**87.66** 193.23
HM252348	HM252311D	**6.8** 0.27	**292.0** 11.50	**1.5** 0.06	**400.0** 15.73	– –	– –	1504.3	147.8	0.1482	**81.96** 180.67
HM252348	HM252310CD	**6.8** 0.27	**292.0** 11.50	**1.5** 0.06	**400.0** 15.73	**28.58** 1.13	**11.91** 0.47	1504.3	147.8	0.1482	**82.85** 182.64
HM252349	HM252310CD	**6.8** 0.27	**292.0** 11.50	**1.5** 0.06	**400.0** 15.73	**28.58** 1.13	**11.91** 0.47	1551.8	152.3	0.1498	**87.21** 192.26
HM252348	HM252312D	**6.8** 0.27	**292.0** 11.50	**1.5** 0.06	**399.5** 15.73	– –	– –	1504.3	147.8	0.1482	**83.31** 183.66
HM252349	HM252315D	**6.8** 0.27	**292.0** 11.50	**1.5** 0.06	**398.3** 15.68	– –	– –	1551.8	152.3	0.1498	**92.67** 204.30
EE295102	295192D	**6.4** 0.25	**299.0** 11.77	**1.5** 0.06	**450.5** 17.74	– –	– –	2247.3	171.9	0.1664	**198.86** 438.41
EE295102	295192CD	**6.4** 0.25	**299.0** 11.77	**1.5** 0.06	**450.5** 17.74	**28.58** 1.13	**14.30** 0.56	2247.3	171.9	0.1664	**198.86** 438.41
LM451345	LM451310CD	**3.5** 0.14	**283.0** 11.14	**1.5** 0.06	**342.9** 13.50	**22.23** 0.88	**8.73** 0.34	1554.1	212.2	0.1536	**32.93** 72.62
29880	29820D	**1.5** 0.06	**277.0** 10.91	**0.8** 0.03	**312.0** 12.28	– –	– –	906.8	658.2	0.1567	**9.04** 19.93
LM451349	LM451310CD	**3.5** 0.14	**285.0** 11.22	**1.5** 0.06	**342.9** 13.50	**22.23** 0.88	**8.73** 0.34	1554.1	212.2	0.1536	**31.82** 70.17
EE275105	275156CD	**6.4** 0.25	**296.0** 11.65	**1.5** 0.06	**378.5** 14.90	**25.40** 1.00	**9.52** 0.38	1451.8	201.3	0.1555	**55.47** 122.31
EE275105	275156D	**6.4** 0.25	**296.0** 11.65	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**55.11** 121.50
EE275105	275161D	**6.4** 0.25	**296.0** 11.65	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**60.74** 133.92
M252349	M252310CD	**6.4** 0.25	**296.0** 11.65	**1.5** 0.06	**364.0** 14.32	**28.58** 1.13	**10.31** 0.41	1839.2	226.1	0.1588	**51.96** 114.53
EE275108	275156CD	**6.4** 0.25	**301.0** 11.85	**1.5** 0.06	**378.5** 14.90	**25.40** 1.00	**9.52** 0.38	1451.8	201.3	0.1555	**53.10** 117.05
EE275108	275156D	**6.4** 0.25	**301.0** 11.85	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**52.35** 115.39

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

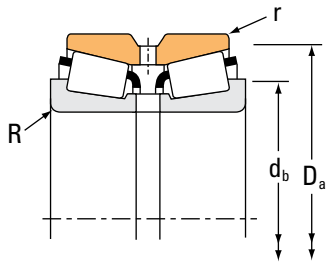
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
273.050 10.7500	**406.400** 16.0000	**155.575** 6.1250	**107.950** 4.2500	**1760000** 396000	0.40	1.68	2.50	**262000** 59000	**181000** 40600	**457000** 103000	1.45
276.225 10.8750	**508.000** 20.0000	**190.500** 7.5000	**127.000** 5.0000	**2510000** 565000	0.58	1.17	1.75	**374000** 84100	**369000** 82900	**651000** 146000	1.01
279.400 11.0000	**374.650** 14.7500	**104.775** 4.1250	**79.375** 3.1250	**905000** 203000	0.40	1.68	2.50	**135000** 30300	**92700** 20800	**235000** 52700	1.45
279.400 11.0000	**469.900** 18.5000	**200.025** 7.8750	**149.225** 5.8750	**2810000** 631000	0.38	1.79	2.66	**418000** 94000	**271000** 60800	**728000** 164000	1.55
279.400 11.0000	**488.950** 19.2500	**254.000** 10.0000	**196.850** 7.7500	**4220000** 948000	0.31	2.16	3.21	**628000** 141000	**336000** 75600	**1090000** 246000	1.87
279.400 11.0000	**488.950** 19.2500	**254.000** 10.0000	**196.850** 7.7500	**4220000** 948000	0.31	2.16	3.21	**628000** 141000	**336000** 75600	**1090000** 246000	1.87
279.982 11.0229	**380.898** 14.9960	**139.700** 5.5000	**107.950** 4.2500	**1260000** 283000	0.43	1.56	2.33	**187000** 42100	**138000** 31100	**326000** 73300	1.35
280.192 11.0312	**406.400** 16.0000	**120.650** 4.7500	**85.725** 3.3750	**1200000** 270000	0.41	1.65	2.46	**179000** 40200	**125000** 28100	**311000** 70000	1.43
280.192 11.0312	**406.400** 16.0000	**149.225** 5.8750	**117.475** 4.6250	**1610000** 362000	0.39	1.75	2.60	**240000** 53900	**158000** 35600	**417000** 93800	1.51
285.750 11.2500	**358.775** 14.1250	**76.200** 3.0000	**53.975** 2.1250	**449000** 101000	0.49	1.37	2.04	**66800** 15000	**56300** 12600	**116000** 26200	1.19
285.750 11.2500	**380.898** 14.9960	**139.700** 5.5000	**107.950** 4.2500	**1260000** 283000	0.43	1.56	2.33	**187000** 42100	**138000** 31100	**326000** 73300	1.35
285.750 11.2500	**469.900** 18.5000	**177.785** 6.9994	**127.000** 5.0000	**2630000** 591000	0.29	2.31	3.44	**391000** 88000	**196000** 44000	**681000** 153000	2.00
285.750 11.2500	**476.250** 18.7500	**177.785** 6.9994	**127.000** 5.0000	**2630000** 591000	0.29	2.31	3.44	**391000** 88000	**196000** 44000	**681000** 153000	2.00
285.750 11.2500	**501.650** 19.7500	**202.200** 8.0000	**120.650** 4.7500	**2370000** 533000	0.83	0.81	1.20	**353000** 79400	**505000** 113000	**615000** 138000	0.70
288.925 11.3750	**406.400** 16.0000	**165.100** 6.5000	**130.175** 5.1250	**2380000** 534000	0.34	2.00	2.97	**354000** 79500	**205000** 46000	**616000** 138000	1.73
292.100 11.5000	**469.900** 18.5000	**200.025** 7.8750	**149.225** 5.8750	**2810000** 631000	0.38	1.79	2.66	**418000** 94000	**271000** 60800	**728000** 164000	1.55
292.100 11.5000	**469.900** 18.5000	**200.025** 7.8750	**149.225** 5.8750	**3030000** 681000	0.38	1.79	2.66	**451000** 101000	**292000** 65600	**785000** 176000	1.55

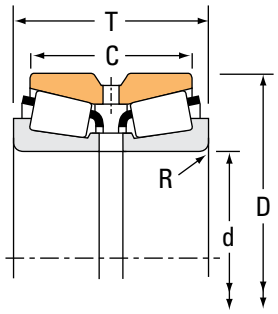
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

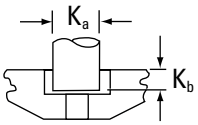
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE275108	275161D	**6.4** 0.25	**301.0** 11.85	**1.5** 0.06	**378.1** 14.89	– –	– –	1451.8	201.3	0.1555	**57.98** 127.80
HM855449	HM855419D	**6.4** 0.25	**313.0** 12.32	**3.3** 0.13	**430.0** 16.93	– –	– –	1651.5	173.3	0.1824	**152.70** 336.65
L555233	L555210D	**3.5** 0.14	**300.0** 11.81	**1.5** 0.06	**362.0** 14.25	– –	– –	1476.9	368.2	0.1553	**27.91** 61.53
EE722110	722186CD	**9.7** 0.38	**321.0** 12.64	**1.5** 0.06	**432.9** 17.04	**28.58** 1.13	**11.91** 0.47	1894.4	142.6	0.1669	**121.64** 268.18
EE295110	295192D	**1.3** 0.05	**303.0** 11.93	**1.5** 0.06	**450.5** 17.74	– –	– –	2247.3	171.9	0.1664	**183.69** 404.99
EE295110	295192CD	**1.3** 0.05	**303.0** 11.93	**1.5** 0.06	**450.5** 17.74	**28.58** 1.13	**14.30** 0.56	2247.3	171.9	0.1664	**183.69** 404.99
LM654642	LM654610CD	**3.5** 0.14	**302.0** 11.89	**1.5** 0.06	**368.0** 14.49	**22.23** 0.88	**10.31** 0.41	1916.4	265.6	0.1744	**43.56** 96.00
EE101103	101601CD	**6.8** 0.27	**309.0** 12.17	**1.5** 0.06	**376.0** 14.80	**19.05** 0.75	**10.34** 0.41	1380.2	226.7	0.1527	**44.44** 97.97
EE128110	128160CD	**6.8** 0.27	**309.0** 12.17	**1.5** 0.06	**384.0** 15.12	**25.40** 1.00	**9.52** 0.38	1727.7	255.2	0.1628	**58.47** 128.93
545112	545142CD	**3.5** 0.14	**302.0** 11.89	**1.5** 0.06	**345.0** 13.58	**14.29** 0.56	**7.95** 0.31	1015.9	545.5	0.1446	**15.27** 33.66
LM654649	LM654610CD	**3.5** 0.14	**306.0** 12.05	**1.5** 0.06	**368.0** 14.49	**22.23** 0.88	**10.31** 0.41	1916.4	265.6	0.1744	**40.74** 89.80
EE921124	921851D	**9.7** 0.38	**325.0** 12.80	**1.5** 0.06	**440.2** 17.33	– –	– –	1732.1	200.0	0.1481	**103.89** 229.04
EE921124	921876D	**9.7** 0.38	**325.0** 12.80	**1.5** 0.06	**440.2** 17.33	– –	– –	1732.1	200.0	0.1481	**104.91** 231.30
EE147112	147198D	**6.4** 0.25	**329.0** 12.95	**3.3** 0.13	**468.1** 18.43	– –	– –	1487.1	138.4	0.1954	**142.84** 314.94
M255449H	M255410CD	**6.4** 0.25	**317.0** 12.48	**1.5** 0.06	**387.9** 15.27	**28.58** 1.13	**11.12** 0.44	2301.3	287.6	0.1722	**63.76** 140.59
EE722115	722186CD	**9.7** 0.38	**330.0** 12.99	**1.5** 0.06	**432.9** 17.04	**28.58** 1.13	**11.91** 0.47	1894.4	142.6	0.1669	**111.93** 246.76
HM456949	HM456910CD	**9.7** 0.38	**331.0** 13.03	**1.5** 0.06	**443.0** 17.44	**28.58** 1.13	**11.91** 0.47	2134.9	153.5	0.1740	**118.21** 260.63

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

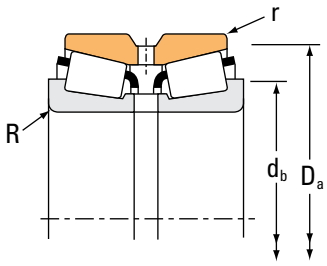
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
292.100 11.5000	**469.900** 18.5000	**200.025** 7.8750	**149.225** 5.8750	**3950000** 887000	0.38	1.79	2.66	**588000** 132000	**380000** 85500	**1020000** 230000	1.55
292.100 11.5000	**520.700** 20.5000	**228.600** 9.0000	**165.100** 6.5000	**3400000** 765000	0.33	2.06	3.06	**506000** 114000	**284000** 63900	**882000** 198000	1.78
292.100 11.5000	**558.800** 22.0000	**298.450** 11.7500	**222.250** 8.7500	**5390000** 1210000	0.40	1.71	2.54	**802000** 180000	**542000** 122000	**1400000** 314000	1.48
298.450 11.7500	**444.500** 17.5000	**146.050** 5.7500	**98.4250** 3.8750	**1540000** 347000	0.38	1.79	2.66	**230000** 51700	**149000** 33400	**400000** 90000	1.55
299.975 11.8100	**495.300** 19.5000	**301.625** 11.8750	**247.650** 9.7500	**5000000** 1120000	0.33	2.03	3.02	**744000** 167000	**423000** 95200	**1300000** 291000	1.76
300.038 11.8125	**422.275** 16.6250	**174.625** 6.8750	**136.525** 5.3750	**2260000** 508000	0.34	2.00	2.99	**336000** 75600	**194000** 43600	**586000** 132000	1.73
300.038 11.8125	**422.275** 16.6250	**174.625** 6.8750	**136.525** 5.3750	**2260000** 508000	0.34	2.00	2.99	**336000** 75600	**194000** 43600	**586000** 132000	1.73
300.040 11.8126	**496.000** 19.5276	**307.576** 12.1092	**253.600** 9.9842	**6270000** 1410000	0.33	2.03	3.02	**933000** 210000	**531000** 119000	**1630000** 365000	1.76
304.800 12.0000	**393.700** 15.5000	**107.950** 4.2500	**82.550** 3.2500	**1020000** 229000	0.36	1.88	2.80	**152000** 34200	**93500** 21000	**265000** 59500	1.63
304.800 12.0000	**412.750** 16.2500	**123.825** 4.8750	**92.075** 3.6250	**1080000** 242000	0.43	1.58	2.35	**160000** 36000	**117000** 26300	**279000** 62700	1.37
304.800 12.0000	**412.750** 16.2500	**158.750** 6.2500	**127.000** 5.0000	**1080000** 242000	0.43	1.58	2.35	**160000** 36000	**117000** 26300	**279000** 62700	1.37
304.800 12.0000	**438.048** 17.2460	**165.100** 6.5000	**120.650** 4.7500	**1560000** 351000	0.42	1.62	2.42	**232000** 52200	**165000** 37200	**405000** 91000	1.40
304.8000 12.0000	**444.5000** 17.5000	**146.050** 5.7500	**98.425** 3.8750	**1540000** 347000	0.38	1.79	2.66	**230000** 51700	**149000** 33400	**400000** 90000	1.55
304.800 12.0000	**444.500** 17.5000	**223.825** 8.8120	**176.200** 6.9370	**1540000** 347000	0.38	1.79	2.66	**230000** 51700	**149000** 33400	**400000** 90000	1.55
304.800 12.0000	**495.300** 19.5000	**162.245** 6.3876	**120.650** 4.7500	**2700000** 607000	0.40	1.68	2.50	**402000** 90300	**277000** 62200	**700000** 157000	1.45
304.800 12.0000	**495.300** 19.5000	**168.595** 6.6376	**127.000** 5.0000	**2700000** 607000	0.40	1.68	2.50	**402000** 90300	**277000** 62200	**700000** 157000	1.45
304.800 12.0000	**495.300** 19.5000	**196.850** 7.7500	**146.050** 5.7500	**2630000** 591000	0.40	1.68	2.50	**392000** 88000	**269000** 60600	**682000** 153000	1.45

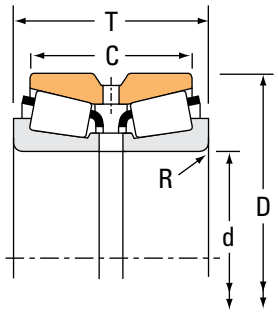
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

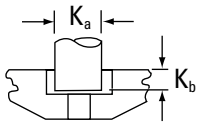
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
NP911398	NP993155	**9.7** 0.38	**331.0** 13.03	**1.5** 0.06	**443.0** 17.44	**28.58** 1.13	**11.91** 0.47	2134.9	153.5	0.1740	**118.73** 261.77
EE224115	224205D	**6.4** 0.25	**331.0** 13.03	**1.5** 0.06	**468.2** 18.43	– –	– –	2630.1	228.6	0.1780	**192.33** 424.04
EE790114	790223D	**6.4** 0.25	**335.0** 13.19	**1.5** 0.06	**514.2** 20.24	– –	– –	2663.9	170.3	0.1898	**297.82** 656.59
EE291175	291751CD	**8.00** 0.31	**332.00** 13.07	**1.50** 0.06	**413.89** 16.30	**22.23** 0.88	**11.91** 0.47	1579.2	244.8	0.1557	**65.59** 144.62
HH258248	HH258210CD	**6.4** 0.25	**342.0** 13.46	**1.5** 0.06	**467.0** 18.40	**28.58** 1.13	**14.30** 0.56	3853.2	220.0	0.2048	**229.10** 505.10
HM256849	HM256810D	**6.4** 0.25	**328.0** 12.91	**1.5** 0.06	**403.0** 15.88	– –	– –	2548.4	281.8	0.1779	**73.00** 160.96
HM256849	HM256810CD	**6.4** 0.25	**328.0** 12.91	**1.5** 0.06	**403.0** 15.88	**28.58** 1.13	**11.91** 0.47	2548.4	281.8	0.1779	**73.00** 160.96
JHH258247	JHH258211CD	**6.4** 0.25	**346.0** 13.62	**1.5** 0.06	**467.0** 18.39	**28.58** 1.13	**14.30** 0.56	3853.2	220.0	0.2048	**234.73** 517.50
L357049	L357010CD	**6.4** 0.25	**329.0** 12.95	**1.5** 0.06	**380.0** 14.96	**19.05** 0.75	**7.95** 0.31	1753.3	301.0	0.1585	**29.90** 65.92
EE109120	109163D	**6.4** 0.25	**330.0** 12.99	**1.5** 0.06	**394.4** 15.53	– –	– –	1520.2	251.6	0.1598	**39.79** 87.72
EE109120	109161D	**6.4** 0.25	**330.0** 12.99	**1.5** 0.06	**394.4** 15.53	– –	– –	1520.2	251.6	0.1598	**51.53** 113.61
EE129120X	129173CD	**6.4** 0.25	**334.0** 13.15	**1.5** 0.06	**411.0** 16.20	**26.98** 1.06	**11.12** 0.44	1882.6	272.9	0.1711	**70.21** 154.78
EE291201	291751CD	**8.00** 0.31	**337.00** 13.27	**1.50** 0.06	**413.89** 16.30	**22.23** 0.88	**11.91** 0.47	1579.2	244.8	0.1557	**62.72** 138.26
EE291201	291753CD	**8.0** 0.31	**337.0** 13.27	**1.5** 0.06	**414.0** 16.30	**22.23** 0.88	**11.91** 0.47	1579.2	244.8	0.1557	**92.94** 204.88
EE941205	941951XD	**6.4** 0.25	**339.0** 13.35	**1.5** 0.06	**463.4** 18.25	– –	– –	1771.6	187.4	0.1657	**106.66** 235.12
EE941205	941953D	**6.4** 0.25	**339.0** 13.35	**1.5** 0.06	**463.4** 18.25	– –	– –	1771.6	187.4	0.1657	**107.65** 237.30
EE724119	724196CD	**16.0** 0.63	**359.0** 14.13	**1.5** 0.06	**458.9** 18.07	**28.58** 1.13	**12.70** 0.50	2242.3	170.0	0.1800	**134.62** 296.78

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

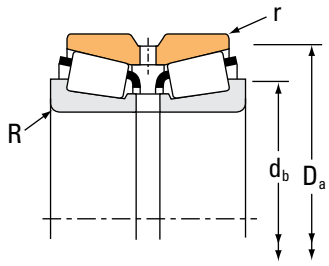
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
304.800 12.0000	**495.300** 19.5000	**196.850** 7.7500	**146.050** 5.7500	**2940000** 660000	0.40	1.68	2.50	**437000** 98300	**301000** 67700	**762000** 171000	1.45
304.800 12.0000	**558.800** 22.0000	**298.450** 11.7500	**222.250** 8.7500	**5390000** 1210000	0.40	1.71	2.54	**802000** 180000	**542000** 122000	**1400000** 314000	1.48
311.150 12.2500	**558.800** 22.0000	**190.500** 7.5000	**111.125** 4.3750	**2400000** 540000	0.88	0.76	1.14	**358000** 80400	**541000** 122000	**623000** 140000	0.66
317.5000 12.5000	**444.5000** 17.5000	**146.050** 5.7500	**98.425** 3.8750	**1540000** 347000	0.38	1.79	2.66	**230000** 51700	**149000** 33400	**400000** 90000	1.55
317.500 12.5000	**447.675** 17.6250	**180.975** 7.1250	**146.050** 5.7500	**3600000** 808000	0.33	2.02	3.00	**535000** 120000	**307000** 69000	**932000** 210000	1.74
317.500 12.5000	**447.675** 17.6250	**180.975** 7.1250	**146.050** 5.7500	**2920000** 656000	0.33	2.02	3.00	**435000** 97800	**249000** 56000	**757000** 170000	1.74
317.500 12.5000	**447.675** 17.6250	**180.975** 7.1250	**146.050** 5.7500	**2920000** 656000	0.33	2.02	3.00	**435000** 97800	**249000** 56000	**757000** 170000	1.74
317.500 12.5000	**622.300** 24.5000	**304.800** 12.0000	**174.625** 6.8750	**5500000** 1240000	0.94	0.72	1.07	**819000** 184000	**1310000** 295000	**1430000** 321000	0.62
329.870 12.9870	**533.400** 21.0000	**174.625** 6.8750	**123.825** 4.8750	**3010000** 676000	0.33	2.03	3.02	**448000** 101000	**255000** 57300	**780000** 175000	1.76
329.870 12.9870	**546.100** 21.5000	**177.800** 7.0000	**152.400** 6.0000	**3010000** 676000	0.33	2.03	3.02	**448000** 101000	**255000** 57300	**780000** 175000	1.76
330.200 13.0000	**415.925** 16.3750	**100.012** 3.9375	**74.612** 2.9375	**844000** 190000	0.50	1.35	2.02	**126000** 28300	**107000** 24100	**219000** 49200	1.17
330.200 13.0000	**415.925** 16.3750	**100.012** 3.9375	**74.612** 2.9375	**844000** 190000	0.50	1.35	2.02	**126000** 28300	**107000** 24100	**219000** 49200	1.17
330.200 13.0000	**482.600** 19.0000	**133.350** 5.2500	**88.900** 3.5000	**1090000** 246000	0.50	1.35	2.01	**163000** 36600	**140000** 31400	**284000** 63800	1.17
330.200 13.0000	**482.600** 19.0000	**177.800** 7.0000	**127.000** 5.0000	**2180000** 489000	0.39	1.73	2.57	**324000** 72900	**217000** 48700	**564000** 127000	1.49
330.200 13.0000	**482.600** 19.0000	**177.800** 7.0000	**127.000** 5.0000	**2180000** 489000	0.39	1.73	2.57	**324000** 72900	**217000** 48700	**564000** 127000	1.49
330.200 13.0000	**482.600** 19.0000	**177.800** 7.0000	**127.000** 5.0000	**2180000** 489000	0.39	1.73	2.57	**324000** 72900	**217000** 48700	**564000** 127000	1.49
333.375 13.1250	**469.900** 18.5000	**190.500** 7.5000	**152.400** 6.0000	**3930000** 884000	0.33	2.02	3.00	**586000** 132000	**336000** 75500	**1020000** 229000	1.74

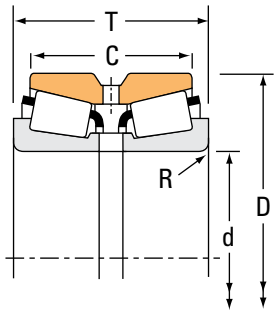
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

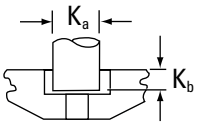
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE724120	724196CD	**16.0** 0.63	**359.0** 14.13	**1.5** 0.06	**458.9** 18.07	**28.58** 1.13	**12.70** 0.50	2183.9	165.7	0.1783	**128.48** 283.25
EE790120	790223D	**1.3** 0.05	**335.0** 13.19	**1.5** 0.06	**514.2** 20.24	– –	– –	2663.9	170.3	0.1898	**284.29** 626.78
EE148122	148220D	**9.7** 0.38	**361.0** 14.21	**3.3** 0.13	**488.4** 19.23	– –	– –	1639.0	153.2	0.2048	**169.43** 373.55
EE291250	291751CD	**8.00** 0.31	**346.00** 13.62	**1.50** 0.06	**413.89** 16.30	**22.23** 0.88	**11.91** 0.47	1579.2	244.8	0.1557	**55.22** 121.76
DX760136	DX307395	**3.5** 0.14	**341.0** 13.43	**1.5** 0.06	**428.0** 16.85	**28.58** 1.13	**11.91** 0.47	2944.6	303.9	0.1863	**85.74** 189.03
HM259049	HM259010D	**3.5** 0.14	**341.0** 13.43	**1.5** 0.06	**427.7** 16.84			2944.6	303.9	0.1863	**86.01** 189.64
HM259049	HM259010CD	**3.5** 0.14	**341.0** 13.43	**1.5** 0.06	**427.7** 16.84	**28.58** 1.13	**11.91** 0.47	2944.6	303.9	0.1863	**86.01** 189.64
H961649	H961610CD	**14.3** 0.56	**410.0** 16.14	**3.3** 0.13	**581.6** 22.90	**23.80** 0.94	**14.30** 0.56	2502.7	149.1	0.2401	**371.45** 818.88
EE971298	972103D	**4.8** 0.19	**364.0** 14.33	**1.5** 0.06	**496.3** 19.54	– –	– –	2433.2	282.5	0.1730	**134.71** 296.99
EE971298	972151D	**4.8** 0.19	**364.0** 14.33	**3.3** 0.13	**501.9** 19.76	– –	– –	2433.2	282.5	0.1730	**154.99** 341.68
L860048	L860010CD	**12.7** 0.50	**367.0** 14.45	**1.5** 0.06	**402.0** 15.83	**17.46** 0.69	**8.73** 0.34	1823.3	479.1	0.1774	**27.53** 60.72
L860049	L860010CD	**3.5** 0.14	**349.0** 13.74	**1.5** 0.06	**402.0** 15.83	**17.46** 0.69	**8.73** 0.34	1823.3	479.1	0.1774	**28.77** 63.45
EE161300	161901CD	**7.0** 0.28	**367.0** 14.45	**1.5** 0.06	**455.0** 17.91	**22.23** 0.88	**11.91** 0.47	1730.8	299.6	0.1741	**70.80** 156.09
EE526130	526191CD	**6.4** 0.25	**360.0** 14.17	**1.5** 0.06	**454.0** 17.87	**28.58** 1.13	**11.91** 0.47	2283.3	287.2	0.1790	**92.44** 203.80
EE526130	526191D	**6.4** 0.25	**360.0** 14.17	**1.5** 0.06	**454.0** 17.87	– –	– –	2283.3	287.2	0.1790	**92.97** 204.96
EE526132	526191CD	**3.3** 0.13	**354.0** 13.94	**1.5** 0.06	**454.0** 17.87	**28.58** 1.13	**11.91** 0.47	2283.3	287.2	0.1790	**92.46** 203.85
DX135509	DX371163	**6.4** 0.25	**363.0** 14.29	**1.5** 0.06	**449.0** 17.69	**28.58** 1.13	**11.91** 0.47	3306.8	324.3	0.1935	**95.33** 210.17

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

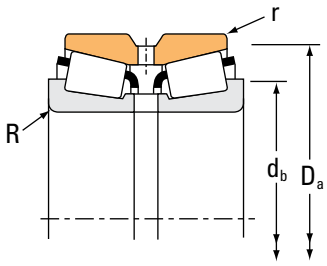
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
333.375 13.1250	**469.900** 18.5000	**190.500** 7.5000	**152.400** 6.0000	**2780000** 626000	0.33	2.02	3.00	**415000** 93200	**238000** 53400	**722000** 162000	1.74
333.375 13.1250	**469.900** 18.5000	**190.500** 7.5000	**152.400** 6.0000	**2940000** 661000	0.33	2.02	3.00	**438000** 98500	**251000** 56400	**763000** 171000	1.74
339.949 13.3838	**579.948** 22.8326	**305.000** 12.0079	**241.000** 9.4882	**5890000** 1320000	0.33	2.03	3.02	**876000** 197000	**499000** 112000	**1530000** 343000	1.76
339.949 13.3838	**589.948** 23.2263	**340.000** 13.3859	**278.000** 10.9449	**6800000** 1530000	0.33	2.03	3.02	**1010000** 227000	**576000** 130000	**1760000** 396000	1.76
342.900 13.5000	**457.098** 17.9960	**142.875** 5.6250	**101.600** 4.0000	**1430000** 322000	0.71	0.95	1.41	**213000** 48000	**260000** 58500	**371000** 83500	0.82
342.900 13.5000	**457.098** 17.9960	**142.875** 5.6250	**101.600** 4.0000	**1430000** 322000	0.71	0.95	1.41	**213000** 48000	**260000** 58500	**371000** 83500	0.82
342.900 13.5000	**533.400** 21.0000	**165.100** 6.5000	**114.300** 4.5000	**3010000** 676000	0.33	2.03	3.02	**448000** 101000	**255000** 57300	**780000** 175000	1.76
342.900 13.5000	**533.400** 21.0000	**174.625** 6.8750	**114.300** 4.5000	**3010000** 676000	0.33	2.03	3.02	**448000** 101000	**255000** 57300	**780000** 175000	1.76
342.900 13.5000	**546.100** 21.5000	**177.800** 7.0000	**114.300** 4.5000	**3010000** 676000	0.33	2.03	3.02	**448000** 101000	**255000** 57300	**780000** 175000	1.76
346.075 13.6250	**482.600** 19.0000	**133.350** 5.2500	**88.900** 3.5000	**1090000** 246000	0.50	1.35	2.01	**163000** 36600	**140000** 31400	**284000** 63800	1.17
346.075 13.6250	**488.950** 19.2500	**200.025** 7.8750	**158.750** 6.2500	**3250000** 730000	0.33	2.02	3.00	**483000** 109000	**277000** 62300	**842000** 189000	1.74
346.075 13.6250	**488.950** 19.2500	**200.025** 7.8750	**158.750** 6.2500	**3010000** 676000	0.33	2.02	3.00	**448000** 101000	**257000** 57700	**780000** 175000	1.74
349.250 13.7500	**514.350** 20.2500	**193.675** 7.6250	**152.400** 6.0000	**2350000** 529000	0.37	1.84	2.74	**350000** 78700	**220000** 49500	**610000** 137000	1.59
354.012 13.9375	**482.600** 19.0000	**133.350** 5.2500	**88.900** 3.5000	**954000** 214000	0.50	1.35	2.01	**142000** 31900	**122000** 27400	**247000** 55600	1.17
355.600 14.0000	**444.500** 17.5000	**136.525** 5.3750	**111.125** 4.3750	**1280000** 287000	0.31	2.20	3.27	**190000** 42700	**100000** 22500	**331000** 74400	1.90
355.600 14.0000	**482.600** 19.0000	**133.350** 5.2500	**88.900** 3.5000	**1090000** 246000	0.50	1.35	2.01	**163000** 36600	**140000** 31400	**284000** 63800	1.17
355.600 14.0000	**501.650** 19.7500	**155.575** 6.1250	**107.950** 4.2500	**1830000** 412000	0.44	1.53	2.28	**273000** 61300	**206000** 46200	**475000** 107000	1.33

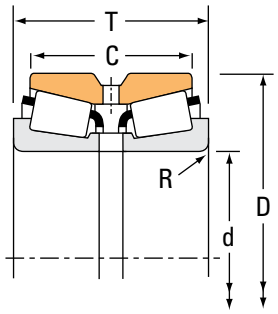
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

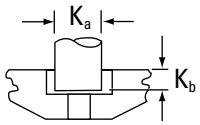
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
HM261049	HM261010CD	**6.4** 0.25	**363.0** 14.29	**1.5** 0.06	**449.5** 17.70	**28.58** 1.13	**11.91** 0.47	3306.8	324.3	0.1935	**99.90** 220.23
HM261049H	HM261010CD	**6.4** 0.25	**363.0** 14.29	**1.5** 0.06	**449.5** 17.70	**28.58** 1.13	**11.91** 0.47	3045.1	299.8	0.1880	**95.90** 211.44
H263949	H263910D	**14.0** 0.55	**396.0** 15.59	**3.5** 0.14	**540.0** 21.27	– –	– –	4370.9	231.9	0.2126	**318.99** 703.30
HH264149	HH264110CD	**14.0** 0.55	**402.0** 15.83	**3.5** 0.14	**552.0** 21.73	**28.58** 1.13	**15.09** 0.59	5002.5	237.7	0.2228	**381.14** 840.26
LM961548	LM961511D	**3.3** 0.13	**367.0** 14.45	**1.5** 0.06	**443.1** 17.44	– –	– –	2281.5	300.4	0.2146	**59.77** 131.78
LM961548	LM961511CD	**3.3** 0.13	**367.0** 14.45	**1.5** 0.06	**443.1** 17.44	**22.23** 0.88	**11.12** 0.44	2281.5	300.4	0.2146	**59.77** 131.78
EE971354	972102CD	**4.8** 0.19	**373.0** 14.69	**1.5** 0.06	**496.3** 19.54	**22.23** 0.88	**12.70** 0.50	2433.2	282.5	0.1730	**120.66** 266.02
EE971354	972103D	**4.8** 0.19	**373.0** 14.69	**1.5** 0.06	**496.3** 19.54	– –	– –	2433.2	282.5	0.1730	**121.86** 268.68
EE971354	972151D	**4.8** 0.19	**373.0** 14.69	**3.3** 0.13	**501.9** 19.76	– –	– –	2433.2	282.5	0.1730	**141.87** 312.78
EE161363	161901CD	**7.0** 0.28	**379.0** 14.92	**1.5** 0.06	**455.0** 17.91	**22.23** 0.88	**11.91** 0.47	1730.8	299.6	0.1741	**61.90** 136.45
HM262748	HM262710CD	**6.4** 0.25	**377.0** 14.84	**1.5** 0.06	**467.0** 18.39	**28.58** 1.13	**11.91** 0.47	3430.8	322.6	0.1956	**110.40** 243.37
HM262749	HM262710CD	**6.4** 0.25	**377.0** 14.84	**1.5** 0.06	**467.0** 18.39	**28.58** 1.13	**11.91** 0.47	3646.2	341.8	0.1999	**113.26** 249.69
EE333137	333203CD	**6.4** 0.25	**382.0** 15.04	**1.5** 0.06	**478.3** 18.83	**28.58** 1.13	**11.91** 0.47	3037.5	334.7	0.1928	**123.41** 272.08
EE161394	161901CD	**7.0** 0.28	**385.0** 15.16	**1.5** 0.06	**455.0** 17.91	**22.23** 0.88	**11.91** 0.47	1730.8	299.6	0.1741	**58.33** 128.62
L163149	L163110CD	**3.5** 0.14	**374.0** 14.72	**1.5** 0.06	**430.0** 16.93	**22.23** 0.88	**9.52** 0.38	3207.7	621.3	0.1838	**44.54** 98.21
EE161400	161901CD	**7.0** 0.28	**386.0** 15.20	**1.5** 0.06	**455.0** 17.91	**22.23** 0.88	**11.91** 0.47	1730.8	299.6	0.1741	**57.40** 126.53
EE231400	231976CD	**6.4** 0.25	**388.0** 15.28	**1.5** 0.06	**481.0** 18.94	22.23 0.88	11.91 0.47	2386.0	366.8	0.1874	**85.25** 181.34

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

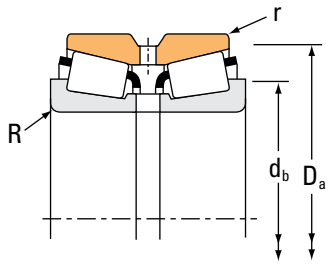
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
355.600 14.0000	**514.350** 20.2500	**155.575** 6.1250	**107.950** 4.2500	**1830000** 412000	0.44	1.53	2.28	**273000** 61300	**206000** 46200	**475000** 107000	1.33
355.600 14.0000	**514.350** 20.2500	**193.675** 7.6250	**152.400** 6.0000	**2350000** 529000	0.37	1.84	2.74	**350000** 78700	**220000** 49500	**610000** 137000	1.59
368.249 14.4980	**523.875** 20.6250	**214.312** 8.4375	**169.862** 6.6875	**4870000** 1100000	0.33	2.03	3.02	**725000** 163000	**413000** 92900	**1260000** 284000	1.76
368.249 14.4980	**523.875** 20.6250	**214.312** 8.4375	**169.862** 6.6875	**3960000** 890000	0.33	2.03	3.02	**589000** 132000	**335000** 75400	**1030000** 231000	1.76
368.300 14.5000	**596.900** 23.5000	**203.200** 8.0000	**133.350** 5.2500	**3090000** 694000	0.41	1.63	2.42	**460000** 103000	**326000** 73400	**801000** 180000	1.41
371.475 14.6250	**501.650** 19.7500	**155.575** 6.1250	**107.950** 4.2500	**1830000** 412000	0.44	1.53	2.28	**273000** 61300	**206000** 46200	**475000** 107000	1.33
371.475 14.6250	**514.350** 20.2500	**155.575** 6.1250	**107.950** 4.2500	**1830000** 412000	0.44	1.53	2.28	**273000** 61300	**206000** 46200	**475000** 107000	1.33
377.825 14.8750	**508.000** 20.0000	**139.700** 5.5000	**88.900** 3.5000	**1320000** 296000	0.53	1.27	1.89	**196000** 44000	**179000** 40200	**341000** 76600	1.10
379.948 14.9586	**659.925** 25.9813	**380.000** 14.9606	**309.997** 12.2046	**8320000** 1870000	0.33	2.03	3.02	**1240000** 278000	**705000** 159000	**2160000** 485000	1.76
380.000 14.9606	**620.000** 24.4094	**241.000** 9.4882	**172.000** 6.7717	**4870000** 1090000	0.46	1.47	2.19	**725000** 163000	**569000** 128000	**1260000** 284000	1.27
381.000 15.0000	**508.000** 20.0000	**139.700** 5.5000	**88.900** 3.5000	**1320000** 296000	0.53	1.27	1.89	**196000** 44000	**179000** 40200	**341000** 76600	1.10
381.000 15.0000	**546.100** 21.5000	**222.250** 8.7500	**177.800** 7.0000	**4860000** 1090000	0.33	2.03	3.02	**723000** 163000	**412000** 92600	**1260000** 283000	1.76
381.000 15.0000	**546.100** 21.5000	**222.250** 8.7500	**177.800** 7.0000	**3950000** 887000	0.33	2.03	3.02	**588000** 132000	**335000** 75200	**1020000** 230000	1.76
381.000 15.0000	**546.100** 21.5000	**222.250** 8.7500	**177.800** 7.0000	**4290000** 963000	0.33	2.03	3.02	**638000** 143000	**363000** 81700	**1110000** 250000	1.76
381.000 15.0000	**590.550** 23.2500	**244.475** 9.6250	**193.675** 7.6250	**4970000** 1120000	0.33	2.03	3.02	**740000** 166000	**421000** 94800	**1290000** 290000	1.76
381.000 15.0000	**590.550** 23.2500	**244.475** 9.6250	**193.675** 7.6250	**4970000** 1120000	0.33	2.03	3.02	**740000** 166000	**421000** 94800	**1290000** 290000	1.76
384.175 15.1250	**546.100** 21.5000	**222.250** 8.7500	**177.800** 7.0000	**3950000** 887000	0.33	2.03	3.02	**588000** 132000	**335000** 75200	**1020000** 230000	1.76

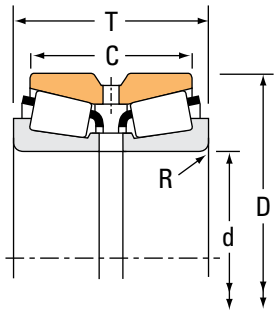
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

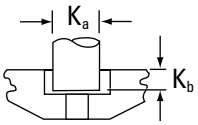
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE231400	232026D	**6.4** 0.25	**388.0** 15.28	**1.5** 0.06	**481.1** 18.94	– –	– –	2386.0	366.8	0.1874	**89.44** 197.21
EE333140	333203CD	**6.4** 0.25	**387.0** 15.24	**1.5** 0.06	**478.3** 18.83	**28.58** 1.13	**11.91** 0.47	3037.5	334.7	0.1928	**117.34** 258.71
DX418857	DX748779	**6.4** 0.25	**400.0** 15.75	**1.5** 0.06	**499.0** 19.63	**28.58** 1.13	**11.91** 0.47	4297.3	412.9	0.2106	**141.29** 311.48
HM265049	HM265010CD	**6.4** 0.25	**400.0** 15.75	**1.5** 0.06	**499.0** 19.65	**28.58** 1.13	**11.91** 0.47	4297.3	412.9	0.2106	**143.00** 315.22
EE181453	182351D	**9.7** 0.38	**415.0** 16.34	**2.3** 0.09	**551.6** 21.72	– –	– –	2961.8	271.9	0.1984	**194.15** 428.02
EE231462	231976CD	**6.4** 0.25	**400.0** 15.75	**1.5** 0.06	**481.0** 18.94	**22.23** 0.88	**11.91** 0.47	2386.0	366.8	0.1874	**71.79** 158.27
EE231462	232026D	**6.4** 0.25	**400.0** 15.75	**1.5** 0.06	**481.1** 18.94	– –	– –	2386.0	366.8	0.1874	**79.98** 176.33
EE192148	192201CD	**6.4** 0.25	**408.0** 16.06	**1.5** 0.06	**482.0** 18.98	**19.05** 0.75	**10.34** 0.41	2288.0	398.1	0.1951	**67.31** 148.42
HH267648	HH267610D	**14.0** 0.55	**423.9** 16.69	**3.5** 0.14	**616.0** 24.25	– –	– –	6505.2	275.8	0.2430	**533.08** 1175.27
NP262883	NP789786	**6.0** 0.24	**423.0** 16.65	**3.0** 0.12	**583.5** 22.97	**28.58** 1.13	**15.09** 0.59	3473.0	238.6	0.2168	**257.50** 567.36
EE192150	192201CD	**6.4** 0.25	**410.0** 16.14	**1.5** 0.06	**482.0** 18.98	**19.05** 0.75	**10.34** 0.41	2288.0	398.1	0.1951	**65.35** 144.10
DX355312	DX295661	**6.4** 0.25	**415.0** 16.34	**1.5** 0.06	**520.0** 20.47	**28.58** 1.13	**11.91** 0.47	4383.4	278.7	0.2116	**156.78** 345.62
HM266446	HM266410CD	**6.4** 0.25	**415.0** 16.34	**1.5** 0.06	**520.0** 20.47	**28.58** 1.13	**11.91** 0.47	4383.4	278.7	0.2116	**156.78** 345.62
HM266447	HM266410CD	**6.4** 0.25	**415.0** 16.34	**1.5** 0.06	**520.0** 20.47	**28.58** 1.13	**11.91** 0.47	4760.1	301.5	0.2178	**163.26** 359.89
M268730	M268710D	**6.4** 0.25	**425.0** 16.73	**1.5** 0.06	**562.0** 22.13	– –	– –	5754.9	420.9	0.2319	**245.77** 541.82
M268730	M268710CD	**6.4** 0.25	**425.0** 16.73	**1.5** 0.06	**562.0** 22.13	**28.58** 1.13	**14.30** 0.56	5754.9	420.9	0.2319	**245.77** 541.82
HM266448	HM266410CD	**6.4** 0.25	**417.0** 16.42	**1.5** 0.06	**520.0** 20.47	**28.58** 1.13	**11.91** 0.47	4383.4	278.7	0.2116	**153.74** 338.94

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

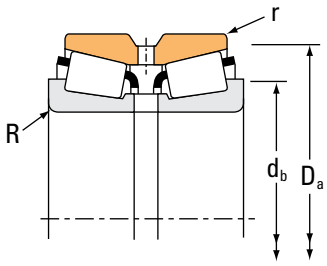
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
384.175 15.1250	**546.100** 21.5000	**222.250** 8.7500	**177.800** 7.0000	**4290000** 963000	0.33	2.03	3.02	**638000** 143000	**363000** 81700	**1110000** 250000	1.76
385.762 15.1875	**514.350** 20.2500	**177.800** 7.0000	**139.700** 5.5000	**2360000** 530000	0.42	1.61	2.40	**351000** 78900	**251000** 56500	**611000** 137000	1.40
385.762 15.1875	**514.350** 20.2500	**177.800** 7.0000	**139.700** 5.5000	**2360000** 530000	0.42	1.61	2.40	**351000** 78900	**251000** 56500	**611000** 137000	1.40
387.248 15.2460	**546.100** 21.5000	**185.738** 7.3125	**147.638** 5.8125	**3250000** 731000	0.42	1.62	2.41	**484000** 109000	**346000** 77800	**843000** 190000	1.40
393.700 15.5000	**539.750** 21.2500	**142.875** 5.6250	**101.600** 4.0000	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
393.700 15.5000	**546.100** 21.5000	**158.750** 6.2500	**117.475** 4.6250	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
393.700 15.5000	**558.800** 22.0000	**146.050** 5.7500	**104.775** 4.1250	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
396.875 15.6250	**539.750** 21.2500	**142.875** 5.6250	**101.600** 4.0000	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
396.875 15.6250	**546.100** 21.5000	**158.750** 6.2500	**117.475** 4.6250	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
396.875 15.6250	**558.800** 22.0000	**146.050** 5.7500	**104.775** 4.1250	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**539.750** 21.2500	**142.875** 5.6250	**101.600** 4.0000	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**546.100** 21.5000	**158.750** 6.2500	**117.475** 4.6250	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**546.100** 21.5000	**185.738** 7.3125	**147.638** 5.8125	**3250000** 731000	0.42	1.62	2.41	**484000** 109000	**346000** 77800	**843000** 190000	1.40
406.400 16.0000	**558.800** 22.0000	**146.050** 5.7500	**104.775** 4.1250	**1890000** 425000	0.48	1.42	2.11	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**574.675** 22.6250	**157.162** 6.1875	**106.362** 4.1875	**1930000** 434000	0.50	1.36	2.02	**287000** 64600	**245000** 55000	**500000** 112000	1.17
406.400 16.0000	**609.524** 23.9970	**177.800** 7.0000	**133.350** 5.2500	**2990000** 673000	0.35	1.94	2.89	**446000** 100000	**265000** 59600	**776000** 175000	1.68
406.400 16.0000	**609.600** 24.0000	**187.325** 7.3750	**123.825** 4.8750	**3210000** 721000	0.38	1.76	2.62	**477000** 107000	**313000** 70400	**831000** 187000	1.52

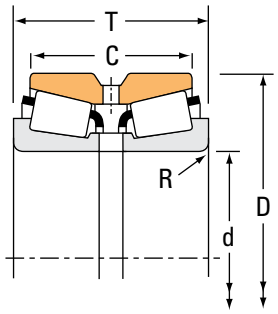
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

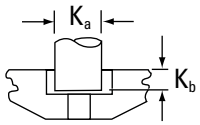
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
HM266449	HM266410CD	**6.4** 0.25	**417.0** 16.42	**1.5** 0.06	**520.0** 20.47	**28.58** 1.13	**11.91** 0.47	4760.1	301.5	0.2178	**160.48** 353.79
LM665949	LM665910CD	**6.4** 0.25	**415.0** 16.34	**1.5** 0.06	**495.0** 19.49	**28.58** 1.13	**12.70** 0.50	3743.4	480.0	0.2155	**94.11** 207.47
LM665949A	LM665910CD	**15.0** 0.59	**433.0** 17.05	**1.5** 0.06	**495.0** 19.49	**28.58** 1.13	**12.70** 0.50	3743.4	480.0	0.2155	**91.89** 202.57
M667935	M667911D	**6.4** 0.25	**424.0** 16.69	**1.5** 0.06	**526.7** 20.74	– –	– –	4639.7	498.9	0.2316	**137.90** 304.03
EE234154	234213CD	**6.4** 0.25	**426.0** 16.77	**1.5** 0.06	**515.6** 20.30	**22.23** 0.88	**12.70** 0.50	2782.9	448.6	0.2018	**84.08** 185.38
EE234154	234216D	**6.4** 0.25	**426.0** 16.77	**1.5** 0.06	**515.6** 20.30	– –	– –	2782.9	448.6	0.2018	**96.46** 212.66
EE234154	234221D	**6.4** 0.25	**426.0** 16.77	**1.5** 0.06	**515.6** 20.30	– –	– –	2782.9	448.6	0.2018	**99.60** 219.59
EE234156	234213CD	**6.4** 0.25	**428.0** 16.85	**1.5** 0.06	**515.6** 20.30	**22.23** 0.88	**12.70** 0.50	2782.9	448.6	0.2018	**82.08** 180.94
EE234156	234216D	**6.4** 0.25	**428.0** 16.85	**1.5** 0.06	**515.6** 20.30	– –	– –	2782.9	448.6	0.2018	**94.09** 207.42
EE234156	234221D	**6.4** 0.25	**428.0** 16.85	**1.5** 0.06	**515.6** 20.30	– –	– –	2782.9	448.6	0.2018	**93.63** 206.41
EE234160	234213CD	**6.4** 0.25	**435.0** 17.13	**1.5** 0.06	**515.6** 20.30	**22.23** 0.88	**12.70** 0.50	2782.9	448.6	0.2018	**75.55** 166.56
EE234160	234216D	**6.4** 0.25	**435.0** 17.13	**1.5** 0.06	**515.6** 20.30	– –	– –	2782.9	448.6	0.2018	**82.56** 182.02
M667944	M667911D	**6.4** 0.25	**438.0** 17.24	**1.5** 0.06	**526.7** 20.74	– –	– –	4639.7	498.9	0.2316	**118.91** 262.18
EE234160	234221D	**6.4** 0.25	**435.0** 17.13	**1.5** 0.06	**515.6** 20.30	– –	– –	2782.9	448.6	0.2018	**88.09** 194.20
EE285160	285228D	**6.8** 0.27	**442.0** 17.40	**1.5** 0.06	**534.0** 21.02	– –	– –	3036.6	478.1	0.2103	**111.45** 245.70
EE736160	736239D	**8.0** 0.31	**449.0** 17.68	**1.5** 0.06	**576.1** 22.68	– –	– –	4176.8	536.6	0.2096	**167.71** 369.77
EE911600	912401D	**6.8** 0.27	**443.0** 17.44	**1.5** 0.06	**569.0** 22.40	– –	– –	3251.1	349.1	0.1990	**162.55** 358.39

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

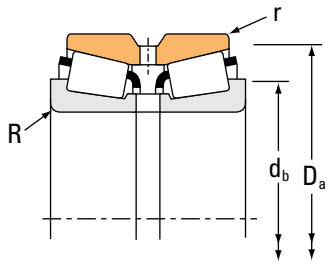
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
406.400 16.0000	**673.100** 26.5000	**192.639** 7.5842	**127.000** 5.0000	**3540000** 797000	0.40	1.68	2.50	**528000** 119000	**363000** 81700	**919000** 207000	1.45
406.400 16.0000	**762.000** 30.0000	**368.300** 14.5000	**222.250** 8.7500	**7280000** 1640000	0.94	0.72	1.07	**1080000** 244000	**1740000** 391000	**1890000** 425000	0.62
409.575 16.1250	**574.675** 22.6250	**157.162** 6.1875	**106.362** 4.1875	**1930000** 434000	0.50	1.36	2.02	**287000** 64600	**245000** 55000	**500000** 112000	1.17
409.575 16.1250	**635.000** 25.0000	**257.175** 10.1250	**206.375** 8.1250	**5700000** 1280000	0.33	2.03	3.02	**849000** 191000	**484000** 109000	**1480000** 332000	1.76
411.162 16.1875	**609.600** 24.0000	**187.325** 7.3750	**123.825** 4.8750	**3210000** 721000	0.38	1.76	2.62	**477000** 107000	**313000** 70400	**831000** 187000	1.52
415.925 16.3750	**590.550** 23.2500	**244.475** 9.6250	**193.675** 7.6250	**4970000** 1120000	0.33	2.03	3.02	**740000** 166000	**421000** 94800	**1290000** 290000	1.76
415.925 16.3750	**590.550** 23.2500	**244.475** 9.6250	**193.675** 7.6250	**4970000** 1120000	0.33	2.03	3.02	**740000** 166000	**421000** 94800	**1290000** 290000	1.76
425.450 16.7500	**685.698** 26.9960	**311.150** 12.2500	**234.950** 9.2500	**5450000** 1230000	0.40	1.68	2.50	**812000** 183000	**559000** 126000	**1410000** 318000	1.45
430.212 16.9375	**603.250** 23.7500	**153.289** 6.0350	**98.425** 3.8750	**1960000** 441000	0.52	1.29	1.92	**292000** 65700	**262000** 59000	**509000** 114000	1.11
430.212 16.9375	**603.250** 23.7500	**159.639** 6.2850	**104.775** 4.1250	**1960000** 441000	0.52	1.29	1.92	**292000** 65700	**262000** 59000	**509000** 114000	1.11
431.800 17.0000	**571.500** 22.5000	**155.575** 6.1250	**111.125** 4.3750	**2140000** 481000	0.55	1.24	1.84	**319000** 71700	**298000** 67000	**555000** 125000	1.07
431.800 17.0000	**571.500** 22.5000	**192.090** 7.5626	**146.050** 5.7500	**3320000** 747000	0.44	1.54	2.29	**495000** 111000	**371000** 83500	**862000** 194000	1.33
431.800 17.0000	**603.250** 23.7500	**153.289** 6.0350	**98.425** 3.8750	**1960000** 441000	0.52	1.29	1.92	**292000** 65700	**262000** 59000	**509000** 114000	1.11
431.800 17.0000	**603.250** 23.7500	**159.639** 6.2850	**104.775** 4.1250	**1960000** 441000	0.52	1.29	1.92	**292000** 65700	**262000** 59000	**509000** 114000	1.11
431.800 17.0000	**673.100** 26.5000	**192.639** 7.5842	**127.000** 5.0000	**3540000** 797000	0.40	1.68	2.50	**528000** 119000	**363000** 81700	**919000** 207000	1.45
431.800 17.0000	**673.100** 26.5000	**192.639** 7.5842	**127.000** 5.0000	**3540000** 797000	0.40	1.68	2.50	**528000** 119000	**363000** 81700	**919000** 207000	1.45
431.902 17.0040	**685.698** 26.9960	**365.125** 14.3750	**295.275** 11.6250	**8080000** 1820000	0.32	2.08	3.09	**1200000** 270000	**669000** 150000	**2090000** 471000	1.80

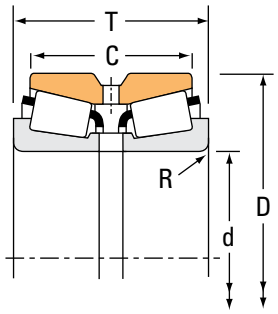
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

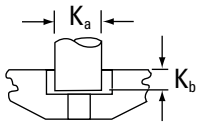
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE571602	572651D	**6.4** 0.25	**453.0** 17.83	**1.5** 0.06	**629.5** 24.78	– –	– –	3621.0	321.8	0.2093	**240.38** 529.94
H969249	H969210D	**12.7** 0.50	**513.0** 20.20	**3.3** 0.13	**719.3** 28.32	– –	– –	4614.9	207.4	0.2945	**683.72** 1507.37
EE285162	285228D	**6.8** 0.27	**444.0** 17.48	**1.5** 0.06	**534.0** 21.02	– –	– –	3036.6	478.1	0.2103	**108.57** 239.37
M270730	M270710CD	**6.4** 0.25	**456.0** 17.95	**1.5** 0.06	**605.1** 23.82	**28.58** 1.13	**15.09** 0.59	6865.6	481.9	0.2458	**299.30** 659.86
EE911618	912401D	**6.8** 0.27	**447.0** 17.60	**1.5** 0.06	**569.0** 22.40	– –	– –	3251.1	349.1	0.1990	**156.34** 344.71
M268749	M268710D	**6.4** 0.25	**451.0** 17.76	**1.5** 0.06	**562.0** 22.13	– –	– –	5754.9	420.9	0.2319	**205.62** 453.31
M268749	M268710CD	**6.4** 0.25	**451.0** 17.76	**1.5** 0.06	**562.0** 22.13	**28.58** 1.13	**14.30** 0.55	5754.9	420.9	0.2319	**205.62** 453.31
EE328167	328268D	**12.7** 0.50	**482.0** 18.98	**3.3** 0.13	**636.1** 25.04	– –	– –	5606.6	353.0	0.2443	**404.83** 892.55
EE241693	242376D	**6.4** 0.25	**465.0** 18.31	**1.5** 0.06	**561.0** 22.09	– –	– –	3353.8	551.6	0.2207	**116.48** 256.77
EE241693	242377CD	**6.4** 0.25	**465.0** 18.31	**1.5** 0.06	**561.0** 22.09	**22.23** 0.88	**13.48** 0.53	3353.8	551.6	0.2207	**121.28** 267.33
LM869448	LM869410CD	**3.3** 0.13	**457.0** 17.99	**1.5** 0.06	**549.0** 21.61	**22.23** 0.88	**11.91** 0.47	3719.4	491.5	0.2326	**97.85** 215.69
LM769349X	LM769310D	**8.0** 0.31	**466.0** 18.35	**1.5** 0.06	**550.2** 21.66	– –	– –	5114.6	614.2	0.2426	**127.45** 280.99
EE241701	242376D	**6.4** 0.25	**446.0** 18.35	**1.5** 0.06	**561.0** 22.09	– –	– –	3353.8	551.6	0.2207	**116.79** 257.47
EE241701	242377CD	**6.4** 0.25	**446.0** 18.35	**1.5** 0.06	**561.0** 22.09	**22.23** 0.88	**13.48** 0.53	3353.8	551.6	0.2207	**120.47** 265.58
EE571703	572651CD	**6.4** 0.25	**472.0** 18.58	**1.5** 0.06	**629.5** 24.78	**25.40** 1.00	**15.09** 0.59	3621.0	321.8	0.2093	**220.94** 487.09
EE571703	572651D	**6.4** 0.25	**472.0** 18.58	**1.5** 0.06	**629.5** 24.78	– –	– –	3621.0	321.8	0.2093	**217.39** 479.25
EE650170	650270D	**6.4** 0.25	**477.0** 18.78	**3.3** 0.13	**648.5** 25.53	– –	– –	7668.4	341.3	0.2542	**502.35** 1107.48

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

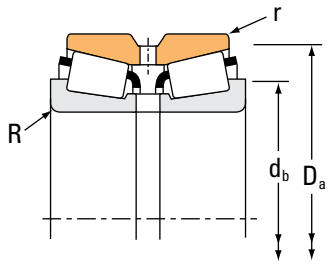
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
441.325 17.3750	**660.400** 26.0000	**195.262** 7.6875	**138.112** 5.4375	**3070000** 689000	0.37	1.80	2.69	**457000** 103000	**292000** 65700	**795000** 179000	1.56
441.325 17.3750	**660.400** 26.0000	**195.262** 7.6875	**138.112** 5.4375	**3070000** 689000	0.37	1.80	2.69	**457000** 103000	**292000** 65700	**795000** 179000	1.56
444.500 17.5000	**517.525** 20.3750	**73.025** 2.8750	**53.975** 2.1250	**533000** 120000	0.41	1.64	2.44	**79300** 17800	**55800** 12600	**138000** 31000	1.42
447.675 17.6250	**635.000** 25.0000	**257.175** 10.1250	**206.375** 8.1250	**5700000** 1280000	0.33	2.03	3.02	**849000** 191000	**484000** 109000	**1480000** 332000	1.76
447.675 17.6250	**649.925** 25.5876	**257.175** 10.1250	**206.375** 8.1250	**5700000** 1280000	0.33	2.03	3.02	**849000** 191000	**484000** 109000	**1480000** 332000	1.76
457.200 18.0000	**596.900** 23.5000	**165.100** 6.5000	**120.650** 4.7500	**2460000** 554000	0.40	1.67	2.48	**367000** 82400	**254000** 57100	**639000** 144000	1.44
457.200 18.0000	**615.950** 24.2500	**184.150** 7.2500	**146.050** 5.7500	**3380000** 760000	0.33	2.03	3.02	**503000** 113000	**286000** 64400	**876000** 197000	1.76
457.200 18.0000	**660.400** 26.0000	**195.262** 7.6875	**138.112** 5.4375	**3070000** 689000	0.37	1.80	2.69	**457000** 103000	**292000** 65700	**795000** 179000	1.56
457.200 18.0000	**660.400** 26.0000	**195.262** 7.6875	**138.112** 5.4375	**3070000** 689000	0.37	1.80	2.69	**457000** 103000	**292000** 65700	**795000** 179000	1.56
457.200 18.0000	**660.400** 26.0000	**228.600** 9.0000	**171.450** 6.7500	**4340000** 976000	0.32	2.12	3.15	**646000** 145000	**353000** 79300	**1130000** 253000	1.83
457.200 18.0000	**730.148** 28.7460	**254.000** 10.0000	**177.800** 7.0000	**4920000** 1110000	0.39	1.72	2.56	**733000** 165000	**492000** 111000	**1280000** 287000	1.49
476.250 18.7500	**565.150** 22.2500	**95.250** 3.7500	**76.200** 3.0000	**817000** 184000	0.47	1.44	2.14	**122000** 27400	**97800** 22000	**212000** 47600	1.24
479.425 18.8750	**679.450** 26.7500	**276.225** 10.8750	**225.250** 8.7500	**6500000** 1460000	0.33	2.03	3.02	**968000** 218000	**551000** 124000	**1680000** 379000	1.76
479.425 18.8750	**679.450** 26.7500	**276.225** 10.8750	**225.250** 8.7500	**6500000** 1460000	0.33	2.03	3.02	**968000** 218000	**551000** 124000	**1680000** 379000	1.76
482.600 19.0000	**615.950** 24.2500	**184.150** 7.2500	**146.050** 5.7500	**2950000** 662000	0.33	2.03	3.02	**439000** 98600	**250000** 56100	**764000** 172000	1.76
482.600 19.0000	**615.950** 24.2500	**184.150** 7.2500	**146.050** 5.7500	**2950000** 662000	0.33	2.03	3.02	**439000** 98600	**250000** 56100	**764000** 172000	1.76
482.600 19.0000	**634.873** 24.9950	**177.800** 7.0000	**142.875** 5.6250	**2560000** 574000	0.34	1.97	2.93	**380000** 85500	**223000** 50200	**662000** 149000	1.70

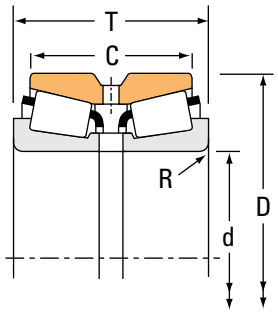
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

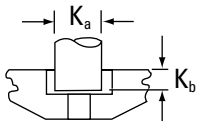
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE737173	737261CD	**10.5** 0.41	**491.0** 19.33	**1.5** 0.06	**618.2** 24.34	**28.58** 1.13	**14.96** 0.59	4809.1	573.4	0.2247	**213.82** 471.41
EE737173	737261D	**10.5** 0.41	**491.0** 19.33	**1.5** 0.06	**618.2** 24.34	– –	– –	4809.1	573.4	0.2247	**206.89** 456.13
LL669849	LL669810XD	**3.5** 0.14	**461.0** 18.15	**1.5** 0.06	**504.0** 19.84	– –	– –	2969.3	1487.2	0.2443	**23.11** 50.97
M270749	M270710CD	**6.4** 0.25	**484.0** 19.06	**1.5** 0.06	**605.1** 23.82	**28.58** 1.13	**15.09** 0.59	6865.6	481.9	0.2458	**249.52** 550.08
M270749	M270720D	**6.4** 0.25	**484.0** 19.06	**1.5** 0.06	**605.1** 23.82	– –	– –	6865.6	481.9	0.2458	**279.40** 615.96
EE244180	244236CD	**9.7** 0.38	**494.0** 19.45	**1.5** 0.06	**570.0** 22.47	**28.58** 1.13	**11.91** 0.47	4411.8	627.1	0.2233	**105.70** 232.99
LM272235	LM272210CD	**6.4** 0.25	**493.0** 19.41	**1.5** 0.06	**597.0** 23.48	**28.58** 1.13	**10.34** 0.41	6037.2	665.8	0.2333	**148.11** 326.50
EE737181	737261CD	**10.5** 0.41	**503.9** 19.84	**1.5** 0.06	**618.2** 24.34	**28.58** 1.13	**14.96** 0.59	4809.1	573.4	0.2247	**199.03** 438.77
EE737181	737261D	**10.5** 0.41	**503.9** 19.84	**1.5** 0.06	**618.2** 24.34	– –	– –	4809.1	573.4	0.2247	**191.83** 422.91
M271648	M271610D	**6.4** 0.25	**493.0** 19.41	**1.5** 0.06	**629.1** 24.77	– –	– –	5273.7	413.3	0.2208	**230.13** 507.36
EE671801	672875D	**9.7** 0.38	**507.0** 19.96	**1.5** 0.06	**681.0** 26.79	– –	– –	4968.3	343.4	0.2315	**365.77** 806.41
LL771948	LL771911CD	**3.3** 0.13	**495.0** 19.49	**1.5** 0.06	**549.0** 21.61	**17.46** 0.69	**9.52** 0.38	3792.4	1237.1	0.2189	**42.52** 93.75
M272749	M272710D	**6.4** 0.25	**516.0** 20.31	**1.5** 0.06	**648.0** 25.52	– –	– –	8110.8	508.6	0.2598	**309.29** 681.86
M272749	M272710CD	**6.4** 0.25	**516.0** 20.31	**1.5** 0.06	**648.0** 25.52	**33.35** 1.31	**17.47** 0.69	8110.8	508.6	0.2598	**309.29** 681.86
LM272249	LM272210D	**6.4** 0.25	**513.0** 20.20	**1.5** 0.06	**597.0** 23.48	– –	– –	6037.2	665.8	0.2333	**122.39** 269.82
LM272249	LM272210CD	**6.4** 0.25	**513.0** 20.20	**1.5** 0.06	**597.0** 23.48	**28.58** 1.13	**10.34** 0.41	6037.2	665.8	0.2333	**122.39** 269.82
EE243190	243251CD	**6.4** 0.25	**516.0** 20.31	**1.5** 0.06	**609.0** 24.00	**28.58** 1.13	**13.48** 0.53	6057.3	726.6	0.2350	**140.99** 310.85

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

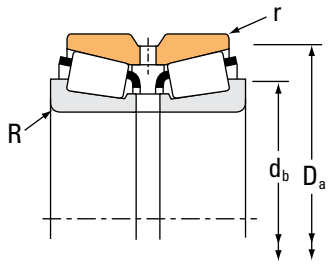
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
482.600 19.0000	**634.873** 24.9950	**177.800** 7.0000	**142.875** 5.6250	**2560000** 574000	0.34	1.97	2.93	**380000** 85500	**223000** 50200	**662000** 149000	1.70
488.671 19.2390	**660.400** 26.0000	**206.375** 8.1250	**158.750** 6.2500	**4130000** 928000	0.31	2.20	3.27	**614000** 138000	**323000** 72600	**1070000** 240000	1.90
488.671 19.2390	**666.674** 26.2470	**206.375** 8.1250	**158.750** 6.2500	**4130000** 928000	0.31	2.20	3.27	**614000** 138000	**323000** 72600	**1070000** 240000	1.90
488.950 19.2500	**634.873** 24.9950	**180.975** 7.1250	**136.525** 5.3750	**3240000** 728000	0.47	1.43	2.12	**482000** 108000	**390000** 87800	**840000** 189000	1.24
488.950 19.2500	**660.400** 26.0000	**206.375** 8.1250	**158.750** 6.2500	**4130000** 928000	0.31	2.20	3.27	**614000** 138000	**323000** 72600	**1070000** 240000	1.90
488.950 19.2500	**660.400** 26.0000	**206.375** 8.1250	**158.750** 6.2500	**4130000** 928000	0.31	2.20	3.27	**614000** 138000	**323000** 72600	**1070000** 240000	1.90
488.950 19.2500	**660.400** 26.0000	**206.375** 8.1250	**158.750** 6.2500	**4130000** 928000	0.31	2.20	3.27	**614000** 138000	**323000** 72600	**1070000** 240000	1.90
488.950 19.2500	**666.674** 26.2470	**206.375** 8.1250	**158.750** 6.2500	**4130000** 928000	0.31	2.20	3.27	**614000** 138000	**323000** 72600	**1070000** 240000	1.90
489.026 19.2530	**634.873** 24.9950	**177.800** 7.0000	**142.875** 5.6250	**2560000** 574000	0.34	1.97	2.93	**380000** 85500	**223000** 50200	**662000** 149000	1.70
489.026 19.2530	**634.873** 24.9950	**177.800** 7.0000	**142.875** 5.6250	**2560000** 574000	0.34	1.97	2.93	**380000** 85500	**223000** 50200	**662000** 149000	1.70
498.475 19.6250	**634.873** 24.9950	**177.800** 7.0000	**142.875** 5.6250	**2560000** 574000	0.34	1.97	2.93	**380000** 85500	**223000** 50200	**662000** 149000	1.70
498.475 19.6250	**634.873** 24.9950	**177.800** 7.0000	**142.875** 5.6250	**2560000** 574000	0.34	1.97	2.93	**380000** 85500	**223000** 50200	**662000** 149000	1.70
501.650 19.7500	**711.200** 28.0000	**292.100** 11.5000	**231.775** 9.1250	**6150000** 1380000	0.33	2.03	3.02	**916000** 206000	**521000** 117000	**1590000** 358000	1.76
508.000 20.0000	**736.600** 29.0000	**186.502** 7.3426	**114.300** 4.5000	**3460000** 778000	0.47	1.42	2.12	**516000** 116000	**418000** 94000	**898000** 202000	1.23
508.000 20.0000	**838.200** 33.0000	**304.800** 12.0000	**222.250** 8.7500	**6290000** 1410000	0.48	1.41	2.10	**936000** 210000	**769000** 173000	**1630000** 366000	1.22
514.350 20.2500	**736.600** 29.0000	**186.502** 7.3426	**114.300** 4.5000	**3460000** 778000	0.47	1.42	2.12	**516000** 116000	**418000** 94000	**898000** 202000	1.23
520.700 20.5000	**736.600** 29.0000	**186.502** 7.3426	**114.300** 4.5000	**3460000** 778000	0.47	1.42	2.12	**516000** 116000	**418000** 94000	**898000** 202000	1.23

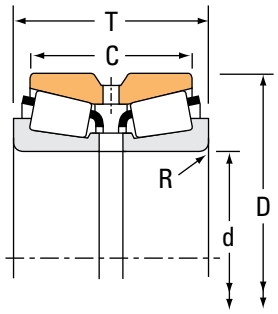
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

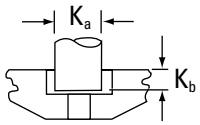
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE243190	243251D	**6.4** 0.25	**516.0** 20.31	**1.5** 0.06	**609.0** 24.00	– –	– –	6057.3	726.6	0.2350	**141.71** 312.43
EE640191	640261CD	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**630.4** 24.82	**28.58** 1.13	**15.87** 0.63	6322.4	601.7	0.2310	**186.18** 410.43
EE640191	640262D	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**630.5** 24.82	– –	– –	6322.4	601.7	0.2310	**199.52** 439.85
LM772748	LM772710CD	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**613.5** 24.15	**28.58** 1.13	**14.30** 0.56	5447.5	602.2	0.2525	**134.50** 296.54
EE640192	640261CD	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**630.4** 24.82	**28.58** 1.13	**15.87** 0.63	6322.4	601.7	0.2310	**185.88** 409.74
EE640192	640261XD	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**630.5** 24.82	– –	– –	6322.4	601.7	0.2310	**185.45** 408.79
EE640192	640261CD	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**630.5** 24.82	**28.58** 1.13	**15.87** 0.63	6322.4	601.7	0.2310	**185.45** 408.79
EE640192	640262D	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**630.5** 24.82	– –	– –	6322.4	601.7	0.2310	**199.22** 439.15
EE243192	243251D	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**609.0** 24.00	– –	– –	6057.3	726.6	0.2350	**138.36** 305.01
EE243192	243251CD	**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**609.0** 24.00	**28.58** 1.13	**13.48** 0.53	6057.3	726.6	0.2350	**138.36** 305.01
EE243196	243251D	**6.4** 0.25	**528.0** 20.79	**1.5** 0.06	**609.0** 24.00	– –	– –	6057.3	726.6	0.2350	**129.16** 284.77
EE243196	243251CD	**6.4** 0.25	**528.0** 20.79	**1.5** 0.06	**609.0** 24.00	**28.58** 1.13	**13.48** 0.53	6057.3	726.6	0.2350	**129.16** 284.77
M274149	M274110CD	**6.4** 0.25	**540.0** 21.26	**1.5** 0.06	**678.0** 26.69	**33.35** 1.31	**16.99** 0.67	9019.6	560.7	0.2690	**354.07** 780.61
EE982003	982901CD	**6.4** 0.25	**549.0** 21.61	**1.5** 0.06	**684.0** 26.93	**25.40** 1.00	**15.87** 0.63	4901.2	606.3	0.2429	**227.52** 501.59
EE426200	426331CD	**9.7** 0.38	**564.0** 22.20	**3.3** 0.13	**767.7** 30.23	**38.10** 1.50	**20.65** 0.81	6651.9	435.2	0.2722	**601.74** 1326.62
EE982028	982901CD	**6.4** 0.25	**555.0** 21.85	**1.5** 0.06	**684.0** 26.93	**25.40** 1.00	**15.87** 0.63	4901.2	606.3	0.2429	**220.08** 485.17
EE982051	982901CD	**6.4** 0.25	**558.0** 21.97	**1.5** 0.06	**684.0** 26.93	**25.40** 1.00	**15.87** 0.63	4901.2	606.3	0.2429	**212.53** 468.55

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

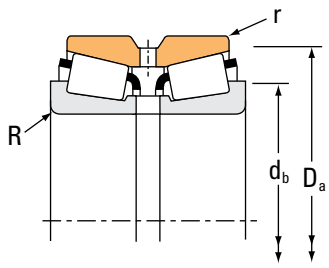
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
533.400 21.0000	**784.225** 30.8750	**190.500** 7.5000	**120.650** 4.7500	**3770000** 848000	0.48	1.42	2.11	**561000** 126000	**457000** 103000	**977000** 220000	1.23
533.400 21.0000	**812.800** 32.0000	**269.875** 10.6250	**187.325** 7.3750	**5200000** 1170000	0.44	1.52	2.26	**774000** 174000	**588000** 132000	**1350000** 303000	1.32
533.400 21.0000	**812.800** 32.0000	**269.875** 10.6250	**187.325** 7.3750	**5200000** 1170000	0.44	1.52	2.26	**774000** 174000	**588000** 132000	**1350000** 303000	1.32
534.988 21.0625	**622.300** 24.5000	**101.600** 4.0000	**73.025** 2.8750	**1160000** 261000	0.37	1.83	2.73	**173000** 38900	**109000** 24500	**301000** 67700	1.59
534.988 21.0625	**622.300** 24.5000	**111.125** 4.3750	**82.550** 3.2500	**1160000** 261000	0.37	1.83	2.73	**173000** 38900	**109000** 24500	**301000** 67700	1.59
536.575 21.1250	**761.873** 29.9950	**311.150** 12.2500	**247.650** 9.7500	**6980000** 1570000	0.33	2.03	3.02	**1040000** 234000	**592000** 133000	**1810000** 407000	1.76
546.100 21.5000	**736.600** 29.0000	**165.100** 6.5000	**114.300** 4.5000	**2440000** 548000	0.51	1.33	1.98	**363000** 81600	**316000** 71000	**632000** 142000	1.15
549.275 21.6250	**692.150** 27.2500	**174.625** 6.8750	**136.525** 5.3750	**2650000** 595000	0.38	1.79	2.67	**394000** 88500	**254000** 57000	**686000** 154000	1.55
558.800 22.0000	**736.600** 29.0000	**165.100** 6.5000	**114.300** 4.5000	**2440000** 548000	0.51	1.33	1.98	**363000** 81600	**316000** 71000	**632000** 142000	1.15
558.800 22.0000	**736.600** 29.0000	**187.328** 7.3751	**138.112** 5.4375	**3600000** 810000	0.34	1.97	2.93	**536000** 121000	**315000** 70700	**934000** 210000	1.70
558.800 22.0000	**736.600** 29.0000	**225.425** 8.8750	**177.800** 7.0000	**5130000** 1150000	0.35	1.95	2.90	**765000** 172000	**453000** 102000	**1330000** 299000	1.69
558.800 22.0000	**736.600** 29.0000	**225.425** 8.8750	**177.800** 7.0000	**4480000** 1010000	0.35	1.95	2.90	**667000** 150000	**395000** 88800	**1160000** 261000	1.69
558.800 22.0000	**742.950** 29.2500	**187.328** 7.3751	**138.112** 5.4375	**3600000** 810000	0.34	1.97	2.93	**536000** 121000	**315000** 70700	**934000** 210000	1.70
558.800 22.0000	**901.700** 35.5000	**292.100** 11.5000	**212.725** 8.3750	**6610000** 1480000	0.41	1.65	2.46	**984000** 221000	**687000** 154000	**1710000** 385000	1.43
560.000 22.0472	**820.000** 32.2835	**258.500** 10.1772	**185.000** 7.2835	**5250000** 1180000	0.46	1.48	2.20	**781000** 176000	**611000** 137000	**1360000** 306000	1.28
560.000 22.0472	**820.000** 32.2835	**268.000** 10.5512	**190.000** 7.4803	**5250000** 1180000	0.46	1.48	2.20	**781000** 176000	**611000** 137000	**1360000** 306000	1.28
565.150 22.2500	**863.600** 34.0000	**317.500** 12.5000	**228.600** 9.0000	**6960000** 1570000	0.34	1.96	2.93	**1040000** 233000	**610000** 137000	**1810000** 406000	1.70

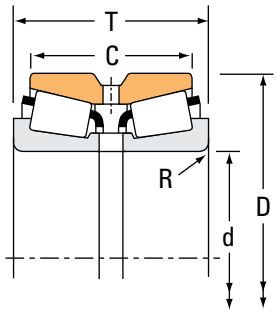
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

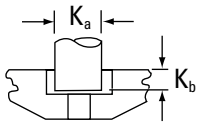
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE522102	523088D	**6.4** 0.25	**576.0** 22.68	**1.5** 0.06	**733.8** 28.89	– –	– –	5013.3	457.2	0.2452	**263.14** 580.10
EE626210	626321D	**9.7** 0.38	**585.0** 23.03	**3.3** 0.13	**762.5** 30.02	– –	– –	6364.0	563.1	0.2608	**448.08** 987.81
EE626210	626321CD	**9.7** 0.38	**585.0** 23.03	**3.3** 0.13	**762.5** 30.02	**30.18** 1.19	**18.31** 0.72	6364.0	563.1	0.2608	**448.08** 987.81
LL475048	LL475010D	**3.5** 0.14	**552.0** 21.73	**1.5** 0.06	**609.0** 23.98	– –	– –	4586.9	1294.0	0.2160	**44.63** 98.34
LL475048	LL475011D	**3.5** 0.14	**552.0** 21.73	**1.5** 0.06	**609.0** 23.98	– –	– –	4586.9	1294.0	0.2160	**47.73** 105.17
M276449	M276410CD	**6.4** 0.25	**576.0** 22.68	**1.5** 0.06	**725.6** 28.57	**38.10** 1.50	**19.05** 0.75	10625.0	614.5	0.2839	**435.41** 959.92
EE542215	542291CD	**6.4** 0.25	**585.0** 23.03	**3.3** 0.13	**705.1** 27.76	**25.40** 1.00	**13.48** 0.53	5727.7	782.5	0.2604	**178.78** 394.13
L476549	L476510CD	**6.4** 0.25	**579.0** 22.80	**1.5** 0.06	**666.0** 26.22	**28.58** 1.13	**14.30** 0.56	7261.6	889.8	0.2567	**142.05** 313.17
EE542220	542291CD	**6.4** 0.25	**594.0** 23.39	**3.3** 0.13	**705.1** 27.76	**25.40** 1.00	**13.48** 0.53	5727.7	782.5	0.2604	**165.28** 364.38
EE843220	843291CD	**6.4** 0.25	**591.0** 23.27	**1.5** 0.06	**708.0** 27.87	**28.58** 1.13	**15.09** 0.59	7097.5	714.8	0.2478	**196.10** 432.32
LM377448	LM377410CD	**6.4** 0.25	**594.0** 23.39	**1.5** 0.06	**708.0** 27.87	**28.58** 1.13	**16.69** 0.66	9314.8	907.6	0.2735	**246.15** 542.65
LM377449	LM377410CD	**6.4** 0.25	**594.0** 23.39	**1.5** 0.06	**708.0** 27.87	**28.58** 1.13	**16.69** 0.66	9314.8	907.6	0.2735	**246.52** 543.45
EE843220	843292D	**6.4** 0.25	**591.0** 23.27	**1.5** 0.06	**707.1** 27.84	– –	– –	7097.5	714.8	0.2478	**204.62** 451.10
EE327220	327357D	**12.7** 0.50	**624.0** 24.57	**3.3** 0.13	**836.2** 32.92	– –	– –	7790.8	478.4	0.2715	**656.31** 1447.54
NP915736	NP585761	**8.0** 0.31	**606.0** 23.86	**3.5** 0.14	**783.0** 30.83	**28.58** 1.13	**17.37** 0.68	6738.0	546.6	0.2682	**406.98** 897.06
NP934748	NP920752	**10.0** 0.39	**606.0** 23.86	**3.5** 0.14	**783.0** 30.83	**28.58** 1.13	**17.37** 0.68	6738.0	546.6	0.2682	**412.68** 909.79
EE929225	929341D	**8.0** 0.31	**614.9** 24.21	**3.3** 0.13	**809.5** 31.87	– –	– –	9118.4	670.2	0.2711	**610.33** 1345.54

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

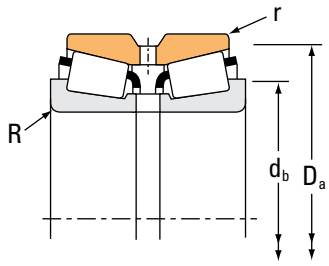
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
571.500 22.5000	**812.800** 32.0000	**333.375** 13.1250	**263.525** 10.3750	**7890000** 1770000	0.33	2.03	3.02	**1180000** 264000	**669000** 150000	**2050000** 460000	1.76
584.200 23.0000	**762.000** 30.0000	**228.600** 9.0000	**169.862** 6.6875	**4220000** 949000	0.47	1.43	2.12	**628000** 141000	**509000** 114000	**1090000** 246000	1.24
584.200 23.0000	**901.700** 35.5000	**298.453** 11.7501	**214.312** 8.4375	**8670000** 1950000	0.33	2.04	3.03	**1290000** 290000	**732000** 165000	**2250000** 505000	1.76
584.200 23.0000	**901.700** 35.5000	**298.453** 11.7501	**214.312** 8.4375	**8670000** 1950000	0.33	2.04	3.03	**1290000** 290000	**732000** 165000	**2250000** 505000	1.76
585.788 23.0625	**771.525** 30.3750	**269.047** 10.5924	**212.725** 8.3750	**5730000** 1290000	0.33	2.03	3.02	**853000** 192000	**486000** 109000	**1490000** 334000	1.76
602.945 23.7380	**787.400** 31.0000	**206.375** 8.1250	**158.750** 6.2500	**3790000** 852000	0.37	1.82	2.71	**565000** 127000	**358000** 80600	**983000** 221000	1.58
602.945 23.7380	**787.400** 31.0000	**206.375** 8.1250	**158.750** 6.2500	**4550000** 1020000	0.37	1.82	2.71	**677000** 152000	**430000** 96600	**1180000** 265000	1.58
602.945 23.7380	**793.750** 31.2500	**206.375** 8.1250	**158.750** 6.2500	**4550000** 1020000	0.37	1.82	2.71	**677000** 152000	**430000** 96600	**1180000** 265000	1.58
607.720 23.9260	**787.400** 31.0000	**206.375** 8.1250	**158.750** 6.2500	**4550000** 1020000	0.37	1.82	2.71	**677000** 152000	**430000** 96600	**1180000** 265000	1.58
607.720 23.9260	**793.750** 31.2500	**206.375** 8.1250	**158.750** 6.2500	**4550000** 1020000	0.37	1.82	2.71	**677000** 152000	**430000** 96600	**1180000** 265000	1.58
609.600 24.0000	**717.550** 28.2500	**127.000** 5.0000	**95.250** 3.7500	**1640000** 369000	0.40	1.68	2.50	**244000** 54900	**168000** 37800	**425000** 95600	1.45
609.600 24.0000	**787.400** 31.0000	**206.375** 8.1250	**158.750** 6.2500	**4550000** 1020000	0.37	1.82	2.71	**677000** 152000	**430000** 96600	**1180000** 265000	1.58
609.600 24.0000	**787.400** 31.0000	**206.375** 8.1250	**158.750** 6.2500	**4420000** 993000	0.37	1.82	2.71	**657000** 148000	**417000** 93800	**1140000** 257000	1.58
609.600 24.0000	**793.750** 31.2500	**206.375** 8.1250	**158.750** 6.2500	**4550000** 1020000	0.37	1.82	2.71	**677000** 152000	**430000** 96600	**1180000** 265000	1.58
609.600 24.0000	**812.800** 32.0000	**190.500** 7.5000	**146.050** 5.7500	**3610000** 812000	0.33	2.05	3.05	**538000** 121000	**303000** 68200	**937000** 211000	1.77
635.000 25.0000	**933.450** 36.7500	**377.825** 14.8750	**301.625** 11.8750	**10200000** 2290000	0.33	2.03	3.02	**1520000** 342000	**865000** 195000	**2650000** 595000	1.76
635.000 25.0000	**990.600** 39.0000	**339.725** 13.3750	**212.725** 8.3750	**9370000** 2110000	0.87	0.78	1.16	**1390000** 314000	**2070000** 465000	**2430000** 546000	0.67

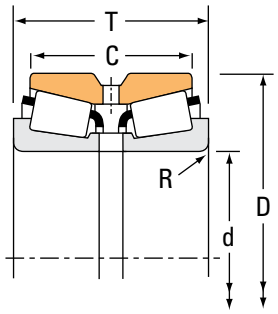
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

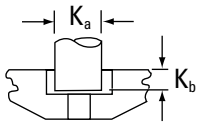
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
M278749	M278710CD	**6.4** 0.25	**615.0** 24.21	**1.5** 0.06	**774.0** 30.47	**28.58** 1.13	**17.47** 0.69	12425.1	669.4	0.2990	**533.70** 1176.59
LM778549	LM778510D	**6.4** 0.25	**621.0** 24.45	**1.5** 0.06	**736.9** 29.01	– –	– –	8573.3	722.5	0.2936	**245.35** 540.90
EE662303	663551CD	**8.0** 0.31	**633.0** 24.92	**1.5** 0.06	**848.1** 33.39	**36.50** 1.44	**20.65** 0.81	8756.7	477.1	0.2638	**613.42** 1352.38
EE662303	663551D	**8.0** 0.31	**633.0** 24.92	**1.5** 0.06	**848.1** 33.39	– –	– –	8756.7	477.1	0.2638	**612.14** 1349.57
LM278849	LM278810CD	**6.4** 0.25	**621.0** 24.45	**1.5** 0.06	**744.0** 29.29	**36.50** 1.44	**17.47** 0.69	11553.5	930.7	0.2906	**323.60** 713.42
EE649236X	649311CD	**6.4** 0.25	**642.0** 25.28	**1.5** 0.06	**755.3** 29.74	**28.58** 1.13	**15.87** 0.63	8978.8	1193.1	0.2746	**243.77** 537.43
EE649237	649311CD	**6.4** 0.25	**639.0** 25.16	**1.5** 0.06	**755.3** 29.74	**28.58** 1.13	**15.87** 0.63	9384.8	930.0	0.2790	**247.25** 545.03
EE649237	649313D	**6.4** 0.25	**639.0** 25.16	**1.5** 0.06	**755.3** 29.74	– –	– –	9384.8	930.0	0.2790	**257.07** 566.69
EE649239	649311CD	**6.4** 0.25	**642.0** 25.28	**1.5** 0.06	**755.3** 29.74	**28.58** 1.13	**15.87** 0.63	9384.8	930.0	0.2790	**239.77** 528.56
EE649239	649313D	**6.4** 0.25	**642.0** 25.28	**1.5** 0.06	**755.3** 29.74	– –	– –	9384.8	930.0	0.2790	**249.59** 550.21
LL579749	LL579710D	**6.4** 0.25	**636.0** 25.04	**1.5** 0.06	**702.0** 27.64	– –	– –	6863.4	1515.1	0.2544	**81.33** 179.29
EE649240	649311CD	**6.4** 0.25	**642.0** 25.28	**1.5** 0.06	**755.3** 29.74	**28.58** 1.13	**15.87** 0.63	9384.8	930.0	0.2790	**236.28** 520.87
EE649240H	649311CD	**6.4** 0.25	**642.0** 25.28	**1.5** 0.06	**755.3** 29.74	**28.58** 1.13	**15.87** 0.63	9115.2	904.3	0.2761	**226.86** 500.18
EE649240	649313D	**6.4** 0.25	**642.0** 25.28	**1.5** 0.06	**755.3** 29.74	– –	– –	9384.8	930.0	0.2790	**241.96** 533.40
EE743240	743321CD	**6.4** 0.25	**645.0** 25.39	**3.3** 0.13	**765.1** 30.12	**28.58** 1.13	**17.47** 0.69	7714.7	995.4	0.2499	**243.11** 535.98
M281635	M281610CD	**12.0** 0.47	**699.0** 27.52	**1.5** 0.06	**890.0** 35.04	**38.10** 1.50	**21.43** 0.84	17304.9	775.6	0.3335	**865.96** 1909.10
NP830348	NP547476	**6.4** 0.25	**714.0** 28.11	**3.3** 0.13	**939.0** 36.97	**28.58** 1.13	**19.83** 0.78	9855.8	434.7	0.3688	**881.72** 1943.87

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

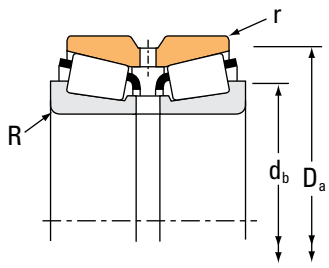
TYPE TDO







Locking pin for CD outer race.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
646.112 25.4375	**857.250** 33.7500	**304.800** 12.0000	**241.300** 9.5000	**8180000** 1840000	0.33	2.03	3.02	**1220000** 274000	**694000** 156000	**2120000** 477000	1.76
660.400 26.0000	**812.800** 32.0000	**203.200** 8.0000	**158.750** 6.2500	**4760000** 1070000	0.33	2.03	3.02	**709000** 159000	**404000** 90700	**1230000** 278000	1.76
660.400 26.0000	**812.800** 32.0000	**203.200** 8.0000	**158.750** 6.2500	**4410000** 992000	0.33	2.03	3.02	**657000** 148000	**374000** 84100	**1140000** 257000	1.76
660.400 26.0000	**854.923** 33.6584	**186.329** 7.3358	**135.900** 5.3504	**3900000** 877000	0.35	1.92	2.86	**581000** 131000	**349000** 78600	**1010000** 227000	1.66
679.450 26.7500	**901.700** 35.5000	**307.975** 12.1250	**244.475** 9.6250	**8740000** 1960000	0.33	2.03	3.02	**1300000** 292000	**741000** 166000	**2260000** 509000	1.76
682.625 26.8750	**965.200** 38.0000	**396.875** 15.6250	**311.150** 12.2500	**10900000** 2440000	0.33	2.03	3.02	**1620000** 364000	**921000** 207000	**2820000** 634000	1.76
685.800 27.0000	**876.300** 34.5000	**200.025** 7.8750	**152.400** 6.0000	**4790000** 1080000	0.42	1.62	2.42	**714000** 160000	**508000** 114000	**1240000** 279000	1.40
710.000 27.9528	**899.925** 35.4301	**230.000** 9.0551	**166.002** 6.5355	**4990000** 1120000	0.52	1.29	1.92	**743000** 167000	**667000** 150000	**1290000** 291000	1.11
711.200 28.0000	**914.400** 36.0000	**190.500** 7.5000	**139.700** 5.5000	**4150000** 934000	0.38	1.77	2.64	**619000** 139000	**403000** 90600	**1080000** 242000	1.54
719.930 28.3437	**914.905** 36.0199	**189.240** 7.4504	**139.903** 5.5080	**4150000** 934000	0.38	1.77	2.64	**619000** 139000	**403000** 90600	**1080000** 242000	1.54
723.900 28.5000	**914.400** 36.0000	**187.325** 7.3750	**139.700** 5.5000	**4150000** 934000	0.38	1.77	2.64	**619000** 139000	**403000** 90600	**1080000** 242000	1.54
723.900 28.5000	**1003.300** 39.5000	**187.325** 7.3750	**139.700** 5.5000	**4150000** 934000	0.38	1.77	2.64	**619000** 139000	**403000** 90600	**1080000** 242000	1.54
749.300 29.5000	**965.200** 38.0000	**187.325** 7.3750	**133.350** 5.2500	**4270000** 961000	0.40	1.68	2.50	**636000** 143000	**438000** 98400	**1110000** 249000	1.45
749.300 29.5000	**990.600** 39.0000	**338.000** 13.3071	**265.000** 10.4331	**10400000** 2340000	0.33	2.03	3.02	**1550000** 349000	**883000** 198000	**2700000** 607000	1.76
762.000 30.0000	**965.200** 38.0000	**187.325** 7.3750	**133.350** 5.2500	**4270000** 961000	0.40	1.68	2.50	**636000** 143000	**438000** 98400	**1110000** 249000	1.45
774.700 30.5000	**965.200** 38.0000	**187.325** 7.3750	**133.350** 5.2500	**4270000** 961000	0.40	1.68	2.50	**636000** 143000	**438000** 98400	**1110000** 249000	1.45
774.700 30.5000	**965.200** 38.0000	**187.325** 7.3750	**133.350** 5.2500	**4270000** 961000	0.40	1.68	2.50	**636000** 143000	**438000** 98400	**1110000** 249000	1.45

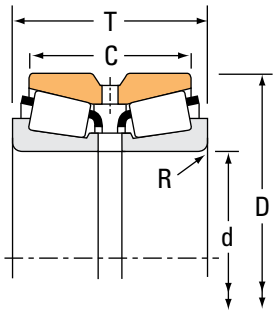
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

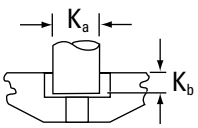
Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
LM281049	LM281010CD	**6.4** 0.25	**684.0** 26.93	**1.5** 0.06	**824.5** 32.46	**28.58** 1.13	**18.26** 0.72	14763.0	920.6	0.3153	**460.91** 1016.14
L281147	L281110CD	**6.4** 0.25	**693.0** 27.28	**1.5** 0.06	**789.0** 31.04	**28.58** 1.13	**14.30** 0.56	12635.6	984.9	0.2968	**214.58** 473.07
L281148	L281110CD	**6.4** 0.25	**693.0** 27.28	**1.5** 0.06	**789.0** 31.04	**28.58** 1.13	**14.30** 0.56	11705.7	915.8	0.2888	**207.09** 456.55
EE749260	749335CD	**9.7** 0.38	**702.0** 27.64	**2.3** 0.09	**813.0** 32.01	**28.58** 1.13	**17.45** 0.69	9222.1	1151.5	0.2707	**241.40** 532.16
LM281849	LM281810CD	**9.7** 0.38	**726.0** 28.58	**1.5** 0.06	**866.6** 34.12	**39.70** 1.56	**22.22** 0.88	16257.4	961.7	0.3252	**513.79** 1132.66
M282249	M282210CD	**9.7** 0.38	**738.0** 29.06	**1.5** 0.06	**919.8** 36.21	**33.35** 1.31	**20.65** 0.81	18773.0	843.1	0.3426	**888.15** 1958.07
EE655270	655346CD	**6.4** 0.25	**723.0** 28.46	**1.5** 0.06	**841.4** 33.13	**28.58** 1.13	**17.47** 0.69	11844.1	1202.6	0.3119	**281.13** 619.75
L882449	L882410CD	**6.4** 0.25	**750.0** 29.53	**3.3** 0.13	**873.0** 34.37	**25.40** 1.00	**18.26** 0.72	13015.8	1127.2	0.3473	**331.66** 731.22
EE755280	755361CD	**6.4** 0.25	**750.0** 29.53	**3.3** 0.13	**877.0** 34.53	**28.58** 1.13	**15.87** 0.63	11122.5	1282.2	0.2952	**293.06** 646.07
EE755282	755358XD	**4.8** 0.19	**753.0** 29.65	**1.5** 0.06	**876.6** 34.51	– –	– –	11122.5	1282.2	0.2952	**277.57** 611.93
EE755285	755361CD	**5.5** 0.22	**756.0** 29.76	**3.3** 0.13	**877.0** 34.53	**28.58** 1.13	**15.87** 0.63	11122.5	1282.2	0.2952	**269.79** 594.79
EE755285	755367CD	**5.5** 0.22	**756.0** 29.76	**3.3** 0.13	**912.0** 35.91	**28.58** 1.13	**19.86** 0.78	11122.5	1282.2	0.2952	**409.60** 903.01
EE752295	752381D	**6.4** 0.25	**789.0** 31.06	**1.5** 0.06	**923.5** 36.36	– –	– –	12456.8	1880.8	0.3116	**304.73** 671.84
LM283649	LM283610CD	**6.4** 0.25	**792.0** 31.18	**3.3** 0.13	**952.4** 37.50	**33.35** 1.31	**21.43** 0.84	20904.8	1142.9	0.3534	**680.96** 1501.25
EE752300	752381D	**6.4** 0.25	**798.0** 31.42	**1.5** 0.06	**923.5** 36.36	– –	– –	12456.8	1880.8	0.3116	**295.64** 651.81
EE752305	752381D	**6.4** 0.25	**810.0** 31.89	**1.5** 0.06	**923.5** 36.36	– –	– –	12456.8	1880.8	0.3116	**279.45** 616.08
EE752305	752381CD	**6.4** 0.25	**810.0** 31.89	**1.5** 0.06	**923.5** 36.36	**28.58** 1.13	**11.91** 0.47	12456.8	1880.8	0.3116	**279.45** 616.08

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

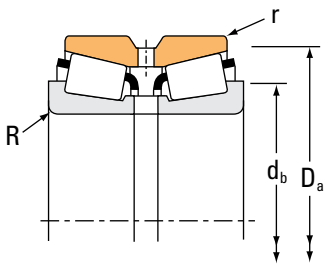
TYPE TDO







Locking pin for CD outer race.

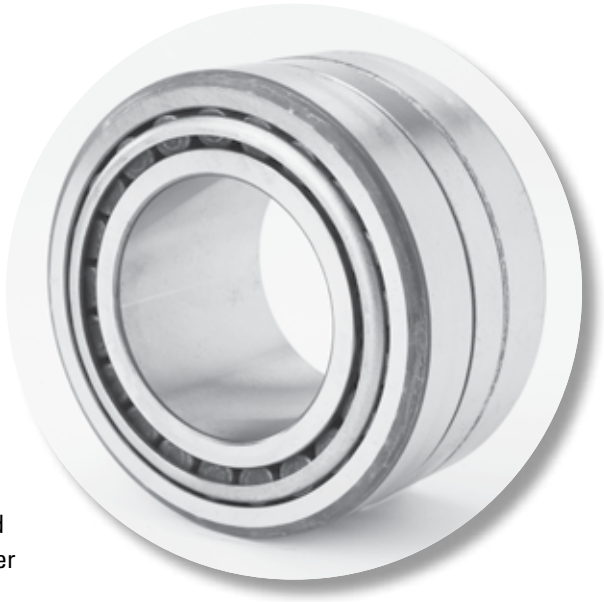


Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
812.800 32.0000	**1016.000** 40.0000	**190.500** 7.5000	**146.050** 5.7500	**4300000** 968000	0.43	1.59	2.36	**641000** 144000	**467000** 105000	**1120000** 251000	1.37
812.800 32.0000	**1066.800** 42.0000	**190.500** 7.5000	**146.050** 5.7500	**4300000** 968000	0.43	1.59	2.36	**641000** 144000	**467000** 105000	**1120000** 251000	1.37
838.200 33.0000	**1041.400** 41.0000	**190.500** 7.5000	**123.825** 4.8750	**4410000** 991000	0.44	1.54	2.30	**657000** 148000	**492000** 111000	**1140000** 257000	1.33
850.000 33.4646	**1120.000** 44.0945	**267.000** 10.5118	**190.000** 7.4803	**8520000** 1920000	0.46	1.47	2.19	**1270000** 285000	**996000** 224000	**2210000** 497000	1.27
863.600 34.0000	**1130.300** 44.5000	**371.475** 14.6250	**298.450** 11.7500	**11400000** 2550000	0.33	2.03	3.02	**1690000** 380000	**963000** 216000	**2940000** 662000	1.76
863.600 34.0000	**1371.600** 54.0000	**469.900** 18.5000	**285.750** 11.2500	**16500000** 3710000	0.87	0.78	1.16	**2460000** 553000	**3650000** 820000	**4280000** 962000	0.67
914.400 36.0000	**1066.800** 42.0000	**139.700** 5.5000	**101.600** 4.0000	**2820000** 633000	0.41	1.65	2.45	**420000** 94300	**294000** 66100	**731000** 164000	1.43
938.212 36.9375	**1270.000** 50.0000	**406.200** 15.9921	**266.500** 10.4921	**12600000** 2820000	0.87	0.78	1.16	**1870000** 420000	**2770000** 623000	**3250000** 732000	0.67
977.900 38.5000	**1130.300** 44.5000	**139.700** 5.5000	**101.600** 4.0000	**2910000** 654000	0.44	1.55	2.30	**433000** 97300	**323000** 72700	**754000** 169000	1.34
1270.000 50.0000	**1435.100** 56.5000	**146.050** 5.7500	**101.600** 4.0000	**3210000** 721000	0.57	1.18	1.76	**478000** 107000	**467000** 105000	**832000** 187000	1.02
1395.603 54.9450	**1697.038** 66.8125	**260.350** 10.2500	**190.500** 7.5000	**7550000** 1700000	0.43	1.56	2.32	**1120000** 253000	**835000** 188000	**1960000** 440000	1.35
1397.000 55.0000	**1697.038** 66.8125	**260.350** 10.2500	**190.500** 7.5000	**7550000** 1700000	0.43	1.56	2.32	**1120000** 253000	**835000** 188000	**1960000** 440000	1.35
1397.000 55.0000	**1697.038** 66.8125	**260.350** 10.2500	**190.500** 7.5000	**7550000** 1700000	0.43	1.56	2.32	**1120000** 253000	**835000** 188000	**1960000** 440000	1.35
1784.350 70.2500	**2006.600** 79.0000	**241.300** 9.5000	**177.800** 7.0000	**8410000** 1890000	0.44	1.54	2.29	**1250000** 282000	**943000** 212000	**2180000** 490000	1.33
1828.800 72.0000	**2006.600** 79.0000	**177.800** 7.0000	**123.825** 4.8750	**5080000** 1140000	0.47	1.43	2.12	**757000** 170000	**613000** 138000	**1320000** 296000	1.23

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions						Geometry Factors			Bearing Weight
		Shaft		Housing		Pin					
Inner	Outer	Max. Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	K_a	K_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE762320	762401D	**6.4** 0.25	**849.0** 33.43	**1.5** 0.06	**976.6** 38.45	– –	– –	13724.5	1634.7	0.3271	**322.80** 711.62
EE762320	762420XD	**6.4** 0.25	**849.0** 33.43	**3.3** 0.13	**976.6** 38.45	– –	– –	13724.5	1634.7	0.3271	**427.99** 943.52
EE763330	763410D	**6.4** 0.25	**876.0** 34.49	**1.5** 0.06	**997.2** 39.26	– –	– –	14677.1	1745.2	0.3374	**323.40** 712.98
NP442420	NP961009	**8.0** 0.32	**900.0** 35.43	**3.5** 0.14	**1075.0** 42.32	**19.06** 0.88	**19.68** 0.78	18466.6	1277.1	0.3733	**660.60** 1455.13
LM286249AA	LM286210CD	**9.7** 0.38	**915.0** 36.02	**3.3** 0.13	**1090.4** 42.93	**38.10** 1.50	**24.61** 0.97	28956.1	1086.1	0.3933	**945.89** 2085.33
LM986949	LM986910D	**28.7** 1.13	**996.0** 39.21	**6.4** 0.25	**1290.0** 50.79	– –	– –	20590.9	730.3	0.4700	**2332.37** 5142.00
LL686947	LL686910D	**6.4** 0.25	**945.0** 37.20	**3.3** 0.13	**1037.2** 40.83	– –	– –	16664.7	3390.4	0.3416	**198.26** 437.09
NP578395	NP508551	**3.3** 0.13	**1005.0** 39.57	**3.3** 0.13	**1240.0** 48.82	– –	– –	22762.7	983.1	0.4847	**1361.12** 3000.56
LL687949	LL687910D	**6.4** 0.25	**1010.0** 39.76	**3.3** 0.13	**1100.0** 43.32	– –	– –	18937.3	3190.6	0.3631	**212.33** 468.17
LL889049	LL889010D	**6.4** 0.25	**1305.0** 51.38	**3.3** 0.13	**1405.0** 55.31	– –	– –	31422.7	5654.9	0.4637	**311.03** 685.75
EE292548	292668D	**6.0** 0.24	**1445.0** 56.89	**3.3** 0.13	**1619.6** 63.76	– –	– –	58328.4	6111.6	0.5280	**1061.43** 2340.06
EE292550	292668D	**6.0** 0.24	**1450.0** 57.09	**3.3** 0.13	**1619.6** 63.76	– –	– –	58328.4	6111.6	0.5280	**1055.81** 2327.65
EE292550	292668CD	**6.0** 0.24	**1450.0** 57.09	**3.3** 0.13	**1619.6** 63.76	**34.93** 1.38	**29.69** 1.17	58328.4	6111.6	0.5280	**1055.81** 2327.65
LL789849	LL789810D	**12.7** 0.50	**1840.0** 72.44	**3.3** 0.13	**1966.1** 77.40	– –	– –	93391.2	10455.2	0.6160	**978.66** 2157.55
LL789949	LL789910XD	**6.4** 0.25	**1865.0** 73.43	**3.3** 0.13	**1970.0** 77.56	– –	– –	83190.9	15410.2	0.6006	**589.45** 1299.53

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.



TYPE TDI

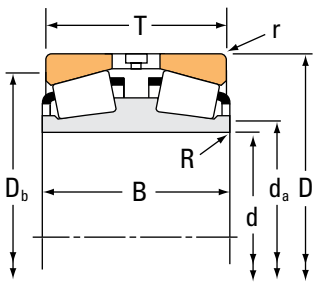
- TDI style consists of a single-piece (double) inner ring plus two single outer rings.
- It is normally supplied complete with an outer-ring spacer as a pre-set assembly.
- To suit the application duty, the built-in setting value needs to be established by your Timken engineer before an order is placed.
- A groove and holes can be supplied in the outer-ring spacer to allow lubricant to pass from the bearing housing. Contact your Timken engineer for spacer configuration information.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective solution.

TYPE TDIT

- TDIT is a double inner-ring bearing with a tapered bore.
- It is comprised of a one-piece (double) inner ring and two single outer rings.
- TDIT bearings are typically supplied complete with an outer-ring spacer as a pre-set assembly. Contact your Timken engineer for spacer configuration information.
- These can be used in fixed (locating) positions on rotating-shaft applications.
- The tapered inner-ring bore allows for easy removal where interference fits are necessary and frequent removal of the bearing from the shaft is desired.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective solution.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
31.750 1.2500	**69.012** 2.7170	**39.705** 1.5632	**39.182** 1.5426	**95100** 21400	0.4	1.8	2.6	**14200** 3180	**9260** 2080	**24600** 5540	1.53
42.862 1.6875	**80.962** 3.1875	**34.925** 1.3750	**31.750** 1.2500	**88500** 19900	0.5	1.3	1.9	**13200** 2960	**11900** 2680	**22900** 5160	1.11
44.450 1.7500	**80.962** 3.1875	**34.925** 1.3750	**31.750** 1.2500	**88500** 19900	0.5	1.3	1.9	**13200** 2960	**11900** 2680	**22900** 5160	1.11
46.037 1.8125	**80.962** 3.1875	**34.925** 1.3750	**31.750** 1.2500	**88500** 19900	0.5	1.3	1.9	**13200** 2960	**11900** 2680	**22900** 5160	1.11
50.800 2.0000	**93.264** 3.6718	**50.013** 1.9690	**53.188** 2.0940	**153000** 34400	0.3	2.0	3.0	**22800** 5120	**13200** 2970	**39700** 8920	1.73
50.800 2.0000	**96.838** 3.8125	**53.188** 2.0940	**53.188** 2.0940	**153000** 34400	0.3	2.0	3.0	**22800** 5120	**13200** 2970	**39700** 8920	1.73
55.562 2.1875	**96.838** 3.8125	**51.298** 2.0196	**53.188** 2.0940	**158000** 35600	0.4	1.9	2.8	**23600** 5300	**14300** 3210	**41100** 9230	1.65
63.500 2.5000	**112.712** 4.4375	**60.325** 2.3750	**60.325** 2.3750	**291000** 65300	0.3	2.0	3.0	**43300** 9730	**25100** 5650	**75400** 16900	1.72
63.500 2.5000	**136.525** 5.3750	**66.091** 2.6020	**65.989** 2.5980	**298000** 66900	0.9	0.8	1.2	**44300** 9970	**65700** 14800	**77200** 17400	0.67
63.500 2.5000	**140.030** 5.5130	**66.090** 2.6020	**65.989** 2.5980	**298000** 66900	0.9	0.8	1.2	**44300** 9970	**65700** 14800	**77200** 17400	0.67
64.987 2.5586	**136.525** 5.3750	**66.091** 2.6020	**65.989** 2.5980	**298000** 66900	0.9	0.8	1.2	**44300** 9970	**65700** 14800	**77200** 17400	0.67
64.987 2.5586	**140.030** 5.5130	**66.091** 2.6020	**65.989** 2.5980	**298000** 66900	0.9	0.8	1.2	**44300** 9970	**65700** 14800	**77200** 17400	0.67
80.962 3.1875	**133.350** 5.2500	**60.325** 2.3750	**59.538** 2.3440	**269000** 60500	0.4	1.5	2.3	**40000** 9000	**30500** 6850	**69700** 15700	1.31
80.962 3.1875	**136.525** 5.3750	**60.325** 2.3750	**59.538** 2.3440	**269000** 60500	0.4	1.5	2.3	**40000** 9000	**30500** 6850	**69700** 15700	1.31
80.962 3.1875	**139.992** 5.5115	**80.962** 3.1875	**80.134** 3.1549	**360000** 80900	0.4	1.7	2.5	**53600** 12100	**37100** 8330	**93400** 21000	1.45
85.725 3.3750	**123.825** 4.8750	**41.278** 1.6251	**44.450** 1.7500	**161000** 36300	0.3	2.1	3.1	**24000** 5400	**13600** 3050	**41800** 9400	1.77
85.725 3.3750	**127.000** 5.0000	**41.278** 1.6251	**44.450** 1.7500	**161000** 36300	0.3	2.1	3.1	**24000** 5400	**13600** 3050	**41800** 9400	1.77

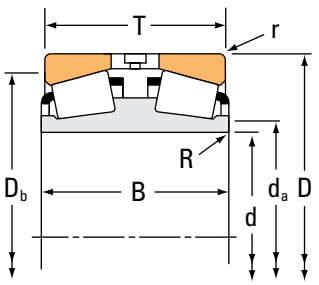
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
14126D	14276	**1.5** 0.06	**40.0** 1.57	**1.3** 0.05	**60.0** 2.36	18.0	13.3	0.0668	**0.71** 1.57
13169D	13318	**0.8** 0.03	**50.0** 1.97	**1.5** 0.06	**72.0** 2.83	23.0	19.2	0.0799	**0.77** 1.71
13176D	13318	**0.1** 0.01	**50.0** 1.97	**1.5** 0.06	**72.0** 2.83	23.0	19.2	0.0799	**0.74** 1.65
13182D	13318	**0.8** 0.03	**52.0** 2.05	**1.5** 0.06	**72.0** 2.83	23.0	19.2	0.0799	**0.73** 1.62
375D	374	**0.8** 0.03	**57.0** 2.24	**1.3** 0.05	**85.0** 3.35	37.6	15.4	0.0816	**1.40** 3.09
375D	372A	**0.8** 0.03	**57.0** 2.24	**1.5** 0.06	**86.0** 3.39	37.6	15.4	0.0816	**1.61** 3.56
389DE	382A	**0.8** 0.03	**63.0** 2.48	**0.8** 0.03	**89.0** 3.50	42.0	15.7	0.0859	**2.05** 4.50
39585D	39520	**0.8** 0.03	**72.0** 2.83	**3.3** 0.13	**101.0** 3.98	84.3	23.7	0.1074	**2.59** 5.70
78251D	78537	**2.3** 0.09	**79.0** 3.11	**3.3** 0.13	**115.0** 4.53	62.6	19.1	0.0884	**4.59** 10.10
78251D	78551	**2.3** 0.09	**79.0** 3.11	**2.3** 0.09	**117.0** 4.61	62.6	19.1	0.0884	**4.83** 10.66
78255D	78537	**1.5** 0.06	**79.0** 3.11	**3.3** 0.13	**115.0** 4.53	62.6	19.1	0.0884	**4.55** 10.03
78255D	78551	**1.5** 0.06	**79.0** 3.11	**2.3** 0.09	**117.0** 4.61	62.6	19.1	0.0884	**4.91** 10.85
496D	492A	**1.5** 0.06	**91.0** 3.58	**3.3** 0.13	**120.0** 4.72	104.6	29.3	0.1252	**3.25** 7.16
496D	493	**1.5** 0.06	**91.0** 3.58	**3.3** 0.13	**122.0** 4.80	104.6	29.3	0.1252	**3.53** 7.77
581D	572	**1.5** 0.06	**92.0** 3.62	**3.3** 0.13	**125.0** 4.92	125.7	32.0	0.1295	**5.31** 11.71
L217845D	L217810	**0.8** 0.03	**93.0** 3.66	**1.5** 0.06	**116.0** 4.57	111.3	74.8	0.1152	**1.74** 3.80
L217845D	L217813	**0.8** 0.03	**93.0** 3.66	**1.5** 0.06	**117.0** 4.61	111.3	74.8	0.1152	**1.93** 4.23

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
88.900 3.5000	**161.925** 6.3750	**101.549** 3.9980	**107.950** 4.2500	**570000** 128000	0.3	2.0	3.0	**84800** 19100	**49500** 11100	**148000** 33200	1.71
92.075 3.6250	**148.430** 5.8437	**57.150** 2.2500	**57.942** 2.2812	**284000** 63800	0.5	1.4	2.0	**42200** 9490	**35600** 8000	**73500** 16500	1.19
95.250 3.7500	**136.525** 5.3750	**57.150** 2.2500	**57.150** 2.2500	**243000** 54600	0.3	2.4	3.5	**36200** 8140	**17600** 3950	**63000** 14200	2.06
98.425 3.8750	**180.975** 7.1250	**101.600** 4.0000	**102.362** 4.0300	**603000** 135000	0.4	1.8	2.6	**89700** 20200	**59200** 13300	**156000** 35100	1.51
101.600 4.0000	**157.162** 6.1875	**80.167** 3.1562	**79.375** 3.1250	**389000** 87500	0.5	1.4	2.1	**57900** 13000	**47100** 10600	**101000** 22700	1.23
101.600 4.0000	**161.925** 6.3750	**86.518** 3.4062	**79.375** 3.1250	**389000** 87500	0.5	1.4	2.1	**57900** 13000	**47100** 10600	**101000** 22700	1.23
104.775 4.1250	**180.975** 7.1250	**101.600** 4.0000	**102.362** 4.0300	**603000** 135000	0.4	1.8	2.6	**89700** 20200	**59200** 13300	**156000** 35100	1.51
107.950 4.2500	**212.725** 8.3750	**142.875** 5.6250	**152.400** 6.0000	**996000** 224000	0.3	2.1	3.1	**148000** 33300	**82700** 18600	**258000** 58000	1.79
114.300 4.5000	**190.500** 7.5000	**98.425** 3.8750	**101.600** 4.0000	**633000** 142000	0.4	1.6	2.4	**94300** 21200	**67100** 15100	**164000** 36900	1.40
114.300 4.5000	**212.725** 8.3750	**142.875** 5.6250	**152.400** 6.0000	**1180000** 266000	0.3	2.1	3.1	**176000** 39600	**98300** 22100	**307000** 69000	1.79
120.650 4.7500	**174.625** 6.8750	**66.678** 2.6251	**68.262** 2.6875	**426000** 95700	0.3	2.0	3.0	**63400** 14200	**36100** 8110	**110000** 24800	1.76
127.000 5.0000	**196.850** 7.7500	**92.075** 3.6250	**92.075** 3.6250	**640000** 144000	0.3	2.0	2.9	**95300** 21400	**56100** 12600	**166000** 37300	1.70
127.000 5.0000	**228.600** 9.0000	**160.338** 6.3125	**151.244** 5.9545	**655000** 147000	0.7	0.9	1.4	**97500** 21900	**123000** 27600	**170000** 38200	0.79
127.000 5.0000	**234.950** 9.2500	**139.700** 5.5000	**152.400** 6.0000	**1090000** 246000	0.4	1.8	2.7	**163000** 36700	**103000** 23200	**284000** 63800	1.58
130.005 5.1183	**215.900** 8.5000	**123.825** 4.8750	**123.825** 4.8750	**665000** 150000	0.5	1.4	2.1	**99000** 22300	**82600** 18600	**172000** 38800	1.20
130.175 5.1250	**215.900** 8.5000	**101.600** 4.0000	**101.600** 4.0000	**665000** 150000	0.5	1.4	2.1	**99000** 22300	**82600** 18600	**172000** 38800	1.20
133.350 5.2500	**196.850** 7.7500	**92.075** 3.6250	**92.075** 3.6250	**640000** 144000	0.3	2.0	2.9	**95300** 21400	**56100** 12600	**166000** 37300	1.70

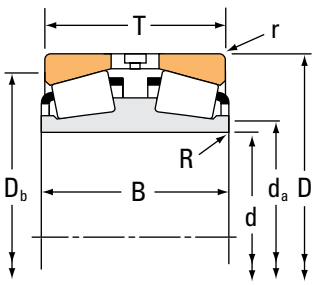
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
767D	752	**1.5** 0.06	**101.3** 3.99	**3.3** 0.13	**144.0** 5.67	177.2	29.4	0.0945	**8.77** 19.33
42362D	42584	**1.5** 0.06	**104.0** 4.09	**3.0** 0.12	**134.0** 5.28	129.7	37.2	0.1386	**3.87** 8.53
LM119348D	LM119311	**0.8** 0.03	**102.0** 4.02	**2.3** 0.09	**126.0** 4.96	149.4	84.1	0.1213	**2.68** 5.91
779D	772	**1.5** 0.06	**112.0** 4.41	**3.3** 0.13	**161.0** 6.34	227.3	41.3	0.1067	**11.33** 24.99
52400D	52618	**1.5** 0.06	**112.4** 4.43	**3.3** 0.13	**142.0** 5.59	175.4	41.7	0.1519	**5.29** 11.67
52400D	52638	**1.5** 0.06	**112.4** 4.43	**3.3** 0.13	**143.0** 5.63	175.4	41.7	0.1519	**6.28** 13.83
782D	772	**1.5** 0.06	**117.9** 4.64	**3.3** 0.13	**161.0** 6.34	227.3	41.3	0.1067	**10.68** 23.57
946D	932	**3.3** 0.13	**128.0** 5.04	**3.3** 0.13	**187.0** 7.36	338.6	39.8	0.1153	**22.94** 50.60
71450D	71750	**1.5** 0.06	**128.0** 5.04	**3.3** 0.13	**171.0** 6.73	269.2	49.5	0.1156	**11.01** 24.27
HH224346DD	HH224310	**3.3** 0.13	**133.2** 5.24	**3.3** 0.13	**192.0** 7.56	366.6	47.9	0.1182	**22.01** 48.52
M224749D	M224710	**0.8** 0.03	**129.0** 5.08	**1.5** 0.06	**162.0** 6.38	279.1	86.6	0.1575	**5.82** 12.83
67388D	67322	**1.5** 0.06	**140.0** 5.51	**3.3** 0.13	**180.0** 7.09	383.7	70.1	0.1220	**10.66** 23.52
97500D	97900	**1.5** 0.06	**144.0** 5.67	**3.3** 0.13	**197.0** 7.76	237.1	44.6	0.1311	**24.49** 53.96
95499D	95925	**5.0** 0.20	**152.0** 5.98	**3.3** 0.13	**209.0** 8.23	453.9	59.4	0.1323	**25.95** 57.23
74510D	74850	**1.5** 0.06	**146.0** 5.75	**3.3** 0.13	**196.0** 7.72	362.9	68.5	0.1338	**17.45** 38.46
74512D	74850	**1.5** 0.06	**146.0** 5.75	**3.3** 0.13	**196.0** 7.72	362.9	68.5	0.1338	**14.97** 32.97
67390D	67322	**1.5** 0.06	**145.0** 5.71	**3.3** 0.13	**180.0** 7.09	383.7	70.1	0.1220	**9.73** 21.45

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
136.525 5.3750	**225.425** 8.8750	**120.650** 4.7500	**120.650** 4.7500	**1130000** 253000	0.3	2.0	3.0	**168000** 37700	**95500** 21500	**292000** 65700	1.76
139.700 5.5000	**200.025** 7.8750	**77.788** 3.0625	**75.408** 2.9688	**499000** 112000	0.3	2.0	3.0	**74300** 16700	**42800** 9610	**129000** 29100	1.74
149.225 5.8750	**236.538** 9.3125	**106.362** 4.1875	**105.346** 4.1475	**897000** 202000	0.4	1.5	2.3	**134000** 30000	**101000** 22700	**232000** 52300	1.32
149.225 5.8750	**241.300** 9.5000	**106.362** 4.1875	**105.346** 4.1475	**897000** 202000	0.4	1.5	2.3	**134000** 30000	**101000** 22700	**232000** 52300	1.32
149.225 5.8750	**254.000** 10.0000	**120.650** 4.7500	**120.650** 4.7500	**1150000** 258000	0.4	1.7	2.5	**171000** 38500	**119000** 26800	**298000** 67000	1.43
152.400 6.0000	**244.475** 9.6250	**87.312** 3.4375	**92.075** 3.6250	**699000** 157000	0.4	1.9	2.9	**104000** 23400	**62700** 14100	**181000** 40800	1.66
155.575 6.1250	**247.650** 9.7500	**122.238** 4.8125	**122.238** 4.8125	**1100000** 248000	0.4	1.8	2.7	**164000** 36900	**103000** 23300	**286000** 64200	1.59
165.100 6.5000	**225.425** 8.8750	**79.375** 3.1250	**76.200** 3.0000	**528000** 119000	0.4	1.8	2.6	**78600** 17700	**51600** 11600	**137000** 30800	1.52
174.625 6.8750	**288.925** 11.3750	**123.825** 4.8750	**123.825** 4.8750	**1430000** 322000	0.3	2.1	3.2	**214000** 48000	**117000** 26200	**372000** 83600	1.83
177.800 7.0000	**247.650** 9.7500	**90.488** 3.5625	**90.488** 3.5625	**705000** 159000	0.4	1.5	2.3	**105000** 23600	**79000** 17800	**183000** 41100	1.33
177.800 7.0000	**279.400** 11.0000	**112.710** 4.4374	**112.712** 4.4375	**930000** 209000	0.5	1.3	1.9	**138000** 31100	**124000** 28000	**241000** 54200	1.11
177.800 7.0000	**288.925** 11.3750	**123.825** 4.8750	**123.825** 4.8750	**1150000** 258000	0.5	1.4	2.2	**171000** 38500	**137000** 30800	**298000** 67000	1.25
177.800 7.0000	**288.925** 11.3750	**123.825** 4.8750	**123.825** 4.8750	**1430000** 322000	0.3	2.1	3.2	**214000** 48000	**117000** 26200	**372000** 83600	1.83
177.800 7.0000	**304.800** 12.0000	**109.438** 4.3086	**114.300** 4.5000	**1050000** 236000	0.4	1.9	2.8	**156000** 35100	**96400** 21700	**272000** 61200	1.62
187.325 7.3750	**319.964** 12.5970	**168.275** 6.6250	**161.925** 6.3750	**1830000** 410000	0.3	2.1	3.2	**272000** 61100	**148000** 33400	**473000** 106000	1.83
187.325 7.3750	**320.675** 12.6250	**168.275** 6.6250	**161.925** 6.3750	**1830000** 410000	0.3	2.1	3.2	**272000** 61100	**148000** 33400	**473000** 106000	1.83
190.500 7.5000	**317.500** 12.5000	**133.350** 5.2500	**133.350** 5.2500	**1270000** 286000	0.5	1.3	1.9	**190000** 42600	**170000** 38200	**330000** 74200	1.12

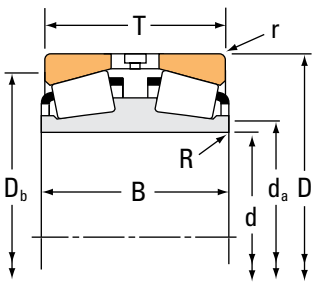
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
H228649D	H228610	**1.5** 0.06	**152.0** 5.98	**3.3** 0.13	**203.0** 7.99	539.6	76.7	0.1358	**19.97** 44.03
48680D	48620	**0.8** 0.03	**150.0** 5.91	**3.3** 0.13	**185.0** 7.28	439.6	130.5	0.1261	**8.13** 17.90
82587D	82931	**1.5** 0.06	**165.0** 6.50	**3.3** 0.13	**213.0** 8.39	460.5	81.1	0.1405	**17.47** 38.50
82587D	82950	**1.5** 0.06	**165.0** 6.50	**3.3** 0.13	**215.0** 8.46	460.5	81.1	0.1405	**19.08** 42.07
99587D	99100	**1.5** 0.06	**167.0** 6.57	**3.3** 0.13	**227.0** 8.94	555.5	73.5	0.1459	**25.95** 57.18
81601D	81962	**1.5** 0.06	**166.1** 6.54	**3.3** 0.13	**225.0** 8.86	413.0	98.4	0.1250	**14.96** 32.96
H432549D	H432510	**1.5** 0.06	**172.0** 6.77	**3.3** 0.13	**224.0** 8.82	657.5	97.8	0.1178	**23.18** 51.14
46790D	46720	**0.8** 0.03	**175.0** 6.89	**3.3** 0.13	**209.0** 8.23	572.0	174.7	0.1432	**9.45** 20.84
HM237542D	HM237510	**1.5** 0.06	**191.0** 7.52	**3.3** 0.13	**266.0** 10.47	751.2	101.5	0.1168	**31.85** 70.23
67790D	67720	**1.5** 0.06	**190.0** 7.48	**3.3** 0.13	**229.0** 9.02	622.3	122.6	0.1214	**13.30** 29.34
82680D	82620	**1.5** 0.06	**197.0** 7.76	**3.3** 0.13	**251.0** 9.88	661.2	119.5	0.1313	**25.80** 56.88
94706D	94113	**1.5** 0.06	**195.0** 7.68	**3.3** 0.13	**259.0** 10.20	692.3	93.9	0.1287	**32.59** 71.85
HM237546D	HM237510	**1.5** 0.06	**194.0** 7.64	**3.3** 0.13	**266.0** 10.47	751.2	101.5	0.1168	**31.80** 70.13
EE280700D	281200	**3.3** 0.13	**199.9** 7.87	**3.3** 0.13	**279.0** 10.98	591.3	86.0	0.1115	**31.90** 70.29
H239649D	H239610	**3.3** 0.13	**209.0** 8.23	**4.8** 0.19	**293.0** 11.54	905.7	90.3	0.1242	**52.73** 116.28
H239649D	H239612	**3.3** 0.13	**209.0** 8.23	**4.8** 0.19	**293.0** 11.54	905.7	90.3	0.1242	**53.29** 117.48
93751D	93125	**6.4** 0.25	**222.0** 8.74	**3.3** 0.13	**286.0** 11.26	912.5	126.1	0.1460	**41.89** 92.37

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
190.500 7.5000	**368.300** 14.5000	**158.750** 6.2500	**152.400** 6.0000	**1920000** 432000	0.4	1.7	2.5	**286000** 64300	**197000** 44200	**498000** 112000	1.45
199.975 7.8730	**317.500** 12.5000	**133.350** 5.2500	**133.350** 5.2500	**1270000** 286000	0.5	1.3	1.9	**190000** 42600	**170000** 38200	**330000** 74200	1.12
203.200 8.0000	**317.500** 12.5000	**123.825** 4.8750	**123.825** 4.8750	**1270000** 286000	0.5	1.3	1.9	**190000** 42600	**170000** 38200	**330000** 74200	1.12
203.200 8.0000	**317.500** 12.5000	**133.350** 5.2500	**133.350** 5.2500	**1270000** 286000	0.5	1.3	1.9	**190000** 42600	**170000** 38200	**330000** 74200	1.12
203.200 8.0000	**317.500** 12.5000	**142.875** 5.6250	**133.350** 5.2500	**1270000** 286000	0.5	1.3	1.9	**190000** 42600	**170000** 38200	**330000** 74200	1.12
203.200 8.0000	**365.049** 14.3720	**158.750** 6.2500	**152.400** 6.0000	**1920000** 432000	0.4	1.7	2.5	**286000** 64300	**197000** 44200	**498000** 112000	1.45
203.275 8.0030	**368.300** 14.5000	**158.750** 6.2500	**152.400** 6.0000	**1920000** 432000	0.4	1.7	2.5	**286000** 64300	**197000** 44200	**498000** 112000	1.45
206.375 8.1250	**282.575** 11.1250	**87.313** 3.4375	**87.312** 3.4375	**738000** 166000	0.5	1.3	2.0	**110000** 24700	**95800** 21500	**191000** 43000	1.15
206.375 8.1250	**336.550** 13.2500	**180.975** 7.1250	**184.150** 7.2500	**2360000** 530000	0.3	2.0	3.0	**351000** 79000	**200000** 45000	**612000** 137000	1.76
215.900 8.5000	**285.750** 11.2500	**85.725** 3.3750	**85.725** 3.3750	**748000** 168000	0.5	1.4	2.1	**111000** 25000	**91800** 20600	**194000** 43600	1.21
215.900 8.5000	**288.925** 11.3750	**85.725** 3.3750	**85.725** 3.3750	**748000** 168000	0.5	1.4	2.1	**111000** 25000	**91800** 20600	**194000** 43600	1.21
215.900 8.5000	**355.600** 14.0000	**120.650** 4.7500	**120.650** 4.7500	**1390000** 312000	0.3	2.0	3.0	**206000** 46400	**117000** 26200	**359000** 80800	1.77
215.900 8.5000	**355.600** 14.0000	**127.000** 5.0000	**130.175** 5.1250	**1320000** 297000	0.6	1.1	1.7	**197000** 44200	**199000** 44700	**343000** 77000	0.99
219.075 8.6250	**358.775** 14.1250	**196.850** 7.7500	**200.025** 7.8750	**2520000** 566000	0.3	2.0	3.0	**375000** 84200	**213000** 47900	**652000** 147000	1.76
220.662 8.6875	**314.325** 12.3750	**115.888** 4.5625	**115.888** 4.5625	**1210000** 272000	0.3	2.0	3.0	**180000** 40500	**103000** 23100	**314000** 70500	1.76
225.425 8.8750	**355.600** 14.0000	**120.650** 4.7500	**120.650** 4.7500	**1390000** 312000	0.3	2.0	3.0	**206000** 46400	**117000** 26200	**359000** 80800	1.77
225.425 8.8750	**355.600** 14.0000	**165.100** 6.5000	**165.100** 6.5000	**1390000** 312000	0.3	2.0	3.0	**206000** 46400	**117000** 26200	**359000** 80800	1.77

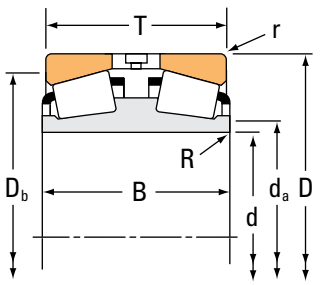
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE420750D	421450	**3.3** 0.13	**221.0** 8.70	**3.3** 0.13	**331.0** 13.03	1150.5	128.2	0.1450	**76.87** 169.49
93788D	93125	**6.4** 0.25	**226.9** 8.93	**3.3** 0.13	**286.0** 11.26	912.5	126.1	0.1460	**40.08** 88.39
93800D	93125	**1.5** 0.06	**222.0** 8.74	**3.3** 0.13	**286.0** 11.26	912.5	126.1	0.1460	**42.54** 93.81
93801D	93125	**6.4** 0.25	**226.9** 8.93	**3.3** 0.13	**286.0** 11.26	912.5	126.1	0.1460	**37.25** 82.13
93801D	93126	**6.4** 0.25	**226.9** 8.93	**3.3** 0.13	**285.0** 11.22	912.5	126.1	0.1460	**38.99** 85.94
EE420800D	421437	**3.3** 0.13	**230.0** 9.06	**3.3** 0.13	**329.0** 12.95	1150.5	128.2	0.1450	**70.53** 155.49
EE420804D	421450	**3.3** 0.13	**231.0** 9.09	**3.3** 0.13	**331.0** 13.03	1150.5	128.2	0.1450	**71.12** 156.80
67985D	67920	**0.8** 0.03	**219.0** 8.62	**3.3** 0.13	**260.0** 10.24	819.5	172.0	0.1388	**16.43** 36.26
H242649D	H242610	**1.5** 0.06	**227.0** 8.94	**3.3** 0.13	**306.0** 12.05	1404.1	134.8	0.1465	**65.06** 143.45
LM742749D	LM742710	**0.8** 0.03	**227.0** 8.94	**3.3** 0.13	**266.0** 10.47	866.9	225.2	0.1388	**15.15** 33.37
LM742749D	LM742714	**0.8** 0.03	**227.0** 8.94	**3.3** 0.13	**267.0** 10.51	866.9	225.2	0.1388	**15.88** 35.00
EE130850D	131400	**1.5** 0.06	**237.0** 9.33	**1.5** 0.06	**329.0** 12.95	1162.0	167.6	0.1358	**46.68** 102.93
96851D	96140	**6.4** 0.25	**249.0** 9.80	**3.3** 0.13	**318.0** 12.52	1140.0	160.6	0.1626	**51.05** 112.57
H244849D	H244810	**1.5** 0.06	**242.0** 9.53	**6.4** 0.25	**323.0** 12.72	1631.9	150.0	0.1540	**81.11** 178.83
M244249D	M244210	**1.5** 0.06	**235.0** 9.25	**3.3** 0.13	**293.0** 11.54	1149.7	141.4	0.1360	**29.07** 64.10
EE130887D	131400	**5.5** 0.22	**252.0** 9.92	**1.5** 0.06	**329.0** 12.95	1162.0	167.6	0.1358	**43.70** 96.35
EE130888D	131400	**8.0** 0.31	**257.0** 10.12	**1.5** 0.06	**329.0** 12.95	1162.0	167.6	0.1358	**52.19** 115.07

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
228.600 9.0000	**355.600** 14.0000	**120.650** 4.7500	**120.650** 4.7500	**1390000** 312000	0.3	2.0	3.0	**206000** 46400	**117000** 26200	**359000** 80800	1.77
228.600 9.0000	**355.600** 14.0000	**165.100** 6.5000	**165.100** 6.5000	**1390000** 312000	0.3	2.0	3.0	**206000** 46400	**117000** 26200	**359000** 80800	1.77
228.600 9.0000	**400.050** 15.7500	**158.750** 6.2500	**161.925** 6.3750	**1960000** 440000	0.4	1.5	2.3	**291000** 65500	**219000** 49300	**507000** 114000	1.33
228.600 9.0000	**425.450** 16.7500	**177.800** 7.0000	**165.100** 6.5000	**2700000** 608000	0.3	2.0	3.0	**402000** 90500	**229000** 51500	**701000** 158000	1.76
228.600 9.0000	**431.800** 17.0000	**158.749** 6.2500	**158.750** 6.2500	**2220000** 499000	0.9	0.8	1.1	**330000** 74300	**500000** 112000	**575000** 129000	0.66
234.950 9.2500	**327.025** 12.8750	**93.662** 3.6875	**93.662** 3.6875	**918000** 206000	0.4	1.7	2.5	**137000** 30700	**95200** 21400	**238000** 53500	1.44
234.950 9.2500	**384.175** 15.1250	**209.550** 8.2500	**209.550** 8.2500	**3090000** 694000	0.3	2.0	3.0	**460000** 103000	**262000** 58800	**800000** 180000	1.76
241.225 9.4970	**355.498** 13.9960	**107.950** 4.2500	**107.950** 4.2500	**1150000** 258000	0.4	1.9	2.9	**171000** 38500	**103000** 23300	**298000** 67000	1.65
241.300 9.5000	**419.100** 16.5000	**177.800** 7.0000	**174.625** 6.8750	**2650000** 595000	0.4	1.6	2.4	**394000** 88600	**281000** 63100	**686000** 154000	1.40
241.478 9.5070	**349.148** 13.7460	**107.950** 4.2500	**107.950** 4.2500	**1150000** 258000	0.4	1.9	2.9	**171000** 38500	**103000** 23300	**298000** 67000	1.65
241.478 9.5070	**355.498** 13.9960	**107.950** 4.2500	**107.950** 4.2500	**1150000** 258000	0.4	1.9	2.9	**171000** 38500	**103000** 23300	**298000** 67000	1.65
241.478 9.5070	**355.600** 14.0000	**107.950** 4.2500	**107.950** 4.2500	**1150000** 258000	0.4	1.9	2.9	**171000** 38500	**103000** 23300	**298000** 67000	1.65
244.475 9.6250	**327.025** 12.8750	**92.075** 3.6250	**92.075** 3.6250	**987000** 222000	0.3	2.1	3.1	**147000** 33000	**80800** 18200	**256000** 57500	1.82
247.650 9.7500	**406.400** 16.0000	**215.900** 8.5000	**219.075** 8.6250	**3420000** 769000	0.3	2.0	3.0	**509000** 115000	**290000** 65200	**887000** 199000	1.76
254.000 10.0000	**355.600** 14.0000	**92.710** 3.6500	**92.862** 3.6560	**976000** 219000	0.4	1.9	2.8	**145000** 32700	**90200** 20300	**253000** 56900	1.61
254.000 10.0000	**358.775** 14.1250	**130.175** 5.1250	**130.175** 5.1250	**1590000** 358000	0.3	2.0	3.0	**237000** 53300	**135000** 30300	**413000** 92800	1.76
254.000 10.0000	**360.000** 14.1732	**136.225** 5.3632	**130.175** 5.1250	**1590000** 358000	0.3	2.0	3.0	**237000** 53300	**135000** 30300	**413000** 92800	1.76

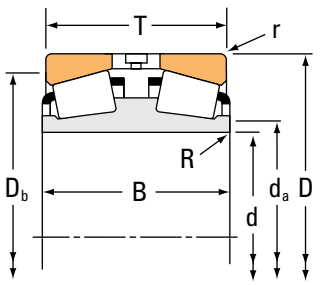
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE130900D	131400	**1.5** 0.06	**247.0** 9.72	**1.5** 0.06	**329.0** 12.95	1162.0	167.6	0.1358	**43.45** 95.81
EE130903D	131400	**8.0** 0.31	**259.0** 10.20	**1.5** 0.06	**329.0** 12.95	1162.0	167.6	0.1358	**50.40** 111.14
EE430901D	431575	**3.3** 0.13	**250.7** 9.87	**3.3** 0.13	**360.0** 14.17	1351.2	142.8	0.1572	**81.54** 179.79
EE700090D	700167	**3.5** 0.14	**259.0** 10.20	**6.4** 0.25	**381.0** 15.00	1488.7	109.7	0.1480	**106.49** 234.79
EE113090D	113170	**6.4** 0.25	**271.5** 10.69	**6.4** 0.25	**375.0** 14.76	966.7	98.1	0.1723	**102.14** 225.16
8576D	8520	**1.5** 0.06	**250.0** 9.84	**3.3** 0.13	**305.0** 12.01	1050.5	172.4	0.1401	**24.86** 54.82
H247549D	H247510	**1.5** 0.06	**259.0** 10.20	**6.4** 0.25	**346.0** 13.62	1964.4	148.4	0.1638	**98.04** 216.13
EE127094D	127138	**1.5** 0.06	**257.0** 10.12	**3.3** 0.13	**327.0** 12.87	1178.6	164.4	0.1392	**36.78** 81.09
EE821096D	821165	**3.3** 0.13	**268.0** 10.55	**6.4** 0.25	**380.0** 14.96	1493.2	126.1	0.1597	**101.84** 224.52
EE127097D	127135	**1.5** 0.06	**258.0** 10.16	**3.3** 0.13	**325.0** 12.80	1178.6	164.4	0.1392	**33.77** 74.43
EE127097D	127138	**1.5** 0.06	**258.0** 10.16	**3.3** 0.13	**327.0** 12.87	1178.6	164.4	0.1392	**35.08** 77.32
EE127097D	127140	**1.5** 0.06	**258.0** 10.16	**3.3** 0.13	**327.0** 12.87	1178.6	164.4	0.1392	**35.12** 77.41
LM247748D	LM247710	**1.5** 0.06	**257.0** 10.12	**3.3** 0.13	**310.0** 12.20	1173.3	243.9	0.1345	**21.53** 47.46
HH249949D	HH249910	**3.3** 0.13	**278.0** 10.94	**6.4** 0.25	**366.0** 14.41	2373.9	173.3	0.1746	**120.05** 264.65
EE171000D	171400	**1.5** 0.06	**269.0** 10.59	**3.3** 0.13	**334.0** 13.15	1068.6	171.6	0.1354	**27.99** 61.70
M249748D	M249710	**3.3** 0.13	**272.5** 10.73	**3.3** 0.13	**335.0** 13.19	1626.0	173.0	0.1526	**42.34** 93.34
M249748D	JM249712	**3.3** 0.13	**272.5** 10.73	**3.0** 0.12	**336.0** 13.23	1626.0	173.0	0.1526	**44.36** 97.78

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
254.000 10.0000	**365.049** 14.3720	**92.710** 3.6500	**92.862** 3.6560	**976000** 219000	0.4	1.9	2.8	**145000** 32700	**90200** 20300	**253000** 56900	1.61
254.000 10.0000	**368.300** 14.5000	**92.710** 3.6500	**92.862** 3.6560	**976000** 219000	0.4	1.9	2.8	**145000** 32700	**90200** 20300	**253000** 56900	1.61
254.000 10.0000	**422.275** 16.6250	**152.400** 6.0000	**139.700** 5.5000	**2610000** 587000	0.3	2.0	3.0	**389000** 87400	**221000** 49700	**677000** 152000	1.76
254.000 10.0000	**431.724** 16.9970	**145.258** 5.7188	**139.700** 5.5000	**2610000** 587000	0.3	2.0	3.0	**389000** 87400	**221000** 49700	**677000** 152000	1.76
254.000 10.0000	**438.150** 17.2500	**165.100** 6.5000	**165.100** 6.5000	**2470000** 555000	0.4	1.9	2.8	**368000** 82700	**226000** 50700	**640000** 144000	1.63
254.000 10.0000	**444.500** 17.5000	**133.350** 5.2500	**133.350** 5.2500	**2050000** 460000	0.3	2.0	3.0	**305000** 68500	**178000** 40000	**531000** 119000	1.71
260.350 10.2500	**365.125** 14.3750	**107.950** 4.2500	**107.950** 4.2500	**1180000** 266000	0.4	1.8	2.7	**176000** 39600	**113000** 25400	**307000** 68900	1.56
260.350 10.2500	**406.400** 16.0000	**155.575** 6.1250	**152.400** 6.0000	**2040000** 459000	0.3	2.0	3.0	**304000** 68300	**173000** 39000	**529000** 119000	1.75
260.350 10.2500	**419.100** 16.5000	**158.750** 6.2500	**155.575** 6.1250	**1960000** 440000	0.6	1.1	1.7	**291000** 65500	**302000** 67800	**507000** 114000	0.97
260.350 10.2500	**422.275** 16.6250	**152.400** 6.0000	**139.700** 5.5000	**2610000** 587000	0.3	2.0	3.0	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**431.724** 16.9970	**145.258** 5.7188	**139.700** 5.5000	**2610000** 587000	0.3	2.0	3.0	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**431.724** 16.9970	**148.433** 5.8438	**152.400** 6.0000	**2610000** 587000	0.3	2.0	3.0	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**444.500** 17.5000	**196.850** 7.7500	**196.850** 7.7500	**2810000** 631000	0.6	1.2	1.8	**418000** 94000	**391000** 87800	**728000** 164000	1.07
266.700 10.5000	**355.600** 14.0000	**107.950** 4.2500	**109.538** 4.3125	**1400000** 315000	0.4	1.9	2.8	**209000** 46900	**129000** 28900	**363000** 81600	1.62
266.700 10.5000	**393.700** 15.5000	**130.175** 5.1250	**130.175** 5.1250	**1540000** 345000	0.4	1.7	2.5	**229000** 51400	**157000** 35400	**398000** 89600	1.45
266.700 10.5000	**403.225** 15.8750	**122.240** 4.8126	**130.175** 5.1250	**1540000** 345000	0.4	1.7	2.5	**229000** 51400	**157000** 35400	**398000** 89600	1.45
266.700 10.5000	**406.400** 16.0000	**122.240** 4.8126	**130.175** 5.1250	**1540000** 345000	0.4	1.7	2.5	**229000** 51400	**157000** 35400	**398000** 89600	1.45

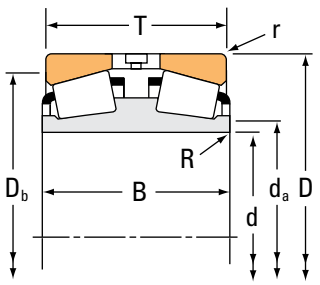
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE171000D	171436	**1.5** 0.06	**269.0** 10.59	**3.3** 0.13	**338.0** 13.31	1068.6	171.6	0.1354	**30.85** 68.02
EE171000D	171450	**1.5** 0.06	**269.0** 10.59	**3.3** 0.13	**340.0** 13.39	1068.6	171.6	0.1354	**32.05** 70.66
HM252343D	HM252310	**3.5** 0.14	**281.0** 11.06	**3.3** 0.13	**392.0** 15.43	1504.3	147.8	0.1482	**81.05** 178.65
HM252343D	HM252315	**3.5** 0.14	**281.0** 11.06	**3.5** 0.14	**397.0** 15.63	1504.3	147.8	0.1482	**82.79** 182.53
EE738101D	738172	**3.3** 0.13	**284.0** 11.18	**6.4** 0.25	**401.1** 15.79	1756.1	131.0	0.1601	**105.97** 233.61
EE822101D	822175	**3.3** 0.13	**281.9** 11.10	**6.4** 0.25	**404.9** 15.94	1363.4	186.1	0.1442	**84.48** 186.26
EE134102D	134143	**3.3** 0.13	**280.0** 11.02	**6.4** 0.25	**339.0** 13.35	1327.7	187.2	0.1474	**33.76** 74.46
EE324103D	324160	**6.4** 0.25	**287.3** 11.31	**3.3** 0.13	**376.0** 14.80	1736.8	222.5	0.1559	**121.01** 266.81
EE435103D	435165	**3.3** 0.13	**289.0** 11.38	**3.3** 0.13	**376.0** 14.80	1480.2	123.2	0.1787	**80.70** 177.89
HM252347D	HM252310	**3.5** 0.14	**285.0** 11.22	**3.3** 0.13	**392.0** 15.43	1504.3	147.8	0.1482	**76.62** 168.90
HM252347D	HM252315	**3.5** 0.14	**285.0** 11.22	**3.5** 0.14	**397.0** 15.63	1504.3	147.8	0.1482	**79.98** 176.34
HM252348D	HM252315	**6.4** 0.25	**291.0** 11.46	**3.5** 0.14	**397.0** 15.63	1504.3	147.8	0.1482	**81.35** 179.37
EE823103D	823175	**6.4** 0.25	**295.5** 11.63	**3.3** 0.13	**399.0** 15.71	1686.2	159.0	0.1813	**119.46** 263.37
LM451349D	LM451310	**1.5** 0.06	**281.0** 11.06	**3.3** 0.13	**335.0** 13.19	1554.1	212.2	0.1536	**30.19** 66.56
EE275106D	275155	**3.3** 0.13	**290.0** 11.42	**6.4** 0.25	**366.0** 14.41	1451.8	201.3	0.1555	**49.03** 108.10
EE275106D	275158	**3.3** 0.13	**290.0** 11.42	**6.4** 0.25	**371.0** 14.61	1451.8	201.3	0.1555	**51.81** 114.20
EE275106D	275160	**3.3** 0.13	**290.0** 11.42	**6.4** 0.25	**373.0** 14.69	1451.8	201.3	0.1555	**53.51** 117.97

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
266.700 10.5000	**488.950** 19.2500	**228.600** 9.0000	**238.125** 9.3750	**4220000** 948000	0.3	2.2	3.2	**628000** 141000	**336000** 75600	**1090000** 246000	1.87
269.875 10.6250	**381.000** 15.0000	**136.525** 5.3750	**136.525** 5.3750	**2000000** 450000	0.3	2.0	3.0	**298000** 67000	**170000** 38100	**519000** 117000	1.76
276.225 10.8750	**381.000** 15.0000	**95.250** 3.7500	**88.900** 3.5000	**806000** 181000	0.6	1.2	1.7	**120000** 27000	**120000** 26900	**209000** 47000	1.00
276.225 10.8750	**381.000** 15.0000	**111.125** 4.3750	**88.900** 3.5000	**806000** 181000	0.6	1.2	1.7	**120000** 27000	**120000** 26900	**209000** 47000	1.00
276.225 10.8750	**393.700** 15.5000	**130.175** 5.1250	**130.175** 5.1250	**1540000** 345000	0.4	1.7	2.5	**229000** 51400	**157000** 35400	**398000** 89600	1.45
276.225 10.8750	**403.225** 15.8750	**122.240** 4.8126	**130.175** 5.1250	**1540000** 345000	0.4	1.7	2.5	**229000** 51400	**157000** 35400	**398000** 89600	1.45
279.400 11.0000	**457.200** 18.0000	**244.475** 9.6250	**244.475** 9.6250	**4560000** 1020000	0.3	2.0	3.0	**679000** 153000	**386000** 86800	**1180000** 266000	1.76
279.400 11.0000	**469.900** 18.5000	**169.862** 6.6875	**166.688** 6.5625	**2810000** 631000	0.4	1.8	2.7	**418000** 94000	**271000** 60800	**728000** 164000	1.55
279.578 11.0070	**380.898** 14.9960	**117.475** 4.6250	**117.475** 4.6250	**1260000** 283000	0.4	1.6	2.3	**187000** 42100	**138000** 31100	**326000** 73300	1.35
279.578 11.0070	**381.000** 15.0000	**95.250** 3.7500	**88.900** 3.5000	**806000** 181000	0.6	1.2	1.7	**120000** 27000	**120000** 26900	**209000** 47000	1.00
279.578 11.0070	**381.000** 15.0000	**111.125** 4.3750	**88.900** 3.5000	**806000** 181000	0.6	1.2	1.7	**120000** 27000	**120000** 26900	**209000** 47000	1.00
280.000 11.0236	**409.981** 16.1410	**206.375** 8.1250	**206.375** 8.1250	**1610000** 362000	0.4	1.8	2.6	**240000** 53900	**158000** 35600	**417000** 93800	1.51
288.925 11.3750	**406.400** 16.0000	**144.462** 5.6875	**144.462** 5.6875	**2070000** 466000	0.3	2.0	3.0	**308000** 69300	**179000** 40100	**537000** 121000	1.73
292.100 11.5000	**422.275** 16.6250	**130.175** 5.1250	**130.175** 5.1250	**1890000** 426000	0.3	2.1	3.1	**282000** 63400	**154000** 34700	**491000** 110000	1.83
292.100 11.5000	**469.900** 18.5000	**138.928** 5.4696	**142.875** 5.6250	**2630000** 591000	0.3	2.3	3.4	**391000** 88000	**196000** 44000	**681000** 153000	2.00
292.100 11.5000	**476.250** 18.7500	**138.928** 5.4696	**142.875** 5.6250	**2630000** 591000	0.3	2.3	3.4	**391000** 88000	**196000** 44000	**681000** 153000	2.00
298.450 11.7500	**438.048** 17.2460	**131.762** 5.1875	**131.762** 5.1875	**1880000** 422000	0.3	2.0	3.0	**280000** 62900	**159000** 35700	**487000** 110000	1.76

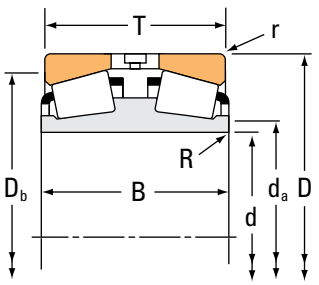
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE295106D	295193	**6.4** 0.25	**304.0** 11.97	**6.4** 0.25	**444.0** 17.48	2247.3	171.9	0.1664	**184.42** 406.60
M252349D	M252310	**3.3** 0.13	**290.0** 11.42	**3.3** 0.13	**356.0** 14.02	1839.2	226.1	0.1588	**49.93** 110.07
89108D	89148	**3.3** 0.13	**297.0** 11.69	**3.3** 0.13	**354.0** 13.94	1111.9	274.1	0.1586	**29.21** 64.38
89108D	89150	**3.3** 0.13	**297.0** 11.69	**6.4** 0.25	**348.0** 13.70	1111.9	274.1	0.1586	**32.47** 71.59
EE275109D	275155	**1.5** 0.06	**293.6** 11.56	**6.4** 0.25	**366.0** 14.41	1451.8	201.3	0.1555	**49.79** 109.79
EE275109D	275158	**1.5** 0.06	**293.6** 11.56	**6.4** 0.25	**371.0** 14.61	1451.8	201.3	0.1555	**51.43** 113.36
HH255149D	HH255110	**1.5** 0.06	**309.0** 12.17	**6.4** 0.25	**412.0** 16.22	3174.6	193.1	0.1922	**169.04** 372.70
EE722111D	722185	**6.4** 0.25	**314.0** 12.36	**3.3** 0.13	**430.0** 16.93	1894.4	142.6	0.1669	**114.93** 253.34
LM654644D	LM654610	**1.5** 0.06	**297.0** 11.69	**3.3** 0.13	**356.0** 14.02	1916.4	265.6	0.1744	**40.56** 89.44
89111D	89148	**3.3** 0.13	**299.0** 11.77	**3.3** 0.13	**354.0** 13.94	1111.9	274.1	0.1586	**28.21** 62.16
89111D	89150	**3.3** 0.13	**299.0** 11.77	**6.4** 0.25	**348.0** 13.70	1111.9	274.1	0.1586	**31.47** 69.37
EE128114D	128161	**3.3** 0.13	**302.0** 11.89	**3.3** 0.13	**379.0** 14.92	1727.7	255.2	0.1628	**83.02** 183.02
M255449D	M255410	**3.3** 0.13	**310.0** 12.20	**3.3** 0.13	**379.0** 14.92	2301.3	287.6	0.1722	**60.77** 134.00
EE330116D	330166	**6.4** 0.25	**314.2** 12.37	**3.3** 0.13	**395.0** 15.55	1950.7	301.9	0.1594	**61.13** 134.78
EE921150D	921850	**1.5** 0.06	**314.0** 12.36	**3.3** 0.13	**439.0** 17.28	1732.1	200.0	0.1481	**88.34** 194.78
EE921150D	921875	**1.5** 0.06	**314.0** 12.36	**3.3** 0.13	**442.0** 17.40	1732.1	200.0	0.1481	**92.56** 204.07
EE329118D	329172	**3.3** 0.13	**323.0** 12.72	**3.3** 0.13	**410.0** 16.14	2051.2	257.0	0.1638	**64.02** 141.15

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
298.450 11.7500	**444.500** 17.5000	**111.125** 4.3750	**107.950** 4.2500	**1540000** 347000	0.4	1.8	2.7	**230000** 51700	**149000** 33400	**400000** 90000	1.55
299.975 11.8100	**439.948** 17.3208	**133.350** 5.2500	**134.938** 5.3125	**1560000** 351000	0.4	1.6	2.4	**232000** 52200	**165000** 37200	**405000** 91000	1.40
300.000 11.8110	**460.000** 18.1102	**160.000** 6.2992	**160.000** 6.2992	**2920000** 656000	0.3	2.0	3.0	**435000** 97800	**249000** 56000	**757000** 170000	1.74
300.038 11.8125	**422.275** 16.6250	**150.812** 5.9375	**150.812** 5.9375	**2260000** 508000	0.3	2.0	3.0	**336000** 75600	**194000** 43600	**586000** 132000	1.73
300.038 11.8125	**422.275** 16.6250	**150.812** 5.9375	**150.812** 5.9375	**2260000** 508000	0.3	2.0	3.0	**336000** 75600	**194000** 43600	**586000** 132000	1.73
303.212 11.9375	**495.300** 19.5000	**263.525** 10.3750	**263.525** 10.3750	**5000000** 1120000	0.3	2.0	3.0	**744000** 167000	**423000** 95200	**1300000** 291000	1.76
304.648 11.9940	**438.048** 17.2460	**131.762** 5.1875	**131.762** 5.1875	**1920000** 432000	0.3	2.0	3.0	**286000** 64300	**162000** 36500	**498000** 112000	1.76
304.648 11.9940	**438.048** 17.2460	**133.350** 5.2500	**134.938** 5.3125	**1560000** 351000	0.4	1.6	2.4	**232000** 52200	**165000** 37200	**405000** 91000	1.40
304.648 11.9940	**438.048** 17.2460	**138.112** 5.4375	**128.588** 5.0625	**1910000** 430000	0.5	1.4	2.1	**285000** 64000	**231000** 51800	**496000** 111000	1.24
304.800 12.0000	**419.100** 16.5000	**130.175** 5.1250	**130.175** 5.1250	**2080000** 468000	0.3	2.0	3.0	**310000** 69700	**176000** 39700	**540000** 121000	1.76
304.800 12.0000	**444.500** 17.5000	**111.125** 4.3750	**107.950** 4.2500	**1540000** 347000	0.4	1.8	2.7	**230000** 51700	**149000** 33400	**400000** 90000	1.55
304.800 12.0000	**444.500** 17.5000	**111.125** 4.3750	**107.950** 4.2500	**1540000** 347000	0.4	1.8	2.7	**230000** 51700	**149000** 33400	**400000** 90000	1.55
304.800 12.0000	**495.300** 19.5000	**171.450** 6.7500	**165.100** 6.5000	**2940000** 660000	0.4	1.7	2.5	**437000** 98300	**301000** 67700	**762000** 171000	1.45
304.800 12.0000	**501.650** 19.7500	**161.925** 6.3750	**161.925** 6.3750	**3120000** 702000	0.3	2.0	3.0	**465000** 105000	**265000** 59500	**809000** 182000	1.76
304.800 12.0000	**558.800** 22.0000	**285.750** 11.2500	**285.750** 11.2500	**5390000** 1210000	0.4	1.7	2.5	**802000** 180000	**542000** 122000	**1400000** 314000	1.48
304.902 12.0040	**412.648** 16.2460	**128.588** 5.0625	**128.588** 5.0625	**1940000** 437000	0.3	2.1	3.2	**289000** 65000	**158000** 35500	**504000** 113000	1.83
304.902 12.0040	**438.048** 17.2460	**196.850** 7.7500	**212.725** 8.3750	**1560000** 351000	0.4	1.6	2.4	**232000** 52200	**165000** 37200	**405000** 91000	1.40

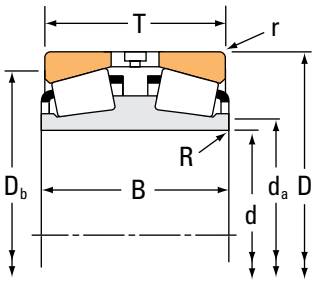
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE291176D	291750	**8.0** 0.31	**332.0** 13.07	**1.5** 0.06	**416.0** 16.38	1579.2	244.8	0.1557	**54.57** 120.32
EE129119D	129174	**3.3** 0.13	**324.0** 12.76	**4.8** 0.19	**407.0** 16.02	1882.6	272.9	0.1711	**67.14** 148.02
NP741064	NP034947	**4.0** 0.16	**340.0** 13.39	**4.0** 0.16	**423.0** 16.65	2944.6	303.9	0.1863	**104.21** 229.75
HM256849DA	HM256810	**6.4** 0.25	**324.7** 12.79	**3.3** 0.13	**394.0** 15.51	2548.4	281.8	0.1779	**67.50** 148.82
HM256849D	HM256810	**3.3** 0.13	**322.0** 12.68	**3.3** 0.13	**394.0** 15.51	2548.4	281.8	0.1779	**69.57** 153.37
HH258249D	HH258210	**3.3** 0.13	**339.0** 13.35	**6.4** 0.25	**448.0** 17.64	3853.2	220.0	0.2048	**213.93** 471.64
EE329117D	329172	**3.3** 0.13	**327.0** 12.87	**3.3** 0.13	**410.0** 16.14	2095.9	262.4	0.1651	**64.30** 141.77
EE129121D	129172	**3.3** 0.13	**327.0** 12.87	**4.8** 0.19	**406.0** 15.98	1882.6	272.9	0.1711	**60.89** 134.22
M757447D	M757410	**3.3** 0.13	**328.0** 12.91	**4.8** 0.19	**407.0** 16.02	1841.4	253.5	0.1775	**64.10** 141.35
M257149D	M257110	**1.5** 0.06	**322.0** 12.68	**6.4** 0.25	**392.0** 15.43	2157.5	303.6	0.1669	**52.61** 115.99
EE291200D	291750	**8.0** 0.31	**337.0** 13.27	**1.5** 0.06	**416.0** 16.38	1579.2	244.8	0.1557	**52.03** 114.71
EE291200D	291749	**8.0** 0.31	**337.0** 13.27	**3.3** 0.13	**415.0** 16.34	1579.2	244.8	0.1557	**55.22** 121.75
EE724121D	724195	**3.3** 0.13	**334.0** 13.15	**6.4** 0.25	**450.0** 17.72	2183.9	165.7	0.1783	**125.31** 276.25
HM258949D	HM258910	**3.3** 0.13	**332.0** 13.07	**6.4** 0.25	**464.0** 18.27	2160.7	183.0	0.1669	**130.56** 287.86
EE790119D	790221	**3.3** 0.13	**339.0** 13.35	**6.4** 0.25	**501.0** 19.72	2663.9	170.3	0.1898	**296.99** 654.78
M257248D	M257210	**3.3** 0.13	**325.0** 12.80	**3.3** 0.13	**388.0** 15.28	2336.4	320.3	0.1690	**50.79** 112.00
EE129124D	129172	**3.3** 0.13	**328.0** 12.91	**4.8** 0.19	**406.0** 15.98	1882.6	272.9	0.1711	**87.48** 192.84

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
305.000 12.0079	**438.048** 17.2460	**133.350** 5.2500	**134.938** 5.3125	**1560000** 351000	0.4	1.6	2.4	**232000** 52200	**165000** 37200	**405000** 91000	1.40
305.000 12.0079	**559.867** 22.0420	**170.434** 6.7100	**169.977** 6.6920	**2690000** 605000	0.9	0.8	1.2	**401000** 90100	**594000** 134000	**698000** 157000	0.67
305.054 12.0100	**499.948** 19.6830	**200.000** 7.8740	**200.000** 7.8740	**3360000** 756000	0.5	1.4	2.0	**501000** 113000	**424000** 95400	**872000** 196000	1.18
317.500 12.5000	**422.275** 16.6250	**128.588** 5.0625	**128.588** 5.0625	**1720000** 386000	0.3	2.1	3.2	**256000** 57500	**140000** 31400	**445000** 100000	1.83
317.500 12.5000	**447.675** 17.6250	**158.750** 6.2500	**158.750** 6.2500	**2920000** 656000	0.3	2.0	3.0	**435000** 97800	**249000** 56000	**757000** 170000	1.74
330.200 13.0000	**414.338** 16.3125	**76.200** 3.0000	**76.200** 3.0000	**899000** 202000	0.3	2.0	3.0	**134000** 30100	**76200** 17100	**233000** 52400	1.76
330.200 13.0000	**482.600** 19.0000	**152.400** 6.0000	**147.638** 5.8125	**2180000** 489000	0.4	1.7	2.6	**324000** 72900	**217000** 48700	**564000** 127000	1.49
330.302 13.0040	**438.023** 17.2450	**120.650** 4.7500	**114.300** 4.5000	**1280000** 287000	0.5	1.5	2.2	**190000** 42800	**149000** 33600	**331000** 74500	1.27
333.375 13.1250	**469.900** 18.5000	**166.688** 6.5625	**166.688** 6.5625	**2780000** 626000	0.3	2.0	3.0	**415000** 93200	**238000** 53400	**722000** 162000	1.74
340.000 13.3858	**460.000** 18.1102	**118.364** 4.6600	**118.000** 4.6457	**1280000** 287000	0.3	2.2	3.3	**190000** 42700	**100000** 22500	**331000** 74400	1.90
342.900 13.5000	**533.400** 21.0000	**139.700** 5.5000	**146.050** 5.7500	**3010000** 676000	0.3	2.0	3.0	**448000** 101000	**255000** 57300	**780000** 175000	1.76
343.052 13.5060	**457.098** 17.9960	**120.650** 4.7500	**120.650** 4.7500	**1210000** 273000	0.5	1.4	2.1	**181000** 40700	**149000** 33400	**315000** 70800	1.22
343.052 13.5060	**457.098** 17.9960	**122.238** 4.8125	**122.238** 4.8125	**1590000** 358000	0.5	1.4	2.1	**237000** 53400	**192000** 43200	**413000** 92900	1.24
343.052 13.5060	**457.098** 17.9960	**123.825** 4.8750	**122.238** 4.8125	**1430000** 322000	0.7	1.0	1.4	**213000** 48000	**260000** 58500	**371000** 83500	0.82
346.075 13.6250	**469.900** 18.5000	**104.775** 4.1250	**95.250** 3.7500	**954000** 214000	0.5	1.4	2.0	**142000** 31900	**122000** 27400	**247000** 55600	1.17
346.075 13.6250	**482.600** 19.0000	**104.775** 4.1250	**95.250** 3.7500	**954000** 214000	0.5	1.4	2.0	**142000** 31900	**122000** 27400	**247000** 55600	1.17
346.075 13.6250	**488.950** 19.2500	**104.775** 4.1250	**95.250** 3.7500	**954000** 214000	0.5	1.4	2.0	**142000** 31900	**122000** 27400	**247000** 55600	1.17

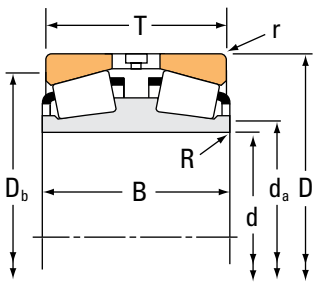
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE129123D	129172	**3.3** 0.13	**328.0** 12.91	**4.8** 0.19	**406.0** 15.98	1882.6	272.9	0.1711	**60.71** 133.83
HM959649D	HM959618	**3.3** 0.13	**345.9** 13.62	**4.8** 0.19	**485.0** 19.09	1749.6	156.7	0.2084	**181.92** 401.07
HM858548D	HM858511	**3.3** 0.13	**337.0** 13.27	**6.4** 0.25	**453.9** 17.87	2310.5	179.9	0.1949	**152.93** 337.19
LM258649D	LM258610	**1.5** 0.06	**333.3** 13.12	**3.3** 0.13	**398.0** 15.67	2549.1	293.5	0.1739	**48.23** 106.32
HM259049D	HM259010	**3.3** 0.13	**340.0** 13.39	**3.3** 0.13	**418.0** 16.46	2944.6	303.9	0.1863	**82.41** 181.69
L259749D	L259710	**1.5** 0.06	**343.0** 13.50	**3.3** 0.13	**398.0** 15.67	1635.6	422.9	0.1502	**23.77** 52.43
EE526131D	526190	**1.5** 0.06	**351.0** 13.82	**3.3** 0.13	**449.0** 17.68	2283.3	287.2	0.1790	**83.06** 183.13
EE138131D	138172	**1.5** 0.06	**347.0** 13.66	**3.3** 0.13	**412.0** 16.22	1974.6	290.4	0.1786	**46.18** 101.82
HM261049D	HM261010	**3.3** 0.13	**357.0** 14.06	**3.3** 0.13	**439.0** 17.28	3306.8	324.3	0.1935	**95.39** 210.29
JL163142D	JL163115	**3.5** 0.14	**363.0** 14.29	**3.5** 0.14	**430.0** 16.93	3207.7	621.3	0.1838	**60.72** 133.89
EE971355D	972100	**3.3** 0.13	**370.0** 14.57	**3.3** 0.13	**501.0** 19.72	2433.2	282.5	0.1730	**113.46** 250.13
EE133136D	133180	**1.5** 0.06	**361.0** 14.21	**3.3** 0.13	**430.0** 16.93	2053.9	306.0	0.1831	**52.30** 115.32
LM761649D	LM761610	**1.5** 0.06	**361.0** 14.21	**3.3** 0.13	**432.0** 17.01	2200.4	322.3	0.1873	**51.91** 114.44
LM961548D	LM961511	**1.5** 0.06	**362.0** 14.25	**3.3** 0.13	**423.0** 16.65	2281.5	300.4	0.2146	**55.81** 123.04
EE161362D	161850	**1.5** 0.06	**368.0** 14.49	**6.4** 0.25	**445.0** 17.52	1730.8	299.6	0.1741	**45.81** 101.01
EE161362D	161900	**1.5** 0.06	**368.0** 14.49	**6.4** 0.25	**451.0** 17.76	1730.8	299.6	0.1741	**51.47** 113.46
EE161362D	161925	**1.5** 0.06	**368.0** 14.49	**6.4** 0.25	**453.0** 17.83	1730.8	299.6	0.1741	**54.35** 119.81

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
346.075 13.6250	**488.950** 19.2500	**174.625** 6.8750	**174.625** 6.8750	**3010000** 676000	0.3	2.0	3.0	**448000** 101000	**257000** 57700	**780000** 175000	1.74
347.662 13.6875	**469.900** 18.5000	**138.112** 5.4375	**138.112** 5.4375	**2730000** 614000	0.3	2.0	3.0	**406000** 91400	**231000** 52000	**708000** 159000	1.76
355.600 14.0000	**444.500** 17.5000	**112.712** 4.4375	**114.300** 4.5000	**1280000** 287000	0.3	2.2	3.3	**190000** 42700	**100000** 22500	**331000** 74400	1.90
355.600 14.0000	**457.200** 18.0000	**120.650** 4.7500	**120.650** 4.7500	**1640000** 368000	0.3	2.1	3.2	**244000** 54900	**133000** 29900	**425000** 95500	1.83
355.600 14.0000	**458.470** 18.0500	**120.650** 4.7500	**120.650** 4.7500	**1640000** 368000	0.3	2.1	3.2	**244000** 54900	**133000** 29900	**425000** 95500	1.83
355.600 14.0000	**482.600** 19.0000	**133.350** 5.2500	**128.588** 5.0625	**1870000** 420000	0.5	1.4	2.1	**278000** 62500	**225000** 50600	**484000** 109000	1.24
355.600 14.0000	**488.950** 19.2500	**153.988** 6.0625	**153.988** 6.0625	**2630000** 591000	0.3	2.0	3.0	**391000** 88000	**223000** 50100	**681000** 153000	1.76
355.600 14.0000	**501.650** 19.7500	**127.000** 5.0000	**111.125** 4.3750	**1830000** 412000	0.4	1.5	2.3	**273000** 61300	**206000** 46200	**475000** 107000	1.33
355.600 14.0000	**514.350** 20.2500	**127.000** 5.0000	**111.125** 4.3750	**1830000** 412000	0.4	1.5	2.3	**273000** 61300	**206000** 46200	**475000** 107000	1.33
356.387 14.0310	**482.600** 19.0000	**104.775** 4.1250	**101.600** 4.0000	**954000** 214000	0.5	1.4	2.0	**142000** 31900	**122000** 27400	**247000** 55600	1.17
368.300 14.5000	**523.875** 20.6250	**185.738** 7.3125	**185.738** 7.3125	**3960000** 890000	0.3	2.0	3.0	**589000** 132000	**335000** 75400	**1030000** 231000	1.76
368.300 14.5000	**596.900** 23.5000	**165.100** 6.5000	**158.750** 6.2500	**3090000** 694000	0.4	1.6	2.4	**460000** 103000	**326000** 73400	**801000** 180000	1.41
368.300 14.5000	**609.600** 24.0000	**254.000** 10.0000	**279.400** 11.0000	**5170000** 1160000	0.4	1.9	2.8	**770000** 173000	**470000** 106000	**1340000** 301000	1.64
368.300 14.5000	**622.300** 24.5000	**254.000** 10.0000	**279.400** 11.0000	**5170000** 1160000	0.4	1.9	2.8	**770000** 173000	**470000** 106000	**1340000** 301000	1.64
374.574 14.7470	**546.100** 21.5000	**193.675** 7.6250	**193.675** 7.6250	**4290000** 963000	0.3	2.0	3.0	**638000** 143000	**363000** 81700	**1110000** 250000	1.76
374.650 14.7500	**501.650** 19.7500	**127.000** 5.0000	**117.475** 4.6250	**1830000** 412000	0.4	1.5	2.3	**273000** 61300	**206000** 46200	**475000** 107000	1.33
374.650 14.7500	**501.650** 19.7500	**130.175** 5.1250	**120.650** 4.7500	**1860000** 417000	0.5	1.4	2.1	**276000** 62100	**224000** 50300	**481000** 108000	1.24

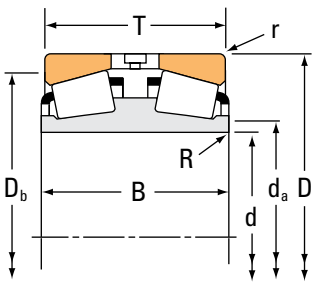
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
HM262749D	HM262710	**3.3** 0.13	**371.0** 14.61	**3.3** 0.13	**456.0** 17.95	3646.2	341.8	0.1999	**110.26** 243.09
M262449D	M262410	**3.3** 0.13	**369.0** 14.53	**3.3** 0.13	**443.0** 17.44	2968.5	408.3	0.1853	**69.19** 152.55
L163149D	L163110	**1.5** 0.06	**370.0** 14.57	**3.3** 0.13	**422.0** 16.61	3207.7	621.3	0.1838	**40.80** 89.95
LM263149D	LM263110	**1.5** 0.06	**372.0** 14.65	**3.3** 0.13	**434.0** 17.09	3094.1	470.9	0.1845	**50.40** 111.09
LM263149D	LM263112	**1.5** 0.06	**372.0** 14.65	**3.3** 0.13	**435.0** 17.13	3094.1	470.9	0.1845	**51.16** 112.79
LM763449D	LM763410	**1.5** 0.06	**375.0** 14.76	**3.3** 0.13	**453.0** 17.83	2495.3	327.3	0.1955	**66.45** 146.49
M263349D	M263310	**1.5** 0.06	**374.0** 14.72	**3.3** 0.13	**459.0** 18.07	3301.0	337.7	0.1924	**87.63** 193.15
EE231401D	231975	**3.3** 0.13	**382.0** 15.04	**3.3** 0.13	**472.0** 18.58	2386.0	366.8	0.1874	**70.62** 155.70
EE231401D	232025	**3.3** 0.13	**382.0** 15.04	**3.3** 0.13	**478.0** 18.82	2386.0	366.8	0.1874	**78.56** 173.17
EE161403D	161900	**1.5** 0.06	**375.0** 14.76	**6.4** 0.25	**451.0** 17.76	1730.8	299.6	0.1741	**48.59** 107.11
HM265049D	HM265010	**3.3** 0.13	**394.0** 15.50	**6.4** 0.25	**487.0** 19.17	4297.3	412.9	0.2106	**131.80** 290.56
EE181454D	182350	**6.4** 0.25	**408.0** 16.06	**6.4** 0.25	**552.0** 21.73	2961.8	271.9	0.1984	**165.60** 365.08
EE321146D	321240	**3.3** 0.13	**404.0** 15.91	**6.4** 0.25	**555.0** 21.85	4401.5	304.6	0.2173	**301.00** 663.61
EE321146D	321245	**3.3** 0.13	**404.0** 15.91	**6.4** 0.25	**561.0** 22.09	4401.5	304.6	0.2173	**332.56** 733.20
HM266445D	HM266410	**3.3** 0.13	**404.0** 15.91	**6.4** 0.25	**507.0** 19.96	4760.1	301.5	0.2178	**159.35** 351.30
EE231475D	231975	**1.5** 0.06	**393.0** 15.47	**3.3** 0.13	**472.0** 18.58	2386.0	366.8	0.1874	**62.17** 137.07
LM765149D	LM765110	**1.5** 0.06	**393.0** 15.47	**3.3** 0.13	**472.0** 18.58	2574.9	352.2	0.1972	**66.95** 147.60

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
374.650 14.7500	**514.350** 20.2500	**127.000** 5.0000	**117.475** 4.6250	**1830000** 412000	0.4	1.5	2.3	**273000** 61300	**206000** 46200	**475000** 107000	1.33
384.175 15.1250	**546.100** 21.5000	**193.675** 7.6250	**193.675** 7.6250	**3660000** 823000	0.3	2.0	3.0	**545000** 123000	**311000** 69800	**950000** 213000	1.76
384.175 15.1250	**546.100** 21.5000	**193.675** 7.6250	**193.675** 7.6250	**3950000** 887000	0.3	2.0	3.0	**588000** 132000	**335000** 75200	**1020000** 230000	1.76
393.700 15.5000	**546.100** 21.5000	**138.112** 5.4375	**138.112** 5.4375	**2280000** 513000	0.5	1.4	2.1	**340000** 76400	**276000** 62000	**592000** 133000	1.23
393.700 15.5000	**558.800** 22.0000	**119.062** 4.6875	**120.650** 4.7500	**1890000** 425000	0.5	1.4	2.1	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**546.100** 21.5000	**87.312** 3.4375	**138.112** 5.4375	**2450000** 551000	0.5	1.4	2.1	**365000** 82100	**296000** 66600	**636000** 143000	1.23
406.400 16.0000	**546.100** 21.5000	**141.288** 5.5625	**120.650** 4.7500	**1890000** 425000	0.5	1.4	2.1	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**558.800** 22.0000	**119.062** 4.6875	**120.650** 4.7500	**1890000** 425000	0.5	1.4	2.1	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**558.800** 22.0000	**123.825** 4.8750	**120.650** 4.7500	**1890000** 425000	0.5	1.4	2.1	**282000** 63300	**230000** 51600	**490000** 110000	1.23
406.400 16.0000	**574.675** 22.6250	**114.300** 4.5000	**114.300** 4.5000	**1930000** 434000	0.5	1.4	2.0	**287000** 64600	**245000** 55000	**500000** 112000	1.17
406.400 16.0000	**590.550** 23.2500	**193.675** 7.6250	**193.675** 7.6250	**4020000** 903000	0.3	2.1	3.1	**598000** 135000	**333000** 74900	**1040000** 234000	1.80
406.400 16.0000	**609.600** 24.0000	**157.162** 6.1875	**149.225** 5.8750	**3210000** 721000	0.4	1.8	2.6	**477000** 107000	**313000** 70400	**831000** 187000	1.52
409.575 16.1250	**546.100** 21.5000	**161.925** 6.3750	**161.925** 6.3750	**2940000** 661000	0.4	1.6	2.4	**438000** 98500	**313000** 70400	**763000** 171000	1.40
415.925 16.3750	**590.550** 23.2500	**209.550** 8.2500	**209.550** 8.2500	**4970000** 1120000	0.3	2.0	3.0	**740000** 166000	**421000** 94800	**1290000** 290000	1.76
419.227 16.5050	**736.448** 28.9940	**406.400** 16.0000	**406.400** 16.0000	**10500000** 2350000	0.4	1.8	2.7	**1560000** 350000	**996000** 224000	**2710000** 610000	1.56
425.450 16.7500	**685.698** 26.9960	**253.873** 9.9950	**253.873** 9.9950	**5450000** 1230000	0.4	1.7	2.5	**812000** 183000	**559000** 126000	**1410000** 318000	1.45
431.800 17.0000	**571.500** 22.5000	**133.350** 5.2500	**130.175** 5.1250	**2420000** 543000	0.4	1.8	2.6	**360000** 80900	**237000** 53300	**626000** 141000	1.52

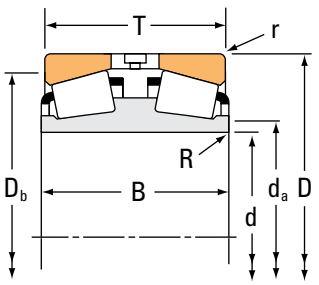
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE231475D	232025	**1.5** 0.06	**393.0** 15.47	**3.3** 0.13	**478.0** 18.82	2386.0	366.8	0.1874	**70.11** 154.54
HM266449D	HM266410	**3.3** 0.13	**411.0** 16.18	**6.4** 0.25	**507.0** 19.96	4760.1	301.5	0.2178	**154.73** 341.11
HM266448D	HM266410	**3.3** 0.13	**411.0** 16.18	**6.4** 0.25	**507.0** 19.96	4383.4	278.7	0.2116	**147.14** 324.40
LM767745D	LM767710	**1.5** 0.06	**418.0** 16.46	**6.4** 0.25	**510.0** 20.08	3387.8	464.9	0.2163	**98.85** 217.93
EE234157D	234220	**3.3** 0.13	**420.0** 16.54	**6.4** 0.25	**516.0** 20.31	2782.9	448.6	0.2018	**95.27** 210.04
LM767748D	LM767710	**1.5** 0.06	**427.0** 16.81	**6.4** 0.25	**510.0** 20.08	3640.2	497.8	0.2218	**94.87** 209.18
EE234161D	234215	**1.5** 0.06	**425.0** 16.73	**6.4** 0.25	**504.0** 19.84	2782.9	448.6	0.2018	**82.24** 181.31
EE234161D	234220	**1.5** 0.06	**425.0** 16.73	**6.4** 0.25	**516.0** 20.31	2782.9	448.6	0.2018	**81.08** 178.77
EE234161D	234220	**1.5** 0.06	**425.0** 16.73	**6.4** 0.25	**516.0** 20.31	2782.9	448.6	0.2018	**81.08** 193.39
EE285161D	285226	**3.3** 0.13	**435.0** 17.13	**3.3** 0.13	**534.0** 21.02	3036.6	478.1	0.2103	**97.72** 215.42
EE833161XD	833232	**3.3** 0.13	**435.0** 17.13	**6.4** 0.25	**549.0** 21.61	4955.5	446.0	0.2186	**180.03** 396.92
EE911603D	912400	**3.5** 0.14	**437.0** 17.20	**6.4** 0.25	**567.0** 22.32	3251.1	349.1	0.1990	**148.41** 327.24
M667947D	M667911	**1.5** 0.06	**431.0** 16.97	**6.4** 0.25	**510.0** 20.08	4197.4	453.5	0.2235	**105.61** 232.85
M268748D	M268710	**9.7** 0.38	**451.9** 17.79	**6.4** 0.25	**548.9** 21.61	5754.9	420.9	0.2319	**189.52** 417.80
EE323166D	323290	**6.4** 0.25	**477.3** 18.79	**6.4** 0.25	**657.0** 25.87	7958.6	331.3	0.2699	**770.95** 1699.62
EE328167D	328269	**6.4** 0.25	**469.0** 18.46	**6.4** 0.25	**624.0** 24.57	5606.6	353.0	0.2443	**376.93** 831.03
EE239171D	239225	**1.5** 0.06	**449.1** 17.68	**3.3** 0.13	**540.0** 21.26	4003.6	563.3	0.2131	**93.15** 205.37

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
431.800 17.0000	**571.500** 22.5000	**133.350** 5.2500	**130.175** 5.1250	**2420000** 543000	0.4	1.8	2.6	**360000** 80900	**237000** 53300	**626000** 141000	1.52
431.800 17.0000	**635.000** 25.0000	**173.038** 6.8125	**173.038** 6.8125	**3680000** 827000	0.3	2.1	3.1	**548000** 123000	**301000** 67700	**953000** 214000	1.82
431.800 17.0000	**723.900** 28.5000	**419.100** 16.5000	**419.100** 16.5000	**10700000** 2400000	0.3	2.3	3.4	**1590000** 358000	**807000** 181000	**2770000** 623000	1.97
431.902 17.0040	**685.698** 26.9960	**253.873** 9.9950	**253.873** 9.9950	**5450000** 1230000	0.4	1.7	2.5	**812000** 183000	**559000** 126000	**1410000** 318000	1.45
431.902 17.0040	**685.698** 26.9960	**330.200** 13.0000	**330.200** 13.0000	**8080000** 1820000	0.3	2.1	3.1	**1200000** 270000	**669000** 150000	**2090000** 471000	1.80
432.003 17.0080	**609.524** 23.9970	**152.400** 6.0000	**152.400** 6.0000	**2990000** 673000	0.4	1.9	2.9	**446000** 100000	**265000** 59600	**776000** 175000	1.68
447.675 17.6250	**635.000** 25.0000	**223.838** 8.8125	**223.838** 8.8125	**5700000** 1280000	0.3	2.0	3.0	**849000** 191000	**484000** 109000	**1480000** 332000	1.76
449.948 17.7145	**594.949** 23.4232	**178.000** 7.0079	**178.000** 7.0079	**3470000** 780000	0.3	2.0	3.0	**517000** 116000	**294000** 66200	**900000** 202000	1.76
456.794 17.9840	**761.873** 29.9950	**254.000** 10.0000	**254.000** 10.0000	**6180000** 1390000	0.4	1.5	2.3	**920000** 207000	**695000** 156000	**1600000** 360000	1.32
457.073 17.9950	**730.148** 28.7460	**203.200** 8.0000	**196.850** 7.7500	**4920000** 1110000	0.4	1.7	2.6	**733000** 165000	**492000** 111000	**1280000** 287000	1.49
457.073 17.9950	**749.300** 29.5000	**419.100** 16.5000	**412.750** 16.2500	**11000000** 2480000	0.3	2.2	3.3	**1640000** 369000	**858000** 193000	**2860000** 643000	1.91
457.200 18.0000	**596.900** 23.5000	**133.350** 5.2500	**130.175** 5.1250	**2460000** 554000	0.4	1.7	2.5	**367000** 82400	**254000** 57100	**639000** 144000	1.44
457.200 18.0000	**596.900** 23.5000	**136.525** 5.3750	**133.350** 5.2500	**2610000** 587000	0.5	1.4	2.1	**389000** 87500	**315000** 70800	**677000** 152000	1.24
457.200 18.0000	**660.400** 26.0000	**155.575** 6.1250	**155.575** 6.1250	**3070000** 689000	0.4	1.8	2.7	**457000** 103000	**292000** 65700	**795000** 179000	1.56
457.200 18.0000	**761.873** 29.9950	**215.900** 8.5000	**209.550** 8.2500	**6040000** 1360000	0.3	2.1	3.2	**900000** 202000	**491000** 110000	**1570000** 352000	1.83
457.200 18.0000	**812.800** 32.0000	**342.900** 13.5000	**342.900** 13.5000	**8610000** 1940000	0.3	2.0	3.0	**1280000** 288000	**738000** 166000	**2230000** 502000	1.74
457.200 18.0000	**863.498** 33.9960	**368.300** 14.5000	**368.300** 14.5000	**10800000** 2420000	0.4	1.9	2.8	**1600000** 361000	**989000** 222000	**2790000** 628000	1.62

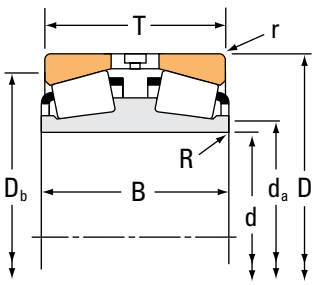
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE239173D	239225	**1.5** 0.06	**449.1** 17.68	**3.3** 0.13	**540.0** 21.26	4003.6	563.3	0.2131	**93.62** 206.41
EE931170D	931250	**6.4** 0.25	**468.1** 18.43	**6.4** 0.25	**591.1** 23.27	4624.1	391.2	0.2117	**187.65** 413.69
NP710048	NP102973	**3.3** 0.13	**478.0** 18.82	**8.4** 0.33	**669.0** 26.34	9649.5	361.5	0.2667	**725.86** 1600.22
EE328172D	328269	**6.4** 0.25	**474.0** 18.66	**6.4** 0.25	**624.0** 24.57	5606.6	353.0	0.2443	**368.28** 811.97
EE650171D	650270	**5.0** 0.20	**479.0** 18.86	**6.4** 0.25	**627.0** 24.69	7668.4	341.3	0.2542	**487.03** 1073.71
EE736173D	736238	**3.5** 0.14	**459.0** 18.07	**6.4** 0.25	**570.0** 22.44	4176.8	536.6	0.2096	**138.77** 305.93
M270749D	M270710	**3.3** 0.13	**478.0** 18.82	**6.4** 0.25	**591.0** 23.27	6865.6	481.9	0.2458	**240.64** 530.52
M270449DA	M270410	**3.0** 0.12	**474.0** 18.66	**6.0** 0.24	**561.0** 22.09	6018.9	562.1	0.2343	**137.77** 303.74
EE425176D	425299	**3.3** 0.13	**500.0** 19.69	**6.4** 0.25	**696.0** 27.40	5741.9	326.2	0.2529	**463.65** 1022.16
EE671798D	672873	**1.5** 0.06	**491.0** 19.33	**6.4** 0.25	**675.0** 26.57	4968.3	343.4	0.2315	**331.41** 730.64
EE925179D	925295	**3.3** 0.13	**504.0** 19.84	**6.4** 0.25	**681.0** 26.81	10435.5	423.0	0.2765	**769.11** 1695.62
EE244181D	244235	**1.5** 0.06	**478.0** 18.82	**3.3** 0.13	**567.0** 22.32	4411.8	627.1	0.2233	**92.20** 203.25
L770849D	L770810	**1.5** 0.06	**478.0** 18.82	**3.3** 0.13	**567.0** 22.32	3853.2	483.2	0.2247	**95.00** 209.46
EE737179D	737260	**3.3** 0.13	**489.0** 19.25	**6.4** 0.25	**614.9** 24.21	4809.1	573.4	0.2247	**173.98** 383.56
EE423181D	423300	**6.4** 0.25	**507.0** 19.96	**6.4** 0.25	**708.0** 27.87	6167.6	368.4	0.2325	**413.25** 911.07
EE525183D	525320	**9.7** 0.38	**522.0** 20.55	**6.4** 0.25	**741.0** 29.17	7501.7	378.4	0.2535	**741.07** 1633.68
EE480181D	480340	**6.4** 0.25	**516.0** 20.31	**6.4** 0.25	**780.0** 30.71	7384.2	343.1	0.2575	**978.97** 2158.21

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
464.000 18.2677	**615.000** 24.2126	**150.000** 5.9055	**136.000** 5.3543	**2710000** 610000	0.8	0.9	1.3	**404000** 90800	**551000** 124000	**703000** 158000	0.73
479.425 18.8750	**679.450** 26.7500	**238.125** 9.3750	**238.125** 9.3750	**6500000** 1460000	0.3	2.0	3.0	**968000** 218000	**551000** 124000	**1680000** 379000	1.76
482.600 19.0000	**615.950** 24.2500	**158.750** 6.2500	**158.750** 6.2500	**2950000** 662000	0.3	2.0	3.0	**439000** 98600	**250000** 56100	**764000** 172000	1.76
488.950 19.2500	**660.400** 26.0000	**171.450** 6.7500	**174.625** 6.8750	**4130000** 928000	0.3	2.2	3.3	**614000** 138000	**323000** 72600	**1070000** 240000	1.90
489.026 19.2530	**634.873** 24.9950	**152.400** 6.0000	**152.400** 6.0000	**2560000** 574000	0.3	2.0	2.9	**380000** 85500	**223000** 50200	**662000** 149000	1.70
500.000 19.6850	**660.000** 25.9843	**160.000** 6.2992	**160.000** 6.2992	**3090000** 694000	0.7	0.9	1.4	**460000** 103000	**583000** 131000	**800000** 180000	0.79
501.650 19.7500	**711.200** 28.0000	**250.825** 9.8750	**250.825** 9.8750	**6150000** 1380000	0.3	2.0	3.0	**916000** 206000	**521000** 117000	**1590000** 358000	1.76
505.181 19.8890	**838.200** 33.0000	**266.700** 10.5000	**266.700** 10.5000	**6290000** 1410000	0.5	1.4	2.1	**936000** 210000	**769000** 173000	**1630000** 366000	1.22
508.000 20.0000	**762.000** 30.0000	**219.075** 8.6250	**219.075** 8.6250	**5360000** 1210000	0.4	1.8	2.7	**799000** 180000	**519000** 117000	**1390000** 313000	1.54
514.350 20.2500	**673.100** 26.5000	**203.200** 8.0000	**203.200** 8.0000	**4130000** 928000	0.3	2.1	3.2	**615000** 138000	**336000** 75400	**1070000** 241000	1.83
519.112 20.4375	**736.600** 29.0000	**258.762** 10.1875	**258.762** 10.1875	**6570000** 1480000	0.3	2.0	3.0	**978000** 220000	**557000** 125000	**1700000** 383000	1.76
519.112 20.4375	**736.600** 29.0000	**258.762** 10.1875	**258.762** 10.1875	**6570000** 1480000	0.3	2.0	3.0	**978000** 220000	**557000** 125000	**1700000** 383000	1.76
536.575 21.1250	**761.873** 29.9950	**269.875** 10.6250	**269.875** 10.6250	**6980000** 1570000	0.3	2.0	3.0	**1040000** 234000	**592000** 133000	**1810000** 407000	1.76
536.575 21.1250	**761.873** 29.9950	**269.875** 10.6250	**269.875** 10.6250	**6980000** 1570000	0.3	2.0	3.0	**1040000** 234000	**592000** 133000	**1810000** 407000	1.76
539.750 21.2500	**784.225** 30.8750	**165.100** 6.5000	**161.925** 6.3750	**3770000** 848000	0.5	1.4	2.1	**561000** 126000	**457000** 103000	**977000** 220000	1.23
558.673 21.9950	**901.573** 35.4950	**457.200** 18.0000	**442.912** 17.4375	**15700000** 3540000	0.4	1.9	2.8	**2340000** 526000	**1460000** 329000	**4080000** 917000	1.60
558.800 22.0000	**660.400** 26.0000	**95.250** 3.7500	**92.075** 3.6250	**1360000** 305000	0.6	1.2	1.8	**202000** 45400	**189000** 42400	**352000** 79000	1.07

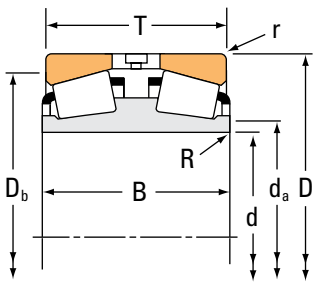
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
NP609202	NP357825	**2.0** 0.08	**490.0** 19.29	**4.0** 0.16	**573.0** 22.56	4033.4	478.0	0.2668	**116.36** 256.54
M272749D	M272710	**3.3** 0.13	**510.0** 20.08	**6.4** 0.25	**633.0** 24.92	8110.8	508.6	0.2598	**286.50** 631.63
LM272249D	LM272210	**3.3** 0.13	**504.0** 19.84	**6.4** 0.25	**585.0** 23.03	6037.2	665.8	0.2333	**115.10** 253.77
EE640193D	640260	**3.3** 0.13	**516.0** 20.31	**6.4** 0.25	**624.0** 24.57	6322.4	601.7	0.2310	**168.17** 370.70
EE243193D	243250	**3.3** 0.13	**516.0** 20.31	**3.3** 0.13	**603.0** 23.74	6057.3	726.6	0.2350	**126.03** 277.85
NP025753	NP652808	**3.5** 0.14	**525.0** 20.67	**5.0** 0.20	**615.0** 24.21	4951.9	567.5	0.2797	**144.99** 319.67
M274149D	M274110	**3.3** 0.13	**534.0** 21.02	**6.4** 0.25	**663.0** 26.10	9019.6	560.7	0.2690	**339.24** 747.88
EE426198D	426330	**6.4** 0.25	**555.0** 21.85	**9.7** 0.38	**759.0** 29.88	6651.9	435.2	0.2722	**600.54** 1323.96
EE531201D	531300	**6.4** 0.25	**550.7** 21.68	**6.4** 0.25	**710.9** 27.99	6784.6	473.8	0.2541	**345.54** 761.84
LM274449D	LM274410	**3.3** 0.13	**540.0** 21.26	**6.4** 0.25	**636.0** 25.04	8252.3	802.0	0.2561	**321.70** 709.11
M275349D	M275310	**3.3** 0.13	**552.0** 21.73	**6.4** 0.25	**684.0** 26.93	9814.6	651.6	0.2766	**383.08** 844.57
M275348D	M275310	**3.3** 0.13	**552.0** 21.73	**6.4** 0.25	**684.0** 26.93	9814.6	651.6	0.2766	**381.64** 841.40
M276449D	M276410	**3.3** 0.13	**564.0** 22.20	**6.4** 0.25	**711.0** 27.99	10625.0	614.5	0.2839	**415.94** 917.01
M276448D	M276410	**3.3** 0.13	**564.0** 22.20	**6.4** 0.25	**711.0** 27.99	10625.0	614.5	0.2839	**415.91** 916.95
EE522126D	523087	**3.3** 0.13	**573.0** 22.56	**6.4** 0.25	**732.0** 28.82	5013.3	457.2	0.2452	**240.64** 530.53
EE546220D	546355	**6.4** 0.25	**621.0** 24.45	**12.7** 0.50	**816.0** 32.13	14325.6	376.4	0.3250	**1170.74** 2581.03
LL876449D	LL876410	**1.5** 0.06	**576.0** 22.68	**3.3** 0.13	**636.0** 25.04	4668.3	1119.2	0.2467	**54.75** 120.67

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
558.800 22.0000	**736.600** 29.0000	**155.575** 6.1250	**155.575** 6.1250	**3600000** 810000	0.3	2.0	2.9	**536000** 121000	**315000** 70700	**934000** 210000	1.70
558.800 22.0000	**736.600** 29.0000	**196.850** 7.7500	**196.850** 7.7500	**4480000** 1010000	0.4	2.0	2.9	**667000** 150000	**395000** 88800	**1160000** 261000	1.69
571.500 22.5000	**812.800** 32.0000	**285.750** 11.2500	**285.750** 11.2500	**7890000** 1770000	0.3	2.0	3.0	**1180000** 264000	**669000** 150000	**2050000** 460000	1.76
585.788 23.0625	**771.525** 30.3750	**230.188** 9.0625	**230.188** 9.0625	**5730000** 1290000	0.3	2.0	3.0	**853000** 192000	**486000** 109000	**1490000** 334000	1.76
585.788 23.0625	**771.525** 30.3750	**230.188** 9.0625	**230.188** 9.0625	**5730000** 1290000	0.3	2.0	3.0	**853000** 192000	**486000** 109000	**1490000** 334000	1.76
600.000 23.6220	**1170.000** 46.0630	**510.000** 20.0787	**510.000** 20.0787	**20500000** 4610000	0.5	1.4	2.0	**3050000** 687000	**2590000** 581000	**5320000** 1200000	1.18
609.600 24.0000	**787.400** 31.0000	**171.450** 6.7500	**171.450** 6.7500	**4550000** 1020000	0.4	1.8	2.7	**677000** 152000	**430000** 96600	**1180000** 265000	1.58
609.600 24.0000	**863.600** 34.0000	**317.500** 12.5000	**317.500** 12.5000	**10500000** 2370000	0.3	2.0	3.0	**1570000** 353000	**893000** 201000	**2730000** 614000	1.76
630.000 24.8031	**1030.000** 40.5512	**315.000** 12.4016	**315.000** 12.4016	**12200000** 2750000	0.5	1.5	2.2	**1820000** 409000	**1410000** 316000	**3170000** 713000	1.30
635.000 25.0000	**901.700** 35.5000	**317.500** 12.5000	**317.500** 12.5000	**9560000** 2150000	0.3	2.0	3.0	**1420000** 320000	**810000** 182000	**2480000** 557000	1.76
635.000 25.0000	**939.800** 37.0000	**304.800** 12.0000	**304.800** 12.0000	**7950000** 1790000	0.6	1.2	1.8	**1180000** 266000	**1170000** 262000	**2060000** 463000	1.01
647.700 25.5000	**1028.700** 40.5000	**279.400** 11.0000	**273.050** 10.7500	**9760000** 2190000	0.3	2.2	3.2	**1450000** 327000	**782000** 176000	**2530000** 569000	1.86
660.400 26.0000	**812.800** 32.0000	**176.212** 6.9375	**176.212** 6.9375	**4760000** 1070000	0.3	2.0	3.0	**709000** 159000	**404000** 90700	**1230000** 278000	1.76
660.400 26.0000	**1066.800** 42.0000	**321.470** 12.6563	**311.942** 12.2812	**11400000** 2560000	0.3	2.2	3.2	**1690000** 381000	**898000** 202000	**2950000** 663000	1.89
660.400 26.0000	**1104.900** 43.5000	**571.500** 22.5000	**571.500** 22.5000	**14500000** 3260000	0.3	2.0	2.9	**2160000** 486000	**1280000** 287000	**3760000** 846000	1.69
682.625 26.8750	**965.200** 38.0000	**338.138** 13.3125	**338.138** 13.3125	**10900000** 2440000	0.3	2.0	3.0	**1620000** 364000	**921000** 207000	**2820000** 634000	1.76
708.025 27.8750	**930.275** 36.6250	**273.050** 10.7500	**273.050** 10.7500	**8060000** 1810000	0.3	2.0	3.0	**1200000** 270000	**684000** 154000	**2090000** 470000	1.76

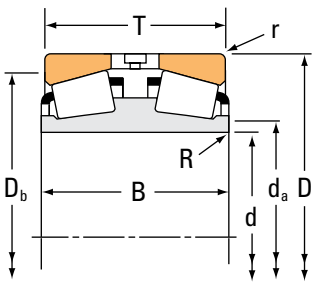
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE843221D	843290	**3.3** 0.13	**585.0** 23.03	**6.4** 0.25	**699.0** 27.52	7097.5	714.8	0.2478	**177.96** 392.34
LM377449D	LM377410	**3.3** 0.13	**588.0** 23.15	**6.4** 0.25	**696.0** 27.40	9314.8	907.6	0.2735	**237.01** 522.50
M278749D	M278710	**3.3** 0.13	**609.0** 23.98	**6.4** 0.25	**756.0** 29.76	12425.1	669.4	0.2990	**489.64** 1079.48
LM278849D	LM278810	**3.3** 0.13	**615.0** 24.21	**6.4** 0.25	**726.0** 28.58	11553.5	930.7	0.2906	**302.98** 667.96
LM278848D	LM278810	**6.4** 0.25	**616.0** 24.25	**6.4** 0.25	**726.0** 28.58	11553.5	930.7	0.2906	**302.76** 667.48
NP726553	NP137813	**10.0** 0.39	**708.0** 27.87	**10.0** 0.39	**1040.0** 40.94	15142.1	383.3	0.3624	**2575.44** 5674.87
EE649241D	649310	**3.3** 0.13	**636.0** 25.04	**6.4** 0.25	**747.0** 29.41	9384.8	930.0	0.2790	**217.30** 479.00
M280349D	M280310	**3.3** 0.13	**648.0** 25.51	**6.4** 0.25	**807.0** 31.77	14433.6	688.8	0.3143	**608.49** 1341.48
NP689200	NP360973	**7.5** 0.30	**690.0** 27.17	**8.0** 0.32	**945.0** 37.20	11932.9	565.6	0.3241	**1060.79** 2338.55
M281049D	M281010	**3.3** 0.13	**675.0** 26.57	**6.4** 0.25	**843.0** 33.19	15906.3	881.4	0.3244	**686.09** 1512.56
LM881245D	LM881214	**3.3** 0.13	**684.0** 26.93	**6.4** 0.25	**873.0** 34.37	10936.2	636.2	0.3398	**738.59** 1628.30
EE424257D	424405	**11.0** 0.43	**713.5** 28.09	**6.4** 0.25	**960.0** 37.80	12039.2	632.2	0.2880	**863.66** 1904.05
L281149D	L281110	**3.3** 0.13	**682.8** 26.88	**6.4** 0.25	**777.0** 30.59	12635.6	984.9	0.2968	**206.17** 454.56
EE428262D	428420	**6.4** 0.25	**717.0** 28.23	**6.4** 0.25	**990.0** 38.98	13917.6	590.9	0.3012	**1101.53** 2428.47
EE627260D	627435	**12.7** 0.50	**740.0** 29.13	**3.3** 0.13	**1010.0** 39.76	18464.3	651.3	0.3447	**2038.55** 4494.20
M282249D	M282210	**3.3** 0.13	**723.0** 28.46	**6.4** 0.25	**900.0** 35.43	18773.0	843.1	0.3426	**843.10** 1858.77
LM282549D	LM282510	**3.3** 0.13	**741.0** 29.17	**6.4** 0.25	**879.0** 34.61	18246.3	1087.0	0.3379	**519.26** 1144.78

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDI





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
711.200 28.0000	**914.400** 36.0000	**149.225** 5.8750	**149.225** 5.8750	**4150000** 934000	0.4	1.8	2.6	**619000** 139000	**403000** 90600	**1080000** 242000	1.54
730.250 28.7500	**1035.050** 40.7500	**365.125** 14.3750	**365.125** 14.3750	**12400000** 2790000	0.3	2.0	3.0	**1850000** 416000	**1050000** 237000	**3220000** 724000	1.76
749.300 29.5000	**1066.800** 42.0000	**361.950** 14.2500	**349.250** 13.7500	**12400000** 2790000	0.3	2.1	3.1	**1850000** 415000	**1040000** 234000	**3220000** 723000	1.77
749.300 29.5000	**1181.100** 46.5000	**355.600** 14.0000	**355.600** 14.0000	**13000000** 2920000	0.4	1.8	2.7	**1930000** 434000	**1240000** 278000	**3360000** 756000	1.56
762.000 30.0000	**1079.500** 42.5000	**381.000** 15.0000	**381.000** 15.0000	**13400000** 3010000	0.3	2.0	3.0	**1990000** 448000	**1130000** 255000	**3470000** 780000	1.76
779.925 30.7057	**1219.873** 48.0265	**406.674** 16.0108	**406.674** 16.0108	**15500000** 3480000	0.4	1.7	2.6	**2310000** 519000	**1550000** 347000	**4020000** 903000	1.49
787.400 31.0000	**1219.200** 48.0000	**406.400** 16.0000	**406.400** 16.0000	**15500000** 3480000	0.4	1.7	2.6	**2310000** 519000	**1550000** 347000	**4020000** 903000	1.49
825.500 32.5000	**1168.400** 46.0000	**409.575** 16.1250	**409.575** 16.1250	**15600000** 3500000	0.3	2.0	3.0	**2320000** 521000	**1320000** 297000	**4040000** 908000	1.76
840.000 33.0709	**1040.000** 40.9449	**180.000** 7.0866	**170.000** 6.6929	**4260000** 958000	0.4	1.5	2.3	**634000** 143000	**475000** 107000	**1100000** 248000	1.33
863.600 34.0000	**1130.300** 44.5000	**323.850** 12.7500	**323.850** 12.7500	**11400000** 2550000	0.3	2.0	3.0	**1690000** 380000	**963000** 216000	**2940000** 662000	1.76
863.600 34.0000	**1219.200** 48.0000	**438.150** 17.2500	**425.450** 16.7500	**16900000** 3790000	0.3	2.0	3.0	**2510000** 565000	**1430000** 322000	**4380000** 984000	1.76
901.700 35.5000	**1295.400** 51.0000	**450.850** 17.7500	**438.150** 17.2500	**19500000** 4380000	0.3	2.0	3.0	**2900000** 653000	**1670000** 376000	**5050000** 1140000	1.74
938.212 36.9375	**1270.000** 50.0000	**400.050** 15.7500	**400.050** 15.7500	**15900000** 3570000	0.3	2.0	3.0	**2360000** 532000	**1350000** 303000	**4120000** 926000	1.76
939.800 37.0000	**1333.500** 52.5000	**463.550** 18.2500	**463.550** 18.2500	**19900000** 4480000	0.3	2.0	3.0	**2970000** 667000	**1690000** 379000	**5160000** 1160000	1.76
939.800 37.0000	**1333.500** 52.5000	**463.550** 18.2500	**463.550** 18.2500	**19900000** 4480000	0.3	2.0	3.0	**2970000** 667000	**1690000** 379000	**5160000** 1160000	1.76
1200.150 47.2500	**1593.850** 62.7500	**482.600** 19.0000	**482.600** 19.0000	**23600000** 5300000	0.3	2.0	3.0	**3510000** 789000	**2000000** 449000	**6110000** 1370000	1.76

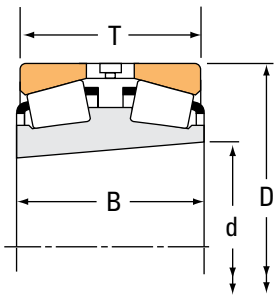
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

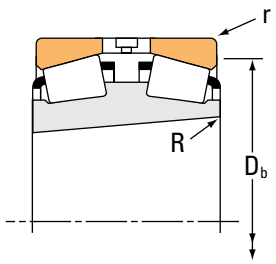
Part Number		Dimensions				Geometry Factors			Bearing Weight
		Shaft		Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_a	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.	**mm** in.				**kg** lbs.
EE755281D	755360	**3.3** 0.13	**744.0** 29.29	**6.4** 0.25	**873.0** 34.37	11122.5	1282.2	0.2952	**247.94** 546.60
M283449D	M283410	**3.3** 0.13	**774.0** 30.47	**6.4** 0.25	**966.0** 38.03	22247.2	891.2	0.3623	**1031.10** 2273.18
EE325296D	325420	**9.5** 0.37	**806.5** 31.75	**12.7** 0.50	**996.0** 39.21	21246.2	980.3	0.3551	**1054.26** 2324.28
EE690296D	690465	**6.4** 0.25	**813.0** 32.01	**12.7** 0.50	**1085.0** 42.72	19196.6	776.6	0.3569	**1449.65** 3195.93
M284249D	M284210	**4.8** 0.19	**810.0** 31.89	**12.7** 0.50	**1005.0** 39.57	24517.9	978.3	0.3741	**1176.35** 2593.38
EE631307D	631484	**6.4** 0.25	**849.0** 33.43	**12.7** 0.50	**1125.0** 44.29	24096.1	871.4	0.3916	**1875.04** 4133.58
EE631311D	631480	**6.4** 0.25	**852.0** 33.54	**12.7** 0.50	**1125.0** 44.29	24096.1	871.4	0.3916	**1758.20** 3876.07
M285848D	M285810	**4.8** 0.19	**879.0** 34.61	**12.7** 0.50	**1085.0** 42.72	29774.1	1207.4	0.3989	**1478.41** 3259.34
NP385417	NP439444	**6.0** 0.24	**876.0** 34.49	**6.4** 0.25	**996.0** 39.21	14184.2	1690.0	0.3333	**315.36** 695.25
LM286249D	LM286210	**4.8** 0.19	**906.0** 35.67	**12.7** 0.50	**1065.0** 41.93	28956.1	1086.1	0.3933	**897.71** 1979.10
EE547341D	547480	**4.8** 0.19	**918.0** 36.14	**12.7** 0.50	**1135.0** 44.69	33010.2	940.9	0.4127	**1653.01** 3644.25
EE634356D	634510	**4.8** 0.19	**960.0** 37.80	**12.7** 0.50	**1205.0** 47.44	35828.3	1141.4	0.4256	**2034.61** 4485.59
LM287649D	LM287610	**4.8** 0.19	**990.0** 38.98	**12.7** 0.50	**1190.0** 46.85	37220.5	1611.3	0.4283	**1544.70** 3405.44
LM287849D	LM287810	**4.8** 0.19	**999.0** 39.33	**12.7** 0.50	**1240.0** 48.82	40833.7	1438.6	0.4427	**2190.95** 4830.24
LM287849AD	LM287810	**4.8** 0.19	**999.0** 39.33	**12.7** 0.50	**1240.0** 48.82	40833.7	1438.6	0.4427	**2183.29** 4813.36
LM288949D	LM288910	**4.8** 0.19	**1260.0** 49.61	**12.7** 0.50	**1500.0** 59.06	66115.7	2354.8	0.5174	**2744.57** 6050.73

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDIT







Bearing Dimensions					Load Ratings							
Bore d	Taper	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.		**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
37.037 1.4581	1:19.2	**72.000** 2.8346	**39.096** 1.5392	**38.100** 1.5000	**83400** 18700	0.44	1.52	2.26	**12400** 2790	**9440** 2120	**21600** 4860	1.31
100.211 3.9453	1:19.2	**168.275** 6.6250	**95.250** 3.7500	**95.250** 3.7500	**435000** 97800	0.47	1.43	2.14	**64800** 14600	**52200** 11700	**113000** 25400	1.24
101.600 4.0000	1:12	**190.500** 7.5000	**117.475** 4.6250	**127.000** 5.0000	**878000** 197000	0.33	2.02	3.00	**131000** 29400	**74900** 16800	**228000** 51100	1.74
115.888 4.5625	1:19.2	**190.500** 7.5000	**107.950** 4.2500	**111.125** 4.3750	**598000** 134000	0.42	1.62	2.42	**89000** 20000	**63400** 14300	**155000** 34800	1.40
206.375 8.1250	1:12	**336.550** 13.2500	**180.975** 7.1250	**184.150** 7.2500	**2230000** 501000	0.33	2.03	3.02	**332000** 74600	**189000** 42500	**578000** 130000	1.76
209.550 8.2500	1:12	**317.500** 12.5000	**184.150** 7.2500	**184.150** 7.2500	**1200000** 270000	0.52	1.29	1.92	**179000** 40200	**160000** 36100	**312000** 70100	1.12
214.973 8.4635	1:12	**285.750** 11.2500	**92.075** 3.6250	**92.075** 3.6250	**707000** 159000	0.48	1.40	2.09	**105000** 23700	**86700** 19500	**183000** 41200	1.21
219.075 8.6250	1:12	**358.775** 14.1250	**196.850** 7.7500	**200.025** 7.8750	**2520000** 566000	0.33	2.03	3.02	**375000** 84200	**213000** 47900	**652000** 147000	1.76
219.936 8.6589	1:12	**314.325** 12.3750	**115.888** 4.5625	**123.822** 4.8749	**1210000** 272000	0.33	2.03	3.02	**180000** 40500	**103000** 23100	**314000** 70500	1.76
234.950 9.2500	1:12	**355.600** 14.0000	**165.100** 6.5000	**165.100** 6.5000	**1390000** 312000	0.33	2.04	3.04	**206000** 46400	**117000** 26200	**359000** 80800	1.77
234.950 9.2500	1:12	**355.600** 14.0000	**184.150** 7.2500	**184.150** 7.2500	**1390000** 312000	0.33	2.04	3.04	**206000** 46400	**117000** 26200	**359000** 80800	1.77
243.152 9.5729	1:12	**327.025** 12.8750	**92.075** 3.6250	**101.600** 4.0000	**987000** 222000	0.32	2.10	3.13	**147000** 33000	**80800** 18200	**256000** 57500	1.82
252.412 9.9375	1:12	**358.775** 14.1250	**130.175** 5.1250	**139.700** 5.5000	**1590000** 358000	0.33	2.03	3.02	**237000** 53300	**135000** 30300	**413000** 92800	1.76
263.525 10.3750	1:12	**400.050** 15.7500	**196.847** 7.7499	**192.088** 7.5625	**1440000** 324000	0.39	1.71	2.55	**215000** 48200	**145000** 32600	**374000** 84000	1.48
266.700 10.5000	1:12	**355.600** 14.0000	**107.950** 4.2500	**109.538** 4.3125	**1400000** 315000	0.36	1.87	2.79	**209000** 46900	**129000** 28900	**363000** 81600	1.62
269.875 10.6250	1:12	**381.000** 15.0000	**136.525** 5.3750	**136.525** 5.3750	**2000000** 450000	0.33	2.03	3.02	**298000** 67000	**170000** 38100	**519000** 117000	1.76
280.000 11.0236	1:12	**409.981** 16.1410	**206.375** 8.1250	**206.375** 8.1250	**1510000** 340000	0.39	1.75	2.60	**225000** 50600	**149000** 33400	**392000** 88100	1.51

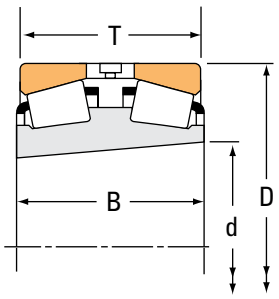
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

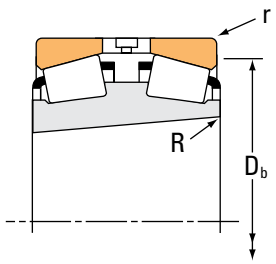
Part Number		Dimensions			Geometry Factors			Bearing Weight
		Shaft	Housing					
Inner	Outer	Max Shaft Fillet Radius R[4]	Max Housing Fillet Radius r[4]	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.				**kg** lbs.
19146TD	19283	**0.8** 0.03	**1.5** 0.06	**63.0** 2.48	17.5	11.5	0.0694	**0.71** 1.58
688TD	672	**0.8** 0.03	**3.3** 0.13	**149.0** 5.87	182.5	37.3	0.1056	**8.38** 18.46
HH221449TD	HH221410	**0.8** 0.03	**3.3** 0.13	**171.0** 6.73	265.6	28.4	0.1072	**14.90** 32.87
71457TD	71750	**1.5** 0.06	**3.3** 0.13	**171.0** 6.73	269.2	49.5	0.1156	**12.08** 26.63
H242649TD	H242610	**1.5** 0.06	**3.3** 0.13	**306.0** 12.05	1404.1	134.8	0.1465	**49.31** 108.74
93826TD	93125	**1.5** 0.06	**3.3** 0.13	**286.0** 11.26	912.5	126.1	0.1460	**45.37** 100.05
LM742746TD	LM742710	**1.5** 0.06	**3.3** 0.13	**266.0** 10.47	866.9	225.2	0.1388	**16.00** 35.25
H244848TD	H244810	**1.5** 0.06	**6.4** 0.25	**323.0** 12.72	1631.9	150.0	0.1540	**83.34** 183.74
M244246TD	M244210	**1.5** 0.06	**3.3** 0.13	**293.0** 11.54	1149.7	141.4	0.1360	**31.68** 69.85
EE130926TD	131400	**1.5** 0.06	**1.5** 0.06	**329.0** 12.95	1162.0	167.6	0.1358	**51.55** 113.66
EE130927TD	131400	**1.5** 0.06	**1.5** 0.06	**329.0** 12.95	1162.0	167.6	0.1358	**54.20** 119.51
LM247747TD	LM247710	**1.5** 0.06	**3.3** 0.13	**310.0** 12.20	1173.3	243.9	0.1345	**23.70** 52.24
M249746TD	M249710	**1.5** 0.06	**3.3** 0.13	**335.0** 13.19	1626.0	173.0	0.1526	**45.97** 101.36
EE221039TD	221575	**1.5** 0.06	**6.4** 0.25	**366.0** 14.41	1320.8	207.5	0.1497	**70.69** 155.85
LM451349TD	LM451310	**1.5** 0.06	**3.3** 0.13	**335.0** 13.19	1554.1	212.2	0.1536	**30.99** 68.32
M252349TD	M252310	**1.5** 0.06	**3.3** 0.13	**356.0** 14.02	1839.2	226.1	0.1588	**50.82** 112.03
EE128113TD	128161	**3.3** 0.13	**3.3** 0.13	**379.0** 14.92	1622.7	240.4	0.1592	**78.15** 172.27

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDIT







Bearing Dimensions					Load Ratings							
Bore d	Taper	O.D. D	Width T	Double Inner Ring Width B	Dynamic(1) $C_{1(2)}$	e	Factors(2) Y_1	Y_2	Dynamic(3) C_{90}	C_{a90}	$C_{90(2)}$	Factors(2) K
mm in.		**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
288.925 11.3750	1:12	**406.400** 16.0000	**144.462** 5.6875	**144.462** 5.6875	**2070000** 466000	0.34	2.00	2.97	**308000** 69300	**179000** 40100	**537000** 121000	1.73
295.275 11.6250	1:12	**406.400** 16.0000	**203.200** 8.0000	**203.200** 8.0000	**1340000** 301000	0.44	1.53	2.28	**199000** 44800	**151000** 33900	**347000** 78100	1.32
297.523 11.7135	1:12	**422.275** 16.6250	**150.812** 5.9375	**160.338** 6.3125	**2260000** 508000	0.34	2.00	2.99	**336000** 75600	**194000** 43600	**586000** 132000	1.73
303.212 11.9375	1:12	**495.300** 19.5000	**263.525** 10.3750	**263.525** 10.3750	**5000000** 1120000	0.33	2.03	3.02	**744000** 167000	**423000** 95200	**1300000** 291000	1.76
304.655 11.9943	1:12	**438.048** 17.2460	**131.762** 5.1875	**131.762** 5.1875	**1880000** 422000	0.33	2.04	3.03	**280000** 62900	**159000** 35700	**487000** 110000	1.76
316.111 12.4453	1:12	**447.675** 17.6250	**157.429** 6.1980	**173.035** 6.8124	**2920000** 656000	0.33	2.02	3.00	**435000** 97800	**249000** 56000	**757000** 170000	1.74
333.375 13.1250	1:12	**523.875** 20.6250	**185.738** 7.3125	**185.738** 7.3125	**3960000** 890000	0.33	2.03	3.02	**589000** 132000	**335000** 75400	**1030000** 231000	1.76
333.375 13.1250	1:12	**469.900** 18.5000	**166.688** 6.5625	**166.688** 6.5625	**2780000** 626000	0.33	2.02	3.00	**415000** 93200	**238000** 53400	**722000** 162000	1.74
346.075 13.6250	1:12	**488.950** 19.2500	**174.625** 6.8750	**174.625** 6.8750	**3010000** 676000	0.33	2.02	3.00	**448000** 101000	**257000** 57700	**780000** 175000	1.74
347.662 13.6875	1:12	**469.900** 18.5000	**228.600** 9.0000	**228.600** 9.0000	**2490000** 561000	0.33	2.03	3.02	**372000** 83500	**212000** 47500	**647000** 145000	1.76
349.250 13.7500	1:12	**457.200** 18.0000	**120.650** 4.7500	**120.650** 4.7500	**1640000** 368000	0.32	2.12	3.15	**244000** 54900	**133000** 29900	**425000** 95500	1.83
368.300 14.5000	1:12	**523.875** 20.6250	**185.738** 7.3125	**185.738** 7.3125	**3960000** 890000	0.33	2.03	3.02	**589000** 132000	**335000** 75400	**1030000** 231000	1.76
384.175 15.1250	1:12	**546.100** 21.5000	**193.675** 7.6250	**193.675** 7.6250	**4290000** 963000	0.33	2.03	3.02	**638000** 143000	**363000** 81700	**1110000** 250000	1.76
406.400 16.0000	1:12	**590.550** 23.2500	**209.550** 8.2500	**209.550** 8.2500	**4970000** 1120000	0.33	2.03	3.02	**740000** 166000	**421000** 94800	**1290000** 290000	1.76
415.925 16.3750	1:12	**590.550** 23.2500	**209.550** 8.2500	**209.550** 8.2500	**4970000** 1120000	0.33	2.03	3.02	**740000** 166000	**421000** 94800	**1290000** 290000	1.76
431.800 17.0000	1:12	**571.500** 22.5000	**161.925** 6.3750	**161.925** 6.3750	**3320000** 747000	0.44	1.54	2.29	**495000** 111000	**371000** 83500	**862000** 194000	1.33
447.675 17.6250	1:12	**635.000** 25.0000	**223.838** 8.8125	**223.838** 8.8125	**5700000** 1280000	0.33	2.03	3.02	**849000** 191000	**484000** 109000	**1480000** 332000	1.76

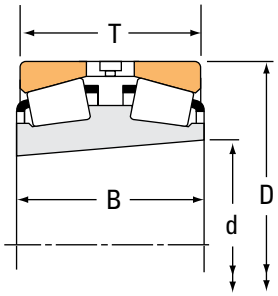
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

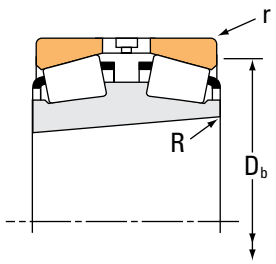
Part Number		Dimensions			Geometry Factors			Bearing Weight
		Shaft	Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.				**kg** lbs.
M255449TD	M255410	**3.3** 0.13	**3.3** 0.13	**379.0** 14.92	2301.3	287.6	0.1722	**62.40** 137.58
LM757043TD	LM757010	**1.5** 0.06	**3.3** 0.13	**380.0** 14.96	1988.6	260.3	0.1775	**72.69** 160.24
HM256846TD	HM256810	**3.3** 0.13	**3.3** 0.13	**394.0** 15.51	2548.4	281.8	0.1779	**76.21** 168.01
HH258249TD	HH258210	**3.3** 0.13	**6.4** 0.25	**448.0** 17.64	3853.2	220.0	0.2048	**224.54** 495.02
NP868174	329172	**7.6** 0.30	**3.3** 0.13	**410.0** 16.14	2051.2	257.0	0.1638	**65.38** 144.13
HM259045TD	HM259010	**3.0** 0.12	**3.3** 0.13	**418.0** 16.46	2944.6	303.9	0.1863	**89.79** 197.96
HM265032TD	HM265010	**3.3** 0.13	**6.4** 0.25	**487.0** 19.17	4297.3	412.9	0.2106	**166.14** 366.28
HM261049TD	HM261010	**3.3** 0.13	**3.3** 0.13	**439.0** 17.28	3306.8	324.3	0.1935	**97.71** 215.41
HM262749TD	HM262710	**3.3** 0.13	**3.3** 0.13	**456.0** 17.95	3646.2	341.8	0.1999	**115.19** 253.98
M262448TD	M262410	**3.3** 0.13	**3.3** 0.13	**443.0** 17.44	2968.5	408.3	0.1853	**100.23** 220.99
LM263145TD	LM263110	**1.5** 0.06	**3.3** 0.13	**434.0** 17.09	3094.1	470.9	0.1845	**55.07** 121.39
HM265049TD	HM265010	**3.3** 0.13	**6.4** 0.25	**487.0** 19.17	4297.3	412.9	0.2106	**141.40** 311.73
HM266449TD	HM266410	**3.3** 0.13	**6.4** 0.25	**507.0** 19.96	4760.1	301.5	0.2178	**157.92** 348.16
M268743TD	M268710	**3.3** 0.13	**6.4** 0.25	**548.9** 21.61	5754.9	420.9	0.2319	**214.22** 472.24
M268749TD	M268710	**3.3** 0.13	**6.4** 0.25	**548.9** 21.61	5754.9	420.9	0.2319	**198.81** 438.27
LM769349TD	LM769310	**1.5** 0.06	**6.4** 0.25	**534.0** 21.02	5114.6	614.2	0.2426	**119.48** 263.42
M270749TD	M270710	**3.3** 0.13	**6.4** 0.25	**591.0** 23.27	6865.6	481.9	0.2458	**245.12** 540.38

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.

TYPE TDIT







Bearing Dimensions					Load Ratings							
Bore d	Taper	O.D. D	Width T	Double Inner Ring Width B	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.		**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
457.200 18.0000	1:12	**730.148** 28.7460	**330.200** 13.0000	**330.200** 13.0000	**7050000** 1580000	0.29	2.29	3.42	**1050000** 236000	**529000** 119000	**1830000** 411000	1.98
479.425 18.8750	1:12	**679.450** 26.7500	**238.125** 9.3750	**238.125** 9.3750	**6500000** 1460000	0.33	2.03	3.02	**968000** 218000	**551000** 124000	**1680000** 379000	1.76
501.650 19.7500	1:12	**711.200** 28.0000	**250.825** 9.8750	**250.825** 9.8750	**6150000** 1380000	0.33	2.03	3.02	**916000** 206000	**521000** 117000	**1590000** 358000	1.76
501.650 19.7500	1:12	**711.200** 28.0000	**250.825** 9.8750	**250.825** 9.8750	**6150000** 1380000	0.33	2.03	3.02	**916000** 206000	**521000** 117000	**1590000** 358000	1.76
519.112 20.4375	1:12	**736.600** 29.0000	**258.762** 10.1875	**258.762** 10.1875	**6570000** 1480000	0.33	2.03	3.02	**978000** 220000	**557000** 125000	**1700000** 383000	1.76
571.500 22.5000	1:12	**812.800** 32.0000	**285.750** 11.2500	**296.862** 11.6875	**7890000** 1770000	0.33	2.03	3.02	**1180000** 264000	**669000** 150000	**2050000** 460000	1.76

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions			Geometry Factors			Bearing Weight
		Shaft	Housing					
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_b	G_1	G_2	C_g	
		mm in.	**mm** in.	**mm** in.				**kg** lbs.
EE726182TD	726287	**6.4** 0.25	**6.4** 0.25	**674.9** 26.57	7359.2	384.7	0.2413	**517.73** 1141.38
M272749TD	M272710	**3.3** 0.13	**6.4** 0.25	**633.0** 24.92	8110.8	508.6	0.2598	**303.33** 668.74
M274149TD	M274110	**3.3** 0.13	**6.4** 0.25	**663.0** 26.10	9019.6	560.7	0.2690	**346.76** 764.45
M274147TD	M274110	**9.7** 0.38	**6.4** 0.25	**663.0** 26.10	9019.6	560.7	0.2690	**355.25** 783.17
M275349TD	M275310	**3.3** 0.13	**6.4** 0.25	**684.0** 26.93	9814.6	651.6	0.2766	**391.96** 864.14
M278748TD	M278710	**3.3** 0.13	**6.4** 0.25	**756.0** 29.76	12425.1	669.4	0.2990	**520.85** 1148.29

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For spacer configuration information, contact your Timken engineer.



TYPE TNA

- TNA bearings are non-adjustable, double-row bearings that are supplied with built-in clearance. This results in a specified mounting setting range satisfactory for specific applications.
- They are similar to type TDO, but the inner-ring front faces are extended so that they abut, which eliminates the need for the inner-ring spacer of a TDO bearing.
- They can be used at either fixed positions or allowed to float in the housing bore to compensate for shaft expansion.

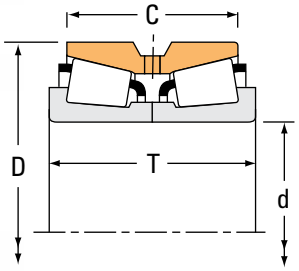
DOUBLE-OUTER RING CONFIGURATIONS

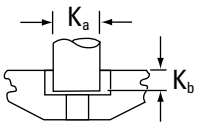
D	D suffix has a groove with oil holes for lubrication through the outer ring.
CD	CD suffix now replaces the DC suffix listed for part numbers in previous publications. Same features as D suffix, but CD also has groove with oil holes. One lubrication hole is counterbored to accept an anti-rotational pin. Default configuration for most series.

- For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.
- If a closer control of mounted setting range is required, type TDO bearing assembly is recommended.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective solution.

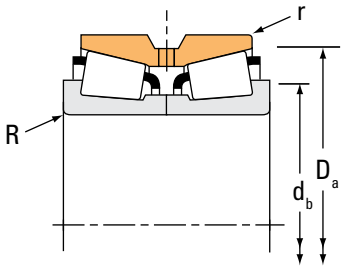
TYPE TNA







Locking pin for CD outer ring.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic(1) $C_{1(2)}$	e	Factors(2) Y_1	Y_2	Dynamic(3) C_{90}	C_{a90}	$C_{90(2)}$	Factors(2) K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
19.050 0.7500	**47.000** 1.8504	**31.750** 1.2500	**25.212** 0.9926	**46500** 10500	0.36	1.89	2.82	**6930** 1560	**4230** 952	**12100** 2710	1.64
24.981 0.9835	**62.000** 2.4409	**39.688** 1.5625	**36.258** 1.4275	**75300** 16900	0.38	1.77	2.63	**11200** 2520	**7340** 1650	**19500** 4390	1.53
28.575 1.1250	**74.612** 2.9375	**55.565** 2.1876	**41.275** 1.6250	**121000** 27300	0.60	1.12	1.67	**18100** 4060	**18600** 4190	**31500** 7080	0.97
29.987 1.1806	**71.973** 2.8336	**42.760** 1.6835	**36.512** 1.4375	**102000** 23000	0.36	1.87	2.79	**18100** 4060	**11100** 2500	**31400** 7070	1.62
31.750 1.2500	**58.738** 2.3125	**32.542** 1.2812	**24.608** 0.9688	**55200** 12400	0.47	1.42	2.12	**8220** 1850	**6670** 1500	**14300** 3220	1.23
33.337 1.3125	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**135000** 30400	0.67	1.01	1.50	**20100** 4520	**23000** 5170	**35000** 7880	0.87
34.925 1.3750	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**95100** 21400	0.38	1.77	2.63	**14200** 3180	**9260** 2080	**24600** 5540	1.53
34.976 1.3770	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**111000** 24800	0.40	1.68	2.50	**19500** 4390	**13400** 3020	**34000** 7640	1.45
36.512 1.4375	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**147000** 32900	0.78	0.86	1.29	**25900** 5810	**34600** 7770	**45000** 10100	0.75
38.100 1.5000	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**98700** 22200	0.40	1.68	2.50	**17400** 3920	**12000** 2700	**30300** 6820	1.45
39.687 1.5625	**88.500** 3.4843	**55.562** 2.1875	**39.688** 1.5625	**147000** 32900	0.78	0.86	1.29	**21800** 4910	**29200** 6560	**38000** 8540	0.75
39.687 1.5625	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**147000** 32900	0.78	0.86	1.29	**21800** 4910	**29200** 6560	**38000** 8540	0.75
40.000 1.5748	**90.119** 3.5480	**50.800** 2.0000	**44.450** 1.7500	**142000** 32000	0.31	2.20	3.28	**21200** 4770	**11100** 2500	**36900** 8310	1.91
41.275 1.6250	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**174000** 39100	0.78	0.86	1.29	**25900** 5810	**34600** 7770	**45000** 10100	0.75
43.658 1.7188	**82.550** 3.2500	**44.450** 1.7500	**34.925** 1.3750	**135000** 30300	0.43	1.57	2.34	**20100** 4510	**14800** 3320	**35000** 7860	1.36
44.450 1.7500	**79.375** 3.1250	**41.272** 1.6249	**33.338** 1.3125	**90600** 20400	0.37	1.80	2.69	**13500** 3030	**8630** 1940	**23500** 5280	1.56
44.450 1.7500	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**221000** 49700	0.28	2.37	3.53	**32900** 7400	**16000** 3600	**57300** 12900	2.05

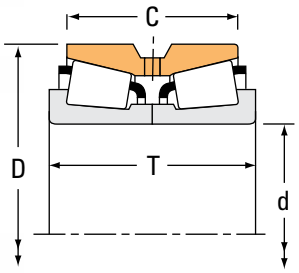
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

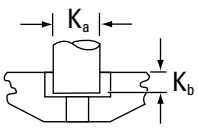
Part Number		Dimensions						Bearing Weight
		Shaft		Housing		Pin		
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NA05075	05185D	**1.3** 0.05	**25.0** 0.98	**0.8** 0.03	**42.5** 1.67	– –	– –	**0.23** 0.51
NA17098	17245D	**1.5** 0.06	**33.0** 1.30	**0.8** 0.03	**57.0** 2.24	– –	– –	**0.62** 1.36
NA41125	41294D	**2.3** 0.09	**43.0** 1.69	**1.5** 0.06	**68.0** 2.68	– –	– –	**1.12** 2.45
NA26118	26284D	**1.5** 0.06	**38.0** 1.50	**0.8** 0.03	**65.0** 2.56	– –	– –	**0.84** 1.87
NA08125	08231D	**1.5** 0.06	**38.5** 1.52	**0.4** 0.02	**55.0** 2.17	– –	– –	**0.35** 0.79
NA43131	43319D	**2.3** 0.09	**48.5** 1.91	**1.5** 0.06	**74.0** 2.91	– –	– –	**1.28** 2.82
NA14138	14276D	**3.5** 0.14	**46.0** 1.81	**0.8** 0.03	**63.0** 2.48	– –	– –	**0.70** 1.56
NA28138	28318D	**1.5** 0.06	**43.5** 1.71	**0.8** 0.03	**73.0** 2.87	– –	– –	**1.04** 2.32
NA44143	44363D	**0.8** 0.03	**51.0** 2.01	**1.5** 0.06	**85.0** 3.35	– –	– –	**1.73** 3.85
NA13687	13621D	**2.0** 0.08	**46.5** 1.83	**0.8** 0.03	**65.0** 2.56	– –	– –	**0.67** 1.48
NA44156	44348D	**2.3** 0.09	**56.0** 2.20	**0.6** 0.03	**84.0** 3.31	– –	– –	**1.48** 3.26
NA44156	44363D	**2.3** 0.09	**56.0** 2.20	**1.5** 0.06	**85.0** 3.35	– –	– –	**1.65** 3.65
NA357	353D	**1.5** 0.06	**49.0** 1.93	**0.8** 0.03	**82.0** 3.23	– –	– –	**1.54** 3.39
NA44163	44363D	**0.8** 0.03	**54.0** 2.13	**1.5** 0.06	**85.0** 3.35	– –	– –	**1.61** 3.57
NA22171	22325D	**2.3** 0.09	**53.0** 2.09	**0.8** 0.03	**76.0** 2.99	– –	– –	**1.01** 2.21
NA18685	18620D	**2.8** 0.11	**54.0** 2.13	**0.8** 0.03	**74.0** 2.91	– –	– –	**0.80** 1.75
NA438	432D	**3.5** 0.14	**57.0** 2.24	**0.8** 0.03	**87.0** 3.43	– –	– –	**2.00** 4.41

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.

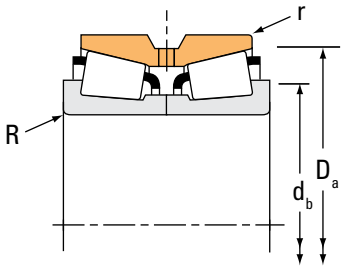
TYPE TNA







Locking pin for CD outer ring.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic(1) $C_{1(2)}$	e	Factors(2) Y_1	Y_2	Dynamic(3) C_{90}	C_{a90}	$C_{90(2)}$	Factors(2) K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
44.450 1.7500	**95.250** 3.7500	**65.090** 2.5626	**44.450** 1.7500	**174000** 39200	0.74	0.91	1.36	**26000** 5840	**32900** 7390	**45200** 10200	0.79
44.450 1.7500	**98.425** 3.8750	**65.090** 2.5626	**44.450** 1.7500	**174000** 39200	0.74	0.91	1.36	**26000** 5840	**32900** 7390	**45200** 10200	0.79
50.000 1.9685	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
50.800 2.0000	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
50.800 2.0000	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**236000** 53100	0.34	2.01	3.00	**35200** 7900	**20200** 4540	**61200** 13800	1.74
50.800 2.0000	**112.712** 4.4375	**65.088** 2.5625	**46.038** 1.8125	**185000** 41600	0.88	0.76	1.14	**27600** 6200	**41700** 9380	**48000** 10800	0.66
53.975 2.1250	**111.125** 4.3750	**79.375** 3.1250	**63.500** 2.5000	**300000** 67400	0.30	2.28	3.39	**44600** 10000	**22700** 5090	**77700** 17500	1.97
53.975 2.1250	**117.475** 4.6250	**73.025** 2.8750	**53.975** 2.1250	**259000** 58300	0.63	1.08	1.60	**38600** 8680	**41400** 9310	**67200** 15100	0.93
53.975 2.1250	**123.825** 4.8750	**77.788** 3.0625	**55.562** 2.1875	**287000** 64600	0.74	0.92	1.36	**42800** 9620	**54000** 12100	**74500** 16800	0.79
55.000 2.1654	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
60.000 2.3622	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
60.000 2.3622	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
60.325 2.3750	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
63.500 2.5000	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**353000** 79300	0.87	0.78	1.16	**52600** 11800	**77900** 17500	**91500** 20600	0.67
66.675 2.6250	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
69.850 2.7500	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
69.850 2.7500	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**406000** 91200	0.36	1.86	2.78	**60400** 13600	**37400** 8420	**105000** 23600	1.61

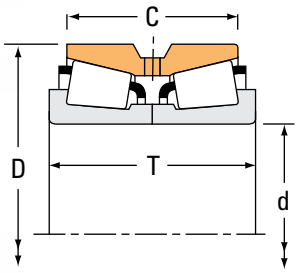
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

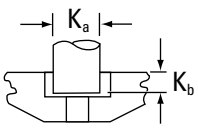
Part Number		Dimensions						Bearing Weight
		Shaft		Housing		Pin		
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NA53176	53376D	**2.3** 0.09	**61.0** 2.40	**0.8** 0.03	**89.0** 3.50	– –	– –	**1.92** 4.21
NA53176	53390D	**2.3** 0.09	**61.0** 2.40	**1.5** 0.06	**90.0** 3.54	– –	– –	**2.10** 4.62
NA366	363D	**3.5** 0.14	**61.0** 2.40	**0.8** 0.03	**84.0** 3.31	– –	– –	**1.18** 2.61
NA3780	3729D	**3.5** 0.14	**64.0** 2.52	**0.8** 0.03	**87.9** 3.46	– –	– –	**1.83** 4.02
NA455	452D	**3.5** 0.14	**65.0** 2.56	**0.8** 0.03	**100.0** 3.94	– –	– –	**2.76** 6.10
NA55200	55444D	**2.3** 0.09	**69.0** 2.72	**1.5** 0.06	**105.0** 4.13	– –	– –	**2.85** 6.25
NA539	533D	**3.5** 0.14	**68.0** 2.68	**1.5** 0.06	**100.0** 3.94	– –	– –	**3.35** 7.39
NA66212	66462D	**3.5** 0.14	**73.0** 2.87	**0.8** 0.03	**111.0** 4.37	– –	– –	**3.56** 7.82
NA72212	72488D	**2.3** 0.09	**74.0** 2.91	**1.5** 0.06	**115.0** 4.53	– –	– –	**4.08** 9.00
NA385	384CD	**3.5** 0.14	**67.0** 2.64	**0.8** 0.03	**93.0** 3.66	**7.94** 0.31	**4.77** 0.19	**1.56** 3.45
NA397	394D	**3.5** 0.14	**74.0** 2.91	**0.8** 0.03	**104.4** 4.11	– –	– –	**2.04** 4.51
NA476	472D	**3.5** 0.14	**76.0** 2.99	**0.8** 0.03	**114.0** 4.49	– –	– –	**3.45** 7.59
NA558	552D	**3.5** 0.14	**76.0** 2.99	**1.5** 0.06	**115.0** 4.53	– –	– –	**4.31** 9.50
NA78250	78549D	**2.3** 0.09	**85.0** 3.35	**1.5** 0.06	**131.0** 5.16	– –	– –	**5.11** 11.28
NA569	563D	**3.5** 0.14	**82.0** 3.23	**1.5** 0.06	**119.0** 4.69	– –	– –	**4.36** 9.64
NA482	472D	**3.5** 0.14	**83.0** 3.27	**0.8** 0.03	**114.0** 4.49	– –	– –	**2.93** 6.46
NA643	632D	**3.5** 0.14	**86.0** 3.39	**1.5** 0.06	**125.0** 4.92	– –	– –	**5.88** 12.92

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.

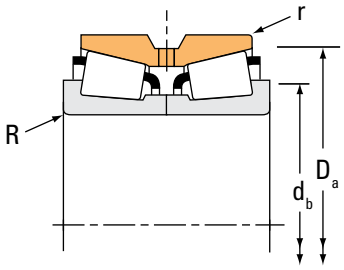
TYPE TNA







Locking pin for CD outer ring.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic(1) $C_{1(2)}$	e	Factors(2) Y_1	Y_2	Dynamic(3) C_{90}	C_{a90}	$C_{90(2)}$	Factors(2) K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
70.000 2.7559	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
73.025 2.8750	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**342000** 76900	0.36	1.86	2.76	**50900** 11400	**31700** 7130	**88600** 19900	1.61
76.200 3.0000	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
76.200 3.0000	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
76.200 3.0000	**177.800** 7.0000	**109.538** 4.3125	**74.612** 2.9375	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76
82.550 3.2500	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
82.550 3.2500	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**656000** 147000	0.33	2.08	3.09	**97600** 21900	**54400** 12200	**170000** 38200	1.80
82.550 3.2500	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**712000** 160000	0.30	2.26	3.36	**106000** 23800	**54300** 12200	**185000** 41500	1.95
88.900 3.5000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
88.900 3.5000	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71
88.900 3.5000	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**708000** 159000	0.63	1.07	1.59	**105000** 23700	**114000** 25600	**183000** 41200	0.92
95.250 3.7500	**161.925** 6.3750	**82.547** 3.2499	**61.912** 2.4375	**389000** 87500	0.47	1.42	2.12	**57900** 13000	**47100** 10600	**101000** 22700	1.23
95.250 3.7500	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
100.000 3.9370	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
101.600 4.0000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
101.600 4.0000	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
101.600 4.0000	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51

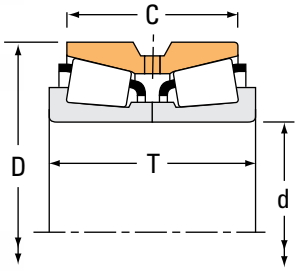
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

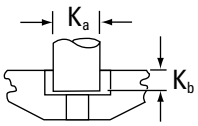
Part Number		Dimensions						Bearing Weight
		Shaft		Housing		Pin		
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NA484	472D	**3.5** 0.14	**83.0** 3.27	**0.8** 0.03	**114.0** 4.49	– –	– –	**2.93** 6.44
NA567	563D	**6.8** 0.27	**94.0** 3.70	**1.5** 0.06	**119.0** 4.69	– –	– –	**3.86** 8.52
NA495A	493D	**3.5** 0.14	**92.0** 3.62	**0.8** 0.03	**130.0** 5.12	– –	– –	**4.14** 9.12
NA659	654D	**3.5** 0.14	**93.0** 3.66	**1.5** 0.06	**141.0** 5.55	– –	– –	**7.61** 16.77
NA9378	9320D	**3.5** 0.14	**105.0** 4.13	**2.3** 0.09	**164.0** 6.46	– –	– –	**12.34** 27.20
NA580	572D	**3.5** 0.14	**98.0** 3.86	**0.8** 0.03	**133.0** 5.24	– –	– –	**4.79** 10.56
NA749	742D	**3.5** 0.14	**99.0** 3.90	**1.5** 0.06	**143.0** 5.63	– –	– –	**8.17** 18.01
NA842	834D	**3.5** 0.14	**101.0** 3.98	**0.8** 0.03	**155.0** 6.10	– –	– –	**13.10** 28.88
NA593	592D	**3.5** 0.14	**104.0** 4.09	**0.8** 0.03	**144.0** 5.67	– –	– –	**5.87** 12.93
NA759	752D	**3.5** 0.14	**106.0** 4.17	**1.5** 0.06	**150.0** 5.91	– –	– –	**8.76** 19.28
NA98350	98789D	**3.5** 0.14	**118.0** 4.65	**2.3** 0.09	**188.0** 7.40	– –	– –	**16.57** 36.50
NA52375	52637D	**3.5** 0.14	**112.0** 4.41	**0.8** 0.03	**154.0** 6.06	– –	– –	**6.53** 14.41
NA776	774CD	**3.5** 0.14	**114.0** 4.49	**1.5** 0.06	**168.0** 6.61	**19.05** 0.75	**7.13** 0.28	**11.44** 25.21
NA691A	672D	**3.5** 0.14	**119.0** 4.69	**0.8** 0.03	**160.0** 6.30	– –	– –	**7.62** 16.78
NA691	672D	**3.5** 0.14	**118.0** 4.65	**0.8** 0.03	**160.0** 6.30	– –	– –	**7.58** 16.69
NA780	773D	**3.5** 0.14	**119.0** 4.69	**0.8** 0.03	**168.0** 6.61	– –	– –	**10.67** 23.56
NA780	774CD	**3.5** 0.14	**119.0** 4.69	**1.5** 0.06	**168.0** 6.61	**19.05** 0.75	**7.13** 0.28	**10.62** 23.43

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.

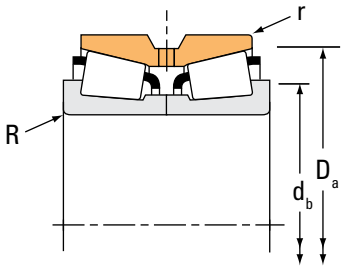
TYPE TNA







Locking pin for CD outer ring.



Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic(1) $C_{1(2)}$	e	Factors(2) Y_1	Y_2	Dynamic(3) C_{90}	C_{a90}	$C_{90(2)}$	Factors(2) K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
101.600 4.0000	**190.500** 7.5000	**127.000** 5.0000	**101.600** 4.0000	**797000** 179000	0.33	2.02	3.00	**119000** 26700	**68000** 15300	**207000** 46400	1.74
101.600 4.0000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
104.775 4.1250	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
114.300 4.5000	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
114.300 4.5000	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**655000** 147000	0.74	0.92	1.36	**97500** 21900	**123000** 27600	**170000** 38200	0.79
114.300 4.5000	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**862000** 194000	0.74	0.92	1.36	**128000** 28800	**162000** 36400	**223000** 50200	0.79
127.000 5.0000	**182.562** 7.1875	**85.725** 3.3750	**73.025** 2.8750	**466000** 105000	0.31	2.21	3.29	**69400** 15600	**36300** 8160	**121000** 27200	1.91
133.350 5.2500	**190.500** 7.5000	**85.725** 3.3750	**73.025** 2.8750	**492000** 111000	0.32	2.10	3.13	**73300** 16500	**40300** 9060	**128000** 28700	1.82
142.875 5.6250	**200.025** 7.8750	**93.665** 3.6876	**73.025** 2.8750	**499000** 112000	0.34	2.01	2.99	**74300** 16700	**42800** 9610	**129000** 29100	1.74
146.050 5.7500	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**897000** 202000	0.44	1.53	2.27	**134000** 30000	**101000** 22700	**232000** 52300	1.32
146.050 5.7500	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
149.225 5.8750	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**897000** 202000	0.44	1.53	2.27	**134000** 30000	**101000** 22700	**232000** 52300	1.32
149.225 5.8750	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
150.967 5.9436	**229.873** 9.0501	**108.000** 4.2520	**116.000** 4.5669	**597000** 134000	0.33	2.03	3.02	**88900** 20000	**50600** 11400	**155000** 34800	1.76
152.400 6.0000	**254.000** 10.0000	**142.875** 5.6250	**111.125** 4.3750	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43
165.100 6.5000	**298.450** 11.7500	**142.875** 5.6250	**111.125** 4.3750	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
177.800 7.0000	**282.575** 11.1250	**107.950** 4.2500	**79.375** 3.1250	**748000** 168000	0.42	1.62	2.42	**132000** 29700	**93900** 21100	**230000** 51700	1.41

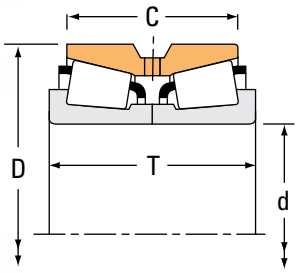
(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

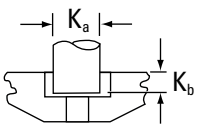
Part Number		Dimensions						Bearing Weight
		Shaft		Housing		Pin		
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NA861	854D	**3.5** 0.14	**120.0** 4.72	**1.5** 0.06	**174.0** 6.85	– –	– –	**14.98** 33.03
HH221449NA	HH221410D	**3.5** 0.14	**122.0** 4.80	**1.5** 0.06	**179.0** 7.05	– –	– –	**14.81** 32.64
NA782	774CD	**3.5** 0.14	**122.0** 4.80	**1.5** 0.06	**168.0** 6.61	**19.05** 0.75	**7.13** 0.28	**10.20** 22.50
NA71450	71751D	**3.5** 0.14	**132.0** 5.20	**1.5** 0.06	**181.0** 7.13	– –	– –	**11.08** 24.43
NA97450	97901D	**3.5** 0.14	**140.0** 5.51	**2.3** 0.09	**213.0** 8.38	– –	– –	**19.81** 43.70
HM926740NA	HM926710CD	**3.5** 0.14	**146.0** 5.75	**2.3** 0.09	**219.3** 8.63	**19.05** 0.75	**8.73** 0.34	**20.61** 45.41
NA48291	48220D	**3.5** 0.14	**141.0** 5.55	**0.8** 0.03	**176.0** 6.93	– –	– –	**7.13** 15.71
NA48385	48320D	**3.5** 0.14	**148.0** 5.83	**0.8** 0.03	**184.0** 7.24	– –	– –	**7.45** 16.45
NA48686	48620D	**3.5** 0.14	**158.0** 6.22	**0.8** 0.03	**193.0** 7.60	– –	– –	**8.41** 18.56
NA82576	82932D	**3.5** 0.14	**166.0** 6.54	**1.5** 0.06	**226.0** 8.90	– –	– –	**20.60** 45.41
HM231140NA	HM231116D	**3.5** 0.14	**164.0** 6.46	**1.5** 0.06	**224.0** 8.82	– –	– –	**22.00** 48.50
NA82587	82932D	**3.5** 0.14	**169.0** 6.65	**1.5** 0.06	**226.0** 8.90	– –	– –	**19.82** 43.73
HM231149NA	HM231116D	**3.5** 0.14	**167.0** 6.57	**1.5** 0.06	**224.0** 8.82	– –	– –	**21.24** 46.82
M231647	M231616XD	**3.5** 0.14	**168.0** 6.61	** **	**222.0** 8.74	– –	– –	**16.14** 35.57
NA99600	99102CD	**3.5** 0.14	**177.0** 6.97	**1.5** 0.06	**238.0** 9.37	0.87	0.31	**26.54** 58.51
NA94650	94118D	**3.5** 0.14	**190.0** 7.48	**1.5** 0.06	**272.0** 10.71	– –	– –	**41.69** 91.93
NA87700	87112D	**3.5** 0.14	**200.0** 7.87	**1.5** 0.06	**267.0** 10.50	– –	– –	**23.05** 50.80

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.

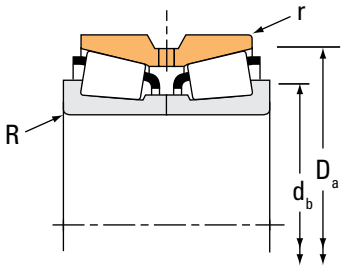
TYPE TNA







Locking pin for CD outer ring.

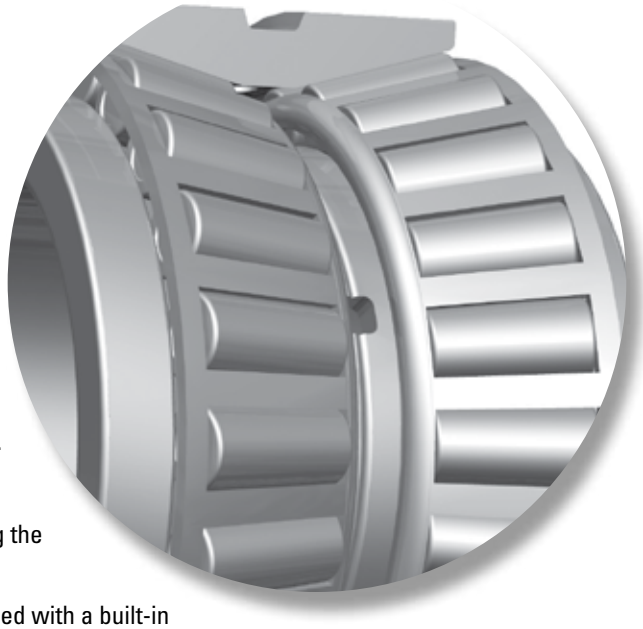


Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic(1) $C_{1(2)}$	e	Factors(2) Y_1	Y_2	Dynamic(3) C_{90}	C_{a90}	$C_{90(2)}$	Factors(2) K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
177.800 7.0000	**298.450** 11.7500	**142.875** 5.6250	**139.700** 5.5000	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
177.800 7.0000	**298.450** 11.7500	**142.875** 5.6250	**111.125** 4.3750	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
190.500 7.5000	**260.350** 10.2500	**66.675** 2.6250	**50.800** 2.0000	**410000** 92100	0.34	1.97	2.93	**61000** 13700	**35800** 8040	**106000** 23900	1.70
203.200 8.0000	**317.500** 12.5000	**120.650** 4.7500	**88.900** 3.5000	**919000** 207000	0.31	2.15	3.21	**137000** 30800	**73400** 16500	**238000** 53600	1.86
254.000 10.0000	**422.275** 16.6250	**173.038** 6.8125	**128.588** 5.0625	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
254.000 10.0000	**431.724** 16.9970	**173.038** 6.8125	**128.588** 5.0625	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
254.000 10.0000	**431.724** 16.9970	**173.038** 6.8125	**128.588** 5.0625	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**422.275** 16.6250	**173.038** 6.8125	**128.588** 5.0625	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
260.350 10.2500	**422.275** 16.6250	**173.038** 6.8125	**128.588** 5.0625	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
260.350 10.2500	**431.724** 16.9970	**173.038** 6.8125	**128.588** 5.0625	**2690000** 605000	0.33	2.03	3.02	**401000** 90100	**228000** 51300	**698000** 157000	1.76
260.350 10.2500	**431.724** 16.9970	**173.038** 6.8125	**128.588** 5.0625	**2610000** 587000	0.33	2.03	3.02	**389000** 87400	**221000** 49700	**677000** 152000	1.76
300.787 11.8420	**438.048** 17.2460	**161.925** 6.3750	**123.825** 4.8750	**1880000** 422000	0.33	2.04	3.03	**280000** 62900	**159000** 35700	**487000** 110000	1.76
300.787 11.8420	**438.048** 17.2460	**161.925** 6.3750	**123.825** 4.8750	**1920000** 432000	0.33	2.04	3.03	**286000** 64300	**162000** 36500	**498000** 112000	1.76
300.787 11.8420	**444.500** 17.5000	**161.925** 6.3750	**161.925** 6.3750	**1880000** 422000	0.33	2.04	3.03	**280000** 62900	**159000** 35700	**487000** 110000	1.76
304.800 12.0000	**438.048** 17.2460	**161.925** 6.3750	**123.825** 4.8750	**1880000** 422000	0.33	2.04	3.03	**280000** 62900	**159000** 35700	**487000** 110000	1.76
304.800 12.0000	**438.048** 17.2460	**161.925** 6.3750	**123.825** 4.8750	**1920000** 432000	0.33	2.04	3.03	**286000** 64300	**162000** 36500	**498000** 112000	1.76
355.600 14.0000	**514.350** 20.2500	**146.050** 5.7500	**107.950** 4.2500	**1830000** 412000	0.44	1.53	2.28	**273000** 61300	**206000** 46200	**475000** 107000	1.33
406.400 16.0000	**574.675** 22.6250	**157.162** 6.1875	**106.362** 4.1875	**1930000** 434000	0.50	1.36	2.02	**287000** 64600	**245000** 55000	**500000** 112000	1.17

(1)Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
(2)Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
(3)Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions						Bearing Weight
		Shaft		Housing		Pin		
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	K_a	K_b	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NA94700	94117D	**5.5** 0.22	**203.0** 7.99	**1.5** 0.06	**279.0** 10.98	– –	– –	**40.07** 88.35
NA94700	94118D	**5.5** 0.22	**203.0** 7.99	**1.5** 0.06	**272.0** 10.71	– –	– –	**37.85** 83.46
NA537075	537103D	**3.5** 0.14	**206.0** 8.11	**0.8** 0.03	**246.9** 9.72	– –	– –	**9.54** 21.00
NA132083	132126D	**6.4** 0.25	**230.1** 9.06	**1.5** 0.06	**293.1** 11.54	– –	– –	**33.51** 73.89
HM252343NA	HM252311D	**6.4** 0.25	**286.0** 11.26	**1.5** 0.06	**400.0** 15.73	– –	– –	**85.70** 188.93
HM252344NA	HM252315CD	**6.4** 0.25	**286.0** 11.26	**1.5** 0.06	**398.3** 15.68	**28.58** 1.13	**11.91** 0.47	**96.42** 212.55
HM252343NA	HM252315CD	**6.4** 0.25	**286.0** 11.26	**1.5** 0.06	**398.3** 15.68	**28.58** 1.13	**11.91** 0.47	**92.05** 202.94
HM252349NA	HM252311D	**6.4** 0.25	**291.0** 11.46	**1.5** 0.06	**400.0** 15.73	– –	– –	**86.59** 190.86
HM252348NA	HM252311D	**6.4** 0.25	**291.0** 11.46	**1.5** 0.06	**400.0** 15.73	– –	– –	**82.22** 181.24
HM252349NA	HM252315CD	**6.4** 0.25	**291.0** 11.46	**1.5** 0.06	**398.3** 15.68	**28.58** 1.13	**11.91** 0.47	**92.94** 204.87
HM252348NA	HM252315CD	**6.4** 0.25	**291.0** 11.46	**1.5** 0.06	**398.3** 15.68	**28.58** 1.13	**11.91** 0.47	**88.57** 195.25
NA329116	329173CD	**6.4** 0.25	**330.0** 12.99	**1.5** 0.06	**414.1** 16.30	**22.23** 0.88	**11.12** 0.44	**73.86** 162.84
NA329115	329173CD	**6.4** 0.25	**330.0** 12.99	**1.5** 0.06	**414.1** 16.30	**22.23** 0.88	**11.12** 0.44	**75.86** 167.26
NA329116	329176D	**6.4** 0.25	**330.0** 12.99	**1.5** 0.06	**422.5** 16.64	– –	– –	**83.75** 184.65
NA329120	329173CD	**6.4** 0.25	**333.0** 13.11	**1.5** 0.06	**414.1** 16.30	**22.23** 0.88	**11.12** 0.44	**71.44** 157.49
NA329121	329173CD	**6.4** 0.25	**333.0** 13.11	**1.5** 0.06	**414.1** 16.30	**22.23** 0.88	**11.12** 0.44	**73.44** 161.91
NA231400	232026D	**6.4** 0.25	**388.0** 15.28	**1.5** 0.06	**481.1** 18.94	– –	– –	**91.10** 200.84
NA285160	285228D	**6.4** 0.25	**441.0** 17.36	**1.5** 0.06	**534.0** 21.02	– –	– –	**112.79** 248.66

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.



TYPE TNASW AND TYPE TNASWE

- TNASW double-row bearings are a variant of type TNA, having chamfers and slots on the front face of the inner ring.
- TNASWE has an extended inner ring face.
- Slots on the inner ring provide lubrication.
- Cone front faces are extended, eliminating the need for a separate cone spacer.
- TNASW and TNASWE bearings are supplied with a built-in clearance, which results in a specified mounted setting range satisfactory for most applications.
- Types TNASW and TNASWE provide a solution for fixed or floating bearing applications.
- Consult your Timken engineer before making a final bearing selection to help ensure suitability, availability and the most cost-effective solution.



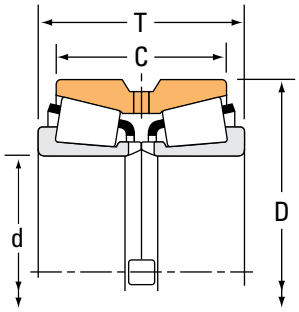
Type TNASW

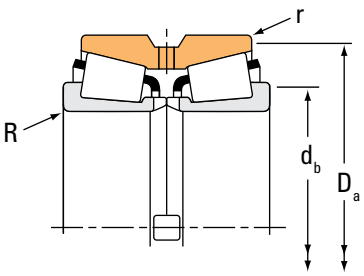


Type TNASWE

TYPE TNASW







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
29.987 1.1806	**71.973** 2.8336	**42.760** 1.6835	**36.512** 1.4375	**121000** 27300	0.36	1.87	2.79	**18100** 4060	**11100** 2500	**31400** 7070	1.62
44.450 1.7500	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**221000** 49700	0.28	2.37	3.53	**32900** 7400	**16000** 3600	**57300** 12900	2.05
50.800 2.0000	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73
50.800 2.0000	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**236000** 53100	0.34	2.01	3.00	**35200** 7900	**20200** 4540	**61200** 13800	1.74
53.975 2.1250	**127.000** 5.0000	**69.850** 2.7500	**68.265** 2.6876	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
60.325 2.3750	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
69.850 2.7500	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**406000** 91200	0.36	1.86	2.78	**60400** 13600	**37400** 8420	**105000** 23600	1.61
70.000 2.7559	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
76.200 3.0000	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
76.200 3.0000	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
85.725 3.3750	**136.525** 5.3750	**73.025** 2.8750	**53.975** 2.1250	**254000** 57100	0.44	1.52	2.26	**37800** 8500	**28800** 6470	**65800** 14800	1.31
88.900 3.5000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
88.900 3.5000	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71
95.250 3.7500	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
95.250 3.7500	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**603000** 135000	0.39	1.75	2.61	**89700** 20200	**59200** 13300	**156000** 35100	1.51
101.600 4.0000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
234.950 9.2500	**325.438** 12.8125	**107.950** 4.2500	**76.200** 3.0000	**929000** 209000	0.33	2.02	3.01	**138000** 31100	**79200** 17800	**241000** 54200	1.75

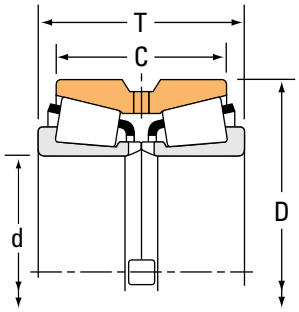
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

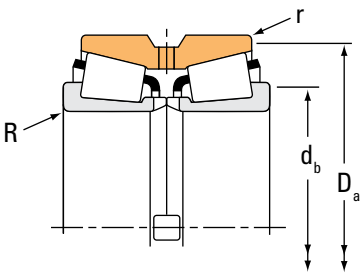
Part Number		Dimensions				
		Shaft		Housing		Bearing Weight
Inner	Outer	Max Shaft Fillet Radius R[4]	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[4]	Backing Shoulder Dia. D_a	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NA26118SW	26284D	**1.5** 0.06	**38.0** 1.50	**0.8** 0.03	**65.0** 2.56	**0.84** 1.86
NA438SW	432D	**3.5** 0.14	**57.0** 2.24	**0.8** 0.03	**87.0** 3.43	**2.00** 4.40
NA3780SW	3729D	**3.5** 0.14	**64.0** 2.52	**0.8** 0.03	**87.9** 3.46	**1.81** 3.99
NA455SW	452D	**3.5** 0.14	**65.0** 2.56	**0.8** 0.03	**100.0** 3.94	**2.80** 6.20
NA33895SW	K302667	**3.5** 0.14	**67.0** 2.64	**6.4** 0.25	**93.0** 3.66	**4.83** 10.64
NA558SW	552D	**3.5** 0.14	**76.0** 2.99	**1.5** 0.06	**115.0** 4.53	**4.33** 9.57
NA643SW	632D	**3.5** 0.14	**86.0** 3.39	**1.5** 0.06	**125.0** 4.92	**5.92** 13.01
NA484SW	472D	**3.5** 0.14	**83.0** 3.27	**0.8** 0.03	**114.0** 4.49	**2.91** 6.39
NA495SW	493D	**3.5** 0.14	**92.0** 3.62	**0.8** 0.03	**130.0** 5.12	**4.08** 8.97
NA659SW	654D	**3.5** 0.14	**93.0** 3.66	**1.5** 0.06	**141.0** 5.55	**7.63** 16.83
NA497SW	493D	**3.5** 0.14	**99.0** 3.90	**0.8** 0.03	**130.0** 5.12	**3.56** 7.84
NA593SW	592D	**3.5** 0.14	**104.0** 4.09	**0.8** 0.03	**144.0** 5.67	**5.81** 12.82
NA759SW	752D	**3.5** 0.14	**106.0** 4.17	**1.5** 0.06	**150.0** 5.91	**8.80** 19.38
NA776SW	773D	**3.5** 0.14	**114.0** 4.49	**0.8** 0.03	**168.0** 6.61	**11.49** 25.34
NA776SW	774D	**3.5** 0.14	**114.0** 4.49	**1.5** 0.06	**168.0** 6.61	**11.44** 25.21
NA691SW	672D	**3.5** 0.14	**118.0** 4.65	**0.8** 0.03	**160.0** 6.30	**7.82** 17.23
LM246349NW	LM246310D	**3.5** 0.14	**252.0** 9.92	**1.5** 0.06	**312.0** 12.28	**23.01** 50.70

[4]These maximum fillet radii will be cleared by bearing corners.
NOTE: For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.

TYPE TNASW







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width T	Double Outer Ring Width C	Dynamic[1] $C_{1(2)}$	e	Factors[2] Y_1	Y_2	Dynamic[3] C_{90}	C_{a90}	$C_{90(2)}$	Factors[2] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
303.886 11.9640	**419.100** 16.5000	**161.925** 6.3750	**129.540** 5.1000	**2060000** 464000	0.52	1.30	1.94	**307000** 69100	**273000** 61400	**535000** 120000	1.13
304.800 12.0000	**419.100** 16.5000	**161.925** 6.3750	**129.540** 5.1000	**2060000** 464000	0.52	1.30	1.94	**307000** 69100	**273000** 61400	**535000** 120000	1.13
355.600 14.0000	**444.500** 17.5000	**136.525** 5.3750	**111.125** 4.3750	**1280000** 287000	0.31	2.20	3.27	**190000** 42700	**100000** 22500	**331000** 74400	1.90

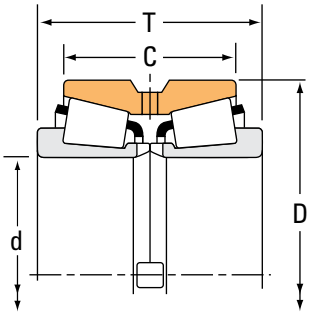
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row. $C_{90(2)}$ is the double-row radial value.

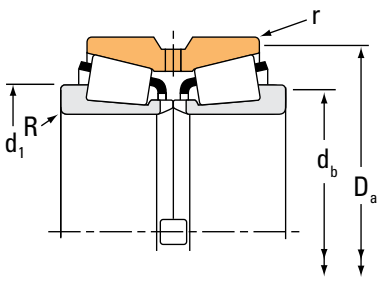
Part Number		Dimensions				Bearing Weight
		Shaft		Housing		
Inner	Outer	Max Shaft Fillet Radius $R^{(4)}$	Backing Shoulder Dia. d_b	Max Housing Fillet Radius $r^{(4)}$	Backing Shoulder Dia. D_a	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NP446605	NP930308	**6.4** 0.25	**336.0** 13.23	**1.5** 0.06	**406.9** 16.02	**64.32** 141.79
NP633856	NP930308	**6.4** 0.25	**336.0** 13.23	**1.5** 0.06	**406.9** 16.02	**63.76** 140.57
L163149NW	L163110CD	**3.5** 0.14	**374.0** 14.72	**1.5** 0.06	**430.0** 16.93	**44.96** 99.12

(4)These maximum fillet radii will be cleared by bearing corners.
NOTE: For desired fitting practice and resultant mounted setting range information, contact your Timken engineer.

TYPE TNASWE







Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
19.050 0.7500	**47.000** 1.8504	**34.925** 1.3750	**25.212** 0.9926	**46500** 10500	0.36	1.89	2.82	**6930** 1560	**4230** 952	**12100** 2710	1.64
30.000 1.1811	**63.500** 2.5000	**50.752** 1.9981	**36.512** 1.4375	**88000** 19800	0.35	1.93	2.87	**13100** 2940	**7860** 1770	**22800** 5130	1.67
30.005 1.1813	**63.500** 2.5000	**50.800** 2.0000	**36.512** 1.4375	**88000** 19800	0.35	1.93	2.87	**13100** 2940	**7860** 1770	**22800** 5130	1.67
38.100 1.5000	**76.200** 3.0000	**58.738** 2.3125	**39.688** 1.5625	**132000** 29600	0.39	1.72	2.56	**19600** 4400	**13200** 2960	**34100** 7670	1.49
44.450 1.7500	**95.250** 3.7500	**71.440** 2.8126	**50.800** 2.0000	**221000** 49700	0.28	2.37	3.53	**32900** 7400	**16000** 3600	**57300** 12900	2.05
50.800 2.0000	**107.950** 4.2500	**74.615** 2.9376	**53.975** 2.1250	**236000** 53100	0.34	2.01	3.00	**35200** 7900	**20200** 4540	**61200** 13800	1.74
70.000 2.7559	**120.000** 4.7244	**74.615** 2.9376	**53.975** 2.1250	**250000** 56100	0.38	1.75	2.61	**37200** 8360	**24500** 5500	**64700** 14600	1.52
82.550 3.2500	**139.992** 5.5115	**92.075** 3.6250	**66.675** 2.6250	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
88.900 3.5000	**152.400** 6.0000	**92.075** 3.6250	**63.500** 2.5000	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
99.975 3.9360	**164.975** 6.4951	**88.900** 3.5000	**63.500** 2.5000	**394000** 88600	0.50	1.36	2.02	**58700** 13200	**50000** 11200	**102000** 23000	1.18
107.950 4.2500	**165.100** 6.5000	**88.900** 3.5000	**63.500** 2.5000	**394000** 88600	0.50	1.36	2.02	**58700** 13200	**50000** 11200	**102000** 23000	1.18
109.975 4.3297	**179.975** 7.0856	**101.600** 4.0000	**69.850** 2.7500	**443000** 99600	0.52	1.31	1.95	**65900** 14800	**58300** 13100	**115000** 25800	1.13
127.000 5.0000	**182.562** 7.1875	**93.660** 3.6874	**73.025** 2.8750	**466000** 105000	0.31	2.21	3.29	**69400** 15600	**36300** 8160	**121000** 27200	1.91
142.875 5.6250	**200.025** 7.8750	**93.665** 3.6876	**73.025** 2.8750	**499000** 112000	0.34	2.01	2.99	**74300** 16700	**42800** 9610	**129000** 29100	1.74
152.400 6.0000	**211.138** 8.3125	**92.075** 3.6250	**69.850** 2.7500	**508000** 114000	0.36	1.89	2.82	**75600** 17000	**46200** 10400	**132000** 29600	1.64
165.100 6.5000	**225.425** 8.8750	**95.250** 3.7500	**69.850** 2.7500	**528000** 119000	0.38	1.76	2.62	**78600** 17700	**51600** 11600	**137000** 30800	1.52
177.800 7.0000	**282.575** 11.1250	**107.950** 4.2500	**79.375** 3.1250	**886000** 199000	0.42	1.62	2.42	**132000** 29700	**93900** 21100	**230000** 51700	1.41

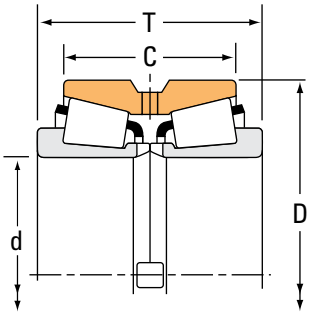
[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

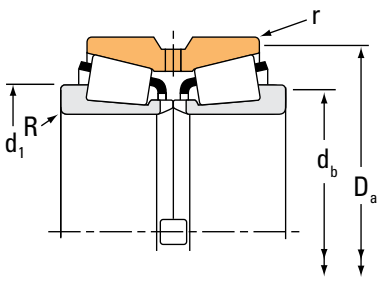
Part Number		Dimensions					Bearing Weight
		Bearing	Shaft		Housing		
Inner	Outer	Outside Dia. (rib) d_1[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NA05076SW	05185D	**32.362** 1.2741	**0.8** 0.03	**24.0** 0.94	**0.8** 0.03	**42.5** 1.67	**0.26** 0.595
NA15118SW	15251D	**45.763** 1.8017	**3.5** 0.14	**41.0** 1.61	**0.8** 0.03	**59.0** 2.32	**0.73** 1.599
NA15117SW	15251D	**45.763** 1.8017	**0.8** 0.03	**35.5** 1.40	**0.8** 0.03	**59.0** 2.32	**0.73** 1.605
NA24776SW	24720D	**58.25** 2.2933	**0.8** 0.03	**45.0** 1.77	**0.8** 0.03	**72.0** 2.83	**1.15** 2.543
NA435SW	432D	**65.019** 2.5598	**3.5** 0.14	**57.0** 2.24	**0.8** 0.03	**87.0** 3.43	**2.12** 4.691
NA456SW	452D	**79.098** 3.1141	**3.5** 0.14	**65.0** 2.56	**0.8** 0.03	**100.0** 3.94	**3.02** 6.649
NA483SW	472D	**92.812** 3.654	**3.5** 0.14	**83.0** 3.27	**0.8** 0.03	**114.0** 4.49	**3.11** 6.877
NA580SW	572D	**109.802** 4.3229	**3.5** 0.14	**98.0** 3.86	**0.8** 0.03	**133.0** 5.24	**4.87** 10.758
NA596SW	592D	**121.222** 4.7725	**3.5** 0.14	**104.0** 4.09	**0.8** 0.03	**144.0** 5.67	**5.97** 13.148
NA56393SW	56649D	**137.792** 5.4249	**3.5** 0.14	**117.0** 4.61	**0.8** 0.03	**159.0** 6.26	**7.22** 15.899
NA56425SW	56650D	**137.792** 5.4249	**3.5** 0.14	**123.0** 4.84	**0.8** 0.03	**159.0** 6.26	**6.31** 13.928
NA64432SW	64708D	**146.545** 5.7695	**3.5** 0.14	**128.0** 5.04	**0.8** 0.03	**173.0** 6.81	**9.25** 20.385
NA48290SW	48220D	**155.13** 6.1075	**3.5** 0.14	**141.0** 5.55	**0.8** 0.03	**176.0** 6.93	**7.63** 16.839
NA48685SW	48620D	**172.001** 6.7717	**3.5** 0.14	**158.0** 6.22	**0.8** 0.03	**193.0** 7.60	**8.43** 18.579
NA48990SW	48920D	**183.096** 7.2085	**3.5** 0.14	**168.0** 6.61	**0.8** 0.03	**204.0** 8.03	**9.26** 20.399
NA46790SW	46720CD	**197.104** 7.76	**3.5** 0.14	**181.0** 7.13	**0.8** 0.03	**218.0** 8.58	**10.44** 23.006
NA87700SW	87112D	**233.213** 9.1816	**3.5** 0.14	**200.0** 7.87	**1.5** 0.06	**267.0** 10.50	**22.95** 50.585

[4]Tolerance +0 +127 µm, +0 +0.005 in.
[5]These maximum fillet radii will be cleared by bearing corners.

TYPE TNASWE







Bearing Dimensions				Load Ratings							
				Dynamic[1]		Factors[2]		Dynamic[3]			Factors[2]
Bore d	O.D. D	Width T	Double Outer Ring Width C	$C_{1(2)}$	e	Y_1	Y_2	C_{90}	C_{a90}	$C_{90(2)}$	K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
184.150 7.2500	**242.888** 9.5625	**95.250** 3.7500	**69.850** 2.7500	**541000** 122000	0.42	1.61	2.40	**80600** 18100	**57800** 13000	**140000** 31600	1.39
190.500 7.5000	**266.700** 10.5000	**109.538** 4.3125	**84.138** 3.3125	**725000** 163000	0.48	1.41	2.11	**108000** 24300	**88200** 19800	**188000** 42300	1.22
203.200 8.0000	**276.225** 10.8750	**95.250** 3.7500	**73.025** 2.8750	**764000** 172000	0.32	2.12	3.15	**114000** 25600	**62100** 14000	**198000** 44500	1.83
234.950 9.2500	**311.150** 12.2500	**101.600** 4.0000	**73.025** 2.8750	**768000** 173000	0.36	1.86	2.77	**114000** 25700	**70900** 15900	**199000** 44800	1.61
244.475 9.6250	**349.148** 13.7460	**133.350** 5.2500	**101.600** 4.0000	**1150000** 258000	0.35	1.91	2.85	**171000** 38500	**103000** 23300	**298000** 67000	1.65
253.975 9.9990	**347.662** 13.6875	**101.600** 4.0000	**69.850** 2.7500	**1070000** 240000	0.33	2.03	3.02	**159000** 35700	**90500** 20300	**277000** 62200	1.76
260.350 10.2500	**400.050** 15.7500	**146.050** 5.7500	**107.950** 4.2500	**1440000** 324000	0.39	1.71	2.55	**215000** 48200	**145000** 32600	**374000** 84000	1.48
266.700 10.5000	**352.425** 13.8750	**107.950** 4.2500	**82.550** 3.2500	**985000** 221000	0.32	2.12	3.15	**147000** 33000	**80100** 18000	**255000** 57400	1.83
304.800 12.0000	**393.700** 15.5000	**107.950** 4.2500	**82.550** 3.2500	**1020000** 229000	0.36	1.88	2.80	**152000** 34200	**93500** 21000	**265000** 59500	1.63

[1]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[2]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[3]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for a single row. $C_{90(2)}$ is the double-row radial value.

Part Number		Dimensions					
		Bearing	Shaft		Housing		Bearing Weight
Inner	Outer	Outside Dia. (rib) d_1[4]	Max Shaft Fillet Radius R[5]	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[5]	Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
LM637349NW	LM637310D	**215.4** 8.4803	**3.5** 0.14	**199.0** 7.83	**0.8** 0.03	**236.0** 9.29	**10.98** 24.210
NA67885SW	67820CD	**232.268** 9.1444	**3.5** 0.14	**209.0** 8.23	**0.8** 0.03	**259.0** 10.20	**17.74** 39.083
LM241149NW	LM241110D	**240.434** 9.4659	**3.5** 0.14	**220.0** 8.66	**0.8** 0.03	**267.0** 10.51	**15.02** 33.114
LM446349NW	LM446310D	**274.716** 10.8156	**3.5** 0.14	**252.0** 9.92	**0.8** 0.03	**301.0** 11.85	**18.63** 41.085
NA127096SW	127136CD	**290.452** 11.4351	**6.4** 0.25	**269.0** 10.59	**1.5** 0.06	**329.0** 12.95	**34.95** 77.015
LM249747NW	LM249710CD	**294.284** 11.586	**3.5** 0.14	**272.0** 10.71	**1.5** 0.06	**333.0** 13.11	**23.62** 52.075
NA221027SW	221576CD	**323.131** 12.7217	**6.4** 0.25	**290.0** 11.42	**1.5** 0.06	**371.5** 14.63	**58.77** 129.541
LM251649NW	LM251610D	**309.865** 12.1994	**6.4** 0.25	**291.0** 11.46	**1.5** 0.06	**340.0** 13.39	**26.60** 58.626
L357049NW	L357010CD	**350.446** 13.7971	**6.4** 0.25	**329.0** 12.95	**1.5** 0.06	**380.0** 14.96	**30.19** 66.565

[4]Tolerance +0 +127 µm, +0 +0.005 in.
[5]These maximum fillet radii will be cleared by bearing corners.



SPACER ASSEMBLIES

- Any two matching single-row bearings (type TS) can be supplied as a double-row, pre-set, ready-to-fit assembly by the addition of spacers, machined to pre-determined dimensions and tolerances.
- There are two basic mounting arrangements for single-row spacer assemblies:

2TS-IM



- **Type 2TS-IM (indirect mounting)**
  These consist of two single-row bearings with an inner-ring and outer-ring spacer. In some applications, the outer-ring spacer is replaced by a shoulder in the bearing housing.

2TS-DM



- **Type 2TS-DM (direct mounting)**
  These consist of two single-row bearings, with cone (inner-ring) backfaces abutting and an outer-ring spacer. They are generally used at fixed (locating) positions on rotating shaft applications.

- Along with the standard 2TS types, there are two specialty double-row assemblies available:

2S

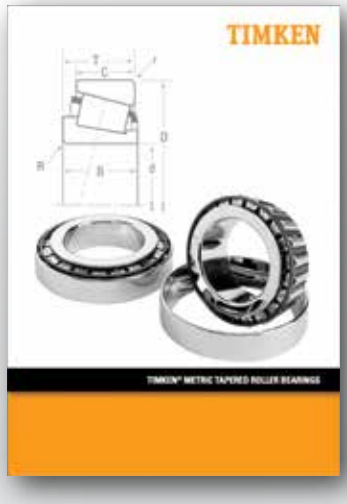


- **Type 2S - Two single-row assembly**
  Supplied complete with inner-ring and outer-ring spacers to give a pre-determined bearing setting when assembled. The setting range can be specified to suit the application. Type 2S has an inner-ring spacer and a snap-ring, which also serves as the cup spacer, to give axial location in a through-bored housing.

SR



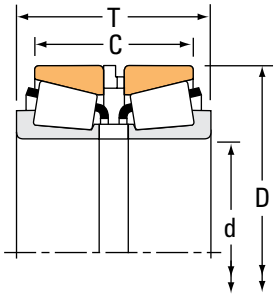
- **Type SR - Set-Right assembly**
  Type SR is made to a standard setting range, based on Timken's Set-Right automated setting technique, suitable for most industrial applications. It is equipped with two spacers and an optional snap-ring that may be used for axial location.

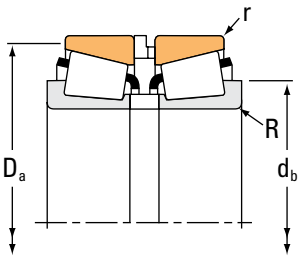


For a complete listing of Timken® Metric Tapered Roller Bearings Matched Bearing Assemblies, see catalog order no. E0401 GB on www.timken.com/catalogs.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
21.987 0.8656	**45.975** 1.8100	**34.950** 1.3760	**28.092** 1.1060	**67200** 15100	0.31	2.21	3.28	**10000** 2250	**5250** 1180	**17400** 3920	1.91
28.575 1.1250	**68.262** 2.6875	**49.425** 1.9459	**39.901** 1.5709	**133000** 29900	0.55	1.24	1.84	**19800** 4450	**18500** 4160	**34400** 7740	1.07
30.000 1.1811	**72.000** 2.8346	**78.740** 3.1000	**66.040** 2.6000	**180000** 40400	0.55	1.24	1.84	**26700** 6010	**25000** 5620	**46600** 10500	1.07
34.925 1.3750	**76.073** 2.9950	**56.337** 2.2180	**44.614** 1.7565	**134000** 30100	0.55	1.24	1.84	**19900** 4480	**18600** 4180	**34700** 7790	1.07
34.987 1.3775	**59.975** 2.3612	**35.712** 1.4060	**27.838** 1.0960	**79200** 17800	0.42	1.62	2.42	**11800** 2650	**8400** 1890	**20500** 4620	1.40
35.000 1.3780	**62.000** 2.4409	**40.575** 1.5974	**32.575** 1.2825	**98400** 22100	0.45	1.49	2.21	**14600** 3290	**11400** 2560	**25500** 5730	1.29
38.000 1.4961	**63.000** 2.4803	**37.810** 1.4886	**30.810** 1.2130	**88800** 20000	0.42	1.62	2.42	**13200** 2970	**9410** 2120	**23000** 5170	1.40
38.100 1.5000	**79.375** 3.1250	**63.515** 2.5006	**52.400** 2.0630	**182000** 41000	0.37	1.85	2.75	**27100** 6100	**17000** 3820	**47200** 10600	1.60
38.100 1.5000	**85.725** 3.3750	**67.183** 2.6450	**54.483** 2.1450	**216000** 48600	0.40	1.68	2.50	**32200** 7240	**22200** 4980	**56100** 12600	1.45
38.100 1.5000	**85.725** 3.3750	**101.600** 4.0000	**88.900** 3.5000	**216000** 48600	0.40	1.68	2.50	**32200** 7240	**22200** 4980	**56100** 12600	1.45
39.688 1.5625	**80.035** 3.1510	**87.315** 3.4376	**76.200** 3.0000	**200000** 45000	0.27	2.47	3.68	**29800** 6700	**13900** 3130	**51900** 11700	2.14
40.000 1.5748	**88.500** 3.4843	**63.602** 2.5040	**54.077** 2.1290	**201000** 45300	0.26	2.56	3.81	**30000** 6740	**13500** 3040	**52200** 11700	2.22
40.483 1.5938	**82.550** 3.2500	**63.058** 2.4826	**50.358** 1.9826	**179000** 40200	0.55	1.24	1.84	**26600** 5980	**24900** 5590	**46400** 10400	1.07
41.275 1.6250	**73.431** 2.8910	**42.672** 1.6800	**33.020** 1.3000	**130000** 29300	0.40	1.69	2.52	**19400** 4360	**13300** 2980	**33800** 7590	1.46
41.275 1.6250	**82.550** 3.2500	**61.087** 2.4050	**48.387** 1.9050	**160000** 35900	0.55	1.24	1.84	**23800** 5340	**22200** 4990	**41400** 9300	1.07
41.275 1.6250	**85.725** 3.3750	**66.675** 2.6250	**53.975** 2.1250	**216000** 48600	0.40	1.68	2.50	**32200** 7240	**22200** 4980	**56100** 12600	1.45
42.070 1.6563	**90.488** 3.5625	**87.376** 3.4400	**74.676** 2.9400	**346000** 77700	0.28	2.37	3.53	**51500** 11600	**25100** 5640	**89700** 20200	2.05

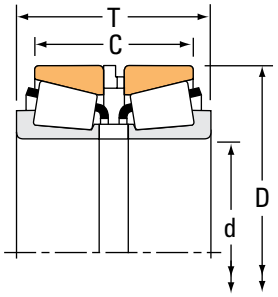
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

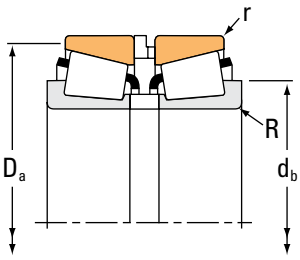
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
LM12749	LM12711	K523966R		**1.3** 0.05	**27.5** 1.08	**0.4** 0.02	**42.5** 1.67	**0.25** 0.57
M88040A	M88010	M88040XA		**0.3** 0.01	**40.0** 1.57	**0.4** 0.02	**65.0** 2.56	**0.84** 1.89
JHM88540	JHM88513	K160075		**1.3** 0.05	**44.5** 1.75	**0.3** 0.01	**69.0** 2.72	**1.27** 2.84
HM88649	HM88610	HM88649XB	XC2360-SA	**2.3** 0.09	**48.5** 1.91	**0.4** 0.02	**69.0** 2.72	**1.04** 2.31
L68149	L68111	K154145R	L68111EC	**3.5** 0.14	**45.5** 1.79	**0.4** 0.02	**56.0** 2.20	**0.38** 0.83
X32007X	Y32007X	JX3505A	JYH6205R	**1.0** 0.04	**43.0** 1.69	**0.1** 0.01	**59.5** 2.34	**0.49** 1.09
JL69349	JL69310	K158596R	K158598R	**0.4** 0.02	**46.5** 1.83	**0.3** 0.01	**60.0** 2.36	**0.44** 0.96
3490	3420	X1S-28150		**3.5** 0.14	**52.0** 2.05	**0.8** 0.03	**74.0** 2.91	**1.32** 2.93
3876	3820	X1S-25572		**3.5** 0.14	**55.0** 2.17	**0.8** 0.03	**81.0** 3.19	**1.71** 3.78
3875	3821	X1S-3875	Y1S-3821	**0.8** 0.03	**49.5** 1.95	**0.8** 0.03	**81.0** 3.19	**2.33** 5.11
3382	3339	X1S-3382		**3.5** 0.14	**52.0** 2.05	**0.8** 0.03	**74.8** 2.94	**1.40** 3.10
420	414	K143256R	Y1H414	**3.5** 0.14	**52.0** 2.05	**0.8** 0.03	**80.0** 3.15	**1.75** 3.84
HM801349	HM801310	HM801349XA		**3.5** 0.14	**58.0** 2.28	**0.5** 0.02	**78.0** 3.07	**1.46** 3.25
LM501349	LM501310	K143254	LM501310ES	**3.5** 0.14	**54.0** 2.13	**0.5** 0.02	**70.0** 2.76	**0.73** 1.59
M802048	M802011	K165354	K165355	**3.5** 0.14	**57.0** 2.24	**0.5** 0.02	**79.0** 3.11	**1.35** 3.00
3880	3820	X1S-3880	Y7S-3820	**0.8** 0.03	**52.0** 2.05	**0.8** 0.03	**81.0** 3.19	**1.71** 3.76
4395	4335	X1S-4395	Y1S-4335	**3.5** 0.14	**60.0** 2.36	**0.8** 0.03	**85.0** 3.35	**2.60** 5.74

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
42.875 1.6880	**80.167** 3.1562	**55.560** 2.1874	**46.035** 1.8124	**159000** 35700	0.32	2.12	3.15	**23600** 5310	**12900** 2900	**41100** 9240	1.83
44.450 1.7500	**95.250** 3.7500	**74.615** 2.9376	**57.150** 2.2500	**237000** 53400	0.74	0.91	1.36	**35400** 7950	**44800** 10100	**61600** 13800	0.79
44.987 1.7712	**104.986** 4.1333	**69.342** 2.7300	**51.054** 2.0100	**234000** 52700	0.78	0.86	1.29	**34900** 7850	**46700** 10500	**60800** 13700	0.75
45.242 1.7812	**77.788** 3.0625	**43.647** 1.7184	**34.122** 1.3434	**133000** 29900	0.43	1.58	2.35	**19800** 4450	**14500** 3250	**34400** 7740	1.37
45.242 1.7812	**77.788** 3.0625	**44.247** 1.7420	**34.722** 1.3670	**133000** 29900	0.43	1.58	2.35	**19800** 4450	**14500** 3250	**34400** 7740	1.37
45.242 1.7812	**77.788** 3.0625	**46.822** 1.8434	**37.297** 1.4684	**133000** 29900	0.43	1.58	2.35	**19800** 4450	**14500** 3250	**34400** 7740	1.37
49.212 1.9375	**114.300** 4.5000	**95.250** 3.7500	**76.200** 3.0000	**389000** 87500	0.43	1.57	2.34	**58000** 13000	**42700** 9600	**101000** 22700	1.36
50.000 1.9685	**82.000** 3.2283	**48.428** 1.9066	**39.426** 1.5522	**168000** 37700	0.31	2.21	3.29	**25000** 5610	**13000** 2930	**43500** 9770	1.91
50.000 1.9685	**82.000** 3.2283	**66.000** 2.5984	**57.000** 2.2441	**168000** 37700	0.31	2.21	3.29	**25000** 5610	**13000** 2930	**43500** 9770	1.91
50.000 1.9685	**90.000** 3.5433	**50.000** 1.9685	**40.500** 1.5945	**150000** 33600	0.42	1.61	2.39	**22300** 5010	**16000** 3600	**38800** 8720	1.39
50.000 1.9685	**90.000** 3.5433	**83.287** 3.2790	**73.287** 2.8853	**255000** 57400	0.33	2.05	3.06	**38000** 8540	**21400** 4810	**66200** 14900	1.78
50.000 1.9685	**105.000** 4.1339	**79.543** 3.1316	**63.540** 2.5016	**354000** 79600	0.49	1.38	2.06	**52700** 11900	**44000** 9890	**91800** 20600	1.20
50.800 2.0000	**82.550** 3.2500	**51.766** 2.0380	**41.606** 1.6380	**168000** 37700	0.31	2.21	3.29	**25000** 5610	**13000** 2930	**43500** 9770	1.91
50.800 2.0000	**85.000** 3.3465	**40.640** 1.6000	**40.640** 1.6000	**95200** 21400	0.41	1.66	2.48	**14200** 3190	**9840** 2210	**24700** 5550	1.44
50.800 2.0000	**85.000** 3.3465	**79.375** 3.1250	**71.440** 2.8126	**95200** 21400	0.41	1.66	2.48	**14200** 3190	**9840** 2210	**24700** 5550	1.44
50.800 2.0000	**92.075** 3.6250	**55.560** 2.1874	**46.035** 1.8124	**172000** 38700	0.38	1.79	2.66	**25700** 5770	**16600** 3720	**44700** 10000	1.55
50.800 2.0000	**93.264** 3.6718	**64.287** 2.5310	**51.587** 2.0310	**213000** 47800	0.34	1.99	2.97	**31700** 7120	**18300** 4120	**55100** 12400	1.73

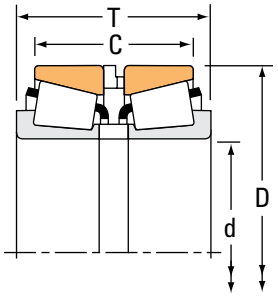
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

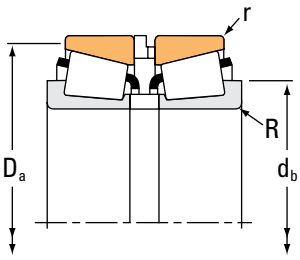
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
26886	26820	X2S-22168	Y3S-26820	**1.5** 0.06	**51.0** 2.01	**0.8** 0.03	**74.0** 2.91	**1.13** 2.50
HM903249	HM903210	HM903249XC		**3.5** 0.14	**65.0** 2.56	**0.6** 0.03	**91.0** 3.58	**2.08** 4.60
HM905843	HM905810	HM905843XA		**2.5** 0.10	**68.0** 2.68	**0.8** 0.03	**100.0** 3.94	**2.81** 6.22
LM603049	LM603011	LM603049XB		**3.5** 0.14	**58.0** 2.28	**0.4** 0.02	**74.0** 2.91	**0.79** 1.74
LM603049	LM603011	K109152R		**3.5** 0.14	**58.0** 2.28	**0.4** 0.02	**74.0** 2.91	**0.75** 1.65
LM603049	LM603011	LM603049XF	LM603011EX	**3.5** 0.14	**58.0** 2.28	**0.4** 0.02	**74.0** 2.91	**0.80** 1.77
65390	65320	X1S-65390	Y1S-65320	**3.5** 0.14	**70.0** 2.76	**0.8** 0.03	**107.0** 4.21	**4.55** 10.01
JLM104948	JLM104910	LM104948XB	LM104910ES	**3.0** 0.12	**61.0** 2.40	**0.4** 0.02	**78.0** 3.07	**0.98** 2.16
JLM104948	JLM104910	X4S-3780		**3.0** 0.12	**61.0** 2.40	**0.4** 0.02	**78.0** 3.07	**0.96** 2.13
X30210UM	Y30210UM	K162853	K162854	**1.5** 0.06	**60.0** 2.36	**0.8** 0.03	**86.0** 3.39	**1.24** 2.70
JM205149	JM205110	JX5027A	K154155	**3.0** 0.12	**63.0** 2.48	**0.5** 0.02	**85.0** 3.35	**1.93** 4.25
JHM807045	JHM807012	HM807045XA	HM807012ES	**3.0** 0.12	**69.0** 2.72	**0.8** 0.03	**100.0** 3.94	**3.13** 6.87
LM104949E	LM104911		LM104911EA	**3.5** 0.14	**62.0** 2.44	**0.6** 0.03	**78.0** 3.07	**0.97** 2.11
18790	18720	X4S-18790		**3.5** 0.14	**62.0** 2.44	**0.8** 0.03	**80.0** 3.15	**0.75** 1.66
18790	18720	X7S-18790	Y5S-18720	**3.5** 0.14	**62.0** 2.44	**0.8** 0.03	**80.0** 3.15	**0.91** 2.02
28580	28523	X1S-28580		**3.5** 0.14	**63.0** 2.48	**0.8** 0.03	**87.0** 3.43	**1.56** 3.41
3780	3730	K426900R		**3.5** 0.14	**64.0** 2.52	**0.8** 0.03	**88.0** 3.46	**1.74** 3.82

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
50.800 2.0000	**101.600** 4.0000	**78.580** 3.0937	**62.705** 2.4687	**287000** 64400	0.29	2.37	3.52	**42700** 9600	**20800** 4690	**74300** 16700	2.05
50.800 2.0000	**104.775** 4.1250	**79.375** 3.1250	**63.500** 2.5000	**354000** 79600	0.49	1.38	2.06	**52700** 11900	**44000** 9890	**91800** 20600	1.20
50.800 2.0000	**127.000** 5.0000	**95.250** 3.7500	**76.200** 3.0000	**424000** 95300	0.49	1.38	2.06	**63100** 14200	**52700** 11800	**110000** 24700	1.20
55.000 2.1654	**90.000** 3.5433	**51.504** 2.0277	**42.504** 1.6733	**190000** 42600	0.40	1.68	2.50	**28200** 6340	**19400** 4370	**49100** 11000	1.45
55.000 2.1654	**95.000** 3.7402	**63.418** 2.4968	**52.418** 2.0637	**227000** 51100	0.33	2.02	3.00	**33800** 7610	**19400** 4360	**58900** 13200	1.74
55.000 2.1654	**95.000** 3.7402	**66.152** 2.6044	**55.154** 2.1714	**227000** 51100	0.33	2.02	3.00	**33800** 7610	**19400** 4360	**58900** 13200	1.74
55.000 2.1654	**95.000** 3.7402	**76.200** 3.0000	**65.200** 2.5670	**227000** 51100	0.33	2.02	3.00	**33800** 7610	**19400** 4360	**58900** 13200	1.74
55.000 2.1654	**100.000** 3.9370	**64.600** 2.5433	**53.100** 2.0905	**210000** 47300	0.40	1.67	2.48	**31300** 7040	**21700** 4880	**54500** 12300	1.44
57.150 2.2500	**96.838** 3.8125	**49.174** 1.9360	**38.923** 1.5324	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**96.838** 3.8125	**76.037** 2.9936	**65.786** 2.5900	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65
57.150 2.2500	**104.775** 4.1250	**63.094** 2.4840	**51.979** 2.0464	**280000** 62900	0.34	2.01	3.00	**41700** 9370	**23900** 5380	**72600** 16300	1.74
57.150 2.2500	**104.775** 4.1250	**163.512** 6.4375	**150.812** 5.9375	**267000** 60000	0.33	2.03	3.02	**39700** 8930	**22600** 5090	**69200** 15600	1.76
57.150 2.2500	**112.712** 4.4375	**69.850** 2.2500	**57.150** 2.2500	**242000** 54300	0.40	1.68	2.50	**36000** 8090	**24800** 5570	**62700** 14100	1.45
57.150 2.2500	**112.712** 4.4375	**67.602** 2.6615	**54.902** 2.1615	**291000** 65300	0.34	1.99	2.96	**43300** 9730	**25100** 5650	**75400** 16900	1.72
60.000 2.3622	**95.000** 3.7402	**53.500** 2.1060	**43.500** 1.7122	**170000** 38200	0.40	1.68	2.50	**25300** 5690	**17400** 3910	**44000** 9900	1.45
64.960 2.5575	**149.225** 5.8750	**285.750** 11.2500	**266.700** 10.5000	**716000** 161000	0.36	1.86	2.78	**107000** 24000	**66000** 14800	**186000** 41700	1.61
65.000 2.5591	**105.000** 4.1339	**53.515** 2.1070	**42.515** 1.6738	**223000** 50200	0.45	1.49	2.21	**33200** 7470	**25800** 5810	**57900** 13000	1.29

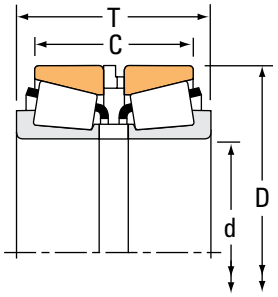
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

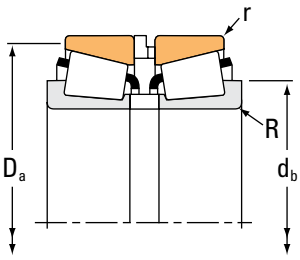
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
529	522	X1S-529	Y1S-522	**0.8** 0.03	**61.0** 2.40	**0.8** 0.03	**95.0** 3.74	**2.61** 5.76
HM807046	HM807010	HM807046XA	HM807010EC	**3.5** 0.14	**70.0** 2.76	**0.8** 0.03	**100.0** 3.94	**3.08** 6.80
65200	65500	X1S-65200	Y1S-65500	**3.5** 0.14	**75.0** 2.95	**0.8** 0.03	**119.0** 4.69	**6.06** 13.37
JLM506849	JLM506810	X4S-385	LM506810ES	**1.5** 0.06	**63.0** 2.48	**0.5** 0.02	**86.0** 3.39	**1.15** 2.57
JM207049	JM207010	X4S-385	M207010ES	**1.5** 0.06	**64.0** 2.52	**0.5** 0.02	**91.0** 3.58	**1.75** 3.87
JM207049	JM207010	JX5508A	JYH9508P	**1.5** 0.06	**64.0** 2.52	**0.5** 0.02	**91.0** 3.58	**1.81** 4.00
JM207049	JM207010	M207049XA	M207010EB	**1.5** 0.06	**64.0** 2.52	**0.5** 0.02	**91.0** 3.58	**2.02** 4.46
X32211	Y32211	JX5515A	JYH10011-Q	**2.0** 0.08	**65.0** 2.56	**0.8** 0.03	**95.0** 3.74	**1.87** 4.12
387A	382A	X1S-387	Y4S-382A	**3.5** 0.14	**70.0** 2.76	**0.4** 0.02	**92.0** 3.62	**1.29** 2.84
387A	382A	X3S-387A		**3.5** 0.14	**70.0** 2.76	**0.4** 0.02	**92.0** 3.62	**1.39** 3.06
462	453X	X5S-462		**2.3** 0.09	**67.0** 2.64	**0.8** 0.03	**98.0** 3.86	**2.13** 4.68
45289	45221	X1S-45289	Y1S-45221	**0.8** 0.03	**65.0** 2.56	**0.8** 0.03	**99.0** 3.90	**4.60** 10.15
3979	3925	X4S-3979	Y1S-3920	**3.5** 0.14	**72.0** 2.83	**0.5** 0.02	**106.0** 4.17	**3.00** 6.62
39580	39521	X1S-39580		**3.5** 0.14	**74.0** 2.91	**0.8** 0.03	**107.0** 4.21	**2.85** 6.31
JLM508748	JLM508710	LM508748XA	LM508710ES	**5.0** 0.20	**75.0** 2.95	**0.5** 0.02	**91.0** 3.58	**1.27** 2.78
6464	6420	X1S-6464	Y4S-6420	**3.5** 0.14	**87.0** 3.43	**0.8** 0.03	**140.0** 5.51	**17.66** 38.94
JLM710949C	JLM710910	LM710949XA	LM710910ES	**3.0** 0.12	**78.0** 3.07	**0.4** 0.02	**100.5** 3.96	**1.62** 3.53

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
65.000 2.5591	**105.000** 4.1339	**72.365** 2.8490	**61.365** 2.4160	**223000** 50200	0.45	1.49	2.21	**33200** 7470	**25800** 5810	**57900** 13000	1.29
65.000 2.5591	**110.000** 4.3307	**61.491** 2.4209	**50.488** 1.9877	**291000** 65400	0.40	1.68	2.50	**43300** 9740	**29800** 6700	**75400** 17000	1.45
65.087 2.5625	**136.525** 5.3750	**98.425** 3.8750	**79.375** 3.1250	**556000** 125000	0.47	1.43	2.12	**82700** 18600	**67000** 15100	**144000** 32400	1.24
65.087 2.5625	**136.525** 5.3750	**193.675** 7.6250	**174.625** 6.8750	**556000** 125000	0.47	1.43	2.12	**82700** 18600	**67000** 15100	**144000** 32400	1.24
66.675 2.6250	**112.712** 4.4375	**67.945** 2.6750	**55.245** 2.1750	**291000** 65300	0.34	1.99	2.96	**43300** 9730	**25100** 5650	**75400** 16900	1.72
66.675 2.6250	**112.712** 4.4375	**69.850** 2.7500	**57.150** 2.2500	**242000** 54300	0.40	1.68	2.50	**36000** 8090	**24800** 5570	**62700** 14100	1.45
66.675 2.6250	**122.238** 4.8125	**102.000** 4.0157	**85.235** 3.3557	**465000** 104000	0.34	2.00	2.98	**69200** 15600	**40000** 8990	**121000** 27100	1.73
66.675 2.6250	**122.238** 4.8125	**106.147** 4.1790	**89.383** 3.5190	**465000** 104000	0.34	2.00	2.98	**69200** 15600	**40000** 8990	**121000** 27100	1.73
66.675 2.6250	**136.525** 5.3750	**98.425** 3.8750	**79.375** 3.1250	**556000** 125000	0.47	1.43	2.12	**82700** 18600	**67000** 15100	**144000** 32400	1.24
66.675 2.6250	**177.800** 7.0000	**127.000** 5.0000	**87.315** 3.4376	**785000** 176000	0.80	0.85	1.26	**117000** 26300	**160000** 35900	**203000** 45700	0.73
68.262 2.6875	**110.000** 4.3307	**52.253** 2.0572	**45.903** 1.8072	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
68.262 2.6875	**110.000** 4.3307	**79.045** 3.1120	**72.695** 2.8620	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
68.262 2.6875	**152.400** 6.0000	**105.250** 4.1437	**73.500** 2.8937	**589000** 132000	0.66	1.03	1.53	**87700** 19700	**98500** 22100	**153000** 34300	0.89
69.850 2.7500	**127.000** 5.0000	**95.250** 3.7500	**76.200** 3.0000	**399000** 89700	0.50	1.34	2.00	**59400** 13400	**51100** 11500	**103000** 23300	1.16
69.850 2.7500	**146.050** 5.7500	**88.900** 3.5000	**57.150** 2.2500	**474000** 107000	0.78	0.86	1.28	**70700** 15900	**94700** 21300	**123000** 27700	0.75
69.850 2.7500	**146.050** 5.7500	**90.488** 3.5625	**58.738** 2.3125	**474000** 107000	0.78	0.86	1.28	**70700** 15900	**94700** 21300	**123000** 27700	0.75
69.850 2.7500	**146.050** 5.7500	**91.516** 3.6030	**59.766** 2.3530	**474000** 107000	0.78	0.86	1.28	**70700** 15900	**94700** 21300	**123000** 27700	0.75

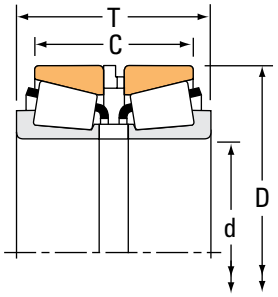
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[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

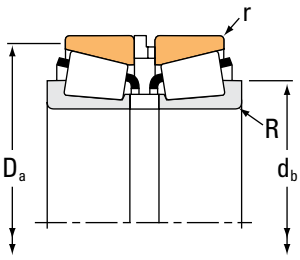
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JLM710949C	JLM710910	JX6526A	JYH10524-QH	**3.0** 0.12	**78.0** 3.07	**0.4** 0.02	**100.5** 3.96	**1.99** 4.36
JM511946	JM511910	M511946XA	M511910ES	**3.0** 0.12	**78.0** 3.07	**0.8** 0.03	**105.0** 4.13	**2.24** 4.93
H715340	H715311	H715340XB	H715311EB	**3.5** 0.14	**89.0** 3.50	**0.6** 0.03	**132.0** 5.20	**7.05** 15.54
H715340	H715311	H715340XA	H715311EA	**3.5** 0.14	**89.0** 3.50	**0.6** 0.03	**132.0** 5.20	**11.16** 24.60
39590	39520	X1S-39590	Y5S-39520	**3.5** 0.14	**82.0** 3.23	**0.8** 0.03	**107.0** 4.21	**2.48** 5.47
3984	3920	X1S-3984	Y1S-3920	**3.5** 0.14	**80.0** 3.15	**0.5** 0.02	**106.0** 4.17	**2.51** 5.56
HM212049	HM212011	K167207	K167208	**3.5** 0.14	**82.0** 3.23	**0.8** 0.03	**116.0** 4.57	**4.60** 10.11
HM212049	HM212011	HM212049XS	HM212011EB	**3.5** 0.14	**82.0** 3.23	**0.8** 0.03	**116.0** 4.57	**4.71** 10.36
H715341	H715311	H715341XA	H715311EB	**3.5** 0.14	**91.0** 3.58	**0.6** 0.03	**132.0** 5.20	**6.94** 15.30
HH914449	HH914412	HH914449XA	HH914412EB	**3.5** 0.14	**106.0** 4.17	**1.5** 0.06	**165.0** 6.50	**14.31** 31.51
399A	394A	X1S-399A		**2.3** 0.09	**78.0** 3.07	**0.4** 0.02	**105.0** 4.13	**1.55** 3.41
399A	394A	X7S-399A	Y7S-394A	**2.3** 0.09	**78.0** 3.07	**0.4** 0.02	**105.0** 4.13	**2.58** 5.69
9185	9121	X1S-9185	Y6S-9121	**3.5** 0.14	**94.0** 3.70	**0.8** 0.03	**145.0** 5.71	**8.02** 17.65
HM813846	HM813811	HM813846XA	HM813811EB	**3.5** 0.14	**89.0** 3.50	**0.8** 0.03	**121.0** 4.76	**4.52** 9.95
H913849	H913810	H913849XE	H913810ES	**3.5** 0.14	**95.0** 3.74	**0.8** 0.03	**138.0** 5.43	**6.10** 13.47
H913849	H913810	H913849XA	K85372	**3.5** 0.14	**95.0** 3.74	**0.8** 0.03	**138.0** 5.43	**6.09** 13.45
H913849	H913810	H913849XC	H913810EE	**3.5** 0.14	**95.0** 3.74	**0.8** 0.03	**138.0** 5.43	**6.15** 13.58

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
70.000 2.7559	**110.000** 4.3307	**56.525** 2.2254	**44.525** 1.7530	**232000** 52100	0.43	1.55	2.31	**34500** 7760	**25700** 5780	**60100** 13500	1.34
70.000 2.7559	**115.000** 4.5276	**63.505** 2.5002	**51.507** 2.0278	**310000** 69600	0.43	1.57	2.34	**46100** 10400	**33900** 7630	**80300** 18000	1.36
73.025 2.8750	**112.712** 4.4375	**58.687** 2.3105	**45.987** 1.8105	**192000** 43300	0.49	1.38	2.06	**28600** 6440	**23900** 5370	**49900** 11200	1.20
73.025 2.8750	**117.475** 4.6250	**95.250** 3.7500	**82.550** 3.2500	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
75.000 2.9528	**115.000** 4.5276	**55.270** 2.1760	**43.270** 1.7035	**244000** 54900	0.46	1.47	2.19	**36400** 8180	**28600** 6420	**63400** 14200	1.27
75.000 2.9528	**115.000** 4.5276	**55.504** 2.1852	**43.504** 1.7126	**244000** 54900	0.46	1.47	2.19	**36400** 8180	**28600** 6420	**63400** 14200	1.27
75.000 2.9528	**115.000** 4.5276	**75.000** 2.9528	**63.000** 2.4802	**244000** 54900	0.46	1.47	2.19	**36400** 8180	**28600** 6420	**63400** 14200	1.27
76.200 3.0000	**161.925** 6.3750	**107.950** 4.2500	**73.025** 2.8750	**614000** 138000	0.71	0.95	1.42	**91400** 20600	**111000** 24900	**159000** 35800	0.82
76.200 3.0000	**161.925** 6.3750	**115.888** 4.5625	**93.662** 3.6875	**765000** 172000	0.40	1.69	2.51	**114000** 25600	**78100** 17600	**198000** 44600	1.46
76.200 3.0000	**171.450** 6.7500	**112.712** 4.4375	**77.788** 3.0625	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76
76.200 3.0000	**171.450** 6.7500	**113.424** 4.4655	**78.500** 3.0906	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76
76.200 3.0000	**180.975** 7.1250	**114.300** 4.5000	**77.790** 3.0626	**781000** 175000	0.73	0.92	1.37	**116000** 26100	**146000** 32700	**202000** 45500	0.80
79.375 3.1250	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
80.000 3.1496	**130.000** 5.1181	**77.456** 3.0495	**64.452** 2.5375	**410000** 92100	0.39	1.74	2.59	**61000** 13700	**40600** 9120	**106000** 23900	1.50
80.000 3.1496	**140.000** 5.5118	**64.000** 2.5196	**51.500** 2.0276	**296000** 66500	0.42	1.61	2.39	**44000** 9900	**31700** 7120	**76700** 17200	1.39
80.000 3.1496	**140.000** 5.5118	**104.000** 4.0945	**82.000** 3.2283	**517000** 116000	0.43	1.59	2.36	**76900** 17300	**56000** 12600	**134000** 30100	1.37
83.345 3.2813	**125.412** 4.9375	**98.425** 3.8750	**87.315** 3.4376	**204000** 45900	0.42	1.62	2.42	**30400** 6830	**21600** 4860	**52900** 11900	1.40

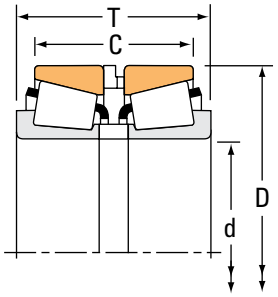
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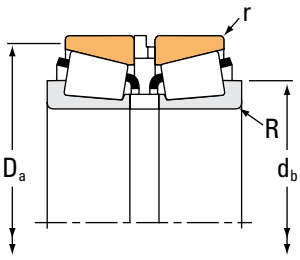
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
X32014X	Y32014X	JX7006A	JYH11007TSR	**1.5** 0.06	**78.0** 3.07	**0.5** 0.02	**105.0** 4.13	**1.85** 4.11
JM612949	JM612910	M612949XA	M612910ES	**3.0** 0.12	**83.0** 3.27	**0.6** 0.03	**110.0** 4.33	**2.36** 5.23
29685	29620	X2S-29685	Y7S-29620	**3.5** 0.14	**86.0** 3.39	**0.6** 0.03	**109.0** 4.29	**1.94** 4.28
33287	33462	X4S-33287	Y6S-33462	**3.5** 0.14	**88.0** 3.46	**0.8** 0.03	**112.0** 4.41	**3.38** 7.43
JLM714149	JLM714110		XC14638-SC	**3.0** 0.12	**88.0** 3.46	**0.5** 0.02	**110.5** 4.35	**1.80** 3.94
JLM714149	JLM714110	LM714149XB	LM714110ES	**3.0** 0.12	**88.0** 3.46	**0.5** 0.02	**110.5** 4.35	**1.88** 4.12
JLM714149	JLM714110	LM714149XA	LM714110EA	**3.0** 0.12	**88.0** 3.46	**0.5** 0.02	**110.5** 4.35	**2.26** 4.98
9285	9220	X2S-9285	Y3S-9220	**3.5** 0.14	**111.0** 4.37	**0.8** 0.03	**153.0** 6.03	**8.93** 19.72
6575	6535	X1S-6575	Y1S-6535	**6.4** 0.25	**104.0** 4.09	**0.8** 0.03	**154.0** 6.06	**11.20** 24.68
9380	9321	X5S-9380	Y6S-9321	**3.5** 0.14	**105.0** 4.13	**0.8** 0.03	**164.0** 6.46	**11.34** 24.99
9380	9321	X1H9380		**3.5** 0.14	**105.0** 4.13	**0.8** 0.03	**164.0** 6.46	**10.69** 23.56
H917840	H917810	H917840XA	H917810EA	**3.5** 0.14	**110.0** 4.33	**1.5** 0.06	**170.0** 6.69	**13.84** 30.53
HH221431	HH221410	HH221431XA	HH221410EE	**3.5** 0.14	**103.0** 4.06	**0.8** 0.03	**179.0** 7.05	**17.64** 38.91
JM515649	JM515610	M515649XC	M515610ES	**3.0** 0.12	**94.0** 3.70	**0.6** 0.03	**125.0** 4.92	**3.62** 8.00
X30216M	Y30216M	K163675	K163676	**2.5** 0.10	**94.0** 3.70	**1.0** 0.04	**133.0** 5.24	**3.57** 7.86
X33216	Y33216	K161554	JYH14099R	**2.5** 0.10	**97.0** 3.82	**0.5** 0.02	**135.0** 5.31	**6.30** 13.88
27689	27620	X3S-27689	Y5S-27620	**0.8** 0.03	**90.0** 3.54	**0.8** 0.03	**120.0** 4.72	**3.27** 7.20

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
85.000 3.3465	**130.000** 5.1181	**65.491** 2.5784	**53.491** 2.1060	**281000** 63100	0.44	1.52	2.26	**41800** 9400	**31800** 7150	**72800** 16400	1.31
85.000 3.3465	**140.000** 5.5118	**85.470** 3.3649	**70.470** 2.7744	**490000** 110000	0.41	1.66	2.47	**73000** 16400	**50900** 11400	**127000** 28600	1.43
85.000 3.3465	**188.912** 7.4375	**112.944** 4.4466	**69.850** 2.7500	**667000** 150000	0.87	0.78	1.16	**99300** 22300	**147000** 33100	**173000** 38900	0.67
85.725 3.3750	**168.275** 6.6250	**184.125** 7.2490	**161.925** 6.3750	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
88.900 3.5000	**168.275** 6.6250	**122.212** 4.8115	**96.812** 3.8115	**844000** 190000	0.30	2.26	3.36	**126000** 28300	**64400** 14500	**219000** 49200	1.95
89.975 3.5423	**146.975** 5.7864	**127.000** 5.0000	**112.000** 4.4094	**565000** 127000	0.33	2.03	3.02	**84200** 18900	**47900** 10800	**147000** 33000	1.76
90.000 3.5433	**145.000** 5.7087	**78.491** 3.0902	**62.489** 2.4602	**387000** 87000	0.44	1.52	2.26	**57700** 13000	**43900** 9860	**100000** 22600	1.31
90.000 3.5433	**155.000** 6.1024	**97.314** 3.8313	**80.314** 3.1619	**683000** 153000	0.34	1.98	2.95	**102000** 22900	**59400** 13300	**177000** 39800	1.71
90.000 3.5433	**155.000** 6.1024	**127.000** 5.0000	**110.000** 4.3306	**683000** 153000	0.34	1.98	2.95	**102000** 22900	**59400** 13300	**177000** 39800	1.71
95.250 3.7500	**146.050** 5.7500	**80.975** 3.1880	**66.690** 2.6256	**343000** 77100	0.45	1.51	2.24	**51100** 11500	**39200** 8810	**88900** 20000	1.30
95.250 3.7500	**148.430** 5.8437	**66.675** 2.6250	**52.390** 2.0626	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
95.250 3.7500	**152.400** 6.0000	**79.375** 3.1250	**60.325** 2.3750	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
95.250 3.7500	**168.275** 6.6250	**212.725** 8.3750	**190.500** 7.5000	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
96.838 3.8125	**188.912** 7.4375	**107.950** 4.2500	**69.850** 2.7500	**667000** 150000	0.87	0.78	1.16	**99300** 22300	**147000** 33100	**173000** 38900	0.67
96.838 3.8125	**188.912** 7.4375	**114.300** 4.5000	**76.200** 3.0000	**667000** 150000	0.87	0.78	1.16	**99300** 22300	**147000** 33100	**173000** 38900	0.67
99.975 3.9360	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
100.000 3.9370	**155.000** 6.1024	**79.416** 3.1266	**63.419** 2.4968	**403000** 90600	0.47	1.43	2.12	**60000** 13500	**48600** 10900	**104000** 23500	1.24

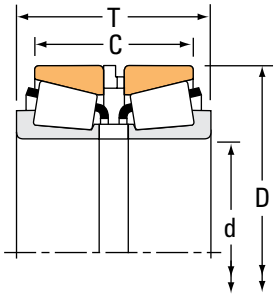
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

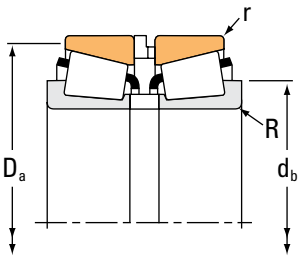
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JM716649	JM716610	M716649XB	M716610ES	**3.0** 0.12	**98.0** 3.86	**0.8** 0.03	**125.0** 4.92	**2.88** 6.36
JHM516849	JHM516810	JX8599AI	HM516810ES	**3.0** 0.12	**100.0** 3.94	**1.0** 0.04	**134.0** 5.28	**4.75** 10.48
90334	90744	X1S-90334	Y4S-90744	**3.5** 0.14	**116.0** 4.57	**1.5** 0.06	**179.0** 7.06	**13.59** 29.94
677	672	X2S-677	Y5S-672	**3.5** 0.14	**105.0** 4.13	**0.8** 0.03	**160.0** 6.30	**14.07** 31.00
850	832	X4S-850	Y3S-832	**3.5** 0.14	**106.0** 4.17	**0.8** 0.03	**155.0** 6.10	**10.64** 23.43
HM218248	HM218210	HM218248XA	HM218210EB	**7.0** 0.28	**112.0** 4.41	**0.8** 0.03	**141.0** 5.55	**5.60** 12.33
JM718149	JM718110	M718149XA	M718110ES	**3.0** 0.12	**106.0** 4.17	**1.0** 0.04	**138.8** 5.46	**4.59** 10.12
JHM318448	JHM318410	HM318448XA	HM318410ES	**3.0** 0.12	**106.0** 4.17	**0.8** 0.03	**148.0** 5.83	**6.97** 15.33
JHM318448	JHM318410	JX9039A	JYH15539RSR	**3.0** 0.12	**106.0** 4.17	**0.8** 0.03	**148.0** 5.83	**8.36** 18.39
47896	47820	X2S-47896	Y3S-47820	**3.5** 0.14	**110.0** 4.33	**0.8** 0.03	**140.0** 5.51	**4.38** 9.65
42375	42584	X1S-42375	Y6S-42584	**3.0** 0.12	**108.0** 4.25	**0.8** 0.03	**142.0** 5.59	**3.79** 8.36
594	592A	X4S-594		**3.5** 0.14	**110.0** 4.33	**0.8** 0.03	**144.0** 5.67	**5.03** 11.09
683	672	X3S-683	Y7S-672	**3.5** 0.14	**113.0** 4.45	**0.8** 0.03	**160.0** 6.30	**14.10** 31.08
90381	90744	X4S-90381	Y4S-90744	**3.5** 0.14	**125.0** 4.92	**1.5** 0.06	**179.0** 7.06	**11.64** 25.65
90381	90744	X1S-90381	Y1S-90744	**3.5** 0.14	**125.0** 4.92	**1.5** 0.06	**179.0** 7.06	**12.09** 26.64
HH224334	HH224310	HH224334XA		**3.5** 0.14	**124.0** 4.88	**0.8** 0.03	**201.7** 7.94	**22.81** 50.28
JM720249	JM720210	M720249XA	M720210ES	**3.0** 0.12	**115.0** 4.53	**0.8** 0.03	**149.0** 5.87	**5.01** 11.03

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
100.000 3.9370	**160.000** 6.2992	**89.416** 3.5203	**71.412** 2.8115	**576000** 130000	0.47	1.43	2.14	**85800** 19300	**69100** 15500	**149000** 33600	1.24
100.000 3.9370	**180.000** 7.0866	**86.500** 3.4055	**70.500** 2.7756	**524000** 118000	0.42	1.61	2.39	**78000** 17500	**56100** 12600	**136000** 30500	1.39
101.600 4.0000	**168.275** 6.6250	**183.718** 7.2330	**161.493** 6.3580	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
101.600 4.0000	**190.500** 7.5000	**153.416** 6.0400	**128.016** 5.0400	**797000** 179000	0.33	2.02	3.00	**119000** 26700	**68000** 15300	**207000** 46400	1.74
101.600 4.0000	**190.500** 7.5000	**157.836** 6.2140	**132.436** 5.2140	**797000** 179000	0.33	2.02	3.00	**119000** 26700	**68000** 15300	**207000** 46400	1.74
101.600 4.0000	**190.500** 7.5000	**189.586** 7.4640	**167.361** 6.5890	**929000** 209000	0.33	2.02	3.00	**138000** 31100	**79300** 17800	**241000** 54200	1.74
101.600 4.0000	**250.825** 9.8750	**161.925** 6.3750	**111.125** 4.3750	**1440000** 324000	0.70	0.97	1.44	**215000** 48200	**257000** 57800	**374000** 84000	0.84
101.600 4.0000	**250.825** 9.8750	**165.100** 6.5000	**114.300** 4.5000	**1440000** 324000	0.70	0.97	1.44	**215000** 48200	**257000** 57800	**374000** 84000	0.84
101.600 4.0000	**250.825** 9.8750	**204.521** 8.0520	**153.721** 6.0520	**1440000** 324000	0.70	0.97	1.44	**215000** 48200	**257000** 57800	**374000** 84000	0.84
107.950 4.2500	**142.083** 5.5938	**41.935** 1.6510	**34.001** 1.3386	**123000** 27500	0.39	1.72	2.57	**18200** 4100	**12200** 2750	**31800** 7140	1.49
107.950 4.2500	**158.750** 6.2500	**50.002** 1.9686	**35.712** 1.4060	**238000** 53400	0.61	1.11	1.66	**35400** 7960	**36700** 8250	**61600** 13900	0.96
107.950 4.2500	**161.925** 6.3750	**82.550** 3.2500	**66.675** 2.6250	**334000** 75200	0.51	1.34	1.99	**49800** 11200	**43100** 9680	**86700** 19500	1.16
109.987 4.3302	**159.987** 6.2987	**74.612** 2.9375	**58.738** 2.3125	**341000** 76600	0.40	1.68	2.50	**50700** 11400	**34900** 7850	**88400** 19900	1.45
110.000 4.3307	**165.000** 6.4961	**79.413** 3.1266	**62.413** 2.4572	**396000** 88900	0.50	1.36	2.02	**58900** 13200	**50100** 11300	**103000** 23100	1.18
110.000 4.3307	**180.000** 7.0866	**102.365** 4.0301	**84.365** 3.3215	**647000** 145000	0.41	1.66	2.48	**96300** 21600	**66900** 15000	**168000** 37700	1.44
110.000 4.3307	**180.000** 7.0866	**102.365** 4.0301	**84.365** 3.3215	**766000** 172000	0.41	1.66	2.48	**114000** 25700	**79200** 17800	**199000** 44700	1.44
114.300 4.5000	**152.400** 6.0000	**47.625** 1.8750	**38.100** 1.5000	**206000** 46300	0.41	1.63	2.43	**30600** 6890	**21700** 4870	**53400** 12000	1.41

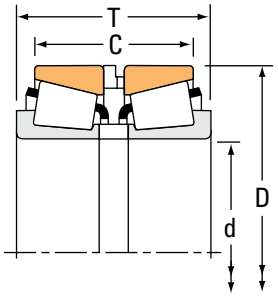
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

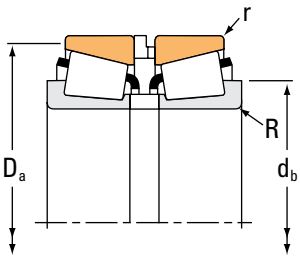
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JHM720249	JHM720210	M720249XB	HM720210ES	**3.0** 0.12	**117.0** 4.61	**0.8** 0.03	**153.9** 6.06	**6.28** 13.83
X30220M	Y30220M	K161564	K161563	**3.0** 0.12	**119.0** 4.69	**1.0** 0.04	**169.0** 6.65	**8.21** 18.10
687	672	X2S-687	Y5S-672	**3.5** 0.14	**118.0** 4.65	**0.8** 0.03	**160.0** 6.30	**12.46** 27.46
861	854	X8S-861	Y12S-854	**8.0** 0.31	**129.0** 5.08	**0.8** 0.03	**174.0** 6.85	**16.58** 36.55
861	854	X9S-861	Y14S-854	**8.0** 0.31	**129.0** 5.08	**0.8** 0.03	**174.0** 6.85	**17.05** 37.58
HH221449	HH221410	HH221449XS	HH221410ER	**8.0** 0.31	**131.0** 5.16	**0.8** 0.03	**179.0** 7.05	**18.79** 41.47
HH923649	HH923610	K84216	K84217	**6.4** 0.25	**149.0** 5.87	**1.5** 0.06	**228.8** 9.01	**35.84** 79.03
HH923649	HH923610	HH923649XA	K84215	**6.4** 0.25	**149.0** 5.87	**1.5** 0.06	**228.8** 9.01	**35.93** 79.22
HH923649	HH923610	HH923649XC	HH923610ES	**6.4** 0.25	**149.0** 5.87	**1.5** 0.06	**228.8** 9.01	**41.48** 91.46
LL521849C	LL521811	LL521849XB	LL521811EA	**1.5** 0.06	**115.0** 4.53	**0.8** 0.03	**137.0** 5.39	**1.48** 3.27
37425	37625	X6S-37425		**3.5** 0.14	**122.0** 4.80	**0.8** 0.03	**152.0** 5.98	**2.85** 6.26
48190	48120	X3S-48190		**3.5** 0.14	**122.0** 4.80	**0.8** 0.03	**156.0** 6.14	**4.81** 10.63
LM522548	LM522510	LM522549XA		**8.0** 0.31	**133.0** 5.24	**0.8** 0.03	**154.0** 6.06	**4.40** 9.69
JM822049	JM822010	M822049XA	M822010ES	**3.0** 0.12	**125.0** 4.92	**0.8** 0.03	**159.0** 6.26	**5.30** 11.73
JHM522649	JHM522610	HM522649XA	HM522610ES	**3.0** 0.12	**127.0** 5.00	**0.8** 0.03	**172.0** 6.77	**9.41** 20.70
JHM522649AC	JHM522610	HM522649XA	HM522610ES	**7.0** 0.28	**138.0** 5.43	**0.8** 0.03	**172.0** 6.77	**9.37** 20.62
L623149	L623110	L623149XB	L623110EA	**1.5** 0.06	**123.0** 4.84	**0.8** 0.03	**147.0** 5.79	**2.22** 4.90

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
114.300 4.5000	**177.800** 7.0000	**92.075** 3.6250	**69.850** 2.7500	**478000** 108000	0.52	1.31	1.95	**71200** 16000	**62900** 14100	**124000** 27900	1.13
114.300 4.5000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
114.300 4.5000	**212.725** 8.3750	**150.350** 5.9193	**124.950** 4.9193	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
114.300 4.5000	**212.725** 8.3750	**152.400** 6.0000	**127.000** 5.0000	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
114.300 4.5000	**228.600** 9.0000	**212.725** 8.3750	**180.975** 7.1250	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
114.300 4.5000	**273.050** 10.7500	**269.875** 10.6250	**212.725** 8.3750	**1850000** 417000	0.63	1.07	1.59	**276000** 62100	**299000** 67200	**481000** 108000	0.92
114.300 4.5000	**279.400** 11.0000	**184.150** 7.2500	**127.000** 5.0000	**1850000** 417000	0.63	1.07	1.59	**276000** 62100	**299000** 67200	**481000** 108000	0.92
115.087 4.5310	**190.500** 7.5000	**106.350** 4.1870	**80.950** 3.1870	**633000** 142000	0.42	1.62	2.42	**94300** 21200	**67100** 15100	**164000** 36900	1.40
120.000 4.7244	**170.000** 6.6929	**60.250** 2.3720	**45.250** 1.7815	**341000** 76700	0.47	1.43	2.12	**50800** 11400	**41100** 9250	**88500** 19900	1.24
120.000 4.7244	**215.000** 8.4646	**99.000** 3.8976	**80.000** 3.1496	**690000** 155000	0.44	1.55	2.31	**103000** 23100	**76500** 17200	**179000** 40200	1.34
120.000 4.7244	**215.000** 8.4646	**146.000** 5.7480	**123.000** 4.8425	**1020000** 229000	0.44	1.55	2.31	**152000** 34100	**113000** 25400	**264000** 59400	1.34
120.650 4.7500	**160.338** 6.3125	**52.291** 2.0587	**42.766** 1.6837	**170000** 38200	0.43	1.55	2.31	**25300** 5680	**18800** 4230	**44000** 9890	1.34
120.650 4.7500	**234.950** 9.2500	**157.734** 6.2100	**129.159** 5.0850	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
120.650 4.7500	**273.050** 10.7500	**177.800** 7.0000	**120.650** 4.7500	**1850000** 417000	0.63	1.07	1.59	**276000** 62100	**299000** 67200	**481000** 108000	0.92
125.298 4.9330	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
127.000 5.0000	**182.562** 7.1875	**85.725** 3.3750	**73.025** 2.8750	**466000** 105000	0.31	2.21	3.29	**69400** 15600	**36300** 8160	**121000** 27200	1.91
127.000 5.0000	**196.850** 7.7500	**101.600** 4.0000	**85.725** 3.3750	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70

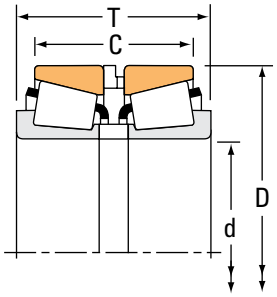
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

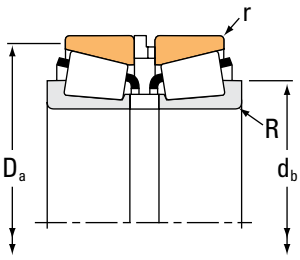
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
64450	64700	X1S-64450	Y8S-64700	**3.5** 0.14	**131.0** 5.16	**0.8** 0.03	**172.0** 6.77	**7.39** 16.32
938	932	X9S-938	Y14S-932	**7.0** 0.28	**141.0** 5.55	**0.8** 0.03	**193.1** 7.60	**20.30** 44.77
HH224346	HH224310	HH224346XC	HH224310EX	**7.0** 0.28	**143.0** 5.63	**0.8** 0.03	**201.7** 7.94	**20.74** 45.71
938	932	X7S-938	Y10S-932	**7.0** 0.28	**141.0** 5.55	**0.8** 0.03	**193.1** 7.60	**21.29** 46.97
HM926740	HM926710	HM926740XE	HM926710ER	**3.5** 0.14	**146.0** 5.75	**0.8** 0.03	**219.3** 8.63	**32.84** 72.41
HH926744	HH926710	HH926744XE	HH926710EX	**6.4** 0.25	**164.0** 6.46	**1.5** 0.06	**253.3** 9.97	**63.58** 140.13
HH926744	HH926716	HH926744XB	HH926716EB	**6.4** 0.25	**164.0** 6.46	**1.5** 0.06	**253.3** 9.97	**48.94** 107.87
71453	71750	X2S-71453		**3.5** 0.14	**133.0** 5.24	**0.8** 0.03	**181.0** 7.13	**10.30** 22.72
JP12049	JP12010		JYH17006R	**3.0** 0.12	**133.0** 5.24	**0.8** 0.03	**164.5** 6.48	**3.54** 7.85
X30224M	Y30224M	K161562	K161561	**3.0** 0.12	**140.0** 5.51	**1.0** 0.04	**201.0** 7.91	**13.52** 29.79
X32224M	Y32224M	JX12030AM	JY21523RM	**3.0** 0.12	**147.0** 5.79	**1.0** 0.04	**204.5** 8.05	**20.52** 45.23
L624549	L624510	L624549XS	L624510EE	**1.5** 0.06	**129.0** 5.08	**0.8** 0.03	**155.0** 6.10	**2.66** 5.84
95475	95925	X4S-95475		**6.4** 0.25	**149.0** 5.87	**1.5** 0.06	**217.0** 8.54	**25.92** 57.19
HH926749	HH926710	HH926749XA	HH926710EA	**6.4** 0.25	**168.0** 6.61	**1.5** 0.06	**253.3** 9.97	**44.65** 98.40
HM926745	HM926710	HM926745XA	HM926710EB	**3.5** 0.14	**154.0** 6.06	**0.8** 0.03	**219.3** 8.63	**18.45** 40.67
48290	48220	X1S-48290	Y7S-48220	**3.5** 0.14	**141.0** 5.55	**0.8** 0.03	**176.0** 6.93	**6.89** 15.21
67388	67322	X1S-67388	Y2S-67322	**3.5** 0.14	**144.0** 5.67	**1.5** 0.06	**189.0** 7.44	**10.69** 23.59

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
127.000 5.0000	**228.600** 9.0000	**158.750** 6.2500	**127.000** 5.0000	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
127.000 5.0000	**304.800** 12.0000	**190.500** 7.5000	**127.000** 5.0000	**2020000** 453000	0.73	0.93	1.38	**300000** 67500	**374000** 84100	**522000** 117000	0.80
127.792 5.0312	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
129.967 5.1168	**219.975** 8.6604	**180.300** 7.0984	**154.900** 6.0984	**797000** 179000	0.32	2.12	3.15	**119000** 26700	**64800** 14600	**207000** 46500	1.83
130.000 5.1181	**185.000** 7.2835	**69.000** 2.7165	**53.000** 2.0866	**341000** 76700	0.47	1.43	2.12	**50800** 11400	**41100** 9250	**88400** 19900	1.24
130.000 5.1181	**230.000** 9.0551	**149.500** 5.8858	**122.000** 4.8031	**1190000** 267000	0.44	1.55	2.31	**177000** 39800	**132000** 29600	**308000** 69200	1.34
133.350 5.2500	**215.900** 8.5000	**222.250** 8.7500	**196.850** 7.7500	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
133.350 5.2500	**234.950** 9.2500	**138.500** 5.4528	**109.926** 4.3278	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
136.525 5.3750	**190.500** 7.5000	**88.694** 3.4919	**75.994** 2.9919	**492000** 111000	0.32	2.10	3.13	**73300** 16500	**40300** 9060	**128000** 28700	1.82
139.700 5.5000	**215.900** 8.5000	**101.600** 4.0000	**76.200** 3.0000	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
139.700 5.5000	**228.600** 9.0000	**123.825** 4.8750	**98.425** 3.8750	**906000** 204000	0.42	1.60	2.39	**135000** 30300	**97200** 21800	**235000** 52800	1.39
139.700 5.5000	**295.275** 11.6250	**238.125** 9.3750	**187.325** 7.3750	**1990000** 447000	0.32	2.12	3.15	**296000** 66600	**162000** 36300	**516000** 116000	1.83
139.700 5.5000	**304.800** 12.0000	**212.725** 8.3750	**174.625** 6.8750	**1350000** 303000	0.33	2.03	3.02	**201000** 45200	**114000** 25700	**350000** 78700	1.76
139.700 5.5000	**307.975** 12.1250	**298.450** 11.7500	**254.000** 10.0000	**2010000** 451000	0.33	2.07	3.08	**299000** 67200	**167000** 37500	**520000** 117000	1.79
140.000 5.5118	**210.000** 8.2677	**98.000** 3.8583	**76.000** 2.9921	**685000** 154000	0.46	1.47	2.19	**102000** 22900	**80000** 18000	**177000** 39900	1.27
146.050 5.7500	**203.200** 8.0000	**88.900** 3.5000	**77.790** 3.0626	**342000** 76900	0.37	1.83	2.73	**50900** 11400	**32100** 7220	**88600** 19900	1.59
146.050 5.7500	**268.288** 10.5625	**164.225** 6.4656	**129.300** 5.0910	**1620000** 364000	0.39	1.74	2.59	**241000** 54200	**160000** 35900	**420000** 94300	1.51

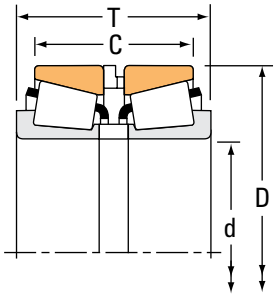
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
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[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

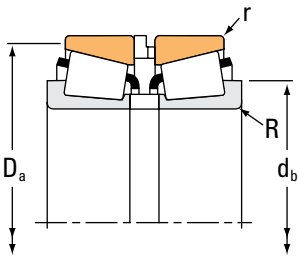
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
HM926747	HM926710	HM926747XE		**3.5** 0.14	**156.0** 6.14	**0.8** 0.03	**219.3** 8.63	**19.05** 42.03
HH932132	HH932110	HH932132XA	HH932110EA	**6.4** 0.25	**182.0** 7.17	**1.5** 0.06	**288.0** 11.34	**63.69** 140.42
HM926749	HM926710	HM926749XE	HM926710EB	**3.5** 0.14	**156.0** 6.14	**0.8** 0.03	**219.3** 8.63	**18.15** 40.05
HM227545	HM227519	HM227545XB	HM227519EE	**3.3** 0.13	**147.0** 5.79	**1.5** 0.06	**202.0** 7.95	**21.67** 47.75
JP13049	JP13010	K160157	K160158	**3.0** 0.12	**143.0** 5.63	**0.8** 0.03	**179.0** 7.05	**4.76** 10.49
X32226M	Y32226M	K161556	K161555	**4.0** 0.16	**161.0** 6.34	**1.0** 0.04	**219.0** 8.62	**24.07** 53.10
74525	74850	X3S-74525	Y6S-74850	**3.5** 0.14	**152.0** 5.98	**0.8** 0.03	**208.0** 8.19	**24.63** 54.26
95525	95925	K160046	K160047	**9.7** 0.38	**166.0** 6.54	**1.5** 0.06	**217.0** 8.54	**23.24** 51.25
48393	48320	X6S-48393		**3.5** 0.14	**151.0** 5.94	**0.8** 0.03	**184.0** 7.24	**6.93** 15.29
74550	74850	X11S-74550	Y17S-74850	**3.5** 0.14	**158.0** 6.22	**0.8** 0.03	**208.0** 8.19	**12.46** 27.44
898	892	X4S-898	Y5S-892	**3.5** 0.14	**160.0** 6.30	**1.5** 0.06	**216.0** 8.50	**18.15** 40.03
HH231649	HH231615	HH231649XB		**9.7** 0.38	**177.0** 6.97	**1.5** 0.06	**263.7** 10.38	**52.27** 115.25
EE750558	751200	X1S-750558	Y5S-751200	**3.3** 0.13	**162.0** 6.38	**1.5** 0.06	**272.0** 10.71	**57.83** 127.55
HH234031	HH234010	HH234031XA		**9.7** 0.38	**180.0** 7.09	**2.3** 0.09	**285.5** 11.24	**68.72** 151.47
X32028XM	Y32028XM	K167398	K167397	**2.5** 0.10	**158.0** 6.22	**0.6** 0.03	**203.0** 7.99	**11.04** 24.32
36690	36626	X4S-36690	Y1S-36626	**1.5** 0.06	**155.0** 6.10	**0.8** 0.03	**190.0** 7.48	**7.62** 16.81
NP655864	107105	K167806	K167807	**6.4** 0.25	**176.0** 6.93	**1.5** 0.06	**249.4** 9.82	**37.62** 82.91

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
146.050 5.7500	**304.800** 12.0000	**190.500** 7.5000	**127.000** 5.0000	**2020000** 453000	0.73	0.93	1.38	**300000** 67500	**374000** 84100	**522000** 117000	0.80
146.050 5.7500	**304.800** 12.0000	**202.800** 7.9843	**139.300** 5.4843	**2020000** 453000	0.73	0.93	1.38	**300000** 67500	**374000** 84100	**522000** 117000	0.80
146.050 5.7500	**311.150** 12.2500	**190.500** 7.5000	**127.000** 5.0000	**2020000** 453000	0.73	0.93	1.38	**300000** 67500	**374000** 84100	**522000** 117000	0.80
149.225 5.8750	**236.538** 9.3125	**135.000** 5.3150	**109.600** 4.3150	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
149.225 5.8750	**236.538** 9.3125	**158.000** 6.2205	**132.600** 5.2205	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
149.225 5.8750	**241.300** 9.5000	**155.575** 6.1250	**130.175** 5.1250	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
152.400 6.0000	**268.288** 10.5625	**165.100** 6.5000	**130.175** 5.1250	**1370000** 307000	0.39	1.74	2.59	**203000** 45700	**135000** 30300	**354000** 79600	1.51
155.575 6.1250	**330.200** 13.0000	**180.975** 7.1250	**117.475** 4.6250	**2140000** 481000	0.81	0.83	1.24	**319000** 71600	**441000** 99200	**555000** 125000	0.72
155.575 6.1250	**330.200** 13.0000	**190.500** 7.5000	**127.000** 5.0000	**2140000** 481000	0.81	0.83	1.24	**319000** 71600	**441000** 99200	**555000** 125000	0.72
165.100 6.5000	**225.425** 8.8750	**104.775** 4.1250	**88.900** 3.5000	**528000** 119000	0.38	1.76	2.62	**78600** 17700	**51600** 11600	**137000** 30800	1.52
165.100 6.5000	**336.550** 13.2500	**203.200** 8.0000	**158.750** 6.2500	**2880000** 648000	0.37	1.82	2.71	**429000** 96500	**273000** 61400	**748000** 168000	1.57
168.275 6.6250	**330.200** 13.0000	**184.150** 7.2500	**120.650** 4.7500	**2140000** 481000	0.81	0.83	1.24	**319000** 71600	**441000** 99200	**555000** 125000	0.72
168.275 6.6250	**330.200** 13.0000	**190.500** 7.5000	**127.000** 5.0000	**2140000** 481000	0.81	0.83	1.24	**319000** 71600	**441000** 99200	**555000** 125000	0.72
168.275 6.6250	**342.900** 13.5000	**180.975** 7.1250	**117.475** 4.6250	**2140000** 481000	0.81	0.83	1.24	**319000** 71600	**441000** 99200	**555000** 125000	0.72
169.975 6.6919	**260.350** 10.2500	**149.225** 5.8750	**120.650** 4.7500	**1140000** 256000	0.40	1.68	2.50	**169000** 38100	**117000** 26200	**295000** 66300	1.45
170.000 6.6929	**230.000** 9.0551	**87.239** 3.4346	**71.242** 2.8048	**583000** 131000	0.38	1.76	2.62	**86800** 19500	**56900** 12800	**151000** 34000	1.52
170.000 6.6929	**240.000** 9.4488	**100.278** 3.9479	**82.278** 3.2393	**699000** 157000	0.44	1.54	2.30	**104000** 23400	**77900** 17500	**181000** 40700	1.34

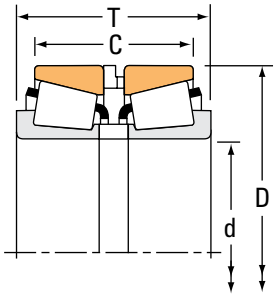
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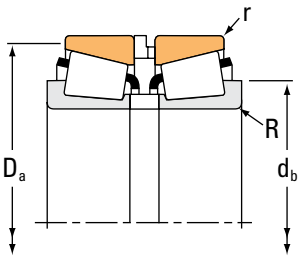
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
HH932145	HH932110	HH932145XA	HH932110EB	**6.4** 0.25	**195.0** 7.68	**1.5** 0.06	**288.0** 11.34	**56.95** 125.55
HH932145	HH932110	HH932145XE		**6.4** 0.25	**195.0** 7.68	**1.5** 0.06	**288.0** 11.34	**55.68** 122.76
HH932145	HH932115	HH932145XA	HH932115EC	**6.4** 0.25	**195.0** 7.68	**1.5** 0.06	**288.0** 11.34	**60.41** 133.18
HM231148	HM231110	HM231148XB	HM231110EE	**6.4** 0.25	**172.0** 6.77	**1.5** 0.06	**224.0** 8.82	**19.80** 43.61
HM231148	HM231110	HM231148XE	HM231110ES	**6.4** 0.25	**172.0** 6.77	**1.5** 0.06	**224.0** 8.82	**22.18** 48.85
HM231149	HM231115	HM231149XC	HM231115EC	**3.5** 0.14	**167.0** 6.57	**1.5** 0.06	**224.0** 8.82	**22.24** 49.01
EE107060	107105	X7S-99600	K160929	**6.4** 0.25	**181.0** 7.13	**1.5** 0.06	**249.4** 9.82	**35.45** 78.13
H936340	H936310	H936340XE	H936310EE	**6.4** 0.25	**209.0** 8.23	**1.5** 0.06	**311.4** 12.26	**66.72** 147.09
H936340	H936310	H936340XA	H936310EC	**6.4** 0.25	**209.0** 8.23	**1.5** 0.06	**311.4** 12.26	**68.83** 151.74
46790	46720	X4S-46790	K160550	**3.5** 0.14	**181.0** 7.13	**0.8** 0.03	**218.0** 8.58	**11.24** 24.77
HH437549	HH437510	HH437549XA		**3.3** 0.13	**196.0** 7.72	**1.5** 0.06	**307.7** 12.12	**75.73** 166.96
H936349	H936310	H936349XC	H936310EG	**6.4** 0.25	**218.0** 8.58	**1.5** 0.06	**311.4** 12.26	**63.04** 138.98
H936349	H936310	H936349XS	H936310EC	**6.4** 0.25	**218.0** 8.58	**1.5** 0.06	**311.4** 12.26	**64.39** 141.94
H936349	H936316	H936349XB	H936316EG	**6.4** 0.25	**218.0** 8.58	**1.5** 0.06	**311.4** 12.26	**67.71** 149.26
HM535347	HM535310	HM535347XA	HM535310ES	**3.5** 0.14	**192.0** 7.56	**0.8** 0.03	**250.0** 9.84	**27.57** 60.79
JHM534149	JHM534110	HM534149XA	HM534110ES	**3.0** 0.12	**184.0** 7.24	**0.4** 0.02	**224.0** 8.82	**9.09** 19.99
JM734449	JM734410	M734449XB	M734410ES	**3.0** 0.12	**185.0** 7.28	**1.5** 0.06	**232.0** 9.13	**13.18** 29.04

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
170.000 6.6929	**240.000** 9.4488	**100.278** 3.9479	**82.278** 3.2393	**667000** 150000	0.44	1.54	2.30	**99300** 22300	**74300** 16700	**173000** 38900	1.34
171.450 6.7500	**260.350** 10.2500	**147.498** 5.8070	**118.922** 4.6820	**1140000** 256000	0.40	1.68	2.50	**169000** 38100	**117000** 26200	**295000** 66300	1.45
171.450 6.7500	**260.350** 10.2500	**155.575** 6.1250	**127.000** 5.0000	**1140000** 256000	0.40	1.68	2.50	**169000** 38100	**117000** 26200	**295000** 66300	1.45
171.450 6.7500	**260.350** 10.2500	**203.200** 8.0000	**174.625** 6.8750	**1140000** 256000	0.40	1.68	2.50	**169000** 38100	**117000** 26200	**295000** 66300	1.45
174.625 6.8750	**298.450** 11.7500	**185.738** 7.3125	**147.638** 5.8125	**1610000** 363000	0.38	1.79	2.66	**240000** 54000	**155000** 34900	**419000** 94100	1.55
174.625 6.8750	**311.150** 12.2500	**184.150** 7.2500	**149.225** 5.8750	**1950000** 438000	0.33	2.04	3.04	**290000** 65200	**164000** 36900	**505000** 114000	1.77
177.800 7.0000	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
177.800 7.0000	**247.650** 9.7500	**106.362** 4.1875	**87.312** 3.4375	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
177.800 7.0000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1700000** 382000	0.32	2.12	3.15	**253000** 56900	**138000** 31100	**441000** 99100	1.83
177.800 7.0000	**288.925** 11.3750	**158.750** 6.2500	**127.000** 5.0000	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
177.800 7.0000	**355.600** 14.0000	**190.500** 7.5000	**139.700** 5.5000	**1850000** 416000	0.55	1.24	1.84	**276000** 62000	**258000** 57900	**480000** 108000	1.07
177.800 7.0000	**428.625** 16.8750	**228.600** 9.0000	**139.700** 5.5000	**2620000** 588000	0.76	0.89	1.33	**390000** 87600	**506000** 114000	**679000** 153000	0.77
180.000 7.0866	**250.000** 9.8425	**102.288** 4.0271	**82.288** 3.2397	**712000** 160000	0.48	1.41	2.09	**106000** 23800	**87200** 19600	**185000** 41500	1.22
189.949 7.4783	**290.000** 11.4173	**138.000** 5.4331	**107.396** 4.2282	**975000** 219000	0.33	2.03	3.02	**145000** 32600	**82600** 18600	**253000** 56800	1.76
190.000 7.4803	**260.000** 10.2362	**101.262** 3.9867	**82.263** 3.2387	**708000** 159000	0.48	1.41	2.11	**105000** 23700	**86200** 19400	**184000** 41300	1.22
190.000 7.4803	**290.000** 11.4173	**146.000** 5.7480	**114.000** 4.4882	**1250000** 281000	0.44	1.53	2.27	**186000** 41900	**141000** 31700	**325000** 73000	1.32
190.500 7.5000	**336.550** 13.2500	**209.550** 8.2500	**158.750** 6.2500	**2010000** 451000	0.58	1.17	1.75	**299000** 67100	**294000** 66200	**520000** 117000	1.01

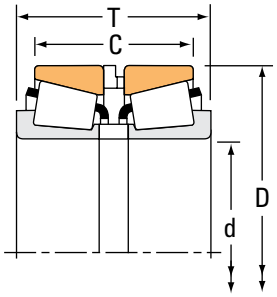
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

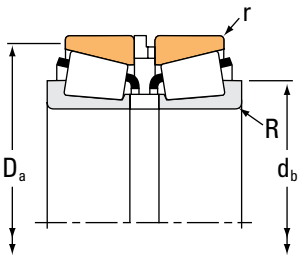
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JM734449A	JM734410	M734449XB	M734410ES	**3.0** 0.12	**185.0** 7.28	**1.5** 0.06	**232.0** 9.13	**13.14** 28.94
HM535349	HM535310	HM535349XE	HM535310EX	**3.5** 0.14	**192.0** 7.56	**0.8** 0.03	**250.0** 9.84	**25.96** 57.25
HM535349	HM535310	HM535349XS	HM535310EW	**3.5** 0.14	**192.0** 7.56	**0.8** 0.03	**250.0** 9.84	**26.60** 58.66
HM535349	HM535310	HM535349XB	HM535310EE	**3.5** 0.14	**192.0** 7.56	**0.8** 0.03	**250.0** 9.84	**31.72** 69.94
EE219068	219117	X2S-219068	Y1S-219117	**6.4** 0.25	**204.0** 8.03	**1.5** 0.06	**282.0** 11.10	**48.04** 105.93
H238148	H238110	H238148XA		**6.4** 0.25	**205.0** 8.07	**1.5** 0.06	**289.0** 11.36	**52.37** 115.45
67790	67720	K164782	K164781	**3.5** 0.14	**194.0** 7.64	**0.8** 0.03	**240.0** 9.45	**13.77** 30.35
67790	67720	X6S-67790	Y9S-67720	**3.5** 0.14	**194.0** 7.64	**0.8** 0.03	**240.0** 9.45	**14.13** 31.16
HM237545	HM237510	HM237545XC	HM237510CA	**7.0** 0.28	**205.0** 8.07	**1.5** 0.06	**271.3** 10.68	**32.11** 70.82
94700	94113	X13S-94700	Y20S-94113	**7.0** 0.28	**207.0** 8.15	**1.5** 0.06	**272.0** 10.71	**35.99** 79.37
EE607070	607140	X2S-607070	Y4S-607140	**6.4** 0.25	**214.1** 8.43	**1.5** 0.06	**326.1** 12.84	**77.38** 170.63
EE350701	351687	X2S-350701	Y2S-351687	**6.4** 0.25	**230.0** 9.06	**1.5** 0.06	**383.0** 15.08	**140.04** 308.70
JM736149	JM736110	M736149XC	M736110ES	**3.0** 0.12	**196.0** 7.72	**1.0** 0.04	**242.6** 9.55	**14.04** 30.94
JM241538	JM241511		M241511EA	**3.0** 0.12	**211.0** 8.31	**1.5** 0.06	**280.0** 11.02	**30.43** 67.06
JM738249	JM738210	M738249XB	M738210ES	**3.0** 0.12	**206.0** 8.11	**1.0** 0.04	**252.0** 9.92	**14.43** 31.79
X32038XM	Y32038XM	K161907	K161906	**3.0** 0.12	**214.0** 8.43	**1.0** 0.04	**281.0** 11.06	**31.16** 68.69
HH840249	HH840210	HH840249XA	HH840210EB	**6.4** 0.25	**234.0** 9.21	**1.5** 0.06	**318.0** 12.52	**73.98** 163.10

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
190.500 7.5000	**336.550** 13.2500	**209.550** 8.2500	**171.450** 6.7500	**1640000** 370000	0.37	1.85	2.75	**245000** 55000	**153000** 34400	**426000** 95800	1.60
190.500 7.5000	**428.625** 16.8750	**228.600** 9.0000	**139.700** 5.5000	**2860000** 644000	0.76	0.89	1.33	**426000** 95900	**554000** 124000	**742000** 167000	0.77
196.850 7.7500	**257.175** 10.1250	**139.700** 5.5000	**120.649** 4.7500	**554000** 125000	0.45	1.51	2.25	**82500** 18600	**63100** 14200	**144000** 32300	1.31
200.000 7.8740	**300.000** 11.8110	**141.000** 5.5512	**113.000** 4.4488	**1210000** 272000	0.52	1.29	1.93	**180000** 40500	**161000** 36200	**314000** 70500	1.12
200.025 7.8750	**333.375** 13.1250	**292.100** 11.5000	**257.175** 10.1250	**1600000** 359000	0.44	1.54	2.29	**238000** 53400	**179000** 40200	**414000** 93000	1.33
203.200 8.0000	**282.575** 11.1250	**101.600** 4.0000	**82.549** 3.2500	**875000** 197000	0.51	1.33	1.97	**130000** 29300	**114000** 25500	**227000** 51000	1.15
203.200 8.0000	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
203.200 8.0000	**482.600** 19.0000	**260.350** 10.2500	**171.450** 6.7500	**2870000** 646000	0.87	0.78	1.16	**428000** 96200	**635000** 143000	**745000** 168000	0.67
206.375 8.1250	**336.550** 13.2500	**298.450** 11.7500	**257.175** 10.1250	**2360000** 530000	0.33	2.03	3.02	**351000** 79000	**200000** 45000	**612000** 137000	1.76
209.550 8.2500	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
215.900 8.5000	**285.750** 11.2500	**138.074** 5.4360	**115.849** 4.5610	**748000** 168000	0.48	1.40	2.09	**111000** 25000	**91800** 20600	**194000** 43600	1.21
220.000 8.6614	**340.000** 13.3858	**165.000** 6.4960	**127.000** 5.0000	**1730000** 389000	0.43	1.57	2.34	**258000** 57900	**190000** 42700	**449000** 101000	1.36
220.662 8.6875	**314.325** 12.3750	**131.762** 5.1875	**106.362** 4.1875	**1210000** 272000	0.33	2.03	3.02	**180000** 40500	**103000** 23100	**314000** 70500	1.76
228.600 9.0000	**300.038** 11.8125	**76.200** 3.0000	**76.200** 3.0000	**414000** 93000	0.40	1.68	2.50	**61600** 13900	**42400** 9530	**107000** 24100	1.45
228.600 9.0000	**355.600** 14.0000	**254.000** 10.0000	**212.725** 8.3750	**1320000** 297000	0.59	1.14	1.70	**197000** 44200	**199000** 44700	**343000** 77000	0.99
234.950 9.2500	**384.175** 15.1250	**302.260** 11.9000	**257.810** 10.1500	**2920000** 656000	0.33	2.03	3.02	**434000** 97600	**247000** 55600	**756000** 170000	1.76
241.300 9.5000	**327.025** 12.8750	**114.300** 4.5000	**82.550** 3.2500	**918000** 206000	0.41	1.66	2.47	**137000** 30700	**95200** 21400	**238000** 53500	1.44

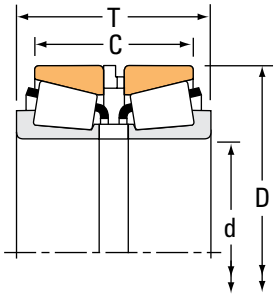
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

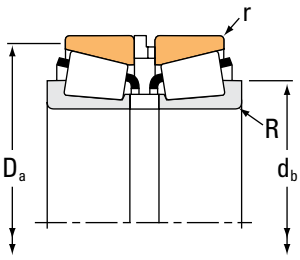
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
470975	470132	K161993	K161994	**4.8** 0.19	**217.0** 8.54	**1.5** 0.06	**306.5** 12.07	**65.05** 143.43
EE350750	351687	X3S-350750	Y2S-351687	**6.4** 0.25	**240.0** 9.45	**1.5** 0.06	**383.0** 15.08	**134.55** 296.63
LM739749	LM739710	LM739749XE	LM739710EA	**3.5** 0.14	**213.0** 8.39	**0.8** 0.03	**251.0** 9.88	**17.23** 38.00
JHM840449	JHM840410	HM840449XA	HM840410EA	**3.5** 0.14	**226.0** 8.90	**1.5** 0.06	**288.9** 11.37	**32.47** 71.60
HM743337	HM743310	HM743337XB		**6.4** 0.25	**231.0** 9.09	**1.5** 0.06	**317.0** 12.48	**60.60** 133.62
67983	67920	X2S-67983	Y10S-67920	**3.5** 0.14	**222.0** 8.74	**0.8** 0.03	**275.0** 10.83	**18.49** 40.80
93800	93125	X4S-93800	Y14S-93125	**4.3** 0.17	**227.0** 8.94	**1.5** 0.06	**300.0** 11.81	**38.40** 84.68
EE380080	380190	X1S-380081	Y1S-380190	**6.4** 0.25	**280.0** 11.02	**1.5** 0.06	**428.5** 16.87	**208.60** 459.85
H242649	H242610	K163370		**3.3** 0.13	**231.0** 9.09	**1.5** 0.06	**318.0** 12.51	**71.34** 157.29
93825	93125	X1S-93825		**4.3** 0.17	**233.0** 9.17	**1.5** 0.06	**300.0** 11.81	**34.37** 75.78
LM742749	LM742710	LM742749XE		**3.5** 0.14	**233.0** 9.17	**0.8** 0.03	**279.0** 10.98	**17.11** 37.69
X32044XM	Y32044XM	K165766	K165765	**4.0** 0.16	**248.0** 9.76	**1.5** 0.06	**325.0** 12.80	**49.99** 110.23
M244249	M244210	M244249XA	M244210ER	**6.4** 0.25	**245.0** 9.65	**1.5** 0.06	**300.0** 11.81	**29.87** 65.87
544090	544118	X1S-544090	Y3S-544118	**3.5** 0.14	**244.0** 9.61	**0.8** 0.03	**287.0** 11.30	**12.22** 26.90
96900	96140	X6S-96900	Y9S-96140	**7.0** 0.28	**260.0** 10.24	**0.8** 0.03	**334.0** 13.15	**69.98** 154.32
H247549	H247510	H247549XE	H247510EF	**6.4** 0.25	**273.0** 10.75	**1.5** 0.06	**362.5** 14.27	**118.22** 260.64
8578	8520	X1S-8578	Y7S-8520	**6.4** 0.25	**264.0** 10.39	**0.8** 0.03	**313.0** 12.32	**23.66** 52.19

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
247.650 9.7500	**406.400** 16.0000	**247.675** 9.7510	**203.225** 8.0010	**4290000** 965000	0.33	2.03	3.02	**639000** 144000	**364000** 81800	**1110000** 250000	1.76
254.000 10.0000	**358.775** 14.1250	**159.000** 6.2598	**124.074** 4.8848	**1450000** 327000	0.33	2.03	3.02	**217000** 48700	**123000** 27700	**377000** 84800	1.76
257.175 10.1250	**342.900** 13.5000	**215.900** 8.5000	**190.500** 7.5000	**1360000** 305000	0.35	1.94	2.89	**202000** 45500	**120000** 27000	**352000** 79200	1.68
257.175 10.1250	**358.775** 14.1250	**161.926** 6.3750	**127.000** 5.0000	**1450000** 327000	0.33	2.03	3.02	**217000** 48700	**123000** 27700	**377000** 84800	1.76
266.700 10.5000	**444.500** 17.5000	**266.700** 10.5000	**203.200** 8.0000	**3180000** 714000	0.58	1.17	1.75	**473000** 106000	**466000** 105000	**823000** 185000	1.01
279.982 11.0229	**380.009** 14.9610	**160.175** 6.3061	**128.425** 5.0561	**1260000** 283000	0.43	1.56	2.33	**187000** 42100	**138000** 31100	**326000** 73300	1.35
288.925 11.3750	**406.400** 16.0000	**165.100** 6.5000	**130.175** 5.1250	**2070000** 466000	0.34	2.00	2.97	**308000** 69300	**179000** 40100	**537000** 121000	1.73
304.800 12.0000	**406.400** 16.0000	**159.000** 6.2598	**127.250** 5.0098	**1340000** 301000	0.44	1.53	2.28	**199000** 44800	**151000** 33900	**347000** 78100	1.32
317.500 12.5000	**444.500** 17.5000	**146.050** 5.7500	**98.425** 3.8750	**1540000** 347000	0.38	1.79	2.66	**230000** 51700	**149000** 33400	**400000** 90000	1.55
317.500 12.5000	**622.300** 24.5000	**304.800** 12.0000	**174.625** 6.8750	**5500000** 1240000	0.94	0.72	1.07	**819000** 184000	**1310000** 295000	**1430000** 321000	0.62
355.600 14.0000	**444.500** 17.5000	**127.000** 5.0000	**101.600** 4.0000	**1280000** 287000	0.31	2.20	3.27	**190000** 42700	**100000** 22500	**331000** 74400	1.90
355.600 14.0000	**482.600** 19.0000	**133.350** 5.2500	**88.900** 3.5000	**1090000** 246000	0.50	1.35	2.01	**163000** 36600	**140000** 31400	**284000** 63800	1.17
361.950 14.2500	**406.400** 16.0000	**72.746** 2.8640	**60.046** 2.3640	**345000** 77500	0.40	1.68	2.50	**51300** 11500	**35300** 7940	**89400** 20100	1.45
381.000 15.0000	**479.425** 18.8750	**113.424** 4.4655	**84.850** 3.3405	**1030000** 232000	0.50	1.36	2.03	**154000** 34600	**130000** 29300	**268000** 60300	1.18
406.400 16.0000	**508.000** 20.0000	**174.884** 6.8852	**146.309** 5.7602	**1500000** 336000	0.37	1.85	2.75	**223000** 50100	**139000** 31300	**388000** 87200	1.60
476.250 18.7500	**565.150** 22.2500	**95.250** 3.7500	**76.200** 3.0000	**817000** 184000	0.47	1.44	2.14	**122000** 27400	**97800** 22000	**212000** 47600	1.24
476.250 18.7500	**565.150** 22.2500	**127.000** 5.0000	**107.950** 4.2500	**817000** 184000	0.47	1.44	2.14	**122000** 27400	**97800** 22000	**212000** 47600	1.24

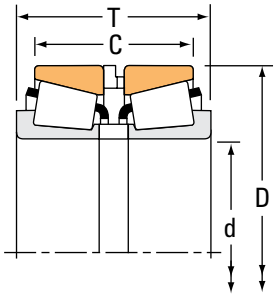
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values for single-row. $C_{90(2)}$ is the double-row radial value.

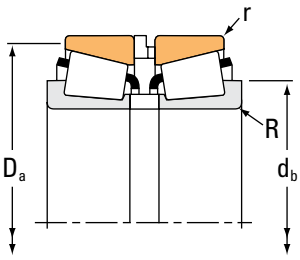
Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
HH249949H	HH249910	HH249949XA		**6.4** 0.25	**288.0** 11.34	**1.5** 0.06	**383.0** 15.08	**121.91** 268.77
M249749AH	M249710	M249749XS	M249710EW	**1.5** 0.06	**270.0** 10.63	**1.5** 0.06	**343.0** 13.50	**45.20** 99.68
M349549	M349510	M349549XA	M349510EA	**6.4** 0.25	**281.0** 11.06	**0.8** 0.03	**333.0** 13.11	**43.51** 95.91
M249747	M249710	M249747XB	M249710EX	**1.5** 0.06	**272.0** 10.71	**1.5** 0.06	**343.0** 13.50	**43.67** 96.26
H852849	H852810	H852849XA	H852810EA	**6.4** 0.25	**315.0** 12.40	**1.5** 0.06	**422.3** 16.63	**153.67** 338.81
LM654642	LM654611	LM654642XA	LM654611EA	**3.5** 0.14	**302.0** 11.89	**1.5** 0.06	**368.0** 14.49	**47.07** 103.76
M255449	M255410	M255449XB		**6.4** 0.25	**316.0** 12.44	**1.5** 0.06	**387.9** 15.27	**62.37** 137.51
LM757049	LM757010	LM757049XC	LM757010EC	**6.4** 0.25	**331.0** 13.03	**1.5** 0.06	**393.0** 15.47	**50.93** 112.26
EE291250	291750	X1S-291250	Y7S-291750	**8.0** 0.31	**346.0** 13.62	**1.5** 0.06	**415.0** 16.34	**53.55** 118.07
H961649	H961610	H961649XA	H961610EB	**14.3** 0.56	**410.0** 16.14	**3.3** 0.13	**581.6** 22.90	**368.76** 812.92
L163149	L163110	L163149XS	L163110EC	**3.5** 0.14	**374.0** 14.72	**1.5** 0.06	**430.0** 16.93	**42.90** 94.59
EE161400	161900	X1S-161400	Y9S-161900	**7.0** 0.28	**386.0** 15.20	**1.5** 0.06	**455.0** 17.91	**54.23** 119.54
LL562749	LL562710	LL562749XB	LL562710EB	**2.3** 0.09	**372.0** 14.65	**0.8** 0.03	**401.0** 15.79	**10.25** 22.58
L865547	L865512	L865547XA		**6.4** 0.25	**407.0** 16.02	**1.5** 0.06	**465.0** 18.31	**38.54** 84.95
L467549	L467510	K164387		**3.3** 0.13	**426.0** 16.77	**1.5** 0.06	**492.0** 19.37	**58.69** 129.41
LL771948	LL771911	LL771948XB	LL771911EC	**3.3** 0.13	**495.0** 19.49	**1.5** 0.06	**549.0** 21.61	**42.74** 94.22
LL771948	LL771911	LL771948XA	LL771911EB	**3.3** 0.13	**495.0** 19.49	**1.5** 0.06	**549.0** 21.61	**51.17** 112.81

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-IM







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
482.600 19.0000	**615.950** 24.2500	**107.950** 4.2500	**82.550** 3.2500	**1140000** 257000	0.35	1.93	2.88	**170000** 38200	**102000** 22900	**296000** 66600	1.67
488.950 19.2500	**634.873** 24.9950	**209.990** 8.2673	**165.538** 6.5173	**3240000** 728000	0.47	1.43	2.12	**482000** 108000	**390000** 87800	**840000** 189000	1.24
488.950 19.2500	**634.873** 24.9950	**227.990** 8.9760	**183.540** 7.2260	**3240000** 728000	0.47	1.43	2.12	**482000** 108000	**390000** 87800	**840000** 189000	1.24
539.750 21.2500	**635.000** 25.0000	**120.650** 4.7500	**95.250** 3.7500	**1550000** 349000	0.41	1.66	2.48	**231000** 52000	**161000** 36100	**403000** 90500	1.44
558.800 22.0000	**736.600** 29.0000	**225.425** 8.5875	**177.800** 7.0000	**4980000** 1120000	0.35	1.95	2.90	**741000** 167000	**439000** 98800	**1290000** 290000	1.69
584.200 23.0000	**685.800** 27.0000	**107.950** 4.2500	**79.375** 3.1250	**1390000** 312000	0.44	1.54	2.30	**207000** 46500	**155000** 34800	**360000** 81000	1.34
673.100 26.5000	**793.750** 31.2500	**149.225** 5.8750	**114.299** 4.5000	**1930000** 434000	0.36	1.87	2.79	**287000** 64600	**177000** 39800	**500000** 112000	1.62
736.600 29.0000	**825.500** 32.5000	**114.300** 4.5000	**101.600** 4.0000	**738000** 166000	0.40	1.70	2.53	**110000** 24700	**74800** 16800	**191000** 43000	1.47
762.000 30.0000	**889.000** 35.0000	**158.100** 6.2244	**120.000** 4.7244	**2730000** 613000	0.38	1.78	2.65	**406000** 91400	**263000** 59200	**707000** 159000	1.54
1155.700 45.5000	**1435.100** 56.5000	**267.051** 10.5138	**216.251** 8.5138	**7030000** 1580000	0.36	1.87	2.78	**1050000** 235000	**647000** 146000	**1820000** 410000	1.62
1562.100 61.5000	**1806.575** 71.1250	**266.700** 10.5000	**184.150** 7.2500	**7900000** 1780000	0.47	1.42	2.12	**1180000** 265000	**955000** 215000	**2050000** 461000	1.23

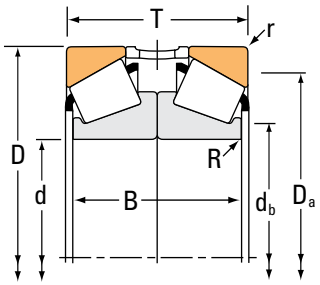
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number				Dimensions				Bearing Weight
				Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Backing Shoulder Dia. D_a	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
80480	80425	X3S-80480		**3.3** 0.13	**504.0** 19.84	**1.5** 0.06	**579.0** 22.80	**71.57** 157.75
LM772748	LM772710	LM772748XR		**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**613.3** 24.15	**135.16** 297.99
LM772748	LM772710	LM772748XS		**6.4** 0.25	**522.0** 20.55	**1.5** 0.06	**613.3** 24.15	**137.63** 303.43
LL575349	LL575310	LL575349XA	LL575310EA	**6.4** 0.25	**564.0** 22.20	**1.5** 0.06	**621.0** 24.45	**55.46** 122.28
LM377449H	LM377410	LM377449XB	K160687	**6.4** 0.25	**594.0** 23.39	**1.5** 0.06	**708.0** 27.87	**238.25** 525.26
LL778149	LL778110	LL778149XA	LL778110EA	**3.5** 0.14	**603.0** 23.74	**0.8** 0.03	**669.0** 26.34	**60.96** 134.38
LL481448	LL481411	LL481448XA	LL481411EB	**6.4** 0.25	**702.0** 27.64	**1.5** 0.06	**771.0** 30.35	**113.30** 249.80
LL582949	LL582910	K162749	K162748	**3.5** 0.14	**753.1** 29.65	**1.5** 0.06	**822.0** 32.36	**55.89** 123.17
LL483449	LL483418	LL483449XA	LL483418EA	**3.3** 0.13	**783.0** 30.83	**1.5** 0.06	**858.0** 33.78	**146.64** 323.31
EE277455	277565	X2S-277455	Y1S-277565	**6.4** 0.25	**1205.0** 47.44	**3.3** 0.13	**1370.0** 53.94	**931.80** 2054.23
EE299615	299711X	X2S-299615	Y3S-299711	**9.7** 0.38	**1615.0** 63.58	**3.3** 0.13	**1757.5** 69.19	**994.87** 2193.30

[5] Contact your Timken engineer for information on spacer configurations.
[6] These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
25.000 0.9843	**52.000** 2.0472	**38.500** 1.5158	**36.000** 1.4174	**81800** 18400	0.58	1.16	1.72	**12200** 2740	**12200** 2740	**21200** 4770	1.00
30.000 1.1811	**55.000** 2.1654	**34.000** 1.3386	**34.000** 1.3386	**80900** 18200	0.43	1.57	2.34	**12000** 2710	**8870** 1990	**21000** 4710	1.36
34.925 1.3750	**65.088** 2.5625	**36.068** 1.4200	**36.576** 1.4400	**112000** 25300	0.38	1.79	2.67	**16700** 3760	**10800** 2430	**29200** 6550	1.55
41.275 1.6250	**80.167** 3.1562	**50.800** 2.0000	**50.800** 2.0000	**159000** 35700	0.32	2.12	3.15	**23600** 5310	**12900** 2900	**41100** 9240	1.83
44.450 1.7500	**82.931** 3.2650	**47.625** 1.8750	**50.800** 2.0000	**158000** 35400	0.33	2.02	3.00	**23500** 5270	**13500** 3020	**40900** 9180	1.74
44.450 1.7500	**88.900** 3.5000	**60.325** 2.3750	**58.740** 2.3126	**198000** 44500	0.55	1.24	1.84	**29500** 6630	**27600** 6200	**51300** 11500	1.07
44.450 1.7500	**95.250** 3.7500	**61.915** 2.4376	**57.150** 2.2500	**237000** 53400	0.74	0.91	1.36	**35400** 7950	**44800** 10100	**61600** 13800	0.79
45.000 1.7717	**100.000** 3.9370	**54.500** 2.1457	**50.000** 1.9686	**225000** 50500	0.35	1.96	2.91	**33500** 7530	**19800** 4450	**58300** 13100	1.69
48.412 1.9060	**95.250** 3.7500	**60.325** 2.3750	**58.740** 2.3126	**257000** 57700	0.55	1.24	1.84	**38200** 8590	**35700** 8030	**66600** 15000	1.07
50.800 2.0000	**88.900** 3.5000	**41.275** 1.6250	**44.450** 1.7500	**177000** 39900	0.32	2.11	3.14	**26400** 5930	**14400** 3250	**46000** 10300	1.83
50.800 2.0000	**112.712** 4.4375	**60.325** 2.3750	**60.096** 2.3660	**242000** 54300	0.40	1.68	2.50	**36000** 8090	**24800** 5570	**62700** 14100	1.45
53.975 2.1250	**95.250** 3.7500	**55.565** 2.1876	**57.150** 2.2500	**226000** 50800	0.33	2.05	3.05	**33600** 7560	**19000** 4270	**58600** 13200	1.77
53.975 2.1250	**104.775** 4.1250	**73.025** 2.8750	**73.024** 2.8750	**354000** 79600	0.49	1.38	2.06	**52700** 11900	**44000** 9890	**91800** 20600	1.20
55.000 2.1654	**90.000** 3.5433	**46.000** 1.8110	**46.000** 1.8110	**190000** 42600	0.40	1.68	2.50	**28200** 6340	**19400** 4370	**49100** 11000	1.45
55.000 2.1654	**120.000** 4.7244	**58.000** 2.2835	**58.000** 2.2834	**299000** 67300	0.83	0.82	1.22	**44600** 10000	**63000** 14200	**77600** 17500	0.71
55.562 2.1875	**97.630** 3.8437	**49.215** 1.9376	**49.216** 1.9376	**215000** 48200	0.40	1.68	2.50	**32000** 7180	**22000** 4950	**55600** 12500	1.45
57.150 2.2500	**96.838** 3.8125	**42.001** 1.6536	**43.892** 1.7280	**188000** 42200	0.35	1.91	2.84	**28000** 6280	**16900** 3810	**48700** 10900	1.65

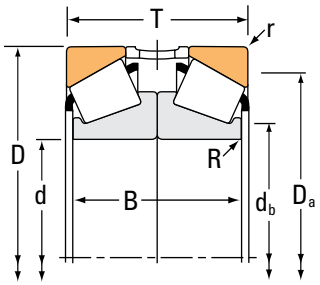
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
X32205-B	Y32205-B	JY5209R	**0.3** 0.01	**31.0** 1.22	**1.0** 0.04	**43.5** 1.71	**0.40** 0.88
X32006X	Y32006X	JY5508-S	**0.3** 0.01	**36.0** 1.42	**1.0** 0.04	**49.0** 1.93	**0.37** 0.79
LM48548	LM48510	LM48510EE	**0.4** 0.02	**41.5** 1.63	**1.3** 0.05	**58.0** 2.28	**0.52** 1.12
26885	26820	Y1S-26820	**0.3** 0.01	**47.0** 1.85	**3.3** 0.13	**69.0** 2.72	**1.15** 2.57
25580	25520	Y4S-25520	**0.4** 0.02	**50.0** 1.97	**0.8** 0.03	**74.0** 2.91	**1.18** 2.58
HM803149	HM803110	HM803110EB	**0.3** 0.01	**53.4** 2.10	**3.3** 0.13	**74.0** 2.91	**1.76** 3.88
HM903249	HM903210	HM903210ES	**0.3** 0.01	**54.0** 2.13	**0.8** 0.03	**81.0** 3.19	**2.08** 4.60
X30309M	Y30309M	JY10099R	**0.5** 0.02	**56.0** 2.20	**1.5** 0.06	**89.0** 3.50	**2.11** 4.64
HM804848	HM804810	HM804810EE	**2.3** 0.09	**57.0** 2.26	**3.3** 0.13	**81.0** 3.19	**1.99** 4.42
368A	362A	Y1S-362A	**0.3** 0.01	**56.0** 2.20	**1.3** 0.05	**81.0** 3.19	**1.08** 2.34
3975	3920	Y4S-3920	**0.5** 0.02	**61.0** 2.40	**3.3** 0.13	**99.0** 3.90	**3.13** 6.91
33895	33821	Y1S-33821	**0.3** 0.01	**60.0** 2.36	**2.3** 0.09	**85.0** 3.35	**1.66** 3.66
HM807049	HM807010	HM807010EE	**0.3** 0.01	**63.1** 2.48	**3.3** 0.13	**89.0** 3.50	**2.88** 6.35
JLM506849	JLM506810	LM506810EX	**0.3** 0.01	**61.0** 2.40	**0.5** 0.02	**82.0** 3.23	**1.12** 2.50
X31311M	Y31311M	JY12021-Q	**0.3** 0.01	**68.0** 2.68	**2.0** 0.08	**103.0** 4.06	**3.27** 7.21
28680	28622	Y4S-28622	**0.5** 0.02	**62.0** 2.44	**0.8** 0.03	**88.0** 3.46	**1.57** 3.47
387A	382A	Y1S-382A	**0.3** 0.01	**63.0** 2.48	**0.8** 0.03	**89.0** 3.50	**1.24** 2.72

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
57.150 2.2500	**112.712** 4.4375	**60.325** 2.3750	**60.096** 2.3660	**242000** 54300	0.40	1.68	2.50	**36000** 8090	**24800** 5570	**62700** 14100	1.45
60.000 2.3622	**112.712** 4.4375	**60.325** 2.3750	**60.096** 2.3660	**242000** 54300	0.40	1.68	2.50	**36000** 8090	**24800** 5570	**62700** 14100	1.45
60.325 2.3750	**100.000** 3.9370	**50.800** 2.0000	**50.800** 2.0000	**185000** 41500	0.43	1.59	2.36	**27500** 6180	**20000** 4500	**47900** 10800	1.37
60.325 2.3750	**112.712** 4.4375	**60.325** 2.3750	**60.096** 2.3660	**242000** 54300	0.40	1.68	2.50	**36000** 8090	**24800** 5570	**62700** 14100	1.45
60.325 2.3750	**130.175** 5.1250	**73.025** 2.8750	**66.676** 2.6250	**344000** 77400	0.82	0.82	1.23	**51200** 11500	**71900** 16200	**89200** 20100	0.71
61.912 2.4375	**123.825** 4.8750	**76.200** 3.0000	**73.356** 2.8880	**332000** 74700	0.35	1.95	2.90	**49400** 11100	**29300** 6590	**86100** 19400	1.69
61.912 2.4375	**146.050** 5.7500	**82.550** 3.2500	**79.376** 3.1250	**474000** 107000	0.78	0.86	1.28	**70700** 15900	**94700** 21300	**123000** 27700	0.75
61.912 2.4375	**152.400** 6.0000	**95.250** 3.7500	**92.076** 3.6250	**497000** 112000	0.66	1.03	1.53	**74000** 16600	**83100** 18700	**129000** 29000	0.89
63.500 2.5000	**112.712** 4.4375	**60.325** 2.3750	**60.096** 2.3660	**242000** 54300	0.40	1.68	2.50	**36000** 8090	**24800** 5570	**62700** 14100	1.45
63.500 2.5000	**122.238** 4.8125	**76.200** 3.0000	**76.708** 3.0200	**465000** 104000	0.34	2.00	2.98	**69200** 15600	**40000** 8990	**121000** 27100	1.73
63.500 2.5000	**140.030** 5.5130	**73.025** 2.8750	**66.472** 2.6170	**353000** 79300	0.87	0.78	1.16	**52600** 11800	**77900** 17500	**91500** 20600	0.67
65.000 2.5591	**105.000** 4.1339	**48.000** 1.8898	**46.000** 1.8110	**223000** 50200	0.45	1.49	2.21	**33200** 7470	**25800** 5810	**57900** 13000	1.29
65.000 2.5591	**110.000** 4.3307	**56.000** 2.2047	**56.000** 2.2048	**291000** 65400	0.40	1.68	2.50	**43300** 9740	**29800** 6700	**75400** 17000	1.45
65.087 2.5625	**135.755** 5.3447	**107.950** 4.2500	**112.014** 4.4100	**663000** 149000	0.32	2.08	3.10	**98800** 22200	**54900** 12300	**172000** 38700	1.80
66.675 2.6250	**112.712** 4.4375	**60.325** 2.3750	**60.324** 2.3750	**291000** 65300	0.34	1.99	2.96	**43300** 9730	**25100** 5650	**75400** 16900	1.72
66.675 2.6250	**122.238** 4.8125	**76.200** 3.0000	**76.708** 3.0200	**465000** 104000	0.34	2.00	2.98	**69200** 15600	**40000** 8990	**121000** 27100	1.73
66.675 2.6250	**177.800** 7.0000	**114.300** 4.5000	**107.950** 4.2500	**785000** 176000	0.80	0.85	1.26	**117000** 26300	**160000** 35900	**203000** 45700	0.73

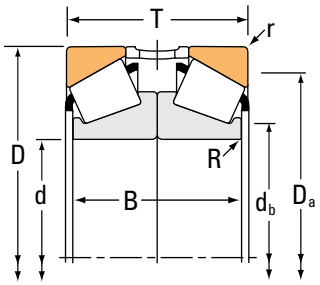
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
3979	3920	Y4S-3920	**0.5** 0.02	**66.0** 2.60	**3.3** 0.13	**99.0** 3.90	**2.87** 6.35
3977	3920	Y4S-3920	**0.5** 0.02	**68.0** 2.68	**3.3** 0.13	**99.0** 3.90	**2.75** 6.07
28985	28921	Y1S-28921	**0.3** 0.01	**67.0** 2.64	**3.3** 0.13	**89.0** 3.50	**1.55** 3.45
3980	3920	Y3S-3920	**0.5** 0.02	**68.0** 2.68	**3.3** 0.13	**99.0** 3.90	**2.74** 6.06
HM911245	HM911210	HM911210EC	**0.8** 0.03	**74.0** 2.91	**3.3** 0.13	**109.0** 4.29	**4.37** 9.65
554	552A	Y3S-552A	**0.5** 0.02	**71.0** 2.80	**3.3** 0.13	**109.0** 4.29	**4.23** 9.35
H913842	H913810	H913810EA	**0.8** 0.03	**82.4** 3.24	**3.3** 0.13	**124.0** 4.88	**6.65** 14.67
9181	9121	Y1S-9121	**0.5** 0.02	**81.3** 3.20	**3.3** 0.13	**130.0** 5.12	**8.35** 18.42
3982	3920	Y3S-3920	**0.3** 0.01	**71.0** 2.80	**3.3** 0.13	**99.0** 3.90	**2.60** 5.74
HM212047	HM212011	HM212011EA	**0.5** 0.02	**73.0** 2.87	**3.3** 0.13	**108.0** 4.25	**4.02** 8.83
78250	78551	Y2S-78551	**0.5** 0.02	**79.0** 3.10	**2.3** 0.09	**117.0** 4.61	**5.23** 11.55
JLM710949C	JLM710910	JY10511-Q	**0.3** 0.01	**72.0** 2.83	**1.0** 0.04	**96.0** 3.78	**1.58** 3.45
JM511946	JM511910	JY11011-Q	**0.3** 0.01	**72.0** 2.83	**2.5** 0.10	**99.0** 3.90	**2.19** 4.82
6379	6320	Y3S-6320	**0.3** 0.01	**77.0** 3.04	**3.3** 0.13	**117.0** 4.61	**7.50** 16.56
39590	39520	Y1S-39520	**0.3** 0.01	**75.0** 2.95	**3.3** 0.13	**101.0** 3.98	**2.41** 5.31
HM212049	HM212011	HM212010EA	**0.3** 0.01	**75.5** 2.97	**3.3** 0.13	**108.0** 4.25	**3.88** 8.54
HH914449	HH914412	HH914412EA	**1.5** 0.06	**85.3** 3.36	**3.3** 0.13	**146.0** 5.75	**14.54** 32.03

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
68.262 2.6875	**161.925** 6.3750	**98.425** 3.8750	**92.076** 3.6250	**614000** 138000	0.71	0.95	1.42	**91400** 20600	**111000** 24900	**159000** 35800	0.82
69.850 2.7500	**120.000** 4.7244	**65.090** 2.5626	**65.090** 2.5626	**311000** 70000	0.36	1.87	2.79	**46300** 10400	**28600** 6420	**80700** 18100	1.62
69.850 2.7500	**127.000** 5.0000	**73.025** 2.8750	**73.024** 2.8750	**399000** 89700	0.50	1.34	2.00	**59400** 13400	**51100** 11500	**103000** 23300	1.16
69.850 2.7500	**146.050** 5.7500	**82.550** 3.2500	**79.376** 3.1250	**474000** 107000	0.78	0.86	1.28	**70700** 15900	**94700** 21300	**123000** 27700	0.75
69.850 2.7500	**146.050** 5.7500	**82.550** 3.2500	**82.550** 3.2500	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
69.987 2.7554	**136.525** 5.3750	**92.076** 3.6250	**92.076** 3.6250	**556000** 125000	0.47	1.43	2.12	**82700** 18600	**67000** 15100	**144000** 32400	1.24
71.437 2.8125	**136.525** 5.3750	**82.550** 3.2500	**82.550** 3.2500	**562000** 126000	0.36	1.87	2.79	**83700** 18800	**51600** 11600	**146000** 32800	1.62
73.025 2.8750	**117.475** 4.6250	**60.325** 2.3750	**60.324** 2.3750	**241000** 54200	0.44	1.55	2.31	**35900** 8060	**26800** 6020	**62400** 14000	1.34
75.000 2.9528	**115.000** 4.5276	**50.000** 1.9686	**50.000** 1.9686	**244000** 54900	0.46	1.47	2.19	**36400** 8180	**28600** 6420	**63400** 14200	1.27
75.000 2.9528	**125.000** 4.9213	**74.000** 2.9134	**74.000** 2.9134	**356000** 80000	0.40	1.70	2.53	**53000** 11900	**36100** 8110	**92300** 20800	1.47
76.200 3.0000	**121.442** 4.7812	**49.215** 1.9376	**46.024** 1.8120	**178000** 40000	0.45	1.50	2.23	**26500** 5960	**20500** 4600	**46100** 10400	1.30
76.200 3.0000	**127.000** 5.0000	**60.325** 2.3750	**62.000** 2.4410	**280000** 63100	0.42	1.61	2.40	**41800** 9390	**29900** 6730	**72700** 16300	1.39
76.200 3.0000	**135.733** 5.3438	**88.900** 3.5000	**92.200** 3.6300	**527000** 118000	0.41	1.66	2.47	**78500** 17600	**54600** 12300	**137000** 30700	1.44
76.200 3.0000	**136.525** 5.3750	**60.325** 2.3750	**59.538** 2.3440	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
76.200 3.0000	**139.992** 5.5115	**73.025** 2.8750	**72.196** 2.8424	**360000** 80900	0.40	1.67	2.49	**53600** 12100	**37100** 8330	**93400** 21000	1.45
76.200 3.0000	**146.050** 5.7500	**82.550** 3.2500	**82.550** 3.2500	**430000** 96700	0.41	1.65	2.46	**64000** 14400	**44800** 10100	**112000** 25100	1.43
76.200 3.0000	**152.400** 6.0000	**79.375** 3.1250	**72.644** 2.8600	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32

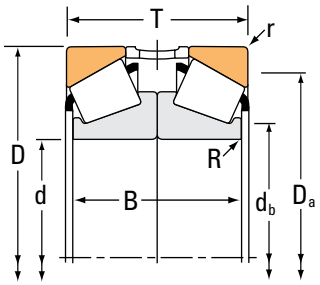
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
9278	9220	Y1S-9220	**0.5** 0.02	**89.0** 3.50	**3.3** 0.13	**138.0** 5.43	**9.34** 20.59
47487	47420	Y1S-47420	**0.5** 0.02	**78.0** 3.07	**3.3** 0.13	**107.0** 4.21	**3.03** 6.66
HM813846	HM813810	HM813810EB	**0.3** 0.01	**82.0** 3.23	**3.3** 0.13	**111.0** 4.37	**3.98** 8.78
H913849	H913810	H913810EA	**0.8** 0.03	**82.4** 3.24	**3.3** 0.13	**124.0** 4.88	**6.13** 13.54
655	653	Y1S-653	**0.5** 0.02	**82.0** 3.23	**3.3** 0.13	**131.0** 5.16	**6.67** 14.70
H715347	H715311	H715311EE	**0.5** 0.02	**87.0** 3.43	**3.3** 0.13	**118.0** 4.65	**6.48** 14.29
H414249	H414210	H414210EA	**1.5** 0.06	**83.3** 3.27	**3.3** 0.13	**121.0** 4.76	**5.26** 11.63
33287	33462	Y5S-33462	**0.3** 0.01	**81.0** 3.19	**3.3** 0.13	**104.0** 4.09	**2.47** 5.43
JLM714149	JLM714110	M612910EA	**0.3** 0.01	**82.0** 3.23	**2.5** 0.10	**104.0** 4.09	**1.84** 4.05
X33115	Y33115	K161389	**0.3** 0.01	**83.0** 3.27	**1.5** 0.06	**112.0** 4.41	**3.61** 7.94
34301	34478	Y4S-34478	**0.5** 0.02	**83.0** 3.27	**2.0** 0.08	**110.0** 4.33	**2.02** 4.47
42687	42620	Y3S-42620	**0.5** 0.02	**84.0** 3.31	**3.3** 0.13	**114.0** 4.49	**2.99** 6.60
5760	5735	Y2S-5735	**0.5** 0.02	**88.0** 3.46	**3.3** 0.13	**119.0** 4.69	**5.55** 12.23
495A	493	Y3S-493	**0.5** 0.02	**86.0** 3.39	**3.3** 0.13	**122.0** 4.80	**3.84** 8.43
575	572	Y4S-572	**0.5** 0.02	**86.0** 3.39	**3.3** 0.13	**125.0** 4.92	**4.94** 10.93
659	653	Y1S-653	**0.5** 0.02	**87.0** 3.43	**3.3** 0.13	**131.0** 5.16	**6.21** 13.66
590A	592A	Y4S-592A	**0.5** 0.02	**89.0** 3.50	**3.3** 0.13	**135.0** 5.31	**6.75** 14.88

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
76.200 3.0000	**161.925** 6.3750	**95.250** 3.7500	**96.520** 3.8000	**570000** 128000	0.34	1.98	2.95	**84800** 19100	**49500** 11100	**148000** 33200	1.71
76.200 3.0000	**161.925** 6.3750	**98.425** 3.8750	**92.076** 3.6250	**614000** 138000	0.71	0.95	1.42	**91400** 20600	**111000** 24900	**159000** 35800	0.82
76.200 3.0000	**171.450** 6.7500	**98.425** 3.8750	**92.076** 3.6250	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76
77.788 3.0625	**117.475** 4.6250	**50.800** 2.0000	**50.800** 2.0000	**205000** 46100	0.51	1.32	1.97	**30600** 6870	**26700** 5990	**53200** 12000	1.15
80.000 3.1496	**130.000** 5.1181	**70.000** 2.7559	**68.000** 2.6772	**410000** 92100	0.39	1.74	2.59	**61000** 13700	**40600** 9120	**106000** 23900	1.50
80.962 3.1875	**136.525** 5.3750	**60.325** 2.3750	**59.538** 2.3440	**269000** 60500	0.44	1.52	2.26	**40000** 9000	**30500** 6850	**69700** 15700	1.31
82.550 3.2500	**133.350** 5.2500	**79.375** 3.1250	**79.376** 3.1250	**450000** 101000	0.40	1.68	2.50	**67100** 15100	**46200** 10400	**117000** 26300	1.45
82.550 3.2500	**161.925** 6.3750	**107.950** 4.2500	**110.200** 4.3386	**765000** 172000	0.40	1.69	2.51	**114000** 25600	**78100** 17600	**198000** 44600	1.46
83.345 3.2813	**125.412** 4.9375	**50.800** 2.0000	**50.800** 2.0000	**204000** 45900	0.42	1.62	2.42	**30400** 6830	**21600** 4860	**52900** 11900	1.40
84.138 3.3125	**171.450** 6.7500	**98.425** 3.8750	**92.076** 3.6250	**632000** 142000	0.76	0.88	1.31	**94100** 21200	**123000** 27700	**164000** 36800	0.76
85.000 3.3465	**130.000** 5.1181	**60.000** 2.3622	**58.000** 2.2834	**281000** 63100	0.44	1.52	2.26	**41800** 9400	**31800** 7150	**72800** 16400	1.31
85.000 3.3465	**150.000** 5.9055	**92.000** 3.6220	**92.000** 3.6220	**685000** 154000	0.33	2.03	3.02	**102000** 22900	**58100** 13100	**178000** 39900	1.76
88.900 3.5000	**161.925** 6.3750	**107.950** 4.2500	**110.200** 4.3386	**765000** 172000	0.40	1.69	2.51	**114000** 25600	**78100** 17600	**198000** 44600	1.46
88.900 3.5000	**200.000** 7.8740	**105.522** 4.1544	**98.424** 3.8750	**839000** 189000	0.63	1.07	1.59	**125000** 28100	**135000** 30400	**217000** 48900	0.92
89.975 3.5423	**146.975** 5.7864	**80.000** 3.1496	**80.000** 3.1496	**565000** 127000	0.33	2.03	3.02	**84200** 18900	**47900** 10800	**147000** 33000	1.76
90.000 3.5433	**140.000** 5.5118	**64.000** 2.5197	**64.000** 2.5196	**378000** 85000	0.42	1.60	2.38	**56300** 12700	**40800** 9170	**98000** 22000	1.38
90.000 3.5433	**145.000** 5.7087	**70.000** 2.7559	**68.000** 2.6772	**387000** 87000	0.44	1.52	2.26	**57700** 13000	**43900** 9860	**100000** 22600	1.31

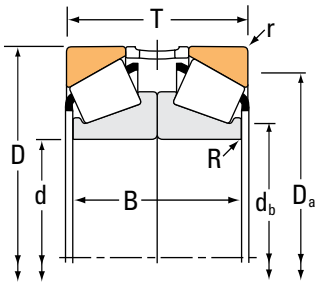
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[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
755	752	Y8S-752	**0.5** 0.02	**92.0** 3.62	**3.3** 0.13	**144.0** 5.67	**9.92** 21.86
9285	9220	Y1S-9220	**0.5** 0.02	**89.0** 3.50	**3.3** 0.13	**138.0** 5.43	**8.68** 19.16
9380	9321	Y1S-9321	**0.5** 0.02	**98.2** 3.87	**3.3** 0.13	**147.0** 5.79	**10.71** 23.59
LM814849	LM814810	LM814810EA	**0.3** 0.01	**85.0** 3.35	**3.3** 0.13	**105.0** 4.13	**1.90** 4.16
JM515649	JM515610	JY13013-Q	**0.3** 0.01	**88.0** 3.46	**2.5** 0.10	**117.0** 4.61	**3.52** 7.78
496	493	Y4S-493	**0.5** 0.02	**89.0** 3.50	**3.3** 0.13	**122.0** 4.80	**3.50** 7.69
HM516449C	HM516410	HM516410EA	**0.3** 0.01	**92.0** 3.62	**3.3** 0.13	**118.0** 4.65	**4.41** 9.74
6559C	6536	Y2S-6535	**0.5** 0.02	**98.0** 3.86	**0.8** 0.03	**144.0** 5.67	**10.45** 23.07
27690	27620	Y2S-27620	**0.3** 0.01	**89.0** 3.50	**1.5** 0.06	**115.0** 4.53	**2.21** 4.83
9386H	9321	Y9S-9321	**0.5** 0.02	**98.3** 3.87	**3.3** 0.13	**147.0** 5.79	**9.83** 21.66
JM716649	JM716610	M716610EB	**0.3** 0.01	**92.0** 3.62	**2.5** 0.10	**117.0** 4.61	**2.80** 6.19
JH217249	JH217210	H217210EA	**0.5** 0.02	**95.0** 3.74	**2.5** 0.10	**134.0** 5.28	**6.90** 15.20
6580	6535	Y2S-6535	**0.5** 0.02	**102.0** 4.02	**3.3** 0.13	**141.0** 5.55	**9.71** 21.42
98350	98788	Y3S-98788	**0.8** 0.03	**112.0** 4.41	**3.3** 0.13	**174.0** 6.85	**16.18** 35.66
HM218248	HM218210	HM218210EA	**0.3** 0.01	**99.0** 3.90	**3.5** 0.14	**133.0** 5.24	**5.19** 11.44
X32018X	Y32018X	JY14016-Q	**0.3** 0.01	**98.0** 3.86	**1.5** 0.06	**128.0** 5.04	**3.54** 7.79
JM718149	JM718110	JY14516-S	**0.8** 0.03	**99.0** 3.90	**2.5** 0.10	**131.0** 5.16	**4.46** 9.82

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
90.000 3.5433	**155.000** 6.1024	**88.000** 3.4646	**88.000** 3.4646	**683000** 153000	0.34	1.98	2.95	**102000** 22900	**59400** 13300	**177000** 39800	1.71
90.000 3.5433	**190.000** 7.4803	**101.600** 4.0000	**92.076** 3.6250	**667000** 150000	0.87	0.78	1.16	**99300** 22300	**147000** 33100	**173000** 38900	0.67
95.000 3.7402	**150.000** 5.9055	**70.000** 2.7559	**68.000** 2.6772	**374000** 84000	0.44	1.53	2.27	**55700** 12500	**42100** 9470	**96900** 21800	1.32
95.250 3.7500	**147.638** 5.8125	**71.435** 2.8124	**72.644** 2.8600	**376000** 84600	0.44	1.53	2.27	**56000** 12600	**42400** 9530	**97500** 21900	1.32
95.250 3.7500	**168.275** 6.6250	**82.550** 3.2500	**82.550** 3.2500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
96.838 3.8125	**148.430** 5.8437	**57.150** 2.2500	**57.942** 2.2812	**336000** 75600	0.49	1.37	2.04	**50100** 11300	**42200** 9480	**87100** 19600	1.19
96.838 3.8125	**188.912** 7.4375	**101.600** 4.0000	**92.076** 3.6250	**667000** 150000	0.87	0.78	1.16	**99300** 22300	**147000** 33100	**173000** 38900	0.67
98.425 3.8750	**168.275** 6.6250	**82.550** 3.2500	**82.550** 3.2500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
98.425 3.8750	**184.150** 7.2500	**127.000** 5.0000	**127.000** 5.0000	**1090000** 246000	0.37	1.80	2.69	**163000** 36600	**104000** 23500	**284000** 63800	1.56
99.212 3.9060	**171.450** 6.7500	**98.425** 3.8750	**98.424** 3.8750	**602000** 135000	0.34	1.97	2.93	**89600** 20100	**52600** 11800	**156000** 35100	1.70
100.000 3.9370	**155.000** 6.1024	**72.000** 2.8346	**70.000** 2.7560	**403000** 90600	0.47	1.43	2.12	**60000** 13500	**48600** 10900	**104000** 23500	1.24
100.000 3.9370	**155.000** 6.1024	**72.481** 2.8536	**70.000** 2.7560	**403000** 90600	0.47	1.43	2.12	**60000** 13500	**48600** 10900	**104000** 23500	1.24
100.000 3.9370	**160.000** 6.2992	**82.000** 3.2284	**80.000** 3.1496	**576000** 130000	0.47	1.43	2.14	**85800** 19300	**69100** 15500	**149000** 33600	1.24
100.000 3.9370	**180.000** 7.0866	**74.000** 2.9134	**68.000** 2.6772	**524000** 118000	0.42	1.61	2.39	**78000** 17500	**56100** 12600	**136000** 30500	1.39
101.600 4.0000	**168.275** 6.6250	**82.550** 3.2500	**82.550** 3.2500	**461000** 104000	0.47	1.43	2.14	**68600** 15400	**55300** 12400	**119000** 26900	1.24
101.600 4.0000	**212.725** 8.3750	**133.350** 5.2500	**133.350** 5.2500	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
101.600 4.0000	**250.825** 9.8750	**152.400** 6.0000	**146.050** 5.7500	**1440000** 324000	0.70	0.97	1.44	**215000** 48200	**257000** 57800	**374000** 84000	0.84

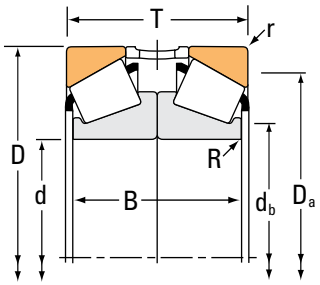
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JHM318448	JHM318410	HM318410EA	**0.5** 0.02	**100.0** 3.94	**2.5** 0.10	**140.0** 5.51	**6.84** 15.04
J90354	J90748	Y1S-90748	**1.5** 0.06	**111.8** 4.40	**3.3** 0.13	**162.0** 6.38	**12.61** 27.82
JM719149	JM719113	H217210EA	**0.3** 0.01	**104.0** 4.09	**2.5** 0.10	**135.0** 5.31	**4.51** 9.97
594	592XS	Y1S-592XS	**0.3** 0.01	**104.0** 4.09	**3.3** 0.13	**133.0** 5.24	**4.31** 9.51
683	672	Y6S-672	**0.5** 0.02	**106.0** 4.17	**3.3** 0.13	**149.0** 5.87	**7.81** 17.21
42381	42584	Y3S-42584	**0.3** 0.01	**105.0** 4.13	**3.0** 0.12	**134.0** 5.28	**3.53** 7.80
90381	90744	Y2S-90744	**1.5** 0.06	**113.0** 4.44	**3.3** 0.13	**161.0** 6.34	**11.77** 25.95
685	672	Y13S-672	**0.5** 0.02	**109.0** 4.29	**3.3** 0.13	**149.0** 5.87	**7.58** 16.67
HH421246C	HH421210	HH421210EB	**1.5** 0.06	**115.1** 4.53	**3.3** 0.13	**163.0** 6.42	**15.24** 33.63
HM321245	HM321210	HM321210EB	**0.5** 0.02	**109.0** 4.29	**3.3** 0.13	**155.0** 6.10	**9.22** 20.33
JM720249	JM720210	JY15516-Q	**0.3** 0.01	**109.0** 4.29	**2.5** 0.10	**140.0** 5.51	**4.89** 10.76
JM720249	JM720210	M720210EB	**0.3** 0.01	**109.0** 4.29	**2.5** 0.10	**140.0** 5.51	**4.90** 10.80
JHM720249	JHM720210	JY16018R	**0.3** 0.01	**109.4** 4.30	**2.5** 0.10	**143.0** 5.63	**6.25** 13.78
X30220M	Y30220M	JY18016-Q	**1.0** 0.04	**115.0** 4.53	**2.5** 0.10	**163.0** 6.42	**7.87** 17.35
687	672	Y6S-672	**0.5** 0.02	**112.0** 4.41	**3.3** 0.13	**149.0** 5.87	**7.17** 15.81
941	932	Y1S-932	**0.8** 0.03	**117.0** 4.61	**3.3** 0.13	**187.0** 7.36	**22.69** 50.05
HH923649	HH923610	HH923610EA	**1.5** 0.06	**130.8** 5.15	**6.4** 0.25	**207.0** 8.15	**36.33** 80.12

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
106.362 4.1875	**165.100** 6.5000	**73.025** 2.8750	**73.024** 2.8750	**394000** 88600	0.50	1.36	2.02	**58700** 13200	**50000** 11200	**102000** 23000	1.18
107.950 4.2500	**158.750** 6.2500	**46.040** 1.8126	**42.876** 1.6880	**238000** 53400	0.61	1.11	1.66	**35400** 7960	**36700** 8250	**61600** 13900	0.96
107.950 4.2500	**212.725** 8.3750	**133.350** 5.2500	**133.350** 5.2500	**1180000** 266000	0.33	2.07	3.09	**176000** 39600	**98300** 22100	**307000** 69000	1.79
107.950 4.2500	**212.725** 8.3750	**133.350** 5.2500	**133.350** 5.2500	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
110.000 4.3307	**165.000** 6.4961	**70.000** 2.7560	**70.000** 2.7560	**396000** 88900	0.50	1.36	2.02	**58900** 13200	**50100** 11300	**103000** 23100	1.18
110.000 4.3307	**200.000** 7.8740	**112.000** 4.4095	**106.000** 4.1732	**858000** 193000	0.42	1.61	2.39	**128000** 28700	**91900** 20700	**222000** 50000	1.39
110.000 4.3307	**240.000** 9.4488	**126.000** 4.9606	**114.000** 4.4882	**963000** 217000	0.83	0.82	1.22	**143000** 32200	**203000** 45500	**250000** 56100	0.71
111.125 4.3750	**214.312** 8.4375	**111.125** 4.3750	**104.776** 4.1250	**970000** 218000	0.67	1.00	1.49	**144000** 32500	**167000** 37500	**251000** 56500	0.87
114.300 4.5000	**177.800** 7.0000	**82.550** 3.2500	**82.550** 3.2500	**478000** 108000	0.52	1.31	1.95	**71200** 16000	**62900** 14100	**124000** 27900	1.13
114.300 4.5000	**212.725** 8.3750	**133.350** 5.2500	**133.350** 5.2500	**996000** 224000	0.33	2.07	3.09	**148000** 33300	**82700** 18600	**258000** 58000	1.79
114.300 4.5000	**228.600** 9.0000	**107.950** 4.2500	**98.856** 3.8920	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
114.300 4.5000	**279.400** 11.0000	**165.100** 6.5000	**165.100** 6.5000	**1850000** 417000	0.63	1.07	1.59	**276000** 62100	**299000** 67200	**481000** 108000	0.92
120.650 4.7500	**199.975** 7.8730	**92.075** 3.6250	**92.075** 3.6250	**629000** 142000	0.43	1.58	2.35	**93700** 21100	**68500** 15400	**163000** 36700	1.37
120.650 4.7500	**206.375** 8.1250	**95.250** 3.7500	**95.250** 3.7500	**658000** 148000	0.46	1.47	2.19	**98000** 22000	**77000** 17300	**171000** 38400	1.27
120.650 4.7500	**234.950** 9.2500	**127.000** 5.0000	**127.000** 5.0000	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
120.650 4.7500	**254.000** 10.0000	**155.575** 6.1250	**165.100** 6.5000	**1580000** 356000	0.32	2.10	3.13	**236000** 53000	**130000** 29200	**411000** 92400	1.82
120.650 4.7500	**273.050** 10.7500	**165.100** 6.5000	**165.100** 6.5000	**1850000** 417000	0.63	1.07	1.59	**276000** 62100	**299000** 67200	**481000** 108000	0.92

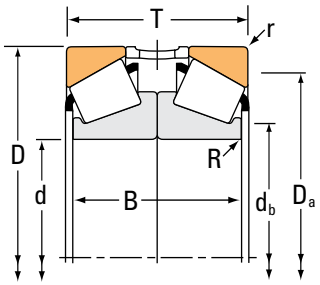
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
56418	56650	Y2S-56650	**0.5** 0.02	**116.0** 4.57	**3.3** 0.13	**149.0** 5.87	**5.64** 12.42
K37425	K37625	K161710	**0.5** 0.02	**115.0** 4.53	**3.3** 0.13	**143.0** 5.63	**2.92** 6.41
HH224340	HH224310	HH224310EC	**1.5** 0.06	**126.0** 4.96	**3.3** 0.13	**192.0** 7.56	**21.35** 47.08
936	932	Y1S-932	**0.8** 0.03	**122.0** 4.80	**3.3** 0.13	**187.0** 7.36	**21.57** 47.56
JM822049	JM822010	M822010EA	**0.3** 0.01	**119.0** 4.69	**2.5** 0.10	**149.0** 5.87	**5.05** 11.17
X32222M	Y32222M	JY20020-Q	**1.0** 0.04	**125.0** 4.92	**2.5** 0.10	**179.0** 7.05	**14.57** 32.12
X31322M	Y31322M	JY24050-Q	**1.8** 0.07	**135.0** 5.35	**3.0** 0.12	**206.0** 8.11	**13.82** 30.46
H924045	H924010	H924010EA	**1.5** 0.06	**131.2** 5.16	**3.3** 0.13	**186.0** 7.32	**17.33** 38.21
64450	64700	Y2S-64700	**0.5** 0.02	**125.0** 4.92	**3.3** 0.13	**160.0** 6.30	**7.18** 15.85
938	932	Y6S-932	**0.8** 0.03	**128.0** 5.04	**3.3** 0.13	**187.0** 7.36	**20.79** 45.85
HM926740	HM926710	HM926710EE	**2.0** 0.08	**142.0** 5.59	**3.3** 0.13	**200.0** 7.87	**19.77** 43.59
HH926744	HH926716	HH926716EC	**1.5** 0.06	**147.2** 5.80	**6.4** 0.25	**233.0** 9.17	**49.76** 109.68
HM624749	HM624716	HM624716EA	**0.5** 0.02	**132.0** 5.20	**1.5** 0.06	**178.0** 7.01	**11.50** 25.36
795	792	Y3S-792	**0.8** 0.03	**134.0** 5.28	**3.3** 0.13	**186.0** 7.32	**13.32** 29.38
95475	95925	Y1S-95925	**0.8** 0.03	**137.0** 5.39	**3.3** 0.13	**209.0** 8.23	**25.89** 57.11
HH228340	HH228310	HH228310EA	**1.5** 0.06	**142.0** 5.59	**6.4** 0.25	**223.0** 8.78	**38.54** 84.97
HH926749	HH926710	HH926710EB	**1.5** 0.06	**147.2** 5.80	**6.4** 0.25	**230.0** 9.06	**45.20** 99.61

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
125.298 4.9330	**228.600** 9.0000	**107.950** 4.2500	**98.857** 3.8920	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
127.000 5.0000	**182.562** 7.1875	**79.375** 3.1250	**76.200** 3.0000	**466000** 105000	0.31	2.21	3.29	**69400** 15600	**36300** 8160	**121000** 27200	1.91
127.000 5.0000	**196.850** 7.7500	**92.075** 3.6250	**92.075** 3.6250	**640000** 144000	0.34	1.96	2.92	**95300** 21400	**56100** 12600	**166000** 37300	1.70
127.000 5.0000	**214.975** 8.4636	**95.250** 3.7500	**95.250** 3.7500	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
127.000 5.0000	**215.900** 8.5000	**95.250** 3.7500	**95.250** 3.7500	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
127.000 5.0000	**228.600** 9.0000	**107.950** 4.2500	**98.857** 3.8920	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
127.000 5.0000	**234.950** 9.2500	**127.000** 5.0000	**127.000** 5.0000	**1090000** 246000	0.37	1.83	2.72	**163000** 36700	**103000** 23200	**284000** 63800	1.58
127.000 5.0000	**304.800** 12.0000	**177.800** 7.0000	**165.100** 6.5000	**2020000** 453000	0.73	0.93	1.38	**300000** 67500	**374000** 84100	**522000** 117000	0.80
127.792 5.0312	**228.600** 9.0000	**107.950** 4.2500	**98.857** 3.8920	**1020000** 230000	0.74	0.92	1.36	**152000** 34200	**192000** 43100	**265000** 59500	0.79
130.000 5.1181	**206.375** 8.1250	**95.250** 3.7500	**95.250** 3.7500	**658000** 148000	0.46	1.47	2.19	**98000** 22000	**77000** 17300	**171000** 38400	1.27
130.000 5.1181	**230.000** 9.0551	**135.500** 5.3346	**128.000** 5.0394	**1190000** 267000	0.44	1.55	2.31	**177000** 39800	**132000** 29600	**308000** 69200	1.34
130.000 5.1181	**280.000** 11.0236	**144.000** 5.6693	**132.000** 5.1969	**1200000** 270000	0.83	0.82	1.22	**179000** 40300	**253000** 56900	**312000** 70100	0.71
133.350 5.2500	**196.850** 7.7500	**92.075** 3.6250	**92.075** 3.6250	**672000** 151000	0.34	1.96	2.92	**100000** 22500	**58900** 13300	**174000** 39200	1.70
133.350 5.2500	**215.900** 8.5000	**95.250** 3.7500	**95.250** 3.7500	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
139.700 5.5000	**180.975** 7.1250	**42.865** 1.6876	**41.276** 1.6250	**197000** 44400	0.37	1.85	2.75	**29400** 6600	**18400** 4130	**51200** 11500	1.60
139.700 5.5000	**215.900** 8.5000	**95.250** 3.7500	**95.250** 3.7500	**665000** 150000	0.49	1.38	2.06	**99000** 22300	**82600** 18600	**172000** 38800	1.20
139.700 5.5000	**254.000** 10.0000	**133.350** 5.2500	**133.350** 5.2500	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43

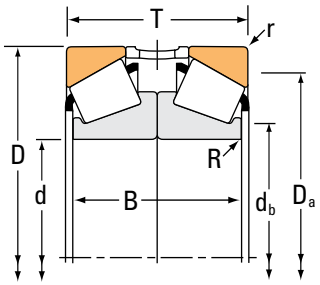
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
HM926745	HM926710	HM926710EE	**2.0** 0.08	**143.0** 5.63	**3.3** 0.13	**200.0** 7.87	**18.17** 40.05
48290	48220	Y5S-48220	**0.5** 0.02	**135.0** 5.31	**3.3** 0.13	**168.0** 6.61	**8.02** 17.68
67388	67322	Y1S-67322	**0.8** 0.03	**138.0** 5.43	**3.3** 0.13	**180.0** 7.09	**10.39** 22.92
74500	74845	K160066	**1.0** 0.04	**141.0** 5.55	**3.3** 0.13	**196.0** 7.72	**14.33** 31.60
74500	74850	Y4S-74850	**1.0** 0.04	**141.0** 5.55	**3.3** 0.13	**196.0** 7.72	**14.31** 31.54
HM926747	HM926710	HM926710EE	**2.0** 0.08	**143.0** 5.63	**3.3** 0.13	**200.0** 7.87	**17.89** 39.47
95500	95925	Y1S-95925	**0.8** 0.03	**142.0** 5.59	**3.3** 0.13	**209.0** 8.23	**24.67** 54.39
HH932132	HH932110	HH932110EC	**1.5** 0.06	**172.0** 6.77	**6.4** 0.25	**260.0** 10.24	**61.95** 136.57
HM926749	HM926710	HM926710EE	**2.0** 0.08	**143.0** 5.63	**3.3** 0.13	**200.0** 7.87	**17.77** 39.20
797	792	Y4S-792	**0.8** 0.03	**141.0** 5.55	**3.3** 0.13	**186.0** 7.32	**13.51** 29.80
X32226M	Y32226M	JY23028-Q	**1.0** 0.04	**145.0** 5.71	**3.0** 0.12	**206.0** 8.11	**23.43** 51.69
X31326M	Y31326M	JY28056-Q	**0.8** 0.03	**163.0** 6.42	**4.0** 0.16	**238.0** 9.37	**41.08** 90.56
M327349	67322	Y1S-67322	**0.8** 0.03	**144.0** 5.67	**3.3** 0.13	**180.0** 7.09	**9.42** 20.76
74525	74850	Y4S-74850	**0.8** 0.03	**146.0** 5.75	**3.3** 0.13	**196.0** 7.72	**13.35** 29.40
LL428349	LL428310	LL428310EA	**0.5** 0.02	**146.0** 5.75	**1.5** 0.06	**172.0** 6.77	**2.61** 5.75
74550	74850	Y4S-74850	**0.8** 0.03	**151.0** 5.94	**3.3** 0.13	**196.0** 7.72	**12.33** 27.16
99550	99100	Y1S-99100	**4.0** 0.16	**156.0** 6.14	**3.3** 0.13	**227.0** 8.94	**29.52** 65.08

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
146.050 5.7500	**268.288** 10.5625	**149.225** 5.8750	**149.225** 5.8750	**1370000** 307000	0.39	1.74	2.59	**203000** 45700	**135000** 30300	**354000** 79600	1.51
146.050 5.7500	**304.800** 12.0000	**177.800** 7.0000	**165.100** 6.5000	**2020000** 453000	0.73	0.93	1.38	**300000** 67500	**374000** 84100	**522000** 117000	0.80
149.225 5.8750	**236.538** 9.3125	**114.300** 4.5000	**113.284** 4.4600	**1040000** 234000	0.32	2.12	3.15	**155000** 34800	**84500** 19000	**269000** 60600	1.83
150.000 5.9055	**320.000** 12.5984	**164.000** 6.4567	**150.000** 5.9055	**1500000** 338000	0.83	0.82	1.22	**224000** 50300	**316000** 71000	**389000** 87500	0.71
152.400 6.0000	**222.250** 8.7500	**93.660** 3.6874	**93.660** 3.6874	**607000** 136000	0.33	2.03	3.02	**90400** 20300	**51500** 11600	**157000** 35400	1.76
152.400 6.0000	**254.000** 10.0000	**133.350** 5.2500	**133.350** 5.2500	**1150000** 258000	0.41	1.66	2.47	**171000** 38500	**119000** 26800	**298000** 67000	1.43
152.400 6.0000	**307.975** 12.1250	**177.800** 7.0000	**187.325** 7.3750	**2010000** 451000	0.33	2.07	3.08	**299000** 67200	**167000** 37500	**520000** 117000	1.79
155.575 6.1250	**330.200** 13.0000	**171.450** 6.7500	**158.750** 6.2500	**2140000** 481000	0.81	0.83	1.24	**319000** 71600	**441000** 99200	**555000** 125000	0.72
158.750 6.2500	**225.425** 8.8750	**82.550** 3.2500	**79.375** 3.1250	**528000** 119000	0.38	1.76	2.62	**78600** 17700	**51600** 11600	**137000** 30800	1.52
158.750 6.2500	**285.750** 11.2500	**152.400** 6.0000	**146.050** 5.7500	**1240000** 280000	0.40	1.68	2.50	**185000** 41700	**128000** 28700	**323000** 72500	1.45
161.925 6.3750	**374.650** 14.7500	**174.625** 6.8750	**158.750** 6.2500	**2300000** 518000	0.71	0.96	1.42	**343000** 77200	**415000** 93300	**598000** 134000	0.83
165.100 6.5000	**247.650** 9.7500	**95.250** 3.7500	**95.250** 3.7500	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
165.100 6.5000	**288.925** 11.3750	**127.000** 5.0000	**127.000** 5.0000	**1150000** 258000	0.47	1.44	2.15	**171000** 38500	**137000** 30800	**298000** 67000	1.25
165.100 6.5000	**311.150** 12.2500	**165.100** 6.5000	**165.100** 6.5000	**1840000** 414000	0.33	2.04	3.04	**274000** 61600	**155000** 34900	**477000** 107000	1.77
165.100 6.5000	**336.550** 13.2500	**190.500** 7.5000	**190.500** 7.5000	**2880000** 648000	0.37	1.82	2.71	**429000** 96500	**273000** 61400	**748000** 168000	1.57
168.275 6.6250	**247.650** 9.7500	**95.250** 3.7500	**95.250** 3.7500	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
168.275 6.6250	**330.200** 13.0000	**171.450** 6.7500	**158.750** 6.2500	**2140000** 481000	0.81	0.83	1.24	**319000** 71600	**441000** 99200	**555000** 125000	0.72

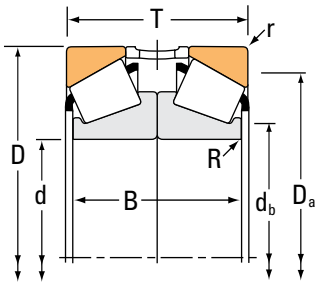
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
EE107057	107105	Y2S-107105	**1.5** 0.06	**166.0** 6.54	**6.4** 0.25	**237.0** 9.33	**41.74** 91.99
HH932145	HH932110	HH932110EC	**1.5** 0.06	**174.0** 6.87	**6.4** 0.25	**260.0** 10.24	**56.73** 125.06
HM231149	HM231110	HM231110EC	**1.5** 0.06	**163.0** 6.42	**3.3** 0.13	**217.0** 8.54	**18.48** 40.71
X31330M	Y31330M	JY32064-Q	**2.0** 0.08	**187.0** 7.36	**4.0** 0.16	**276.0** 10.87	**60.19** 132.61
M231649	M231610	K75277	**0.8** 0.03	**163.0** 6.42	**1.5** 0.06	**207.0** 8.15	**11.94** 26.34
99600	99100	Y1S-99100	**4.0** 0.16	**169.7** 6.68	**3.3** 0.13	**227.0** 8.94	**26.46** 58.34
HH234048	HH234010	HH234010EC	**3.3** 0.13	**179.0** 7.05	**6.8** 0.27	**276.1** 10.87	**61.59** 135.77
H936340	H936310	H936310EA	**1.3** 0.05	**192.4** 7.58	**6.4** 0.25	**282.0** 11.10	**67.25** 148.26
46780	46720	Y2S-46720	**0.8** 0.03	**169.0** 6.65	**3.3** 0.13	**209.0** 8.23	**10.66** 23.53
EE217062X	217112	Y2S-217112	**1.5** 0.06	**176.0** 6.93	**6.4** 0.25	**251.0** 9.88	**39.70** 87.52
EE117063	117148	Y3S-117148	**1.5** 0.06	**197.0** 7.76	**1.5** 0.06	**322.0** 12.68	**88.58** 195.27
67780	67720	Y1S-67720	**0.5** 0.02	**179.0** 7.05	**3.3** 0.13	**229.0** 9.02	**16.43** 36.24
94649	94113	Y11S-94113	**1.5** 0.06	**186.0** 7.32	**3.3** 0.13	**259.0** 10.20	**40.61** 89.52
H238140	H238110	H238110EA	**1.5** 0.06	**188.0** 7.40	**6.4** 0.25	**280.0** 11.02	**56.92** 125.51
HH437549	HH437510	HH437510EA	**3.3** 0.13	**196.0** 7.72	**6.4** 0.25	**297.0** 11.69	**79.69** 175.70
67782	67720	Y3S-67720	**0.5** 0.02	**181.0** 7.13	**3.3** 0.13	**229.0** 9.02	**15.71** 34.65
H936349	H936310	H936310EA	**0.8** 0.03	**192.4** 7.58	**6.4** 0.25	**282.0** 11.10	**63.23** 139.40

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
169.975 6.6919	**260.350** 10.2500	**133.350** 5.2500	**133.350** 5.2500	**1140000** 256000	0.40	1.68	2.50	**169000** 38100	**117000** 26200	**295000** 66300	1.45
170.000 6.6929	**230.000** 9.0551	**76.000** 2.9921	**76.000** 2.9922	**618000** 139000	0.38	1.76	2.62	**92000** 20700	**60400** 13600	**160000** 36000	1.52
170.000 6.6929	**230.000** 9.0551	**78.000** 3.0708	**76.000** 2.9922	**583000** 131000	0.38	1.76	2.62	**86800** 19500	**56900** 12800	**151000** 34000	1.52
170.000 6.6929	**240.000** 9.4488	**92.000** 3.6220	**89.000** 3.5040	**667000** 150000	0.44	1.54	2.30	**99300** 22300	**74300** 16700	**173000** 38900	1.34
170.000 6.6929	**254.000** 10.0000	**92.075** 3.6250	**92.076** 3.6250	**867000** 195000	0.37	1.83	2.72	**129000** 29000	**81600** 18300	**225000** 50500	1.58
170.000 6.6929	**260.000** 10.2362	**114.000** 4.4882	**114.000** 4.4882	**1060000** 239000	0.44	1.52	2.26	**158000** 35500	**120000** 27000	**275000** 61900	1.31
171.450 6.7500	**374.650** 14.7500	**174.625** 6.8750	**158.750** 6.2500	**2300000** 518000	0.71	0.96	1.42	**343000** 77200	**415000** 93300	**598000** 134000	0.83
174.625 6.8750	**247.650** 9.7500	**95.250** 3.7500	**95.250** 3.7500	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
177.800 7.0000	**247.650** 9.7500	**95.250** 3.7500	**95.250** 3.7500	**705000** 159000	0.44	1.54	2.29	**105000** 23600	**79000** 17800	**183000** 41100	1.33
177.800 7.0000	**279.400** 11.0000	**123.825** 4.8750	**123.824** 4.8750	**930000** 209000	0.52	1.29	1.92	**138000** 31100	**124000** 28000	**241000** 54200	1.11
177.800 7.0000	**288.925** 11.3750	**127.000** 5.0000	**127.000** 5.0000	**1700000** 382000	0.32	2.12	3.15	**253000** 56900	**138000** 31100	**441000** 99100	1.83
177.800 7.0000	**355.600** 14.0000	**158.750** 6.2500	**155.576** 6.1250	**1850000** 416000	0.55	1.24	1.84	**276000** 62000	**258000** 57900	**480000** 108000	1.07
177.800 7.0000	**428.625** 16.8750	**212.726** 8.3750	**190.500** 7.5000	**2620000** 588000	0.76	0.89	1.33	**390000** 87600	**506000** 114000	**679000** 153000	0.77
180.000 7.0866	**250.000** 9.8425	**90.000** 3.5434	**90.000** 3.5434	**712000** 160000	0.48	1.41	2.09	**106000** 23800	**87200** 19600	**185000** 41500	1.22
180.000 7.0866	**250.000** 9.8425	**90.000** 3.5434	**90.000** 3.5434	**702000** 158000	0.48	1.41	2.09	**105000** 23500	**85900** 19300	**182000** 40900	1.22
180.000 7.0866	**280.000** 11.0236	**128.000** 5.0394	**128.000** 5.0394	**1230000** 277000	0.42	1.60	2.38	**183000** 41200	**133000** 29800	**319000** 71700	1.38
190.000 7.4803	**260.000** 10.2362	**92.000** 3.6220	**88.000** 3.4646	**708000** 159000	0.48	1.41	2.11	**105000** 23700	**86200** 19400	**184000** 41300	1.22

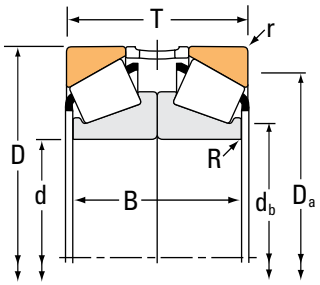
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
HM535347	HM535310	HM535310EA	**1.5** 0.06	**186.1** 7.40	**3.3** 0.13	**236.0** 9.29	**25.94** 57.22
X32934M	Y32934M	K167396	**0.6** 0.03	**179.0** 7.05	**2.0** 0.08	**215.0** 8.46	**9.14** 20.15
JHM534149	JHM534110	HM534110EB	**0.5** 0.02	**178.0** 7.01	**2.5** 0.10	**217.0** 8.54	**8.90** 19.59
JM734449A	JM734410	M734410EB	**0.5** 0.02	**180.0** 7.09	**2.5** 0.10	**222.0** 8.74	**12.80** 28.19
86669	86100	Y2S-86100	**0.8** 0.03	**180.0** 7.09	**3.3** 0.13	**234.0** 9.21	**15.10** 33.27
X32034XM	Y32034XM	K166076	**1.0** 0.04	**187.0** 7.36	**2.5** 0.10	**238.0** 9.37	**21.75** 47.79
EE117067	117148	Y3S-117148	**1.5** 0.06	**205.0** 8.07	**1.5** 0.06	**322.0** 12.68	**85.52** 188.51
67786	67720	Y1S-67720	**0.5** 0.02	**185.0** 7.28	**3.3** 0.13	**229.0** 9.02	**14.45** 31.85
67790	67720	Y3S-67720	**0.5** 0.02	**188.0** 7.40	**3.3** 0.13	**229.0** 9.02	**13.79** 30.39
82680X	82620	Y2S-82620	**1.5** 0.06	**195.0** 7.68	**3.3** 0.13	**251.0** 9.88	**28.09** 61.94
HM237545	HM237510	HM237510ED	**1.5** 0.06	**194.0** 7.64	**3.3** 0.13	**266.0** 10.47	**31.62** 69.75
EE607070	607140	Y1S-607140	**1.5** 0.06	**204.0** 8.03	**6.4** 0.25	**311.9** 12.28	**72.51** 159.87
EE350701	351687	Y1S-351687	**1.5** 0.06	**221.0** 8.70	**6.4** 0.25	**365.0** 14.37	**145.48** 320.70
JM736149	JM736110	JY25020-S	**0.5** 0.02	**190.5** 7.50	**2.5** 0.10	**232.0** 9.13	**13.77** 30.34
X32936M	Y32936M	K163398	**0.6** 0.03	**192.0** 7.56	**2.0** 0.08	**231.0** 9.09	**13.43** 29.63
X32036XM	Y32036XM	K160264	**1.0** 0.04	**197.0** 7.76	**2.5** 0.10	**256.0** 10.08	**28.80** 63.46
JM738249	JM738210	K161599	**0.5** 0.02	**200.0** 7.87	**2.5** 0.10	**242.0** 9.53	**14.06** 30.99

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
190.000 7.4803	**290.000** 11.4173	**128.000** 5.0394	**128.000** 5.0394	**1250000** 281000	0.44	1.53	2.27	**186000** 41900	**141000** 31700	**325000** 73000	1.32
190.500 7.5000	**336.550** 13.2500	**165.100** 6.5000	**168.276** 6.6250	**1640000** 370000	0.37	1.85	2.75	**245000** 55000	**153000** 34400	**426000** 95800	1.60
190.500 7.5000	**336.550** 13.2500	**196.850** 7.7500	**190.500** 7.5000	**2010000** 451000	0.58	1.17	1.75	**299000** 67100	**294000** 66200	**520000** 117000	1.01
190.500 7.5000	**428.625** 16.8750	**212.725** 8.3750	**190.500** 7.5000	**2860000** 644000	0.76	0.89	1.33	**426000** 95900	**554000** 124000	**742000** 167000	0.77
196.850 7.7500	**254.000** 10.0000	**57.150** 2.2500	**55.566** 2.1876	**367000** 82500	0.40	1.70	2.53	**54700** 12300	**37100** 8350	**95200** 21400	1.47
200.000 7.8740	**310.000** 12.2047	**140.000** 5.5118	**140.000** 5.5118	**1480000** 332000	0.43	1.57	2.34	**220000** 49400	**162000** 36400	**383000** 86000	1.36
203.200 8.0000	**365.049** 14.3720	**184.150** 7.2500	**177.794** 6.9998	**2030000** 457000	0.40	1.68	2.50	**303000** 68100	**208000** 46800	**527000** 118000	1.45
203.200 8.0000	**406.400** 16.0000	**184.150** 7.2500	**171.450** 6.7500	**2120000** 477000	0.80	0.85	1.26	**316000** 71000	**431000** 97000	**550000** 124000	0.73
204.788 8.0625	**292.100** 11.5000	**115.888** 4.5626	**115.890** 4.5626	**1040000** 235000	0.33	2.03	3.02	**156000** 35000	**88500** 19900	**271000** 60900	1.76
206.375 8.1250	**336.550** 13.2500	**196.850** 7.7500	**200.024** 7.8750	**2360000** 530000	0.33	2.03	3.02	**351000** 79000	**200000** 45000	**612000** 137000	1.76
209.550 8.2500	**317.500** 12.5000	**127.000** 5.0000	**127.000** 5.0000	**1270000** 286000	0.52	1.29	1.92	**190000** 42600	**170000** 38200	**330000** 74200	1.12
209.550 8.2500	**333.375** 13.1250	**139.700** 5.5000	**139.700** 5.5000	**1600000** 359000	0.44	1.54	2.29	**238000** 53400	**179000** 40200	**414000** 93000	1.33
209.550 8.2500	**355.600** 14.0000	**136.525** 5.3750	**133.350** 5.2500	**1320000** 297000	0.59	1.14	1.70	**197000** 44200	**199000** 44700	**343000** 77000	0.99
215.900 8.5000	**290.010** 11.4177	**63.500** 2.5000	**63.500** 2.5000	**416000** 93600	0.39	1.75	2.61	**62000** 13900	**40900** 9190	**108000** 24300	1.52
222.250 8.7500	**482.600** 19.0000	**234.950** 9.2500	**190.500** 7.5000	**2870000** 646000	0.87	0.78	1.16	**428000** 96200	**635000** 143000	**745000** 168000	0.67
228.397 8.9920	**431.800** 17.0000	**184.149** 7.2500	**171.450** 6.7500	**2220000** 499000	0.88	0.76	1.14	**330000** 74300	**500000** 112000	**575000** 129000	0.66
228.460 8.9945	**431.800** 17.0000	**184.150** 7.2500	**171.450** 6.7500	**2220000** 499000	0.88	0.76	1.14	**330000** 74300	**500000** 112000	**575000** 129000	0.66

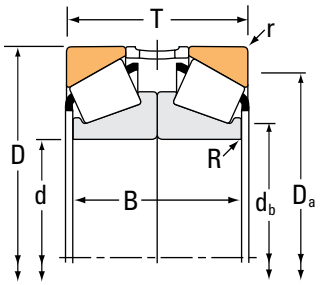
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
X32038XM	Y32038XM	K162211	**1.0** 0.04	**207.0** 8.15	**2.5** 0.10	**267.0** 10.51	**30.16** 66.48
470975	470132	Y1S-470132	**1.5** 0.06	**210.0** 8.27	**6.4** 0.25	**298.0** 11.73	**61.46** 135.50
HH840249	HH840210	HH840210EA	**1.5** 0.06	**215.7** 8.49	**6.4** 0.25	**290.0** 11.42	**74.14** 163.45
EE350750	351687	Y1S-351687	**6.4** 0.25	**237.0** 9.33	**6.4** 0.25	**365.0** 14.37	**139.80** 308.21
L540049	L540010	L540010EA	**0.8** 0.03	**205.0** 8.07	**1.5** 0.06	**243.0** 9.57	**6.97** 15.37
X32040XM	Y32040XM	K165677	**1.5** 0.06	**220.0** 8.66	**2.5** 0.10	**284.0** 11.18	**39.08** 86.14
EE420801	421437	Y2S-421437	**1.5** 0.06	**227.1** 8.94	**3.3** 0.13	**329.0** 12.95	**78.68** 173.48
EE114080	114160	Y2S-114160	**1.5** 0.06	**237.0** 9.33	**6.4** 0.25	**349.0** 13.74	**102.70** 226.43
M241549	M241510	M241510EC	**1.5** 0.06	**219.0** 8.62	**3.3** 0.13	**272.0** 10.71	**24.60** 54.22
H242649	H242610	K162083	**1.5** 0.06	**227.0** 8.94	**3.3** 0.13	**306.0** 12.05	**68.69** 151.44
93825	93125	Y6S-93125	**1.3** 0.05	**226.9** 8.93	**3.3** 0.13	**286.0** 11.26	**35.47** 78.21
HM743345	HM743310	HM743310EB	**1.5** 0.06	**228.0** 8.98	**6.4** 0.25	**303.0** 11.93	**46.10** 101.64
96825	96140	Y7S-96140	**1.5** 0.06	**235.0** 9.25	**3.3** 0.13	**318.0** 12.52	**57.44** 126.67
543085	543114	Y2S-543114	**0.8** 0.03	**226.0** 8.90	**3.3** 0.13	**272.0** 10.71	**11.62** 25.62
EE380875	380190	Y2S-380190	**1.5** 0.06	**267.0** 10.51	**6.4** 0.25	**402.0** 15.83	**193.74** 427.10
EE113089	113170	Y2S-113170	**3.3** 0.13	**267.0** 10.51	**6.4** 0.25	**375.0** 14.76	**114.78** 253.04
EE113091	113170	Y4S-113170	**3.3** 0.13	**267.0** 10.51	**6.4** 0.25	**375.0** 14.76	**115.43** 254.48

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
228.600 9.0000	**300.038** 11.8125	**66.675** 2.6250	**63.500** 2.5000	**414000** 93000	0.40	1.68	2.50	**61600** 13900	**42400** 9530	**107000** 24100	1.45
228.600 9.0000	**320.675** 12.6250	**101.600** 4.0000	**98.424** 3.8750	**961000** 216000	0.49	1.39	2.06	**143000** 32200	**119000** 26800	**249000** 56000	1.20
228.600 9.0000	**355.600** 14.0000	**136.525** 5.3750	**133.350** 5.2500	**1320000** 297000	0.59	1.14	1.70	**197000** 44200	**199000** 44700	**343000** 77000	0.99
228.600 9.0000	**488.950** 19.2500	**247.650** 9.7500	**222.250** 8.7500	**3910000** 879000	0.94	0.72	1.07	**582000** 131000	**934000** 210000	**1010000** 228000	0.62
228.600 9.0000	**508.000** 20.0000	**234.950** 9.2500	**190.500** 7.5000	**2920000** 656000	0.94	0.72	1.07	**434000** 97700	**697000** 157000	**756000** 170000	0.62
234.950 9.2500	**384.175** 15.1250	**225.425** 8.8750	**225.424** 8.8750	**2920000** 656000	0.33	2.03	3.02	**434000** 97600	**247000** 55600	**756000** 170000	1.76
240.000 9.4488	**360.000** 14.1732	**152.000** 5.9842	**152.000** 5.9842	**2060000** 463000	0.46	1.47	2.19	**306000** 68900	**241000** 54100	**534000** 120000	1.27
247.650 9.7500	**406.400** 16.0000	**231.775** 9.1250	**234.950** 9.2500	**3620000** 814000	0.33	2.03	3.02	**539000** 121000	**307000** 69000	**939000** 211000	1.76
254.000 10.0000	**533.400** 21.0000	**266.700** 10.5000	**241.300** 9.5000	**4670000** 1050000	0.94	0.72	1.07	**696000** 156000	**1120000** 251000	**1210000** 272000	0.62
254.000 10.0000	**558.800** 22.0000	**209.550** 8.2500	**209.550** 8.2500	**3130000** 704000	0.87	0.78	1.16	**466000** 105000	**691000** 155000	**812000** 182000	0.67
264.975 10.4321	**355.600** 14.0000	**114.300** 4.5000	**124.000** 4.8818	**1270000** 286000	0.36	1.87	2.79	**189000** 42600	**117000** 26300	**330000** 74200	1.62
266.700 10.5000	**444.500** 17.5000	**241.300** 9.5000	**234.950** 9.2500	**3180000** 714000	0.58	1.17	1.75	**473000** 106000	**466000** 105000	**823000** 185000	1.01
285.750 11.2500	**358.775** 14.1250	**66.675** 2.6250	**63.500** 2.5000	**449000** 101000	0.49	1.37	2.04	**66800** 15000	**56300** 12600	**116000** 26200	1.19
304.800 12.0000	**406.400** 16.0000	**127.000** 5.0000	**127.000** 5.0000	**1340000** 301000	0.44	1.53	2.28	**199000** 44800	**151000** 33900	**347000** 78100	1.32
304.800 12.0000	**499.948** 19.6830	**203.200** 8.0000	**158.750** 6.2500	**2330000** 523000	1.17	0.58	0.86	**346000** 77900	**695000** 156000	**603000** 136000	0.50
360.000 14.1732	**480.000** 18.8976	**152.000** 5.9843	**152.000** 5.9842	**2170000** 489000	0.46	1.47	2.19	**324000** 72800	**254000** 57100	**564000** 127000	1.27
381.000 15.0000	**479.425** 18.8750	**98.425** 3.8750	**95.250** 3.7500	**1030000** 232000	0.50	1.36	2.03	**154000** 34600	**130000** 29300	**268000** 60300	1.18

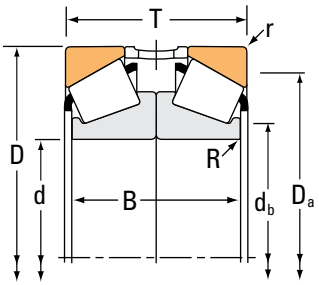
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
544090	544118	Y4S-544118	**1.5** 0.06	**240.0** 9.45	**3.3** 0.13	**282.0** 11.10	**11.91** 26.22
88900	88126	Y1S-88126	**0.8** 0.03	**242.0** 9.53	**3.3** 0.13	**299.0** 11.77	**23.73** 52.27
96900	96140	Y5S-96140	**1.5** 0.06	**249.0** 9.80	**3.3** 0.13	**318.0** 12.52	**49.44** 109.04
HH949549	HH949510	K80686	**1.5** 0.06	**280.0** 11.02	**6.4** 0.25	**416.0** 16.38	**214.23** 472.33
EE390090	390200	Y1S-390200	**1.5** 0.06	**277.0** 10.91	**6.4** 0.25	**423.0** 16.65	**215.02** 474.05
H247549	H247510	H247510EB	**1.5** 0.06	**263.0** 10.35	**6.4** 0.25	**346.0** 13.62	**104.72** 230.88
X32048X	Y32048X	K163891	**2.0** 0.08	**259.0** 10.20	**3.0** 0.12	**331.0** 13.03	**53.32** 117.52
HH249949	HH249910	HH249910ES	**1.5** 0.06	**275.0** 10.83	**6.4** 0.25	**366.0** 14.41	**125.29** 276.23
HH953749	HH953710	K85370	**1.5** 0.06	**306.3** 12.06	**6.4** 0.25	**455.0** 17.91	**275.73** 607.88
EE620100	620220	Y1S-620220	**3.3** 0.13	**308.0** 12.13	**8.0** 0.31	**477.0** 18.78	**282.99** 623.87
LM451347	LM451310	LM451310EC	**1.5** 0.06	**280.0** 11.02	**3.3** 0.13	**335.0** 13.19	**32.47** 71.59
H852849	H852810	H852810EB	**1.5** 0.06	**296.9** 11.69	**6.4** 0.25	**390.0** 15.35	**150.83** 332.55
545112	545141	Y2S-545141	**1.5** 0.06	**298.0** 11.73	**3.3** 0.13	**340.0** 13.39	**15.01** 33.08
LM757049	LM757010	LM757010ES	**1.5** 0.06	**322.0** 12.68	**3.3** 0.13	**380.0** 14.96	**43.24** 95.31
M959442	M959410	M959410EB	**1.5** 0.06	**344.0** 13.54	**6.4** 0.25	**438.0** 17.24	**138.33** 304.94
X32972M	Y32972M	K161931	**1.5** 0.06	**378.0** 14.88	**3.0** 0.12	**451.0** 17.76	**92.80** 164.88
L865547	L865512	L865512EA	**0.8** 0.03	**395.0** 15.55	**3.3** 0.13	**456.0** 17.95	**39.00** 85.96

[5]Contact your Timken engineer for information on spacer configurations.
[6]These maximum fillet radii will be cleared by the bearing corners.

TYPE 2TS-DM





Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width B	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
400.000 15.7480	**510.000** 20.0787	**124.000** 4.8819	**124.000** 4.8818	**1720000** 386000	0.37	1.85	2.75	**255000** 57400	**160000** 35900	**445000** 100000	1.60
406.400 16.0000	**549.275** 21.6250	**171.450** 6.7500	**168.276** 6.6250	**2490000** 561000	0.41	1.66	2.47	**371000** 83500	**259000** 58200	**646000** 145000	1.43
431.800 17.0000	**571.500** 22.5000	**149.225** 5.8750	**149.224** 5.8750	**2140000** 481000	0.55	1.24	1.84	**319000** 71700	**298000** 67000	**555000** 125000	1.07
460.000 18.1102	**860.000** 33.8583	**420.000** 16.5354	**380.000** 14.9606	**12500000** 2810000	0.58	1.17	1.75	**1860000** 419000	**1840000** 413000	**3240000** 729000	1.01
476.250 18.7500	**565.150** 22.2500	**82.550** 3.2500	**82.550** 3.2500	**817000** 184000	0.47	1.44	2.14	**122000** 27400	**97800** 22000	**212000** 47600	1.24
482.600 19.0000	**615.950** 24.2500	**107.950** 4.2500	**92.076** 3.6250	**1140000** 257000	0.35	1.93	2.88	**170000** 38200	**102000** 22900	**296000** 66600	1.67
560.000 22.0472	**1080.000** 42.5197	**530.022** 20.8670	**470.000** 18.5040	**18600000** 4190000	0.47	1.45	2.16	**2770000** 624000	**2210000** 497000	**4830000** 1090000	1.25
710.000 27.9528	**950.000** 37.4016	**226.000** 8.8976	**212.000** 8.3464	**7050000** 1580000	0.46	1.47	2.19	**1050000** 236000	**824000** 185000	**1830000** 411000	1.27
723.900 28.5000	**914.400** 36.0000	**168.275** 6.6250	**161.924** 6.3750	**4150000** 934000	0.38	1.77	2.64	**619000** 139000	**403000** 90600	**1080000** 242000	1.54
762.000 30.0000	**889.000** 35.0000	**139.700** 5.5000	**139.700** 5.5000	**1880000** 423000	0.38	1.78	2.65	**280000** 62900	**182000** 40800	**488000** 110000	1.54
857.250 33.7500	**1092.200** 43.0000	**241.300** 9.5000	**222.250** 8.7500	**5060000** 1140000	0.56	1.21	1.80	**754000** 169000	**719000** 162000	**1310000** 295000	1.05

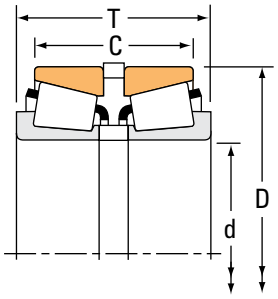
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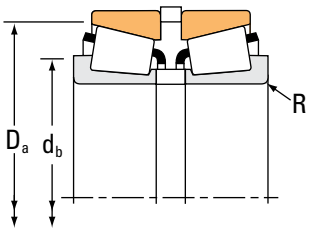
Part Number			Dimensions				Bearing Weight
			Shaft		Housing		
Inner	Outer	Outer Spacer[5]	Max. Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Max. Housing Fillet Radius r[6]	Max. Backing Shoulder Dia. D_a	
			mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
NP852610	NP588721	K167429	**1.5** 0.06	**418.0** 16.46	**3.3** 0.13	**484.0** 19.06	**62.34** 137.44
LM567949	LM567910	LM567910EA	**1.5** 0.06	**427.0** 16.81	**3.3** 0.13	**519.0** 20.43	**111.23** 245.21
LM869448	LM869410	LM869410EB	**1.5** 0.06	**453.0** 17.83	**3.3** 0.13	**537.0** 21.14	**102.28** 225.49
NP837820	NP562053	K163378	**2.5** 0.10	**540.0** 21.26	**6.0** 0.24	**765.0** 30.12	**1087.00** 2396.41
LL771948	LL771911	LL771911EA	**1.5** 0.06	**491.0** 19.33	**3.3** 0.13	**543.0** 21.38	**39.55** 87.18
80480	80425	Y3S-80425	**1.5** 0.06	**501.0** 19.72	**3.3** 0.13	**582.0** 22.91	**74.57** 164.36
NP378108	NP676901	K165076	**9.5** 0.37	**660.0** 25.98	**12.7** 0.50	**954.0** 37.56	**2182.15** 4810.80
NP194866	NP089744	K167026	**3.0** 0.12	**744.0** 29.29	**6.0** 0.24	**897.0** 35.31	**445.68** 982.52
EE755285	755360	K162084	**1.5** 0.06	**750.0** 29.53	**6.4** 0.25	**873.0** 34.37	**260.54** 574.38
EE175300	175350	Y2S-175350	**1.5** 0.06	**780.0** 30.71	**3.3** 0.13	**855.0** 33.66	**141.22** 311.37
EE157337	157430	Y1S-157430	**3.3** 0.13	**894.0** 35.20	**6.4** 0.25	**1035.0** 40.75	**516.72** 1139.23

[5] Contact your Timken engineer for information on spacer configurations.
[6] These maximum fillet radii will be cleared by the bearing corners.

TYPE 2S

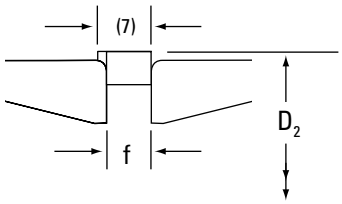






Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
14.989 0.5901	**34.988** 1.3775	**24.536** 0.9660	**20.000** 0.7874	**22900** 5150	0.45	1.49	2.22	**3410** 767	**2640** 594	**5940** 1330	1.29
17.462 0.6875	**39.878** 1.5700	**30.226** 1.1900	**23.876** 0.9400	**51100** 11500	0.29	2.36	3.51	**7610** 1710	**3730** 838	**13300** 2980	2.04
19.050 0.7500	**45.237** 1.7810	**38.100** 1.5000	**31.242** 1.2300	**68100** 15300	0.30	2.25	3.34	**10100** 2280	**5220** 1170	**17700** 3970	1.94
25.400 1.0000	**50.292** 1.9800	**31.623** 1.2450	**24.511** 0.9650	**62000** 13900	0.37	1.80	2.69	**9230** 2080	**5910** 1330	**16100** 3610	1.56
25.400 1.0000	**57.150** 2.2500	**39.243** 1.5450	**31.308** 1.2326	**94900** 21300	0.35	1.95	2.90	**14100** 3180	**8380** 1880	**24600** 5530	1.69
31.750 1.2500	**59.131** 2.3280	**35.712** 1.4060	**27.584** 1.0860	**81300** 18300	0.41	1.64	2.44	**12100** 2720	**8550** 1920	**21100** 4740	1.42
31.750 1.2500	**62.000** 2.4409	**46.355** 1.8250	**36.830** 1.4500	**104000** 23400	0.35	1.93	2.87	**15500** 3490	**9310** 2090	**27000** 6080	1.67
33.337 1.3125	**68.262** 2.6875	**46.812** 1.8430	**37.286** 1.4680	**133000** 29900	0.55	1.24	1.84	**19800** 4450	**18500** 4160	**34400** 7740	1.07
34.925 1.3750	**65.088** 2.5625	**39.624** 1.5600	**31.496** 1.2400	**112000** 25300	0.38	1.79	2.67	**16700** 3760	**10800** 2430	**29200** 6550	1.55
34.925 1.3750	**65.088** 2.5625	**49.276** 1.9400	**41.148** 1.6200	**112000** 25300	0.38	1.79	2.67	**16700** 3760	**10800** 2430	**29200** 6550	1.55
34.925 1.3750	**72.233** 2.8438	**55.730** 2.1941	**44.614** 1.7565	**134000** 30100	0.55	1.24	1.84	**19900** 4480	**18600** 4180	**34700** 7790	1.07
35.000 1.3780	**73.025** 2.8750	**56.337** 2.2180	**46.812** 1.8430	**156000** 35000	0.37	1.83	2.72	**23200** 5210	**14700** 3300	**40400** 9080	1.58
38.100 1.5000	**65.088** 2.5625	**39.624** 1.5600	**31.496** 1.2400	**84600** 19000	0.33	2.03	3.02	**12600** 2830	**7170** 1610	**21900** 4930	1.76
38.100 1.5000	**65.088** 2.5625	**39.624** 1.5600	**31.496** 1.2400	**84600** 19000	0.33	2.03	3.02	**12600** 2830	**7170** 1610	**21900** 4930	1.76
41.275 1.6250	**73.431** 2.8910	**42.113** 1.6580	**32.461** 1.2780	**130000** 29300	0.40	1.69	2.52	**19400** 4360	**13300** 2980	**33800** 7590	1.46
41.275 1.6250	**73.431** 2.8910	**42.672** 1.6800	**33.020** 1.3000	**130000** 29300	0.40	1.69	2.52	**19400** 4360	**13300** 2980	**33800** 7590	1.46
45.000 1.7717	**75.000** 2.9528	**44.560** 1.7543	**35.560** 1.4000	**137000** 30800	0.39	1.72	2.56	**20400** 4590	**13700** 3080	**35500** 7990	1.49

[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.



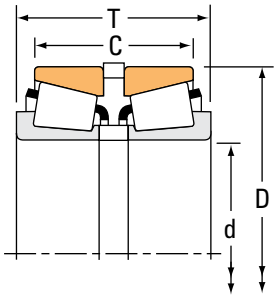
[7] Housing groove width with less than critical location =
f + 0.25 mm +0.10 mm
-0.10 mm tolerance
f + 0.010 in. +0.004 in.
-0.000 in. tolerance

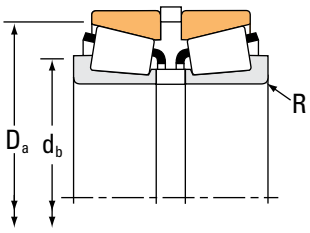
Part Number				Dimensions					Bearing Weight
				Shaft		Housing	Snap Ring Groove		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	D_2	f[7]	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	
A4059	A4138	X5SA4059	K524667R	**0.8** 0.03	**19.5** 0.77	**32.0** 1.26	**36.35** 1.43	**2.54** 0.10	**0.10** 0.24
LM11749	LM11710	K106398R	K106397R	**1.3** 0.05	**24.0** 0.94	**37.0** 1.46	**41.91** 1.65	**2.54** 0.10	**0.19** 0.39
LM11949	LM11910	K107061R	K107087R	**1.3** 0.05	**25.0** 0.98	**41.5** 1.63	**46.81** 1.84	**7.11** 0.28	**0.28** 0.63
L44643	L44610	K106790R	K106789R	**1.3** 0.05	**32.0** 1.26	**47.0** 1.85	**52.78** 2.08	**3.18** 0.13	**0.28** 0.60
15578	15520	X1S-15578	K158879R	**1.3** 0.05	**32.5** 1.28	**53.0** 2.09	**59.72** 2.35	**0.34** 0.17	**0.47** 1.02
LM67048	LM67010	K106817R	K106610R	**3.5** 0.14	**42.5** 1.67	**56.0** 2.20	**61.11** 2.41	**3.96** 0.16	**0.39** 0.84
15125	15245	X1S-15125	K159808R	**3.5** 0.14	**42.5** 1.67	**58.0** 2.28	**64.52** 2.54	**8.26** 0.33	**0.56** 1.23
M88048	M88010	K147783R	K528895R	**0.8** 0.03	**42.5** 1.67	**65.0** 2.56	**72.34** 2.85	**2.36** 0.09	**0.78** 1.73
LM48548	LM48510	K106389R	K106390R	**3.5** 0.14	**48.0** 1.89	**61.0** 2.40	**67.46** 2.66	**3.56** 0.14	**0.53** 1.14
LM48548	LM48510	LM48548XE	K106390R	**3.5** 0.14	**48.0** 1.89	**61.0** 2.40	**67.46** 2.66	**3.56** 0.14	**0.57** 1.23
HM88649	HM88610	K152757	K152758	**2.3** 0.09	**48.5** 1.91	**69.0** 2.72	**75.00** 2.95	**4.93** 0.19	**1.03** 2.29
23691	23621	K143257R	K109519R	**3.5** 0.14	**49.0** 1.93	**68.0** 2.68	**76.48** 3.01	**2.36** 0.09	**1.06** 2.34
LM29749	LM29710	K106393R	K106390R	**2.3** 0.09	**46.5** 1.83	**62.0** 2.44	**67.46** 2.66	**3.56** 0.14	**0.50** 1.09
LM29748	LM29710	K106393R	K106390R	**3.5** 0.14	**49.0** 1.93	**62.0** 2.44	**67.46** 2.66	**3.56** 0.14	**0.48** 1.05
LM501349	LM501310	K426891R	K150486R	**3.5** 0.14	**54.0** 2.13	**70.0** 2.76	**76.20** 3.00	**3.00** 0.12	**0.71** 1.55
LM501349	LM501310	K426891R	K426892R	**3.5** 0.14	**54.0** 2.13	**70.0** 2.76	**76.20** 3.00	**3.56** 0.14	**0.72** 1.56
X32009X	Y32009X	JX4505A	K143262R	**1.0** 0.04	**53.0** 2.09	**72.0** 2.83	**78.50** 3.09	**4.57** 0.18	**0.75** 1.66

[5] Contact your Timken engineer for information on spacer configurations.
[6] These maximum fillet radii will be cleared by bearing corners.

TYPE 2S

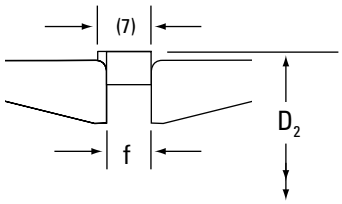






Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
45.242 1.7812	**73.431** 2.8910	**42.672** 1.6800	**35.052** 1.3800	**127000** 28500	0.31	2.21	3.29	**18900** 4250	**9870** 2220	**32900** 7400	1.91
45.242 1.7812	**77.788** 3.0625	**44.247** 1.7420	**34.722** 1.3670	**133000** 29900	0.43	1.58	2.35	**19800** 4450	**14500** 3250	**34400** 7740	1.37
52.387 2.0625	**92.075** 3.6250	**54.752** 2.1556	**45.227** 1.7806	**172000** 38700	0.38	1.79	2.66	**25700** 5770	**16600** 3720	**44700** 10000	1.55
53.975 2.1250	**88.900** 3.5000	**43.637** 1.7180	**32.522** 1.2804	**114000** 25600	0.55	1.24	1.84	**17000** 3820	**15900** 3570	**29500** 6640	1.07
57.150 2.2500	**112.712** 4.4375	**66.675** 2.6250	**53.975** 2.1250	**291000** 65300	0.34	1.99	2.96	**43300** 9730	**25100** 5650	**75400** 16900	1.72
61.912 2.4375	**110.000** 4.3307	**49.535** 1.9502	**43.185** 1.7002	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
63.500 2.5000	**112.712** 4.4375	**66.675** 2.6250	**53.975** 2.1250	**344000** 77400	0.34	1.99	2.96	**51300** 11500	**29800** 6700	**89300** 20100	1.72
66.675 2.6250	**112.712** 4.4375	**66.675** 2.6250	**53.975** 2.1250	**291000** 65300	0.34	1.99	2.96	**43300** 9730	**25100** 5650	**75400** 16900	1.72
68.262 2.6875	**110.000** 4.3307	**49.433** 1.9462	**43.083** 1.6962	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
68.262 2.6875	**110.000** 4.3307	**49.611** 1.9532	**43.261** 1.7032	**172000** 38700	0.40	1.68	2.50	**25600** 5760	**17600** 3970	**44600** 10000	1.45
83.345 3.2813	**125.412** 4.9375	**54.762** 2.1560	**43.652** 1.7186	**204000** 45900	0.42	1.62	2.42	**30400** 6830	**21600** 4860	**52900** 11900	1.40
88.900 3.5000	**121.442** 4.7812	**35.702** 1.4056	**27.762** 1.0930	**104000** 23300	0.33	2.04	3.04	**15400** 3470	**8730** 1960	**26800** 6030	1.77

[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.



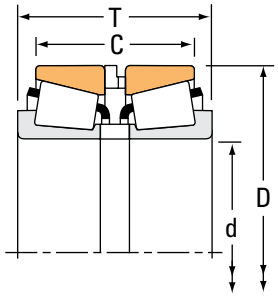
[7] Housing groove width with less than critical location =
f + 0.25 mm +0.10 mm
-0.10 mm tolerance
f + 0.010 in. +0.004 in.
-0.000 in. tolerance

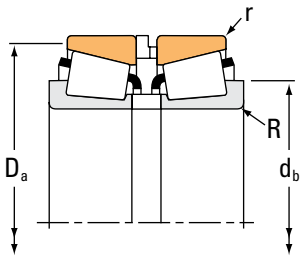
Part Number				Dimensions					
				Shaft		Housing	Snap Ring Groove		Bearing Weight
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Max Shaft Fillet Radius R[6]	Backing Shoulder Dia. d_b	Backing Shoulder Dia. D_a	D_2	f[7]	
				mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	
NP118297	NP422278	LM102949XB	K161783R	**3.5** 0.14	**56.0** 2.20	**70.0** 2.76	**76.20** 3.00	**3.56** 0.14	**0.66** 1.48
LM603049AS	LM603011	K109152R	K109151R	**0.8** 0.03	**53.0** 2.09	**74.0** 2.91	**81.33** 3.20	**4.56** 0.18	**0.79** 1.76
28584	28521	K107577R	K107578R	**3.5** 0.14	**65.0** 2.56	**87.0** 3.43	**95.83** 3.77	**5.54** 0.22	**1.44** 3.20
LM806649	LM806610	K114294R	K114295R	**2.3** 0.09	**65.0** 2.56	**85.0** 3.35	**92.61** 3.65	**5.54** 0.22	**0.94** 2.08
39580	39521	X3S-39580	K326057R	**3.5** 0.14	**74.0** 2.91	**107.0** 4.21	**116.74** 4.60	**6.35** 0.25	**2.93** 6.48
392	394A	K444667R	K444668R	**0.8** 0.03	**70.0** 2.76	**105.0** 4.13	**116.10** 4.57	**5.54** 0.22	**1.84** 4.08
39585P	39521P	K167544	K326057R	**3.5** 0.14	**79.0** 3.11	**107.0** 4.21	**116.74** 4.60	**6.35** 0.25	**2.68** 5.92
39590	39521	K326056R	K326057R	**3.5** 0.14	**82.0** 3.23	**107.0** 4.21	**116.74** 4.60	**6.35** 0.25	**2.47** 5.46
399A	394A	X5S-399A	XC914-SD	**2.3** 0.09	**78.0** 3.07	**105.0** 4.13	**114.05** 4.49	**5.54** 0.22	**1.67** 3.68
399A	394A	K143291	K143293R	**2.3** 0.09	**78.0** 3.07	**105.0** 4.13	**114.05** 4.49	**5.61** 0.22	**1.65** 3.63
27690	27620	K107581R	K107582R	**3.5** 0.14	**96.0** 3.78	**120.0** 4.72	**130.07** 5.12	**3.96** 0.16	**2.24** 4.91
LL217849	LL217810	LL217849XB	K143253R	**1.5** 0.06	**97.0** 3.82	**117.0** 4.61	**126.14** 4.97	**5.54** 0.22	**1.11** 2.43

[5] Contact your Timken engineer for information on spacer configurations.
[6] These maximum fillet radii will be cleared by bearing corners.

TYPE SR







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
50.000 1.9685	**82.000** 3.2283	**49.000** 1.9291	**39.425** 1.5522	**168000** 37700	0.31	2.21	3.29	**25000** 5610	**13000** 2930	**43500** 9770	1.91
50.000 1.9685	**90.000** 3.5433	**62.000** 2.4409	**51.438** 2.0251	**255000** 57400	0.33	2.05	3.06	**38000** 8540	**21400** 4810	**66200** 14900	1.78
50.000 1.9685	**105.000** 4.1339	**80.000** 3.1496	**63.540** 2.5016	**354000** 79600	0.49	1.38	2.06	**52700** 11900	**44000** 9890	**91800** 20600	1.20
55.000 2.1654	**90.000** 3.5433	**52.000** 2.0472	**42.504** 1.6734	**190000** 42600	0.40	1.68	2.50	**28200** 6340	**19400** 4370	**49100** 11000	1.45
55.000 2.1654	**90.000** 3.5433	**52.000** 2.0472	**40.475** 1.5935	**196000** 44000	0.41	1.66	2.47	**29100** 6550	**20300** 4560	**50800** 11400	1.44
55.000 2.1654	**95.000** 3.7402	**64.000** 2.5197	**52.418** 2.0637	**227000** 51100	0.33	2.02	3.00	**33800** 7610	**19400** 4360	**58900** 13200	1.74
55.000 2.1654	**110.000** 4.3307	**86.000** 3.3858	**71.415** 2.8116	**433000** 97400	0.35	1.95	2.90	**64500** 14500	**38300** 8600	**112000** 25300	1.69
55.000 2.1654	**110.000** 4.3307	**95.400** 3.7558	**80.815** 3.1816	**433000** 97400	0.35	1.95	2.90	**64500** 14500	**38300** 8600	**112000** 25300	1.69
60.000 2.3622	**95.000** 3.7402	**54.000** 2.1260	**43.491** 1.7122	**170000** 38200	0.40	1.68	2.50	**25300** 5690	**17400** 3910	**44000** 9900	1.45
65.000 2.5591	**105.000** 4.1339	**54.000** 2.1260	**42.515** 1.6738	**223000** 50200	0.45	1.49	2.21	**33200** 7470	**25800** 5810	**57900** 13000	1.29
65.000 2.5591	**110.000** 4.3307	**62.000** 2.4409	**50.489** 1.9877	**291000** 65400	0.40	1.68	2.50	**43300** 9740	**29800** 6700	**75400** 17000	1.45
65.000 2.5591	**110.000** 4.3307	**114.300** 4.5000	**102.718** 4.0440	**291000** 65400	0.40	1.68	2.50	**43300** 9740	**29800** 6700	**75400** 17000	1.45
65.000 2.5591	**120.000** 4.7244	**86.000** 3.3858	**71.402** 2.8111	**388000** 87300	0.34	2.00	2.98	**57800** 13000	**33400** 7500	**101000** 22600	1.73
70.000 2.7559	**110.000** 4.3307	**58.000** 2.2835	**46.519** 1.8315	**199000** 44800	0.49	1.38	2.06	**29700** 6680	**24800** 5570	**51700** 11600	1.20
70.000 2.7559	**115.000** 4.5276	**64.000** 2.5197	**51.507** 2.0278	**310000** 69600	0.43	1.57	2.34	**46100** 10400	**33900** 7630	**80300** 18000	1.36
75.000 2.9528	**115.000** 4.5276	**56.000** 2.2047	**43.502** 1.7126	**244000** 54900	0.46	1.47	2.19	**36400** 8180	**28600** 6420	**63400** 14200	1.27

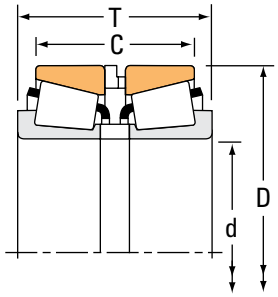
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

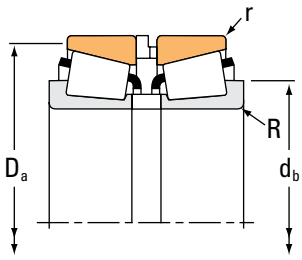
Part Number					Dimensions				Bearing Weight without Snap Ring
					Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Snap Ring[6]	Max Shaft Fillet Radius R[7]	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r()	Backing Shoulder Dia. D_a	
					mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JLM104948	JLM104910	LM104948XS	LM104910ES	K444653R	**3.0** 0.12	**61.0** 2.40	**0.4** 0.02	**78.0** 3.07	**0.91** 2.01
JM205149	JM205110	M205149XS	M205110ES	K516778R	**3.0** 0.12	**63.0** 2.48	**0.5** 0.02	**85.0** 3.35	**1.56** 3.44
JHM807045	JHM807012	HM807045XS	HM807012ES	K518781R	**3.0** 0.12	**69.0** 2.72	**0.8** 0.03	**100.0** 3.94	**3.13** 6.88
JLM506849	JLM506810	LM506849XS	LM506810ES	K516778R	**1.5** 0.06	**63.0** 2.48	**0.5** 0.02	**86.0** 3.39	**1.15** 2.57
X32011X	Y32011X	JXH5506A	JYH9006TSR	K527327R	**1.5** 0.06	**65.0** 2.56	**0.3** 0.01	**86.5** 3.41	**1.20** 2.66
JM207049	JM207010	M207049XS	M207010ES	K518779R	**1.5** 0.06	**64.0** 2.52	**0.5** 0.02	**91.0** 3.58	**1.74** 3.85
JH307749	JH307710	H307749XS	H307710ES	K518419R	**3.0** 0.12	**71.0** 2.80	**0.8** 0.03	**104.0** 4.09	**3.55** 7.81
JH307749	JH307710	H307749XR	H307710ER	K518419R	**3.0** 0.12	**71.0** 2.80	**0.8** 0.03	**104.0** 4.09	**3.83** 8.42
JLM508748	JLM508710	LM508748XS	LM508710ES	K518779R	**5.0** 0.20	**75.0** 2.95	**0.5** 0.02	**91.0** 3.58	**1.26** 2.77
JLM710949C	JLM710910	LM710949XS	LM710910ES	K518781R	**3.0** 0.12	**78.0** 3.07	**0.4** 0.02	**100.5** 3.96	**1.61** 3.53
JM511946	JM511910	M511946XS	M511910ES	K518419R	**3.0** 0.12	**78.0** 3.07	**0.8** 0.03	**105.0** 4.13	**2.24** 4.93
JM511946	JM511910	JXH6558A	JYH11058RSR	K518419R	**3.0** 0.12	**78.0** 3.07	**0.8** 0.03	**105.0** 4.13	**3.69** 8.12
JH211749	JH211710	H211749XS	H211710ES	K518771R	**3.0** 0.12	**80.0** 3.15	**1.0** 0.04	**114.0** 4.49	**3.92** 8.65
JLM813049	JLM813010	LM813049XS	LM813010ES	K518419R	**1.0** 0.04	**78.0** 3.07	**0.5** 0.02	**105.0** 4.13	**1.88** 4.11
JM612949	JM612910	M612949XS	M612910ES	K524105R	**3.0** 0.12	**83.0** 3.27	**0.6** 0.03	**110.0** 4.33	**2.36** 5.23
JLM714149	JLM714110	LM714149XS	LM714110ES	K524105R	**3.0** 0.12	**88.0** 3.46	**0.5** 0.02	**110.5** 4.35	**1.87** 4.12

[5] Contact your Timken engineer for information on spacer configurations.
[6] If a snap ring is used, the assembly cannot be lubricated through the outer race spacer.
[7] These maximum fillet radii will be cleared by the bearing corners.

TYPE SR







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
75.000 2.9528	**120.000** 4.7244	**69.000** 2.7165	**57.000** 2.2441	**277000** 62400	0.44	1.52	2.26	**41300** 9290	**31400** 7070	**71900** 16200	1.31
75.000 2.9528	**145.000** 5.7087	**112.000** 4.4094	**93.400** 3.6771	**604000** 136000	0.36	1.86	2.78	**89900** 20200	**55700** 12500	**157000** 35200	1.61
80.000 3.1496	**125.000** 4.9213	**66.000** 2.5984	**51.500** 2.0276	**342000** 77000	0.42	1.60	2.38	**51000** 11500	**36900** 8300	**88800** 20000	1.38
80.000 3.1496	**130.000** 5.1181	**78.000** 3.0709	**64.452** 2.5374	**410000** 92100	0.39	1.74	2.59	**61000** 13700	**40600** 9120	**106000** 23900	1.50
85.000 3.3465	**130.000** 5.1181	**65.975** 2.5974	**53.491** 2.1060	**281000** 63100	0.44	1.52	2.26	**41800** 9400	**31800** 7150	**72800** 16400	1.31
85.000 3.3465	**140.000** 5.5118	**86.000** 3.3858	**70.470** 2.7744	**490000** 110000	0.41	1.66	2.47	**73000** 16400	**50900** 11400	**127000** 28600	1.43
85.000 3.3465	**140.000** 5.5118	**128.867** 5.0735	**113.337** 4.4621	**490000** 110000	0.41	1.66	2.47	**73000** 16400	**50900** 11400	**127000** 28600	1.43
85.000 3.3465	**150.000** 5.9055	**102.000** 4.0157	**85.390** 3.3619	**685000** 154000	0.33	2.03	3.02	**102000** 22900	**58100** 13100	**178000** 39900	1.76
90.000 3.5433	**145.000** 5.7087	**78.974** 3.1092	**62.489** 2.4602	**387000** 87000	0.44	1.52	2.26	**57700** 13000	**43900** 9860	**100000** 22600	1.31
90.000 3.5433	**155.000** 6.1024	**98.000** 3.8583	**80.314** 3.1619	**683000** 153000	0.34	1.98	2.95	**102000** 22900	**59400** 13300	**177000** 39800	1.71
95.000 3.7402	**150.000** 5.9055	**78.000** 3.0709	**61.466** 2.4199	**374000** 84000	0.44	1.53	2.27	**55700** 12500	**42100** 9470	**96900** 21800	1.32
100.000 3.9370	**155.000** 6.1024	**80.000** 3.1496	**63.417** 2.4967	**403000** 90600	0.47	1.43	2.12	**60000** 13500	**48600** 10900	**104000** 23500	1.24
100.000 3.9370	**160.000** 6.2992	**90.000** 3.5433	**71.412** 2.8115	**576000** 130000	0.47	1.43	2.14	**85800** 19300	**69100** 15500	**149000** 33600	1.24
110.000 4.3307	**165.000** 6.4961	**79.756** 3.1401	**62.413** 2.4572	**396000** 88900	0.50	1.36	2.02	**58900** 13200	**50100** 11300	**103000** 23100	1.18
110.000 4.3307	**180.000** 7.0866	**102.975** 4.0541	**84.364** 3.3215	**647000** 145000	0.41	1.66	2.48	**96300** 21600	**66900** 15000	**168000** 37700	1.44
110.000 4.3307	**180.000** 7.0866	**103.000** 4.0551	**84.364** 3.3215	**647000** 145000	0.41	1.66	2.48	**96300** 21600	**66900** 15000	**168000** 37700	1.44

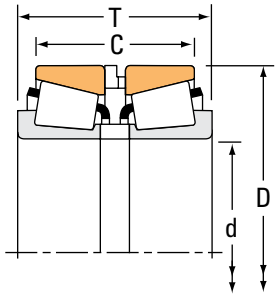
[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

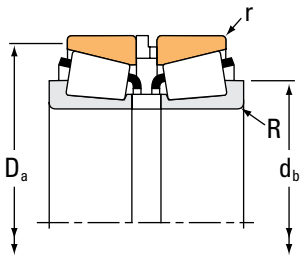
Part Number					Dimensions				Bearing Weight without Snap Ring
					Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Snap Ring[6]	Max Shaft Fillet Radius R[7]	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r[]	Backing Shoulder Dia. D_a	
					mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JM714249	JM714210	M714249XS	M714210ES	K518771R	**3.0** 0.12	**88.0** 3.46	**0.6** 0.03	**115.0** 4.53	**2.72** 6.02
JH415647	JH415610	H415647XS	H415610ES	K524653R	**3.0** 0.12	**94.0** 3.70	**0.8** 0.03	**139.0** 5.47	**8.02** 17.70
X32016X	Y32016X	JXH8008AI	JYH12508TSR	K527332R	**1.5** 0.06	**91.0** 3.58	**0.6** 0.03	**120.0** 4.72	**2.72** 5.99
JM515649	JM515610	M515649XS	M515610ES	K524112R	**3.0** 0.12	**94.0** 3.70	**0.6** 0.03	**125.0** 4.92	**3.62** 8.00
JM716649	JM716610	M716649XS	M716610ES	K523970R	**3.0** 0.12	**98.0** 3.86	**0.8** 0.03	**125.0** 4.92	**2.87** 6.34
JHM516849	JHM516810	HM516849XS	HM516810ES	K518333R	**3.0** 0.12	**100.0** 3.94	**1.0** 0.04	**134.0** 5.28	**4.76** 10.51
JHM516849	JHM516810	HM516849XB	HM516810EB	K518333R	**3.0** 0.12	**100.0** 3.94	**1.0** 0.04	**134.0** 5.28	**6.51** 14.37
JH217249	JH217210	H217249XS	H217210ES	K518773R	**3.0** 0.12	**101.0** 3.98	**1.3** 0.05	**142.0** 5.59	**7.05** 15.53
JM718149	JM718110	M718149XS	M718110ES	K524653R	**3.0** 0.12	**106.0** 4.17	**1.0** 0.04	**138.8** 5.46	**4.59** 10.11
JHM318448	JHM318410	HM318448XS	HM318410ES	K516800R	**3.0** 0.12	**106.0** 4.17	**0.8** 0.03	**148.0** 5.83	**6.97** 15.33
JM719149	JM719113	M719149XS	M719113ES	K518773R	**3.0** 0.12	**109.0** 4.29	**0.8** 0.03	**143.0** 5.63	**4.60** 10.15
JM720249	JM720210	JXH10010A	M720210ES	K516800R	**3.0** 0.12	**115.0** 4.53	**0.8** 0.03	**149.0** 5.87	**5.00** 11.01
JHM720249	JHM720210	JXH10010A	HM720210ES	K525362R	**3.0** 0.12	**117.0** 4.61	**0.8** 0.03	**153.9** 6.06	**6.31** 13.91
JM822049	JM822010	JXH11010A	M822010ES	K524660R	**3.0** 0.12	**125.0** 4.92	**0.8** 0.03	**159.0** 6.26	**5.29** 11.70
JHM522649	JHM522610	HM522649XS	HM522610ES	K518334R	**3.0** 0.12	**127.0** 5.00	**0.8** 0.03	**172.0** 6.77	**9.42** 20.74
JHM522649	JHM522610	HM522649XE	HM522610ES	K518334R	**3.0** 0.12	**127.0** 5.00	**0.8** 0.03	**172.0** 6.77	**9.40** 20.68

[5] Contact your Timken engineer for information on spacer configurations.
[6] If a snap ring is used, the assembly cannot be lubricated through the outer race spacer.
[7] These maximum fillet radii will be cleared by the bearing corners.

TYPE SR







Bearing Dimensions				Load Ratings							
Bore d	O.D. D	Width[1] T	Width C	Dynamic[2] $C_{1(2)}$	e	Factors[3] Y_1	Y_2	Dynamic[4] C_{90}	C_{a90}	$C_{90(2)}$	Factors[3] K
mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf				**N** lbf	**N** lbf	**N** lbf	
170.000 6.6929	**240.000** 9.4488	**101.000** 3.9764	**82.278** 3.2393	**699000** 157000	0.44	1.54	2.30	**104000** 23400	**77900** 17500	**181000** 40700	1.34
180.000 7.0866	**250.000** 9.8425	**103.000** 4.0551	**82.288** 3.2397	**712000** 160000	0.48	1.41	2.09	**106000** 23800	**87200** 19600	**185000** 41500	1.22
190.000 7.4803	**260.000** 10.2362	**102.000** 4.0157	**82.263** 3.2387	**708000** 159000	0.48	1.41	2.11	**105000** 23700	**86200** 19400	**184000** 41300	1.22

[1]Overall width can vary depending on spacer selection. Contact your Timken engineer for more information.
[2]Based on 1 x 10^6 revolutions L_{10} life, for the ISO life-calculation method. $C_{1(2)}$ is the double-row radial value.
[3]Consult your Timken engineer for instructions on use or review the Timken Engineering Manual on timken.com/catalogs.
[4]Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life-calculation method. C_{90} and C_{a90} are radial and thrust values. $C_{90(2)}$ is the double-row radial value.

Part Number					Dimensions				Bearing Weight without Snap Ring
					Shaft		Housing		
Inner	Outer	Inner Spacer[5]	Outer Spacer[5]	Snap Ring[6]	Max Shaft Fillet Radius R[7]	Backing Shoulder Dia. d_b	Max Housing Fillet Radius r()	Backing Shoulder Dia. D_a	
					mm in.	**mm** in.	**mm** in.	**mm** in.	**kg** lbs.
JM734449	JM734410	M734449XS	M734410ES	K518335R	**3.0** 0.12	**185.0** 7.28	**1.5** 0.06	**232.0** 9.13	**13.16** 29.00
JM736149	JM736110	M736149XS	M736110ES	K525377R	**3.0** 0.12	**196.0** 7.72	**1.0** 0.04	**242.6** 9.55	**14.02** 30.90
JM738249	JM738210	M738249XS	M738210ES	K525378R	**3.0** 0.12	**206.0** 8.11	**1.0** 0.04	**252.0** 9.92	**14.41** 31.75

[5] Contact your Timken engineer for information on spacer configurations.
[6] If a snap ring is used, the assembly cannot be lubricated through the outer race spacer.
[7] These maximum fillet radii will be cleared by the bearing corners.

TAPERED ROLLER THRUST BEARINGS

Overview: Timken® thrust bearings are built to handle high thrust loads and heavy shock. The distinctive on-apex design characteristic of tapered roller thrust bearings ensures true rolling motion, which reduces roller sliding and provides a smoother, cooler-running bearing than other thrust types. Available in a wide range of sizes and design styles, these bearings fit many types of machinery in the industrial and automotive markets.

- **Bore Sizes:** 16.1 mm - 1550.0 mm (0.6337 in. - 61.0236 in.)
- **Industries:** Aggregate, rubber and plastics, metals, oil, gas and power generation.
- **Applications:** Cone crushers, crane hooks, oil well swivels, top drives, extruders, pulverizer drives, rolling mills, machine tool spindles and tables, drilling rig hydraulic heads, gear boxes and pre-heater fans.
- **Benefits:** High performance and application flexibility versus other non-tapered bearing types. Large range of product offerings.



TAPERED ROLLER THRUST BEARINGS

Timken tapered roller thrust bearings include conical rollers for true rolling motion. These bearings are engineered so that the rollers and raceway converge at a common apex point, which is on the center line of the bearing. Seating force between the rib and roller helps provide positive roller guidance.

Timken manufactures several types of heavy-duty tapered roller thrust bearings: standard (TTHD), V-flat (TTHDFL) and self-aligning V-flat (TTVS). Timken also offers TTSP and TTC, light-duty thrust bearings designed for oscillating applications.

TTHD

The TTHD design has an identical pair of hardened and ground steel rings with tapered raceways. Because both rings have the same bore and O.D., housings should be designed to clear the O.D. of rotating rings and shafts stepped to clear the bore of stationary rings. Controlled-contour tapered rollers are used and equally spaced by a cage. All components are separable. Most TTHD bearings are supplied with case-carburized components, which are well-suited for applications where extremely high thrust loads and heavy shock may be encountered. For very low-speed applications with unusually high loading, TTHD bearings can be supplied with a full complement of rollers. Extensively used in numerous applications, including oil well swivels, top drives, pulp refiners, extruders and gearboxes. Applications for full-complement bearings should be reviewed by your Timken engineer to help ensure selection of the proper bearing.



Fig. 34. Type TTHD.

TTHDFL

The TTHDFL combines the outstanding features of tapered and cylindrical roller bearings, offering the highest possible capacity of any thrust bearing of its size. The V-flat design includes one flat ring and one ring having a tapered raceway matching the rollers. These bearings maximize dynamic and static capacity within a given envelope. The design was originally developed for screwdown applications in metal rolling mills. They also have been highly successful in heavily loaded extruders, cone crushers, top drives and other applications where a wide range of operating conditions are found. Most sizes utilize pin-type cages with hardened pins through the center of the rollers, allowing closer spacing of the rollers to maximize capacity. Smaller sizes have brass cages designed for unidirectional retention of rollers.



Fig. 35. Type TTHDFL.

TTVS

The TTVS design employs the same basic roller and raceway design as the TTHDFL, except the lower ring is in two pieces. The contacting faces of the lower ring are spherically ground, permitting self-alignment under conditions of initial misalignment. TTVS bearings should not be used if dynamic misalignment (changing under load) is expected. These bearings are found in cone crushers, extruders, gear drives and pulp refiners.



Fig. 36. Type TTVS.

TTSP

Type TTSP thrust bearing is made up of two tapered thrust races, rollers, cage and an outside retainer which holds the components together during shipping and installation. TTSP bearings are light-duty thrust bearings and are used extensively in the steering pivot positions of automotive and other industrial applications.



Fig. 37. Type TTSP.

TTC, TTCS, TTCL

The types TTC, TTCS and TTCL thrust bearings consist of two tapered thrust races, rollers, and an outside retainer, but do not have a cage. The outside retainer holds the assembly together for shipping and installation. Types TTC, TTCS and TTCL bearings are thrust bearings specifically designed for oscillating applications. The retainer construction varies between types.



Fig. 38. Type TTC.



Fig. 39. Type TTCS.



Fig. 40. Type TTCL.

TAPERED STANDARD THRUST BEARING NOMENCLATURE

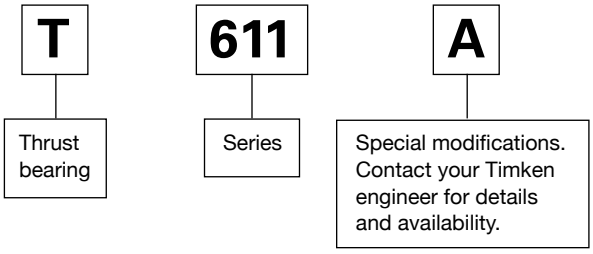


Fig. 41. Tapered thrust bearing nomenclature.

SPECIAL PART NUMBERS

Timken thrust bearings follow a unique part-numbering system with three main components. Since many thrust bearings are designed for a specific application it is common to use special part numbers.

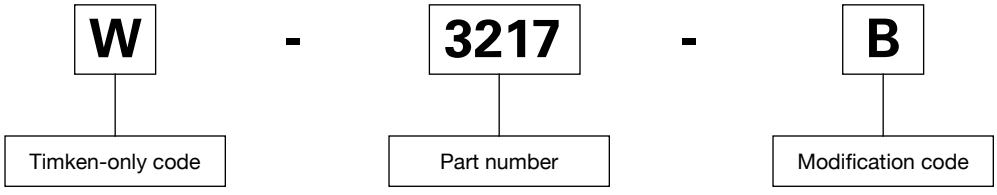
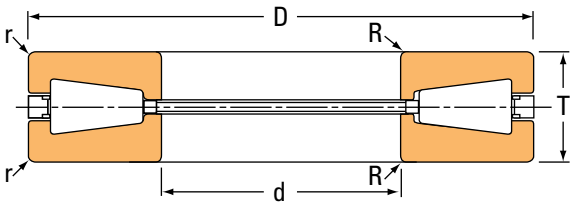


Fig. 42. Special part number nomenclature.

TYPE TTHD



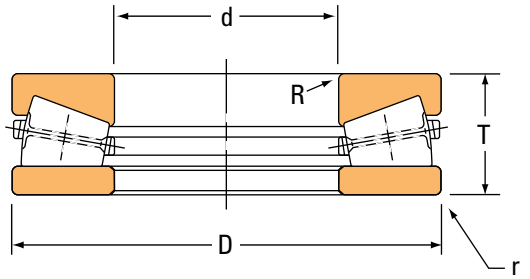


Part Number		Dimensions					Ratings		Bearing Weight
Bearing	Cage Type	Bore d	Outside Diameter D	Width T	Max. Shaft Fillet Radius R	Housing Fillet Radius[1] r	Static C_o	Dynamic[2] C_{a90}	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**N** lbf	**kg** lbs.
T135	Machined	**34.925** 1.3750	**76.200** 3.0000	**15.875** 0.6250	**1.5** 0.06	**1.5** 0.06	**317000** 71200	**31700** 7130	**0.37** 0.82
T1750	Machined	**44.450** 1.7500	**84.734** 3.3360	**18.258** 0.7188	**2.3** 0.09	**2.3** 0.09	**434000** 97700	**42000** 9460	**0.49** 1.07
T200A	Machined	**50.800** 2.0000	**109.538** 4.3125	**22.225** 0.8750	**2.3** 0.09	**2.3** 0.09	**804000** 181000	**73100** 16400	**1.04** 2.30
T311	Machined	**76.200** 3.0000	**161.925** 6.3750	**33.338** 1.3215	**3.3** 0.13	**3.3** 0.13	**1760000** 395000	**152000** 34200	**3.47** 7.66
T311F	Cageless	**76.200** 3.0000	**161.925** 6.3750	**33.338** 1.3215	**3.3** 0.13	**3.3** 0.13	**2440000** 545000	**1250000** 281000	**3.54** 7.81
T451	Machined	**114.300** 4.5000	**250.825** 9.8750	**53.975** 2.1250	**4.0** 0.16	**4.0** 0.16	**4380000** 985000	**352000** 79100	14.20 31.31
T511	Machined	**127.000** 5.0000	**266.700** 10.5000	**58.738** 2.3125	**4.8** 0.19	**4.8** 0.19	**4580000** 1030000	**372000** 83600	**17.03** 37.56
T9250FA	Cageless	**139.700** 5.5000	**546.100** 21.5000	**127.000** 5.0000	* *	**16.0** 0.63	**31200000** 7050000	**16050000** 3600000	191.33 421.80
T611	Machined	**152.400** 6.0000	**317.500** 12.5000	**69.850** 2.7500	**6.4** 0.25	**6.4** 0.25	**6660000** 1500000	**526000** 118000	28.35 62.50
T661	Machined	**168.275** 6.6250	**304.800** 12.0000	**69.850** 2.7500	**6.4** 0.25	**6.4** 0.25	**5340000** 1200000	**442000** 99300	**23.53** 51.87
T691	Machined	**174.625** 6.8750	**358.775** 14.1250	**82.550** 3.2500	**6.4** 0.25	**6.4** 0.25	**7870000** 1770000	**620000** 139000	**43.16** 95.15
T811	Machined	**203.200** 8.0000	**419.100** 16.5000	**92.075** 3.6250	**9.7** 0.38	**9.7** 0.38	**11400000** 2560000	**869000** 195000	**65.48** 144.33
T911	Machined	**228.600** 9.0000	**482.600** 19.0000	**104.775** 4.1250	* *	**11.2** 0.44	**15200000** 3420000	**1140000** 256000	**98.25** 216.61
T9250F	Cageless	**234.950** 9.2500	**546.100** 21.5000	**127.000** 5.0000	* *	**16.0** 0.63	**31200000** 7050000	**16050000** 3600000	164.84 363.40
T1421	Cageless	**355.600** 14.0000	**533.400** 21.0000	**101.600** 4.0000	* *	**6.4** 0.25	**17200000** 3870000	**8000000** 1790000	**82.88** 182.72
T16021	Machined	**406.400** 16.0000	**711.200** 28.0000	**146.050** 5.7500	* *	**9.7** 0.38	**29000000** 6530000	**2130000** 480000	259.63 572.38

[1]These maximum fillet radii will be cleared by the bearing corners.
[2]Dynamic rating C_{a90} is for breaker block on cageless designer.
[*]Contact your Timken engineer for details.

TYPE TTHDFL





Part Number		Dimensions					Ratings		Bearing Weight
Bearing	Cage Type	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Housing Fillet Radius[1] r	Static C_o	Dynamic C_{a90}	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**N** lbf	**kg** lbs.
F-3167-B	Machined	**101.575** 3.9990	**215.875** 8.4990	**46.038** 1.8125	**2.5** 0.10	**2.5** 0.10	**1570000** 353000	**228000** 51300	**9.30** 20.50
T4920-T4921	Machined	**124.993** 4.9210	**185.738** 7.3125	**25.400** 1.0000	**1.5** 0.06	**1.5** 0.06	**1250000** 282000	**93300** 21000	**2.36** 5.19
W-3217-B	Machined	**127.000** 5.0000	**266.700** 10.5000	**58.357** 2.2975	**3.6** 0.14	**3.6** 0.14	**2570000** 578000	**350000** 78800	**19.00** 41.00
S-4055-C	Machined	**149.974** 5.9045	**299.720** 11.8000	**89.700** 3.5315	**3.0** 0.12	**3.0** 0.12	**3350000** 754000	**480000** 108000	**36.00** 79.00
G-3304-B	Pin	**168.275** 6.6250	**304.800** 12.0000	**69.850** 2.7500	**6.4** 0.25	**6.4** 0.25	**3730000** 839000	**495000** 111000	**25.90** 57.00
T660V	Cageless	**168.275** 6.6250	**304.800** 12.0000	**69.850** 2.7500	**6.4** 0.25	**6.4** 0.25	**7090000** 1590000	**524000** 118000	**23.10** 50.91
W-3218-B	Pin	**177.800** 7.0000	**368.300** 14.5000	**82.169** 3.2350	**6.1** 0.24	**6.1** 0.24	**6270000** 1410000	**762000** 171000	**49.00** 109.00
T7010V	Pin	**177.800** 7.0000	**368.300** 14.5000	**82.550** 3.2500	**7.9** 0.31	**7.9** 0.31	**10900000** 2450000	**775000** 174000	**43.86** 96.68
F-3094-C	Machined	**228.575** 8.9990	**431.749** 16.9980	**88.900** 3.5000	**5.1** 0.20	**5.1** 0.20	**7120000** 1600000	**887000** 199000	**71.70** 158.00
T9011	Pin	**228.600** 9.0000	**482.600** 19.0000	**104.775** 4.1250	**1.5** 0.06	**11.2** 0.44	**18500000** 4170000	**1270000** 285000	**94.85** 209.13
DX121944	Pin	**234.950** 9.2500	**21.500** 21.5000	**127.000** 5.0000	**1.5** 0.06	**3.3** 0.13	**28100000** 6320000	**2230000** 500000	**161.88** 356.88
I-2077-C	Machined	**253.975** 9.9990	**508.000** 20.0000	**95.250** 3.7500	**6.4** 0.25	**6.4** 0.25	**10000000** 2260000	**1170000** 264000	**110.20** 243.00
R-2927-C	Pin	**254.000** 10.0000	**508.000** 20.0000	**107.950** 4.2500	**4.8** 0.19	**4.8** 0.19	**12100000** 2720000	**1440000** 324000	**123.40** 272.00
T10100V	Pin	**256.540** 10.1000	**546.100** 21.5000	**164.719** 6.4850	**1.5** 0.06	**6.4** 0.25	**28300000** 6370000	**2070000** 465000	**205.09** 452.15
G-3224-C	Pin	**256.540** 10.1000	**546.100** 21.5000	**165.100** 6.5000	**6.1** 0.24	**6.1** 0.24	**14900000** 3350000	**2050000** 461000	**227.20** 501.00
S-4077-C	Pin	**259.999** 10.2362	**479.948** 18.8956	**132.080** 5.2000	**4.8** 0.19	**4.8** 0.19	**8980000** 2020000	**1220000** 275000	126.50 279.00
T11000	Pin	**279.400** 11.0000	**601.675** 23.6880	**136.525** 5.3750	**1.5** 0.06	**11.2** 0.44	**32200000** 7240000	**2090000** 469000	201.12 443.40
C-8091-C	Pin	**279.400** 11.0000	**603.250** 23.7500	**136.140** 5.3600	**11.2** 0.44	**4.8** 0.19	**1770000** 3980000	**2050000** 459000	**231.00** 508.00

[1]These maximum fillet radii will be cleared by the bearing corners.

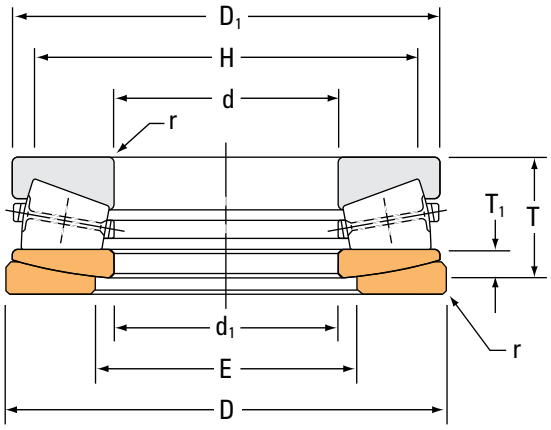
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Part Number		Dimensions					Ratings		Bearing Weight
Bearing	Cage Type	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Housing Fillet Radius[1] r	Static C_o	Dynamic C_{a90}	
		mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**N** lbf	**kg** lbs.
G-3272-C	Pin	**304.775** 11.9990	**609.600** 24.0000	**113.792** 4.4800	**6.4** 0.25	**6.4** 0.25	**17800000** 3990000	**1910000** 430000	**190.90** 421.00
E-1994-C	Pin	**304.800** 12.0000	**673.100** 26.5000	**171.069** 6.7350	**7.6** 0.30	**7.6** 0.30	**22700000** 5100000	**2850000** 710000	**347.80** 767.00
F-3090-A	Pin	**304.800** 12.0000	**736.600** 29.0000	**279.020** 10.9850	**9.1** 0.36	**9.1** 0.36	**28000000** 6300000	**4430000** 998000	**729.00** 1607.00
I-2060-C	Machined	**368.541** 14.5095	**609.156** 23.9825	**120.269** 4.7350	**9.7** 0.38	**11.2** 0.38	**11800000** 2640000	**1510000** 340000	**176.00** 388.00
T15500	Machined	**393.700** 15.5000	**495.300** 19.5000	**44.450** 1.7500	**3.3** 0.13	**3.3** 0.13	**6900000** 1550000	**373000** 83700	* *
T15501	Polymer	**393.700** 15.5000	**495.300** 19.5000	**44.450** 1.7500	**3.3** 0.13	**3.3** 0.13	**6900000** 1550000	**373000** 83700	* *
B-8350-C	Machined	**406.400** 16.0000	**711.200** 28.0000	**167.084** 6.5781	**9.1** 0.36	**9.1** 0.36	**19900000** 4480000	**2670000** 599000	356.50 786.00
F-3163-C	Pin	**406.400** 16.0000	**712.394** 28.0470	**146.050** 5.7500	**7.6** 0.30	**7.6** 0.30	**19300000** 4350000	**2380000** 537000	**303.40** 669.00
F-3131-G	Pin	**431.800** 17.0000	**863.600** 34.0000	**228.219** 8.9850	**10.2** 0.40	**10.2** 0.40	**37700000** 8480000	**4870000** 1100000	**774.60** 1708.00
DX948645	Pin	**457.200** 18.0000	**914.400** 36.0000	**181.044** 7.1277	**6.4** 0.25	**6.4** 0.25	**70100000** 15800000	**5422000** 1219000	**597.87** 1318.10
DX175273	Pin	**457.200** 18.0000	**965.200** 38.0000	**198.232** 7.8044	**6.4** 0.25	**6.4** 0.25	**18000000** 4040000	**5730000** 1290000	**742.59** 1637.12
A-6096-C	Machined	**508.000** 20.0000	**990.600** 39.0000	**196.850** 7.7500	**12.7** 0.50	**12.7** 0.50	**41500000** 9320000	**4330000** 975000	882.50 1946.00
T20751	Polymer	**527.050** 20.7500	**635.000** 25.0000	**44.450** 1.7500	**3.3** 0.13	**3.3** 0.13	**7750000** 1740000	**357000** 80200	**25.82** 56.92
F-3093-A	Pin	**558.800** 22.0000	**1066.800** 42.0000	**285.370** 11.2350	**10.2** 0.40	**10.2** 0.40	**49400000** 11100000	**7260000** 1630000	**1405.00** 3097.00
F-3172-C	Machined	**711.200** 28.0000	**965.200** 38.0000	**127.000** 5.0000	**4.8** 0.19	**4.8** 0.19	**19600000** 4400000	**2250000** 506000	**354.20** 781.00
H-2054-G	Pin	**711.200** 28.0000	**990.600** 39.0000	**190.119** 7.4850	**10.2** 0.40	**10.2** 0.40	**28000000** 6300000	**3680000** 830000	**460.00** 1013.00
T30620	Machined	**777.697** 30.6180	**889.000** 35.0000	**47.625** 1.8750	**3.3** 0.13	**3.3** 0.13	**11500000** 2580000	**442000** 99300	**45.71** 100.79
D-2864-C	Pin	**825.424** 32.4970	**1168.400** 46.0000	**127.000** 5.0000	**14.2** 0.56	**14.2** 0.56	**44100000** 9920000	**4040000** 907000	**549.70** 1212.00
T45750	Machined	**1162.050** 45.7500	**1282.700** 50.5000	**52.388** 2.0625	**3.3** 0.13	**3.3** 0.13	**19000000** 4280000	**618000** 139000	79.69 175.66
F-3067-C	Machined	**1219.998** 48.0314	**1574.869** 62.0027	**177.800** 7.0000	**6.4** 0.25	**6.4** 0.25	**49900000** 11200000	**5680000** 1280000	**1173.20** 2587.00
T53250	Machined	**1352.550** 53.2500	**1473.200** 58.0000	**52.375** 2.0620	**3.3** 0.13	**3.3** 0.13	**21100000** 4750000	**652000** 146000	**92.74** 204.48
NP552714	Cageless	**1549.999** 61.0236	**105.000** 67.1260	**60.000** 2.3622	**1.5** 0.06	**6.4** 0.25	**59400000** 13400000	**1600000** 360000	**149.16** 328.85

[1]Maximum shaft or housing fillet radius that bearing corners will clear.
[*]Contact your Timken engineer for details.

TYPE TTVS





Part Number	Dimensions									Ratings		Bearing Weight
	Bearing			Rings			Shoulder Dia.		Housing			
Bearing	Bore	O.D.	Width	Thickness	Small Dia. O.D.	Large Bore I.D.	Housing Max.	Shaft Min.	Fillet[1] Radius Max.	Static	Dynamic	
	d	D	T	T_1	D_1	d_1	E	H	r	C_o	C_{a90}	
	mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**N** lbf	**kg** lbs.
B-7976-C	**184.150** 7.2500	**406.400** 16.0000	**203.200** 8.0000	**66.680** 2.6250	**404.810** 15.9380	**187.320** 7.3750	**228.6** 9.00	**346.1** 13.62	**6.1** 0.24	**7650000** 1720000	**1180000** 264000	**157.40** 347.00
B-8824-C	**199.374** 7.8730	**399.948** 15.7460	**121.841** 4.7969	**36.400** 1.4330	**396.880** 15.6250	**203.200** 8.0000	**240.5** 9.47	**358.8** 14.12	**4.1** 0.16	**7020000** 1580000	**931000** 209000	**86.20** 190.00
E-2004-C	**228.600** 9.0000	**482.549** 18.9980	**158.750** 6.2500	**44.910** 1.7680	**479.550** 18.8800	**231.780** 9.1250	**282.6** 11.12	**419.1** 16.50	**4.8** 0.19	**10900000** 2440000	**1520000** 342000	**170.10** 375.00
H-1685-C	**241.300** 9.5000	**488.899** 19.2480	**152.400** 6.0000	**57.150** 2.2500	**482.600** 19.0000	**242.090** 9.5310	**279.4** 11.00	**431.8** 17.00	**6.1** 0.24	**9940000** 2240000	**1290000** 290000	**162.80** 359.00
W-3120-C	**253.975** 9.9990	**508.000** 20.0000	**215.900** 8.5000	**61.910** 2.4370	**504.820** 19.8750	**285.750** 11.2500	**317.5** 12.50	**425.4** 16.75	**10.2** 0.40	**9770000** 2200000	**1560000** 350000	**250.80** 553.00
P-1739-C	**304.800** 12.0000	**609.600** 24.0000	**215.900** 8.5000	**61.910** 2.4370	**608.010** 23.9380	**307.980** 12.1250	**349.2** 13.75	**536.6** 21.12	**7.6** 0.30	**17800000** 4010000	**2590000** 586000	**359.60** 793.00
N-2827-G	**355.600** 14.0000	**660.400** 26.0000	**254.000** 10.0000	**76.200** 3.0000	**657.220** 25.8750	**358.780** 14.1250	**412.8** 16.25	**577.8** 22.75	**10.2** 0.40	**18600000** 4180000	**2880000** 646000	**483.00** 1065.00
B-8424-C	**406.400** 16.0000	**869.950** 34.2500	**241.300** 9.5000	**82.550** 3.2500	**887.410** 34.9380	**438.150** 17.2500	**463.6** 18.25	**803.3** 31.62	**16.5** 0.65	**39000000** 8770000	**4590000** 1030000	**858.00** 1892.00

[1]These maximum fillet radii will be cleared by the bearing corners.

TYPE TTSP



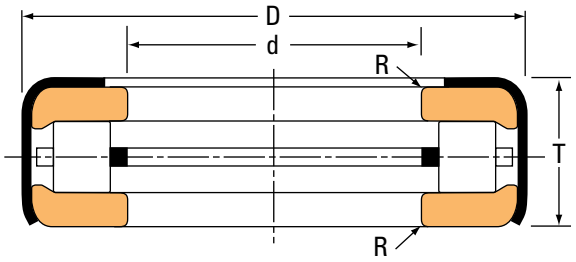


Fig. A.

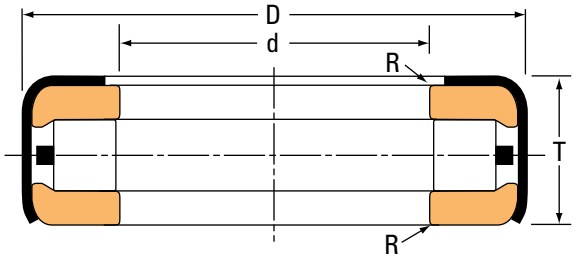


Fig. B.

Part Number			Dimensions				Steering Pivot Rating	Bearing Weight	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer	Fig.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R			
			mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**kg** lbs.	
T63	T63W	A	**16.129** 0.6350	**41.275** 1.6250	**12.700** 0.5000	**0.8** 0.03	**11100** 2500	**0.08** 0.18	
T76	T76W	A	**19.304** 0.7600	**41.275** 1.6250	**13.487** 0.5310	**0.8** 0.03	**11100** 2500	**0.08** 0.18	
T77	T77W	A	**19.304** 0.7600	**41.275** 1.6250	**12.700** 0.5000	**0.8** 0.03	**11100** 2500	**0.07** 0.15	
T82	T82W	A	**20.879** 0.8220	**41.275** 1.6250	**13.487** 0.5310	**0.8** 0.03	**11100** 2500	**0.07** 0.15	
T86		A	**20.257** 0.7975	**39.688** 1.5625	**14.288** 0.5625	**1.3** 0.05	**10700** 2400	**0.07** 0.15	
T88	T88W	A	**22.479** 0.8850	**48.021** 1.8906	**15.088** 0.5940	**0.8** 0.03	**17300** 3890	**0.11** 0.24	
T89		A	**22.479** 0.8850	**48.021** 1.8906	**15.875** 0.6250	**0.8** 0.03	**17350** 3900	**0.12** 0.26	
T92		B	**23.825** 0.9380	**44.958** 1.7700	**13.487** 0.5310	**0.8** 0.03	**11950** 2690	* *	T92 has two bores, other bore = 24.054 mm (0.9470 in.)
T93		A	**24.054** 0.9470	**44.958** 1.7700	**13.487** 0.5310	**0.8** 0.03	**11950** 2690	**0.09** 0.2	
T94	T94W	A	**24.054** 0.9470	**48.021** 1.8906	**15.088** 0.5940	**0.8** 0.03	**17350** 3900	**0.11** 0.24	
T95	T95W	A	**24.130** 0.9500	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**18600** 4200	**0.13** 0.29	
T101	T101W	A	**25.654** 1.0100	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**18600** 4200	**0.13** 0.29	
T101X		A	**25.146** 0.9900	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**18600** 4200	* *	T101X has two bores, other bore = 24.654 mm (1.0100 in.).

(*)Contact your Timken engineer for details.

Continued on the next page.

TYPE TTSP – *continued*



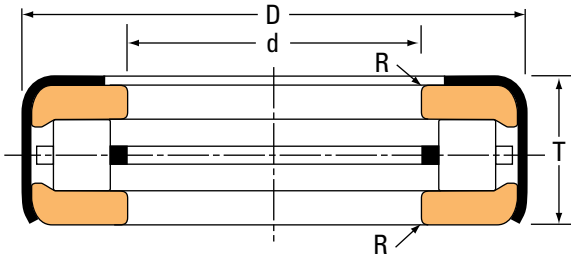


Fig. A.

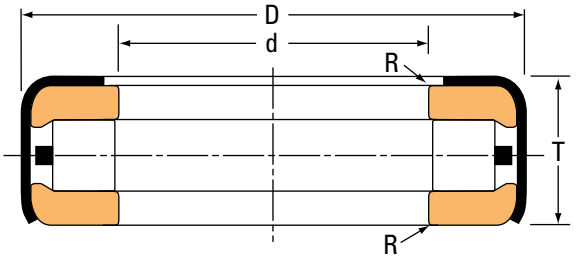


Fig. B.

Part Number			Dimensions				Steering Pivot Rating	Bearing Weight	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer	Fig.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R			
			mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**kg** lbs.	
T102R		A	**25.654** 1.0100	**50.800** 2.0000	**16.916** 0.6660	**0.8** 0.03	**18600** 4200	* *	T102 has extended retainer. Contact Timken engineer for details.
T104	T104W	A	**26.289** 1.0350	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**18600** 4200	**0.13** 0.29	
T105		A	**25.654** 1.0100	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**18600** 4200	* *	T105 has two bores, other bore = 27.299 mm (1.0720 in.).
T107	T107W	A	**27.299** 1.0720	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**18600** 4200	**0.12** 0.26	
T110	T110W	A	**28.829** 1.1350	**53.188** 2.0940	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	**0.14** 0.31	
T113	T113W	A	**28.829** 1.1350	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	**0.15** 0.33	
T114	T114W	A	**25.654** 1.0100	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	* *	T114 and T114W have two bores, other bore = 28.829 mm (1.1350 in.).
T114X		B	**28.829** 1.1350	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	* *	T114X has two cages and two bores, other bore = 29.261 mm (1.1520 in.).
T119	T119W	A	**30.416** 1.1975	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	**0.15** 0.33	
T120		B	**30.416** 1.1975	**54.745** 2.1553	**11.430** 0.4500	**0.8** 0.03	**16500** 3710	**0.11** 0.24	
T121		A	**30.716** 1.2093	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	**0.16** 0.35	
T126	T126W	A	**32.004** 1.2600	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	**0.14** 0.31	
T126A	T126AW	A	**32.004** 1.2600	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**20000** 4500	**0.14** 0.31	T126A - two cages.

(*)Contact your Timken engineer for details.

Continued on the next page.

Part Number			Dimensions				Steering Pivot Rating	Bearing Weight	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer	Fig.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R			
			mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**kg** lbs.	
T139	T139W	A	**35.179** 1.3850	**58.738** 2.3125	**15.875** 0.6250	**0.8** 0.03	**21400** 4800	**0.15** 0.33	
T139KP		A	**35.179** 1.3850	**58.738** 2.3125	**15.875** 0.6250	**0.8** 0.03	**21400** 4800	**0.15** 0.33	Races are cadmium plated.
T142	T142W	A	**35.179** 1.3850	**62.708** 2.4688	**19.431** 0.7650	**0.8** 0.03	**22400** 5050	**0.23** 0.51	
T149	T149W	A	**38.303** 1.5080	**65.883** 2.5938	**19.431** 0.7650	**0.8** 0.03	**23600** 5300	**0.24** 0.53	
T158		A	**40.234** 1.5840	**65.883** 2.5938	**19.431** 0.7650	**0.8** 0.03	**23600** 5300	**0.23** 0.51	
T199	T199W	A	**51.054** 2.0100	**74.612** 2.9375	**15.875** 0.6250	**0.8** 0.03	**26000** 5850	**0.2** 0.44	
T309	T309W	A	**78.583** 3.0938	**102.395** 4.0313	**15.875** 0.6250	**0.8** 0.03	**35400** 8000	**0.29** 0.64	
T387	T387W	A	**96.425** 3.8750	**127.000** 5.0000	**17.463** 0.7650	**0.8** 0.03	**43000** 9700	**0.5** 1.1	
T484		A	**123.012** 4.8430	**152.400** 6.0000	**17.463** 0.6875	**0.8** 0.03	**47500** 10600	**0.63** 1.39	
T581		A	**147.638** 5.8125	**177.800** 7.0000	**17.463** 0.6875	**0.8** 0.03	**51500** 11600	**0.89** 1.96	
T1760		SPCL[1]	**44.623** 1.7568	**76.200** 3.0000	**10.922** 0.4300	**0.8** 0.03	**31600** 7100	**0.18** 0.4	

[1]SPCL = special, not shown.

TYPE TTC, TTCS, TTCL



TTC



TTCS



TTCL

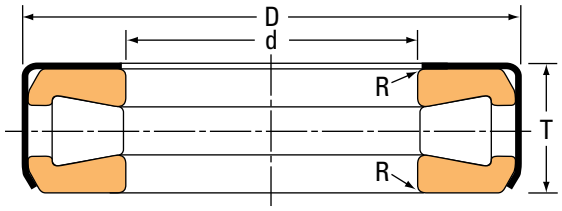


Fig. C. Type TTC.

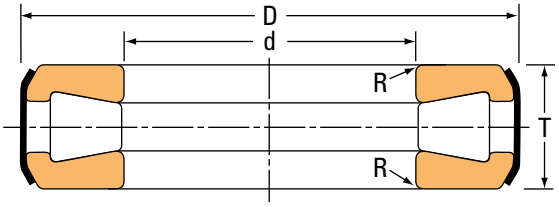


Fig. D. Type TTCS.

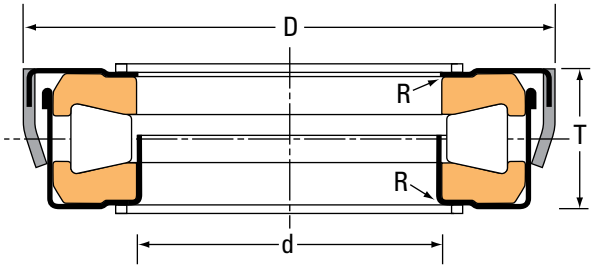


Fig. E. Type TTCL.

Part Number			Dimensions				Steering Pivot Rating	Bearing Weight	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer	Fig.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R			
			mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**kg** lbs.	
T127	T127W	C	**32.004** 1.2600	**66.675** 2.6250	**19.446** 0.7656	**0.8** 0.03	**42200** 9450	**0.31** 0.68	
T128		D	**32.004** 1.2600	**66.675** 2.6250	**18.654** 0.7344	**0.8** 0.03	**42200** 9450	**0.29** 0.64	
T130		C	**27.102** 1.0670	**66.675** 2.6250	**19.446** 0.7656	**0.8** 0.03	**42200** 9450	**0.34** 0.75	
T136		D	**35.179** 1.3850	**66.675** 2.6250	**18.654** 0.7344	**0.8** 0.03	**42200** 9450	**0.28** 0.62	
T138	T138W	C	**35.179** 1.3850	**66.675** 2.6250	**19.446** 0.7656	**0.8** 0.03	**42200** 9450	**0.30** 0.66	
T138XS		SPCL[1]	**35.179** 1.3850	**66.675** 2.6250	**19.446** 0.7656	**0.8** 0.03	**42200** 9450	* *	T138XS has two bores, other bore = 35.387 mm (1.3972 in.).

[1]SPCL = special, not shown.
[*]Contact your Timken engineer for details.

Continued on the next page.

Part Number			Dimensions				Steering Pivot Rating	Bearing Weight	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer	Fig.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R			
			mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**kg** lbs.	
T144	T144W	C	**36.754** 1.4470	**66.675** 2.6250	**19.446** 0.7656	**1.5** 0.06	**42200** 9450	**0.29** 0.64	
T144XA		SPCL[1]	**36.754** 1.4470	**66.675** 2.6250	**19.446** 0.7656	**1.5** 0.06	**42200** 9450	* *	T144XA has two bores, other bore = 37.137 mm (1.4621 in.).
T151	T151W	C	**38.354** 1.5100	**72.619** 2.8590	**21.433** 0.8438	**0.8** 0.03	**47000** 10600	**0.37** 0.82	
T152		D	**38.354** 1.5100	**72.619** 2.8590	**20.638** 0.8125	**0.8** 0.03	**47000** 10600	**0.35** 0.77	
T157	T157W	C	**39.954** 1.5730	**72.619** 2.8590	**21.433** 0.8438	**0.8** 0.03	**47000** 10600	**0.37** 0.82	
T163	T163W	C	**41.529** 1.6350	**72.619** 2.8590	**21.433** 0.8438	**0.8** 0.03	**47000** 10600	**0.35** 0.77	
T163X	T163XW	C	**41.529** 1.6350	**72.619** 2.8590	**21.433** 0.8438	**2.0** 0.80	**47000** 10600	**0.35** 0.77	
T169	T169W	C	**43.104** 1.6970	**82.956** 3.2660	**23.812** 0.9375	**0.8** 0.03	**64000** 14300	**0.55** 1.21	
T176	T176W	C	**44.704** 1.7600	**82.956** 3.2660	**23.812** 0.9375	**0.8** 0.03	**64000** 14300	**0.54** 1.19	
T177		C	**45.000** 1.7717	**73.000** 2.8740	**20.000** 0.7874	**0.8** 0.03	**47500** 10700	**0.32** 0.71	
T177A		C	**45.484** 1.7907	**73.000** 2.8740	**20.000** 0.7874	**0.8** 0.03	**47500** 10700	**0.33** 0.73	
T177XA		SPCL[1]	**45.000** 1.7717	**73.127** 2.8790	**20.000** 0.7874	**0.8** 0.03	**47500** 10700	* *	T177XA has two bores, other = 45.484 mm (1.7907 in.).
T177S		E	**45.000** 1.7717	**74.500** 2.9331	**20.221** 0.7961	**0.8** 0.03	**47500** 10700	**0.35** 0.77	
T178		C	**40.401** 1.5906	**73.000** 2.8740	**19.000** 0.7480	**0.8** 0.03	**47500** 10700	* *	
T182	T182W	C	**46.279** 1.8220	**82.956** 3.2660	**23.812** 0.9375	**0.8** 0.03	**64000** 14300	**0.52** 1.15	
T188	T188W	C	**47.879** 1.8850	**82.956** 3.2660	**23.812** 0.9375	**0.8** 0.03	**64000** 14300	**0.52** 1.15	
T189	T189W	D	**47.879** 1.8850	**82.956** 3.2660	**23.020** 0.9063	**0.8** 0.03	**64000** 14300	**0.50** 1.10	
T193	T193W	D	**49.454** 1.9470	**93.269** 3.6720	**26.187** 1.0310	**0.8** 0.03	**86000** 19400	**0.80** 1.76	
T194	T194W	C	**49.454** 1.9470	**93.269** 3.6720	**26.975** 1.0620	**0.8** 0.03	**86000** 19400	**0.81** 1.79	
T201	T201W	D	**51.054** 2.0100	**93.269** 3.6720	**26.187** 1.0310	**3.3** 0.13	**86000** 19400	**0.77** 1.70	
T202	T202W	C	**51.054** 2.0100	**93.269** 3.6720	**26.975** 1.0620	**3.3** 0.13	**86000** 19400	**0.80** 1.76	
T208	T208W	C	**52.629** 2.0720	**93.269** 3.6720	**26.975** 1.0620	**0.8** 0.03	**86000** 19400	**0.79** 1.74	

[1]SPCL = special, not shown.
(*)Contact your Timken engineer for details.

Continued on the next page.

TYPE TTC, TTCS, TTCL – *continued*

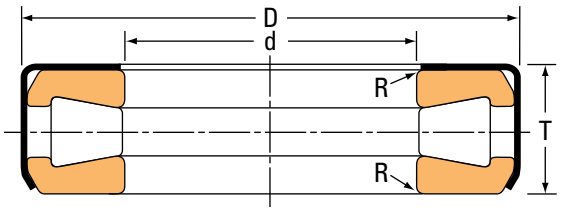


Fig. C. Type TTC.

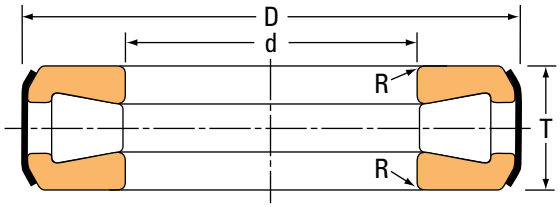


Fig. D. Type TTCS.

Part Number			Dimensions				Steering Pivot Rating	Bearing Weight	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer	Fig.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R			
			mm in.	**mm** in.	**mm** in.	**mm** in.	**N** lbf	**kg** lbs.	
T209	T209W	D	**52.629** 2.0720	**93.269** 3.6720	**26.187** 1.0310	**0.8** 0.03	**86000** 19400	**0.75** 1.65	
T251	T251W	C	**63.754** 2.5100	**111.125** 4.3750	**26.988** 1.0625	**0.8** 0.03	**124000** 27900	**1.07** 2.36	
T252	T252W	D	**63.754** 2.5100	**111.125** 4.3750	**25.796** 1.0156	**0.8** 0.03	**124000** 27900	**1.07** 2.23	
T301	T301W	D	**76.454** 3.0100	**133.350** 5.2500	**33.338** 1.3125	**2.3** 0.09	**178500** 40000	**1.87** 4.12	
T302	T302W	C	**76.454** 3.0100	**133.350** 5.2500	**34.925** 1.3750	**2.3** 0.09	**178500** 40000	**1.99** 4.39	
T350		D	**88.900** 3.5000	**133.350** 5.2500	**33.335** 1.3124	**2.8** 0.11	**115500** 26000	**1.41** 3.11	
T402	T402W	D	**102.108** 4.0200	**179.619** 7.0716	**44.450** 1.7500	**1.5** 0.06	**344000** 77500	**4.84** 10.67	
T600	T600W	C	**152.400** 8.0000	**241.300** 9.5000	**76.200** 3.0000	**3.3** 0.13	**575000** 129000	**14.10** 31.09	
T1260	T1260W	C	**32.004** 1.2600	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**27600** 6200	**0.17** 0.37	
T1380		SPCL[1]	**35.179** 1.3850	**59.400** 2.3386	**15.875** 0.6250	**0.8** 0.03	**31200** 7000	**0.35** 0.77	Two-piece seal.
T1921		C	**46.279** 1.8220	**80.010** 3.1500	**15.977** 0.6290	**0.8** 0.03	**56500** 12700	**0.34** 0.75	
T4020		D	**102.108** 4.0200	**179.619** 7.0716	**31.750** 1.2500	**1.5** 0.06	**324000** 73000	**3.70** 8.16	

[1]SPCL = special, not shown.
[*]Contact your Timken engineer for details.

AUXILIARY PARTS

Timken offers a wide range of auxiliary parts for use in the mounting of bearing products. Locknuts, lockwashers and shims may be used to help ensure the proper backing and setting of bearings in the application.



AUXILIARY PARTS
STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHER ASSEMBLIES

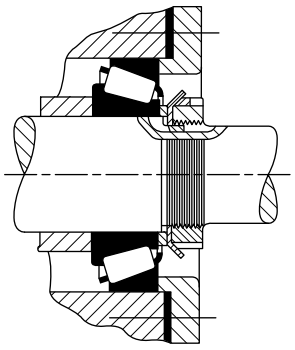


Fig. 43

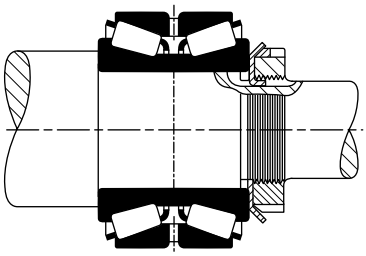


Fig. 44

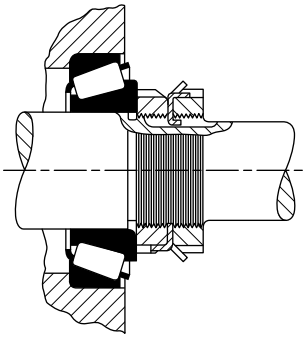


Fig. 45

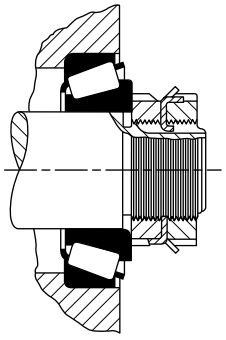


Fig. 46

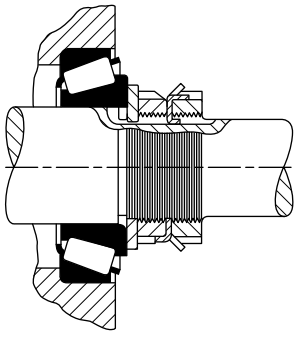


Fig. 47

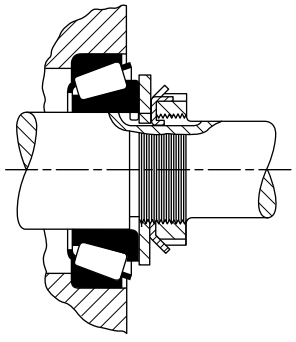


Fig. 48

The designs shown in figs. 43 to 48 show various methods of applying standard locknuts, lockwashers and tongued washers. A single locknut and lockwasher can be used to clamp the inner ring against a sleeve, shown in fig. 43, or directly against a shaft shoulder. A narrow spacer is applied between the front face of the inner ring and the lockwasher so that the lockwasher will clear the bearing cage by a minimum of 3 mm (0.12 in.). The spacer outside diameter should be made a minimum of 6 mm (0.24 in.) smaller than the cage inside diameter, but must still provide the suggested inner ring backing diameter. Fig. 44 shows another clamped design using a single locknut and lockwasher with a double-row bearing of either type TDO with inner ring spacer or type TNA. Since no cage clearance problem is present, the narrow spacer shown in fig. 43 is unnecessary.

Fig. 45, 46, and 47 indicate an adjustable bearing arrangement using two locknuts and a lockwasher. These may be used with either single- or double-row bearings of the types permitting an inner ring adjusted arrangement. The design in fig. 45 allows the maximum shaft extension diameter that can be used with a shaft thread outside diameter, which will be less than the inner ring bore. Fig. 46 shows an alternate design with smaller thread diameter and corresponding smaller locknuts and lockwasher. The locknut outside diameter, minus two times r, must not be less than the suggested inner ring backing diameter. Fig. 47 indicates the use of a tongued washer located between the inner locknut and inner ring. This is intended for applications where the inner rings are applied with loose fits on hardened stationary shafts as found in many automotive applications. The hardened tongued washers are not sold by The Timken Company.

When space does not permit the use of two locknuts and a lockwasher in an adjustable arrangement, and a single locknut and a lockwasher are used, then a tongued washer must be placed between the inner ring and lockwasher as illustrated in fig. 48. This is necessary to provide adequate backing for the inner ring, in most cases, and to prevent damage to the lockwasher if the inner ring should creep on the shaft. The tongued washers are available from The Timken Company.

STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS – METRIC

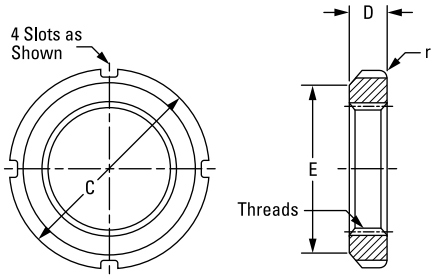
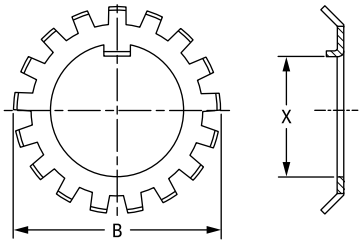


Fig. 49. Locknuts (threads are ISO 965/1, class 5H).



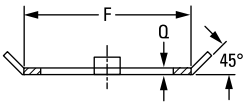


Fig. 50. Lockwashers.

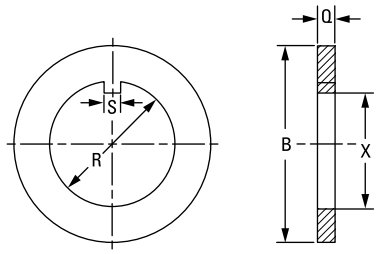


Fig. 51. Tongued washers.

Locknut Dimensions							Lockwasher Dimensions					Tongued Washer Dimensions						
ABMA Locknut Number	Threads		Outside Dia.	Thick-ness	Free Outside Dia.	Corner Radius	ABMA Lock-washer Number	Max. Dia. Over Tangs	Face Dia.	Thick-ness	No. of Tangs	Tongued Washer Number	Bore		Outside Dia.	Thick-ness	Key	
	Min. Value of Major Dia.	Thread Sizes											Min.	Max.			Max.	Min.
			C	D	E	r		B	F	Q			R	R	B	Q	S	X
	mm		mm	mm	mm	mm		mm	mm	mm			mm	mm	mm	mm	mm	mm
KMH2	15.000	M15X1	25.000	8.000	21.000	1.17	MBB2	28.000	21.000	1.41	11	MW2	15.095	15.205	22.000	3.25	4.0	12.195
KMH3	17.000	M17X1	28.000	8.000	24.000	1.17	MBB3	32.000	24.000	1.41	11	MW3	17.095	17.205	24.000	3.25	4.0	14.195
KMH4	20.000	M20X1	32.000	9.000	26.000	1.17	MBB4	36.000	26.000	1.41	11	MW4	20.110	20.240	29.000	3.25	4.0	17.295
KMH4.4	22.000	M22X1	34.000	9.000	28.000	1.17	MBB4.4	38.000	28.000	1.41	11	MW4.4	22.110	22.240	31.000	3.25	4.0	19.710
KMH5	25.000	M25X1.5	38.000	10.000	32.000	1.17	MBB5	42.000	32.000	1.41	13	MW5	25.110	25.240	40.000	3.25	5.0	21.910
KMH5.6	28.000	M28X1.5	42.000	10.000	36.000	1.17	MBB5.6	46.000	36.000	1.41	13	MW5.6	28.110	28.240	40.000	3.25	5.0	24.910
KMH6	30.000	M30X1.5	45.000	10.000	38.000	1.17	MBB6	49.000	38.000	1.41	13	MW6	30.110	30.240	45.000	3.25	5.0	26.910
KMH6.4	32.000	M32X1.5	48.000	11.000	40.000	1.59	MBB6.4	52.000	40.000	1.41	13	MW6.4	32.120	32.280	50.000	3.25	5.0	29.010
KMH7	35.000	M35X1.5	52.000	11.000	44.000	1.59	MBB7	57.000	44.000	1.41	13	MW7	35.120	35.280	52.000	3.25	6.0	31.820
KMH8	40.000	M40X1.5	58.000	11.000	50.000	1.59	MBB8	62.000	50.000	1.78	13	MW8	40.120	40.280	57.000	4.20	6.0	36.520
KMH9	45.000	M45X1.5	65.000	12.000	56.000	1.59	MBB9	69.000	56.000	1.78	13	MW9	45.130	45.290	68.000	4.20	6.0	41.530
KMH10	50.000	M50X1.5	70.000	13.000	61.000	1.59	MBB10	74.000	61.000	1.78	13	MW10	50.130	50.290	76.000	4.20	6.0	46.530
KMH11	55.000	M55X2	75.000	13.000	67.000	1.59	MBB11	81.000	67.000	1.78	17	MW11	55.140	55.330	79.000	4.20	8.0	51.140
KMH12	60.000	M60X2	80.000	14.000	73.000	1.59	MBB12	86.000	73.000	1.78	17	MW12	60.140	60.330	88.000	4.70	8.0	55.940
KMH13	65.000	M65X2	85.000	14.000	79.000	2.38	MBB13	92.000	79.000	1.78	17	MW13	65.140	65.330	90.000	4.70	8.0	60.940
KMH14	70.000	M70X2	92.000	14.000	85.000	2.38	MBB14	98.000	85.000	1.78	17	MW14	70.150	70.340	103.000	4.70	8.0	65.950
KMH15	75.000	M75X2	98.000	15.000	90.000	2.38	MBB15	104.000	90.000	2.24	17	MW15	75.150	75.340	103.000	5.70	8.0	70.550
KM16	80.000	M80X2	105.000	15.000	95.000	2.38	MBB16	112.000	95.000	2.24	17	MW16	80.150	80.340	111.000	5.70	10.0	75.150
KM17	85.000	M85X2	110.000	16.000	102.000	2.38	MBB17	119.000	102.000	2.24	17	MW17	85.170	85.390	116.000	5.70	10.0	80.150
KM18	90.000	M90X2	120.000	16.000	108.000	2.38	MBB18	126.000	108.000	2.73	17	MW18	90.170	90.390	121.000	7.62	10.0	84.670
KM19	95.000	M95X2	125.000	17.000	113.000	3.18	MBB19	133.000	113.000	2.73	17	MW19	95.170	95.390	126.000	7.62	10.0	89.670
KM20	100.000	M100X2	130.000	18.000	120.000	3.18	MBB20	142.000	120.000	2.73	17	MW20	100.170	100.390	131.000	7.62	12.0	94.670
KM21	105.000	M105X2	140.000	18.000	126.000	3.18	MBB21	145.000	126.000	2.73	17	MW21	105.180	105.400	125.000	7.62	12.0	99.670
KM22	110.000	M110X2	145.000	19.000	133.000	3.18	MBB22	154.000	133.000	3.25	17	MW22	110.180	110.400	136.000	7.62	12.0	104.180
KM23	115.000	M115X2	150.000	19.000	137.000	3.18	MBB23	159.000	137.000	3.25	17	MW23	115.180	115.400	144.000	7.62	12.0	109.180
KM24	120.000	M120X2	155.000	20.000	138.000	3.18	MBB24	164.000	138.000	3.72	17	MW24	120.180	120.400	150.000	9.57	14.0	113.180
KM25	125.000	M125X2	160.000	21.000	148.000	3.18	MBB25	170.000	148.000	3.72	17	MW25	125.200	125.450	138.000	9.57	14.0	118.180
KM26	130.000	M130X2	165.000	21.000	149.000	3.18	MBB26	175.000	149.000	3.72	17	MW26	130.200	130.450	166.000	9.57	14.0	123.200

STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS – INCH

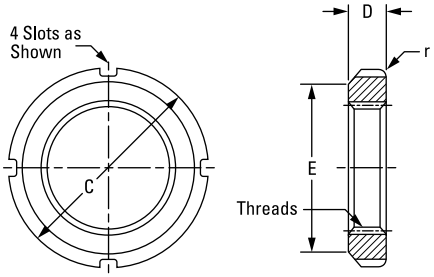
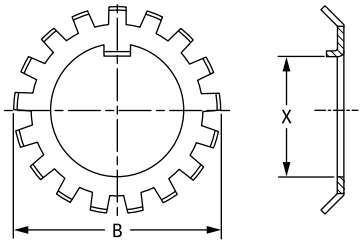


Fig. 52. Locknuts (threads are ISO 965/1, class 5H).



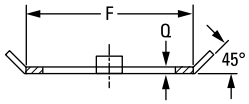


Fig. 53. Lockwashers.

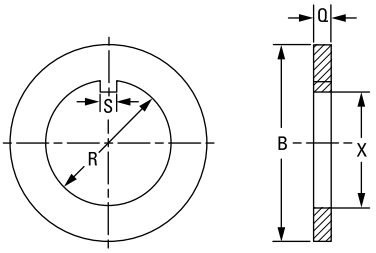


Fig. 54. Tongued washers.

Threads are American National, Form NS, Class 3, with thread length based on 45° chamfer.

Locknut Dimensions							Lockwasher Dimensions					Tongued Washer Dimensions						
ABMA Locknut Number	Threads		Outside Dia.	Thick-ness	Free Outside Dia.	Corner Radius	ABMA Lock-washer Number	Max. Dia. Over Tangs	Face Dia.	Thick-ness	No. of Tangs	Tongued Washer Number	Bore		Outside Dia.	Thick-ness	Key	
	Min. Value of Major Dia.	Thread Sizes											Min.	Max.			Max.	Min.
			C	D	E	r		B	F	Q			R	R	B	Q	S	X
	in.	in.	in.	in.	in.	in.		in.	in.	in.			in.	in.	in.	in.	in.	in.
N-00	0.391	32	0.755	0.229	0.625	0.047	TW100	0.891	0.625	0.032	9	K91500	0.406	0.421	0.798	0.109	0.120	0.334
N-01	0.469	32	0.880	0.323	0.719	0.047	TW101	1.031	0.719	0.032	9	K91501	0.484	0.499	0.923	0.109	0.120	0.412
N-02	0.586	32	1.005	0.323	0.813	0.047	TW102	1.156	0.813	0.048	11	K91502	0.601	0.616	1.173	0.125	0.120	0.513
N-03	0.664	32	1.130	0.354	0.938	0.047	TW103	1.344	0.938	0.048	11	K91503	0.679	0.694	1.173	0.125	0.120	0.591
N-04	0.781	32	1.380	0.385	1.125	0.047	TW104	1.563	1.125	0.052	11	K91504	0.801	0.816	1.423	0.125	0.176	0.713
N-05	0.969	32	1.568	0.416	1.281	0.047	TW105	1.703	1.281	0.052	13	K91505	0.989	1.009	1.860	0.125	0.176	0.897
N-06	1.173	18	1.755	0.416	1.500	0.047	TW106	1.953	1.500	0.052	13	K91506	1.193	1.213	1.860	0.125	0.176	1.081
TN-065	1.312	18	2.068	0.448	1.813	0.063	TW065	2.234	1.813	0.052	15	K915065	1.333	1.353	2.173	0.125	0.176	1.221
TN-07	1.376	18	2.068	0.448	1.813	0.063	TW107	2.250	1.813	0.052	15	K91507	1.396	1.416	2.173	0.125	0.176	1.284
TN-08	1.563	18	2.255	0.448	2.000	0.063	TW108	2.484	2.000	0.062	15	K91508	1.583	1.603	2.735	0.156	0.290	1.461
TN-09	1.767	18	2.536	0.448	2.281	0.063	TW109	2.719	2.281	0.062	17	K91509	1.792	1.817	2.735	0.156	0.290	1.670
TN-10	1.967	18	2.693	0.510	2.438	0.063	TW110	2.922	2.438	0.062	17	K91510	1.992	2.017	3.235	0.156	0.290	1.870
TN-11	2.157	18	2.974	0.510	2.656	0.063	TW111	3.094	2.656	0.062	17	K91511	2.182	2.207	3.235	0.156	0.290	2.060
TN-12	2.360	18	3.161	0.541	2.844	0.063	TW112	3.328	2.844	0.072	17	K91512	2.400	2.425	3.735	0.187	0.290	2.248
TN-13	2.548	18	3.380	0.573	3.063	0.094	TW113	3.563	3.063	0.072	19	K91513	2.588	2.613	3.735	0.187	0.290	2.436
TN-14	2.751	18	3.360	0.573	3.313	0.094	TW114	3.813	3.313	0.072	19	K91514	2.791	2.816	3.735	0.187	0.290	2.639
TAN-15	2.933	12	3.880	0.604	3.563	0.094	TW115	4.047	3.563	0.085	19	K91515	2.973	3.003	4.173	0.218	0.290	2.808
TAN-16	3.137	12	4.161	0.604	3.844	0.094	TW116	4.391	3.844	0.085	19	K91516	3.177	3.207	4.173	0.218	0.353	3.012
TAN-17	3.340	12	4.411	0.635	4.031	0.094	TW117	4.625	4.031	0.085	19	K91517	3.395	3.425	4.610	0.218	0.353	3.230
TAN-18	3.527	12	4.661	0.698	4.281	0.094	TW118	4.953	4.281	0.115	19	K91518	3.582	3.612	5.110	0.250	0.353	3.387
TAN-19	3.730	12	4.943	0.729	4.563	0.125	TW119	5.234	4.563	0.115	19	K91519	3.800	3.830	5.110	0.250	0.353	3.605
TAN-20	3.918	12	5.193	0.760	4.813	0.125	TW120	5.484	4.813	0.115	19	K91520	3.988	4.018	5.610	0.250	0.353	3.778
TAN-21	4.122	12	5.443	0.760	5.000	0.125	TW121	5.703	5.000	0.115	19	K91521	4.192	4.222	5.610	0.250	0.353	3.982
TAN-22	4.325	12	5.724	0.791	5.281	0.125	TW122	6.000	5.281	0.130	19	K91522	4.395	4.425	6.110	0.281	0.353	4.170
TAN-24	4.716	12	6.130	0.823	5.688	0.125	TW124	6.531	5.688	0.155	19	K91524	4.801	4.831	6.735	0.375	0.353	4.551
TAN-26	5.106	12	6.755	0.885	6.188	0.125	TW126	7.047	6.188	0.155	19	K91526	5.191	5.226	7.485	0.375	0.435	4.921
TAN-128	5.497	12	7.099	1.198	6.531	0.125	TW128	7.438	6.531	0.155	19	K91528	5.582	5.617	7.485	0.375	0.590	5.312
TAN-130	5.888	12	7.693	1.260	7.063	0.125	TW130	8.063	7.063	0.193	19	K91530	5.983	6.018	7.985	0.375	0.590	5.675
TAN-132	6.284	8	8.068	1.291	7.438	0.156	TW132	8.453	7.438	0.193	19	K91532	6.389	6.424	8.485	0.375	0.590	6.081
TAN-134	6.659	8	8.661	1.354	8.031	0.156	TW134	9.078	8.031	0.193	19	K91534	6.764	6.799	8.985	0.375	0.715	6.456
TAN-136	7.066	8	9.068	1.416	8.375	0.156	TW136	9.438	8.375	0.193	19	K91536	7.171	7.206	9.235	0.375	0.715	6.863
TAN-138	7.472	8	9.474	1.416	8.781	0.156	TW138	9.859	8.781	0.193	19	K91538	7.577	7.612	9.735	0.375	0.715	7.269
TAN-140	7.847	8	9.849	1.510	9.156	0.156	TW140	10.406	9.156	0.193	19	K91540	7.982	8.017	10.110	0.375	0.840	7.674

SHAFT THREAD AND KEYWAY DIMENSIONS FOR STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS

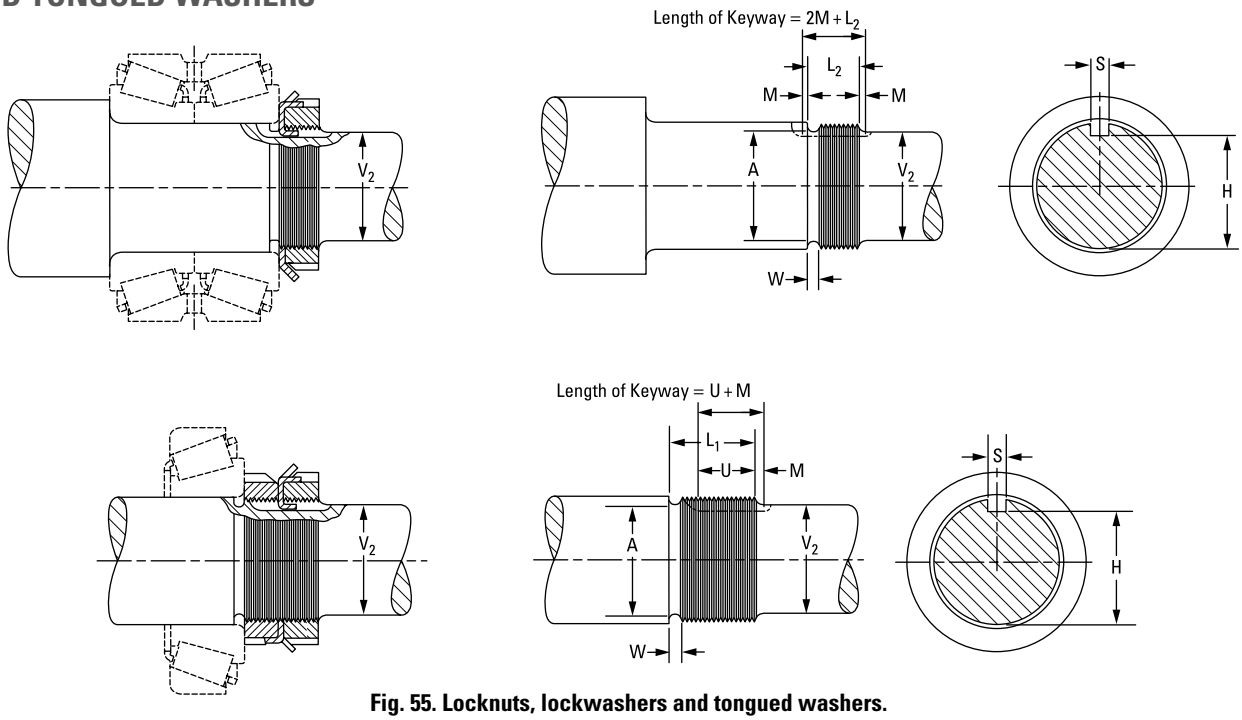


Fig. 55. Locknuts, lockwashers and tongued washers.

These dimensions are ABMA standards.

Threads											Shaft Ext. Dia.	Thread Length		Keyway			
ABMA Locknut Number	Number Per Inch	Major Diameter			Pitch Diameter[1]			Minor Diameter	Relief Diameter	Relief Width +0.016 0.000		+0.016 -0.000	+0.016 -0.000	Depth Max.	Width		
		Max.	Tol.	Min.	Max.	Tol.	Min.	Max.	A	W	V_2 Max.	L_1	L_2	H	S[2]	M[2]	U[2]
	in.	in.	in.	in.	in.	in.	in.		in.	in.	in.	in.	in.	in.	in.	in.	in.
N-00	32	0.391	0.0054	0.3856	0.3707	0.0026	0.3681	0.3257	0.3371 ± 0.005	0.062	0.312	0.593	0.375	0.287	0.125	0.094	0.469
N-01	32	0.469	0.0054	0.4636	0.4487	0.0026	0.4461	0.4307	0.4151 ± 0.005	0.062	0.406	0.781	0.468	0.366	0.125	0.094	0.562
N-02	32	0.586	0.0054	0.5806	0.5657	0.0030	0.5627	0.5477	0.5321 ± 0.005	0.062	0.500	0.812	0.500	0.485	0.125	0.094	0.594
N-03	32	0.664	0.0054	0.6586	0.6437	0.0030	0.6407	0.6257	0.6101 ± 0.005	0.062	0.562	0.875	0.531	0.564	0.125	0.094	0.625
N-04	32	0.781	0.0054	0.7756	0.7607	0.0034	0.7573	0.7427	0.7271 ± 0.005	0.062	0.703	0.906	0.531	0.676	0.188	0.094	0.625
N-05	32	0.969	0.0054	0.9636	0.9487	0.0034	0.9453	0.9307	0.9151 ± 0.005	0.062	0.875	1.000	0.593	0.835	0.188	0.125	0.719
N-06	18	1.173	0.0082	1.1648	1.1369	0.0040	1.1329	1.1048	1.0892 ± 0.005	0.093	1.062	1.000	0.593	1.040	0.188	0.125	0.719
TN-065	18	1.312	0.0082	1.3043	1.2764	0.0040	1.2724	1.2443	1.2287 ± 0.005	0.093	1.188	1.062	0.625	1.180	0.188	0.125	0.750
TN-07	18	1.376	0.0082	1.3678	1.3399	0.0040	1.3359	1.3078	1.2922 ± 0.005	0.093	1.250	1.062	0.625	1.244	0.188	0.125	0.750
TN-08	18	1.563	0.0082	1.5548	1.5269	0.0045	1.5224	1.4948	1.4792 ± 0.005	0.093	1.438	1.062	0.625	1.422	0.312	0.125	0.750
TN-09	18	1.767	0.0082	1.7588	1.7309	0.0045	1.7264	1.6988	1.6832 ± 0.005	0.125	1.656	1.062	0.625	1.628	0.312	0.156	0.781
TN-10	18	1.967	0.0082	1.9588	1.9309	0.0045	1.9264	1.8988	1.8832 ± 0.005	0.125	1.859	1.187	0.687	1.830	0.312	0.156	0.844
TN-11	18	2.157	0.0082	2.1488	2.1209	0.0051	2.1158	2.0888	2.0732 ± 0.005	0.125	2.047	1.187	0.687	2.021	0.312	0.156	0.844
TN-12	18	2.360	0.0082	2.3518	2.3239	0.0051	2.3188	2.2918	2.2762 ± 0.005	0.125	2.250	1.281	0.750	2.194	0.312	0.156	0.906
TN-13	18	2.548	0.0082	2.5398	2.5119	0.0051	2.5068	2.4798	2.4642 ± 0.005	0.125	2.422	1.343	0.781	2.382	0.312	0.156	0.938
TN-14	18	2.751	0.0082	2.7428	2.7149	0.0051	2.7098	2.6828	2.6672 ± 0.005	0.125	2.625	1.343	0.781	2.586	0.312	0.250	1.000
TAN-15	12	2.933	0.0112	2.9218	2.8789	0.0054	2.8735	2.8308	2.7995 ± '0.010	0.156	2.781	1.406	0.812	2.737	0.312	0.250	1.031

[1]This standard is applicable to steel nuts. When either the nut or the shaft is made of stainless steel, aluminum, or other material having a tendency to seize, it is recommended that the maximum thread diameter of the shaft, both major and pitch, be reduced by 20 percent of the listed pitch diameter tolerance.

[2]Suggested tolerance on these dimensions of +0.016/-0.000 in.

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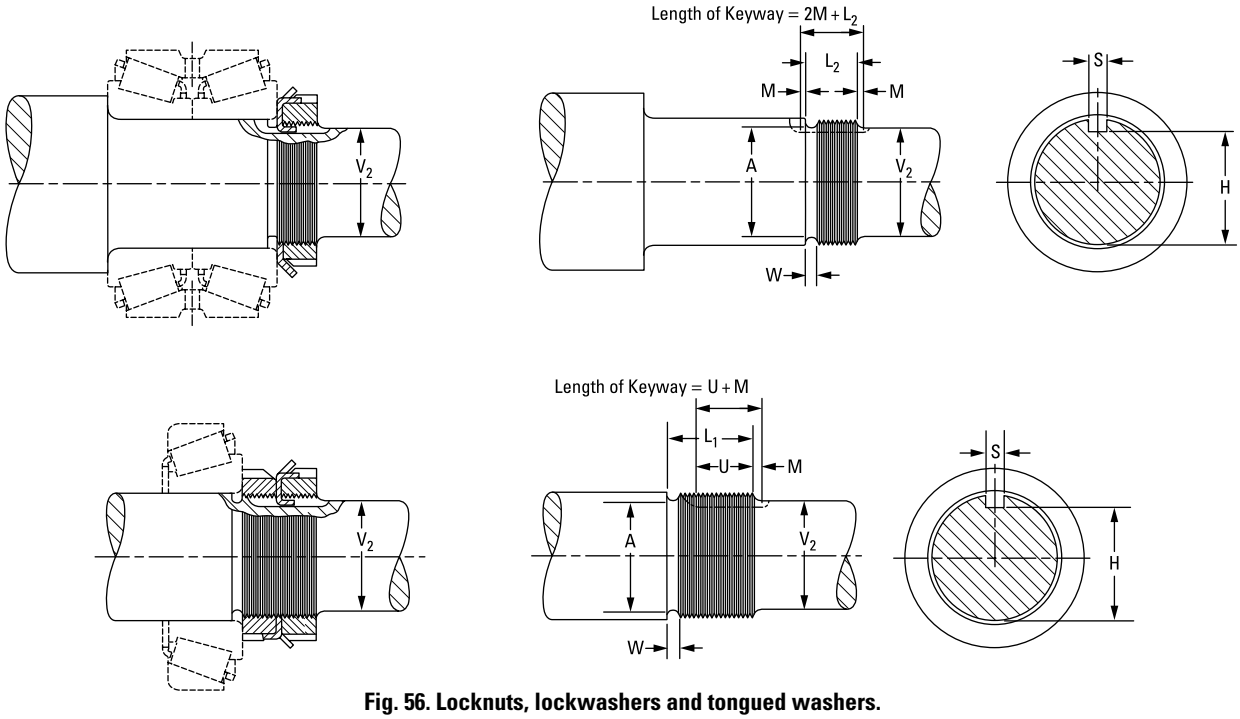


Fig. 56. Locknuts, lockwashers and tongued washers.

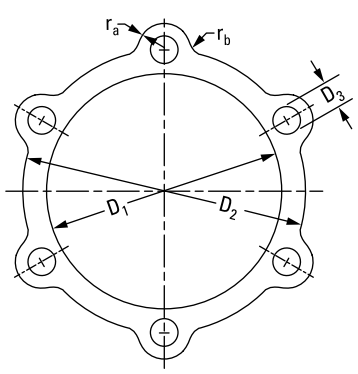
These dimensions are ABMA standards.

		Threads									Shaft Ext. Dia.	Thread Length		Keyway			
ABMA Locknut Number	Number Per Inch	Major Diameter			Pitch Diameter[1]			Minor Diameter	Relief Diameter	Relief Width +0.016 0.000		+0.016 -0.000	+0.016 -0.000	Depth Max.	Width		
		Max.	Tol.	Min.	Max.	Tol.	Min.	Max.	A	W	V_2 Max.	L_1	L_2	H	S[2]	M[2]	U[2]
	in.	in.	in.	in.	in.	in.	in.		in.	in.	in.	in.	in.	in.	in.	in.	in.
TAN-16	12	3.137	0.0112	3.1258	3.0829	0.0059	3.0770	3.0348	3.0035 ± 0.010	0.156	3.000	1.406	0.812	2.938	0.375	0.250	1.031
TAN-17	12	3.340	0.0112	3.3288	3.2859	0.0059	3.2800	3.2378	3.2065 ± 0.010	0.156	3.188	1.468	0.843	3.141	0.375	0.250	1.062
TAN-18	12	3.527	0.0112	3.5158	3.4729	0.0074	3.4655	3.4248	3.3935 ± 0.010	0.156	3.375	1.625	0.937	3.298	0.375	0.250	1.156
TAN-19	12	3.730	0.0112	3.7188	3.6759	0.0074	3.6685	3.6278	3.5965 ± 0.010	0.156	3.562	1.687	0.968	3.502	0.375	0.250	1.188
TAN-20	12	3.918	0.0112	3.9068	3.8639	0.0074	3.8565	3.8158	3.7845 ± 0.010	0.156	3.766	1.750	1.000	3.690	0.375	0.312	1.281
TAN-21	12	4.122	0.0112	4.1108	4.0679	0.0083	4.0596	4.0198	3.9885 ± 0.010	0.156	3.938	1.750	1.000	3.894	0.375	0.312	1.281
TAN-22	12	4.325	0.0112	4.3138	4.2709	0.0083	4.2626	4.2228	4.1915 ± 0.010	0.156	4.156	1.812	1.031	4.098	0.375	0.312	1.312
TAN-24	12	4.716	0.0112	4.7048	4.6619	0.0083	4.6536	4.6138	4.5825 ± 0.010	0.156	4.531	1.906	1.093	4.458	0.375	0.312	1.375
TAN-26	12	5.106	0.0112	5.0948	5.0519	0.0083	5.0436	5.0038	4.9725 ± 0.010	0.156	4.906	2.031	1.156	4.844	0.500	0.312	1.438
TAN-128	12	5.497	0.0112	5.4858	5.4429	0.0083	5.4346	5.3948	5.3635 ± 0.010	0.156	5.297	2.656	1.468	5.229	0.625	0.312	1.750
TAN-130	12	5.888	0.01125	5.8768	5.8339	0.0083	5.8256	5.7858	5.7545 ± 0.010	0.156	5.656	2.812	1.562	5.590	0.625	0.375	1.906
TAN-132	8	6.284	0.0152	6.2688	6.2028	0.0091	6.1937	6.1306	6.0993 ± 0.010	0.250	6.062	2.875	1.593	5.956	0.625	0.375	1.938
TAN-134	8	6.659	0.0152	6.6438	6.5778	0.0091	6.5687	6.5056	6.4743 ± 0.010	0.250	6.438	3.000	1.656	6.326	0.750	0.375	2.000
TAN-136	8	7.066	0.0152	7.0508	6.9848	0.0091	6.9757	6.9126	6.8813 ± 0.010	0.250	6.844	3.125	1.718	6.734	0.750	0.375	2.062
TAN-138	8	7.472	0.0152	7.4568	7.3908	0.0091	7.3817	7.3186	7.2873 ± 0.010	0.250	7.250	3.125	1.718	7.141	0.750	0.375	2.062
TAN-140	8	7.847	0.0152	7.8318	7.7658	0.0114	7.7544	7.6936	7.6623 ± 0.010	0.250	7.625	3.312	1.812	7.510	0.875	0.375	2.125

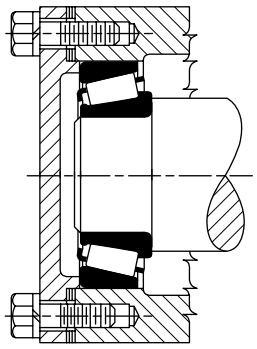
[1]This standard is applicable to steel nuts. When either the nut or the shaft is made of stainless steel, aluminum, or other material having a tendency to seize, it is recommended that the maximum thread diameter of the shaft, both major and pitch, be reduced by 20 percent of the listed pitch diameter tolerance.
[2]Suggested tolerance on these dimensions of +0.016/-0.000 in.

CUP SHIMS

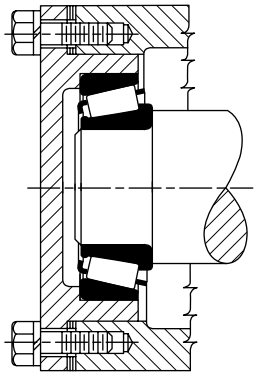
STANDARD METAL SHIMS FOR CUP ADJUSTMENT OF BEARINGS



Shims 0.13 mm (0.005 in.), 0.18 mm (0.007 in.) and 0.51 mm (0.020 in.) thick.



Without carrier.



With carrier. Carrier section should be equal to average cup wall section.

Fig. 57. Cup shims.

Suggested shim sets consist of three 0.13 mm (0.005 in.), three 0.18 mm (0.007 in.) and one 0.51 mm (0.020 in.) thick shims. When ordering, specify the exact quantity for each part number. Shims shown in this table are made from aluminum.

Cup Shims – part number identifies the following:

EXAMPLE

Shim	Size	Thickness (in.)
K2	00	00

K2	06	05	covers number 6 shim	0.13 mm (0.005 in.) thick
K2	06	07	covers number 6 shim	0.18 mm (0.007 in.) thick
K2	06	20	covers number 6 shim	0.51 mm (0.020 in.) thick

Shim Part Numbers			Cap Screws							
0.13 0.005 Thick	**0.18** 0.007 Thick	**0.51** 0.020 Thick	No.	Size	D_1	D_2	D_3	r_a	r_b
				mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
K20605	K20607	K20620	4	**6.4** 0.25	**35.8** 1.41	**47.8** 1.88	**7.1** 0.28	**6.4** 0.25	**3.0** 0.12
K20705	K20707	K20720	4	**6.4** 0.25	**45.2** 1.78	**57.2** 2.25	**7.1** 0.28	**6.4** 0.25	**3.0** 0.12
K20805	K20807	K20820	4	**9.7** 0.38	**51.6** 2.03	**69.8** 2.75	**10.4** 0.41	**9.7** 0.38	**4.8** 0.19
K20905	K20907	K20920	4	**9.7** 0.38	**59.4** 2.34	**76.2** 3.00	**10.4** 0.41	**9.7** 0.38	**4.8** 0.19
K21005	K21007	K21020	4	**9.7** 0.38	**65.8** 2.59	**82.6** 3.25	**10.4** 0.41	**9.7** 0.38	**4.8** 0.19
K21105	K21107	K21120	4	**9.7** 0.38	**70.6** 2.78	**88.9** 3.50	**10.4** 0.41	**9.7** 0.38	**4.8** 0.19
K21205	K21207	K21220	4	**9.7** 0.38	**77.0** 3.03	**95.2** 3.75	**10.4** 0.41	**9.7** 0.38	**4.8** 0.19
K21405	K21407	K21420	4	**9.7** 0.38	**89.7** 3.53	**108.0** 4.25	**10.4** 0.41	**9.7** 0.38	**4.8** 0.19
K21505	K21507	K21520	4	**9.7** 0.38	**96.0** 3.78	**114.3** 4.50	**10.4** 0.41	**9.7** 0.38	**4.8** 0.19
K21605	K21607	K21620	4	**12.7** 0.50	**102.4** 4.03	**127.0** 5.00	**13.5** 0.53	**12.7** 0.50	**6.4** 0.25
K21705	K21707	K21720	4	**12.7** 0.50	**108.7** 4.28	**133.4** 5.25	**13.5** 0.53	**12.7** 0.50	**6.4** 0.25
K21805	K21807	K21820	4	**12.7** 0.50	**115.1** 4.53	**139.7** 5.50	**13.5** 0.53	**12.7** 0.50	**6.4** 0.25
K21905	K21907	K21920	6	**12.7** 0.50	**121.4** 4.78	**146.0** 5.75	**13.5** 0.53	**12.7** 0.50	**6.4** 0.25
K22005	K22007	K22020	6	**12.7** 0.50	**127.8** 5.03	**152.4** 6.00	**13.5** 0.53	**12.7** 0.50	**6.4** 0.25
K22205	K22207	K22220	6	**12.7** 0.50	**140.5** 5.53	**165.1** 6.50	**13.5** 0.53	**12.7** 0.50	**6.4** 0.25
K22405	K22407	K22420	6	**12.5** 0.50	**153.2** 6.03	**177.8** 7.00	**13.5** 0.53	**12.7** 0.50	**6.4** 0.25
K22505	K22507	K22520	6	**15.7** 0.62	**159.5** 6.28	**190.5** 7.50	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31

Shim Part Numbers			Cap Screws							
0.13 0.005 Thick	**0.18** 0.007 Thick	**0.51** 0.020 Thick	No.	Size	D_1	D_2	D_3	r_a	r_b
				mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
K22605	K22607	K22620	6	**15.7** 0.62	**165.9** 6.53	**196.8** 7.75	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K22705	K22707	K22720	6	**15.7** 0.62	**172.2** 6.78	**203.2** 8.00	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K22905	K22907	K22920	6	**15.7** 0.62	**184.9** 7.28	**215.9** 8.50	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K23005	K23007	K23020	6	**15.7** 0.62	**191.3** 7.53	**222.2** 8.75	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K23205	K23207	K23220	6	**15.7** 0.62	**204.0** 8.03	**235.0** 9.25	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K23405	K23407	K23420	6	**15.7** 0.62	**216.7** 8.53	**247.6** 9.75	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K23605	K23607	K23620	6	**15.7** 0.62	**229.4** 9.03	**260.4** 10.25	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K23805	K23807	K23820	6	**15.7** 0.62	**242.1** 9.53	**273.0** 10.75	**16.8** 0.66	**15.7** 0.62	**7.9** 0.31
K24005	K24007	K24020	6	**19.0** 0.75	**254.8** 10.03	**292.1** 11.50	**19.8** 0.78	**19.0** 0.75	**9.7** 0.38
K24105	K24107	K24120	8	**19.0** 0.75	**267.5** 10.53	**304.8** 12.00	**19.8** 0.78	**19.0** 0.75	**9.7** 0.38
K24205	K24207	K24220	8	**19.0** 0.75	**296.2** 11.66	**333.2** 13.12	**19.8** 0.78	**19.0** 0.75	**9.7** 0.38
K24405	K24407	K24420	8	**19.0** 0.75	**318.3** 12.53	**355.6** 14.00	**19.8** 0.78	**19.0** 0.75	**9.7** 0.38
K24605	K24607	K24620	8	**22.4** 0.88	**343.7** 13.53	**387.4** 15.25	**23.9** 0.94	**22.4** 0.88	**11.2** 0.44
K24805	K24807	K24820	8	**22.4** 0.88	**369.1** 14.53	**412.8** 16.25	**23.9** 0.94	**22.4** 0.88	**11.2** 0.44
K25005	K25007	K25020	8	**25.4** 1.00	**394.5** 15.53	**444.5** 17.50	**26.9** 1.06	**25.4** 1.00	**12.7** 0.50
K25205	K25207	K25220	8	**25.4** 1.00	**419.9** 16.53	**469.9** 18.50	**26.9** 1.06	**25.4** 1.00	**12.7** 0.50

THESE PARTS HAVE BEEN DESIGNED AND DEVELOPED FOR USE WITH TIMKEN BEARINGS ONLY.

CONE SHIMS

STANDARD METAL SHIMS FOR CONE ADJUSTED BEARINGS

Suggested shim sets consist of three 0.13 mm (0.005 in.), three 0.18 mm (0.007 in.) and one 0.51 mm (0.020 in.) thick shims.

When ordering, specify the exact quantity for each part number.

Shims shown in this table are made from aluminum, brass or steel shim stock.

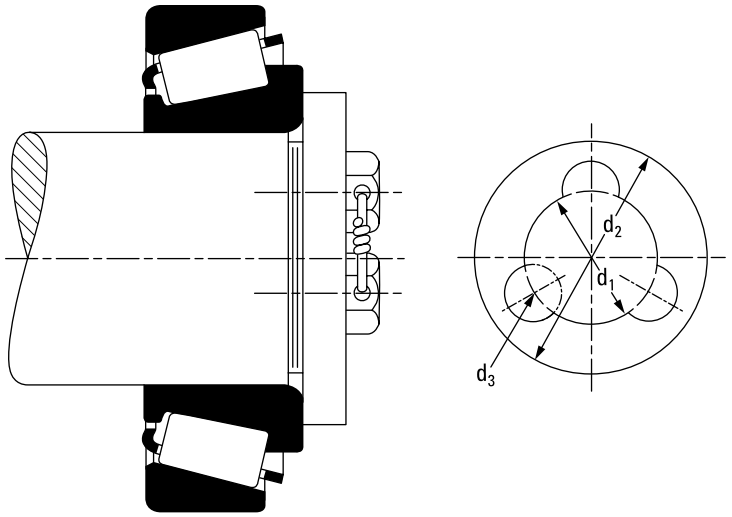


Fig. 58. Cone shims.

Shims		Shaft	Cap Screws		d_1	d_2	d_3
Part Number	Thickness	Size	No.	Size			
	mm in.	**mm** in.		**mm** in.	**mm** in.	**mm** in.	**mm** in.
T50605	**0.13** 0.005	**63.5** 2.50					
T50606	**0.18** 0.007	to	3	**12.7** 0.50	**35.1** 1.38	**60.5** 2.38	**14.2** 0.56
T50607	**0.51** 0.020	**73.2** 2.88					
T50608	**0.13** 0.005	**76.2** 3.00					
T50609	**0.18** 0.007	to	3	**12.7** 0.50	**44.4** 1.75	**73.2** 2.88	**14.2** 0.56
T50610	**0.51** 0.020	**85.9** 3.38					
T50611	**0.13** 0.005	**88.9** 3.50					
T50612	**0.18** 0.007	to	3	**12.7** 0.50	**57.2** 2.25	**85.9** 3.38	**14.2** 0.56
T50613	**0.51** 0.020	**104.6** 4.12					
T45882	**0.13** 0.005	**108.0** 4.25					
T50633	**0.18** 0.007	to	3	**15.7** 0.62	**76.2** 3.00	**103.1** 4.06	**17.5** 0.69
T45884	**0.51** 0.020	**117.3** 4.62					
T45885	**0.13** 0.005	**120.6** 4.75					
T50634	**0.18** 0.007	to	3	**15.7** 0.62	**88.9** 3.50	**117.3** 4.62	**17.5** 0.69
T45887	**0.51** 0.020	**124.0** 4.88					

Shims		Shaft	Cap Screws		d_1	d_2	d_3
Part Number	Thickness	Size	No.	Size			
	mm in.	**mm** in.		**mm** in.	**mm** in.	**mm** in.	**mm** in.
T50614	**0.13** 0.005	**127.0** 5.00					
T50615	**0.18** 0.007	to	4	**19.0** 0.75	**88.9** 3.50	**124.0** 4.88	**20.6** 0.81
T50616	**0.51** 0.020	**136.7** 5.38					
T50617	**0.13** 0.005	**139.7** 5.50					
T50618	**0.18** 0.007	to	4	**19.0** 0.75	**88.9** 3.50	**136.7** 5.38	**20.6** 0.81
T50619	**0.51** 0.020	**149.4** 5.88					
T50620	**0.13** 0.005	**152.4** 6.00					
T50621	**0.18** 0.007	to	6	**19.0** 0.75	**101.6** 4.00	**149.4** 5.88	**20.6** 0.81
T50622	**0.51** 0.020	**174.8** 6.88					
T50623	**0.13** 0.005	**177.8** 7.00					
T50624	**0.18** 0.007	to	6	**25.4** 1.00	**127.0** 5.00	**174.8** 6.88	**26.9** 1.06
T50625	**0.51** 0.020	**200.2** 7.88					
T50626	**0.13** 0.005						
T50627	**0.18** 0.007	**203.2** 8.00	6	**31.8** 1.25	**152.4** 6.00	**200.2** 7.88	**33.3** 1.31
T50628	**0.51** 0.020						

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