ROLLER BEARINGS

B

B

B ROLLER BEARINGS

Part Numbering Systems B3
Tapered Roller Bearings B15
Radial Cylindrical Roller Bearings B325
Spherical Roller Bearings B351
Spherical Roller Bearing Pillow Blocks B383
Spherical Plain Bearings B415
Thrust Roller Bearings B435
Auxiliary Parts B467

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ROLLER BEARINGS

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TAPERED ROLLER BEARINGS

Overview: 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 bearings are uniquely designed to manage both thrust and radial loads on rotating shafts. The steeper the cup angle, the greater the ability of the bearing to handle thrust loads.

- **Sizes:** 8 mm (0.31496 in.) bore to 2222.5 mm (87.5 in.) outside diameter (O.D.).
- **Markets:** Automotive, industrial, rail, rolling mills, crane wheels, sheaves.
- **Features:** Available in single-, double- and four-row configurations. Customized surface geometries and coatings are available.
- **Benefits:** Enhanced performance in demanding applications.

PAGE

Part Numbering Systems *B3*

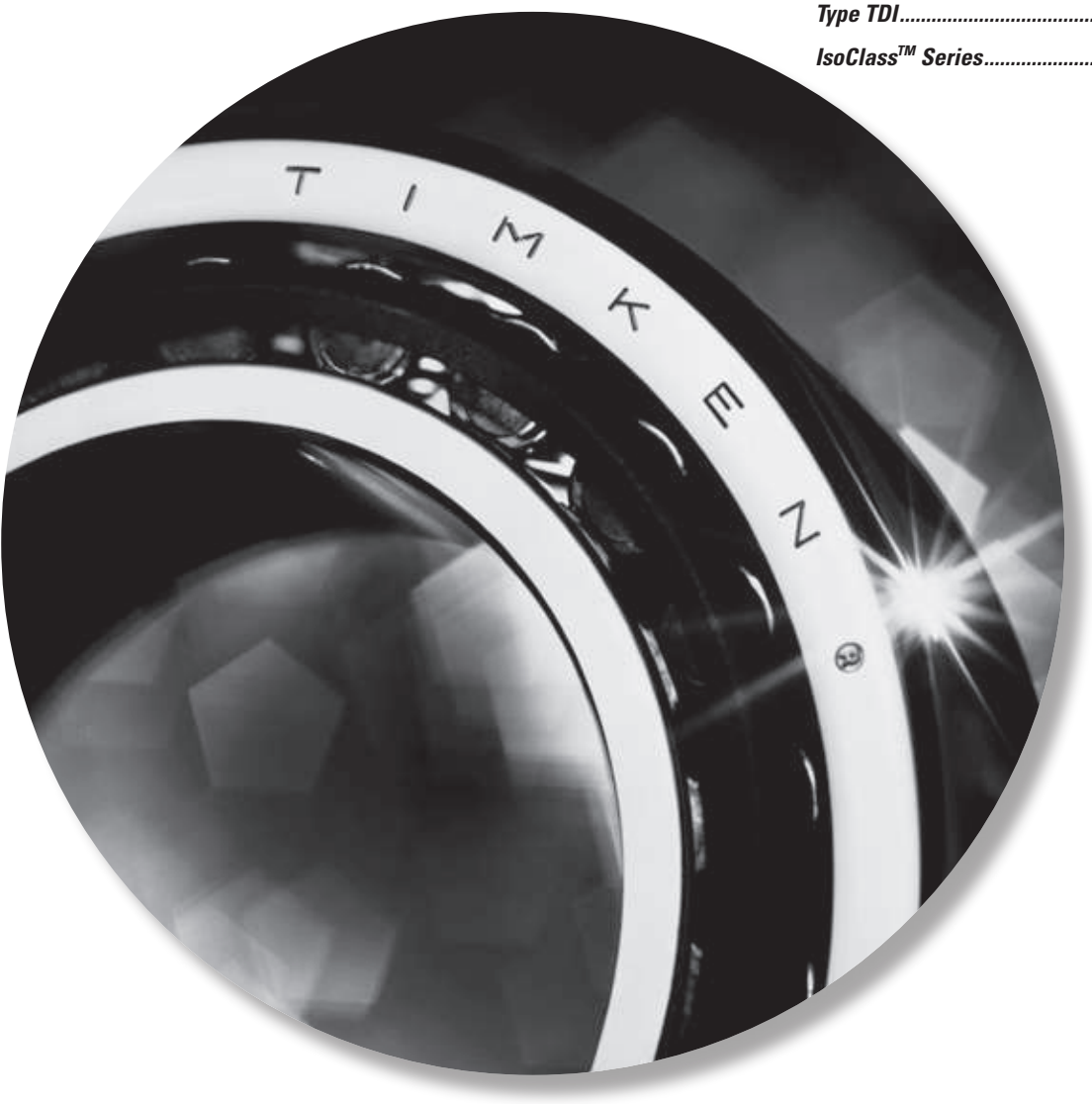
Type TS *B15*

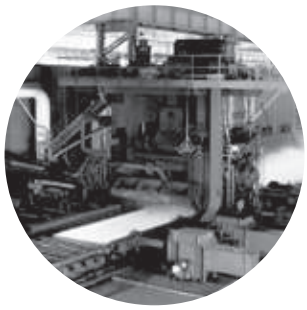
Type TSF *B195*

Type TDO *B237*

Type TDI *B297*

IsoClass™ Series *B311*





ROLLER BEARINGS

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HOW TO RECOGNIZE YOUR PART NUMBER

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

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, included inner race and outer race angle). Any inner race (including roller set) can be matched with any outer race within the same series providing that the same type of bearing is being used.

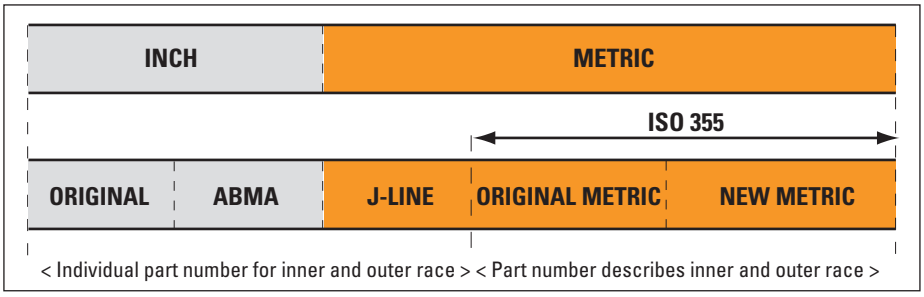
INCH PART NUMBERING SYSTEMS

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 predominant radial load (shallow angle) or thrust load (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.

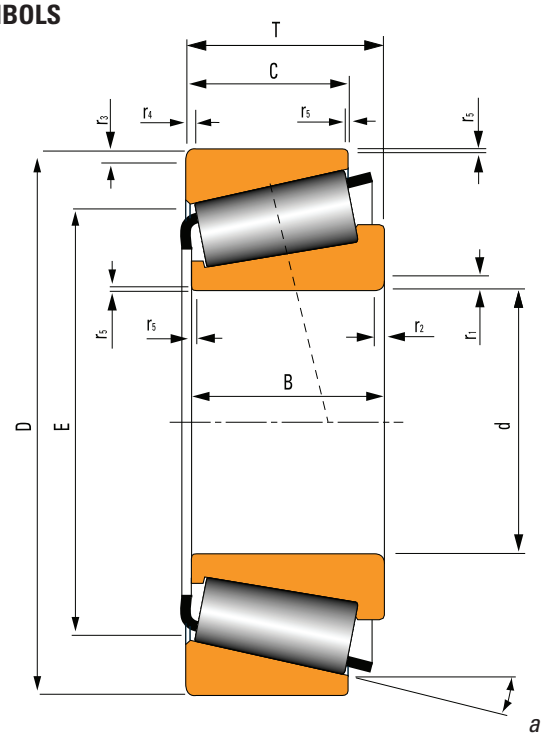
Individual part numbers are assigned to the inner race and outer races. Although there are exceptions, the general rule is that the outer race has a part number that is lower than the series number, whereas the inner race is assigned a higher number.



For example:

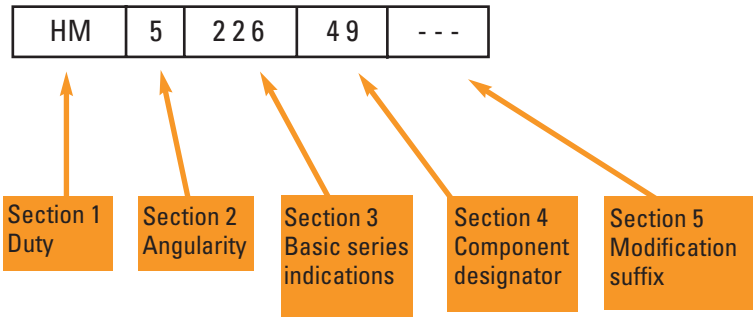
Series	575
Outer race	572
Inner race	576

SYMBOLS



d	=	bearing bore diameter
D	=	bearing outside diameter
T	=	bearing width
B	=	inner race width
C	=	outer race width
E	=	outer race small inside diameter
a	=	1/2 included outer race contact angle
r1	=	inner race back face radius height
r2	=	inner race back face radius width
r3	=	outer race back face radius height
r4	=	outer race back face radius width
r5	=	inner race and outer race front face chamfer height and width

ABMA INCH PART NUMBERING SYSTEM



A new 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 applies to new bearing seriesonly. Existing part numbers according to the original system, new part numbers that are added to the existing series and proprietary part numbers of special bearings continue to be used.

The new part number is divided into 5 alpha-numeric sections:

Section 1 - Prefix Letters

The prefixes will consist of one or two letters and will designate the duty class for which the bearing is designed.

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 will represent the angle coding as determined by the included angle of the outer race.

Included Outer race Angle		Code
0	to 23° 59′ 59.99″	1
24°	to 25° 29′ 59.99″	2
25° 30′	to 26° 59′ 59.99″	3
27°	to 28° 29′ 59.99″	4
28° 30′	to 30° 29′ 59.99″	5
30° 30′	to 32° 29′ 59.99″	6
32° 30′	to 35° 59′ 59.99″	7
36°	to 44° 59′ 59.99″	8
45°	Up, but not thrust only	9
90°	Thrust bearing only	0

Section 3 - Basic Series Indication

The 2nd, 3rd, and 4th digits following the prefix letters are reserved for the basic series indication.

The selection of the basic series indication in relation to the maximum theoretical bore of the bearing will then be in accordance with the following tabulation:

Maximum Bore Range (inches)	Series Indication	Maximum Bore Range (inches)	Series Indication
0 - 1	00 to 19 incl.	15 - 16	640 to 659 incl.
1 - 2	20 to 99 incl.	16 - 17	660 to 679 incl.
	000 to 029 incl.	17 - 18	680 to 694 incl.
2 - 3	030 to 129 incl.	18 - 19	695 to 709 incl.
3 - 4	130 to 189 incl.	19 - 20	710 to 724 incl.
4 - 5	190 to 239 incl.	20 - 21	725 to 739 incl.
5 - 6	240 to 289 incl.	21 - 22	740 to 754 incl.
6 - 7	290 to 339 incl.	22 - 23	755 to 769 incl.
7 - 8	340 to 389 incl.	23 - 24	770 to 784 incl.
8 - 9	390 to 429 incl.	24 - 25	785 to 799 incl.
9 - 10	430 to 469 incl.	25 - 30	800 to 829 incl.
10 - 11	470 to 509 incl.	30 - 35	830 to 859 incl.
11 - 12	510 to 549 incl.	35 - 40	860 to 879 incl.
12 - 13	550 to 579 incl.	40 - 50	880 to 889 incl.
13 - 14	580 to 609 incl.	50 - 72.5	890 to 899 incl.
14 - 15	610 to 639 incl.	72.5 and over	900 to 999 incl.

Section 4 - Component Designator

The 5th and 6th digits, or the last two digits, following the prefix letters will indicatethe actual part number of the bearing component.

Outer race numbers will beindicated by the digits 10 to 19, inclusive, the first outer race made to minimum section in any series starting with the number 10. If more than 10 outer races appear in any series, numbers 20 to 29 will be utilized where available.

Inner race numbers will be indicated by the digits 30 to 49, inclusive, the first inner race made to minimum section in any series being numbered 49.

Section 5 - Suffix

This will consist of one letter to three letters in pre-arranged combinations, indicating modifications in external form or internal arrangement.

PREFIXES AND SUFFIXES

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

PREFIX	SUFFIX	INNER RACE OR OUTER RACE	EXPLANATION
A		Inner race & Outer race	Standard basic series part number.
	A	Inner race	Different radius from basic part number.
	A	Inner race	Different bore from basic part number.
	A	Inner race	Different complement of rollers.
	A	Outer race	Different O.D. from basic part number.
	A	Outer race	Different radius from basic part number.
	A	Outer race	Different width from basic part number.
	AA	Inner race & Outer race	Different bore, O.D., width or radius from basic part number.
	AB	Inner race	Different bore, width or radius from basic part number, assembled with brass cage.
	AB	Outer race	Flanged outer race. (Non-interchangeable with basic part number.)
	AC	Inner race	Different bore or radius, different internal geometry.
	AC	Outer race	Different O.D., width or radius from basic part number.
	AD	Outer race	Double Outer race. (Non-interchangeable with basic part number.)
	ADW	Inner race	Double Inner race. Pilots and slots each end, holes in large rib.
	AH	Inner race	Assembled with special cage, rollers, and/or internal geometry
	AL	Inner race	Assembled with Duo-Face seal.
	ARB	Outer race	Single outer race with snap ring groove in O.D.
	AS	Inner race & Outer race	Different bore, O.D., width, or radius from basic part number.
	ASB	Inner race	Single inner race, different bore or width from basic part number, assembled with brass cage.
	AV	Inner race & Outer race	Made of special steel.
	AW	Inner race & Outer race	Keyway or slotted inner race or outer race.
	AX	Inner race & Outer race	Different bore, O.D., width, or radius from basic part number.
	AXB	Inner race	Different bore, width, or radius from basic part number, assembled with brass cage.
	AXD	Outer race	ISO outer race - double outer race without oil holes or groove.
	AXV	Inner race & Outer race	Different O.D., width, or radius from basic part number. Made of special steel.
	AXX	Inner race & Outer race	Different O.D., width, or radius from basic part number. Made of special steel.
	B	Outer race	Flanged outer race. (Non-interchangeable with basic part number.)
	B	Inner race	Inner race using brass cage.
	B	Inner race & Outer race	ISO bearing with same boundary dimensions as basic part number, but with different internal geometry, steeper included outer race angle.
	BA	Outer race	Flanged outer race. (Non-interchangeable with basic part number.)
	BNA	Inner race	ISO inner race used in assemblies with 2 inner races mated with double outer race to form a double row non-adjusting bearing. (Non-interchangeable with other inner races having the same basic part numbers, which may vary in bore or width dimensions.)
	BR	Outer race	Single outer race with groove in O.D. for snap ring.
	BS	Outer race	Flanged outer race. (Non-interchangeable with basic part number.)
	BW	Outer race	Flanged outer race with slot. (Non-interchangeable with basic part number.)
	BX	Outer race	Flanged Outer race. (Non-interchangeable with basic part number.)
	BXX	Outer race	Flanged single outer race. Made of special steel.
	C	Inner race	Single inner race, envelope dimensions same as basic part number, different internal geometry.
	C	Outer race	Dimensionally different from basic part number. (Non-interchangeable.)
	CA	Inner race	Single inner race, envelope dimensions same as basic part number, different internal geometry.
	CB	Inner race	Single inner race, dimensionally different from basic part number.
	CD	Outer race	Double outer race with oil holes and groove. One hole counter-bored for locking pin.
	CE	Outer race	Dimensionally different from basic part number. (Non-interchangeable.)
CN		Outer race	Neoprene cushioned outer race.

PREFIX	SUFFIX	INNER RACE OR OUTER RACE	EXPLANATION
	CP	Inner race & outer race	Flash chrome plated. Otherwise, interchangeable with basic part number
	CP	Inner race & outer race	Envelope dimensions same as basic part number, different internal geometry, customized for performance.
	CR	Inner race & outer race	Ribbed outer race bearing series.
	CS	Inner race & outer race	Dimensionally different from basic part number. (Non-interchangeable.)
	CX	Inner race	Dimensionally different from basic part number. (Non-interchangeable.)
	D	Inner race & outer race	Double inner race or Double outer race. (Non-interchangeable with basic part number.)
	DA	Inner race	Double inner race. (Non-interchangeable with inner races having same basic part number.)
	DA	Outer race	Spherical O.D. double outer race. (Non-interchangeable with basic part number or other double outer races having same basic numbers.)
	DB	Outer race	Double outer race with flange. (Non-interchangeable with basic part number or double outer races having same basic numbers.)
	DB	Inner race	Double inner race assembled with brass cages.
	DC	Outer race	Double outer race with hole for locking pin.
	DD	Inner race & outer Race	Special long double inner race or outer race. (Non-interchangeable with basic part number or other double parts having same basic numbers.)
	DE	Inner race & outer race	Double inner race or double outer race having different dimensions or other characteristics from single and double parts identified with same basic part number.
	DF	Outer race	Double outer race with oil holes and groove. Snap ring groove on O.D..
	DG	Inner race	Double inner race with pressure removal groove or helical groove in bore.
	DGA	Inner race	Double inner race with pressure removal groove or helical groove in bore. (Non-interchangeable with basic part number.)
	DGE	Inner race	Double inner race with pressure removal groove or helical groove in bore. (Non-interchangeable with basic part number.)
	DGH	Inner Race	Double inner race with presure removal groove or helical groove in bore and with special cage, rollers, and/or internal geometry.
	DGW	Inner race	Double inner race with pressure removal groove or helical groove in bore, and having face slots.
	DH	Inner race	Double inner race with special cage, rollers, and/or internal geometry.
	DP	Inner race	Double inner race with puller groove.
	DR	Outer race	Double outer race for ribbed outer race series. (Non-interchangeable with single and double outer races identified with same basic part number.)
	DRB	Outer race	Double outer race with snap ring groove.
	DS	Outer race	Crowned O.D. double outer race. (Non-interchangeable with other outer races having same basic part numbers.)
	DT	Outer race	Tapered O.D. double outer race. (Non-interchangeable with other outer races having same basic part numbers.)
	DV	Inner race & outer race	Double inner race or double outer race made of special steel.
	DVH	Inner race	Double inner race, special steel, and/or internal geometry.
	DW	Inner race & outer race	Double inner race or double outer race with keyway or slot. (Non-interchangeable with inner races or outer races identified with same basic part numbers.)
	DWA	Inner race	Double inner race with one end extended and with oil slots in extended end. (Asymmetrical)
	DWH	Inner race	Double inner race with oil slots, assembled with special cage, rollers, and/or internal geometry.
	DWV	Inner race & outer race	Double inner race or double outer race with keyway or slot. (Non-interchangeable with inner races or outer races identified with same basic part numbers.) Made of special steel.
	DX	Outer race	Adaptor for spherical or straight O.D. outer race.
	DX	Outer race	Threaded O.D. double outer race. (Non-interchangeable with outer races identified with same basic part numbers.)
	DXX	Inner race & outer race	Double inner race or double outer race made of special steel.
	E	Inner race & outer race	Inner races or outer races having special characteristics differing from and non-interchangeable with other inner races or outer races identified with the same

PREFIX	SUFFIX	INNER RACE OR OUTER RACE	EXPLANATION
			basic part numbers.
	ED	Outer race	Double outer races. (Non-interchangeable with other outer races identified with same basic part numbers.)
	EDC		Outer race Double outer races, special hole in O.D. for locking pin.
EE		Inner race	Large and small ribs - close guided rollers. (Non-interchangeable with other inner races identified with same basic part numbers.)
EH		Inner race & outer race	Extra heavy series.
EL		Inner race & Outer race	Extra light series.
EX		Inner race & outer race	Experimental.
	EXX	Inner race & outer race	Inner races or outer races having special characteristics differing from and non-interchangable with other inner races or outer races identified with the same basic part numbers. Made of special steel.
	F	Inner race	Assembled with polymer cage.
FL		Inner race & outer race	'Free lateral' series, no large or small ribs.
FX		Inner race & outer race	Factory identification number only.
	G	Inner race	Retainer groove in bore.
H		Inner race & outer race	Heavy series. (Non-interchangeable with other inner races and outer races identified with same basic part numbers.)
	H	Inner race	Assembled with special cage, rollers, and/or internal geometry.
	HV	Inner race	Assembled with special cage, rollers, and/or internal geometry. Made of special steel.
	HH	Inner race & Outer race	Heavy-Heavy series. (Non-interchangeable with other inner races and outer races identified with same basic part numbers.)
HM		Inner race & outer race	Heavy-Medium series. (Non-interchangeable with other inner races outer races identified with same basic part numbers.)
	HP	Inner race	Assembled with special cage and/or roller, different internal geometry. Customized for performance.
	HR	Outer race	Special outer race used in 'Hydra-Rib' bearing.
J		Inner race & outer race	Used alone or with other prefix letters to indicate metric bore and/or O.D..
JC		Inner race & outer race	Metric Series.
JD		Inner race & outer race	Metric Series.
JE		Inner race & outer race	Metric Series.
JF		Inner race & outer race	Metric Series.
JG		Inner race & outer race	Metric Series.
JN		Inner race & outer race	Metric Series.
JP		Inner race & outer race	Metric Series.
JR		Inner race & outer race	Metric Series.
JRM		Inner race & outer race	Metric Series, UNIPAC bearing.
JS		Inner race & outer race	Metric Series.
JT		Inner race & outer race	Metric Series.
JU		Inner race & outer race	Metric Series.
JW		Inner race & outer race	Metric Series.
K		Outer race	Double outer race with heavy section. May have unusual features such as flange, tapered O.D., etc.
K		Inner race & outer race	Through hardened components, Non-DIN 720 Part Numbers
K		Miscellaneous	K prefix with 5 or 6 digits following also used for miscellaneous components (seals, bolts, filler rings, etc.)
	KP	Thrust Bearing	Cadmium plated.
L		Inner race & outer race	Light series. (Non-interchangeable with other inner races and outer races identified with same basic part numbers.)
	L	Inner race	Inner race assembled with Duo-Face seal.
	L	Outer race	Loose rib. (Part of Unit-Bearing.)

PREFIX	SUFFIX	INNER RACE OR OUTER RACE	EXPLANATION
	LA	Inner race	Inner race 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 races in the series.
LL		Inner race & outer race	Light-Light series.
LM		Inner race & outer race	Light-Medium series.
M		Inner race & outer race	Medium series.
	M	Inner race & outer race	Through hardened components, DIN 720 Part Numbers, IsoClass Part Numbers
N		Inner race	Bock or Gilliam type bearings.
NA	NA	Inner race	Two inner races mated with double outer race to form double row non-adjustable bearing. (Non-interchangeable with other inner races having same basic part numbers which may vary in bore, O.D., and width dimensions.)
	NA	Outer race	Etched electric pencil on double outer races mated with two 'NA' type single inner races to form double row non-adjustable bearings.
	NAV	Inner race	'NA' inner race made of special steel.
	NC	Outer race	Cushioned outer race (usually neoprene.)
	NI	Inner race	Tapered or threaded bore.
NP		Inner race & outer race	Used with random numbers for product differentiation.
	NR	Inner race	'NA' type ribless inner race for ribbed outer race series.
	NW	Inner race	'NA' type inner race with slotted front face.
	NWV	Inner race	'NA' type inner race with slotted front face. Made of special steel.
	NX	Inner race	Lapped front face.
	P	Inner race	Puller groove.
	P	Inner race & outer race	Customized for performance.
R		Inner race & outer race	Gilliam replacement series. (Non-interchangeable with other inner races and outer races identified with same basic numbers.)
	R	Inner race & outer race	Special feature bearing. (Non-interchangeable with bearings having the same basic part numbers.)
	R	Inner race & outer race	Bock type bearing.
	R	Inner race	Basic part number with polymer lubricant.
	RB	Outer race	Snap ring on O.D.
RC		Inner race & outer race	Special ribbed outer race bearing.
	RN	Various	Used with random numbers, not to exceed six (6) digits, for purchased items that are distributed by Timken.
	RR	Inner race & outer race	'Relieved race.'
	S	Inner race & outer race	Special feature bearing. (Non-interchangable with bearings having same basic part numbers.)
	SA	Inner race & outer race	Special feature bearing. (Non-interchangable with bearings having same basic part numbers.)
	SB	Inner race	Assembled with brass cage.
	SB	Outer race	Flanged outer race.
	SC	Inner race	With square bore.
	SD	Inner race & outer race	Double inner race with square bore or double outer race.
	SH	Inner race	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 race	Different radius from basic part numbers.
	SW	Inner race & outer race	Slot or keyway. (Non-interchangeable with bearings having same basic part numbers.)
	SWB	Inner race	Slot or keyway assembled with brass cage. (Non-interchangeable with bearings having same basic part numbers.)
	SWV	Inner race	Slot or keyway made of special steel. (Non-interchangable with bearings having same basic part numbers.)

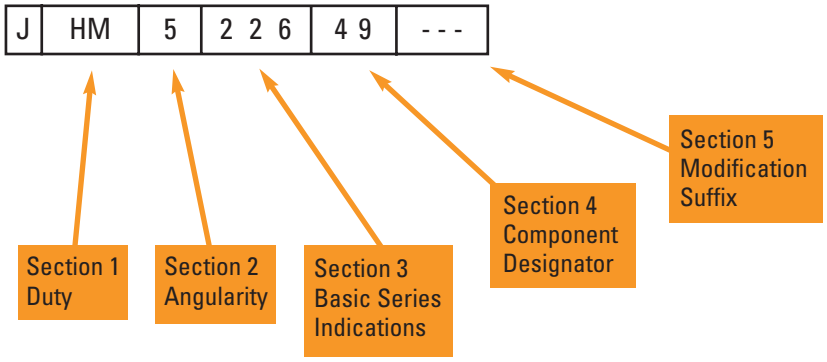
PREFIX	SUFFIX	INNER RACE OR OUTER RACE	EXPLANATION
	SX	Outer race	Special feature bearing. (Non-interchangeable with bearings having same basic part numbers.)
T		Race	Thrust bearing assemblies.
T		Outer race	Double outer race with heavy section. May have unusual feature such as flange, tapered O.D., etc.
	T	Inner race	Tapered bore.
	T	Outer race	Tapered O.D.
	TA	Inner race	Tapered bore 'NA' type inner race.
	TA	Outer race	Tapered O.D.
	TB	Inner race	Tapered bore inner race with brass cage.
TC		Race	Thrust bearing assembly.
	TC	Inner race	Tapered bore.
	TD	Inner race	Double with tapered bore.
	TDB	Inner race	Double with tapered bore, assembled with brass cages.
	TDE	Inner race	Double with tapered bore and extended rib.
	TDG	Inner race	Double with tapered bore, pressure removal groove or spiral groove in bore.
	TDGV	Inner race	Double with tapered bore, pressure removal groove or spiral groove in bore. Made of special steel.
	TDH	Inner race	Double with tapered bore, special cage, rollers or internal geometry.
	TDL	Inner race	Double with tapered bore, interlock feature.
	TDV	Inner race	Double with tapered bore. Made of special steel.
	TDW	Inner race	Double with tapered bore and slots or keys.
	TDXX	Inner race	Double with tapered bore. Made of special steel.
	TE	Inner race	Single, tapered bore, extended large rib.
	TEV	Inner race	Single, tapered bore, extended large rib. Made of special steel.
	TL	Inner race	Tapered bore with interlock feature.
	TLE	Inner race	Tapered bore with interlock feature and extended rib.
	TP	Inner race	Tapered bore inner race with puller groove.
	TPE	Inner race	Tapered bore inner race with puller groove, extended inner race large rib.
	TV	Inner race & outer race	Tapered bore inner race or outer race O.D. Made of special steel.
	TW	Inner race & outer race	Tapered bore inner race or outer race O.D. with slots or keys.
	TWE	Inner race & outer race	Tapered bore inner race or outer race O.D. with locking keyway in front face, extended inner race large rib or outer race width.
	TXX	Inner race	Tapered bore. Made of special steel.
U		Inner race & outer race	Basic series part number, unitized, self-contained.
	U	Inner race & outer race	Basic series part number, unitized, self-contained.
	US	Inner race & outer race	Special close stand.
V		Inner race & outer race	Special close stand.
	V	Inner race & outer race	Made of special steel.
	VC	Inner race	Special internal geometry. Made of special steel.
	VH	Inner race	Special cage, rollers, and/or internal geometry. Made of special steel.
	W	Inner race & outer race	Slot(s) or keyway(s).
	W	Thrust Bearing	Oil holes in retainer.
	WA	Inner race & outer race	Slot(s) or keyway(s).
	WB	Inner race	Slot(s) or keyway(s) with brass cage.
	WC	Inner race & outer race	Slot(s) or keyway(s).
	WD	Inner race & outer race	Double inner race or outer race with slot(s) or keyway(s).
	WE	Inner race & outer race	Extended face with slot(s) or keyway(s).
	WS	Inner race & outer race	Slot(s) or keyway(s).
WV		Inner race & Outer race	Slot(s) or keyway(s). Made of special steel.

PREFIX	SUFFIX	INNER RACE OR OUTER RACE	EXPLANATION
	WXX	Inner race & Outer race	Slot(s) or keyway(s). Made of special steel.
X		Inner race	ISO part number.
	X	Inner race	Slot(s) or keyway(s).
	X	Inner race & Outer race	Special feature bearing. (Non-interchangable with bearings having the same basic part number.)
	X	Inner race & Outer race	ISO bearing with same boundary dimensions as basic part number but with different internal geometry, yielding increased rating.
	XA	Inner race & Outer race	Special feature bearing. (Non-interchangeable with bearings having the same basic part number.)
XAA		Inner race	ISO single inner race. (Non-interchangeable with bearings having the same basic part number.)
XAB		Inner race	ISO single inner race. (Non-interchangeable with bearings having the same basic part number.)
	XB	Inner race	Different bore, width, or radius, from basic part number. Assembled with brass cage.
	XB	Outer race	Special feature flanged outer race. (Non-interchangeable with bearings having the same basic part number.)
XC		Inner race & Outer race	Limited production bearings to which standard series part numbers have not been assigned.
	XD	Outer race	Double outer race, no oil holes or groove.
	XD	Inner race	Double inner race, different bore or width from basic part numbers.
	XD	Inner race	Double inner race, oil holes in large rib.
	XDXP	Outer race	Double outer race, no oil holes or groove, special material and process.
	XE	Outer race	Different bore, width, or radius from basic part number.
XGA		Inner race	ISO single inner race. (Non-interchangeable with bearings having the same basic part number.)
XGB		Inner race	ISO single inner race. (Non-interchangeable with bearings having the same basic part number.)
	XP	Inner race	Special steel and process.
XR		Inner race & Outer race	Crossed roller bearings.
	XS	Inner race & Outer race	Different bore, O.D., width, or radius from basic part number.
	XV	Inner race & Outer race	Special feature inner race or outer race made of special steel.
	XW	Inner race	Slotted.
	XX	Inner race & Outer race	Single inner race or single outer race. Made of special steel.
Y		Outer race	ISO part number.
	YD	Outer race	Double outer race with oil holes, no groove.
	YDA	Outer race	Double outer race with oil holes, no groove. (Non-interchangeable with bearings having the same basic part number.)
	YDV	Outer race	Double outer race with oil holes, no groove. made of special steel.
	YDW	Inner race	Double outer race with oil holes, no groove. Slot(s) or keyway(s) in face(s).
YKA		Outer race	ISO single outer race. (Non-interchangeable with bearings having the same basic part number.)
YKB		Outer race	ISO single outer race. (Non-interchangeable with bearings having the same basic part number.)
YSA		Outer race	ISO single outer race. (Non-interchangeable with bearings having the same basic part number.)
	Z	Inner race & Outer race	Close stand part.

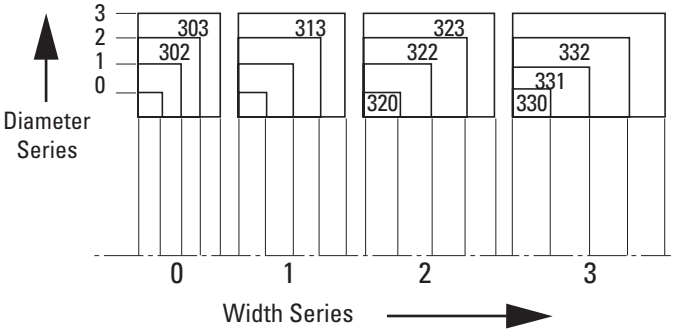
METRIC PART NUMBERING SYSTEMS

J-LINE PART NUMBERS

The "J" prefix letter is used in conjunction with the ABMA part numbering system to identify metric dimensioned and toleranced inner race and outer races. The bearing series designation does not contain the prefix letter "J". J-Line bearings are referred to as inch bearings in metric bore, O.D. and width.



ISO PART NUMBERING SYSTEM



The original metric part numbering system for tapered roller bearings was based on the ISO 15 dimensional plan for radialbearings. A 5-digit part number commencing with numeral 3 describes the bearing assembly (inner race and outer races).

Section 1 - Symbol for bearing type

3 always applies to tapered roller bearings.

Section 2 - Width series

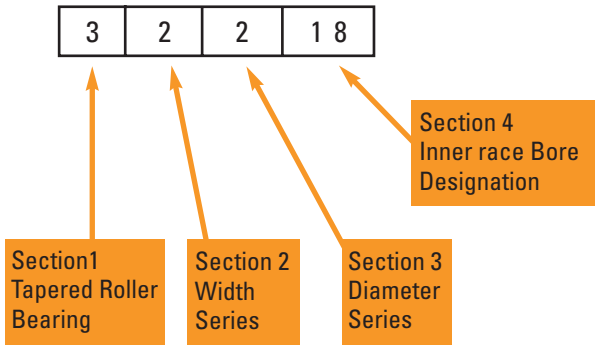
The bearing width is classified from 0 to 3 in increasing order of width.

Section 3 - Diameter series

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

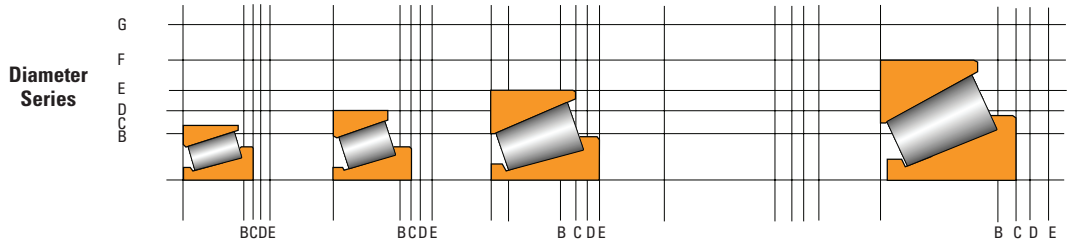
Section 4 - Inner race bore designation

The 2 last digits relate to the inner race bore diameter that can be calculated by multiplying the number indicated by 5, if the bore diameter is between 20 and 500 mm. For example, bearing 32218 has a 90 mm bore. If the bore diameter is less than 20 mm, the last two digits can interpreted as follows: 00=10 mm, 01=12 mm, 02=15 mm and 03=17 mm. If the bore diameter is greater than 500 mm, then the last 3 digits (preceded by a slash) correspond to the bore size.



NEW ISO 355 PART NUMBERING SYSTEM

Finding that tapered roller bearings did not conform to the ISO 15 general plan, because dimensions given were not found to be optimal, the ISO introduced a new numbering system for tapered roller bearings in ISO 355. This system uses 3 alpha-numeric fields to define the bearing series. The bearing part number is then defined by adding the inner race diameter in mm after the bearing series. Although all original metric part numbers were assigned a new designation in the ISO 355 plan, the original part number is still used.



T	4	C	B	100

Symbol for tapered roller bearings (optional)

Angle Series Designation	a	
	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	3.40	3.80
C	3.80	4.40
D	4.40	4.70
E	4.70	5.00
F	5.00	5.60
G	5.60	7.00

Width Series Designation	$\frac{T}{(D-d)^{0.95}}$	
	over	incl.
A	Reserved for future use	
B	0.50	0.68
C	0.68	0.80
D	0.80	0.88
E	0.88	1.00

Bearing bore diameter (mm)

"NEW" METRIC BEARINGS

A new range of metric bearings were also included in the ISO 355 plan. These new bearings are specifically applicationoriented and are designed for optimum performance.

To easily identify these part numbers against the application type, The Timken Company introduced an alpha-numeric part number designation. The part number construction is similar to that of J-Line part numbers and separate numbers are assigned to both inner race and outer races.

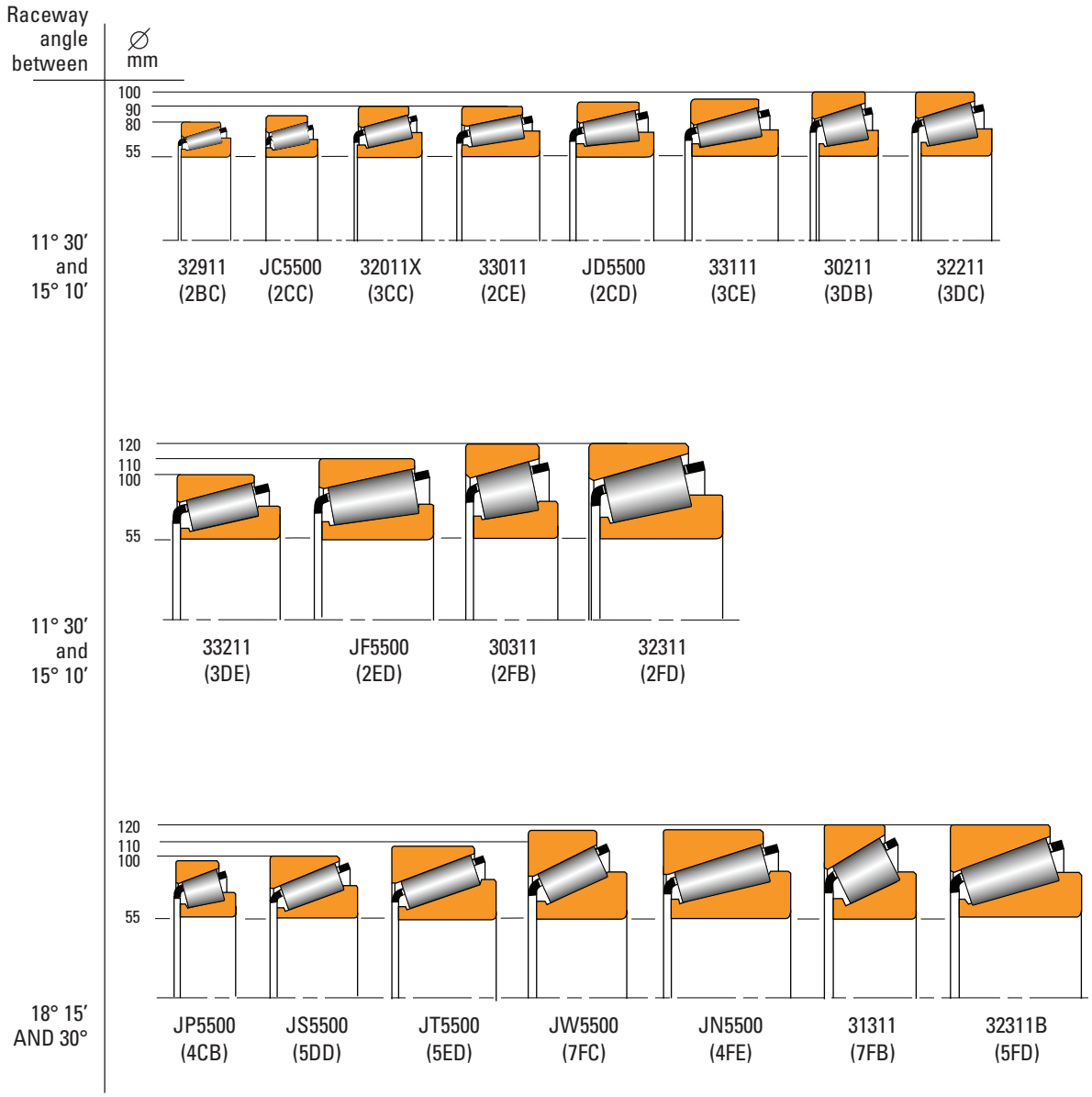
J-prefix

All of the new metric bearings are identified with a J-prefix that indicates a new metric dimensioned and toleranced bearing.

Section 1 - Duty

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

COMPARISON TABLE: INCREASE IN SECTION FOR A 55 MM BORE BEARING



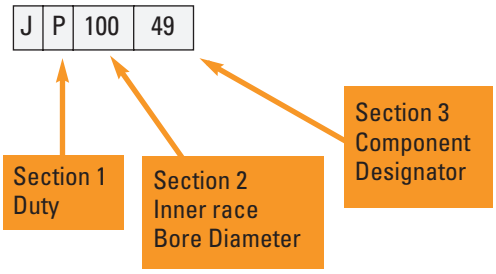
Section 2 - Inner race Bore

The inner race bore metric diameter is included in the part number designation of both the inner race and outer races.

Section 3 - Component Designator

Same identification as in the ABMA part numbering system.

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



OPTIMUM BEARING SELECTION: ISO 355

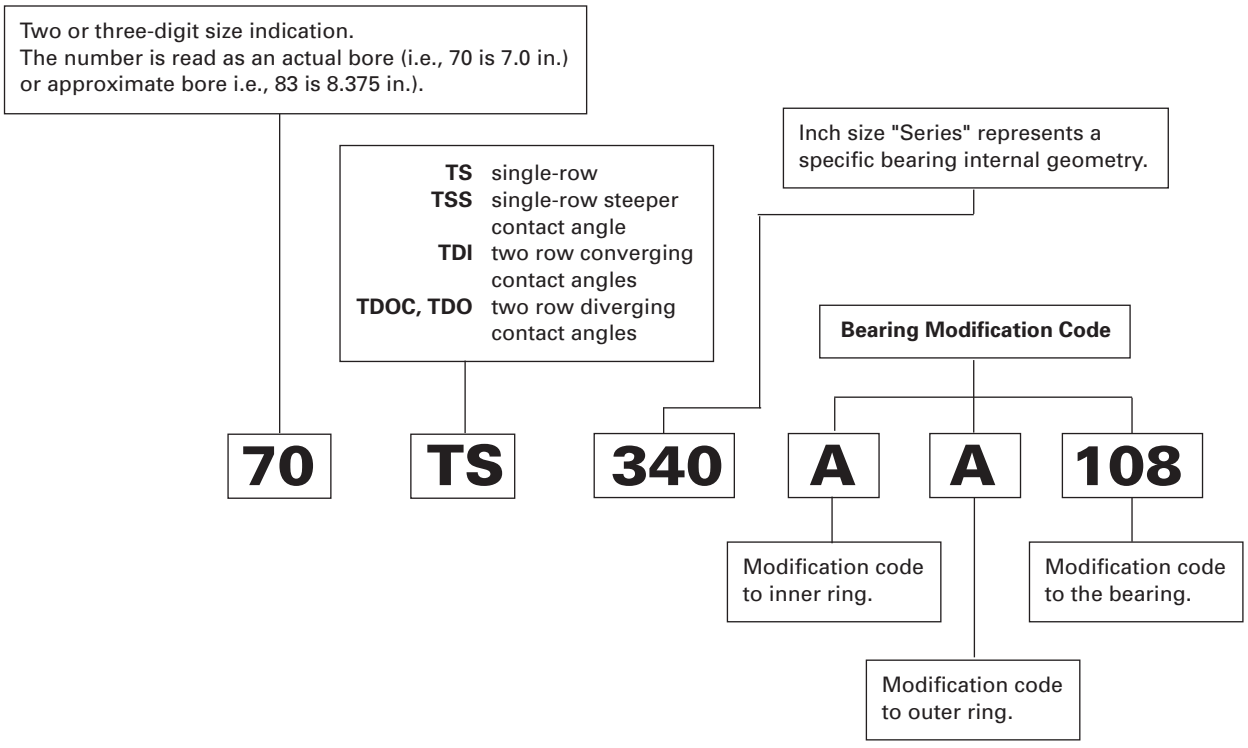
ISO 355 offers many application-specific bearing selection options for a given bore. Depending on application and type of load, thrust and/or radial, the bearing with the optimum angle and section can be selected. For example, pinion bearings have a steep angle, whereas bearings for machine tools are generally designed with a shallow angle and a light-section. The previous table demonstrates this feature for 55 mm bore bearings.

BEARING ASSEMBLY NUMBERS

Multiple-row bearings and matched bearing assemblies are assigned a 5-digit alpha-numeric code, in combination with the inner race part number to describe the individual component parts, inspection level and the adjustment value of pre-set assemblies: e.g., LM48548-9K2A7.

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.The Timken Company should be consulted if additional information is required on the assembly number.

Radial Tapered Roller Bearings - Torrington



TS

TAPERED ROLLER BEARINGS

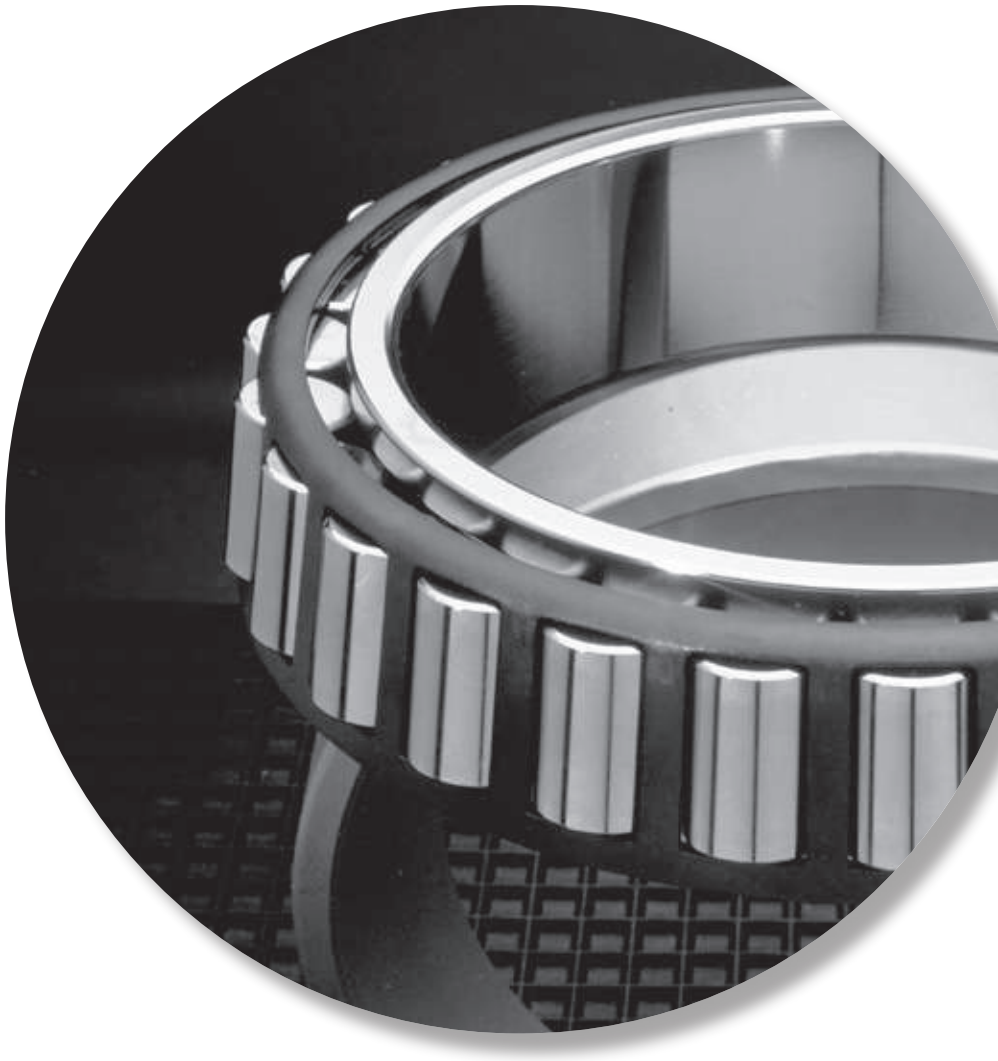
- TS style is the most widely used tapered roller bearing.
- Part numbers give specifiers the widest possible choice from the comprehensive range of metric (ISO and 'J' prefix) and inch-sizes available from The Timken Company.
- Consult your Timken representative before making a final bearing selection to ensure suitability, availability and the most cost-effective application.
- To place an order or obtain a quotation, specify the inner and outer part numbers.

  Example: inner race — outer race

  JH211749 - JH211710
- In most ISO bearings, only one bearing number is specified for both races:

  Example: **32310**

  Conforms to the ISO 355 standard.



BEARING DATA TABLES

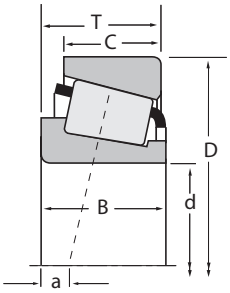
In the following bearing data tables, part numbers are listed in ascending order of bore, outside diameter and width.

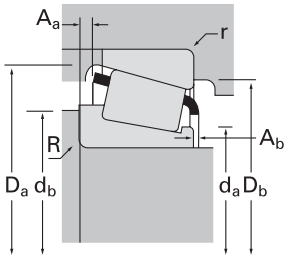
Bearing ratings shown in tables are based on environmental reference conditions. Effects of known operating conditions on bearing performance in an application should be investigated before final bearing selection is made.

Approximate mass is listed for every part number. For weight-critical applications or exact freight cost evaluation purposes, a more accurate value should be obtained from your Timken representative.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
7.938 0.3125	31.991 1.2595	10.008 0.3940	10600 2380	0.41	1.48	2750 618	1910 429	1.44	9230 2070	A2031	A2126
9.525 0.3750	31.991 1.2595	10.008 0.3940	10600 2380	0.41	1.48	2750 618	1910 429	1.44	9230 2070	A2037	A2126
11.112 0.4375	34.988 1.3775	10.998 0.4330	12200 2740	0.45	1.32	3160 710	2450 550	1.29	11500 2580	A4044	A4138
11.987 0.4719	31.991 1.2595	10.008 0.3940	10600 2380	0.41	1.48	2750 618	1910 429	1.44	9230 2070	A2047	A2126
12.680 0.4992	34.988 1.3775	10.998 0.4330	12200 2740	0.45	1.32	3160 710	2450 550	1.29	11500 2580	A4049	A4138
12.700 0.5000	34.988 1.3775	10.998 0.4330	12200 2740	0.45	1.32	3160 710	2450 550	1.29	11500 2580	A4050	A4138
12.700 0.5000	38.100 1.5000	13.495 0.5313	19300 4340	0.28	2.18	5010 1130	2360 531	2.12	17100 3840	00050	00150
14.987 0.5901	34.988 1.3775	10.998 0.4330	12200 2740	0.45	1.32	3160 710	2450 550	1.29	11500 2580	A4059	A4138
15.875 0.6250	34.988 1.3775	10.998 0.4330	14100 3160	0.32	1.88	3650 820	1990 447	1.83	13900 3130	L21549	L21511
15.875 0.6250	39.992 1.5745	12.014 0.4730	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6062	A6157
15.875 0.6250	41.275 1.6250	14.288 0.5625	22200 5000	0.31	1.93	5770 1300	3070 690	1.88	21300 4780	03062	03162
15.875 0.6250	42.862 1.6875	14.288 0.5625	17400 3910	0.70	0.85	4510 1010	5430 1220	0.83	17400 3920	11590	11520
15.875 0.6250	42.862 1.6875	16.670 0.6563	29100 6540	0.33	1.81	7550 1700	4280 962	1.76	29200 6560	17580	17520
15.875 0.6250	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05062	05185
15.875 0.6250	49.225 1.9380	19.845 0.7813	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09062	09195
15.875 0.6250	49.225 1.9380	23.020 0.9063	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09062	09194
15.875 0.6250	53.975 2.1250	22.225 0.8750	43000 9670	0.59	1.02	11200 2510	11300 2540	0.99	42500 9560	21063	21212
15.987 0.6294	46.975 1.8494	21.000 0.8268	37100 8350	0.55	1.10	9630 2170	9000 2020	1.07	39300 8840	HM81649	HM81610
16.993 0.6690	39.982 1.5741	12.014 0.4730	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6067	A6157A
16.993 0.6690	39.992 1.5745	12.014 0.4730	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6067	A6157
16.993 0.6690	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05066	05185
17.455 0.6872	36.525 1.4380	11.112 0.4375	12100 2720	0.49	1.23	3130 704	2610 587	1.20	11600 2600	A5069	A5144
17.462 0.6875	39.878 1.5700	13.843 0.5450	22900 5160	0.29	2.10	5950 1340	2910 655	2.04	23400 5260	LM11749	LM11710
17.462 0.6875	44.450 1.7500	12.700 0.5000	19900 4460	0.48	1.25	5150 1160	4220 950	1.22	20600 4640	4C	6
17.462 0.6875	44.450 1.7500	15.494 0.6100	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05068	05175
17.987 0.7082	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	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	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1774	1729

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**-0.20** -0.01	**1.40** 0.06	**1.7**	**3.17**	**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	**-0.20** -0.01	**1.40** 0.06	**1.7**	**3.17**	**0.0308**	**0.04** 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	**0.10** 0.00	**1.10** 0.04	**2.3**	**4.12**	**0.0355**	**0.06** 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	**-0.20** -0.01	**1.40** 0.06	**1.7**	**3.17**	**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	**0.10** 0.00	**1.10** 0.04	**2.3**	**4.12**	**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	**0.10** 0.00	**1.10** 0.04	**2.3**	**4.12**	**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	**-0.40** -0.02	**1.30** 0.05	**3.1**	**2.92**	**0.0330**	**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	**0.10** 0.00	**1.10** 0.04	**2.3**	**4.12**	**0.0355**	**0.05** 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	**-0.30** -0.01	**1.30** 0.05	**3**	**5.36**	**0.0348**	**0.05** 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	**0.50** 0.02	**1.60** 0.06	**2.9**	**5.64**	**0.0404**	**0.07** 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	**0.40** 0.02	**1.30** 0.05	**4.2**	**4.01**	**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	**1.50** 0.06	**0.60** 0.02	**3.4**	**4.63**	**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	**0.40** 0.02	**1.90** 0.08	**5.3**	**4.53**	**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	**0.20** 0.01	**1.20** 0.05	**5.8**	**5.55**	**0.0448**	**0.13** 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	**2.30** 0.09	**0.60** 0.02	**8**	**4.05**	**0.0452**	**0.20** 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	**2.30** 0.09	**0.60** 0.02	**8**	**4.05**	**0.0452**	**0.21** 0.47
21.839 0.8598	**15.875** 0.6250	**-5.8** -0.23	**0.8** 0.03	**26.0** 1.03	**29.0** 1.14	**2.3** 0.09	**50.0** 1.97	**43.0** 1.69	* *	* *	**7**	**4.14**	**0.0558**	**0.26** 0.57
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	**1.40** 0.06	**1.30** 0.05	**6.1**	**4.57**	**0.0526**	**0.19** 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	**0.50** 0.02	**1.60** 0.06	**2.9**	**5.64**	**0.0404**	**0.07** 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	**0.50** 0.02	**1.60** 0.06	**2.9**	**5.64**	**0.0404**	**0.07** 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	**0.20** 0.01	**1.20** 0.05	**5.8**	**5.55**	**0.0448**	**0.13** 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	**0.00** 0.00	**1.30** 0.05	**2.5**	**4.61**	**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	**23.5** 0.93	**1.3** 0.05	**37.0** 1.46	**34.0** 1.34	**0.40** 0.02	**0.70** 0.03	**4.8**	**4.74**	**0.0392**	**0.08** 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	**0.80** 0.03	**1.60** 0.06	**4.6**	**2.61**	**0.0456**	**0.10** 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	**0.20** 0.01	**1.20** 0.05	**5.8**	**5.55**	**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	**0.20** 0.01	**1.20** 0.05	**5.8**	**5.55**	**0.0448**	**0.12** 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	**0.20** 0.01	**1.20** 0.05	**5.8**	**5.55**	**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**	**5.39**	**0.0521**	**0.27** 0.59

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

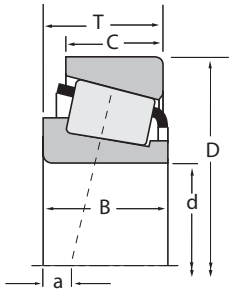
(7) Compound radius on inner race. Details on drawing for bearing.

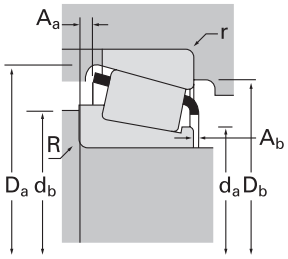
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
19.004 0.7482	56.896 2.2400	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1774	1729X
19.050 0.7500	39.992 1.5745	12.014 0.4730	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6075	A6157
19.050 0.7500	41.275 1.6250	11.905 0.4687	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6075	A6162
19.050 0.7500	44.450 1.7500	12.700 0.5000	19900 4460	0.48	1.25	5150 1160	4220 950	1.22	20600 4640	4A	6
19.050 0.7500	45.237 1.7810	15.494 0.6100	30600 6870	0.30	2.00	7930 1780	4080 917	1.94	32000 7200	LM11949	LM11910
19.050 0.7500	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05075	05185
19.050 0.7500	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05075X	05185-S
19.050 0.7500	49.225 1.9380	18.034 0.7100	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09067	09195
19.050 0.7500	49.225 1.9380	19.845 0.7813	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09074	09195
19.050 0.7500	49.225 1.9380	19.845 0.7813	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09078	09195
19.050 0.7500	49.225 1.9380	21.209 0.8350	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09067	09194
19.050 0.7500	49.225 1.9380	21.209 0.8350	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09067	09196
19.050 0.7500	49.225 1.9380	23.020 0.9063	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09074	09194
19.050 0.7500	49.225 1.9380	23.020 0.9063	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09074	09196
19.050 0.7500	49.225 1.9380	23.020 0.9063	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09078	09194
19.050 0.7500	49.225 1.9380	23.020 0.9063	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09078	09196
19.050 0.7500	50.800 2.0000	20.638 0.8125	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09074	09201
19.050 0.7500	52.800 2.0787	18.034 0.7100	30600 6870	0.30	2.00	7930 1780	4080 917	1.94	32000 7200	LM11949	LM11919
19.050 0.7500	52.883 2.0820	18.430 0.7256	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09067	09194-S
19.050 0.7500	52.883 2.0820	20.241 0.7969	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09074	09194-S
19.050 0.7500	53.975 2.1250	22.225 0.8750	43000 9670	0.59	1.02	11200 2510	11300 2540	0.99	42500 9560	21075	21212
19.050 0.7500	53.975 2.1250	22.225 0.8750	43000 9670	0.59	1.02	11200 2510	11300 2540	0.99	42500 9560	21075	21213
19.050 0.7500	53.975 2.1250	22.225 0.8750	43000 9670	0.59	1.02	11200 2510	11300 2540	0.99	42500 9560	21075A	21212
19.050 0.7500	56.896 2.2400	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1775	1729
19.987 0.7869	46.982 1.8497	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05079	05185A
19.987 0.7869	46.990 1.8500	15.250 0.6004	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05079	05186
19.987 0.7869	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05079	05185
19.987 0.7869	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05079	05185-S

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

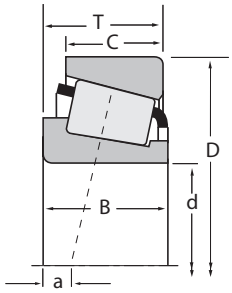
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
19.837 0.7810	15.875 0.6250	-6.9 -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	5.39	0.0521	0.27 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	0.50 0.02	1.60 0.06	2.9	5.64	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	0.50 0.02	1.60 0.06	2.9	5.64	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	0.80 0.03	1.60 0.06	4.6	2.61	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	0.20 0.01	0.70 0.03	6.6	5.49	0.0441	0.13 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	0.20 0.01	1.20 0.05	5.8	5.55	0.0448	0.12 0.27
14.381 0.5662	11.112 0.4375	-4.1 -0.16	1.5 0.06	23.5 0.93	25.5 1.00	1.5 0.06	42.5 1.67	40.5 1.59	0.20 0.01	1.20 0.05	5.8	5.55	0.0448	0.12 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	0.50 0.02	1.30 0.05	8	4.05	0.0452	0.17 0.39
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	2.30 0.09	0.60 0.02	8	4.05	0.0452	0.18 0.40
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	2.30 0.09	0.60 0.02	8	4.05	0.0452	0.18 0.41
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	0.50 0.02	1.30 0.05	8	4.05	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	0.50 0.02	1.30 0.05	8	4.05	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	2.30 0.09	0.60 0.02	8	4.05	0.0452	0.20 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	2.30 0.09	0.60 0.02	8	4.05	0.0452	0.20 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	2.30 0.09	0.60 0.02	8	4.05	0.0452	0.20 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	2.30 0.09	0.60 0.02	8	4.05	0.0452	0.20 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	2.30 0.09	0.60 0.02	8	4.05	0.0452	0.21 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	0.20 0.01	0.70 0.03	6.6	5.49	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	0.50 0.02	1.30 0.05	8	4.05	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	2.30 0.09	0.60 0.02	8	4.05	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	3.30 0.13	1.80 0.07	7	3.55	0.0558	0.25 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	3.30 0.13	1.80 0.07	7	3.55	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	3.30 0.13	1.80 0.07	7	3.55	0.0558	0.25 0.54
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	1.90 0.07	0.30 0.01	10.6	5.39	0.0521	0.27 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	0.20 0.01	1.20 0.05	5.8	5.55	0.0448	0.12 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	0.20 0.01	1.20 0.05	5.8	5.55	0.0448	0.12 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	0.20 0.01	1.20 0.05	5.8	5.55	0.0448	0.12 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	0.20 0.01	1.20 0.05	5.8	5.55	0.0448	0.12 0.26

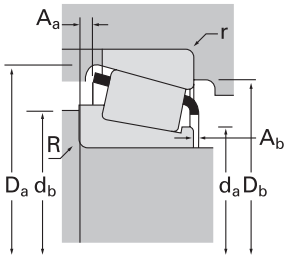
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)		Factors (5)	Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
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	42.000 1.6535	15.000 0.5906	25700 5770	0.37	1.60	6660 1500	4260 959	1.56	29400 6600	XAA32004X	YAA32004X
20.000 0.7874	51.994 2.0470	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07079	07204
20.627 0.8121	56.896 2.2400	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1778	1729
20.638 0.8125	49.225 1.9380	19.845 0.7813	40400 9080	0.32	1.86	10500 2360	5790 1300	1.81	43200 9720	12580	12520
21.430 0.8437	50.005 1.9687	17.526 0.6900	40800 9170	0.28	2.16	10600 2380	5030 1130	2.10	43500 9780	M12649	M12610
21.987 0.8656	45.237 1.7810	15.494 0.6100	30200 6780	0.31	1.96	7820 1760	4100 921	1.91	35300 7930	LM12749	LM12710
21.987 0.8656	45.974 1.8100	15.494 0.6100	30200 6780	0.31	1.96	7820 1760	4100 921	1.91	35300 7930	LM12749	LM12711
22.225 0.8750	42.070 1.6563	11.176 0.4400	15300 3450	0.40	1.51	3980 895	2700 607	1.47	16800 3770	LL52549	LL52510
22.225 0.8750	50.005 1.9687	13.495 0.5313	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07087	07196
22.225 0.8750	50.005 1.9687	13.495 0.5313	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07087X	07196
22.225 0.8750	50.005 1.9687	17.526 0.6900	40800 9170	0.28	2.16	10600 2380	5030 1130	2.10	43500 9780	M12648A	M12610
22.225 0.8750	50.005 1.9687	17.526 0.6900	40800 9170	0.28	2.16	10600 2380	5030 1130	2.10	43500 9780	M12648	M12610
22.225 0.8750	51.994 2.0470	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07087	07204
22.225 0.8750	52.000 2.0472	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07087X	07205
22.225 0.8750	52.388 2.0625	19.368 0.7625	44300 9960	0.29	2.05	11500 2580	5740 1290	2.00	48300 10900	1380	1328
22.225 0.8750	53.975 2.1250	19.368 0.7625	44300 9960	0.29	2.05	11500 2580	5740 1290	2.00	48300 10900	1380	1329
22.225 0.8750	53.975 2.1250	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1755	1730
22.225 0.8750	56.896 2.2400	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1755	1729
22.225 0.8750	56.896 2.2400	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1755	1729X
22.225 0.8750	57.150 2.2500	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1975	1922
22.225 0.8750	57.150 2.2500	22.225 0.8750	51200 11500	0.35	1.73	13300 2990	7880 1770	1.69	55100 12400	1280	1220
22.225 0.8750	58.738 2.3125	19.050 0.7500	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1975	1932
22.225 0.8750	60.325 2.3750	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1975	1931
22.225 0.8750	61.912 2.4375	36.512 1.4375	82000 18400	0.28	2.13	21300 4780	10300 2310	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	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2684	2631
22.606 0.8900	47.000 1.8504	15.500 0.6102	27500 6170	0.47	1.27	7120 1600	5760 1300	1.24	33000 7420	LM72849	LM72810

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

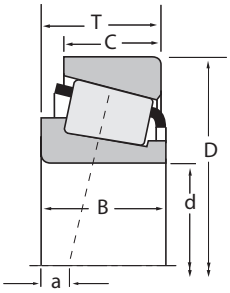
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
14.260 0.5614	12.700 0.5000	-2.8 -0.11	1.5 0.06	26.0 1.02	27.5 1.08	1.3 0.05	48.0 1.89	45.0 1.77	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.16 0.36
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	0.40 0.02	1.40 0.06	6.2	6.1	0.0469	0.10 0.21
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	0.30 0.01	1.40 0.06	7.6	7.07	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	5.39	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	0.90 0.04	1.10 0.04	8.6	6.21	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	0.30 0.01	1.10 0.04	9.1	5.63	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	0.60 0.02	0.40 0.02	8.2	6.98	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	0.60 0.02	0.40 0.02	8.2	6.98	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	-0.20 -0.01	1.10 0.04	4.7	8.62	0.0431	0.07 0.14
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	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.13 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	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.13 0.28
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	0.30 0.01	1.10 0.04	9.1	5.63	0.0479	0.16 0.36
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	0.30 0.01	1.10 0.04	9.1	5.63	0.0479	0.16 0.36
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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.30 0.01	1.40 0.06	7.6	7.07	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	1.30 0.05	1.10 0.04	10.3	5.21	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	1.30 0.05	1.10 0.04	10.3	5.21	0.0508	0.22 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	1.90 0.07	0.30 0.01	10.6	5.39	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	1.90 0.07	0.30 0.01	10.6	5.39	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	1.90 0.07	0.30 0.01	10.6	5.39	0.0521	0.25 0.55
19.355 0.7620	15.875 0.6250	-5.8 -0.23	0.8 0.03	28.0 1.10	29.0 1.14	1.5 0.06	53.5 2.11	51.0 2.01	0.80 0.03	1.10 0.04	12.5	6.33	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	5.52	0.0556	0.28 0.63
19.355 0.7620	15.080 0.5937	-5.8 -0.23	0.8 0.03	28.0 1.10	29.0 1.14	1.3 0.05	54.0 2.13	52.0 2.05	0.80 0.03	1.10 0.04	12.5	6.33	0.0565	0.27 0.60
19.355 0.7620	15.875 0.6250	-5.8 -0.23	0.8 0.03	28.0 1.10	29.0 1.14	1.3 0.05	55.0 2.17	52.0 2.05	0.80 0.03	1.10 0.04	12.5	6.33	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	57.5 2.27	52.0 2.05	9.90 0.39	0.20 0.01	17	6.38	0.0592	0.51 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	0.10 0.00	0.70 0.03	12.8	8.24	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	0.80 0.03	0.80 0.03	19.3	8	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	0.60 0.02	0.90 0.04	7.5	8.95	0.0538	0.12 0.28

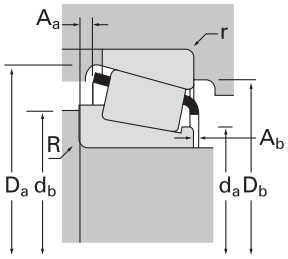
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)		Factors (5)	Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
23.812 0.9375	50.005 1.9687	13.495 0.5313	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07093	07196
23.812 0.9375	50.292 1.9800	14.224 0.5600	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	L44640	L44610
23.812 0.9375	50.800 2.0000	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07093	07210X
23.812 0.9375	51.994 2.0470	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07093	07204
23.812 0.9375	53.975 2.1250	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1779	1730
23.812 0.9375	56.896 2.2400	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1779	1729
23.812 0.9375	61.912 2.4375	28.575 1.1250	82000 18400	0.28	2.13	21300 4780	10300 2310	2.07	89800 20200	3659	3620
23.812 0.9375	65.088 2.5625	22.225 0.8750	50600 11400	0.73	0.82	13100 2950	16400 3690	0.80	55800 12500	23092	23256
23.812 0.9375	66.421 2.6150	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2685	2631
24.000 0.9449	55.000 2.1654	25.000 0.9842	62100 14000	0.35	1.70	16100 3620	9740 2190	1.65	71000 16000	JHM33449	JHM33410
24.384 0.9600	79.375 3.1250	25.400 1.0000	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43096	43312
24.981 0.9835	50.005 1.9687	13.495 0.5313	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07098	07196
24.981 0.9835	51.994 2.0470	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07098	07204
24.981 0.9835	52.000 2.0472	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07098	07205
24.981 0.9835	61.981 2.4402	16.002 0.6300	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17098	17244A
24.981 0.9835	62.000 2.4409	16.002 0.6300	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17098	17244
25.000 0.9843	47.000 1.8504	15.000 0.5906	28500 6410	0.43	1.39	7390 1660	5440 1220	1.36	35400 7950	XAA32005X	YAA32005X
25.000 0.9843	50.005 1.9687	13.495 0.5313	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07097	07196
25.000 0.9843	51.994 2.0470	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07097	07204
25.000 0.9843	52.000 2.0472	14.220 0.5600	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	JL44642A	JL44615
25.000 0.9843	52.000 2.0472	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	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	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07100-S	07196
25.400 1.0000	50.292 1.9800	14.224 0.5600	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	L44642	L44610
25.400 1.0000	50.292 1.9800	14.224 0.5600	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	L44643	L44610
25.400 1.0000	50.800 2.0000	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07100-S	07210X
25.400 1.0000	50.800 2.0000	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07100-SA	07210X
25.400 1.0000	51.986 2.0467	15.011 0.5910	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	L44643	L44613

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.80 0.03	0.50 0.02	8.9	8.93	0.0526	0.13 0.29
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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.30 0.01	1.40 0.06	7.6	7.07	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	1.90 0.07	0.30 0.01	10.6	5.39	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	1.90 0.07	0.30 0.01	10.6	5.39	0.0521	0.24 0.54
30.416 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	57.5 2.27	52.0 2.05	2.00 0.08	0.20 0.01	17	6.38	0.0592	0.43 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	3.80 0.15	2.00 0.08	11.3	6.57	0.0700	0.37 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	0.80 0.03	0.80 0.03	19.3	8	0.0598	0.45 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	0.40 0.02	1.80 0.07	13.3	5.79	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	3.40 0.13	2.30 0.09	16.8	7.57	0.0774	0.64 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	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.12 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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.30 0.01	1.80 0.07	11.8	7.49	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	0.30 0.01	1.80 0.07	11.8	7.49	0.0579	0.25 0.56
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	0.60 0.02	1.20 0.05	8.6	8.7	0.0546	0.11 0.25
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	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.12 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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.80 0.03	0.50 0.02	8.9	8.93	0.0526	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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.10 0.00	0.70 0.03	12.8	8.24	0.0509	0.29 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	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.12 0.25
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	0.80 0.03	0.50 0.02	8.9	8.93	0.0526	0.12 0.27
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	0.80 0.03	0.60 0.02	8.9	8.93	0.0526	0.13 0.28
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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.30 0.01	1.40 0.06	7.6	7.07	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	0.80 0.03	0.60 0.02	8.9	8.93	0.0526	0.15 0.32

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

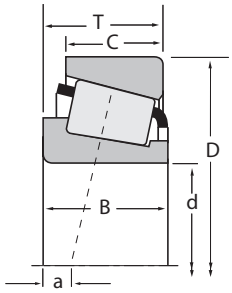
(7) Compound radius on inner race. Details on drawing for bearing.

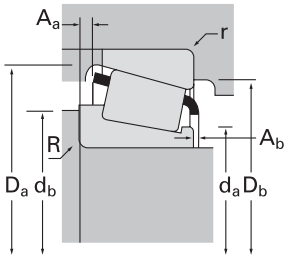
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
25.400 1.0000	52.000 2.0472	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07100-S	07205
25.400 1.0000	52.000 2.0472	15.011 0.5910	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07100-SA	07205
25.400 1.0000	53.975 2.1250	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1780	1730
25.400 1.0000	56.896 2.2400	19.368 0.7625	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1780	1729
25.400 1.0000	57.150 2.2500	17.462 0.6875	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15578	15520
25.400 1.0000	57.150 2.2500	19.431 0.7650	44900 10100	0.55	1.10	11700 2620	10900 2450	1.07	52900 11900	M84548	M84510
25.400 1.0000	57.150 2.2500	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1986	1922
25.400 1.0000	57.150 2.2500	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1994X	1922
25.400 1.0000	57.150 2.2500	20.218 0.7960	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1780	1738X
25.400 1.0000	58.738 2.3125	19.050 0.7500	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1986	1932
25.400 1.0000	59.530 2.3437	23.368 0.9200	53800 12100	0.55	1.10	13900 3140	13000 2930	1.07	63300 14200	M84249	M84210
25.400 1.0000	60.325 2.3750	19.842 0.7812	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15578	15523
25.400 1.0000	60.325 2.3750	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1986	1931
25.400 1.0000	60.325 2.3750	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1994X	1931
25.400 1.0000	62.000 2.4409	18.161 0.7150	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15100-SR	15245
25.400 1.0000	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15100	15245
25.400 1.0000	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15101	15245
25.400 1.0000	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15102	15245
25.400 1.0000	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15100	15244
25.400 1.0000	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15101	15244
25.400 1.0000	63.100 2.4843	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2687	2630
25.400 1.0000	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15100	15250
25.400 1.0000	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15101	15250
25.400 1.0000	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15102	15250
25.400 1.0000	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15100-S	15250X
25.400 1.0000	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15101	15250X
25.400 1.0000	63.500 2.5000	20.638 0.8125	50600 11400	0.73	0.82	13100 2950	16400 3690	0.80	55800 12500	23101X	23250X
25.400 1.0000	65.088 2.5625	22.225 0.8750	50600 11400	0.73	0.82	13100 2950	16400 3690	0.80	55800 12500	23100	23256

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

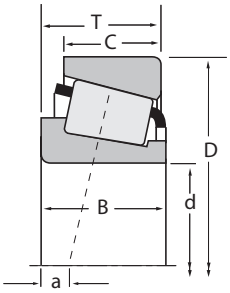
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
14.260 0.5614	12.700 0.5000	-2.8 -0.11	1.5 0.06	29.5 1.16	31.5 1.24	2.0 0.08	48.0 1.89	44.5 1.75	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.14 0.31
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	0.30 0.01	1.40 0.06	7.6	7.07	0.0509	0.14 0.30
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	1.90 0.07	0.30 0.01	10.6	5.39	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	1.90 0.07	0.30 0.01	10.6	5.39	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	0.50 0.02	1.80 0.07	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	37.5 1.48	1.5 0.06	54.0 2.13	48.5 1.91	1.20 0.05	1.20 0.05	11.3	7.39	0.0644	0.24 0.53
19.355 0.7620	15.875 0.6250	-5.8 -0.23	1.3 0.05	30.5 1.20	32.5 1.28	1.5 0.06	53.5 2.11	51.0 2.01	0.80 0.03	1.10 0.04	12.5	6.33	0.0565	0.24 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	0.80 0.03	1.10 0.04	12.5	6.33	0.0565	0.24 0.52
19.837 0.7810	17.551 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	1.90 0.07	0.30 0.01	10.6	5.39	0.0521	0.25 0.54
19.355 0.7620	15.080 0.5937	-5.8 -0.23	1.3 0.05	30.5 1.20	32.5 1.28	1.3 0.05	54.0 2.13	52.0 2.05	0.80 0.03	1.10 0.04	12.5	6.33	0.0565	0.25 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	1.30 0.05	1.60 0.06	12.7	7.56	0.0670	0.32 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	0.50 0.02	1.80 0.07	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	30.5 1.20	32.5 1.28	1.3 0.05	55.0 2.17	52.0 2.05	0.80 0.03	1.10 0.04	12.5	6.33	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	0.80 0.03	1.10 0.04	12.5	6.33	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	0.30 0.01	1.70 0.07	14.6	7.58	0.0606	0.28 0.63
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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.29 0.65
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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.30 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	1.20 0.05	1.00 0.04	14.6	7.58	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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.31 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	1.20 0.05	1.00 0.04	14.6	7.58	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	0.80 0.03	0.80 0.03	19.3	8	0.0598	0.39 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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.32 0.71
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	1.20 0.05	1.00 0.04	14.6	7.58	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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.33 0.72
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	1.20 0.05	1.00 0.04	14.6	7.58	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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.33 0.72
20.650 0.8130	14.681 0.5780	-1.3 -0.05	2.3 0.09	34.5 1.36	40.5 1.59	2.3 0.09	60.0 2.36	52.0 2.05	2.70 0.11	1.80 0.07	11.3	6.57	0.0700	0.32 0.70
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	3.80 0.15	2.00 0.08	11.3	6.57	0.0700	0.36 0.78

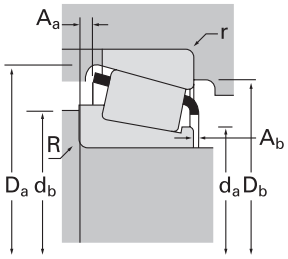
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
25.400 1.0000	66.421 2.6150	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2687	2631
25.400 1.0000	68.262 2.6875	22.225 0.8750	62600 14100	0.34	1.77	16200 3650	9420 2120	1.72	73300 16500	2473	2420
25.400 1.0000	68.262 2.6875	22.225 0.8750	59100 13300	0.42	1.44	15300 3440	10900 2450	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	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26100	26274
25.400 1.0000	72.233 2.8438	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88630	HM88610
25.400 1.0000	72.233 2.8438	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88630	HM88610A
25.400 1.0000	72.626 2.8593	24.608 0.9688	64600 14500	0.60	1.00	16700 3760	17300 3880	0.97	64100 14400	41100	41286
25.400 1.0000	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3189	3120
25.400 1.0000	73.025 2.8750	26.543 1.0450	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88630	HM88612
25.987 1.0231	51.986 2.0467	15.011 0.5910	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	L44645	L44613
25.987 1.0231	57.150 2.2500	17.462 0.6875	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15579X	15520
26.157 1.0298	61.912 2.4375	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15103	15243
26.157 1.0298	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15103	15245
26.162 1.0300	61.912 2.4375	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15103-S	15243
26.162 1.0300	66.421 2.6150	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2682	2631
26.975 1.0620	58.738 2.3125	19.050 0.7500	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1987	1932
26.975 1.0620	60.325 2.3750	19.355 0.7620	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1987	1931
26.987 1.0625	50.292 1.9800	14.224 0.5600	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	L44649	L44610
26.987 1.0625	51.986 2.0467	15.011 0.5910	27800 6260	0.37	1.60	7210 1620	4620 1040	1.56	32900 7400	L44649	L44613
26.987 1.0625	57.150 2.2500	17.462 0.6875	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15580	15520
26.987 1.0625	57.150 2.2500	19.431 0.7650	44900 10100	0.55	1.10	11700 2620	10900 2450	1.07	52900 11900	M84549	M84510
26.988 1.0625	57.150 2.2500	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1997X	1922
26.987 1.0625	60.325 2.3750	19.842 0.7812	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15580	15523
26.987 1.0625	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15106	15245
26.987 1.0625	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15106	15250X
26.987 1.0625	66.421 2.6150	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2688	2631
26.987 1.0625	72.626 2.8593	24.608 0.9688	64600 14500	0.60	1.00	16700 3760	17300 3880	0.97	64100 14400	41106	41286

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

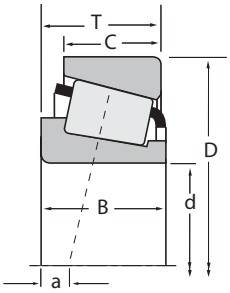
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
25.433 1.0013	19.050 0.7500	-9.4 -0.37	1.3 0.05	31.5 1.24	33.5 1.32	1.3 0.05	60.0 2.36	58.0 2.28	0.80 0.03	0.80 0.03	19.3	8	0.0598	0.44 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	1.00 0.04	0.30 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	1.20 0.05	0.90 0.04	17.5	8.48	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	1.70 0.07	0.90 0.04	19.4	10	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	65.0 2.56	61.0 2.40	0.60 0.02	1.10 0.04	16.1	10.1	0.0630	0.40 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	2.3 0.09	69.0 2.72	60.0 2.36	1.70 0.07	1.70 0.07	23.4	10.9	0.0822	0.58 1.28
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	1.70 0.07	1.70 0.07	23.4	10.9	0.0822	0.58 1.29
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	3.00 0.12	2.30 0.09	13	5.83	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	8.76	0.0697	0.65 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	1.70 0.07	1.70 0.07	23.4	10.9	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	0.80 0.03	0.50 0.02	8.9	8.93	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	1.20 0.05	1.00 0.04	14.6	7.58	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	1.20 0.05	1.00 0.04	14.6	7.58	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	1.20 0.05	1.70 0.07	14.6	9.98	0.0606	0.29 0.64
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	0.80 0.03	0.80 0.03	19.3	8	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	0.80 0.03	1.10 0.04	12.5	6.33	0.0565	0.24 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	0.80 0.03	1.10 0.04	12.5	6.33	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	0.80 0.03	0.60 0.02	8.9	8.93	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	0.80 0.03	0.60 0.02	8.9	8.93	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	0.50 0.02	1.80 0.07	12.7	10.3	0.0577	0.20 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	1.20 0.05	1.20 0.05	11.3	7.39	0.0644	0.23 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	0.80 0.03	1.10 0.04	12.5	6.33	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	0.50 0.02	1.80 0.07	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	1.20 0.05	1.00 0.04	14.6	7.58	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	1.20 0.05	1.00 0.04	14.6	7.58	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	0.80 0.03	0.80 0.03	19.3	8	0.0598	0.43 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	3.00 0.12	2.30 0.09	13	5.83	0.0686	0.48 1.07

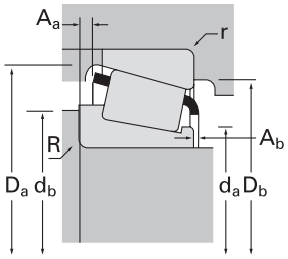
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
27.000 1.0630	59.131 2.3280	15.880 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	JLM67042	LM67010
27.987 1.1019	66.987 2.6373	20.500 0.8071	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02473X	02419
28.000 1.1024	57.150 2.2500	17.460 0.6875	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	J15585	15520
28.575 1.1250	56.896 2.2400	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1985	1930
28.575 1.1250	57.150 2.2500	17.462 0.6875	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15590	15520
28.575 1.1250	57.150 2.2500	19.845 0.7813	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1985	1922
28.575 1.1250	58.738 2.3125	19.050 0.7500	44800 10100	0.33	1.82	11600 2610	6560 1470	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	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1985	1931
28.575 1.1250	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15112	15245
28.575 1.1250	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15113	15245
28.575 1.1250	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15112	15244
28.575 1.1250	63.100 2.4843	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2689	2630
28.575 1.1250	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15112	15250
28.575 1.1250	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15113	15250
28.575 1.1250	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15112	15250X
28.575 1.1250	64.292 2.5312	21.433 0.8438	55700 12500	0.55	1.10	14500 3250	13500 3040	1.07	71700 16100	M86647	M86610
28.575 1.1250	66.421 2.6150	19.050 0.7500	51700 11600	0.34	1.77	13400 3010	7790 1750	1.72	55200 12400	24112	24261
28.575 1.1250	66.421 2.6150	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2689	2631
28.575 1.1250	68.262 2.6875	22.225 0.8750	62600 14100	0.34	1.77	16200 3650	9420 2120	1.72	73300 16500	2474	2420
28.575 1.1250	68.262 2.6875	22.225 0.8750	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02474	02420
28.575 1.1250	69.723 2.7450	19.050 0.7500	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26112	26274
28.575 1.1250	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2578	2523
28.575 1.1250	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2578	2523-S
28.575 1.1250	72.000 2.8346	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26112	26283
28.575 1.1250	72.626 2.8593	24.608 0.9688	64600 14500	0.60	1.00	16700 3760	17300 3880	0.97	64100 14400	41125	41286
28.575 1.1250	72.626 2.8593	24.608 0.9688	64600 14500	0.60	1.00	16700 3760	17300 3880	0.97	64100 14400	41126	41286
28.575 1.1250	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3192	3120

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

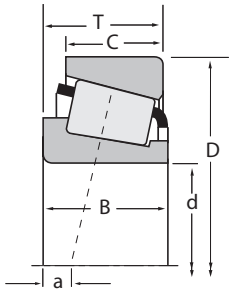
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
16.764 0.6600	**11.811** 0.4650	**-3.0** -0.12	**0.5** 0.02	**33.0** 1.30	**33.5** 1.32	**1.3** 0.05	**56.0** 2.20	**52.0** 2.05	**0.70** 0.03	**0.80** 0.03	**12.8**	**9.93**	**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	**1.20** 0.05	**2.60** 0.10	**17.5**	**8.48**	**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	**53.5** 2.11	**51.0** 2.01	**0.80** 0.03	**1.10** 0.04	**12.5**	**6.33**	**0.0565**	**0.22** 0.48
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	**0.50** 0.02	**1.80** 0.07	**12.7**	**10.3**	**0.0577**	**0.19** 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	**0.80** 0.03	**1.10** 0.04	**12.5**	**6.33**	**0.0565**	**0.22** 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	**0.80** 0.03	**1.10** 0.04	**12.5**	**6.33**	**0.0565**	**0.23** 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	**0.70** 0.03	**0.80** 0.03	**12.8**	**9.93**	**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	**0.80** 0.03	**1.10** 0.04	**12.5**	**6.33**	**0.0565**	**0.26** 0.57
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	**1.20** 0.05	**1.00** 0.04	**14.6**	**7.58**	**0.0606**	**0.27** 0.60
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	**1.20** 0.05	**1.00** 0.04	**14.6**	**7.58**	**0.0606**	**0.28** 0.61
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	**1.20** 0.05	**1.00** 0.04	**14.6**	**7.58**	**0.0606**	**0.28** 0.62
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.3** 0.05	**34.0** 1.34	**36.0** 1.42	**0.8** 0.03	**59.0** 2.32	**57.0** 2.24	**0.80** 0.03	**0.80** 0.03	**19.3**	**8**	**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	**1.20** 0.05	**1.00** 0.04	**14.6**	**7.58**	**0.0606**	**0.30** 0.66
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	**1.20** 0.05	**1.00** 0.04	**14.6**	**7.58**	**0.0606**	**0.31** 0.67
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	**1.20** 0.05	**1.00** 0.04	**14.6**	**7.58**	**0.0606**	**0.30** 0.66
21.433 0.8438	**16.670** 0.6563	**-3.3** -0.13	**1.5** 0.06	**38.0** 1.50	**40.0** 1.57	**1.5** 0.06	**61.0** 2.40	**54.0** 2.13	**1.40** 0.05	**1.20** 0.05	**16.8**	**9.36**	**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	**0.40** 0.02	**1.50** 0.06	**14**	**8.28**	**0.0589**	**0.31** 0.69
25.433 1.0013	**19.050** 0.7500	**-9.4** -0.37	**1.3** 0.05	**34.0** 1.34	**36.0** 1.42	**1.3** 0.05	**60.0** 2.36	**58.0** 2.28	**0.80** 0.03	**0.80** 0.03	**19.3**	**8**	**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	**1.00** 0.04	**0.30** 0.01	**18.8**	**10.5**	**0.0652**	**0.41** 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	**1.20** 0.05	**0.90** 0.04	**17.5**	**8.48**	**0.0681**	**0.40** 0.89
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	**65.0** 2.56	**61.0** 2.40	**0.60** 0.02	**1.10** 0.04	**16.1**	**10.1**	**0.0630**	**0.38** 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	**0.90** 0.04	**0.80** 0.03	**23.6**	**9.63**	**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	**0.90** 0.04	**0.80** 0.03	**23.6**	**9.63**	**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	**0.60** 0.02	**1.10** 0.04	**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	**3.00** 0.12	**2.30** 0.09	**13**	**5.83**	**0.0686**	**0.46** 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	**3.00** 0.12	**2.30** 0.09	**13**	**5.83**	**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	**1.50** 0.06	**0.50** 0.02	**23.4**	**8.76**	**0.0697**	**0.61** 1.35

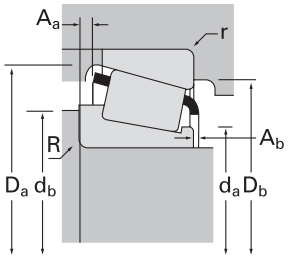
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
28.575 1.1250	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3198	3120
28.575 1.1250	73.025 2.8750	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02872	02820
28.575 1.1250	73.025 2.8750	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02872	02830
28.575 1.1250	76.200 3.0000	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26112	26300
28.575 1.1250	76.200 3.0000	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3198	3129
28.575 1.1250	79.375 3.1250	25.400 1.0000	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43112	43312
29.000 1.1417	50.292 1.9800	14.224 0.5600	27700 6230	0.37	1.62	7190 1620	4550 1020	1.58	36200 8130	L45449	L45410
29.367 1.1562	66.421 2.6150	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2690	2631
29.367 1.1562	66.421 2.6150	23.812 0.9375	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2691	2631
29.987 1.1806	61.981 2.4402	16.002 0.6300	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17118	17244A
29.987 1.1806	62.000 2.4409	16.002 0.6300	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17118	17244
29.987 1.1806	62.000 2.4409	18.161 0.7150	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15115	15245
29.987 1.1806	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15117	15245
29.987 1.1806	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15117	15244
29.987 1.1806	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15117	15244X
29.987 1.1806	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15117	15250
29.987 1.1806	68.262 2.6875	21.000 0.8268	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02474A	02420A
29.987 1.1806	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14118AS	14276
29.987 1.1806	72.000 2.8346	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26118	26283
29.987 1.1806	76.200 3.0000	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26118	26300
29.987 1.1806	76.200 3.0000	24.608 0.9688	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43117	43300
30.000 1.1811	62.000 2.4409	16.002 0.6300	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17118-S	17244
30.000 1.1811	68.956 2.7148	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14117A	14274A
30.000 1.1811	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14118	14274
30.000 1.1811	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14118	14276
30.000 1.1811	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14117A	14276
30.000 1.1811	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14118A	14274
30.000 1.1811	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2586	2523

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**1.50** 0.06	**0.50** 0.02	**23.4**	**8.76**	**0.0697**	**0.62** 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	**1.40** 0.06	**0.90** 0.04	**20.6**	**10.1**	**0.0740**	**0.48** 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	**1.40** 0.06	**0.90** 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	**0.60** 0.02	**1.10** 0.04	**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	**1.50** 0.06	**0.50** 0.02	**23.4**	**8.76**	**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	**3.40** 0.13	**2.30** 0.09	**16.8**	**7.57**	**0.0774**	**0.61** 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	**0.50** 0.02	**0.80** 0.03	**10.8**	**12.4**	**0.0559**	**0.11** 0.25
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	**0.80** 0.03	**0.80** 0.03	**19.3**	**8**	**0.0598**	**0.40** 0.88
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	**0.80** 0.03	**0.80** 0.03	**19.3**	**8**	**0.0598**	**0.41** 0.89
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	**0.30** 0.01	**1.80** 0.07	**11.8**	**7.49**	**0.0579**	**0.23** 0.50
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	**0.30** 0.01	**1.80** 0.07	**11.8**	**7.49**	**0.0579**	**0.23** 0.50
19.050 0.7500	**14.288** 0.5625	**-4.8** -0.19	**1.3** 0.05	**36.0** 1.42	**37.5** 1.48	**1.3** 0.05	**58.0** 2.28	**55.0** 2.17	**0.30** 0.01	**1.70** 0.07	**14.6**	**7.58**	**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	**1.20** 0.05	**1.10** 0.04	**14.6**	**7.58**	**0.0606**	**0.26** 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	**1.20** 0.05	**1.10** 0.04	**14.6**	**7.58**	**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	**1.20** 0.05	**1.10** 0.04	**14.6**	**7.58**	**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	**1.20** 0.05	**1.10** 0.04	**14.6**	**7.58**	**0.0606**	**0.29** 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	**1.20** 0.05	**0.90** 0.04	**17.5**	**8.48**	**0.0681**	**0.38** 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	**1.00** 0.04	**1.80** 0.07	**18**	**9.4**	**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	**0.60** 0.02	**1.10** 0.04	**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	**0.60** 0.02	**1.10** 0.04	**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	**42.0** 1.66	**44.5** 1.75	**3.3** 0.13	**73.0** 2.87	**64.0** 2.52	**3.40** 0.13	**2.30** 0.09	**16.8**	**7.57**	**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	**0.30** 0.01	**1.80** 0.07	**11.8**	**7.49**	**0.0579**	**0.23** 0.50
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**40.0** 1.57	**43.0** 1.69	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.35** 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	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.00** 0.04	**1.80** 0.07	**18**	**9.4**	**0.0668**	**0.35** 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	**1.00** 0.04	**1.80** 0.07	**18**	**9.4**	**0.0668**	**0.36** 0.79
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**40.0** 1.57	**43.0** 1.69	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.36** 0.80
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	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.36** 0.78
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	**0.90** 0.04	**0.80** 0.03	**23.6**	**9.63**	**0.0656**	**0.46** 1.02

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

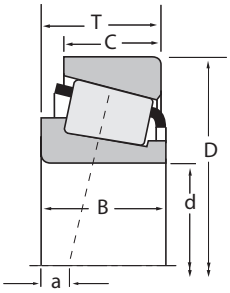
(7) Compound radius on inner race. Details on drawing for bearing.

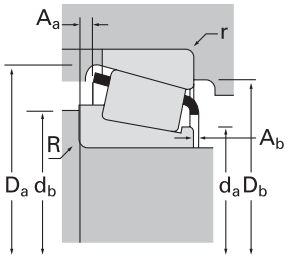
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
30.000 1.1811	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2560X	2523
30.000 1.1811	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2560X	2523-S
30.000 1.1811	72.000 2.8346	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26118-S	26283-S
30.000 1.1811	72.000 2.8346	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2560X	2526X
30.000 1.1811	72.000 2.8346	29.370 1.1563	80600 18100	0.55	1.10	20900 4700	19500 4390	1.07	111000 24900	JHM88540	JHM88513
30.000 1.1811	72.022 2.8355	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2586	2525
30.000 1.1811	72.034 2.8360	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3190	3126
30.000 1.1811	72.085 2.8380	22.385 0.8813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14118	14283
30.000 1.1811	72.085 2.8380	22.385 0.8813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14117A	14283
30.112 1.1855	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15116	15245
30.112 1.1855	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15116	15250
30.162 1.1875	58.738 2.3125	14.684 0.5781	29300 6600	0.47	1.27	7610 1710	6170 1390	1.23	35000 7880	08118	08231
30.162 1.1875	58.788 2.3145	14.684 0.5781	29300 6600	0.47	1.27	7610 1710	6170 1390	1.23	35000 7880	08118	08237
30.162 1.1875	62.000 2.4409	16.002 0.6300	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17119	17244
30.162 1.1875	64.292 2.5312	21.433 0.8438	55700 12500	0.55	1.10	14500 3250	13500 3040	1.07	71700 16100	M86649	M86610
30.162 1.1875	64.292 2.5312	21.433 0.8438	55700 12500	0.55	1.10	14500 3250	13500 3040	1.07	71700 16100	M86649P	M86610P
30.162 1.1875	66.421 2.6150	19.050 0.7500	51700 11600	0.34	1.77	13400 3010	7790 1750	1.72	55200 12400	24118	24261
30.162 1.1875	66.421 2.6150	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2558	2530
30.162 1.1875	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2558	2523
30.162 1.1875	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2558	2523-S
30.162 1.1875	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3187	3120
30.162 1.1875	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3191	3120
30.162 1.1875	76.200 3.0000	20.638 0.8125	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28118	28300
30.162 1.1875	76.200 3.0000	24.608 0.9688	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43118	43300
30.162 1.1875	79.375 3.1250	25.400 1.0000	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43118	43312
30.162 1.1875	80.000 3.1496	21.006 0.8270	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28118	28315
30.175 1.1880	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15120A	15245
30.213 1.1895	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15118	15244

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	0.90 0.04	0.80 0.03	23.6	9.63	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	1.5 0.06	64.0 2.52	61.0 2.40	0.90 0.04	0.80 0.03	23.6	9.63	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	0.60 0.02	1.10 0.04	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	0.90 0.04	0.80 0.03	23.6	9.63	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	1.90 0.08	1.80 0.07	26.3	11.7	0.0857	0.61 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	0.90 0.04	0.80 0.03	23.6	9.63	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	8.76	0.0697	0.59 1.30
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	1.00 0.04	1.80 0.07	18	9.4	0.0668	0.44 0.96
19.583 0.7710	18.415 0.7250	-4.3 -0.17	3.5 0.14	40.0 1.57	43.0 1.69	2.3 0.09	65.0 2.56	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.44 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	1.20 0.05	1.00 0.04	14.6	7.58	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	1.20 0.05	1.00 0.04	14.6	7.58	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	0.90 0.03	1.10 0.04	10.7	10.6	0.0601	0.17 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	0.90 0.03	1.10 0.04	10.7	10.6	0.0601	0.17 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	0.30 0.01	1.80 0.07	11.8	7.49	0.0579	0.23 0.50
21.433 0.8438	16.670 0.6563	-3.3 -0.13	1.5 0.06	38.0 1.50	41.0 1.61	1.5 0.06	61.0 2.40	54.0 2.13	1.40 0.05	1.20 0.05	16.8	9.36	0.0736	0.34 0.74
21.433 0.8438	16.670 0.6563	-3.3 -0.13	1.5 0.06	38.0 1.50	41.0 1.61	1.5 0.06	61.0 2.40	54.0 2.13	1.40 0.06	1.20 0.05	16.8	9.36	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	0.40 0.02	1.50 0.06	14	8.28	0.0589	0.30 0.67
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	60.0 2.36	0.90 0.04	0.80 0.03	23.6	9.63	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	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.46 1.02
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	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.46 1.02
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	8.76	0.0697	0.60 1.33
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	8.76	0.0697	0.60 1.32
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	2.40 0.09	1.10 0.04	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	42.0 1.65	45.0 1.77	3.3 0.13	73.0 2.87	64.0 2.52	3.40 0.13	2.30 0.09	16.8	7.57	0.0774	0.52 1.16
24.074 0.9478	17.462 0.6875	-2.0 -0.08	1.5 0.06	42.0 1.65	45.0 1.77	1.5 0.06	74.0 2.91	67.0 2.64	3.40 0.13	2.30 0.09	16.8	7.57	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	2.40 0.09	1.10 0.04	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	1.20 0.05	1.10 0.04	14.6	7.58	0.0606	0.26 0.58
20.638 0.8125	15.875 0.6250	-5.8 -0.23	3.5 0.14	35.5 1.40	41.5 1.63	1.3 0.05	58.0 2.28	55.0 2.17	1.20 0.05	1.10 0.04	14.6	7.58	0.0606	0.27 0.60

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

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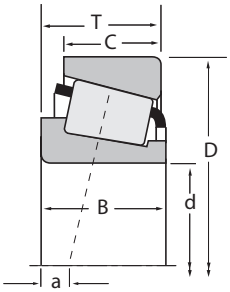
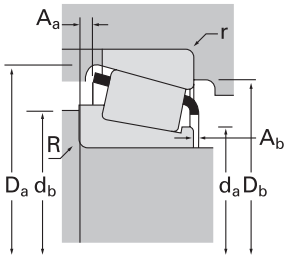
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
30.213 1.1895	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15120	15244
30.213 1.1895	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15118	15250
30.213 1.1895	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15119	15249
30.213 1.1895	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15119	15250
30.213 1.1895	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15120	15250
30.213 1.1895	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15118	15250X
30.213 1.1895	66.421 2.6150	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2561X	2520
30.213 1.1895	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2561X	2523
30.213 1.1895	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2561X	2523-S
30.226 1.1900	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14116	14276
30.955 1.2187	64.292 2.5312	21.433 0.8438	55700 12500	0.55	1.10	14500 3250	13500 3040	1.07	71700 16100	M86648A	M86610
31.623 1.2450	66.675 2.6250	20.638 0.8125	48600 10900	0.37	1.62	12600 2830	8010 1800	1.57	57900 13000	1674	1620
31.750 1.2500	58.738 2.3125	14.684 0.5781	29300 6600	0.47	1.27	7610 1710	6170 1390	1.23	35000 7880	08125	08231
31.750 1.2500	59.131 2.3280	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67045	LM67010
31.750 1.2500	59.131 2.3280	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67047	LM67010
31.750 1.2500	59.131 2.3280	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67048	LM67010
31.750 1.2500	59.131 2.3280	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67049A	LM67010
31.750 1.2500	61.986 2.4404	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67045	LM67014
31.750 1.2500	61.986 2.4404	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67048	LM67014
31.750 1.2500	61.986 2.4404	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67049A	LM67014
31.750 1.2500	62.000 2.4409	18.161 0.7150	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15123	15245
31.750 1.2500	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15125	15245
31.750 1.2500	62.000 2.4409	19.050 0.7500	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15126	15245
31.750 1.2500	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15125	15244
31.750 1.2500	62.000 2.4409	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15126	15244
31.750 1.2500	63.500 2.5000	19.748 0.7775	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15123	15250
31.750 1.2500	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15125	15250
31.750 1.2500	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15126	15250

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

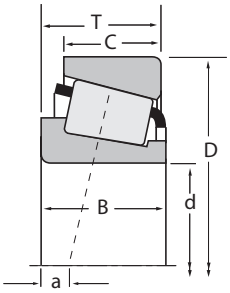
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
20.638 0.8125	15.875 0.6250	-5.8 -0.23	0.8 0.03	35.5 1.40	36.0 1.42	1.3 0.05	58.0 2.28	55.0 2.17	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.28 0.61
20.638 0.8125	15.875 0.6250	-5.8 -0.23	3.5 0.14	35.5 1.40	41.5 1.63	1.3 0.05	59.0 2.32	56.0 2.20	1.20 0.05	1.10 0.04	14.6	7.58	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	7.58	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	7.58	0.0606	0.29 0.64
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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.29 0.65
20.638 0.8125	15.875 0.6250	-5.8 -0.23	3.5 0.14	35.5 1.40	41.5 1.63	1.5 0.06	59.0 2.32	55.0 2.17	1.20 0.05	1.10 0.04	14.6	7.58	0.0606	0.29 0.63
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	57.0 2.24	0.90 0.04	1.40 0.06	23.6	9.63	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	0.90 0.04	1.40 0.06	23.6	9.63	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	0.90 0.04	1.40 0.06	23.6	9.63	0.0656	0.46 1.02
19.583 0.7710	15.875 0.6250	-4.3 -0.17	0.8 0.03	37.0 1.46	38.0 1.50	1.3 0.05	63.0 2.48	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	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	61.0 2.40	54.0 2.13	1.40 0.05	1.20 0.05	16.8	9.36	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	1.50 0.06	1.00 0.04	16.6	8.67	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	0.90 0.03	1.10 0.04	10.7	10.6	0.0601	0.17 0.37
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	0.80 0.03	-1.10 -0.04	12.8	9.93	0.0612	0.19 0.42
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	0.70 0.03	0.80 0.03	12.8	9.93	0.0612	0.18 0.41
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	0.70 0.03	0.80 0.03	12.8	9.93	0.0612	0.18 0.39
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	0.70 0.03	0.80 0.03	12.8	9.93	0.0612	0.19 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	57.0 2.24	54.0 2.13	0.80 0.03	-1.10 -0.04	12.8	9.93	0.0612	0.21 0.47
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	0.70 0.03	0.80 0.03	12.8	9.93	0.0612	0.20 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	0.70 0.03	0.80 0.03	12.8	9.93	0.0612	0.21 0.46
19.050 0.7500	14.288 0.5625	-4.8 -0.19	0.0 0.00	36.5 1.44	42.5 1.67	1.3 0.05	58.0 2.28	55.0 2.17	0.30 0.01	1.70 0.07	14.6	7.58	0.0606	0.23 0.51
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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.25 0.54
20.638 0.8125	14.288 0.5625	-5.8 -0.23	0.8 0.03	36.5 1.44	37.0 1.46	1.3 0.05	58.0 2.28	55.0 2.17	1.20 0.05	1.10 0.04	14.6	7.58	0.0606	0.25 0.55
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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.26 0.57
20.638 0.8125	15.875 0.6250	-5.8 -0.23	0.8 0.03	36.5 1.44	37.0 1.46	1.3 0.05	58.0 2.28	55.0 2.17	1.20 0.05	1.10 0.04	14.6	7.58	0.0606	0.26 0.58
19.050 0.7500	15.875 0.6250	-4.8 -0.19	0.0 0.00	36.5 1.44	42.5 1.67	1.3 0.05	59.0 2.32	56.0 2.20	0.30 0.01	1.70 0.07	14.6	7.58	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	1.20 0.05	1.00 0.04	14.6	7.58	0.0606	0.28 0.61
20.638 0.8125	15.875 0.6250	-5.8 -0.23	0.8 0.03	36.5 1.44	37.0 1.46	1.3 0.05	59.0 2.32	56.0 2.20	1.20 0.05	1.10 0.04	14.6	7.58	0.0606	0.28 0.62

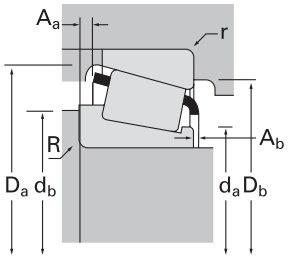
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
31.750 1.2500	63.500 2.5000	20.638 0.8125	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15126	15250X
31.750 1.2500	66.421 2.6150	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2580	2520
31.750 1.2500	66.421 2.6150	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2580	2530
31.750 1.2500	66.421 2.6150	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2580	2520A
31.750 1.2500	66.421 2.6150	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2580A	2520A
31.750 1.2500	68.262 2.6875	21.000 0.8268	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02476	02420A
31.750 1.2500	68.262 2.6875	22.225 0.8750	62600 14100	0.34	1.77	16200 3650	9420 2120	1.72	73300 16500	2475	2420
31.750 1.2500	68.262 2.6875	22.225 0.8750	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02475	02420
31.750 1.2500	68.262 2.6875	22.225 0.8750	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02476	02420
31.750 1.2500	68.262 2.6875	22.225 0.8750	61700 13900	0.28	2.18	16000 3600	7540 1700	2.12	77900 17500	16579	16522
31.750 1.2500	68.262 2.6875	22.225 0.8750	59600 13400	0.55	1.10	15500 3470	14400 3250	1.07	77400 17400	M88046	M88010
31.750 1.2500	68.262 2.6875	26.988 1.0625	74700 16800	0.35	1.71	19400 4360	11700 2620	1.66	91000 20500	23491	23420
31.750 1.2500	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14124	14274
31.750 1.2500	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14124	14276
31.750 1.2500	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14125A	14274
31.750 1.2500	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14125A	14276
31.750 1.2500	69.012 2.7170	22.385 0.8813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14124	14277
31.750 1.2500	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2580	2523
31.750 1.2500	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2582	2523
31.750 1.2500	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2580	2523-S
31.750 1.2500	71.996 2.8345	19.002 0.7481	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14124	14282
31.750 1.2500	72.022 2.8355	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2582	2525
31.750 1.2500	72.233 2.8438	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88644	HM88610
31.750 1.2500	72.626 2.8593	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88644	HM88611AS
31.750 1.2500	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3188	3120
31.750 1.2500	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3193	3120
31.750 1.2500	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3199	3120
31.750 1.2500	73.025 2.8750	22.225 0.8750	67700 15200	0.37	1.63	17600 3950	11100 2490	1.59	83800 18800	2875	2820

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

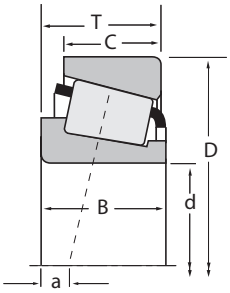
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
20.638 0.8125	15.875 0.6250	-5.8 -0.23	0.8 0.03	36.5 1.44	37.0 1.46	1.5 0.06	59.0 2.32	55.0 2.17	1.20 0.05	1.10 0.04	14.6	7.58	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	57.0 2.24	0.90 0.04	0.80 0.03	23.6	9.63	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	60.0 2.36	0.90 0.04	0.80 0.03	23.6	9.63	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	59.0 2.32	0.90 0.04	0.80 0.03	23.6	9.63	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	59.0 2.32	0.90 0.04	0.80 0.03	23.6	9.63	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	1.20 0.05	0.90 0.04	17.5	8.48	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	1.00 0.04	0.30 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	1.20 0.05	0.90 0.04	17.5	8.48	0.0681	0.37 0.82
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	1.20 0.05	0.90 0.04	17.5	8.48	0.0681	0.38 0.83
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	0.70 0.03	1.50 0.06	22.7	13	0.0650	0.39 0.85
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	1.70 0.07	0.90 0.04	19.4	10	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	1.60 0.06	0.60 0.02	21.9	10.4	0.0697	0.46 1.02
19.583 0.7710	15.875 0.6250	-4.3 -0.17	0.8 0.03	38.5 1.52	39.0 1.54	3.3 0.13	63.0 2.48	59.0 2.32	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.34 0.76
19.583 0.7710	15.875 0.6250	-4.3 -0.17	0.8 0.03	38.5 1.52	39.0 1.54	1.3 0.05	63.0 2.48	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.35 0.78
19.583 0.7710	15.875 0.6250	-4.3 -0.17	3.5 0.14	38.5 1.52	44.5 1.75	3.3 0.13	63.0 2.48	59.0 2.32	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.34 0.75
19.583 0.7710	15.875 0.6250	-4.3 -0.17	3.5 0.14	38.5 1.52	44.5 1.75	1.3 0.05	63.0 2.48	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.35 0.77
19.583 0.7710	18.415 0.7250	-4.3 -0.17	0.8 0.03	38.5 1.52	39.0 1.54	2.3 0.09	63.0 2.48	59.0 2.32	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.38 0.84
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	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.45 1.00
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	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.45 0.98
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	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.45 0.99
19.583 0.7710	15.032 0.5918	-4.3 -0.17	0.8 0.03	38.5 1.52	39.0 1.54	1.5 0.06	65.0 2.56	62.0 2.44	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.38 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	0.90 0.04	0.80 0.03	23.6	9.63	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	1.70 0.07	1.70 0.07	23.4	10.9	0.0822	0.52 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	1.70 0.07	1.70 0.07	23.4	10.9	0.0822	0.53 1.16
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	1.50 0.06	0.50 0.02	23.4	8.76	0.0697	0.58 1.29
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	1.50 0.06	0.50 0.02	23.4	8.76	0.0697	0.58 1.28
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	* *	* *	23.4	8.76	0.0697	0.58 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	0.90 0.04	0.20 0.01	23.1	12.4	0.0718	0.46 1.01

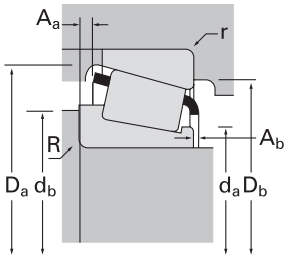
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
31.750 1.2500	73.025 2.8750	22.225 0.8750	67700 15200	0.37	1.63	17600 3950	11100 2490	1.59	83800 18800	2879	2820
31.750 1.2500	73.025 2.8750	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02875	02820
31.750 1.2500	73.025 2.8750	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02876	02820
31.750 1.2500	73.025 2.8750	26.988 1.0625	82800 18600	0.37	1.62	21500 4830	13600 3050	1.58	102000 22900	23685	23620
31.750 1.2500	73.025 2.8750	29.370 1.1563	80600 18100	0.55	1.10	20900 4700	19500 4390	1.07	111000 24900	HM88542	HM88510
31.750 1.2500	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2783	2720
31.750 1.2500	76.200 3.0000	24.608 0.9688	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43125	43300
31.750 1.2500	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89440	HM89410
31.750 1.2500	76.200 3.0000	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3188	3129
31.750 1.2500	76.200 3.0000	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3193	3129
31.750 1.2500	79.375 3.1250	25.400 1.0000	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43125	43312
31.750 1.2500	79.375 3.1250	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3476	3420
31.750 1.2500	80.000 3.1496	24.176 0.9518	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	346	332A
31.750 1.2500	80.167 3.1562	26.988 1.0625	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	346	3320
31.987 1.2593	66.987 2.6373	20.500 0.8071	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02476X	02419
31.987 1.2593	71.973 2.8336	27.000 1.0630	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88638	HM88611
32.000 1.2598	72.000 2.8346	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26126X	26283
32.004 1.2600	72.000 2.8346	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26126	26283
32.532 1.2808	69.850 2.7500	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2584	2523
33.338 1.3125	66.421 2.6150	25.400 1.0000	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2585	2520
33.338 1.3125	66.675 2.6250	20.638 0.8125	48600 10900	0.37	1.62	12600 2830	8010 1800	1.57	57900 13000	1680	1620
33.338 1.3125	66.675 2.6250	20.638 0.8125	57800 13000	0.35	1.70	15000 3370	9050 2030	1.66	72800 16400	M38545	M38510
33.338 1.3125	68.262 2.6875	22.225 0.8750	61700 13900	0.28	2.18	16000 3600	7540 1700	2.12	77900 17500	16582	16522
33.338 1.3125	68.262 2.6875	22.225 0.8750	59600 13400	0.55	1.10	15500 3470	14400 3250	1.07	77400 17400	M88048A	M88010
33.338 1.3125	68.262 2.6875	22.225 0.8750	59600 13400	0.55	1.10	15500 3470	14400 3250	1.07	77400 17400	M88048	M88010
33.338 1.3125	68.262 2.6875	22.225 0.8750	59600 13400	0.55	1.10	15500 3470	14400 3250	1.07	77400 17400	M88048	M88012
33.338 1.3125	68.262 2.6875	22.225 0.8750	59600 13400	0.55	1.10	15500 3470	14400 3250	1.07	77400 17400	M88048-S	M88010
33.338 1.3125	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14130	14274

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

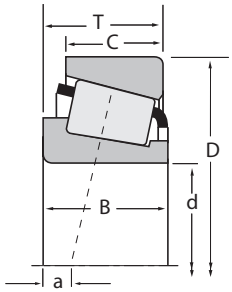
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
23.812 0.9375	17.462 0.6875	-5.6 -0.22	0.8 0.03	38.5 1.52	39.5 1.56	3.3 0.13	68.0 2.68	63.0 2.48	0.90 0.04	0.20 0.01	23.1	12.4	0.0718	0.46 1.02
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	1.40 0.06	0.90 0.04	20.6	10.1	0.0740	0.44 0.97
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	1.40 0.06	0.90 0.04	20.6	10.1	0.0740	0.45 0.99
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	1.80 0.07	0.70 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	42.5 1.68	45.5 1.79	3.3 0.13	70.0 2.76	59.0 2.32	1.90 0.08	1.80 0.07	26.3	11.7	0.0857	0.61 1.34
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	1.40 0.06	0.90 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	3.40 0.13	2.30 0.09	16.8	7.57	0.0774	0.51 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	2.00 0.08	1.40 0.05	28.9	13.1	0.0883	0.68 1.50
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	1.50 0.06	0.50 0.02	23.4	8.76	0.0697	0.67 1.48
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	1.50 0.06	0.50 0.02	23.4	8.76	0.0697	0.67 1.47
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	3.40 0.13	2.30 0.09	16.8	7.57	0.0774	0.58 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	1.40 0.06	0.90 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	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.59 1.30
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	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.63 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	1.20 0.05	2.60 0.10	17.5	8.48	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	1.70 0.07	1.70 0.07	23.4	10.9	0.0822	0.55 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	0.60 0.02	1.10 0.04	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	0.60 0.02	1.10 0.04	16.1	10.1	0.0630	0.37 0.81
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	2.50 0.10	0.80 0.03	23.6	9.63	0.0656	0.44 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	57.0 2.24	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.38 0.84
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	8.67	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	0.40 0.02	2.40 0.09	20.3	11.8	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	0.70 0.03	1.50 0.06	22.7	13	0.0650	0.37 0.82
22.225 0.8750	17.462 0.6875	-2.8 -0.11	1.3 0.05	41.0 1.62	43.5 1.71	1.5 0.06	65.0 2.56	58.0 2.28	1.40 0.06	1.00 0.04	19.4	10	0.0771	0.38 0.84
22.225 0.8750	17.462 0.6875	-2.8 -0.11	0.8 0.03	41.0 1.62	42.5 1.67	1.5 0.06	65.0 2.56	58.0 2.28	1.40 0.06	1.00 0.04	19.4	10	0.0771	0.38 0.84
22.225 0.8750	17.462 0.6875	-2.8 -0.11	0.8 0.03	41.0 1.62	42.5 1.67	0.8 0.03	64.0 2.52	59.0 2.32	1.40 0.06	1.00 0.04	19.4	10	0.0771	0.38 0.84
22.225 0.8750	17.462 0.6875	-2.8 -0.11	4.0 0.16	41.0 1.62	49.5 1.95	1.5 0.06	65.0 2.56	58.0 2.28	1.40 0.06	1.00 0.04	19.4	10	0.0771	0.38 0.83
19.583 0.7710	15.875 0.6250	-4.3 -0.17	3.5 0.14	39.5 1.56	46.0 1.81	3.3 0.13	63.0 2.48	59.0 2.32	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.33 0.73

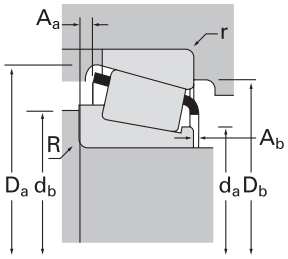
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
33.338 1.3125	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14130	14276
33.338 1.3125	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14131	14274
33.338 1.3125	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14131	14276
33.338 1.3125	69.723 2.7450	19.050 0.7500	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26132	26274
33.338 1.3125	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2581	2523
33.338 1.3125	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2585	2523
33.338 1.3125	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2581	2523-S
33.338 1.3125	69.850 2.7500	23.812 0.9375	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2585	2523-S
33.338 1.3125	71.996 2.8345	19.002 0.7481	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14130	14282
33.338 1.3125	72.000 2.8346	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26131	26283
33.338 1.3125	72.000 2.8346	19.000 0.7480	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26131	26283-S
33.338 1.3125	72.238 2.8440	20.638 0.8125	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16131	16284
33.338 1.3125	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3196	3120
33.338 1.3125	72.626 2.8593	30.162 1.1875	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3197	3120
33.338 1.3125	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2790	2735X
33.338 1.3125	73.025 2.8750	29.370 1.1563	80600 18100	0.55	1.10	20900 4700	19500 4390	1.07	111000 24900	HM88547	HM88510
33.338 1.3125	73.025 2.8750	29.370 1.1563	80600 18100	0.55	1.10	20900 4700	19500 4390	1.07	111000 24900	HM88547	HM88511
33.338 1.3125	73.812 2.9060	29.370 1.1563	80600 18100	0.55	1.10	20900 4700	19500 4390	1.07	111000 24900	HM88547	HM88512
33.338 1.3125	76.200 3.0000	22.225 0.8750	59600 13400	0.55	1.10	15500 3470	14400 3250	1.07	77400 17400	M88048	M88022
33.338 1.3125	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2785	2720
33.338 1.3125	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2785	2729
33.338 1.3125	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2790	2720
33.338 1.3125	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2790	2729
33.338 1.3125	76.200 3.0000	29.370 1.1563	87700 19700	0.40	1.49	22700 5110	15600 3520	1.45	107000 24100	31590	31520
33.338 1.3125	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89443	HM89410
33.338 1.3125	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89443	HM89411
33.338 1.3125	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89444	HM89410
33.338 1.3125	79.375 3.1250	25.400 1.0000	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43131	43312

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

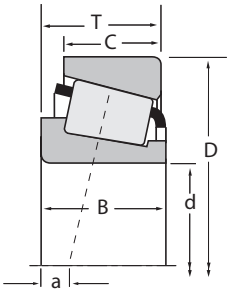
Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage						
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.								
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
19.583 0.7710	15.875 0.6250	-4.3 -0.17	3.5 0.14	39.5 1.56	46.0 1.81	1.3 0.05	63.0 2.48	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.34 0.74
19.583 0.7710	15.875 0.6250	-4.3 -0.17	0.8 0.03	39.5 1.56	40.5 1.59	3.3 0.13	63.0 2.48	59.0 2.32	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.33 0.73
19.583 0.7710	15.875 0.6250	-4.3 -0.17	0.8 0.03	39.5 1.56	40.5 1.59	1.3 0.05	63.0 2.48	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.34 0.75
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	65.0 2.56	61.0 2.40	0.60 0.02	1.10 0.04	16.1	10.1	0.0630	0.34 0.76
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	0.90 0.04	0.80 0.03	23.6	9.63	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	1.3 0.05	64.0 2.52	61.0 2.40	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.43 0.95
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	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.43 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	0.90 0.04	0.80 0.03	23.6	9.63	0.0656	0.43 0.95
19.583 0.7710	15.032 0.5918	-4.3 -0.17	3.5 0.14	39.5 1.56	46.0 1.81	1.5 0.06	65.0 2.56	62.0 2.44	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.37 0.81
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	0.60 0.02	1.10 0.04	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	0.60 0.02	1.10 0.04	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	1.20 0.05	1.10 0.04	20.3	10.6	0.0707	0.40 0.87
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	1.50 0.06	0.50 0.02	23.4	8.76	0.0697	0.56 1.23
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	8.76	0.0697	0.56 1.25
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.51 1.11
27.783 1.0938	23.020 0.9063	-5.6 -0.22	0.8 0.03	42.5 1.68	45.5 1.79	3.3 0.13	70.0 2.76	59.0 2.32	1.90 0.08	1.80 0.07	26.3	11.7	0.0857	0.59 1.30
27.783 1.0938	23.020 0.9063	-5.6 -0.22	0.8 0.03	42.5 1.68	45.5 1.79	0.8 0.03	70.0 2.76	62.0 2.44	1.90 0.08	1.80 0.07	26.3	11.7	0.0857	0.60 1.32
27.783 1.0938	23.020 0.9063	-5.6 -0.22	0.8 0.03	42.5 1.68	45.5 1.79	3.3 0.13	70.0 2.76	60.0 2.36	1.90 0.08	1.80 0.07	26.3	11.7	0.0857	0.61 1.34
22.225 0.8750	17.462 0.6875	-2.8 -0.11	0.8 0.03	41.0 1.62	42.5 1.67	0.8 0.03	68.0 2.68	62.0 2.44	1.40 0.06	1.00 0.04	19.4	10	0.0771	0.50 1.11
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.55 1.21
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	1.40 0.06	0.90 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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.55 1.22
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.56 1.24
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	1.60 0.06	1.20 0.05	26.3	9.08	0.0773	0.64 1.41
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	2.00 0.08	1.40 0.05	28.9	13.1	0.0883	0.66 1.46
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	2.00 0.08	1.40 0.05	28.9	13.1	0.0883	0.67 1.48
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	2.00 0.08	1.40 0.05	28.9	13.1	0.0883	0.66 1.45
24.074 0.9478	17.462 0.6875	-2.0 -0.08	3.5 0.14	42.0 1.65	51.0 2.01	1.5 0.06	74.0 2.91	67.0 2.64	3.40 0.13	2.30 0.09	16.8	7.57	0.0774	0.56 1.24

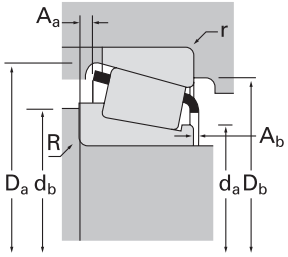
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
33.338 1.3125	79.375 3.1250	25.400 1.0000	71900 16200	0.67	0.90	18600 4190	21300 4790	0.87	76200 17100	43132	43312
33.338 1.3125	79.375 3.1250	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3477	3420
33.338 1.3125	79.375 3.1250	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3483	3420
33.338 1.3125	80.000 3.1496	21.000 0.8268	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	335-S	332
33.338 1.3125	80.167 3.1562	26.988 1.0625	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	335-S	3320
33.338 1.3125	88.500 3.4843	25.400 1.0000	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44131	44348
34.925 1.3750	65.088 2.5625	18.034 0.7100	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48548A	LM48510
34.925 1.3750	65.088 2.5625	18.034 0.7100	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48548	LM48510
34.925 1.3750	65.088 2.5625	18.034 0.7100	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48549	LM48510
34.925 1.3750	65.088 2.5625	18.034 0.7100	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48549X	LM48510
34.925 1.3750	65.088 2.5625	21.082 0.8300	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48548A	LM48511A
34.925 1.3750	65.088 2.5625	21.082 0.8300	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48548	LM48511A
34.925 1.3750	65.987 2.5979	20.638 0.8125	57800 13000	0.35	1.70	15000 3370	9050 2030	1.66	72800 16400	M38549	M38511
34.925 1.3750	66.675 2.6250	20.638 0.8125	57800 13000	0.35	1.70	15000 3370	9050 2030	1.66	72800 16400	M38549	M38510
34.925 1.3750	68.262 2.6875	18.034 0.7100	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48548	LM48514
34.925 1.3750	68.262 2.6875	20.638 0.8125	54800 12300	0.35	1.70	14200 3200	8590 1930	1.66	68100 15300	14585	14525
34.925 1.3750	68.262 2.6875	20.638 0.8125	57800 13000	0.35	1.70	15000 3370	9050 2030	1.66	72800 16400	M38549	M38514
34.925 1.3750	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14137A	14274
34.925 1.3750	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14137A	14276
34.925 1.3750	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14138A	14274
34.925 1.3750	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14138A	14276
34.925 1.3750	69.012 2.7170	22.385 0.8813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14138A	14277
34.925 1.3750	69.850 2.7500	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14137A	14275A
34.925 1.3750	71.973 2.8336	27.000 1.0630	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88649	HM88611
34.925 1.3750	72.233 2.8438	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88649A	HM88610
34.925 1.3750	72.233 2.8438	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88649	HM88610
34.925 1.3750	72.238 2.8440	20.638 0.8125	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16137	16284
34.925 1.3750	72.626 2.8593	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88649	HM88611AS

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
24.074 0.9478	**17.462** 0.6875	**-2.0** -0.08	**2.0** 0.08	**42.0** 1.65	**48.0** 1.89	**1.5** 0.06	**74.0** 2.91	**67.0** 2.64	**3.40** 0.13	**2.30** 0.09	**16.8**	**7.57**	**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	**1.40** 0.06	**0.90** 0.04	**29.9**	**11.2**	**0.0781**	**0.72** 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	**1.40** 0.06	**0.90** 0.04	**29.9**	**11.2**	**0.0781**	**0.72** 1.60
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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**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	**3.90** 0.15	**2.60** 0.10	**22.9**	**8.71**	**0.0899**	**0.76** 1.67
18.288 0.7200	**13.970** 0.5500	**-3.6** -0.14	**0.8** 0.03	**42.0** 1.66	**40.5** 1.59	**1.3** 0.05	**61.0** 2.40	**58.0** 2.28	**0.70** 0.03	**1.30** 0.05	**18**	**10.6**	**0.0666**	**0.25** 0.56
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	**0.70** 0.03	**1.30** 0.05	**18**	**10.6**	**0.0666**	**0.24** 0.54
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	**0.80** 0.03	**1.10** 0.04	**18**	**10.6**	**0.0666**	**0.25** 0.56
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	**0.80** 0.03	**1.10** 0.04	**18**	**10.6**	**0.0666**	**0.25** 0.55
18.288 0.7200	**17.018** 0.6700	**-3.6** -0.14	**0.8** 0.03	**42.0** 1.66	**40.5** 1.59	**1.5** 0.06	**61.0** 2.40	**58.0** 2.28	**0.70** 0.03	**1.30** 0.05	**18**	**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	**0.70** 0.03	**1.30** 0.05	**18**	**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	**0.40** 0.02	**2.40** 0.09	**20.3**	**11.8**	**0.0680**	**0.30** 0.66
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	**0.40** 0.02	**2.40** 0.09	**20.3**	**11.8**	**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	**0.70** 0.03	**1.30** 0.05	**18**	**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	**0.80** 0.03	**2.10** 0.08	**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	**0.40** 0.02	**2.40** 0.09	**20.3**	**11.8**	**0.0680**	**0.33** 0.73
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.5** 0.06	**41.0** 1.61	**43.0** 1.69	**3.3** 0.13	**63.0** 2.48	**59.0** 2.32	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.32** 0.70
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.5** 0.06	**41.0** 1.61	**43.0** 1.69	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.33** 0.72
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	**63.0** 2.48	**59.0** 2.32	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.32** 0.70
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**3.5** 0.14	**41.0** 1.61	**47.0** 1.85	**1.3** 0.05	**63.0** 2.48	**60.0** 2.36	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.32** 0.71
19.583 0.7710	**18.415** 0.7250	**-4.3** -0.17	**3.5** 0.14	**41.0** 1.61	**47.0** 1.85	**2.3** 0.09	**63.0** 2.48	**59.0** 2.32	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.35** 0.77
19.583 0.7710	**15.875** 0.6250	**-4.3** -0.17	**1.5** 0.06	**41.0** 1.61	**43.0** 1.69	**1.5** 0.06	**64.0** 2.52	**60.0** 2.36	**1.00** 0.04	**1.40** 0.06	**18**	**9.4**	**0.0668**	**0.34** 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	**1.70** 0.07	**1.70** 0.07	**23.4**	**10.9**	**0.0822**	**0.52** 1.14
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	**1.70** 0.07	**1.70** 0.07	**23.4**	**10.9**	**0.0822**	**0.49** 1.07
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	**1.70** 0.07	**1.70** 0.07	**23.4**	**10.9**	**0.0822**	**0.49** 1.08
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	**1.20** 0.05	**1.10** 0.04	**20.3**	**10.6**	**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	**1.70** 0.07	**1.70** 0.07	**23.4**	**10.9**	**0.0822**	**0.49** 1.08

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

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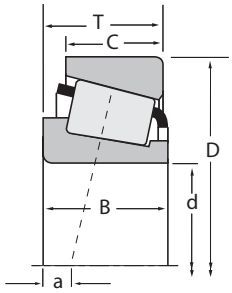
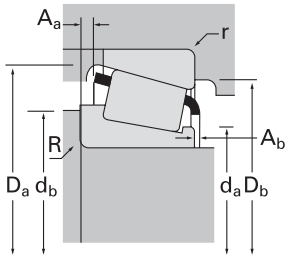
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
34.925 1.3750	73.025 2.8750	22.225 0.8750	67700 15200	0.37	1.63	17600 3950	11100 2490	1.59	83800 18800	2877	2820
34.925 1.3750	73.025 2.8750	22.225 0.8750	67700 15200	0.37	1.63	17600 3950	11100 2490	1.59	83800 18800	2878	2820
34.925 1.3750	73.025 2.8750	22.225 0.8750	67700 15200	0.37	1.63	17600 3950	11100 2490	1.59	83800 18800	2878	2821
34.925 1.3750	73.025 2.8750	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02877	02820
34.925 1.3750	73.025 2.8750	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02878	02820
34.925 1.3750	73.025 2.8750	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02878	02830
34.925 1.3750	73.025 2.8750	23.812 0.9375	78800 17700	0.29	2.07	20400 4590	10200 2280	2.01	97400 21900	25877	25820
34.925 1.3750	73.025 2.8750	23.812 0.9375	78800 17700	0.29	2.07	20400 4590	10200 2280	2.01	97400 21900	25877	25821
34.925 1.3750	73.025 2.8750	23.812 0.9375	78800 17700	0.29	2.07	20400 4590	10200 2280	2.01	97400 21900	25878	25820
34.925 1.3750	73.025 2.8750	23.812 0.9375	78800 17700	0.29	2.07	20400 4590	10200 2280	2.01	97400 21900	25878	25821
34.925 1.3750	73.025 2.8750	23.812 0.9375	78800 17700	0.29	2.07	20400 4590	10200 2280	2.01	97400 21900	25877A	25821
34.925 1.3750	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2786	2735X
34.925 1.3750	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2793	2735X
34.925 1.3750	73.025 2.8750	26.988 1.0625	82800 18600	0.37	1.62	21500 4830	13600 3050	1.58	102000 22900	23690	23620
34.925 1.3750	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2786	2720
34.925 1.3750	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2786	2729
34.925 1.3750	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2793	2720
34.925 1.3750	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2793	2729
34.925 1.3750	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2796	2729
34.925 1.3750	76.200 3.0000	29.370 1.1563	87700 19700	0.40	1.49	22700 5110	15600 3520	1.45	107000 24100	31593	31520
34.925 1.3750	76.200 3.0000	29.370 1.1563	87700 19700	0.40	1.49	22700 5110	15600 3520	1.45	107000 24100	31593	31521
34.925 1.3750	76.200 3.0000	29.370 1.1563	87700 19700	0.40	1.49	22700 5110	15600 3520	1.45	107000 24100	31594	31520
34.925 1.3750	76.200 3.0000	29.370 1.1563	92500 20800	0.35	1.71	24000 5390	14400 3230	1.67	111000 24900	36137	36300
34.925 1.3750	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89446A	HM89410
34.925 1.3750	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89446	HM89410
34.925 1.3750	79.324 3.1230	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3482	3426
34.925 1.3750	79.375 3.1250	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3478	3420
34.925 1.3750	79.375 3.1250	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3482	3420

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**0.90** 0.04	**0.20** 0.01	**23.1**	**12.4**	**0.0718**	**0.43** 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	**3.3** 0.13	**68.0** 2.68	**63.0** 2.48	**0.90** 0.04	**0.20** 0.01	**23.1**	**12.4**	**0.0718**	**0.43** 0.96
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	**0.90** 0.04	**0.20** 0.01	**23.1**	**12.4**	**0.0718**	**0.44** 0.97
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	**1.40** 0.06	**0.90** 0.04	**20.6**	**10.1**	**0.0740**	**0.41** 0.91
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	**1.40** 0.06	**0.90** 0.04	**20.6**	**10.1**	**0.0740**	**0.42** 0.92
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	**1.40** 0.06	**0.90** 0.04	**20.6**	**10.1**	**0.0740**	**0.43** 0.94
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	**1.00** 0.04	**1.50** 0.06	**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	**1.00** 0.04	**1.50** 0.06	**26.4**	**10.9**	**0.0695**	**0.47** 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	**2.3** 0.09	**68.0** 2.68	**64.0** 2.52	**1.00** 0.04	**1.50** 0.06	**26.4**	**10.9**	**0.0695**	**0.46** 1.02
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	**1.00** 0.04	**1.50** 0.06	**26.4**	**10.9**	**0.0695**	**0.47** 1.03
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**	**0.47** 1.04
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.48** 1.05
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.49** 1.08
26.975 1.0620	**22.225** 0.8750	**-8.1** -0.32	**3.5** 0.14	**42.0** 1.65	**49.0** 1.93	**1.5** 0.06	**68.0** 2.68	**63.0** 2.48	**1.80** 0.07	**0.70** 0.03	**24.4**	**10.7**	**0.0734**	**0.52** 1.14
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.52** 1.15
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.53** 1.17
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.54** 1.18
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.54** 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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.54** 1.19
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	**1.60** 0.06	**1.20** 0.05	**26.3**	**9.08**	**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	**1.60** 0.06	**1.20** 0.05	**26.3**	**9.08**	**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	**1.60** 0.06	**1.20** 0.05	**26.3**	**9.08**	**0.0773**	**0.62** 1.36
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	**23.020** 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	**2.00** 0.08	**1.40** 0.05	**28.9**	**13.1**	**0.0883**	**0.64** 1.42
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	**2.00** 0.08	**1.40** 0.05	**28.9**	**13.1**	**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	**1.40** 0.06	**0.90** 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	**1.40** 0.06	**0.90** 0.04	**29.9**	**11.2**	**0.0781**	**0.70** 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	**1.40** 0.06	**0.90** 0.04	**29.9**	**11.2**	**0.0781**	**0.70** 1.55

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

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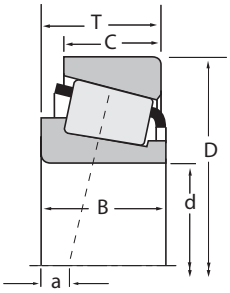
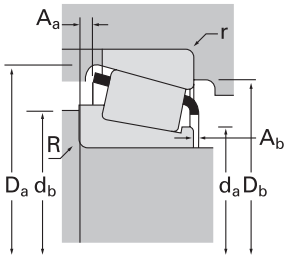
TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
34.925 1.3750	80.000 3.1496	21.000 0.8268	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	335	332
34.925 1.3750	80.000 3.1496	24.176 0.9518	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	335	332A
34.925 1.3750	80.035 3.1510	21.433 0.8438	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28137	28317
34.925 1.3750	80.035 3.1510	24.608 0.9688	72200 16200	0.56	1.07	18700 4210	18000 4040	1.04	91100 20500	27875	27820
34.925 1.3750	80.035 3.1510	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3379	3339
34.925 1.3750	80.167 3.1562	26.988 1.0625	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	335	3320
34.925 1.3750	80.167 3.1562	29.367 1.1562	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3379	3320
34.925 1.3750	80.962 3.1875	22.225 0.8750	60800 13700	0.45	1.32	15800 3550	12300 2750	1.29	74900 16800	02877	02831
34.925 1.3750	81.755 3.2187	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3379	3329
34.925 1.3750	84.138 3.3125	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3379	3328
34.925 1.3750	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3872	3820
34.925 1.3750	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3872	3821
34.925 1.3750	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3872A	3820
34.925 1.3750	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3581	3525
34.925 1.3750	88.500 3.4843	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	417	414
34.925 1.3750	90.488 3.5625	39.688 1.5625	155000 34900	0.28	2.11	40200 9040	19600 4400	2.05	204000 45900	4368	4335
34.925 1.3750	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	449	432
34.976 1.3770	68.000 2.6772	16.020 0.6307	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138	19267X
34.976 1.3770	68.262 2.6875	15.875 0.6250	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138	19268
34.975 1.3770	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14139	14274
34.975 1.3770	69.012 2.7170	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14139	14276
34.975 1.3770	71.996 2.8345	19.002 0.7481	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14139	14282
34.976 1.3770	72.000 2.8346	17.018 0.6700	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138	19283
34.975 1.3770	72.085 2.8380	22.385 0.8813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14139	14283
34.975 1.3770	76.200 3.0000	20.625 0.8120	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28138	28300X
34.975 1.3770	80.000 3.1496	21.006 0.8270	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28138	28315
34.987 1.3775	59.131 2.3280	15.875 0.6250	35500 7990	0.42	1.44	9220 2070	6560 1480	1.40	48700 11000	L68149	L68110
34.987 1.3775	59.974 2.3612	15.875 0.6250	35500 7990	0.42	1.44	9220 2070	6560 1480	1.40	48700 11000	L68149	L68111

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

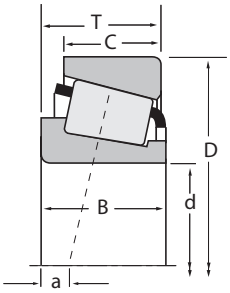
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a(3)	R(4)	d_a	d_b	r(4)	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
22.403 0.8820	17.826 0.7018	-6.4 -0.25	0.8 0.03	41.5 1.63	42.5 1.67	1.3 0.05	75.0 2.95	73.0 2.87	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.53 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	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.56 1.24
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	2.40 0.09	1.10 0.04	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	3.20 0.13	1.50 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	74.5 2.94	71.0 2.80	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.72 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	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.60 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	1.80 0.07	1.10 0.04	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	1.40 0.06	0.90 0.04	20.6	10.1	0.0740	0.55 1.22
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	1.80 0.07	1.10 0.04	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	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.81 1.78
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	1.50 0.06	2.10 0.08	37.8	13.5	0.0873	0.89 1.95
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	1.50 0.06	2.10 0.08	37.8	13.5	0.0873	0.89 1.97
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	1.50 0.06	2.10 0.08	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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.91 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	1.20 0.05	0.80 0.03	34.4	9.87	0.0731	0.87 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	2.30 0.09	0.60 0.02	52.9	16.7	0.0872	1.37 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	1.60 0.06	0.40 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	1.20 0.05	1.50 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	1.20 0.05	1.50 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	41.0 1.61	42.5 1.67	3.3 0.13	63.0 2.48	59.0 2.32	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.32 0.70
19.583 0.7710	15.875 0.6250	-4.3 -0.17	1.3 0.05	41.0 1.61	42.5 1.67	1.3 0.05	63.0 2.48	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	0.0668	0.33 0.72
19.583 0.7710	15.032 0.5918	-4.3 -0.17	1.3 0.05	41.0 1.61	42.5 1.67	1.5 0.06	65.0 2.56	62.0 2.44	1.00 0.04	1.40 0.06	18	9.4	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	1.20 0.05	1.50 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	41.0 1.61	42.5 1.67	2.3 0.09	65.0 2.56	60.0 2.36	1.00 0.04	1.40 0.06	18	9.4	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	2.40 0.09	1.10 0.04	20.7	12.5	0.0709	0.43 0.95
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	2.40 0.09	1.10 0.04	20.7	12.5	0.0709	0.49 1.08
16.764 0.6600	11.938 0.4700	-2.5 -0.10	0.0 0.00	39.0 1.54	45.5 1.79	1.3 0.05	56.0 2.20	53.0 2.09	0.80 0.03	0.70 0.03	15.7	13.9	0.0657	0.17 0.37
16.764 0.6600	11.938 0.4700	-2.5 -0.10	0.0 0.00	39.0 1.54	45.5 1.79	1.3 0.05	56.0 2.20	53.0 2.09	0.80 0.03	0.70 0.03	15.7	13.9	0.0657	0.17 0.38

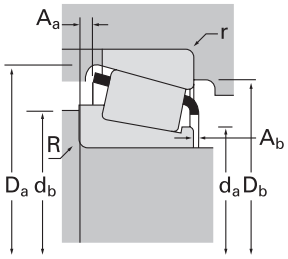
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
34.987 1.3775	61.973 2.4399	16.700 0.6575	39400 8850	0.44	1.35	10200 2290	7760 1750	1.31	52400 11800	LM78349A	LM78310A
34.987 1.3775	61.973 2.4399	16.700 0.6575	39400 8850	0.44	1.35	10200 2290	7760 1750	1.31	52400 11800	LM78349	LM78310A
34.987 1.3775	61.973 2.4399	18.000 0.7087	39400 8850	0.44	1.35	10200 2290	7760 1750	1.31	52400 11800	LM78349A	LM78310C
34.987 1.3775	61.973 2.4399	18.000 0.7087	39400 8850	0.44	1.35	10200 2290	7760 1750	1.31	52400 11800	LM78349	LM78310C
34.987 1.3775	65.987 2.5979	20.638 0.8125	57800 13000	0.35	1.70	15000 3370	9050 2030	1.66	72800 16400	M38547	M38511
35.000 1.3780	70.000 2.7559	25.270 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	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138X	19283
35.000 1.3780	72.000 2.8346	17.018 0.6700	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138X	19283X
35.000 1.3780	73.025 2.8750	26.988 1.0625	82800 18600	0.37	1.62	21500 4830	13600 3050	1.58	102000 22900	23691	23620
35.000 1.3780	73.025 2.8750	26.988 1.0625	82800 18600	0.37	1.62	21500 4830	13600 3050	1.58	102000 22900	23691	23621
35.000 1.3780	75.311 2.9650	19.845 0.7813	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14139X	14274-S
35.000 1.3780	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26883	26822
35.000 1.3780	80.000 3.1496	21.000 0.8268	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	339	332
35.000 1.3780	80.000 3.1496	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26883	26824
35.000 1.3780	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26883	26820
35.000 1.3780	80.167 3.1562	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3480	3422
35.000 1.3780	82.550 3.2500	28.575 1.1250	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	421	412A
35.000 1.3780	88.500 3.4843	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	421	414
35.128 1.3830	65.088 2.5625	18.034 0.7100	50500 11300	0.38	1.59	13100 2940	8430 1890	1.55	63100 14200	LM48545	LM48510
35.306 1.3900	73.025 2.8750	22.225 0.8750	67700 15200	0.37	1.63	17600 3950	11100 2490	1.59	83800 18800	2880	2820
35.717 1.4062	72.233 2.8438	25.400 1.0000	71100 16000	0.55	1.10	18400 4140	17200 3870	1.07	94200 21200	HM88648	HM88610
36.487 1.4365	73.025 2.8750	23.812 0.9375	78800 17700	0.29	2.07	20400 4590	10200 2280	2.01	97400 21900	25880	25820
36.487 1.4365	73.025 2.8750	23.812 0.9375	78800 17700	0.29	2.07	20400 4590	10200 2280	2.01	97400 21900	25880	25821
36.487 1.4365	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2780	2735X
36.487 1.4365	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2794	2735X
36.487 1.4365	74.612 2.9375	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2780	2736
36.487 1.4365	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2780	2720
36.487 1.4365	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2780	2729

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

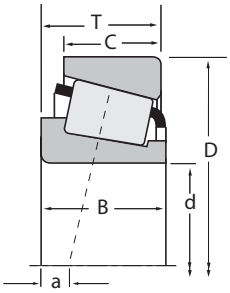
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
17.000 0.6693	13.600 0.5354	-2.5 -0.10	1.5 0.06	39.5 1.56	42.0 1.65	1.5 0.06	59.0 2.32	54.0 2.13	0.70 0.03	1.20 0.05	16.1	13.8	0.0678	0.21 0.46
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	* *	* *	16.1	16.2	0.0678	0.20 0.44
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	0.70 0.03	1.20 0.05	16.1	13.8	0.0678	0.22 0.48
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	* *	* *	16.1	16.2	0.0678	0.21 0.46
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	0.40 0.02	2.40 0.09	20.3	11.8	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	1.60 0.06	1.60 0.06	20.7	11	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	1.20 0.05	1.50 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	1.20 0.05	1.50 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	42.0 1.65	49.0 1.93	1.5 0.06	68.0 2.68	63.0 2.48	1.80 0.07	0.70 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	42.0 1.65	49.0 1.93	0.8 0.03	68.0 2.68	63.0 2.48	1.80 0.07	0.70 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	1.00 0.04	1.40 0.06	18	9.4	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	1.40 0.06	1.20 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	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.53 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	1.40 0.06	1.20 0.05	32.8	13.3	0.0770	0.62 1.36
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	1.40 0.06	1.20 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	1.40 0.06	0.90 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	77.5 3.06	74.0 2.91	1.20 0.05	0.80 0.03	34.4	9.87	0.0731	0.75 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	1.20 0.05	0.80 0.03	34.4	9.87	0.0731	0.87 1.92
18.288 0.7200	13.970 0.5500	-3.6 -0.14	0.8 0.03	41.0 1.61	41.5 1.63	1.3 0.05	61.0 2.40	58.0 2.28	0.80 0.03	1.10 0.04	18	10.6	0.0666	0.25 0.56
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	0.90 0.04	0.20 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	1.70 0.06	1.80 0.07	23.4	10.9	0.0822	0.48 1.05
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	1.00 0.04	1.50 0.06	26.4	10.9	0.0695	0.45 0.99
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	1.00 0.04	1.50 0.06	26.4	10.9	0.0695	0.45 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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.47 1.04
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.47 1.03
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.50 1.10
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	1.40 0.06	0.90 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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.53 1.16

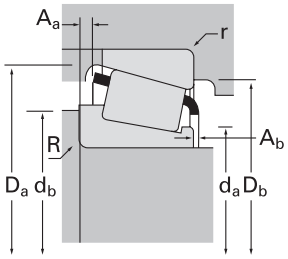
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
36.487 1.4365	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2794	2720
36.487 1.4365	79.375 3.1250	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2780	2731
36.512 1.4375	68.262 2.6875	15.875 0.6250	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19143	19268
36.512 1.4375	69.012 2.7170	19.050 0.7500	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13682	13621
36.512 1.4375	72.000 2.8346	17.018 0.6700	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19143	19283
36.512 1.4375	72.000 2.8346	17.018 0.6700	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19143	19283X
36.512 1.4375	72.000 2.8346	19.000 0.7480	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16143	16282
36.512 1.4375	72.238 2.8440	20.638 0.8125	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16143	16284
36.512 1.4375	76.200 3.0000	29.370 1.1563	87700 19700	0.40	1.49	22700 5110	15600 3520	1.45	107000 24100	31597	31520
36.512 1.4375	76.200 3.0000	29.370 1.1563	87700 19700	0.40	1.49	22700 5110	15600 3520	1.45	107000 24100	31597	31521
36.512 1.4375	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89448	HM89410
36.512 1.4375	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89449	HM89410
36.512 1.4375	76.200 3.0000	29.370 1.1563	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89449	HM89411
36.512 1.4375	79.375 3.1250	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3479	3420
36.512 1.4375	79.375 3.1250	29.370 1.1563	98100 22100	0.55	1.10	25400 5720	23800 5350	1.07	121000 27200	HM89249	HM89210
36.512 1.4375	80.000 3.1496	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26877	26824
36.512 1.4375	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26877	26820
36.512 1.4375	80.167 3.1562	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3479	3422
36.512 1.4375	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25570	25520
36.512 1.4375	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3878	3820
36.512 1.4375	88.500 3.4843	25.400 1.0000	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44143	44348
36.512 1.4375	93.662 3.6875	31.750 1.2500	120000 26900	0.40	1.49	31000 6980	21400 4800	1.45	158000 35500	46143	46368
38.000 1.4961	63.000 2.4803	17.000 0.6693	39800 8960	0.42	1.44	10300 2320	7360 1650	1.40	55000 12400	JL69348	JL69310
38.000 1.4961	63.000 2.4803	17.000 0.6693	39800 8960	0.42	1.44	10300 2320	7360 1650	1.40	55000 12400	JL69349A	JL69310
38.000 1.4961	63.000 2.4803	17.000 0.6693	39800 8960	0.42	1.44	10300 2320	7360 1650	1.40	55000 12400	JL69349	JL69310
38.000 1.4961	63.000 2.4803	17.000 0.6693	39800 8960	0.42	1.44	10300 2320	7360 1650	1.40	55000 12400	JL69349X	JL69310
38.000 1.4961	68.000 2.6772	16.020 0.6307	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19149X	19267X
38.100 1.5000	63.500 2.5000	12.700 0.5000	25100 5650	0.35	1.73	6520 1470	3860 869	1.69	33000 7430	13889	13830

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.51** 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	**72.0** 2.83	**67.0** 2.64	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.57** 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	**1.20** 0.05	**1.50** 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	**0.90** 0.04	**0.60** 0.02	**20.7**	**12.2**	**0.0713**	**0.30** 0.65
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	**1.20** 0.05	**1.50** 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	**2.0** 0.08	**66.0** 2.60	**62.0** 2.44	**1.20** 0.05	**1.50** 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	**1.20** 0.05	**1.10** 0.04	**20.3**	**10.6**	**0.0707**	**0.35** 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	**1.20** 0.05	**1.10** 0.04	**20.3**	**10.6**	**0.0707**	**0.37** 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	**3.3** 0.13	**72.0** 2.83	**64.0** 2.52	**1.60** 0.06	**1.20** 0.05	**26.3**	**9.08**	**0.0773**	**0.59** 1.31
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	**1.60** 0.06	**1.20** 0.05	**26.3**	**9.08**	**0.0773**	**0.60** 1.33
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	**2.00** 0.08	**1.40** 0.05	**28.9**	**13.1**	**0.0883**	**0.62** 1.38
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	**2.00** 0.08	**1.40** 0.05	**28.9**	**13.1**	**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	**2.00** 0.08	**1.40** 0.05	**28.9**	**13.1**	**0.0883**	**0.63** 1.39
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	**1.40** 0.06	**0.90** 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	**2.40** 0.09	**2.50** 0.10	**27**	**11.1**	**0.0861**	**0.69** 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	**1.40** 0.06	**1.20** 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	**1.40** 0.06	**1.20** 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	**1.40** 0.06	**0.90** 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	**1.00** 0.04	**0.60** 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	**1.50** 0.06	**2.10** 0.08	**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	**3.90** 0.15	**2.60** 0.10	**22.9**	**8.71**	**0.0899**	**0.73** 1.60
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	**2.20** 0.08	**1.10** 0.04	**44.4**	**13.4**	**0.0920**	**1.15** 2.53
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	**0.50** 0.02	**1.30** 0.05	**18.4**	**14.5**	**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	**0.60** 0.02	**1.30** 0.05	**18.4**	**14.5**	**0.0692**	**0.20** 0.45
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	**0.50** 0.02	**1.30** 0.05	**18.4**	**14.5**	**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	**0.60** 0.02	**1.30** 0.05	**18.4**	**15**	**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	**1.20** 0.05	**1.50** 0.06	**17.5**	**11.5**	**0.0694**	**0.23** 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	**0.20** 0.01	**1.40** 0.05	**14.8**	**23.3**	**0.0601**	**0.15** 0.33

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

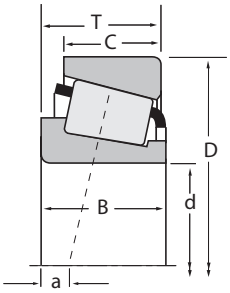
[7] Compound radius on inner race. Details on drawing for bearing.

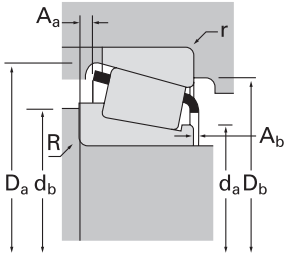
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
38.100 1.5000	65.088 2.5625	12.700 0.5000	25100 5650	0.35	1.73	6520 1470	3860 869	1.69	33000 7430	13889	13836
38.100 1.5000	65.088 2.5625	18.034 0.7100	45000 10100	0.33	1.80	11700 2620	6640 1490	1.76	60300 13600	LM29748	LM29710
38.100 1.5000	65.088 2.5625	18.034 0.7100	45000 10100	0.33	1.80	11700 2620	6640 1490	1.76	60300 13600	LM29749	LM29710
38.100 1.5000	65.088 2.5625	19.812 0.7800	45000 10100	0.33	1.80	11700 2620	6640 1490	1.76	60300 13600	LM29749	LM29711
38.100 1.5000	68.262 2.6875	15.875 0.6250	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19150	19268
38.100 1.5000	68.262 2.6875	19.997 0.7873	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19150	19269
38.100 1.5000	69.012 2.7170	19.050 0.7500	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13685	13620
38.100 1.5000	69.012 2.7170	19.050 0.7500	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13685	13621
38.100 1.5000	69.012 2.7170	19.050 0.7500	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13687	13620
38.100 1.5000	69.012 2.7170	19.050 0.7500	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13687	13621
38.100 1.5000	69.012 2.7170	19.050 0.7500	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13685A	13620
38.100 1.5000	69.012 2.7170	19.050 0.7500	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13685A	13621
38.100 1.5000	69.012 2.7170	26.195 1.0313	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13686	13620
38.100 1.5000	69.012 2.7170	26.195 1.0313	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13686	13621
38.100 1.5000	69.969 2.7547	21.996 0.8660	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13685	13624
38.100 1.5000	69.969 2.7547	21.996 0.8660	52500 11800	0.40	1.49	13600 3060	9370 2110	1.45	67900 15300	13687	13624
38.100 1.5000	71.438 2.8125	15.875 0.6250	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19150	19281
38.100 1.5000	72.000 2.8346	17.018 0.6700	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19150	19283
38.100 1.5000	72.000 2.8346	19.000 0.7480	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16150	16282
38.100 1.5000	72.238 2.8440	20.638 0.8125	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16150	16284
38.100 1.5000	72.238 2.8440	23.812 0.9375	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16150	16283
38.100 1.5000	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2776	2735X
38.100 1.5000	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788	2735X
38.100 1.5000	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788A	2735X
38.100 1.5000	74.612 2.9375	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788A	2736
38.100 1.5000	76.200 3.0000	20.625 0.8120	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28150	28300X
38.100 1.5000	76.200 3.0000	20.638 0.8125	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28150	28300
38.100 1.5000	76.200 3.0000	20.638 0.8125	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28151	28300

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

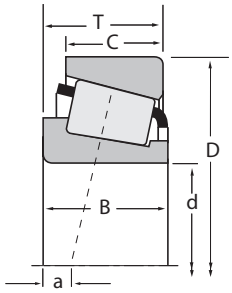
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
11.908 0.4688	**9.525** 0.3750	**-0.8** -0.03	**1.5** 0.06	**42.5** 1.67	**45.0** 1.77	**0.8** 0.03	**61.0** 2.40	**59.0** 2.32	**0.20** 0.01	**1.40** 0.05	**14.8**	**23.3**	**0.0601**	**0.16** 0.35
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	**59.0** 2.32	**0.70** 0.03	**1.10** 0.04	**20.4**	**15**	**0.0666**	**0.22** 0.50
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	**59.0** 2.32	**0.70** 0.03	**1.10** 0.04	**20.4**	**15**	**0.0666**	**0.23** 0.51
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	**0.70** 0.03	**1.10** 0.04	**20.4**	**15**	**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	**1.20** 0.05	**1.50** 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	**1.20** 0.05	**1.50** 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	**0.8** 0.03	**65.0** 2.56	**62.0** 2.44	**0.90** 0.04	**0.60** 0.02	**20.7**	**10.9**	**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	**2.3** 0.09	**65.0** 2.56	**61.0** 2.40	**0.90** 0.04	**0.60** 0.02	**20.7**	**10.9**	**0.0713**	**0.28** 0.62
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	**0.90** 0.04	**0.60** 0.02	**20.7**	**10.9**	**0.0713**	**0.29** 0.64
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	**0.90** 0.04	**0.60** 0.02	**20.7**	**10.9**	**0.0713**	**0.29** 0.63
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	**0.90** 0.04	**0.60** 0.02	**20.7**	**12.2**	**0.0713**	**0.29** 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	**2.3** 0.09	**65.0** 2.56	**61.0** 2.40	**0.90** 0.04	**0.60** 0.02	**20.7**	**12.2**	**0.0713**	**0.29** 0.63
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	**8.00** 0.32	**0.60** 0.02	**20.7**	**12.2**	**0.0713**	**0.35** 0.77
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	**8.00** 0.32	**0.60** 0.02	**20.7**	**12.2**	**0.0713**	**0.35** 0.76
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	**0.90** 0.04	**0.60** 0.02	**20.7**	**10.9**	**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	**0.90** 0.04	**0.60** 0.02	**20.7**	**10.9**	**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	**1.20** 0.05	**1.50** 0.06	**17.5**	**11.5**	**0.0694**	**0.27** 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	**1.20** 0.05	**1.50** 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	**1.20** 0.05	**1.10** 0.04	**20.3**	**10.6**	**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	**1.20** 0.05	**1.10** 0.04	**20.3**	**10.6**	**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	**1.20** 0.05	**1.10** 0.04	**20.3**	**10.6**	**0.0707**	**0.39** 0.86
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.44** 0.98
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.45** 0.98
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.45** 1.00
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	**1.40** 0.06	**0.90** 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	**2.40** 0.09	**1.10** 0.04	**20.7**	**12.5**	**0.0709**	**0.40** 0.89
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	**2.40** 0.09	**1.10** 0.04	**20.7**	**12.5**	**0.0709**	**0.40** 0.88
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	**2.40** 0.09	**1.10** 0.04	**20.7**	**12.5**	**0.0709**	**0.39** 0.87

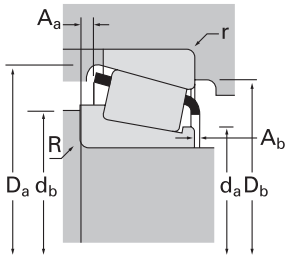
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
38.100 1.5000	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2776	2720
38.100 1.5000	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2777	2720
38.100 1.5000	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788	2720
38.100 1.5000	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788	2729
38.100 1.5000	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788	2729X
38.100 1.5000	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788A	2720
38.100 1.5000	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788A	2729
38.100 1.5000	76.200 3.0000	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26878	26823
38.100 1.5000	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26878	26822
38.100 1.5000	79.375 3.1250	25.400 1.0000	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2776	2734
38.100 1.5000	79.375 3.1250	25.400 1.0000	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788	2734
38.100 1.5000	79.375 3.1250	29.370 1.1563	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3490	3420
38.100 1.5000	79.974 3.1486	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3387	3325
38.100 1.5000	80.000 3.1496	21.006 0.8270	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28150	28315A
38.100 1.5000	80.000 3.1496	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26878	26824
38.100 1.5000	80.035 3.1510	24.608 0.9688	72200 16200	0.56	1.07	18700 4210	18000 4040	1.04	91100 20500	27880	27820
38.100 1.5000	80.035 3.1510	24.608 0.9688	72200 16200	0.56	1.07	18700 4210	18000 4040	1.04	91100 20500	27881	27820
38.100 1.5000	80.035 3.1510	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3387	3339
38.100 1.5000	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26878	26820
38.100 1.5000	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26878	26830
38.100 1.5000	80.167 3.1562	26.988 1.0625	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	347	3320
38.100 1.5000	80.167 3.1562	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3381	3320
38.100 1.5000	80.167 3.1562	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3381	3331
38.100 1.5000	80.167 3.1562	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3387	3320
38.100 1.5000	81.755 3.2187	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3381	3329
38.100 1.5000	81.755 3.2187	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3387	3329
38.100 1.5000	82.550 3.2500	29.370 1.1563	95100 21400	0.55	1.10	24600 5540	23000 5180	1.07	130000 29300	HM801346	HM801310
38.100 1.5000	82.550 3.2500	29.370 1.1563	95100 21400	0.55	1.10	24600 5540	23000 5180	1.07	130000 29300	HM801346	HM801311

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

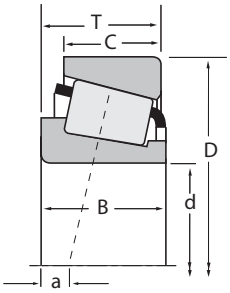
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
25.654 1.0100	19.050 0.7500	-8.1 -0.32	4.3 0.17	43.5 1.71	52.0 2.05	3.3 0.13	70.0 2.76	66.0 2.60	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.49 1.08
25.654 1.0100	19.050 0.7500	-8.1 -0.32	5.5 0.22	43.5 1.71	54.0 2.13	3.3 0.13	70.0 2.76	66.0 2.60	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.48 1.07
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.49 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	0.8 0.03	70.0 2.76	68.0 2.68	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.50 1.11
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.50 1.10
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.50 1.10
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	1.40 0.06	0.90 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	1.40 0.06	1.20 0.05	32.8	13.3	0.0770	0.53 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	1.40 0.06	1.20 0.05	32.8	13.3	0.0770	0.57 1.26
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	1.40 0.06	0.90 0.04	28.7	12.2	0.0725	0.57 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	1.40 0.06	0.90 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	1.40 0.06	0.90 0.04	29.9	11.2	0.0781	0.66 1.45
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	74.5 2.94	70.0 2.76	1.80 0.07	1.10 0.04	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	2.40 0.09	1.10 0.04	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	1.40 0.06	1.20 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	3.20 0.13	1.50 0.06	24.6	12.6	0.0839	0.56 1.23
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	3.20 0.13	1.50 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	74.5 2.94	71.0 2.80	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.68 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	1.40 0.06	1.20 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	44.5 1.75	45.0 1.77	0.8 0.03	74.0 2.91	71.0 2.80	1.40 0.06	1.20 0.05	32.8	13.3	0.0770	0.61 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	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.56 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	3.3 0.13	75.0 2.95	70.0 2.76	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.67 1.48
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	74.5 2.94	72.0 2.83	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.68 1.50
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	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.68 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	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.71 1.56
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	1.80 0.07	1.10 0.04	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	49.0 1.93	51.0 2.01	3.3 0.13	78.0 3.07	68.0 2.68	2.10 0.08	1.80 0.07	33.7	14	0.0928	0.76 1.68
28.575 1.1250	23.020 0.9063	-4.8 -0.19	0.8 0.03	49.0 1.93	51.0 2.01	0.8 0.03	78.0 3.07	70.0 2.76	2.10 0.08	1.80 0.07	33.7	14	0.0928	0.77 1.71

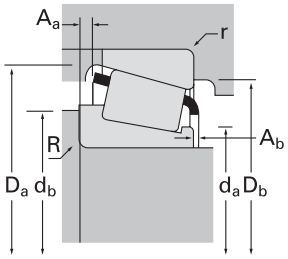
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
38.100 1.5000	82.550 3.2500	29.370 1.1563	95100 21400	0.55	1.10	24600 5540	23000 5180	1.07	130000 29300	HM801346X	HM801310
38.100 1.5000	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25572	25520
38.100 1.5000	85.000 3.3465	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25572	25526
38.100 1.5000	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3875	3820
38.100 1.5000	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3876	3820
38.100 1.5000	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3876	3821
38.100 1.5000	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3580	3525
38.100 1.5000	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3583	3525
38.100 1.5000	88.500 3.4843	25.400 1.0000	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44150	44348
38.100 1.5000	88.500 3.4843	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	418	414
38.100 1.5000	88.500 3.4843	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	418	414A
38.100 1.5000	88.900 3.5000	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	418	414X
38.100 1.5000	90.488 3.5625	39.688 1.5625	155000 34900	0.28	2.11	40200 9040	19600 4400	2.05	204000 45900	4375	4335
38.100 1.5000	93.662 3.6875	31.750 1.2500	126000 28200	0.36	1.67	32600 7320	20100 4510	1.62	156000 35000	49151	49368
38.100 1.5000	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	440	432
38.100 1.5000	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	444	432
38.100 1.5000	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33880	33821
38.100 1.5000	95.250 3.7500	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53150	53375
38.100 1.5000	95.250 3.7500	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903241	HM903210
38.100 1.5000	98.425 3.8750	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53150	53387
38.100 1.5000	98.425 3.8750	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903241	HM903216
38.100 1.5000	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	525	522
38.100 1.5000	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	525X	522
38.100 1.5000	103.188 4.0625	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	542	533A
38.100 1.5000	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455A	453A
38.100 1.5000	111.125 4.3750	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	542	532A
38.481 1.5150	63.500 2.5000	12.700 0.5000	25100 5650	0.35	1.73	6520 1470	3860 869	1.69	33000 7430	13890	13830
38.481 1.5150	65.088 2.5625	12.700 0.5000	25100 5650	0.35	1.73	6520 1470	3860 869	1.69	33000 7430	13890	13836

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
28.575 1.1250	**23.020** 0.9063	**-4.8** -0.19	**2.3** 0.09	**49.0** 1.93	**54.0** 2.13	**3.3** 0.13	**78.0** 3.07	**68.0** 2.68	**2.10** 0.08	**1.80** 0.07	**33.7**	**14**	**0.0928**	**0.76** 1.68
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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.64** 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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.68** 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	**1.50** 0.06	**2.10** 0.08	**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	**3.3** 0.13	**81.0** 3.19	**73.0** 2.87	**1.50** 0.06	**2.10** 0.08	**37.8**	**13.5**	**0.0873**	**0.84** 1.86
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	**1.50** 0.06	**2.10** 0.08	**37.8**	**13.5**	**0.0873**	**0.85** 1.88
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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.87** 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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.86** 1.90
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**2.3** 0.09	**51.0** 2.00	**55.0** 2.17	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.90** 0.15	**2.60** 0.10	**22.9**	**8.71**	**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	**1.20** 0.05	**0.80** 0.03	**34.4**	**9.87**	**0.0731**	**0.82** 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	**1.20** 0.05	**0.80** 0.03	**34.4**	**9.87**	**0.0731**	**0.81** 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	**78.0** 3.07	**1.20** 0.05	**0.80** 0.03	**34.4**	**9.87**	**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	**2.30** 0.09	**0.60** 0.02	**52.9**	**16.7**	**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	**3.00** 0.12	**0.80** 0.03	**42.4**	**13.6**	**0.0872**	**1.08** 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	**1.60** 0.06	**0.40** 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	**1.60** 0.06	**0.40** 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	**1.30** 0.05	**2.20** 0.09	**52.5**	**18.5**	**0.0910**	**1.05** 2.31
28.301 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.5** 0.06	**52.5** 2.07	**55.0** 2.17	**0.8** 0.03	**89.0** 3.50	**81.0** 3.19	**5.70** 0.22	**2.20** 0.08	**26.7**	**9.63**	**0.0930**	**1.02** 2.25
28.575 1.1250	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**61.0** 2.40	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	**3.90** 0.16	**2.00** 0.08	**33.7**	**9.91**	**0.1010**	**1.09** 2.40
28.301 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.5** 0.06	**52.5** 2.07	**55.0** 2.17	**0.8** 0.03	**91.0** 3.58	**82.0** 3.23	**5.70** 0.22	**2.20** 0.08	**26.7**	**9.63**	**0.0930**	**1.10** 2.42
28.575 1.1250	**22.225** 0.8750	**0.5** 0.02	**3.5** 0.14	**54.0** 2.13	**61.0** 2.40	**0.8** 0.03	**92.0** 3.62	**82.0** 3.23	**3.90** 0.16	**2.00** 0.08	**33.7**	**9.91**	**0.1010**	**1.17** 2.58
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	**2.70** 0.11	**1.80** 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	**2.70** 0.11	**1.80** 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	**2.80** 0.11	**0.90** 0.04	**64.3**	**16.1**	**0.0938**	**1.65** 3.63
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.43** 3.15
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	**2.80** 0.11	**0.90** 0.04	**64.3**	**16.1**	**0.0938**	**1.95** 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	**0.20** 0.01	**1.40** 0.05	**14.8**	**23.3**	**0.0601**	**0.15** 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	**0.20** 0.01	**1.40** 0.05	**14.8**	**23.3**	**0.0601**	**0.16** 0.35

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

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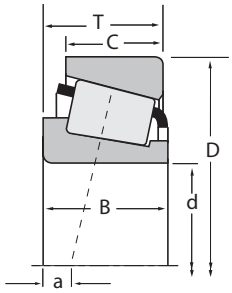
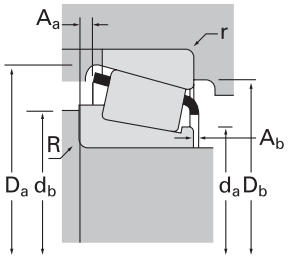
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
39.000 1.5354	72.014 2.8352	21.400 0.8425	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	J16154	J16285
39.688 1.5625	73.025 2.8750	16.667 0.6562	47000 10600	0.35	1.71	12200 2740	7310 1640	1.67	58100 13100	18587	18520
39.688 1.5625	73.025 2.8750	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2789	2735X
39.688 1.5625	73.025 2.8750	25.654 1.0100	68000 15300	0.33	1.80	17600 3960	10000 2260	1.76	89100 20000	M201047	M201011
39.688 1.5625	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2789	2720
39.688 1.5625	76.200 3.0000	23.812 0.9375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2789	2729
39.688 1.5625	76.200 3.0000	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26881	26823
39.688 1.5625	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26880	26822
39.688 1.5625	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26881	26822
39.688 1.5625	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26880	26822A
39.688 1.5625	79.974 3.1486	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3382	3325
39.688 1.5625	79.974 3.1486	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3386	3325
39.688 1.5625	80.000 3.1496	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26881	26824
39.688 1.5625	80.035 3.1510	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3386	3339
39.688 1.5625	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26880	26820
39.688 1.5625	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26880	26830
39.688 1.5625	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26881	26820
39.688 1.5625	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26881	26830
39.688 1.5625	80.167 3.1562	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3382	3320
39.688 1.5625	80.167 3.1562	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3382	3331
39.688 1.5625	80.167 3.1562	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3386	3320
39.688 1.5625	80.167 3.1562	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3386	3331
39.688 1.5625	80.167 3.1562	29.370 1.1563	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26880	26821
39.688 1.5625	84.138 3.3125	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3382	3328
39.688 1.5625	84.138 3.3125	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3386	3328
39.688 1.5625	88.500 3.4843	25.400 1.0000	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44156	44348
39.688 1.5625	88.500 3.4843	25.400 1.0000	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44158	44348
39.688 1.5625	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	620	612

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

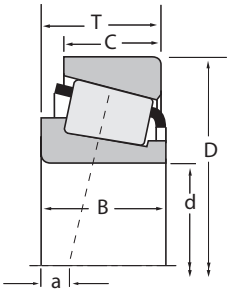
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
20.638 0.8125	**16.637** 0.6550	**-4.1** -0.16	**3.5** 0.14	**44.5** 1.75	**51.0** 2.01	**0.4** 0.02	**67.0** 2.64	**63.0** 2.48	**1.20** 0.05	**1.10** 0.04	**20.3**	**10.6**	**0.0707**	**0.36** 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	**0.50** 0.02	**1.20** 0.05	**21**	**15.4**	**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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.43** 0.94
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	**0.50** 0.02	**2.00** 0.08	**27.5**	**15**	**0.0736**	**0.43** 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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.47** 1.04
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	**1.40** 0.06	**0.90** 0.04	**28.7**	**12.2**	**0.0725**	**0.48** 1.06
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	**1.40** 0.06	**1.20** 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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.55** 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	**1.40** 0.06	**1.20** 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	**1.40** 0.06	**1.20** 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	**74.5** 2.94	**70.0** 2.76	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.64** 1.42
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	**74.5** 2.94	**70.0** 2.76	**1.80** 0.07	**1.10** 0.04	**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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.55** 1.22
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	**74.5** 2.94	**71.0** 2.80	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.66** 1.45
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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.58** 1.27
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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.59** 1.29
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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.57** 1.26
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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.58** 1.28
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	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.65** 1.43
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	**74.5** 2.94	**72.0** 2.83	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.66** 1.45
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	**1.80** 0.07	**1.10** 0.04	**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	**74.5** 2.94	**72.0** 2.83	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.66** 1.46
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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.64** 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	**3.3** 0.13	**76.0** 2.99	**72.0** 2.83	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.74** 1.64
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	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.75** 1.65
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**2.3** 0.09	**51.0** 2.00	**56.0** 2.20	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.90** 0.15	**2.60** 0.10	**22.9**	**8.71**	**0.0899**	**0.69** 1.52
23.698 0.9330	**17.462** 0.6875	**2.3** 0.09	**3.5** 0.14	**51.0** 2.00	**58.0** 2.28	**1.5** 0.06	**84.0** 3.31	**75.0** 2.95	**3.90** 0.15	**2.60** 0.10	**22.9**	**8.71**	**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	**3.90** 0.15	**1.90** 0.07	**75.9**	**16.2**	**0.0694**	**2.53** 5.58

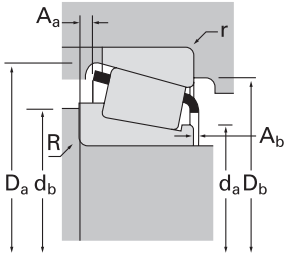
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
39.980 1.5740	76.200 3.0000	19.347 0.7617	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28156	28300
39.980 1.5740	76.200 3.0000	20.638 0.8125	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28159	28300
39.980 1.5740	80.035 3.1510	20.142 0.7930	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28156	28317
39.987 1.5743	90.975 3.5817	32.000 1.2598	133000 29900	0.33	1.80	34500 7760	19700 4420	1.76	172000 38600	HM204043	HM204010
40.000 1.5748	68.000 2.6772	19.000 0.7480	51400 11600	0.38	1.58	13300 3000	8640 1940	1.54	71600 16100	XAA32008X	Y32008X
40.000 1.5748	75.000 2.9528	26.000 1.0236	81500 18300	0.36	1.69	21100 4750	12900 2890	1.64	105000 23600	XAA33108	Y33108
40.000 1.5748	76.200 3.0000	20.625 0.8120	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28158	28300X
40.000 1.5748	80.000 3.1496	21.000 0.8268	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	344A	332
40.000 1.5748	80.000 3.1496	21.006 0.8270	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28158	28315
40.000 1.5748	80.000 3.1496	21.006 0.8270	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28158	28315A
40.000 1.5748	84.138 3.3125	26.988 1.0625	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	350	3520
40.000 1.5748	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	350	354A
40.000 1.5748	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	350	354X
40.000 1.5748	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	357	354A
40.000 1.5748	85.000 3.3465	33.000 1.2992	127000 28500	0.34	1.74	32900 7400	19400 4360	1.70	160000 35900	JF4049	JF4010
40.000 1.5748	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3879	3820
40.000 1.5748	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3582	3525
40.000 1.5748	88.500 3.4843	24.765 0.9750	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44157X	44348
40.000 1.5748	88.500 3.4843	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	420	414
40.000 1.5748	88.900 3.5000	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	420	414X
40.000 1.5748	90.000 3.5433	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	350	352X
40.000 1.5748	90.000 3.5433	35.250 1.3878	123000 27500	0.55	1.10	31800 7140	29700 6670	1.07	160000 36100	XBA32308-B	Y32308-B
40.000 1.5748	90.119 3.5480	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	350	352
40.000 1.5748	90.119 3.5480	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	357	352
40.000 1.5748	90.119 3.5480	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	350A	352
40.000 1.5748	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	442-S	432
40.000 1.5748	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	543	532X
40.000 1.5748	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	543X	532X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

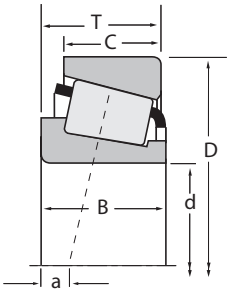
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
19.650 0.7736	15.507 0.6105	-3.6 -0.14	2.3 0.09	45.0 1.77	49.0 1.93	1.3 0.05	71.0 2.80	68.0 2.68	1.10 0.04	1.10 0.04	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	2.40 0.09	1.10 0.04	20.7	12.5	0.0709	0.38 0.83
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	1.10 0.04	1.10 0.04	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	1.50 0.06	1.80 0.07	47.7	13.4	0.0885	1.03 2.26
19.000 0.7480	14.500 0.5709	-3.8 -0.15	3.5 0.14	45.5 1.79	52.0 2.05	1.0 0.04	65.0 2.56	61.0 2.40	0.90 0.04	1.70 0.07	23.8	16.1	0.0732	0.27 0.61
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	71.0 2.80	67.0 2.64	1.80 0.07	1.70 0.07	29.4	14.9	0.0771	0.50 1.09
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	2.40 0.09	1.10 0.04	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	0.70 0.03	1.10 0.04	26.5	13	0.0676	0.48 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	2.40 0.09	1.10 0.04	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	2.40 0.09	1.10 0.04	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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.61 1.36
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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.56 1.23
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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.56 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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.56 1.24
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	1.10 0.04	2.00 0.08	39.5	13.5	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	1.50 0.06	2.10 0.08	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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.83 1.84
23.063 0.9080	17.462 0.6875	3.0 0.12	2.3 0.09	51.0 2.00	56.0 2.20	1.5 0.06	84.0 3.31	75.0 2.95	3.30 0.13	3.00 0.12	22.9	8.71	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	1.20 0.05	0.80 0.03	34.4	9.87	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	78.0 3.07	1.20 0.05	0.80 0.03	34.4	9.87	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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.71 1.57
33.500 1.3189	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	3.50 0.14	2.90 0.11	38.1	14	0.0966	1.10 2.43
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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.72 1.58
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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.72 1.59
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	0.50 0.02	1.70 0.07	30	12.2	0.0732	0.72 1.59
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	1.60 0.06	0.40 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	2.80 0.11	0.90 0.04	64.3	16.1	0.0938	1.75 3.85
36.957 1.4550	28.575 1.1250	-12.2 -0.48	3.0 0.12	50.0 1.97	56.0 2.20	3.3 0.13	100.0 3.94	94.0 3.70	2.80 0.11	0.90 0.04	64.3	16.1	0.0938	1.75 3.85

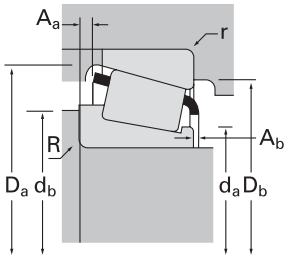
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
40.483 1.5938	82.550 3.2500	29.370 1.1563	95100 21400	0.55	1.10	24600 5540	23000 5180	1.07	130000 29300	HM801349	HM801310
40.987 1.6137	67.975 2.6762	17.500 0.6890	46100 10400	0.35	1.72	12000 2690	7140 1600	1.68	63500 14300	LM300849	LM300811
41.000 1.6142	68.000 2.6772	19.000 0.7480	53100 11900	0.38	1.58	13800 3090	8920 2010	1.54	74900 16800	XKA32008XF	Y32008XZ
41.275 1.6250	67.975 2.6762	17.500 0.6890	46100 10400	0.35	1.72	12000 2690	7140 1600	1.68	63500 14300	LM300848	LM300811
41.275 1.6250	73.025 2.8750	16.667 0.6562	47000 10600	0.35	1.71	12200 2740	7310 1640	1.67	58100 13100	18590	18520
41.275 1.6250	73.431 2.8910	19.558 0.7700	58400 13100	0.40	1.50	15100 3410	10400 2330	1.46	74200 16700	LM501349A	LM501310
41.275 1.6250	73.431 2.8910	19.558 0.7700	58400 13100	0.40	1.50	15100 3410	10400 2330	1.46	74200 16700	LM501349	LM501310
41.275 1.6250	73.431 2.8910	21.430 0.8437	58400 13100	0.40	1.50	15100 3410	10400 2330	1.46	74200 16700	LM501349	LM501314
41.275 1.6250	73.431 2.8910	23.012 0.9060	58400 13100	0.40	1.50	15100 3410	10400 2330	1.46	74200 16700	LM501349	LM501311
41.275 1.6250	76.200 3.0000	18.009 0.7090	44500 10000	0.49	1.23	11500 2600	9630 2170	1.20	55100 12400	11162	11300
41.275 1.6250	76.200 3.0000	18.009 0.7090	44500 10000	0.49	1.23	11500 2600	9630 2170	1.20	55100 12400	11163	11300
41.275 1.6250	76.200 3.0000	22.225 0.8750	69900 15700	0.39	1.53	18100 4080	12200 2740	1.49	89200 20100	24780	24720
41.275 1.6250	76.200 3.0000	22.225 0.8750	69900 15700	0.39	1.53	18100 4080	12200 2740	1.49	89200 20100	24780	24722
41.275 1.6250	76.200 3.0000	22.225 0.8750	69900 15700	0.39	1.53	18100 4080	12200 2740	1.49	89200 20100	24781	24720
41.275 1.6250	76.200 3.0000	25.400 1.0000	69900 15700	0.39	1.53	18100 4080	12200 2740	1.49	89200 20100	24780	24721
41.275 1.6250	76.200 3.0000	25.400 1.0000	69900 15700	0.39	1.53	18100 4080	12200 2740	1.49	89200 20100	24781	24721
41.275 1.6250	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26882	26822
41.275 1.6250	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26885	26822
41.275 1.6250	80.000 3.1496	18.009 0.7090	44500 10000	0.49	1.23	11500 2600	9630 2170	1.20	55100 12400	11162	11315
41.275 1.6250	80.000 3.1496	21.000 0.8268	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	336	332
41.275 1.6250	80.000 3.1496	21.000 0.8268	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	342	332
41.275 1.6250	80.035 3.1510	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3383	3339
41.275 1.6250	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26882	26820
41.275 1.6250	80.167 3.1562	26.988 1.0625	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	336	3320
41.275 1.6250	80.167 3.1562	26.988 1.0625	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	342	3320
41.275 1.6250	80.167 3.1562	29.370 1.1563	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26882	26821
41.275 1.6250	81.755 3.2187	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3383	3329
41.275 1.6250	82.550 3.2500	26.195 1.0313	86000 19300	0.40	1.49	22300 5010	15300 3450	1.45	115000 25800	22778	22721

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

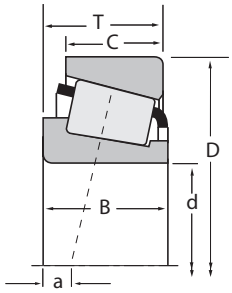
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
28.575 1.1250	**23.020** 0.9063	**-4.8** -0.19	**3.5** 0.14	**49.0** 1.93	**58.0** 2.28	**3.3** 0.13	**78.0** 3.07	**68.0** 2.68	**2.10** 0.08	**1.80** 0.07	**33.7**	**14**	**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	**0.60** 0.02	**1.30** 0.05	**22.5**	**18.1**	**0.0698**	**0.24** 0.53
21.000 0.8268	**14.500** 0.5709	**-3.8** -0.15	**2.0** 0.08	**46.0** 1.81	**50.0** 1.97	**1.0** 0.04	**65.0** 2.56	**61.0** 2.40	* *	* *	**24.5**	**20.5**	**0.0740**	**0.27** 0.59
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	**0.60** 0.02	**1.30** 0.05	**22.5**	**16.6**	**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	**0.50** 0.02	**1.20** 0.05	**21**	**15.4**	**0.0681**	**0.28** 0.61
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	**1.00** 0.04	**0.90** 0.04	**23.3**	**13.3**	**0.0739**	**0.33** 0.73
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	**1.00** 0.04	**1.00** 0.04	**23.3**	**13.3**	**0.0739**	**0.33** 0.74
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	**1.00** 0.04	**1.00** 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	**1.00** 0.04	**1.00** 0.04	**23.3**	**13.3**	**0.0739**	**0.37** 0.81
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	**1.70** 0.06	**1.50** 0.06	**19.2**	**12.8**	**0.0735**	**0.34** 0.75
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**	**12.8**	**0.0735**	**0.34** 0.75
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	**1.20** 0.05	**1.10** 0.04	**26.4**	**12.5**	**0.0767**	**0.42** 0.94
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	**1.20** 0.05	**1.10** 0.04	**26.4**	**12.5**	**0.0767**	**0.42** 0.92
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	**1.20** 0.05	**1.10** 0.04	**26.4**	**12.5**	**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	**1.20** 0.05	**1.10** 0.04	**26.4**	**12.5**	**0.0767**	**0.46** 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	**1.20** 0.05	**1.10** 0.04	**26.4**	**12.5**	**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	**1.40** 0.06	**1.20** 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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.53** 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	**1.70** 0.06	**1.50** 0.06	**19.2**	**12.8**	**0.0735**	**0.39** 0.86
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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**0.0676**	**0.46** 1.02
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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**0.0676**	**0.46** 1.01
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	**74.5** 2.94	**71.0** 2.80	**1.80** 0.07	**1.10** 0.04	**34.6**	**12.1**	**0.0744**	**0.63** 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	**1.40** 0.06	**1.20** 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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**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	**1.40** 0.06	**1.20** 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	**1.80** 0.07	**1.10** 0.04	**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	**1.90** 0.07	**1.10** 0.04	**33.9**	**15.3**	**0.0841**	**0.63** 1.40

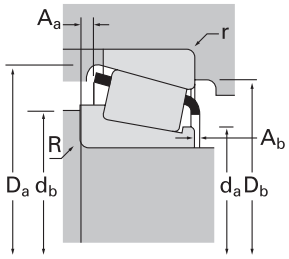
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
41.275 1.6250	82.550 3.2500	26.543 1.0450	84900 19100	0.55	1.10	22000 4950	20600 4620	1.07	112000 25300	M802047	M802011
41.275 1.6250	82.550 3.2500	26.543 1.0450	84900 19100	0.55	1.10	22000 4950	20600 4620	1.07	112000 25300	M802048	M802011
41.275 1.6250	84.138 3.3125	29.370 1.1563	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3383	3328
41.275 1.6250	84.138 3.3125	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3576	3520
41.275 1.6250	84.138 3.3125	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3576	3530
41.275 1.6250	84.138 3.3125	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3577	3530
41.275 1.6250	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3877	3820
41.275 1.6250	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3877	3821
41.275 1.6250	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3880	3820
41.275 1.6250	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3880	3821
41.275 1.6250	85.725 3.3750	30.162 1.1875	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3877A	3820
41.275 1.6250	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3576	3525
41.275 1.6250	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3577	3525
41.275 1.6250	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3585	3525
41.275 1.6250	88.500 3.4843	25.400 1.0000	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44162	44348
41.275 1.6250	88.500 3.4843	26.988 1.0625	107000 24100	0.26	2.28	27800 6240	12500 2820	2.22	124000 28000	419	414
41.275 1.6250	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365A	362A
41.275 1.6250	88.900 3.5000	30.162 1.1875	105000 23700	0.55	1.10	27300 6140	25500 5740	1.07	144000 32400	HM803145	HM803110
41.275 1.6250	88.900 3.5000	30.162 1.1875	105000 23700	0.55	1.10	27300 6140	25500 5740	1.07	144000 32400	HM803146	HM803110
41.275 1.6250	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365A	362
41.275 1.6250	90.488 3.5625	39.688 1.5625	155000 34900	0.28	2.11	40200 9040	19600 4400	2.05	204000 45900	4388	4335
41.275 1.6250	92.075 3.6250	26.195 1.0313	79200 17800	0.83	0.72	20500 4620	29200 6570	0.70	92500 20800	M903345	M903310
41.275 1.6250	92.075 3.6250	30.162 1.1875	105000 23700	0.55	1.10	27300 6140	25500 5740	1.07	144000 32400	HM803145	HM803112
41.275 1.6250	92.075 3.6250	30.162 1.1875	105000 23700	0.55	1.10	27300 6140	25500 5740	1.07	144000 32400	HM803146	HM803112
41.275 1.6250	93.662 3.6875	31.750 1.2500	126000 28200	0.36	1.67	32600 7320	20100 4510	1.62	156000 35000	49162	49368
41.275 1.6250	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	447	432
41.275 1.6250	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804840	HM804810
41.275 1.6250	95.250 3.7500	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53162	53375

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

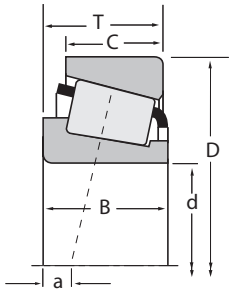
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
25.654 1.0100	20.193 0.7950	-3.0 -0.12	0.8 0.03	50.5 1.99	52.0 2.05	3.3 0.13	79.0 3.11	70.0 2.76	2.30 0.09	1.70 0.07	30.9	11.9	0.0899	0.63 1.39
25.654 1.0100	20.193 0.7950	-3.0 -0.12	3.5 0.14	50.5 1.99	57.0 2.24	3.3 0.13	79.0 3.11	70.0 2.76	2.30 0.09	1.70 0.07	30.9	11.9	0.0899	0.62 1.37
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	1.80 0.07	1.10 0.04	34.6	12.1	0.0744	0.72 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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.74 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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.75 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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.75 1.65
30.162 1.1875	23.812 0.9375	-8.1 -0.32	3.5 0.14	50.5 1.98	57.0 2.24	3.3 0.13	81.0 3.19	73.0 2.87	1.50 0.06	2.10 0.08	37.8	13.5	0.0873	0.79 1.75
30.162 1.1875	23.812 0.9375	-8.1 -0.32	3.5 0.14	50.5 1.98	57.0 2.24	1.3 0.05	81.0 3.19	75.0 2.95	1.50 0.06	2.10 0.08	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	50.5 1.98	52.0 2.05	3.3 0.13	81.0 3.19	73.0 2.87	1.50 0.06	2.10 0.08	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	50.5 1.98	52.0 2.05	1.3 0.05	81.0 3.19	75.0 2.95	1.50 0.06	2.10 0.08	37.8	13.5	0.0873	0.81 1.79
30.162 1.1875	23.812 0.9375	-8.1 -0.32	2.3 0.09	50.5 1.98	55.0 2.17	3.3 0.13	81.0 3.19	73.0 2.87	1.50 0.06	2.10 0.08	37.8	13.5	0.0873	0.80 1.76
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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.82 1.81
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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.82 1.80
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	2.30 0.09	0.70 0.03	39.5	10.5	0.0808	0.82 1.81
23.698 0.9330	17.462 0.6875	2.3 0.09	2.3 0.09	51.0 2.00	57.0 2.24	1.5 0.06	84.0 3.31	75.0 2.95	3.90 0.15	2.60 0.10	22.9	8.71	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	1.20 0.05	0.80 0.03	34.4	9.87	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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.63 1.38
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	1.50 0.06	2.10 0.08	39.2	13.7	0.0974	0.90 1.98
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	1.50 0.06	2.10 0.08	39.2	13.7	0.0974	0.89 1.96
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	0.50 0.02	1.00 0.04	33.8	14	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	2.30 0.09	0.60 0.02	52.9	16.7	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	60.0 2.36	1.5 0.06	88.0 3.46	78.0 3.07	4.80 0.19	3.40 0.13	25.6	13.1	0.0948	0.77 1.69
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	1.50 0.06	2.10 0.08	39.2	13.7	0.0974	0.98 2.15
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	1.50 0.06	2.10 0.08	39.2	13.7	0.0974	0.97 2.14
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	3.00 0.12	0.80 0.03	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	1.60 0.06	0.40 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	2.30 0.09	2.80 0.11	44.8	13.8	0.1017	1.06 2.35
28.301 1.1142	20.638 0.8125	-0.3 -0.01	1.5 0.06	52.5 2.07	57.0 2.24	0.8 0.03	89.0 3.50	81.0 3.19	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	0.98 2.15

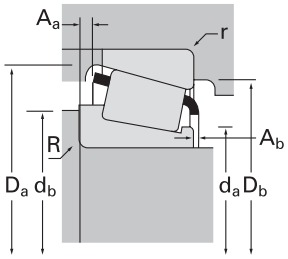
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
41.275 1.6250	95.250 3.7500	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903244	HM903210
41.275 1.6250	95.250 3.7500	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903245	HM903210
41.275 1.6250	95.250 3.7500	31.753 1.2501	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	447	432X
41.275 1.6250	98.425 3.8750	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53162	53387
41.275 1.6250	98.425 3.8750	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903244	HM903216
41.275 1.6250	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	526	522
41.275 1.6250	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807035	HM807010
41.275 1.6250	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	464	453A
41.275 1.6250	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	464A	453A
41.275 1.6250	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	541	532X
42.000 1.6535	80.000 3.1496	18.009 0.7090	44500 10000	0.49	1.23	11500 2600	9630 2170	1.20	55100 12400	11165X	11315
42.850 1.6870	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	461	453X
42.850 1.6870	107.950 4.2500	27.795 1.0943	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	461	453
42.850 1.6870	110.000 4.3307	27.795 1.0943	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	461	454
42.862 1.6875	76.992 3.0312	17.462 0.6875	45900 10300	0.51	1.19	11900 2670	10300 2320	1.15	58100 13100	12168	12303
42.862 1.6875	82.550 3.2500	19.842 0.7812	60500 13600	0.43	1.39	15700 3530	11500 2600	1.36	73200 16500	22168	22325
42.862 1.6875	82.550 3.2500	26.195 1.0313	86000 19300	0.40	1.49	22300 5010	15300 3450	1.45	115000 25800	22780	22720
42.862 1.6875	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25578	25520
42.862 1.6875	82.931 3.2650	26.988 1.0625	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25578	25523
42.862 1.6875	83.058 3.2700	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25576	25521
42.862 1.6875	83.058 3.2700	23.876 0.9400	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25578	25522
42.862 1.6875	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3579	3525
42.862 1.6875	114.300 4.5000	44.450 1.7500	207000 46500	0.43	1.39	53700 12100	39500 8880	1.36	256000 57500	65383	65320
42.875 1.6880	76.200 3.0000	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26884	26823
42.875 1.6880	79.375 3.1250	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26884	26822
42.875 1.6880	80.000 3.1496	21.000 0.8268	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	342-S	332
42.875 1.6880	80.000 3.1496	23.812 0.9375	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26884	26824
42.875 1.6880	80.000 3.1496	24.176 0.9518	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	342-S	332A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

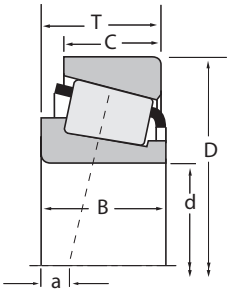
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
28.300 1.1142	**22.225** 0.8750	**0.5** 0.02	**1.5** 0.06	**54.0** 2.13	**59.0** 2.32	**0.8** 0.03	**91.0** 3.58	**81.0** 3.19	**3.90** 0.16	**2.30** 0.09	**33.7**	**9.91**	**0.1010**	**1.04** 2.30
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	**3.90** 0.16	**2.00** 0.08	**33.7**	**9.91**	**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	**1.60** 0.06	**0.40** 0.02	**42.5**	**11.3**	**0.0805**	**1.07** 2.35
28.301 1.1142	**20.638** 0.8125	**-0.3** -0.01	**1.5** 0.06	**52.5** 2.07	**57.0** 2.24	**0.8** 0.03	**91.0** 3.58	**82.0** 3.23	**5.70** 0.22	**2.20** 0.08	**26.7**	**9.63**	**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	**3.90** 0.16	**2.30** 0.09	**33.7**	**9.91**	**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	**2.70** 0.11	**1.80** 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	**3.40** 0.14	**1.90** 0.08	**63.9**	**17.1**	**0.0760**	**1.66** 3.66
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.39** 3.06
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.39** 3.06
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	**2.80** 0.11	**0.90** 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**	**12.8**	**0.0735**	**0.38** 0.84
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.31** 2.89
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.42** 3.13
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.49** 3.29
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	**1.40** 0.06	**2.20** 0.09	**21**	**15.8**	**0.0766**	**0.32** 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	**1.20** 0.05	**1.70** 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	**1.90** 0.07	**1.10** 0.04	**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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.58** 1.28
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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.79** 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	**3.70** 0.14	**1.00** 0.04	**63.1**	**13**	**0.1053**	**2.35** 5.17
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	**1.40** 0.06	**1.20** 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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.50** 1.11
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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**0.0676**	**0.44** 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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.51** 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	**0.70** 0.03	**1.10** 0.04	**26.5**	**13**	**0.0676**	**0.47** 1.04

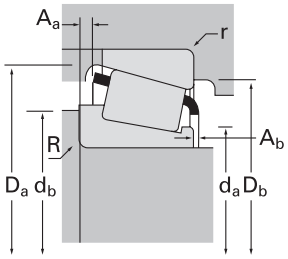
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
42.875 1.6880	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26886	26820
42.875 1.6880	80.167 3.1562	25.400 1.0000	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26886	26830
42.875 1.6880	81.973 3.2273	23.876 0.9400	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25577	25518
42.875 1.6880	82.550 3.2500	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25577	25519
42.875 1.6880	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25577	25520
42.875 1.6880	82.931 3.2650	26.988 1.0625	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25577	25523
42.875 1.6880	83.058 3.2700	23.876 0.9400	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25577	25522
42.987 1.6924	74.988 2.9523	19.368 0.7625	55100 12400	0.44	1.35	14300 3210	10900 2440	1.31	73500 16500	16986	16929
42.987 1.6924	79.375 3.1250	20.638 0.8125	63800 14300	0.37	1.64	16500 3720	10400 2330	1.60	83300 18700	17886	17830
42.987 1.6924	79.985 3.1490	19.842 0.7812	63800 14300	0.37	1.64	16500 3720	10400 2330	1.60	83300 18700	17886	17831
44.450 1.7500	71.438 2.8125	12.700 0.5000	33400 7510	0.31	1.97	8660 1950	4530 1020	1.91	43600 9790	LL103049	LL103010
44.450 1.7500	73.025 2.8750	18.258 0.7188	52800 11900	0.32	1.88	13700 3080	7460 1680	1.83	78300 17600	L102849	L102810
44.450 1.7500	76.992 3.0312	17.462 0.6875	45900 10300	0.51	1.19	11900 2670	10300 2320	1.15	58100 13100	12175	12303
44.450 1.7500	79.375 3.1250	17.462 0.6875	48200 10800	0.37	1.60	12500 2810	7990 1800	1.56	61300 13800	18685	18620
44.450 1.7500	80.962 3.1875	19.050 0.7500	47000 10600	0.53	1.14	12200 2740	11000 2480	1.11	61100 13700	13175	13318
44.450 1.7500	82.550 3.2500	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25519
44.450 1.7500	82.550 3.2500	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25582	25519
44.450 1.7500	82.550 3.2500	34.290 1.3500	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25583	25519
44.450 1.7500	82.931 3.2650	22.225 0.8750	76600 17200	0.30	2.02	19900 4470	10100 2270	1.96	89200 20100	35175	35326
44.450 1.7500	82.931 3.2650	22.225 0.8750	76600 17200	0.30	2.02	19900 4470	10100 2270	1.96	89200 20100	35176	35326
44.450 1.7500	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25520
44.450 1.7500	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25524
44.450 1.7500	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25581	25520
44.450 1.7500	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25582	25520
44.450 1.7500	82.931 3.2650	26.988 1.0625	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25523
44.450 1.7500	82.931 3.2650	34.290 1.3500	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25583	25520
44.450 1.7500	82.931 3.2650	34.290 1.3500	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25583	25524
44.450 1.7500	83.058 3.2700	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25521

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

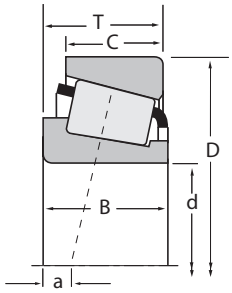
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
25.400 1.0000	**20.638** 0.8125	**-7.4** -0.29	**1.5** 0.06	**48.5** 1.91	**51.0** 2.01	**3.3** 0.13	**74.0** 2.91	**69.0** 2.72	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.54** 1.18
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	**1.40** 0.06	**1.20** 0.05	**32.8**	**13.3**	**0.0770**	**0.54** 1.20
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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.58** 1.27
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	**1.10** 0.04	**1.30** 0.05	**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	**1.10** 0.04	**1.30** 0.05	**28.9**	**17.9**	**0.0770**	**0.43** 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	**0.10** 0.00	**1.50** 0.06	**20**	**23.6**	**0.0637**	**0.18** 0.40
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	**0.00** 0.00	**1.70** 0.07	**30.6**	**23.7**	**0.0751**	**0.30** 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	**1.40** 0.06	**2.20** 0.09	**21**	**15.8**	**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	**0.70** 0.03	**1.50** 0.06	**23.9**	**17.7**	**0.0725**	**0.35** 0.76
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	**1.60** 0.06	**1.90** 0.08	**23**	**15.4**	**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	**1.00** 0.04	**0.70** 0.03	**35.2**	**14.3**	**0.0801**	**0.54** 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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.54** 1.18
35.878 1.4125	**19.050** 0.7500	**-16.8** -0.66	**3.8** 0.15	**50.0** 1.97	**65.0** 2.56	**2.0** 0.08	**77.0** 3.03	**73.0** 2.87	**11.50** 0.45	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.66** 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	**1.20** 0.05	**1.10** 0.04	**29.1**	**12**	**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	**1.20** 0.05	**1.10** 0.04	**29.1**	**12**	**0.0718**	**0.49** 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	**1.00** 0.04	**0.70** 0.03	**35.2**	**14.3**	**0.0801**	**0.55** 1.22
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	**1.00** 0.04	**0.70** 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	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.56** 1.24
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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.70** 0.03	**35.2**	**14.3**	**0.0801**	**0.60** 1.32
35.878 1.4125	**19.050** 0.7500	**-16.8** -0.66	**3.8** 0.15	**50.0** 1.97	**65.0** 2.56	**0.8** 0.03	**77.0** 3.03	**74.0** 2.91	**11.50** 0.45	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.67** 1.49
35.878 1.4125	**19.050** 0.7500	**-16.8** -0.66	**3.8** 0.15	**50.0** 1.97	**65.0** 2.56	**2.3** 0.09	**77.0** 3.03	**73.0** 2.87	**11.50** 0.45	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.67** 1.48
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	**1.00** 0.04	**0.70** 0.03	**35.2**	**14.3**	**0.0801**	**0.55** 1.21

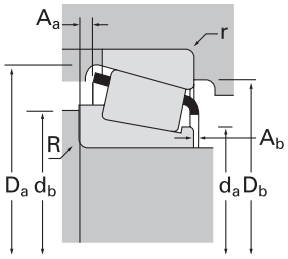
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
44.450 1.7500	83.058 3.2700	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25581	25521
44.450 1.7500	83.058 3.2700	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25582	25521
44.450 1.7500	83.058 3.2700	23.876 0.9400	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25522
44.450 1.7500	84.138 3.3125	26.988 1.0625	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	355	3520
44.450 1.7500	84.138 3.3125	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3578	3520
44.450 1.7500	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	355	354A
44.450 1.7500	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	355A	354A
44.450 1.7500	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	355X	354A
44.450 1.7500	85.000 3.3465	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25526
44.450 1.7500	85.000 3.3465	25.400 1.0000	86400 19400	0.35	1.73	22400 5040	13300 2980	1.69	117000 26200	2975	2924
44.450 1.7500	87.312 3.4375	26.988 1.0625	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	355	3525
44.450 1.7500	87.312 3.4375	26.988 1.0625	86400 19400	0.35	1.73	22400 5040	13300 2980	1.69	117000 26200	2975	2925
44.450 1.7500	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3578	3525
44.450 1.7500	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3578	3526
44.450 1.7500	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3578A	3525
44.450 1.7500	88.900 3.5000	30.162 1.1875	105000 23700	0.55	1.10	27300 6140	25500 5740	1.07	144000 32400	HM803149	HM803110
44.450 1.7500	88.900 3.5000	30.162 1.1875	105000 23700	0.55	1.10	27300 6140	25500 5740	1.07	144000 32400	HM803149	HM803111
44.450 1.7500	90.119 3.5480	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	355X	352
44.450 1.7500	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3782	3720
44.450 1.7500	93.662 3.6875	31.750 1.2500	120000 26900	0.40	1.49	31000 6980	21400 4800	1.45	158000 35500	46175	46368
44.450 1.7500	93.662 3.6875	31.750 1.2500	120000 26900	0.40	1.49	31000 6980	21400 4800	1.45	158000 35500	46176	46368
44.450 1.7500	93.662 3.6875	31.750 1.2500	126000 28200	0.36	1.67	32600 7320	20100 4510	1.62	156000 35000	49175	49368
44.450 1.7500	93.662 3.6875	31.750 1.2500	126000 28200	0.36	1.67	32600 7320	20100 4510	1.62	156000 35000	49176	49368
44.450 1.7500	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	435	432
44.450 1.7500	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	438	432
44.450 1.7500	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33885	33821
44.450 1.7500	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33885	33822
44.450 1.7500	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	438	432A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

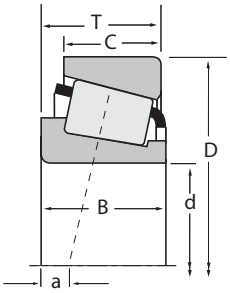
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
25.400 1.0000	**19.050** 0.7500	**-6.4** -0.25	**0.5** 0.02	**50.0** 1.97	**51.0** 2.01	**3.3** 0.13	**77.0** 3.03	**72.0** 2.83	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.70** 0.03	**35.2**	**14.3**	**0.0801**	**0.55** 1.22
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.57** 1.26
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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.68** 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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.51** 1.13
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.52** 1.14
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.51** 1.12
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	**1.00** 0.04	**0.70** 0.03	**35.2**	**14.3**	**0.0801**	**0.59** 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	**1.80** 0.07	**1.10** 0.04	**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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.65** 1.43
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	**1.80** 0.07	**1.10** 0.04	**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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.76** 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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.77** 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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.75** 1.66
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**3.5** 0.14	**53.5** 2.10	**62.0** 2.44	**3.3** 0.13	**85.0** 3.35	**74.0** 2.91	**1.50** 0.06	**2.10** 0.08	**39.2**	**13.7**	**0.0974**	**0.84** 1.85
29.370 1.1563	**23.020** 0.9063	**-4.3** -0.17	**3.5** 0.14	**53.5** 2.10	**62.0** 2.44	**0.8** 0.03	**85.0** 3.35	**76.0** 2.99	**1.50** 0.06	**2.10** 0.08	**39.2**	**13.7**	**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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.67** 1.47
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	**88.0** 3.46	**82.0** 3.23	**1.80** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.96** 2.11
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	**2.20** 0.08	**1.10** 0.04	**44.4**	**13.4**	**0.0920**	**1.02** 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	**2.20** 0.08	**1.10** 0.04	**44.4**	**13.4**	**0.0920**	**1.02** 2.24
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	**3.00** 0.12	**0.80** 0.03	**42.4**	**13.6**	**0.0872**	**0.97** 2.15
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	**3.00** 0.12	**0.80** 0.03	**42.4**	**13.6**	**0.0872**	**0.98** 2.16
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	**1.60** 0.06	**0.40** 0.02	**42.5**	**11.3**	**0.0805**	**0.94** 2.07
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	**1.60** 0.06	**0.40** 0.02	**42.5**	**11.3**	**0.0805**	**0.93** 2.06
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	**1.30** 0.05	**2.20** 0.09	**52.5**	**18.5**	**0.0910**	**0.96** 2.12
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	**1.30** 0.05	**2.20** 0.09	**52.5**	**18.5**	**0.0910**	**0.97** 2.13
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	**1.60** 0.06	**0.40** 0.02	**42.5**	**11.3**	**0.0805**	**0.94** 2.07

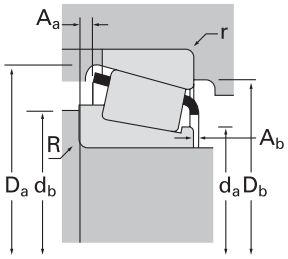
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
44.450 1.7500	95.250 3.7500	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3782	3726
44.450 1.7500	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804842	HM804810
44.450 1.7500	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804842	HM804811
44.450 1.7500	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804843	HM804810
44.450 1.7500	95.250 3.7500	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53176	53375
44.450 1.7500	95.250 3.7500	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53176	53377
44.450 1.7500	95.250 3.7500	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53177	53375
44.450 1.7500	95.250 3.7500	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53178	53375
44.450 1.7500	95.250 3.7500	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903247	HM903210
44.450 1.7500	95.250 3.7500	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903249A	HM903210
44.450 1.7500	95.250 3.7500	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903249	HM903210
44.450 1.7500	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	386AS	382A
44.450 1.7500	98.425 3.8750	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3782	3732
44.450 1.7500	98.425 3.8750	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53176	53387
44.450 1.7500	98.425 3.8750	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53177	53387
44.450 1.7500	98.425 3.8750	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53176	53387X
44.450 1.7500	98.425 3.8750	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53177	53387X
44.450 1.7500	98.425 3.8750	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903247	HM903216
44.450 1.7500	98.425 3.8750	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903249A	HM903216
44.450 1.7500	98.425 3.8750	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903249	HM903216
44.450 1.7500	101.600 4.0000	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53176	53398
44.450 1.7500	101.600 4.0000	30.958 1.2188	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53177	53398
44.450 1.7500	101.600 4.0000	31.750 1.2500	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49576	49520
44.450 1.7500	101.600 4.0000	31.750 1.2500	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49577	49520
44.450 1.7500	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	527	522
44.450 1.7500	103.188 4.0625	43.658 1.7188	197000 44200	0.30	2.02	51000 11500	25900 5820	1.97	267000 60100	5356	5335
44.450 1.7500	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45280	45220
44.450 1.7500	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	460	453X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	89.0 3.50	83.0 3.27	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	1.01 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	2.30 0.09	2.80 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	2.30 0.09	2.80 0.11	44.8	13.8	0.1017	1.03 2.28
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	2.30 0.09	2.80 0.11	44.8	13.8	0.1017	1.01 2.24
28.301 1.1142	20.638 0.8125	-0.3 -0.01	1.3 0.05	52.5 2.07	59.0 2.32	0.8 0.03	89.0 3.50	81.0 3.19	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	0.93 2.05
28.301 1.1142	20.638 0.8125	-0.3 -0.01	1.3 0.05	52.5 2.07	59.0 2.32	2.3 0.09	89.0 3.50	80.0 3.15	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	0.93 2.04
28.301 1.1142	20.638 0.8125	-0.3 -0.01	3.5 0.14	52.5 2.07	63.0 2.48	0.8 0.03	89.0 3.50	81.0 3.19	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	0.92 2.04
28.301 1.1142	20.638 0.8125	-0.3 -0.01	2.0 0.08	52.5 2.07	60.0 2.36	0.8 0.03	89.0 3.50	81.0 3.19	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	0.93 2.05
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	3.90 0.16	2.30 0.09	33.7	9.91	0.1010	1.00 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	3.90 0.16	2.30 0.09	33.7	9.91	0.1010	0.99 2.19
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	3.90 0.16	2.00 0.08	33.7	9.91	0.1010	1.00 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	1.10 0.04	2.00 0.08	42	15.7	0.0859	0.76 1.67
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	90.0 3.54	84.0 3.31	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	1.10 2.42
28.301 1.1142	20.638 0.8125	-0.3 -0.01	1.3 0.05	52.5 2.07	59.0 2.32	0.8 0.03	91.0 3.58	82.0 3.23	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	1.01 2.22
28.301 1.1142	20.638 0.8125	-0.3 -0.01	3.5 0.14	52.5 2.07	63.0 2.48	0.8 0.03	91.0 3.58	82.0 3.23	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	1.00 2.21
28.301 1.1142	20.638 0.8125	-0.3 -0.01	1.3 0.05	52.5 2.07	59.0 2.32	1.5 0.06	91.0 3.58	82.0 3.23	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	1.01 2.22
28.301 1.1142	20.638 0.8125	-0.3 -0.01	3.5 0.14	52.5 2.07	63.0 2.48	1.5 0.06	91.0 3.58	82.0 3.23	5.70 0.22	2.20 0.08	26.7	9.63	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	3.90 0.16	2.30 0.09	33.7	9.91	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	3.90 0.16	2.30 0.09	33.7	9.91	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	3.90 0.16	2.00 0.08	33.7	9.91	0.1010	1.08 2.38
28.301 1.1142	20.638 0.8125	-0.3 -0.01	1.3 0.05	52.5 2.07	59.0 2.32	0.8 0.03	92.0 3.62	84.0 3.31	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	1.09 2.40
28.301 1.1142	20.638 0.8125	-0.3 -0.01	3.5 0.14	52.5 2.07	63.0 2.48	0.8 0.03	92.0 3.62	84.0 3.31	5.70 0.22	2.20 0.08	26.7	9.63	0.0930	1.08 2.39
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	2.30 0.09	1.30 0.05	49.1	14.2	0.0946	1.24 2.74
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	2.30 0.09	1.30 0.05	49.1	16.8	0.0946	1.24 2.73
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	2.70 0.11	1.80 0.07	57.9	13.4	0.0894	1.36 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	2.60 0.10	0.90 0.04	73.4	15.5	0.0985	1.85 4.07
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	2.10 0.08	1.80 0.07	63.5	16.9	0.0971	1.33 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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.28 2.82

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

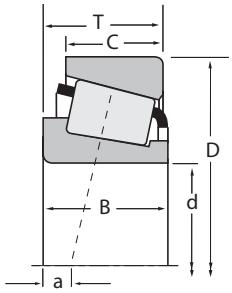
(7) Compound radius on inner race. Details on drawing for bearing.

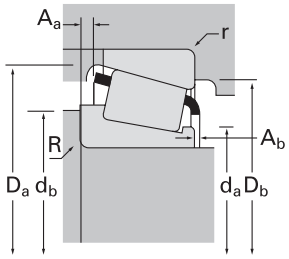
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
44.450 1.7500	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59175	59412
44.450 1.7500	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59175	59413
44.450 1.7500	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59176	59412
44.450 1.7500	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59176	59413
44.450 1.7500	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807040	HM807010
44.450 1.7500	105.000 4.1339	36.873 1.4517	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807040	JHM807012
44.450 1.7500	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	460	453A
44.450 1.7500	107.950 4.2500	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59176	59425
44.450 1.7500	111.125 4.3750	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55175	55437
44.450 1.7500	111.125 4.3750	30.162 1.1875	118000 26500	0.88	0.68	30600 6880	46300 10400	0.66	161000 36200	55175C	55437
44.450 1.7500	111.125 4.3750	30.162 1.1875	118000 26500	0.88	0.68	30600 6880	46300 10400	0.66	161000 36200	55176C	55437
44.450 1.7500	111.125 4.3750	30.162 1.1875	114000 25600	0.88	0.68	29500 6640	44700 10000	0.66	153000 34400	HM907635	HM907614
44.450 1.7500	111.125 4.3750	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	535	532A
44.450 1.7500	112.712 4.4375	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55175	55443
44.450 1.7500	112.712 4.4375	30.162 1.1875	118000 26500	0.88	0.68	30600 6880	46300 10400	0.66	161000 36200	55176C	55443
44.450 1.7500	112.712 4.4375	30.162 1.1875	114000 25600	0.88	0.68	29500 6640	44700 10000	0.66	153000 34400	HM907635	HM907616
44.450 1.7500	114.300 4.5000	44.450 1.7500	207000 46500	0.43	1.39	53700 12100	39500 8880	1.36	256000 57500	65384	65320
44.450 1.7500	114.300 4.5000	44.450 1.7500	207000 46500	0.43	1.39	53700 12100	39500 8880	1.36	256000 57500	65385	65320
44.450 1.7500	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	615	612
44.450 1.7500	127.000 5.0000	50.800 2.0000	283000 63700	0.30	2.01	73500 16500	37500 8440	1.96	370000 83300	6277	6220
44.983 1.7710	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25584	25520
44.983 1.7710	82.931 3.2650	26.988 1.0625	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25584	25523
44.983 1.7710	83.058 3.2700	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25584	25521
44.983 1.7710	84.988 3.3460	19.000 0.7480	57800 13000	0.44	1.35	15000 3370	11400 2560	1.31	69200 15600	29177	29334
44.983 1.7710	85.000 3.3465	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25584	25526
44.983 1.7710	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3776	3720
44.987 1.7712	81.973 3.2273	23.876 0.9400	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25584A	25518
44.987 1.7712	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25584A	25520

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**3.40** 0.14	**1.30** 0.05	**57.3**	**14.7**	**0.0999**	**1.54** 3.39
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	**3.40** 0.14	**1.30** 0.05	**57.3**	**14.7**	**0.0999**	**1.55** 3.42
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	**3.40** 0.14	**1.30** 0.05	**57.3**	**14.7**	**0.0999**	**1.55** 3.41
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	**3.40** 0.14	**1.30** 0.05	**57.3**	**14.7**	**0.0999**	**1.56** 3.44
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	**3.40** 0.14	**1.90** 0.08	**63.9**	**17.1**	**0.0760**	**1.59** 3.52
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	**3.40** 0.14	**1.90** 0.08	**63.9**	**17.1**	**0.0760**	**1.61** 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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.33** 2.94
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	**3.40** 0.14	**1.30** 0.05	**57.3**	**14.7**	**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	**4.80** 0.19	**3.20** 0.13	**36.8**	**13.2**	**0.1085**	**1.36** 2.99
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	**5.00** 0.20	**3.60** 0.14	**48.7**	**15.4**	**0.1198**	**1.44** 3.18
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	**5.00** 0.20	**3.60** 0.14	**48.7**	**15.4**	**0.1198**	**1.44** 3.18
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**0.8** 0.03	**65.0** 2.56	**64.0** 2.52	**3.3** 0.13	**105.0** 4.13	**91.0** 3.58	**4.60** 0.18	**2.00** 0.08	**46.9**	**13.7**	**0.1183**	**1.46** 3.21
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	**2.80** 0.11	**0.90** 0.04	**64.3**	**16.1**	**0.0938**	**1.83** 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	**4.80** 0.19	**3.20** 0.13	**36.8**	**13.2**	**0.1085**	**1.40** 3.09
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	**5.00** 0.20	**3.60** 0.14	**48.7**	**15.4**	**0.1198**	**1.49** 3.28
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**0.8** 0.03	**65.0** 2.56	**64.0** 2.52	**3.3** 0.13	**106.0** 4.17	**91.0** 3.58	**4.60** 0.18	**2.00** 0.08	**46.9**	**13.7**	**0.1183**	**1.52** 3.35
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	**3.70** 0.14	**1.00** 0.04	**63.1**	**13**	**0.1053**	**2.31** 5.09
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	**3.70** 0.14	**1.00** 0.04	**63.1**	**13**	**0.1053**	**2.30** 5.08
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	**3.90** 0.15	**1.90** 0.07	**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	**2.40** 0.09	**2.60** 0.10	**103**	**18.7**	**0.0757**	**3.55** 7.82
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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.55** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.59** 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	**88.0** 3.46	**82.0** 3.23	**1.80** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.95** 2.09
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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.55** 1.21

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

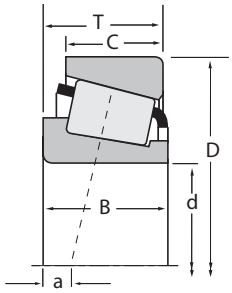
[7] Compound radius on inner race. Details on drawing for bearing.

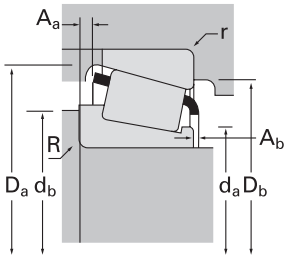
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
44.987 1.7712	90.000 3.5433	25.000 0.9843	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	367X	362X
44.987 1.7712	95.250 3.7500	30.958 1.2188	107000 24000	0.74	0.81	27600 6210	35000 7870	0.79	132000 29700	HM903248	HM903210
45.000 1.7717	75.000 2.9528	20.000 0.7874	61500 13800	0.39	1.53	15900 3580	10700 2410	1.49	84300 19000	XAA32009X	Y32009X
45.000 1.7717	75.000 2.9528	20.000 0.7874	61500 13800	0.39	1.53	15900 3580	10700 2410	1.49	84300 19000	XAB-32009X	Y32009X
45.000 1.7717	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	358	354A
45.000 1.7717	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	358	354X
45.000 1.7717	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	358A	354A
45.000 1.7717	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	358X	354X
45.000 1.7717	87.312 3.4375	26.988 1.0625	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	358	3525
45.000 1.7717	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	367	362A
45.000 1.7717	89.980 3.5425	24.750 0.9744	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	J28577	28520
45.000 1.7717	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	367	362
45.000 1.7717	90.000 3.5433	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	435-S	430X
45.000 1.7717	90.119 3.5480	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	358	352
45.000 1.7717	93.264 3.6718	20.638 0.8125	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	376	374
45.000 1.7717	95.000 3.7402	29.000 1.1417	92500 20800	0.87	0.69	24000 5390	35500 7990	0.67	114000 25600	JW4549	JW4510
45.000 1.7717	96.838 3.8125	22.225 0.8750	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	376	372A
45.000 1.7717	96.838 3.8125	22.225 0.8750	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	376X	372A
45.000 1.7717	100.000 3.9370	25.000 0.9842	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	376	372
45.000 1.7717	104.775 4.1250	39.688 1.5625	167000 37500	0.34	1.79	43300 9730	24900 5590	1.74	237000 53200	4559	4535
45.000 1.7717	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	458-S	453A
45.230 1.7807	79.985 3.1490	19.842 0.7812	63800 14300	0.37	1.64	16500 3720	10400 2330	1.60	83300 18700	17887	17831
45.237 1.7810	84.138 3.3125	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3586	3520
45.237 1.7810	87.312 3.4375	30.162 1.1875	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3586	3525
45.242 1.7812	73.431 2.8910	19.558 0.7700	56900 12800	0.31	1.97	14800 3320	7710 1730	1.91	81800 18400	LM102949	LM102910
45.242 1.7812	73.431 2.8910	21.430 0.8437	56900 12800	0.31	1.97	14800 3320	7710 1730	1.91	81800 18400	LM102949	LM102911
45.242 1.7812	77.788 3.0625	19.842 0.7812	59600 13400	0.43	1.41	15500 3470	11300 2540	1.37	77900 17500	LM603049AS	LM603011
45.242 1.7812	77.788 3.0625	19.842 0.7812	59600 13400	0.43	1.41	15500 3470	11300 2540	1.37	77900 17500	LM603049	LM603011

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

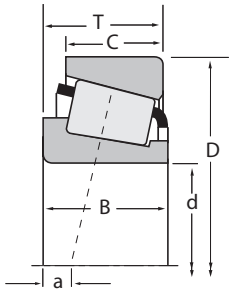
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
22.225 0.8750	**20.000** 0.7874	**-4.3** -0.17	**1.5** 0.06	**51.0** 2.01	**54.0** 2.13	**2.0** 0.08	**84.0** 3.31	**80.0** 3.15	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**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**	**9.91**	**0.1010**	**0.99** 2.18
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	**0.60** 0.02	**2.10** 0.08	**28.7**	**16.2**	**0.0788**	**0.34** 0.76
20.000 0.7874	**15.500** 0.6102	**-3.3** -0.13	**0.0** 0.00	**51.0** 2.01	**58.0** 2.28	**1.0** 0.04	**72.0** 2.83	**68.0** 2.68	**0.60** 0.02	**2.10** 0.08	**28.7**	**16.2**	**0.0788**	**0.34** 0.75
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.51** 1.12
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	**0.50** 0.02	**1.70** 0.07	**30**	**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	**57.0** 2.24	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.50** 1.11
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.51** 1.12
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.64** 1.42
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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**0.0773**	**0.58** 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	**1.40** 0.06	**1.00** 0.04	**46.4**	**22.6**	**0.0912**	**0.75** 1.65
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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**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	**1.60** 0.06	**0.40** 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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.67** 1.47
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	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.67** 1.48
26.500 1.0433	**20.000** 0.7874	**4.1** 0.16	**2.5** 0.10	**54.0** 2.13	**64.0** 2.52	**2.5** 0.10	**90.5** 3.56	**78.0** 3.07	**4.60** 0.18	**3.00** 0.12	**30.7**	**12.9**	**0.1021**	**0.91** 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	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.79** 1.75
22.225 0.8750	**19.050** 0.7500	**-3.8** -0.15	**2.0** 0.08	**52.0** 2.05	**56.0** 2.20	**1.5** 0.06	**90.0** 3.54	**86.0** 3.39	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.79** 1.74
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	**0.80** 0.03	**1.40** 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	**1.70** 0.07	**1.30** 0.05	**73.6**	**18.5**	**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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.33** 2.93
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	**1.10** 0.04	**1.30** 0.05	**28.9**	**17.9**	**0.0770**	**0.40** 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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.67** 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	**2.30** 0.09	**0.70** 0.03	**39.5**	**10.5**	**0.0808**	**0.75** 1.65
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	**0.70** 0.03	**1.10** 0.04	**31.1**	**18**	**0.0744**	**0.32** 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	**0.70** 0.03	**1.10** 0.04	**31.1**	**18**	**0.0744**	**0.33** 0.74
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	**1.30** 0.05	**1.50** 0.06	**26.4**	**14.4**	**0.0785**	**0.37** 0.81
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	**1.30** 0.05	**1.40** 0.06	**26.4**	**14.4**	**0.0785**	**0.37** 0.81

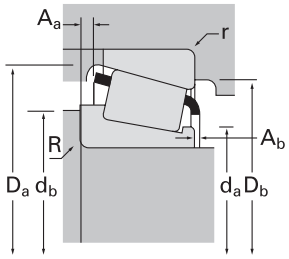
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
45.242 1.7812	77.788 3.0625	21.430 0.8437	59600 13400	0.43	1.41	15500 3470	11300 2540	1.37	77900 17500	LM603049	LM603012
45.242 1.7812	79.974 3.1486	19.842 0.7812	59600 13400	0.43	1.41	15500 3470	11300 2540	1.37	77900 17500	LM603049	LM603014
45.242 1.7812	79.974 3.1486	21.430 0.8437	59600 13400	0.43	1.41	15500 3470	11300 2540	1.37	77900 17500	LM603049	LM603015
45.618 1.7960	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25590	25520
45.618 1.7960	82.931 3.2650	26.988 1.0625	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25590	25523
45.618 1.7960	83.058 3.2700	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25590	25521
45.618 1.7960	83.058 3.2700	23.876 0.9400	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25590	25522
45.618 1.7960	85.000 3.3465	26.988 1.0625	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25590	25527
45.618 1.7960	92.075 3.6250	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25590	25528
45.987 1.8105	74.976 2.9518	18.000 0.7087	52600 11800	0.40	1.49	13600 3070	9390 2110	1.45	75400 17000	LM503349A	LM503310
45.987 1.8105	74.976 2.9518	18.000 0.7087	52600 11800	0.40	1.49	13600 3070	9390 2110	1.45	75400 17000	LM503349	LM503310
45.987 1.8105	90.975 3.5817	32.000 1.2598	133000 29900	0.33	1.80	34500 7760	19700 4420	1.76	172000 38600	HM204049	HM204010
46.038 1.8125	77.788 3.0625	12.700 0.5000	34600 7770	0.34	1.78	8960 2010	5160 1160	1.74	47200 10600	LL205442	LL205410
46.038 1.8125	79.375 3.1250	17.462 0.6875	48200 10800	0.37	1.60	12500 2810	7990 1800	1.56	61300 13800	18690	18620
46.038 1.8125	80.962 3.1875	19.050 0.7500	47000 10600	0.53	1.14	12200 2740	11000 2480	1.11	61100 13700	13181	13318
46.038 1.8125	82.931 3.2650	23.812 0.9375	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25592	25520
46.038 1.8125	84.138 3.3125	26.995 1.0628	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	359-S	3520
46.038 1.8125	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	359A	354A
46.038 1.8125	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	359-S	354A
46.038 1.8125	85.000 3.3465	20.638 0.8125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	359-S	354X
46.038 1.8125	85.000 3.3465	25.400 1.0000	86400 19400	0.35	1.73	22400 5040	13300 2980	1.69	117000 26200	2984	2924
46.038 1.8125	85.000 3.3465	25.400 1.0000	86400 19400	0.35	1.73	22400 5040	13300 2980	1.69	117000 26200	2984A	2924
46.038 1.8125	87.312 3.4375	26.988 1.0625	86400 19400	0.35	1.73	22400 5040	13300 2980	1.69	117000 26200	2984	2925
46.038 1.8125	87.312 3.4375	26.988 1.0625	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	359-S	3525
46.038 1.8125	88.875 3.4990	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	359-S	352A
46.038 1.8125	90.119 3.5480	23.000 0.9055	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	359-S	352
46.038 1.8125	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3777	3720
46.038 1.8125	95.250 3.7500	27.783 1.0938	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	436	432

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**1.30** 0.05	**1.40** 0.06	**26.4**	**14.4**	**0.0785**	**0.38** 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	**1.30** 0.05	**1.40** 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	**1.30** 0.05	**1.40** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 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	**1.00** 0.04	**0.60** 0.03	**35.2**	**14.3**	**0.0801**	**0.73** 1.60
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	**0.90** 0.04	**1.50** 0.06	**28.3**	**18.2**	**0.0789**	**0.30** 0.65
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	**0.90** 0.04	**1.50** 0.06	**28.3**	**18.2**	**0.0789**	**0.30** 0.67
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	**1.50** 0.06	**1.80** 0.07	**47.7**	**13.4**	**0.0885**	**0.92** 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	**0.20** 0.01	**1.70** 0.07	**24.2**	**29.1**	**0.0699**	**0.24** 0.52
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	**0.70** 0.03	**1.60** 0.06	**23.9**	**17.7**	**0.0725**	**0.33** 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	**1.60** 0.06	**1.90** 0.08	**23**	**15.4**	**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	**1.00** 0.04	**0.60** 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	**0.50** 0.02	**1.70** 0.07	**30**	**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	**0.50** 0.02	**1.70** 0.07	**30**	**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	**1.3** 0.05	**80.0** 3.15	**77.0** 3.03	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.49** 1.09
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.49** 1.09
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	**1.80** 0.07	**1.10** 0.04	**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	**1.80** 0.07	**1.10** 0.04	**38.2**	**15.7**	**0.0832**	**0.61** 1.35
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	**1.80** 0.07	**1.10** 0.04	**38.2**	**15.7**	**0.0832**	**0.68** 1.50
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.63** 1.39
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.62** 1.37
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	**0.50** 0.02	**1.70** 0.07	**30**	**12.2**	**0.0732**	**0.65** 1.44
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	**88.0** 3.46	**82.0** 3.23	**1.80** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.93** 2.05
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	**1.60** 0.06	**0.40** 0.02	**42.5**	**11.3**	**0.0805**	**0.91** 2.00

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

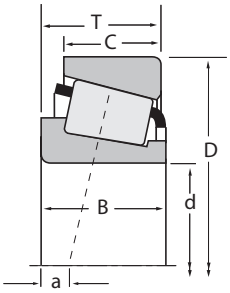
[7] Compound radius on inner race. Details on drawing for bearing.

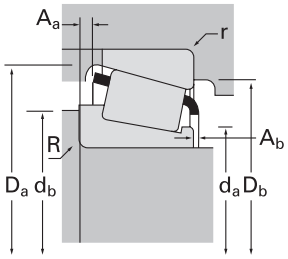
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
46.038 1.8125	95.250 3.7500	31.753 1.2501	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	436	432X
47.625 1.8750	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	369A	362A
47.625 1.8750	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	369-S	362A
47.625 1.8750	88.900 3.5000	25.400 1.0000	91300 20500	0.55	1.10	23700 5320	22100 4970	1.07	116000 26100	M804048	M804010
47.625 1.8750	88.900 3.5000	25.400 1.0000	91300 20500	0.55	1.10	23700 5320	22100 4970	1.07	116000 26100	M804049	M804010
47.625 1.8750	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	369A	362
47.625 1.8750	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	369-S	362
47.625 1.8750	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3778	3720
47.625 1.8750	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3779	3720
47.625 1.8750	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3779	3730
47.625 1.8750	95.250 3.7500	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3779	3726
47.625 1.8750	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804846	HM804810
47.625 1.8750	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	386A	382A
47.625 1.8750	98.425 3.8750	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3779	3732
47.625 1.8750	100.000 3.9370	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	528	520X
47.625 1.8750	101.600 4.0000	31.750 1.2500	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49580	49520
47.625 1.8750	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	528	522
47.625 1.8750	101.600 4.0000	34.925 1.3750	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49580	49521
47.625 1.8750	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	528A	522
47.625 1.8750	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	528R	522
47.625 1.8750	103.188 4.0625	43.658 1.7188	197000 44200	0.30	2.02	51000 11500	25900 5820	1.97	267000 60100	5358	5335
47.625 1.8750	103.188 4.0625	43.658 1.7188	197000 44200	0.30	2.02	51000 11500	25900 5820	1.97	267000 60100	5361	5335
47.625 1.8750	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45282	45220
47.625 1.8750	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45282	45221
47.625 1.8750	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59187	59412
47.625 1.8750	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59188	59412
47.625 1.8750	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	467	453A
47.625 1.8750	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	536	532X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

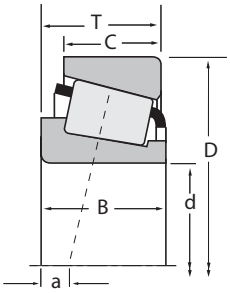
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
29.900 1.1772	26.195 1.0313	-9.1 -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	1.60 0.06	0.40 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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.55 1.21
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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.55 1.21
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	1.70 0.07	2.00 0.08	33.9	12.5	0.0924	0.66 1.46
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	1.70 0.07	2.00 0.08	33.9	12.5	0.0924	0.66 1.45
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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.56 1.23
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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.56 1.23
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	88.0 3.46	82.0 3.23	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	0.88 1.95
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	88.0 3.46	82.0 3.23	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	0.90 1.98
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	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	0.91 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	89.0 3.50	83.0 3.27	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	0.95 2.10
29.370 1.1563	23.020 0.9063	-3.8 -0.15	3.5 0.14	57.5 2.26	66.0 2.60	3.3 0.13	91.0 3.58	81.0 3.19	2.30 0.09	2.80 0.11	44.8	14.6	0.1017	0.96 2.12
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	1.10 0.04	2.00 0.08	42	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	90.0 3.54	84.0 3.31	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	1.04 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	2.70 0.11	1.80 0.07	57.9	13.4	0.0894	1.25 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	2.30 0.09	1.30 0.05	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	2.70 0.11	1.80 0.07	57.9	13.4	0.0894	1.30 2.86
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	2.30 0.09	1.30 0.05	49.1	16.8	0.0946	1.25 2.76
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	2.70 0.11	1.80 0.07	57.9	13.4	0.0894	1.30 2.88
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	2.70 0.11	1.80 0.07	57.9	13.4	0.0894	1.27 2.79
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	2.60 0.10	0.90 0.04	73.4	15.5	0.0985	1.77 3.89
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	2.60 0.10	0.90 0.04	73.4	15.5	0.0985	1.76 3.88
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	2.10 0.08	1.80 0.07	63.5	16.9	0.0971	1.27 2.79
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	2.10 0.08	1.80 0.07	63.5	16.9	0.0971	1.27 2.80
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	3.40 0.14	1.30 0.05	57.3	14.7	0.0999	1.47 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	3.40 0.14	1.30 0.05	57.3	14.7	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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.29 2.84
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	2.80 0.11	0.90 0.04	64.3	16.1	0.0938	1.59 3.51

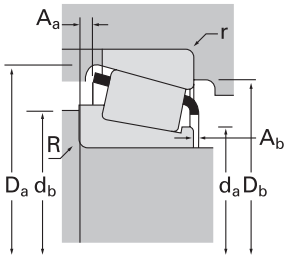
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
47.625 1.8750	108.966 4.2900	34.925 1.3750	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59187	59429
47.625 1.8750	108.966 4.2900	34.925 1.3750	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59188	59429
47.625 1.8750	111.125 4.3750	30.162 1.1875	118000 26500	0.88	0.68	30600 6880	46300 10400	0.66	161000 36200	55187C	55437
47.625 1.8750	111.125 4.3750	30.162 1.1875	114000 25600	0.88	0.68	29500 6640	44700 10000	0.66	153000 34400	HM907639	HM907614
47.625 1.8750	111.125 4.3750	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	536	532
47.625 1.8750	112.712 4.4375	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55187	55443
47.625 1.8750	112.712 4.4375	30.162 1.1875	118000 26500	0.88	0.68	30600 6880	46300 10400	0.66	161000 36200	55187C	55443
47.625 1.8750	112.712 4.4375	30.162 1.1875	114000 25600	0.88	0.68	29500 6640	44700 10000	0.66	153000 34400	HM907639	HM907616
47.625 1.8750	117.475 4.6250	33.338 1.3125	138000 31000	0.63	0.96	35800 8040	38300 8620	0.93	166000 37300	66187	66462
47.625 1.8750	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	617	612
47.625 1.8750	123.825 4.8750	36.512 1.4375	153000 34400	0.74	0.81	39600 8910	50000 11200	0.79	175000 39400	72187	72487
47.625 1.8750	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72187C	72487
47.625 1.8750	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72188C	72487
48.412 1.9060	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804848A	HM804810
48.412 1.9060	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804848	HM804810
48.412 1.9060	95.250 3.7500	30.162 1.1875	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804849	HM804810
48.600 1.9134	88.000 3.4646	21.500 0.8465	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	JLM104942A	JLM104914
49.212 1.9375	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365-S	362A
49.212 1.9375	90.000 3.5433	25.000 0.9843	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365-S	362X
49.212 1.9375	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3781	3720
49.212 1.9375	103.188 4.0625	43.658 1.7188	197000 44200	0.30	2.02	51000 11500	25900 5820	1.97	267000 60100	5395	5335
49.212 1.9375	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807044	HM807010
49.212 1.9375	114.300 4.5000	44.450 1.7500	207000 46500	0.43	1.39	53700 12100	39500 8880	1.36	256000 57500	65390	65320
49.212 1.9375	114.300 4.5000	44.450 1.7500	228000 51200	0.40	1.49	59000 13300	40600 9130	1.45	290000 65100	HH506348	HH506310
49.212 1.9375	114.300 4.5000	44.450 1.7500	228000 51200	0.40	1.49	59000 13300	40600 9130	1.45	290000 65100	HH506348	HH506311
49.213 1.9375	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5562	5535
49.975 1.9675	111.125 4.3750	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55196	55437
49.982 1.9678	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	546	532X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

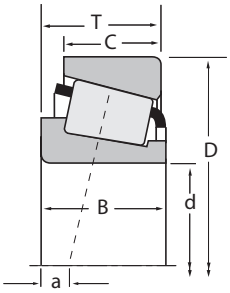
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
36.512 1.4375	**26.988** 1.0625	**-9.7** -0.38	**3.5** 0.14	**59.0** 2.32	**65.0** 2.56	**3.3** 0.13	**101.0** 3.98	**93.0** 3.66	**3.40** 0.14	**1.30** 0.05	**57.3**	**14.7**	**0.0999**	**1.58** 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	**3.40** 0.14	**1.30** 0.05	**57.3**	**14.7**	**0.0999**	**1.59** 3.51
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	**5.00** 0.20	**3.60** 0.14	**48.7**	**15.4**	**0.1198**	**1.39** 3.07
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**65.0** 2.56	**72.0** 2.83	**3.3** 0.13	**105.0** 4.13	**91.0** 3.58	**4.60** 0.18	**2.00** 0.08	**46.9**	**13.7**	**0.1183**	**1.40** 3.08
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	**2.80** 0.11	**0.90** 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	**4.80** 0.19	**3.20** 0.13	**36.8**	**13.2**	**0.1085**	**1.35** 2.98
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	**5.00** 0.20	**3.60** 0.14	**48.7**	**15.4**	**0.1198**	**1.44** 3.17
28.575 1.1250	**20.638** 0.8125	**7.6** 0.30	**3.5** 0.14	**65.0** 2.56	**72.0** 2.83	**3.3** 0.13	**106.0** 4.17	**91.0** 3.58	**4.60** 0.18	**2.00** 0.08	**46.9**	**13.7**	**0.1183**	**1.46** 3.22
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	**5.00** 0.20	**2.00** 0.08	**50.2**	**16.4**	**0.0751**	**1.70** 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	**3.90** 0.15	**1.90** 0.07	**75.9**	**16.2**	**0.0694**	**2.35** 5.18
32.791 1.2910	**25.400** 1.0000	**1.3** 0.05	**3.5** 0.14	**66.0** 2.59	**72.0** 2.83	**3.3** 0.13	**116.0** 4.57	**102.0** 4.02	**5.40** 0.21	**4.00** 0.16	**47.7**	**14.1**	**0.0772**	**2.05** 4.52
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	**4.70** 0.19	**4.40** 0.17	**57.4**	**13.5**	**0.0825**	**2.15** 4.74
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	**4.70** 0.19	**4.40** 0.17	**57.4**	**13.5**	**0.0825**	**2.18** 4.80
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**2.3** 0.09	**57.5** 2.26	**63.0** 2.48	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.30** 0.09	**2.80** 0.11	**44.8**	**13.8**	**0.1017**	**0.95** 2.10
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**2.3** 0.09	**57.5** 2.26	**63.0** 2.48	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.30** 0.09	**2.80** 0.11	**44.8**	**13.8**	**0.1017**	**0.95** 2.10
29.370 1.1563	**23.020** 0.9063	**-3.8** -0.15	**3.5** 0.14	**57.5** 2.26	**66.0** 2.60	**3.3** 0.13	**91.0** 3.58	**81.0** 3.19	**2.30** 0.09	**2.80** 0.11	**44.8**	**13.8**	**0.1017**	**0.95** 2.09
21.500 0.8465	**17.000** 0.6693	**-5.3** -0.21	**0.4** 0.02	**55.0** 2.17	**54.0** 2.13	**0.8** 0.03	**81.0** 3.19	**78.0** 3.07	**0.80** 0.03	**2.10** 0.08	**38.8**	**23.2**	**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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**0.0773**	**0.53** 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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**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	**88.0** 3.46	**82.0** 3.23	**1.80** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.87** 1.92
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	**2.60** 0.10	**0.90** 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	**3.40** 0.14	**1.90** 0.08	**63.9**	**17.1**	**0.0760**	**1.49** 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	**3.70** 0.14	**1.00** 0.04	**63.1**	**13**	**0.1053**	**2.18** 4.81
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	**2.70** 0.11	**3.20** 0.13	**72**	**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	**2.70** 0.11	**3.20** 0.13	**72**	**15.6**	**0.1078**	**2.27** 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	**2.50** 0.10	**1.20** 0.05	**110**	**24.2**	**0.0825**	**2.73** 6.02
26.909 1.0594	**20.638** 0.8125	**7.1** 0.28	**3.5** 0.14	**64.0** 2.51	**71.0** 2.80	**3.3** 0.13	**105.0** 4.13	**92.0** 3.62	**4.80** 0.19	**3.20** 0.13	**36.8**	**13.2**	**0.1085**	**1.27** 2.80
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	**2.80** 0.11	**0.90** 0.04	**64.3**	**16.1**	**0.0938**	**1.54** 3.40

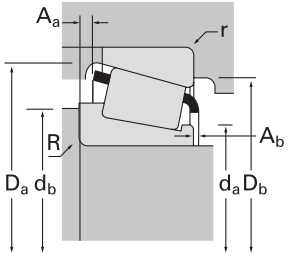
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
49.987 1.9680	79.974 3.1486	18.258 0.7188	56300 12700	0.36	1.69	14600 3280	8880 2000	1.64	88800 20000	L305648	L305611
49.987 1.9680	80.962 3.1875	18.258 0.7188	56300 12700	0.36	1.69	14600 3280	8880 2000	1.64	88800 20000	L305648	L305610
49.987 1.9680	82.000 3.2283	21.976 0.8652	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	LM104947A	JLM104910
49.987 1.9680	89.980 3.5425	24.750 0.9744	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28579	28520
49.987 1.9680	92.075 3.6250	24.608 0.9688	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28579	28521
49.987 1.9680	96.838 3.8125	22.225 0.8750	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	378A	372A
49.987 1.9680	114.300 4.5000	44.450 1.7500	228000 51200	0.40	1.49	59000 13300	40600 9130	1.45	290000 65100	HH506349	HH506311
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAA32010X	Y32010X
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAB-32010X	Y32010X
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAD32010X	Y32010X
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAE32010X	Y32010X
50.000 1.9685	82.000 3.2283	21.500 0.8465	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	JLM104948	JLM104910
50.000 1.9685	82.000 3.2283	21.500 0.8465	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAB-32010X	YKB-32010X
50.000 1.9685	82.550 3.2500	21.120 0.8313	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	JLM104948	LM104911
50.000 1.9685	82.550 3.2500	23.150 0.9113	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	JLM104948	LM104911A
50.000 1.9685	82.931 3.2650	21.120 0.8313	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	JLM104948	LM104912
50.000 1.9685	84.000 3.3071	22.000 0.8661	75400 16900	0.44	1.37	19500 4390	14600 3290	1.34	104000 23500	JLM704649	JLM704610
50.000 1.9685	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365	362A
50.000 1.9685	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	366	362A
50.000 1.9685	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365	362
50.000 1.9685	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365	363
50.000 1.9685	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	366	362
50.000 1.9685	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	366	363
50.000 1.9685	90.000 3.5433	28.000 1.1024	115000 25700	0.33	1.82	29700 6670	16700 3760	1.78	154000 34600	JM205149A	JM205110
50.000 1.9685	90.000 3.5433	28.000 1.1024	115000 25700	0.33	1.82	29700 6670	16700 3760	1.78	154000 34600	JM205149AS	JM205110
50.000 1.9685	90.000 3.5433	28.000 1.1024	115000 25700	0.33	1.82	29700 6670	16700 3760	1.78	154000 34600	JM205149	JM205110
50.000 1.9685	90.000 3.5433	28.000 1.1024	115000 25700	0.33	1.82	29700 6670	16700 3760	1.78	154000 34600	JM205149	JM205110A
50.000 1.9685	100.000 3.9370	33.500 1.3189	150000 33700	0.40	1.50	38900 8750	26600 5980	1.46	202000 45300	XLA33211	Y33211

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

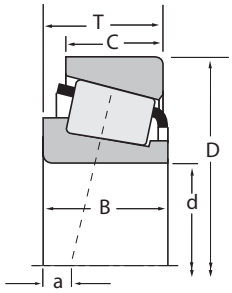
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
18.258 0.7188	14.288 0.5625	-2.5 -0.10	1.5 0.06	55.0 2.17	57.0 2.24	1.5 0.06	76.0 2.99	73.0 2.87	0.20 0.01	1.90 0.08	38.8	27.8	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	0.20 0.01	1.90 0.08	38.8	27.8	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	1.20 0.05	2.00 0.08	38.8	23.2	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	1.40 0.06	1.00 0.04	46.4	18.9	0.0912	0.66 1.47
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	1.40 0.06	1.00 0.04	46.4	18.9	0.0912	0.71 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	0.80 0.03	1.40 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	2.70 0.11	3.20 0.13	72	15.6	0.1078	2.25 4.96
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	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 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	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 0.82
20.000 0.7874	15.500 0.6102	-2.0 -0.08	1.5 0.06	56.0 2.20	59.0 2.32	1.0 0.04	77.0 3.03	73.0 2.87	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 0.82
20.000 0.7874	15.500 0.6102	-2.0 -0.08	0.3 0.01	55.0 2.17	56.0 2.20	1.0 0.04	77.0 3.03	73.0 2.87	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 0.82
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	0.80 0.03	2.10 0.08	38.8	19.3	0.0801	0.43 0.94
20.000 0.7874	17.000 0.6693	-2.0 -0.08	3.0 0.12	55.0 2.17	62.0 2.44	0.5 0.02	77.0 3.03	76.0 2.99	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.42 0.93
21.500 0.8465	16.510 0.6500	-5.3 -0.21	3.0 0.12	55.0 2.17	60.0 2.36	1.3 0.05	78.0 3.07	75.0 2.95	0.80 0.03	2.10 0.08	38.8	19.3	0.0801	0.43 0.95
21.500 0.8465	18.542 0.7300	-5.3 -0.21	3.0 0.12	55.0 2.17	60.0 2.36	0.8 0.03	78.0 3.07	75.0 2.95	0.80 0.03	2.10 0.08	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	60.0 2.36	1.3 0.05	77.5 3.06	75.0 2.95	0.80 0.03	2.10 0.08	38.8	19.3	0.0801	0.44 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	1.10 0.04	1.60 0.06	35.6	16.7	0.0876	0.47 1.03
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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.52 1.14
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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.52 1.14
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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.53 1.16
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	85.0 3.34	82.0 3.23	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.56 1.24
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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.53 1.16
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	85.0 3.34	82.0 3.23	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.56 1.24
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	0.80 0.03	2.30 0.09	48.2	14.1	0.0885	0.74 1.63
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	0.80 0.03	2.30 0.09	48.2	14.1	0.0885	0.74 1.64
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	0.80 0.03	2.30 0.09	48.2	14.1	0.0885	0.74 1.64
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	0.80 0.03	2.30 0.09	48.2	14.1	0.0885	0.74 1.64
33.500 1.3189	27.000 1.0630	-8.1 -0.32	2.0 0.08	62.0 2.44	67.0 2.64	1.5 0.06	96.0 3.78	89.0 3.50	1.40 0.05	2.80 0.11	59.3	15.3	0.1010	1.24 2.73

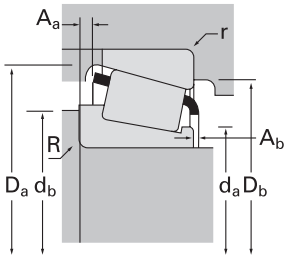
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
50.000 1.9685	105.000 4.1339	32.000 1.2598	111000 24900	0.87	0.69	28700 6440	42500 9560	0.67	138000 31000	JW5049	JW5010
50.000 1.9685	105.000 4.1339	37.000 1.4567	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	JHM807045	JHM807012
50.800 2.0000	77.788 3.0625	12.700 0.5000	34600 7770	0.34	1.78	8960 2010	5160 1160	1.74	47200 10600	LL205449	LL205410
50.800 2.0000	80.962 3.1875	18.258 0.7188	56300 12700	0.36	1.69	14600 3280	8880 2000	1.64	88800 20000	L305649	L305610
50.800 2.0000	82.000 3.2283	21.976 0.8652	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	LM104949	JLM104910
50.800 2.0000	82.550 3.2500	21.590 0.8500	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	LM104949	LM104911
50.800 2.0000	82.550 3.2500	23.622 0.9300	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	LM104949	LM104911A
50.800 2.0000	82.931 3.2650	21.590 0.8500	75200 16900	0.31	1.97	19500 4390	10200 2290	1.91	104000 23400	LM104949	LM104912
50.800 2.0000	83.312 3.2800	17.462 0.6875	50600 11400	0.41	1.48	13100 2950	9110 2050	1.44	67500 15200	18790	18721
50.800 2.0000	85.000 3.3465	17.462 0.6875	50600 11400	0.41	1.48	13100 2950	9110 2050	1.44	67500 15200	18790	18720
50.800 2.0000	85.725 3.3750	19.050 0.7500	47800 10700	0.57	1.06	12400 2780	12000 2710	1.03	63900 14400	18200	18337
50.800 2.0000	88.900 3.5000	17.462 0.6875	50600 11400	0.41	1.48	13100 2950	9110 2050	1.44	67500 15200	18790	18724
50.800 2.0000	88.900 3.5000	20.638 0.8125	50600 11400	0.41	1.48	13100 2950	9110 2050	1.44	67500 15200	18790	18723
50.800 2.0000	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368	362A
50.800 2.0000	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368A	362A
50.800 2.0000	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	370A	362A
50.800 2.0000	88.900 3.5000	23.812 0.9375	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368A	362AX
50.800 2.0000	89.980 3.5425	24.750 0.9744	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28580	28520
50.800 2.0000	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368	362
50.800 2.0000	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368	363
50.800 2.0000	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368A	362
50.800 2.0000	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	370A	362
50.800 2.0000	92.075 3.6250	24.608 0.9688	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28580	28521
50.800 2.0000	92.075 3.6250	27.780 1.0937	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28580	28523
50.800 2.0000	93.264 3.6718	20.638 0.8125	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	375	374
50.400 2.0000	93.264 3.6718	20.638 0.8125	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	375-S	374
50.800 2.0000	93.264 3.6718	26.988 1.0625	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	375	3720
50.800 2.0000	93.264 3.6718	26.988 1.0625	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	375	3730

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**4.90** 0.19	**3.60** 0.14	**39**	**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	**3.60** 0.14	**2.60** 0.10	**63.9**	**17.1**	**0.0760**	**1.49** 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	**0.20** 0.01	**1.70** 0.07	**24.2**	**29.1**	**0.0699**	**0.20** 0.45
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	**0.30** 0.01	**1.90** 0.08	**38.8**	**27.8**	**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	**1.20** 0.05	**2.00** 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	**1.20** 0.05	**2.00** 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	**1.20** 0.05	**2.00** 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	**77.5** 3.06	**75.0** 2.95	**1.20** 0.05	**2.00** 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	**0.80** 0.03	**1.50** 0.06	**28.6**	**21.5**	**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	**0.80** 0.03	**1.50** 0.06	**28.6**	**21.5**	**0.0789**	**0.37** 0.81
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**	**20.3**	**0.0852**	**0.40** 0.88
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	**0.80** 0.03	**1.50** 0.06	**28.6**	**21.5**	**0.0789**	**0.42** 0.93
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	**0.80** 0.03	**1.50** 0.06	**28.6**	**21.5**	**0.0789**	**0.48** 1.06
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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**0.0773**	**0.51** 1.12
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	**0.40** 0.02	**1.10** 0.04	**33.8**	**12.7**	**0.0773**	**0.50** 1.10
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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**0.0773**	**0.49** 1.08
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	**0.40** 0.02	**1.10** 0.04	**33.8**	**12.7**	**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	**1.40** 0.06	**1.00** 0.04	**46.4**	**22.6**	**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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**0.0773**	**0.52** 1.14
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	**85.0** 3.34	**82.0** 3.23	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**0.0773**	**0.55** 1.21
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	**0.40** 0.02	**1.10** 0.04	**33.8**	**12.7**	**0.0773**	**0.51** 1.12
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	**0.50** 0.02	**1.00** 0.04	**33.8**	**14**	**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	**1.40** 0.06	**1.00** 0.04	**46.4**	**22.6**	**0.0912**	**0.71** 1.56
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	**1.40** 0.06	**1.00** 0.04	**46.4**	**22.6**	**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	**0.80** 0.03	**1.40** 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	**0.80** 0.03	**1.40** 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	**88.0** 3.46	**82.0** 3.23	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.70** 1.55
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	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.72** 1.58

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

[8] Pin-type cage. Please consult The Timken Company.

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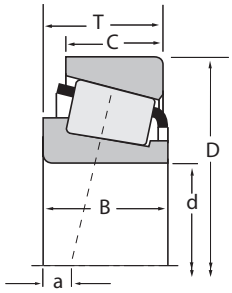
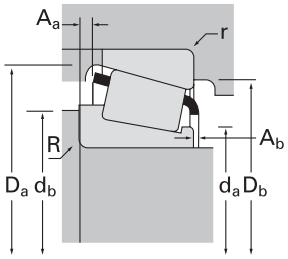
TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
50.800 2.0000	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3775	3720
50.800 2.0000	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3780	3720
50.800 2.0000	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3780	3730
50.800 2.0000	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3784	3720
50.800 2.0000	93.662 3.6875	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3784	3727
50.800 2.0000	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33889	33821
50.800 2.0000	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33889	33822
50.800 2.0000	95.250 3.7500	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3780	3726
50.800 2.0000	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385A	382A
50.800 2.0000	96.838 3.8125	22.225 0.8750	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	375	372A
50.400 2.0000	96.838 3.8125	22.225 0.8750	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	375-S	372A
50.800 2.0000	96.838 3.8125	25.400 1.0000	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385A	382-S
50.800 2.0000	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385A	382
50.800 2.0000	98.425 3.8750	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3780	3732
50.800 2.0000	100.000 3.9370	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385A	383A
50.800 2.0000	100.000 3.9370	25.000 0.9842	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	375	372
50.800 2.0000	100.000 3.9370	25.400 1.0000	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385A	383X
50.800 2.0000	100.000 3.9370	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	529	520X
50.800 2.0000	100.000 3.9370	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	529X	520X
50.800 2.0000	100.000 3.9370	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	529X	J520
50.800 2.0000	101.600 4.0000	31.750 1.2500	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49585	49520
50.800 2.0000	101.600 4.0000	31.750 1.2500	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49585	49522
50.800 2.0000	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	529	522
50.800 2.0000	101.600 4.0000	34.925 1.3750	152000 34300	0.29	2.10	39500 8880	19300 4340	2.05	191000 43000	529X	522
50.800 2.0000	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45284	45220
50.800 2.0000	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45284	45221
50.800 2.0000	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45285	45220
50.800 2.0000	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45285	45221

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

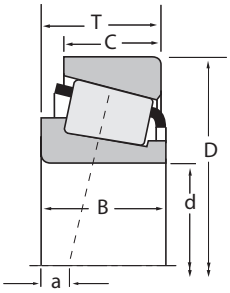
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
30.302 1.1930	**23.812** 0.9375	**-8.1** -0.32	**0.8** 0.03	**58.0** 2.28	**58.0** 2.28	**3.3** 0.13	**88.0** 3.46	**82.0** 3.23	**1.90** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.85** 1.87
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	**88.0** 3.46	**82.0** 3.23	**1.80** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.84** 1.86
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	**1.80** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.85** 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	**88.0** 3.46	**82.0** 3.23	**1.80** 0.07	**0.90** 0.04	**49.9**	**14.5**	**0.0903**	**0.82** 1.81
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	**88.0** 3.46	**82.0** 3.23	**1.80** 0.07	**0.90** 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	**1.30** 0.05	**2.20** 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	**1.30** 0.05	**2.20** 0.09	**52.5**	**18.5**	**0.0910**	**0.85** 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	**89.0** 3.50	**83.0** 3.27	**1.80** 0.07	**0.90** 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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.68** 1.50
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	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.71** 1.57
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	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.71** 1.56
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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.74** 1.64
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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.73** 1.60
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	**90.0** 3.54	**84.0** 3.31	**1.80** 0.07	**0.90** 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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.76** 1.67
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	**0.80** 0.03	**1.40** 0.06	**37.6**	**15.4**	**0.0816**	**0.85** 1.88
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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.85** 1.87
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**0.8** 0.03	**58.0** 2.28	**59.0** 2.32	**3.3** 0.13	**94.0** 3.70	**88.0** 3.46	**2.70** 0.11	**1.80** 0.07	**57.9**	**13.4**	**0.0894**	**1.18** 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	**2.70** 0.11	**1.80** 0.07	**57.9**	**13.4**	**0.0894**	**1.18** 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	**2.70** 0.11	**1.80** 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	**2.30** 0.09	**1.30** 0.05	**49.1**	**14.2**	**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	**2.30** 0.09	**1.30** 0.05	**49.1**	**14.2**	**0.0946**	**1.13** 2.49
36.068 1.4200	**26.988** 1.0625	**-12.7** -0.50	**0.8** 0.03	**58.0** 2.28	**59.0** 2.32	**3.3** 0.13	**95.0** 3.74	**89.0** 3.50	**2.70** 0.11	**1.80** 0.07	**57.9**	**13.4**	**0.0894**	**1.24** 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	**2.70** 0.11	**1.80** 0.07	**57.9**	**13.4**	**0.0894**	**1.23** 2.71
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	**2.10** 0.08	**1.80** 0.07	**63.5**	**16.9**	**0.0971**	**1.19** 2.62
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	**2.10** 0.08	**1.80** 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	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.10** 0.08	**1.80** 0.07	**63.5**	**16.9**	**0.0971**	**1.21** 2.68
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	**2.10** 0.08	**1.80** 0.07	**63.5**	**16.9**	**0.0971**	**1.22** 2.69

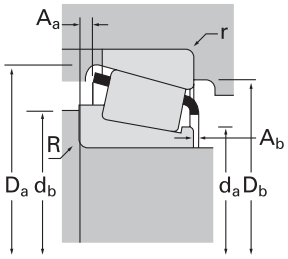
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
50.800 2.0000	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45285A	45220
50.800 2.0000	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45285A	45221
50.800 2.0000	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455	453X
50.800 2.0000	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455-S	453X
50.800 2.0000	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59200	59412
50.800 2.0000	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59200	59413
50.800 2.0000	104.775 4.1250	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59201	59412
50.800 2.0000	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807046	HM807010
50.800 2.0000	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807046	HM807011
50.800 2.0000	104.775 4.1250	39.688 1.5625	167000 37500	0.34	1.79	43300 9730	24900 5590	1.74	237000 53200	4580	4535
50.800 2.0000	105.000 4.1339	36.873 1.4517	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807046	JHM807012
50.800 2.0000	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455	453A
50.800 2.0000	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455-S	453A
50.800 2.0000	107.950 4.2500	27.795 1.0943	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455	453
50.800 2.0000	107.950 4.2500	36.512 1.4375	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59200	59425
50.800 2.0000	110.000 4.3307	27.795 1.0943	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455	454
50.800 2.0000	111.125 4.3750	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55200	55437
50.800 2.0000	111.125 4.3750	30.162 1.1875	118000 26500	0.88	0.68	30600 6880	46300 10400	0.66	161000 36200	55200C	55437
50.800 2.0000	111.125 4.3750	30.162 1.1875	114000 25600	0.88	0.68	29500 6640	44700 10000	0.66	153000 34400	HM907643	HM907614
50.800 2.0000	111.125 4.3750	38.108 1.5003	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455	4536
50.800 2.0000	111.125 4.3750	38.108 1.5003	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455-S	4536
50.800 2.0000	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39573	39520
50.800 2.0000	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39573	39521
50.800 2.0000	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39575	39520
50.800 2.0000	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39575	39521
50.800 2.0000	112.712 4.4375	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55200	55443
50.800 2.0000	114.300 4.5000	44.450 1.7500	207000 46500	0.43	1.39	53700 12100	39500 8880	1.36	256000 57500	65395	65320
50.800 2.0000	117.475 4.6250	33.338 1.3125	138000 31000	0.63	0.96	35800 8040	38300 8620	0.93	166000 37300	66200	66462

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

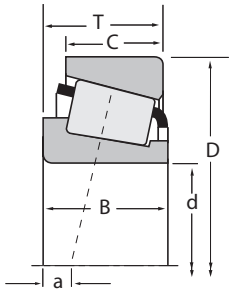
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
30.958 1.2188	23.812 0.9375	-8.1 -0.32	0.8 0.03	59.0 2.32	60.0 2.36	3.3 0.13	99.0 3.90	93.0 3.66	2.10 0.08	1.80 0.07	63.5	16.9	0.0971	1.21 2.68
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	2.10 0.08	1.80 0.07	63.5	16.9	0.0971	1.22 2.68
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.18 2.59
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.17 2.57
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	3.40 0.14	1.30 0.05	57.3	14.7	0.0999	1.40 3.09
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	3.40 0.14	1.30 0.05	57.3	14.7	0.0999	1.42 3.12
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	3.40 0.14	1.30 0.05	57.3	14.7	0.0999	1.41 3.11
36.512 1.4375	28.575 1.1250	-7.4 -0.29	3.5 0.14	63.0 2.48	70.0 2.76	3.3 0.13	100.0 3.94	89.0 3.50	3.40 0.14	1.90 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	63.0 2.48	70.0 2.76	0.8 0.03	100.0 3.94	91.0 3.58	3.40 0.14	1.90 0.08	63.9	17.1	0.0760	1.47 3.25
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	1.70 0.07	1.30 0.05	73.6	18.5	0.1027	1.62 3.58
36.512 1.4375	29.000 1.1417	-7.4 -0.29	3.5 0.14	63.0 2.48	70.0 2.76	2.5 0.10	100.0 3.94	90.0 3.54	3.40 0.14	1.90 0.08	63.9	17.1	0.0760	1.49 3.28
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.23 2.71
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.22 2.70
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.29 2.84
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	3.40 0.14	1.30 0.05	57.3	14.7	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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.36 2.99
26.909 1.0594	20.638 0.8125	7.1 0.28	3.5 0.14	64.0 2.51	71.0 2.80	3.3 0.13	105.0 4.13	92.0 3.62	4.80 0.19	3.20 0.13	36.8	13.2	0.1085	1.26 2.77
26.909 1.0594	20.638 0.8125	7.6 0.30	3.5 0.14	64.5 2.54	71.0 2.80	3.3 0.13	105.0 4.13	92.0 3.62	5.00 0.20	3.60 0.14	48.7	15.4	0.1198	1.34 2.96
28.575 1.1250	20.638 0.8125	7.6 0.30	3.5 0.14	65.0 2.56	74.0 2.91	3.3 0.13	105.0 4.13	91.0 3.58	4.60 0.18	2.00 0.08	46.9	13.7	0.1183	1.34 2.96
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.63 3.60
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.63 3.59
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	1.60 0.06	2.60 0.10	84.3	23.7	0.1074	1.51 3.33
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	1.60 0.06	2.60 0.10	84.3	23.7	0.1074	1.52 3.34
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	1.60 0.06	2.60 0.10	84.3	23.7	0.1074	1.50 3.32
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	1.60 0.06	2.60 0.10	84.3	23.7	0.1074	1.51 3.32
26.909 1.0594	20.638 0.8125	7.1 0.28	3.5 0.14	64.0 2.51	71.0 2.80	3.3 0.13	106.0 4.17	92.0 3.62	4.80 0.19	3.20 0.13	36.8	13.2	0.1085	1.30 2.87
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	3.70 0.14	1.00 0.04	63.1	13	0.1053	2.14 4.71
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	5.00 0.20	2.00 0.08	50.2	16.4	0.0751	1.64 3.61

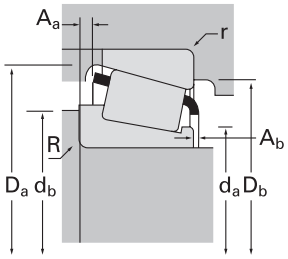
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
50.800 2.0000	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	619	612
50.800 2.0000	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5565	5535
50.800 2.0000	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72200C	72487
50.800 2.0000	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72201C	72487
50.800 2.0000	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	555	552
50.800 2.0000	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	555	552A
50.800 2.0000	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813836	HM813810
50.800 2.0000	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65200	65500
50.800 2.0000	127.000 5.0000	50.800 2.0000	283000 63700	0.30	2.01	73500 16500	37500 8440	1.96	370000 83300	6279	6220
50.815 2.0006	100.000 3.9370	35.000 1.3780	150000 33700	0.40	1.50	38900 8750	26600 5980	1.46	202000 45300	XGA33211	Y33211
51.592 2.0312	88.900 3.5000	20.638 0.8125	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368-S	362A
51.592 2.0312	90.000 3.5433	20.000 0.7874	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368-S	362
52.000 2.0472	85.000 3.3465	19.050 0.7500	47800 10700	0.57	1.06	12400 2780	12000 2710	1.03	63900 14400	18204X	18335X
52.000 2.0472	90.000 3.5433	21.750 0.8563	73600 16500	0.42	1.43	19100 4290	13700 3080	1.39	87400 19700	XGA30210	Y30210
52.388 2.0625	89.980 3.5425	24.750 0.9744	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28584	28520
52.388 2.0625	92.075 3.6250	24.608 0.9688	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28584	28521
52.388 2.0625	93.264 3.6718	20.638 0.8125	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	377	374
52.388 2.0625	93.264 3.6718	20.638 0.8125	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	377A	374
52.388 2.0625	93.264 3.6718	26.988 1.0625	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	377	3720
52.388 2.0625	93.264 3.6718	26.988 1.0625	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	377	3730
52.388 2.0625	93.264 3.6718	26.988 1.0625	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	377A	3720
52.388 2.0625	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3767	3720
52.388 2.0625	93.264 3.6718	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3767	3730
52.388 2.0625	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33890	33821
52.388 2.0625	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33891	33821
52.388 2.0625	96.838 3.8125	22.225 0.8750	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	377	372A
52.388 2.0625	98.425 3.8750	30.162 1.1875	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3767	3732
52.388 2.0625	100.000 3.9370	25.000 0.9842	81400 18300	0.34	1.77	21100 4750	12200 2750	1.73	101000 22700	377	372

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

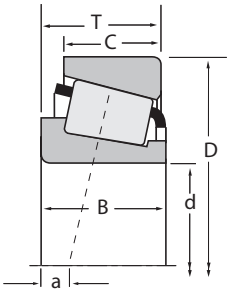
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
41.275 1.6250	31.750 1.2500	-14.0 -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	3.90 0.15	1.90 0.07	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	2.50 0.10	1.20 0.05	110	24.2	0.0825	2.69 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	4.70 0.19	4.40 0.17	57.4	13.5	0.0825	2.11 4.66
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	4.70 0.19	4.40 0.17	57.4	13.5	0.0825	2.11 4.66
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	2.30 0.09	1.20 0.05	91	21.1	0.1108	2.36 5.20
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	2.30 0.09	1.20 0.05	91	21.1	0.1108	2.31 5.09
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	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	2.42 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	4.10 0.16	1.00 0.04	83.2	17.2	0.0827	2.88 6.34
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	2.40 0.09	2.60 0.10	103	18.7	0.0757	3.35 7.39
35.000 1.3780	27.000 1.0630	-9.7 -0.38	2.0 0.08	62.0 2.44	67.0 2.64	1.5 0.06	96.0 3.78	89.0 3.50	2.90 0.11	2.80 0.11	59.3	15.3	0.1010	1.25 2.76
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	0.50 0.02	1.00 0.04	33.8	14	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	0.50 0.02	1.00 0.04	33.8	14	0.0773	0.51 1.11
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	2.50 0.10	1.60 0.06	26.1	20.3	0.0852	0.37 0.82
20.000 0.7874	17.000 0.6693	-2.0 -0.08	4.0 0.16	59.0 2.32	66.0 2.60	1.5 0.06	85.0 3.35	81.0 3.19	1.40 0.05	3.10 0.12	30.3	15.9	0.0814	0.51 1.13
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	1.40 0.06	1.00 0.04	46.4	22.6	0.0912	0.62 1.37
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	1.40 0.06	1.00 0.04	46.4	22.6	0.0912	0.67 1.48
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	0.80 0.03	1.40 0.06	37.6	15.4	0.0816	0.57 1.26
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	0.80 0.03	1.40 0.06	37.6	15.4	0.0816	0.56 1.23
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	88.0 3.46	82.0 3.23	0.80 0.03	1.40 0.06	37.6	15.4	0.0816	0.68 1.50
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	0.80 0.03	1.40 0.06	37.6	15.4	0.0816	0.69 1.53
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	88.0 3.46	82.0 3.23	0.80 0.03	1.40 0.06	37.6	15.4	0.0816	0.67 1.48
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	88.0 3.46	82.0 3.23	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	0.82 1.80
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	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	0.83 1.82
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	1.30 0.05	2.20 0.09	52.5	18.5	0.0910	0.82 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	1.30 0.05	2.20 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	0.80 0.03	1.40 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	90.0 3.54	84.0 3.31	1.80 0.07	0.90 0.04	49.9	14.5	0.0903	0.96 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	0.80 0.03	1.40 0.06	37.6	15.4	0.0816	0.83 1.83

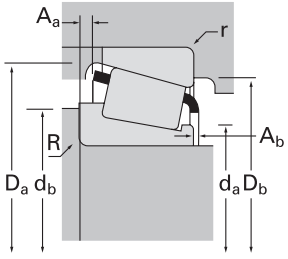
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
52.388 2.0625	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	468	453X
52.388 2.0625	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	468	453A
52.388 2.0625	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	468	453AS
52.388 2.0625	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	540	532X
52.388 2.0625	110.000 4.3307	34.130 1.3437	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	540	534
52.388 2.0625	111.125 4.3750	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55206	55437
52.388 2.0625	111.125 4.3750	30.162 1.1875	118000 26500	0.88	0.68	30600 6880	46300 10400	0.66	161000 36200	55206C	55437
52.388 2.0625	111.125 4.3750	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	540	532A
52.388 2.0625	112.712 4.4375	30.162 1.1875	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55206	55443
53.975 2.1250	87.312 3.4375	18.258 0.7188	58100 13100	0.39	1.54	15100 3380	10000 2250	1.50	95600 21500	L507945	L507910
53.975 2.1250	88.900 3.5000	19.050 0.7500	60600 13600	0.55	1.10	15700 3530	14700 3300	1.07	81800 18400	LM806649	LM806610
53.975 2.1250	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33895	33821
53.975 2.1250	95.250 3.7500	27.783 1.0938	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33895	33822
53.975 2.1250	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	389A	382A
53.975 2.1250	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	389A	382
53.975 2.1250	100.000 3.9370	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	389A	383A
53.975 2.1250	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45287	45220
53.975 2.1250	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45287	45221
53.975 2.1250	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	456	453X
53.975 2.1250	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807049A	HM807011
53.975 2.1250	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807049	HM807010
53.975 2.1250	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807049	HM807011
53.975 2.1250	104.775 4.1250	39.688 1.5625	167000 37500	0.34	1.79	43300 9730	24900 5590	1.74	237000 53200	4595	4535
53.975 2.1250	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	456	453A
53.975 2.1250	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	456	453AS
53.975 2.1250	107.950 4.2500	27.795 1.0943	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	456	453
53.975 2.1250	107.950 4.2500	32.558 1.2818	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	456	452A
53.975 2.1250	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	539	532X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

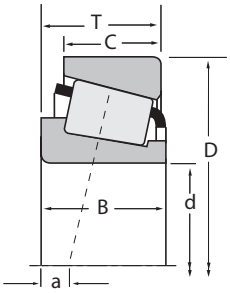
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
29.317 1.1542	24.605 0.9687	-7.1 -0.28	1.5 0.06	60.0 2.36	62.0 2.44	3.3 0.13	98.0 3.86	92.0 3.62	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.13 2.49
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.19 2.61
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.18 2.61
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	2.80 0.11	0.90 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	2.80 0.11	0.90 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	64.0 2.51	72.0 2.83	3.3 0.13	105.0 4.13	92.0 3.62	4.80 0.19	3.20 0.13	36.8	13.2	0.1085	1.23 2.71
26.909 1.0594	20.638 0.8125	7.6 0.30	3.5 0.14	64.5 2.54	72.0 2.83	3.3 0.13	105.0 4.13	92.0 3.62	5.00 0.20	3.60 0.14	48.7	15.4	0.1198	1.32 2.90
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	2.80 0.11	0.90 0.04	64.3	16.1	0.0938	1.65 3.65
26.909 1.0594	20.638 0.8125	7.1 0.28	3.5 0.14	64.0 2.51	72.0 2.83	3.3 0.13	106.0 4.17	92.0 3.62	4.80 0.19	3.20 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	0.30 0.01	2.00 0.08	46.1	36.9	0.0914	0.43 0.94
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	1.50 0.06	1.60 0.06	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	1.30 0.05	2.20 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	1.30 0.05	2.20 0.09	52.5	18.5	0.0910	0.80 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	1.10 0.04	2.00 0.08	42	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	1.10 0.04	2.00 0.08	42	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	1.10 0.04	2.00 0.08	42	15.7	0.0859	0.72 1.58
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	2.10 0.08	1.80 0.07	63.5	16.9	0.0971	1.15 2.54
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	2.10 0.08	1.80 0.07	63.5	16.9	0.0971	1.15 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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.11 2.44
36.512 1.4375	28.575 1.1250	-7.4 -0.29	1.5 0.06	63.0 2.48	69.0 2.72	0.8 0.03	100.0 3.94	91.0 3.58	3.40 0.14	1.90 0.08	63.9	17.1	0.0760	1.39 3.07
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	3.40 0.14	1.90 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	63.0 2.48	73.0 2.87	0.8 0.03	100.0 3.94	91.0 3.58	3.40 0.14	1.90 0.08	63.9	17.1	0.0760	1.40 3.08
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	1.70 0.07	1.30 0.05	73.6	18.5	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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.16 2.56
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.16 2.56
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.22 2.69
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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.27 2.80
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	2.80 0.11	0.90 0.04	64.3	16.1	0.0938	1.45 3.19

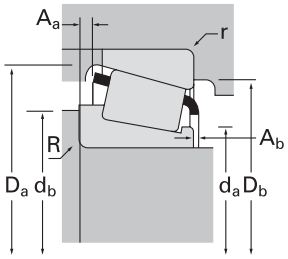
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
53.975 2.1250	107.950 4.2500	36.512 1.4375	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	539A	532X
53.975 2.1250	110.000 4.3307	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	456	454
53.975 2.1250	110.000 4.3307	34.130 1.3437	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	539	534
53.975 2.1250	111.125 4.3750	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	539A	532A
53.975 2.1250	111.125 4.3750	38.895 1.5313	167000 37500	0.34	1.79	43300 9730	24900 5590	1.74	237000 53200	4595	4536
53.975 2.1250	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39578	39520
53.975 2.1250	117.475 4.6250	33.338 1.3125	138000 31000	0.63	0.96	35800 8040	38300 8620	0.93	166000 37300	66212	66461
53.975 2.1250	117.475 4.6250	33.338 1.3125	138000 31000	0.63	0.96	35800 8040	38300 8620	0.93	166000 37300	66212	66462
53.975 2.1250	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	621	612
53.975 2.1250	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	624	612
53.975 2.1250	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	621	612-S
53.975 2.1250	122.238 4.8125	33.338 1.3125	143000 32200	0.67	0.90	37100 8340	42300 9500	0.88	178000 39900	66584	66520
53.975 2.1250	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5577	5535
53.975 2.1250	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5578	5535
53.975 2.1250	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72212C	72487
53.975 2.1250	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72213C	72487
53.975 2.1250	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	557-S	552A
53.975 2.1250	127.000 5.0000	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72213C	72500
53.975 2.1250	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65212	65500
53.975 2.1250	127.000 5.0000	50.800 2.0000	283000 63700	0.30	2.01	73500 16500	37500 8440	1.96	370000 83300	6280	6220
53.975 2.1250	130.175 5.1250	34.100 1.3425	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911243	HM911210
53.975 2.1250	130.175 5.1250	36.512 1.4375	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911242	HM911210
53.975 2.1250	134.983 5.3143	33.449 1.3169	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911243	HM911216
53.975 2.1250	136.525 5.3750	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78215C	78537
53.975 2.1250	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	636	632
53.975 2.1250	140.030 5.5130	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78214C	78551
53.975 2.1250	140.030 5.5130	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78215C	78551
54.487 2.1452	104.775 4.1250	36.512 1.4375	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807048	HM807010

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

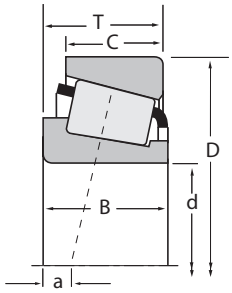
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
36.957 1.4550	28.575 1.1250	-12.2 -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	2.80 0.11	0.90 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	2.20 0.09	1.40 0.05	58.6	17.1	0.0946	1.29 2.84
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	2.80 0.11	0.90 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	2.80 0.11	0.90 0.04	64.3	16.1	0.0938	1.60 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	1.70 0.07	1.30 0.05	73.6	18.5	0.1027	1.79 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	1.60 0.06	2.60 0.10	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	5.00 0.20	2.00 0.08	50.2	16.4	0.0751	1.59 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	5.00 0.20	2.00 0.08	50.2	16.4	0.0751	1.57 3.46
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	3.90 0.15	1.90 0.07	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	3.90 0.15	1.90 0.07	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	3.90 0.15	1.90 0.07	75.9	16.2	0.0694	2.20 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	5.20 0.21	2.00 0.08	57	18.3	0.0797	1.76 3.89
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	2.50 0.10	1.20 0.05	110	24.2	0.0825	2.60 5.72
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	2.50 0.10	1.20 0.05	110	24.2	0.0825	2.59 5.71
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	4.70 0.19	4.40 0.17	57.4	13.5	0.0825	2.05 4.51
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	4.70 0.19	4.40 0.17	57.4	13.5	0.0825	2.05 4.51
36.678 1.4440	30.162 1.1875	-9.4 -0.37	3.5 0.14	65.0 2.56	71.0 2.80	3.3 0.13	116.0 4.57	109.0 4.29	2.30 0.09	1.20 0.05	91	21.1	0.1108	2.23 4.92
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	4.70 0.19	4.40 0.17	57.4	13.5	0.0825	2.17 4.79
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	4.10 0.16	1.00 0.04	83.2	17.2	0.0827	2.79 6.14
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	2.40 0.09	2.60 0.10	103	18.7	0.0757	3.25 7.16
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	123.5 4.87	109.0 4.29	5.00 0.20	4.20 0.17	56.4	16.5	0.0842	2.13 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	123.5 4.87	109.0 4.29	7.40 0.29	4.20 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	5.00 0.20	4.20 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	6.40 0.25	4.90 0.19	71.3	17.6	0.0926	2.59 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	4.20 0.16	1.90 0.08	106	21	0.0814	3.12 6.88
33.236 1.3085	23.520 0.9260	8.4 0.33	0.8 0.03	77.5 3.05	79.0 3.11	2.3 0.09	132.0 5.20	117.0 4.61	6.40 0.25	4.90 0.19	71.3	17.6	0.0926	2.75 6.07
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	6.40 0.25	4.90 0.19	71.3	17.6	0.0926	2.75 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	3.40 0.14	1.90 0.08	63.9	17.1	0.0760	1.37 3.02

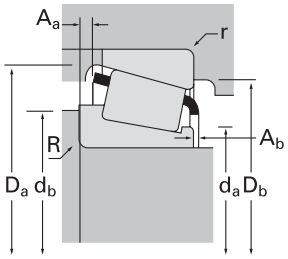
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
54.987 2.1649	103.188 4.0625	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	538	533A
54.987 2.1649	110.000 4.3307	38.100 1.5000	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	538	533X
54.987 2.1649	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6381	6320
55.000 2.1654	90.000 3.5433	23.000 0.9055	85000 19100	0.40	1.49	22000 4960	15200 3410	1.45	123000 27600	JLM506849A	JLM506810
55.000 2.1654	90.000 3.5433	23.000 0.9055	85000 19100	0.40	1.49	22000 4960	15200 3410	1.45	123000 27600	JLM506849	JLM506810
55.000 2.1654	90.000 3.5433	25.000 0.9843	85000 19100	0.40	1.49	22000 4960	15200 3410	1.45	123000 27600	JLM506849A	JLM506811
55.000 2.1654	95.000 3.7402	29.000 1.1417	121000 27200	0.33	1.79	31300 7040	18000 4040	1.74	168000 37700	JM207049A	JM207010
55.000 2.1654	95.000 3.7402	29.000 1.1417	121000 27200	0.33	1.79	31300 7040	18000 4040	1.74	168000 37700	JM207049	JM207010
55.000 2.1654	95.000 3.7402	30.000 1.1811	121000 27200	0.33	1.79	31300 7040	18000 4040	1.74	168000 37700	JM207049	JM207010A
55.000 2.1654	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385	382A
55.000 2.1654	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385X	382A
55.000 2.1654	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385	382
55.000 2.1654	100.000 3.9370	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385	383A
55.000 2.1654	110.000 4.3307	39.000 1.5354	194000 43700	0.35	1.73	50400 11300	29900 6720	1.69	251000 56500	JH307749	JH307710
55.000 2.1654	115.000 4.5276	34.000 1.3386	135000 30200	0.87	0.69	34900 7840	51700 11600	0.67	175000 39200	JW5549	JW5510
55.000 2.1654	115.000 4.5276	41.021 1.6150	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	622X	614X
55.000 2.1654	120.000 4.7244	29.002 1.1418	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	475	472A
55.000 2.1654	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	475	472
55.000 2.1654	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	475	473
55.000 2.1654	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	557	552A
55.006 2.1656	120.040 4.7260	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	622A	612A
55.562 2.1875	97.630 3.8437	24.608 0.9688	96300 21600	0.40	1.49	25000 5610	17200 3870	1.45	142000 32000	28680	28622
55.562 2.1875	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	466-S	453A
55.562 2.1875	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	466-S	453AS
55.562 2.1875	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5566	5535
55.562 2.1875	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72218C	72487
55.562 2.1875	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72219C	72487
55.562 2.1875	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813840	HM813810

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.80** 0.11	**0.90** 0.04	**64.3**	**16.1**	**0.0938**	**1.30** 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	**2.80** 0.11	**0.90** 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	**4.00** 0.16	**0.50** 0.02	**124**	**22.4**	**0.0827**	**4.04** 8.90
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	**1.10** 0.04	**1.50** 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	**1.10** 0.04	**1.50** 0.06	**45.6**	**20.4**	**0.0925**	**0.55** 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	**1.10** 0.04	**1.50** 0.06	**45.6**	**20.4**	**0.0925**	**0.58** 1.27
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	**1.30** 0.05	**2.40** 0.09	**56.4**	**19.9**	**0.0937**	**0.81** 1.79
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	**1.30** 0.05	**2.40** 0.09	**56.4**	**19.9**	**0.0937**	**0.84** 1.84
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	**1.30** 0.05	**2.40** 0.09	**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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.62** 1.37
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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.62** 1.36
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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.67** 1.47
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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.70** 1.54
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	**0.80** 0.03	**3.10** 0.12	**72**	**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	**5.30** 0.21	**3.80** 0.15	**51.1**	**17.8**	**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	**3.90** 0.15	**1.90** 0.07	**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	**1.50** 0.06	**2.20** 0.08	**77.2**	**23**	**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	**1.50** 0.06	**2.20** 0.08	**77.2**	**23**	**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	**1.50** 0.06	**2.20** 0.08	**77.2**	**23**	**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	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.20** 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	**3.90** 0.15	**1.90** 0.07	**75.9**	**16.2**	**0.0694**	**2.14** 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	**1.60** 0.06	**1.80** 0.07	**54**	**20.2**	**0.0979**	**0.76** 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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.14** 2.51
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.13** 2.50
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	**2.50** 0.10	**1.20** 0.05	**110**	**24.2**	**0.0825**	**2.55** 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	**4.70** 0.19	**4.40** 0.17	**57.4**	**13.5**	**0.0825**	**2.01** 4.43
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	**4.70** 0.19	**4.40** 0.17	**57.4**	**13.5**	**0.0825**	**2.01** 4.43
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	**4.00** 0.16	**1.30** 0.05	**91.7**	**24.3**	**0.1252**	**2.30** 5.08

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

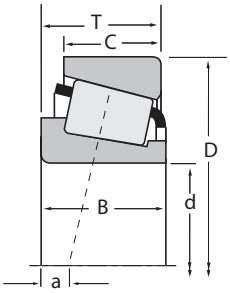
(7) Compound radius on inner race. Details on drawing for bearing.

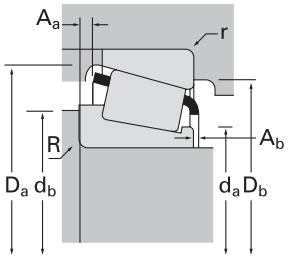
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
55.562 2.1875	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813840	HM813811
55.575 2.1880	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	389	382A
55.575 2.1880	100.000 3.9370	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	389	383A
57.150 2.2500	87.312 3.4375	18.258 0.7188	58100 13100	0.39	1.54	15100 3380	10000 2250	1.50	95600 21500	L507949	L507910
57.150 2.2500	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387	382A
57.150 2.2500	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387A	382A
57.150 2.2500	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387AS	382A
57.150 2.2500	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387-S	382A
57.150 2.2500	96.838 3.8125	24.608 0.9688	96300 21600	0.40	1.49	25000 5610	17200 3870	1.45	142000 32000	28682	28621
57.150 2.2500	96.838 3.8125	25.400 1.0000	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387A	382-S
57.150 2.2500	97.630 3.8437	24.608 0.9688	96300 21600	0.40	1.49	25000 5610	17200 3870	1.45	142000 32000	28682	28622
57.150 2.2500	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387	382
57.150 2.2500	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387A	382
57.150 2.2500	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387AS	382
57.150 2.2500	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387-S	382
57.150 2.2500	98.425 3.8750	24.608 0.9688	96300 21600	0.40	1.49	25000 5610	17200 3870	1.45	142000 32000	28682	28623
57.150 2.2500	100.000 3.9370	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387A	383A
57.150 2.2500	100.000 3.9370	25.400 1.0000	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387	383X
57.150 2.2500	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45289	45220
57.150 2.2500	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45289	45221
57.150 2.2500	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45290	45220
57.150 2.2500	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45290	45221
57.150 2.2500	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45291	45220
57.150 2.2500	104.775 4.1250	30.162 1.1875	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45291	45221
57.150 2.2500	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	462	453X
57.150 2.2500	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	462A	453X
57.150 2.2500	104.775 4.1250	30.162 1.1875	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	469	453X
57.150 2.2500	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	462	453A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**4.00** 0.16	**1.30** 0.05	**91.7**	**24.3**	**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	**1.10** 0.04	**2.00** 0.08	**42**	**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	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.69** 1.52
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	**0.30** 0.01	**2.00** 0.08	**46.1**	**36.9**	**0.0914**	**0.39** 0.85
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.59** 1.30
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.58** 1.29
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**5.0** 0.20	**62.0** 2.44	**72.0** 2.83	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.57** 1.26
21.946 0.8640	**15.875** 0.6250	**-3.0** -0.12	**0.8** 0.03	**62.0** 2.44	**63.0** 2.48	**0.8** 0.03	**92.0** 3.62	**89.0** 3.50	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.59** 1.31
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	**1.60** 0.06	**1.80** 0.07	**54**	**20.2**	**0.0979**	**0.71** 1.57
21.946 0.8640	**20.274** 0.7982	**-3.0** -0.12	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**2.3** 0.09	**91.0** 3.58	**87.0** 3.43	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.65** 1.43
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	**1.60** 0.06	**1.80** 0.07	**54**	**20.2**	**0.0979**	**0.73** 1.61
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.63** 1.40
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.63** 1.39
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**5.0** 0.20	**62.0** 2.44	**72.0** 2.83	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.62** 1.36
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**0.8** 0.03	**62.0** 2.44	**63.0** 2.48	**0.8** 0.03	**92.0** 3.62	**90.0** 3.54	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.64** 1.41
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	**1.60** 0.06	**1.80** 0.07	**54**	**20.2**	**0.0979**	**0.75** 1.65
21.946 0.8640	**17.826** 0.7018	**-3.0** -0.12	**3.5** 0.14	**62.0** 2.44	**69.0** 2.72	**2.0** 0.08	**93.0** 3.66	**89.0** 3.50	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.66** 1.45
21.946 0.8640	**22.225** 0.8750	**-3.0** -0.12	**2.3** 0.09	**62.0** 2.44	**66.0** 2.60	**1.3** 0.05	**93.0** 3.66	**89.0** 3.50	**1.10** 0.04	**2.00** 0.08	**42**	**15.7**	**0.0859**	**0.76** 1.67
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	**2.10** 0.08	**1.80** 0.07	**63.5**	**16.9**	**0.0971**	**1.08** 2.39
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	**2.10** 0.08	**1.80** 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	**3.3** 0.13	**99.0** 3.90	**93.0** 3.66	**2.10** 0.08	**1.80** 0.07	**63.5**	**16.9**	**0.0971**	**1.08** 2.39
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	**2.10** 0.08	**1.80** 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	**2.10** 0.08	**1.80** 0.07	**63.5**	**16.9**	**0.0971**	**1.05** 2.32
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	**2.10** 0.08	**1.80** 0.07	**63.5**	**16.9**	**0.0971**	**1.06** 2.33
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.05** 2.31
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.04** 2.29
29.317 1.1542	**24.605** 0.9687	**-7.1** -0.28	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**3.3** 0.13	**98.0** 3.86	**92.0** 3.62	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.04** 2.30
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.10** 2.43

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

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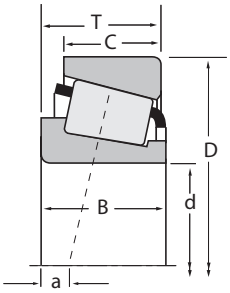
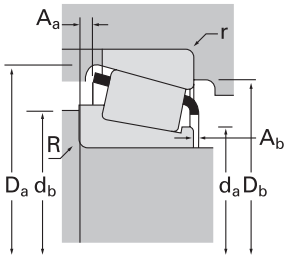
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
57.150 2.2500	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	462	453AS
57.150 2.2500	107.950 4.2500	27.783 1.0938	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	469	453A
57.150 2.2500	107.950 4.2500	32.558 1.2818	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	462	452A
57.150 2.2500	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	390	394A
57.150 2.2500	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	390	394AS
57.150 2.2500	110.000 4.3307	27.795 1.0943	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	462	454
57.150 2.2500	112.712 4.4375	25.400 1.0000	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29665	29620
57.150 2.2500	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	390	3920
57.150 2.2500	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3979	3920
57.150 2.2500	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39580	39520
57.150 2.2500	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39580	39521
57.150 2.2500	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39581	39520
57.150 2.2500	117.475 4.6250	33.338 1.3125	138000 31000	0.63	0.96	35800 8040	38300 8620	0.93	166000 37300	66225	66462
57.150 2.2500	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	623	612
57.150 2.2500	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	623	612-S
57.150 2.2500	120.650 4.7500	41.275 1.6250	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	623A	612
57.150 2.2500	122.238 4.8125	33.338 1.3125	143000 32200	0.67	0.90	37100 8340	42300 9500	0.88	178000 39900	66587	66520
57.150 2.2500	123.825 4.8750	36.512 1.4375	167000 37600	0.74	0.81	43400 9760	54800 12300	0.79	208000 46800	72225C	72487
57.150 2.2500	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	555-S	552
57.150 2.2500	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	555-S	552A
57.150 2.2500	125.000 4.9213	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	555-S	553A
57.150 2.2500	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65225	65500
57.150 2.2500	129.944 5.1159	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	555-S	553-SA
57.150 2.2500	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6375	6320
57.150 2.2500	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6387	6320
57.150 2.2500	136.525 5.3750	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78225C	78537
57.150 2.2500	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	635	632
57.150 2.2500	140.030 5.5130	36.512 1.4375	158000 35600	0.87	0.69	41100 9230	60900 13700	0.67	193000 43400	78225	78551

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.10** 2.43
29.317 1.1542	**22.225** 0.8750	**-7.1** -0.28	**3.5** 0.14	**63.0** 2.48	**70.0** 2.76	**0.8** 0.03	**100.0** 3.94	**97.0** 3.82	**2.20** 0.09	**1.40** 0.05	**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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.21** 2.67
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.94** 2.07
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.92** 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	**2.20** 0.09	**1.40** 0.05	**58.6**	**17.1**	**0.0946**	**1.23** 2.71
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	**2.30** 0.09	**1.50** 0.06	**77.7**	**43.3**	**0.1170**	**1.21** 2.67
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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**1.12** 2.47
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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.37** 3.01
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.60** 0.06	**2.60** 0.10	**84.3**	**23.7**	**0.1074**	**1.38** 3.03
30.162 1.1875	**23.812** 0.9375	**-6.6** -0.26	**3.5** 0.14	**66.0** 2.60	**72.0** 2.83	**0.8** 0.03	**107.0** 4.21	**103.0** 4.06	**1.60** 0.06	**2.60** 0.10	**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	**1.60** 0.06	**2.60** 0.10	**84.3**	**23.7**	**0.1074**	**1.34** 2.95
31.750 1.2500	**23.812** 0.9375	**-0.3** -0.01	**3.5** 0.14	**69.0** 2.71	**76.0** 2.99	**3.3** 0.13	**111.0** 4.37	**100.0** 3.94	**5.00** 0.20	**2.00** 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	**3.90** 0.15	**1.90** 0.07	**75.9**	**16.2**	**0.0694**	**2.10** 4.62
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	**3.90** 0.15	**1.90** 0.07	**75.9**	**16.2**	**0.0694**	**2.11** 4.65
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	**3.90** 0.15	**1.90** 0.07	**75.9**	**16.2**	**0.0694**	**2.07** 4.57
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	**5.20** 0.21	**2.00** 0.08	**57**	**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	**4.70** 0.19	**4.40** 0.17	**57.4**	**13.5**	**0.0825**	**1.98** 4.36
36.678 1.4440	**33.338** 1.3125	**-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	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.20** 4.84
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	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.15** 4.74
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	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.20** 4.85
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	**4.10** 0.16	**1.00** 0.04	**83.2**	**17.2**	**0.0827**	**2.69** 5.93
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	**111.0** 4.37	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.43** 5.37
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	**4.00** 0.16	**0.50** 0.02	**124**	**22.4**	**0.0827**	**3.95** 8.71
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	**4.00** 0.16	**0.50** 0.02	**124**	**22.4**	**0.0827**	**3.96** 8.74
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	**6.40** 0.25	**4.80** 0.19	**71.3**	**17.6**	**0.0926**	**2.52** 5.56
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	**4.20** 0.16	**1.90** 0.08	**106**	**21**	**0.0814**	**3.03** 6.68
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	**6.90** 0.27	**4.10** 0.16	**62.6**	**19.1**	**0.0884**	**2.57** 5.66

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

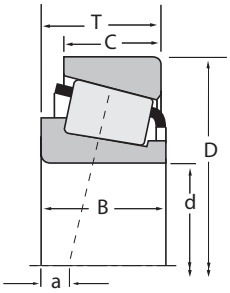
[7] Compound radius on inner race. Details on drawing for bearing.

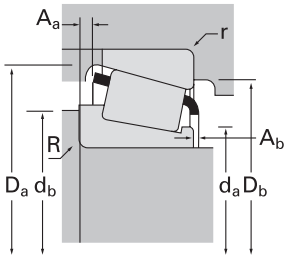
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
57.150 2.2500	140.030 5.5130	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78225C	78551
57.150 2.2500	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6455	6420
57.150 2.2500	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6465	6420
57.150 2.2500	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6465	6420A
57.150 2.2500	152.400 6.0000	53.975 2.1250	313000 70500	0.49	1.23	81300 18300	67800 15200	1.20	423000 95000	HH814540	HH814510
57.531 2.2650	96.838 3.8125	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	388A	382A
57.531 2.2650	98.425 3.8750	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	388A	382
57.531 2.2650	100.000 3.9370	21.000 0.8268	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	388A	383A
58.738 2.3125	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3981	3920
58.738 2.3125	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65231	65500
59.530 2.3437	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3978	3920
59.880 2.3575	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65235	65500
59.931 2.3595	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	745	742
59.977 2.3613	100.000 3.9370	25.400 1.0000	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28980	28921
59.977 2.3613	122.238 4.8125	33.338 1.3125	143000 32200	0.67	0.90	37100 8340	42300 9500	0.88	178000 39900	66586	66520
59.987 2.3617	104.775 4.1250	21.433 0.8438	89600 20100	0.39	1.55	23200 5220	15400 3470	1.51	120000 27000	39236	39412
59.987 2.3617	109.985 4.3301	29.751 1.1713	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3977X	3921XA
59.987 2.3617	110.058 4.3330	22.000 0.8661	89600 20100	0.39	1.55	23200 5220	15400 3470	1.51	120000 27000	39236	39433
59.987 2.3617	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3977X	3920
59.987 2.3617	125.000 4.9213	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	558-S	553A
59.987 2.3617	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813839	HM813810
59.987 2.3617	129.944 5.1159	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	558-S	553-SA
59.987 2.3617	130.175 5.1250	34.100 1.3425	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911244	HM911210
59.987 2.3617	134.983 5.3143	33.449 1.3169	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911244	HM911216
59.987 2.3617	146.050 5.7500	41.275 1.6250	213000 47900	0.78	0.77	55200 12400	74000 16600	0.75	256000 57500	H913840	H913810
60.000 2.3622	95.000 3.7402	24.000 0.9449	90400 20300	0.40	1.49	23400 5270	16100 3620	1.45	135000 30400	JLM508748	JLM508710
60.000 2.3622	100.000 3.9370	21.000 0.8268	80900 18200	0.47	1.27	21000 4710	17000 3820	1.24	101000 22800	JP6049	JP6010
60.000 2.3622	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29580	29520

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

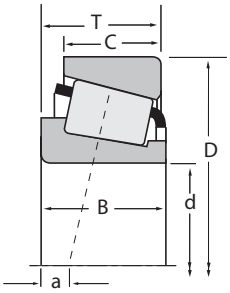
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
33.236 1.3085	23.520 0.9260	8.4 0.33	3.5 0.14	77.5 3.05	86.0 3.39	2.3 0.09	132.0 5.20	117.0 4.61	6.40 0.25	4.80 0.19	71.3	17.6	0.0926	2.68 5.90
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	5.08 11.20
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	5.05 11.14
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	5.07 11.18
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	5.30 0.21	0.20 0.01	130	23.5	0.0957	5.28 11.65
21.946 0.8640	15.875 0.6250	-3.0 -0.12	3.5 0.14	63.0 2.48	69.0 2.72	0.8 0.03	92.0 3.62	89.0 3.50	1.10 0.04	2.00 0.08	42	15.7	0.0859	0.58 1.27
21.946 0.8640	17.826 0.7018	-3.0 -0.12	3.5 0.14	63.0 2.48	69.0 2.72	0.8 0.03	92.0 3.62	90.0 3.54	1.10 0.04	2.00 0.08	42	15.7	0.0859	0.62 1.37
21.946 0.8640	17.826 0.7018	-3.0 -0.12	3.5 0.14	63.0 2.48	69.0 2.72	2.0 0.08	93.0 3.66	89.0 3.50	1.10 0.04	2.00 0.08	42	15.7	0.0859	0.65 1.44
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	2.20 0.09	1.10 0.04	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	81.0 3.19	3.3 0.13	119.0 4.69	107.0 4.21	4.10 0.16	1.00 0.04	83.2	17.2	0.0827	2.64 5.82
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	2.20 0.09	1.10 0.04	75.2	21.3	0.1092	1.32 2.92
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	4.10 0.16	1.00 0.04	83.2	17.2	0.0827	2.60 5.74
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	4.28 9.44
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	2.00 0.08	1.40 0.05	60.1	24.5	0.1032	0.76 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	5.20 0.21	2.00 0.08	57	18.3	0.0797	1.64 3.61
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	1.70 0.07	2.30 0.09	51.7	19.5	0.0947	0.74 1.63
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	104.5 4.12	100.0 3.94	2.20 0.09	3.10 0.12	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	1.70 0.07	2.30 0.09	51.7	19.5	0.0947	0.87 1.92
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	2.20 0.09	3.10 0.12	75.2	21.3	0.1092	1.28 2.83
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	2.30 0.09	1.20 0.05	91	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	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	2.19 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	2.30 0.09	1.20 0.05	91	21.1	0.1108	2.36 5.20
30.924 1.2175	23.812 0.9375	7.9 0.31	3.5 0.14	74.5 2.93	84.0 3.31	3.3 0.13	123.5 4.87	109.0 4.29	5.00 0.20	4.20 0.17	56.4	16.5	0.0842	2.00 4.40
30.924 1.2175	21.948 0.8641	7.9 0.31	3.5 0.14	74.5 2.93	84.0 3.31	3.5 0.14	123.0 4.84	112.0 4.41	5.00 0.20	4.20 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	82.5 3.24	88.0 3.46	3.3 0.13	138.0 5.43	124.0 4.88	8.20 0.32	3.60 0.14	78.5	17.3	0.0927	3.17 6.99
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	1.50 0.06	1.60 0.06	54.2	25.3	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	1.40 0.06	2.80 0.11	39.5	22.5	0.0922	0.60 1.32
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	2.20 0.08	1.40 0.05	70.3	25.8	0.1112	0.98 2.16

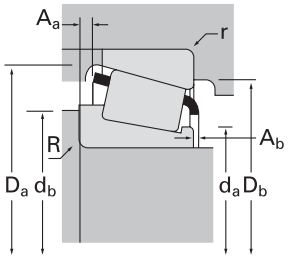
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
60.000 2.3622	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29582	29520
60.000 2.3622	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29582	29522
60.000 2.3622	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	397	394A
60.000 2.3622	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	397	394AS
60.000 2.3622	110.000 4.3307	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29580	29521
60.000 2.3622	110.000 4.3307	38.000 1.4961	183000 41200	0.40	1.48	47500 10700	32800 7380	1.44	253000 56800	XAA33212	Y33212
60.000 2.3622	110.000 4.3307	38.000 1.4961	183000 41200	0.40	1.48	47500 10700	32800 7380	1.44	253000 56800	XAB-33212	Y33212
60.000 2.3622	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3977	3920
60.000 2.3622	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3977	3925
60.000 2.3622	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	476	472
60.000 2.3622	122.238 4.8125	33.338 1.3125	143000 32200	0.67	0.90	37100 8340	42300 9500	0.88	178000 39900	66585	66520
60.000 2.3622	125.000 4.9213	37.000 1.4567	159000 35800	0.82	0.73	41200 9270	57900 13000	0.71	210000 47100	JW6049	JW6010
60.325 2.3750	100.000 3.9370	25.400 1.0000	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28985	28921
60.325 2.3750	100.000 3.9370	25.400 1.0000	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28985	28921A
60.325 2.3750	101.600 4.0000	25.400 1.0000	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28985	28920
60.325 2.3750	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3980	3920
60.325 2.3750	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3980	3925
60.325 2.3750	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212044	HM212010
60.325 2.3750	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212044	HM212011
60.325 2.3750	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5582	5535
60.325 2.3750	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5583	5535
60.325 2.3750	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	558	552
60.325 2.3750	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	558	552A
60.325 2.3750	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	558A	552A
60.325 2.3750	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813841A	HM813811
60.325 2.3750	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813841	HM813810
60.325 2.3750	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813841	HM813811
60.325 2.3750	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65237	65500

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**0.99** 2.19
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**1.00** 2.21
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.90** 1.98
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.88** 1.95
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**1.05** 2.31
38.000 1.4961	**29.000** 1.1417	**-9.9** -0.39	**6.0** 0.24	**68.0** 2.68	**85.0** 3.35	**1.5** 0.06	**105.0** 4.13	**98.0** 3.86	**4.00** 0.16	**2.50** 0.10	**76.2**	**18.1**	**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	**4.00** 0.16	**2.50** 0.10	**76.2**	**18.1**	**0.0758**	**1.53** 3.37
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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.30** 2.88
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	**2.20** 0.09	**1.10** 0.04	**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	**1.50** 0.06	**2.20** 0.08	**77.2**	**23**	**0.1083**	**1.54** 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	**5.20** 0.21	**2.00** 0.08	**57**	**18.3**	**0.0797**	**1.63** 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	**6.00** 0.24	**4.00** 0.16	**64.1**	**18.5**	**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	**3.3** 0.13	**96.0** 3.78	**89.0** 3.50	**2.00** 0.08	**1.40** 0.05	**60.1**	**24.5**	**0.1032**	**0.75** 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	**0.8** 0.03	**96.0** 3.78	**91.0** 3.58	**2.00** 0.08	**1.40** 0.05	**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	**97.0** 3.82	**90.0** 3.54	**2.00** 0.08	**1.40** 0.05	**60.1**	**24.5**	**0.1032**	**0.79** 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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.30** 2.86
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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.31** 2.89
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	**2.20** 0.09	**3.00** 0.12	**92.2**	**18.1**	**0.0759**	**2.02** 4.46
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	**2.20** 0.09	**3.00** 0.12	**92.2**	**18.1**	**0.0759**	**2.02** 4.45
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	**2.50** 0.10	**1.20** 0.05	**110**	**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	**2.50** 0.10	**1.20** 0.05	**110**	**24.2**	**0.0825**	**2.39** 5.28
36.678 1.4440	**33.338** 1.3125	**-9.4** -0.37	**2.3** 0.09	**69.0** 2.72	**73.0** 2.87	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.12** 4.67
36.678 1.4440	**30.162** 1.1875	**-9.4** -0.37	**2.3** 0.09	**69.0** 2.72	**73.0** 2.87	**3.3** 0.13	**116.0** 4.57	**109.0** 4.29	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.07** 4.57
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	**2.30** 0.09	**1.20** 0.05	**91**	**21.1**	**0.1108**	**2.07** 4.55
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	**4.00** 0.16	**1.30** 0.05	**91.7**	**24.3**	**0.1252**	**2.18** 4.81
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**76.5** 3.02	**83.0** 3.27	**3.3** 0.13	**121.0** 4.76	**111.0** 4.37	**4.00** 0.16	**1.30** 0.05	**91.7**	**24.3**	**0.1252**	**2.18** 4.80
36.512 1.4375	**26.988** 1.0625	**-3.8** -0.15	**3.5** 0.14	**76.5** 3.02	**83.0** 3.27	**1.5** 0.06	**121.0** 4.76	**113.0** 4.45	**4.00** 0.16	**1.30** 0.05	**91.7**	**24.3**	**0.1252**	**2.18** 4.80
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**82.0** 3.23	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.10** 0.16	**1.00** 0.04	**83.2**	**17.2**	**0.0827**	**2.59** 5.70

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

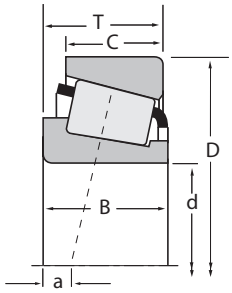
[7] Compound radius on inner race. Details on drawing for bearing.

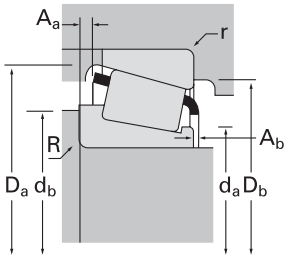
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
60.325 2.3750	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65237	65501
60.325 2.3750	127.000 5.0000	44.450 1.7500	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65237A	65500
60.325 2.3750	130.175 5.1250	36.512 1.4375	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911245	HM911210
60.325 2.3750	130.175 5.1250	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	637	633
60.325 2.3750	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6376	6320
60.325 2.3750	136.525 5.3750	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78238C	78537
60.325 2.3750	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	637	632
60.325 2.3750	136.525 5.3750	46.038 1.8125	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65237	65537
60.325 2.3750	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715332	H715311
60.325 2.3750	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715332	H715310
60.325 2.3750	140.030 5.5130	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78238C	78551
60.325 2.3750	152.400 6.0000	52.705 2.0750	328000 73700	0.49	1.23	85000 19100	70900 15900	1.20	451000 101000	HH814542	HH814510
61.912 2.4375	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	392	394A
61.912 2.4375	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	392	3920
61.912 2.4375	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	554	552A
61.912 2.4375	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813843	HM813810
61.912 2.4375	130.175 5.1250	36.512 1.4375	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911249	HM911210
61.912 2.4375	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715334	H715311
61.912 2.4375	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715334	H715310
61.912 2.4375	146.050 5.7500	41.275 1.6250	213000 47900	0.78	0.77	55200 12400	74000 16600	0.75	256000 57500	H913842	H913810
61.912 2.4375	146.050 5.7500	41.275 1.6250	213000 47900	0.78	0.77	55200 12400	74000 16600	0.75	256000 57500	H913843	H913810
61.912 2.4375	152.400 6.0000	47.625 1.8750	264000 59400	0.66	0.91	68500 15400	76900 17300	0.89	306000 68700	9180	9121
61.912 2.4375	152.400 6.0000	47.625 1.8750	264000 59400	0.66	0.91	68500 15400	76900 17300	0.89	306000 68700	9181	9121
61.912 2.4375	158.750 6.2500	50.800 2.0000	264000 59400	0.66	0.91	68500 15400	76900 17300	0.89	306000 68700	9180	9120
61.912 2.4375	158.750 6.2500	50.800 2.0000	264000 59400	0.66	0.91	68500 15400	76900 17300	0.89	306000 68700	9181	9120
61.912 2.4375	158.750 6.2500	55.562 2.1875	264000 59400	0.66	0.91	68500 15400	76900 17300	0.89	306000 68700	9178	9120
61.976 2.4400	99.979 3.9362	23.812 0.9375	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28990	28919
62.738 2.4700	100.000 3.9370	25.400 1.0000	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28995	28921

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**82.0** 3.23	**1.3** 0.05	**119.0** 4.69	**108.0** 4.25	**4.10** 0.16	**1.00** 0.04	**83.2**	**17.2**	**0.0827**	**2.60** 5.73
44.450 1.7500	**34.925** 1.3750	**-9.4** -0.37	**1.5** 0.06	**71.0** 2.80	**78.0** 3.07	**3.3** 0.13	**119.0** 4.69	**107.0** 4.21	**4.10** 0.16	**1.00** 0.04	**83.2**	**17.2**	**0.0827**	**2.59** 5.72
33.338 1.3125	**23.812** 0.9375	**5.3** 0.21	**5.0** 0.20	**74.5** 2.93	**87.0** 3.43	**3.3** 0.13	**123.5** 4.87	**109.0** 4.29	**7.40** 0.29	**4.20** 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	**4.20** 0.16	**1.90** 0.08	**106**	**21**	**0.0814**	**2.59** 5.71
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	**4.00** 0.16	**0.50** 0.02	**124**	**22.4**	**0.0827**	**3.82** 8.43
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	**6.40** 0.25	**4.90** 0.19	**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	**4.20** 0.16	**1.90** 0.08	**106**	**21**	**0.0814**	**2.93** 6.47
44.450 1.7500	**36.512** 1.4375	**-9.4** -0.37	**3.5** 0.14	**71.0** 2.80	**82.0** 3.23	**3.0** 0.12	**120.0** 4.72	**112.0** 4.41	**4.10** 0.16	**1.00** 0.04	**83.2**	**17.2**	**0.0827**	**3.22** 7.10
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	**4.20** 0.16	**2.00** 0.08	**147**	**32.8**	**0.0993**	**3.52** 7.77
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	**4.20** 0.16	**2.00** 0.08	**147**	**32.8**	**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	**6.40** 0.25	**4.90** 0.19	**71.3**	**17.6**	**0.0926**	**2.59** 5.71
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	**4.10** 0.16	**2.40** 0.10	**136**	**24.6**	**0.0973**	**5.02** 11.06
21.996 0.8660	**18.825** 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	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**0.87** 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	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**1.05** 2.31
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	**2.30** 0.09	**1.20** 0.05	**91**	**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	**4.00** 0.16	**1.30** 0.05	**91.7**	**24.3**	**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	**123.5** 4.87	**109.0** 4.29	**7.40** 0.29	**4.20** 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	**4.20** 0.16	**2.00** 0.08	**147**	**32.8**	**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	**4.20** 0.16	**2.00** 0.08	**147**	**32.8**	**0.0993**	**3.65** 8.05
39.688 1.5625	**25.400** 1.0000	**4.3** 0.17	**3.5** 0.14	**82.5** 3.24	**90.0** 3.54	**3.3** 0.13	**138.0** 5.43	**124.0** 4.88	**8.20** 0.32	**3.60** 0.14	**78.5**	**17.3**	**0.0927**	**3.12** 6.87
39.688 1.5625	**25.400** 1.0000	**4.3** 0.17	**7.0** 0.28	**82.5** 3.24	**97.0** 3.82	**3.3** 0.13	**138.0** 5.43	**124.0** 4.88	**8.20** 0.32	**3.60** 0.14	**78.5**	**17.3**	**0.0927**	**3.08** 6.80
46.038 1.8125	**31.750** 1.2500	**-3.8** -0.15	**3.5** 0.14	**81.5** 3.20	**90.0** 3.54	**3.3** 0.13	**145.0** 5.71	**130.0** 5.12	**8.10** 0.32	**4.00** 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	**81.5** 3.20	**85.0** 3.35	**3.3** 0.13	**145.0** 5.71	**130.0** 5.12	**8.10** 0.32	**4.00** 0.16	**87.6**	**13.7**	**0.0912**	**3.99** 8.80
46.038 1.8125	**34.925** 1.3750	**-3.8** -0.15	**3.5** 0.14	**81.5** 3.20	**90.0** 3.54	**3.3** 0.13	**146.0** 5.75	**131.0** 5.16	**8.10** 0.32	**4.00** 0.16	**87.6**	**13.7**	**0.0912**	**4.60** 10.14
46.038 1.8125	**34.925** 1.3750	**-3.8** -0.15	**0.8** 0.03	**81.5** 3.20	**85.0** 3.35	**3.3** 0.13	**146.0** 5.75	**131.0** 5.16	**8.10** 0.32	**4.00** 0.16	**87.6**	**13.7**	**0.0912**	**4.61** 10.17
52.388 2.0625	**34.925** 1.3750	**-8.4** -0.33	**3.5** 0.14	**81.5** 3.20	**90.0** 3.54	**3.3** 0.13	**146.0** 5.75	**131.0** 5.16	**12.90** 0.51	**2.40** 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	**1.20** 0.05	**1.40** 0.05	**60.1**	**24.5**	**0.1032**	**0.71** 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	**2.00** 0.08	**1.40** 0.05	**60.1**	**24.5**	**0.1032**	**0.70** 1.55

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

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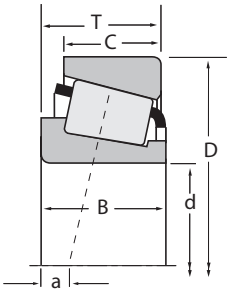
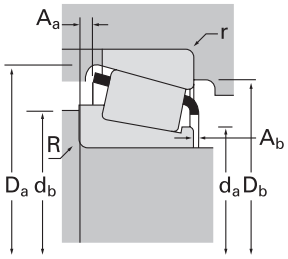
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
62.738 2.4700	101.600 4.0000	25.400 1.0000	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28995	28920
63.500 2.5000	92.075 3.6250	13.495 0.5313	35800 8060	0.41	1.48	9290 2090	6450 1450	1.44	53300 12000	LL510749	LL510710
63.500 2.5000	94.458 3.7188	19.050 0.7500	62000 13900	0.42	1.41	16100 3620	11700 2630	1.38	108000 24300	L610549	L610510
63.500 2.5000	104.775 4.1250	21.433 0.8438	89600 20100	0.39	1.55	23200 5220	15400 3470	1.51	120000 27000	39250	39412
63.500 2.5000	107.158 4.2188	22.000 0.8661	89600 20100	0.39	1.55	23200 5220	15400 3470	1.51	120000 27000	39250	39422
63.500 2.5000	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29585	29520
63.500 2.5000	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29585	29522
63.500 2.5000	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29586	29520
63.500 2.5000	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29586	29522
63.500 2.5000	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395	394
63.500 2.5000	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	390A	394A
63.500 2.5000	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	390A	394AS
63.500 2.5000	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395	394A
63.500 2.5000	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395	394AS
63.500 2.5000	110.000 4.3307	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29585	29521
63.500 2.5000	110.000 4.3307	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29586	29521
63.500 2.5000	110.000 4.3307	29.370 1.1563	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3982X	3927AS
63.500 2.5000	110.000 4.3307	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3982	3927X
63.500 2.5000	110.058 4.3330	22.000 0.8661	89600 20100	0.39	1.55	23200 5220	15400 3470	1.51	120000 27000	39250	39433
63.500 2.5000	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395	3920
63.500 2.5000	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	390A	3920
63.500 2.5000	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3982	3920
63.500 2.5000	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3982	3925
63.500 2.5000	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39585	39520
63.500 2.5000	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39585A	39520
63.500 2.5000	112.712 4.4375	33.338 1.3125	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3982	3926
63.500 2.5000	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33251	33462
63.500 2.5000	120.000 4.7244	29.002 1.1418	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	477	472A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.00** 0.08	**1.40** 0.05	**60.1**	**24.5**	**0.1032**	**0.74** 1.64
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	**0.60** 0.02	**1.80** 0.07	**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	**0.90** 0.04	**1.40** 0.06	**56.7**	**43.6**	**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	**1.70** 0.07	**2.30** 0.09	**51.7**	**19.5**	**0.0947**	**0.68** 1.51
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	**1.70** 0.07	**2.30** 0.09	**51.7**	**19.5**	**0.0947**	**0.78** 1.72
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**0.91** 2.02
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**0.93** 2.04
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**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	**0.8** 0.03	**103.0** 4.06	**98.0** 3.86	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**0.94** 2.06
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	**106.0** 4.18	**101.0** 3.98	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**0.85** 1.87
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.84** 1.85
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.82** 1.81
21.996 0.8660	**18.825** 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	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**0.83** 1.83
21.996 0.8660	**18.825** 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	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**0.81** 1.80
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**0.98** 2.16
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**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	**100.0** 3.94	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.10** 2.42
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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.13** 2.50
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	**1.70** 0.07	**2.30** 0.09	**51.7**	**19.5**	**0.0947**	**0.81** 1.80
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	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**1.01** 2.23
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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**1.02** 2.24
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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.22** 2.70
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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.24** 2.73
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	**1.60** 0.06	**2.60** 0.10	**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	**1.60** 0.06	**2.60** 0.10	**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	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.31** 2.89
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	**2.30** 0.09	**1.10** 0.04	**84.2**	**25.9**	**0.1162**	**1.42** 3.13
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	**1.50** 0.06	**2.20** 0.08	**77.2**	**23**	**0.1083**	**1.44** 3.17

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

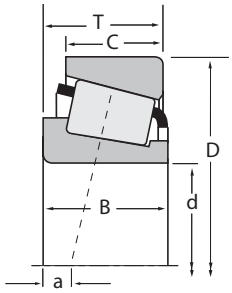
[7] Compound radius on inner race. Details on drawing for bearing.

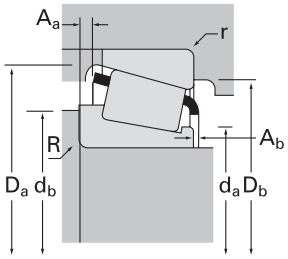
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
63.500 2.5000	120.000 4.7244	29.002 1.1418	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	483	472A
63.500 2.5000	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	477	472
63.500 2.5000	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	477	473
63.500 2.5000	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	483	472
63.500 2.5000	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212046	HM212010
63.500 2.5000	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212046	HM212011
63.500 2.5000	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212047	HM212010
63.500 2.5000	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212047	HM212011
63.500 2.5000	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5564	5535
63.500 2.5000	122.238 4.8125	43.658 1.7188	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5584	5535
63.500 2.5000	123.825 4.8750	30.162 1.1875	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	483	472X
63.500 2.5000	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	559	552
63.500 2.5000	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	559	552A
63.500 2.5000	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	565	563
63.500 2.5000	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813842A	HM813810
63.500 2.5000	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813842	HM813810
63.500 2.5000	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813842	HM813811
63.500 2.5000	130.000 5.1181	36.937 1.4542	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	565	562X
63.500 2.5000	130.000 5.1181	36.937 1.4542	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	565-S	562X
63.500 2.5000	130.000 5.1181	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	639	633X
63.500 2.5000	130.175 5.1250	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	639	633
63.500 2.5000	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6382	6320
63.500 2.5000	136.525 5.3750	36.512 1.4375	158000 35600	0.87	0.69	41100 9230	60900 13700	0.67	193000 43400	78250	78537
63.500 2.5000	136.525 5.3750	36.512 1.4375	185000 41500	0.87	0.69	47900 10800	71000 16000	0.67	234000 52600	78248C	78537
63.500 2.5000	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	639	632
63.500 2.5000	136.525 5.3750	41.275 1.6250	252000 56700	0.36	1.67	65400 14700	40300 9060	1.62	335000 75400	H414235	H414210
63.500 2.5000	136.525 5.3750	41.275 1.6250	252000 56700	0.36	1.67	65400 14700	40300 9060	1.62	335000 75400	H414236	H414210
63.500 2.5000	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715336	H715311

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

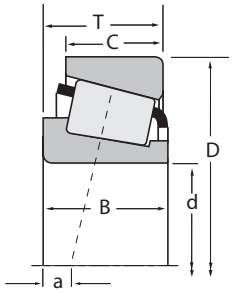
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
29.007 1.1420	23.444 0.9230	-4.1 -0.16	3.5 0.14	72.0 2.83	78.0 3.07	3.3 0.13	114.0 4.49	106.0 4.17	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.43 3.15
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.47 3.24
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	1.50 0.06	2.20 0.08	77.2	23	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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.46 3.22
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	2.20 0.09	3.00 0.12	92.2	18.1	0.0759	1.95 4.29
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	2.20 0.09	3.00 0.12	92.2	18.1	0.0759	1.94 4.29
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	2.20 0.09	3.00 0.12	92.2	18.1	0.0759	1.93 4.26
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	2.20 0.09	3.00 0.12	92.2	18.1	0.0759	1.93 4.26
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	2.50 0.10	1.20 0.05	110	24.2	0.0825	2.28 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	2.50 0.10	1.20 0.05	110	24.2	0.0825	2.29 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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.60 3.52
36.678 1.4440	33.338 1.3125	-9.4 -0.37	3.5 0.14	72.0 2.83	78.0 3.07	3.3 0.13	116.0 4.57	109.0 4.29	2.30 0.09	1.20 0.05	91	21.1	0.1108	2.02 4.46
36.678 1.4440	30.162 1.1875	-9.4 -0.37	3.5 0.14	72.0 2.83	78.0 3.07	3.3 0.13	116.0 4.57	109.0 4.29	2.30 0.09	1.20 0.05	91	21.1	0.1108	1.98 4.36
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	3.20 0.13	1.80 0.07	101	24	0.1167	2.08 4.59
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	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	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	3.3 0.13	121.0 4.76	111.0 4.37	4.00 0.16	1.30 0.05	91.7	24.3	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	1.5 0.06	121.0 4.76	113.0 4.45	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	2.09 4.61
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	3.20 0.13	1.80 0.07	101	24	0.1167	2.24 4.93
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	3.20 0.13	1.80 0.07	101	24	0.1167	2.21 4.88
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.49 5.48
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.49 5.49
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	4.00 0.16	0.50 0.02	124	22.4	0.0827	3.68 8.12
33.236 1.3085	23.520 0.9260	7.9 0.31	2.3 0.09	78.5 3.10	85.0 3.35	3.3 0.13	130.0 5.12	115.0 4.53	6.90 0.27	4.10 0.16	62.6	19.1	0.0884	2.26 4.99
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	6.40 0.25	4.90 0.19	71.3	17.6	0.0926	2.38 5.24
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.83 6.25
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	3.70 0.15	3.00 0.12	113	22.8	0.0827	2.84 6.25
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	3.70 0.15	3.00 0.12	113	22.8	0.0827	2.80 6.18
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	4.20 0.16	2.00 0.08	147	32.8	0.0993	3.41 7.52

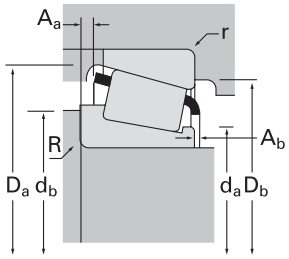
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
63.500 2.5000	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715336	H715310
63.500 2.5000	140.030 5.5130	36.512 1.4375	158000 35600	0.87	0.69	41100 9230	60900 13700	0.67	193000 43400	78250	78551
63.500 2.5000	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6475	6420
63.500 2.5000	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	745-S	742
63.500 2.5000	177.800 7.0000	56.642 2.2300	352000 79200	0.80	0.75	91300 20500	125000 28000	0.73	413000 92900	HH914447	HH914412
64.960 2.5575	149.225 5.8750	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	656	652A
64.960 2.5575	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6464	6420
64.963 2.5576	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	569	563
64.987 2.5586	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29588	29520
64.987 2.5586	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39586	39520
64.987 2.5586	119.985 4.7238	32.751 1.2894	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39586	39528
64.987 2.5586	140.030 5.5130	36.512 1.4375	158000 35600	0.87	0.69	41100 9230	60900 13700	0.67	193000 43400	78255X	78551
64.987 2.5586	144.983 5.7080	36.000 1.4173	158000 35600	0.87	0.69	41100 9230	60900 13700	0.67	193000 43400	78255X	78571
65.000 2.5591	105.000 4.1339	24.000 0.9449	100000 22500	0.45	1.32	26000 5840	20200 4540	1.29	139000 31300	JLM710949C	JLM710910
65.000 2.5591	110.000 4.3307	28.000 1.1024	131000 29400	0.40	1.49	33900 7610	23300 5240	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	131000 29400	0.40	1.49	33900 7610	23300 5240	1.45	195000 43900	JM511945	3920
65.000 2.5591	112.712 4.4375	29.020 1.1425	131000 29400	0.40	1.49	33900 7610	23300 5240	1.45	195000 43900	JM511946	3920
65.000 2.5591	120.000 4.7244	29.002 1.1418	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	478	472A
65.000 2.5591	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	478	472
65.000 2.5591	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	478	473
65.000 2.5591	120.000 4.7244	39.000 1.5354	207000 46400	0.34	1.78	53500 12000	30900 6950	1.73	283000 63600	JH211749A	JH211710
65.000 2.5591	120.000 4.7244	39.000 1.5354	207000 46400	0.34	1.78	53500 12000	30900 6950	1.73	283000 63600	JH211749	JH211710
65.000 2.5591	123.825 4.8750	30.162 1.1875	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	478	472X
65.000 2.5591	140.000 5.5118	53.980 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	J6392	J6327
65.088 2.5625	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6379	6320
65.088 2.5625	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715340	H715311
65.088 2.5625	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715340	H715310

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)													Weight kg (lbs.)
Bearing			Shaft			Housing			Cage		Factors			
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	4.20 0.16	2.00 0.08	147	32.8	0.0993	3.59 7.93
33.236 1.3085	23.520 0.9260	7.9 0.31	2.3 0.09	78.5 3.10	85.0 3.35	2.3 0.09	132.0 5.20	117.0 4.61	6.90 0.27	4.10 0.16	62.6	19.1	0.0884	2.42 5.32
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.82 10.63
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	4.16 9.16
53.975 2.1250	37.308 1.4688	-0.3 -0.01	3.5 0.14	85.5 3.36	105.0 4.13	3.3 0.13	165.0 6.50	146.0 5.75	9.90 0.39	4.70 0.18	111	17.7	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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.58 7.88
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.76 10.49
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	3.20 0.13	1.80 0.07	101	24	0.1167	2.04 4.50
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	2.20 0.08	1.40 0.05	70.3	25.8	0.1112	0.88 1.95
30.925 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	1.60 0.06	1.80 0.07	84.3	23.7	0.1074	1.21 2.67
30.925 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	1.60 0.06	1.80 0.07	84.3	23.7	0.1074	1.56 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	6.90 0.27	4.40 0.18	62.6	19.1	0.0884	2.37 5.22
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	6.90 0.27	4.40 0.18	62.6	19.1	0.0884	2.52 5.56
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	1.50 0.06	2.90 0.12	55.5	22.4	0.1023	0.75 1.65
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	1.20 0.05	1.90 0.08	76.3	23.5	0.1098	1.05 2.32
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	1.70 0.07	2.30 0.09	56	21.4	0.0984	0.84 1.85
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	1.20 0.05	0.10 0.00	76.3	23.5	0.1098	1.18 2.61
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	1.20 0.05	1.90 0.08	76.3	23.5	0.1098	1.16 2.56
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.40 3.08
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.43 3.15
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.48 3.27
38.500 1.5157	32.000 1.2598	-10.7 -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	1.20 0.05	3.40 0.13	94	22.5	0.0764	1.83 4.04
38.500 1.5157	32.000 1.2598	-10.7 -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	1.20 0.05	3.40 0.13	94	22.5	0.0764	1.87 4.12
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	1.50 0.06	2.20 0.08	77.2	23	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	4.00 0.16	0.50 0.02	124	22.4	0.0827	3.94 8.70
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	4.00 0.16	0.50 0.02	124	22.4	0.0827	3.62 7.98
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	4.20 0.16	2.00 0.08	147	32.8	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	4.20 0.16	2.00 0.08	147	32.8	0.0993	3.54 7.80

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

(7) Compound radius on inner race. Details on drawing for bearing.

(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

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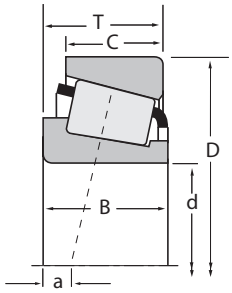
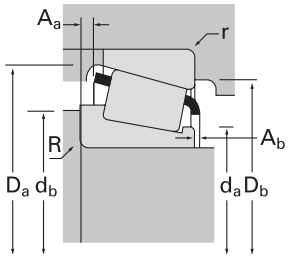
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
65.883 2.5938	122.238 4.8125	43.655 1.7187	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5595	5535
66.675 2.6250	103.213 4.0635	17.247 0.6790	64800 14600	0.49	1.23	16800 3780	14000 3150	1.20	89100 20000	L812147	L812111
66.675 2.6250	103.213 4.0635	17.602 0.6930	64800 14600	0.49	1.23	16800 3780	14000 3150	1.20	89100 20000	L812148	L812111
66.675 2.6250	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29590	29520
66.675 2.6250	107.950 4.2500	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29590	29522
66.675 2.6250	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395A	394
66.675 2.6250	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395A	394A
66.675 2.6250	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395-S	394
66.675 2.6250	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395-S	394A
66.675 2.6250	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395-S	394AS
66.675 2.6250	110.000 4.3307	25.400 1.0000	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29590	29521
66.675 2.6250	110.000 4.3307	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3984	3927X
66.675 2.6250	110.000 4.3307	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3994	3927X
66.675 2.6250	112.712 4.4375	22.225 0.8750	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395A	393A
66.675 2.6250	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395A	3920
66.675 2.6250	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395-S	3920
66.675 2.6250	112.712 4.4375	29.337 1.1550	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3992	3920
66.675 2.6250	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3984	3920
66.675 2.6250	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3984	3925
66.675 2.6250	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3994	3920
66.675 2.6250	112.712 4.4375	30.162 1.1875	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3994	3925
66.675 2.6250	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39589	39520
66.675 2.6250	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39590	39520
66.675 2.6250	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39590	39521
66.675 2.6250	112.712 4.4375	30.162 1.1875	155000 34700	0.34	1.77	40100 9010	23300 5230	1.72	224000 50300	39591	39520
66.675 2.6250	112.712 4.4375	33.338 1.3125	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3984	3926
66.675 2.6250	112.712 4.4375	33.338 1.3125	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3994	3926
66.675 2.6250	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33261	33462

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.50** 0.10	**1.20** 0.05	**110**	**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	**1.20** 0.05	**1.40** 0.06	**43.5**	**26.8**	**0.0958**	**0.50** 1.10
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	**1.60** 0.06	**1.40** 0.06	**43.5**	**26.8**	**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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**0.85** 1.87
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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**0.1112**	**0.86** 1.90
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	**106.0** 4.18	**101.0** 3.98	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**0.81** 1.77
21.996 0.8660	**18.825** 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	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**0.78** 1.73
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	**106.0** 4.18	**101.0** 3.98	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.80** 1.77
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.78** 1.72
21.996 0.8660	**18.825** 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	**1.70** 0.07	**2.30** 0.09	**56**	**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	**2.20** 0.08	**1.40** 0.05	**70.3**	**25.8**	**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	**2.40** 0.09	**0.90** 0.04	**75.2**	**21.3**	**0.1092**	**1.06** 2.33
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**5.5** 0.22	**74.0** 2.91	**84.0** 3.31	**3.3** 0.13	**105.0** 4.13	**99.0** 3.90	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.06** 2.33
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	**1.80** 0.07	**2.00** 0.08	**56**	**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	**1.80** 0.07	**2.00** 0.08	**56**	**21.4**	**0.0984**	**0.97** 2.13
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	**1.70** 0.07	**2.30** 0.09	**56**	**21.4**	**0.0984**	**0.96** 2.12
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	**1.40** 0.05	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.13** 2.50
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	**2.40** 0.09	**0.90** 0.04	**75.2**	**21.3**	**0.1092**	**1.15** 2.53
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	**2.40** 0.09	**0.90** 0.04	**75.2**	**21.3**	**0.1092**	**1.16** 2.56
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**5.5** 0.22	**74.0** 2.91	**84.0** 3.31	**3.3** 0.13	**106.0** 4.17	**99.0** 3.90	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.15** 2.53
30.048 1.1830	**23.812** 0.9375	**-4.6** -0.18	**5.5** 0.22	**74.0** 2.91	**84.0** 3.31	**0.8** 0.03	**106.0** 4.17	**101.0** 3.98	**2.20** 0.09	**1.10** 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	**1.60** 0.06	**2.60** 0.10	**84.3**	**23.7**	**0.1074**	**1.16** 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	**3.3** 0.13	**107.0** 4.21	**101.0** 3.98	**1.60** 0.06	**2.60** 0.10	**84.3**	**23.7**	**0.1074**	**1.16** 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	**1.60** 0.06	**2.60** 0.10	**84.3**	**23.7**	**0.1074**	**1.17** 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	**1.60** 0.06	**2.60** 0.10	**84.3**	**23.7**	**0.1074**	**1.14** 2.51
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	**2.40** 0.09	**0.90** 0.04	**75.2**	**21.3**	**0.1092**	**1.23** 2.72
30.048 1.1830	**26.988** 1.0625	**-4.6** -0.18	**5.5** 0.22	**74.0** 2.91	**84.0** 3.31	**3.3** 0.13	**106.0** 4.17	**98.0** 3.86	**2.20** 0.09	**1.10** 0.04	**75.2**	**21.3**	**0.1092**	**1.24** 2.72
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	**2.30** 0.09	**1.10** 0.04	**84.2**	**25.9**	**0.1162**	**1.32** 2.90

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

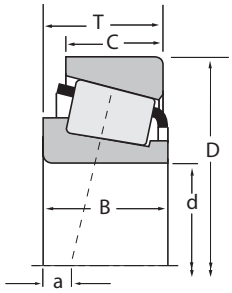
(7) Compound radius on inner race. Details on drawing for bearing.

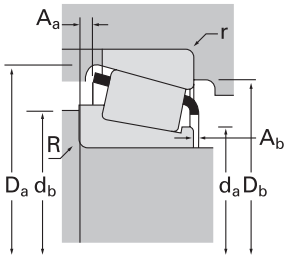
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
66.675 2.6250	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33262	33461
66.675 2.6250	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33262	33462
66.675 2.6250	120.000 4.7244	29.002 1.1418	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	479	472A
66.675 2.6250	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	479	472
66.675 2.6250	120.000 4.7244	29.794 1.1730	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33262	33472
66.675 2.6250	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212049	HM212010
66.675 2.6250	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212049	HM212011
66.675 2.6250	122.238 4.8125	38.100 1.5000	209000 46900	0.34	1.78	54100 12200	31300 7030	1.73	279000 62700	HM212049X	HM212010
66.675 2.6250	123.825 4.8750	30.162 1.1875	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	479	472X
66.675 2.6250	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	560	552
66.675 2.6250	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	560	552A
66.675 2.6250	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813844	HM813810
66.675 2.6250	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813844	HM813811
66.675 2.6250	129.944 5.1159	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	560	553-SA
66.675 2.6250	130.175 5.1250	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	641	633
66.675 2.6250	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6386	6320
66.675 2.6250	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6389	6320
66.675 2.6250	135.755 5.3447	53.975 2.1250	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6386A	6320
66.675 2.6250	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495AA	493
66.675 2.6250	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	641	632
66.675 2.6250	136.525 5.3750	41.275 1.6250	252000 56700	0.36	1.67	65400 14700	40300 9060	1.62	335000 75400	H414242	H414210
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	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715341	H715311
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	H715341	H715311A
66.675 2.6250	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715341	H715310
66.675 2.6250	152.400 6.0000	53.975 2.1250	313000 70500	0.49	1.23	81300 18300	67800 15200	1.20	423000 95000	HH814547	HH814510
66.675 2.6250	177.800 7.0000	57.150 2.2500	352000 79200	0.80	0.75	91300 20500	125000 28000	0.73	413000 92900	HH914449	HH914412
68.262 2.6875	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	399A	394A

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

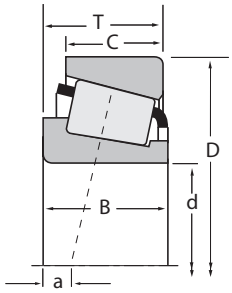
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
30.162 1.1875	23.812 0.9375	-2.8 -0.11	3.5 0.14	75.0 2.95	81.0 3.19	0.8 0.03	112.0 4.41	106.0 4.17	2.30 0.09	1.10 0.04	84.2	25.9	0.1162	1.35 2.97
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	2.30 0.09	1.10 0.04	84.2	25.9	0.1162	1.33 2.94
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.36 3.00
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.39 3.07
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	2.30 0.09	1.10 0.04	84.2	25.9	0.1162	1.42 3.14
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	2.20 0.09	3.00 0.12	92.2	18.1	0.0759	1.85 4.07
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	2.20 0.09	3.00 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	2.20 0.09	3.00 0.12	92.2	18.1	0.0759	1.83 4.04
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.53 3.37
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	2.30 0.09	1.20 0.05	91	21.1	0.1108	1.93 4.25
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	2.30 0.09	1.20 0.05	91	21.1	0.1108	1.88 4.15
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	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	2.00 4.40
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	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	2.00 4.41
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	111.0 4.37	2.30 0.09	1.20 0.05	91	21.1	0.1108	2.17 4.78
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.39 5.26
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	4.00 0.16	0.50 0.02	124	22.4	0.0827	3.54 7.81
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	4.00 0.16	0.50 0.02	124	22.4	0.0827	3.52 7.77
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	4.00 0.16	0.50 0.02	124	22.4	0.0827	3.49 7.69
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	2.50 0.10	2.10 0.08	105	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	4.20 0.16	1.90 0.08	106	21	0.0814	2.73 6.02
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	3.70 0.15	3.00 0.12	113	22.8	0.0827	2.73 6.02
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	4.20 0.16	2.00 0.08	147	32.8	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	132.0 5.20	118.0 4.65	4.20 0.16	2.00 0.08	147	32.8	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	4.20 0.16	2.00 0.08	147	32.8	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	3.3 0.13	133.0 5.24	120.0 4.72	4.20 0.16	2.00 0.08	147	32.8	0.0993	3.48 7.67
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	5.30 0.21	0.20 0.01	130	23.5	0.0957	4.87 10.73
53.975 2.1250	37.308 1.4688	-0.3 -0.01	3.5 0.14	85.5 3.36	106.0 4.17	3.3 0.13	165.0 6.50	146.0 5.75	9.90 0.39	4.70 0.18	111	17.7	0.1044	6.65 14.66
21.996 0.8660	18.825 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	1.80 0.07	2.00 0.08	56	21.4	0.0984	0.75 1.65

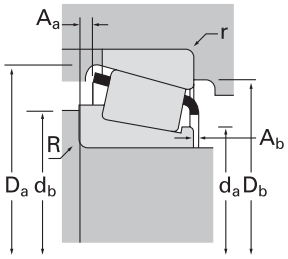
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
68.262 2.6875	110.000 4.3307	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	399AS	394A
68.262 2.6875	111.125 4.3750	22.000 0.8661	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	399A	393AS
68.262 2.6875	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	399A	3920
68.262 2.6875	112.712 4.4375	26.967 1.0617	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	399AS	3920
68.262 2.6875	120.000 4.7244	29.002 1.1418	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	480	472A
68.262 2.6875	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	480	472
68.262 2.6875	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	480	473
68.262 2.6875	120.000 4.7244	29.794 1.1730	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33269	33472
68.262 2.6875	123.825 4.8750	34.912 1.3745	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	560-S	552-S
68.262 2.6875	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	560-S	552
68.262 2.6875	123.825 4.8750	38.100 1.5000	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	560-S	552A
68.262 2.6875	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	570	563
68.262 2.6875	130.048 5.1200	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	570	562
68.262 2.6875	130.175 5.1250	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	642	633
68.262 2.6875	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	642	632
68.262 2.6875	136.525 5.3750	41.275 1.6250	252000 56700	0.36	1.67	65400 14700	40300 9060	1.62	335000 75400	H414245X	H414210
68.262 2.6875	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715343	H715311
68.262 2.6875	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715343	H715310
68.262 2.6875	152.400 6.0000	47.625 1.8750	264000 59400	0.66	0.91	68500 15400	76900 17300	0.89	306000 68700	9185	9121
68.262 2.6875	152.400 6.0000	47.625 1.8750	256000 57600	0.90	0.67	66400 14900	102000 23000	0.65	401000 90100	H914841	H914811
68.262 2.6875	158.750 6.2500	50.800 2.0000	264000 59400	0.66	0.91	68500 15400	76900 17300	0.89	306000 68700	9185	9120
68.262 2.6875	161.925 6.3750	49.212 1.9375	275000 61900	0.71	0.85	71400 16100	86700 19500	0.82	330000 74200	9278	9220
69.850 2.7500	98.425 3.8750	13.495 0.5313	37400 8400	0.44	1.37	9690 2180	7260 1630	1.33	58100 13100	LL713049	LL713010
69.850 2.7500	99.217 3.9062	17.000 0.6693	45200 10200	0.46	1.29	11700 2630	9330 2100	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	93400 21000	0.42	1.44	24200 5450	17300 3880	1.40	130000 29300	LM613449	LM613410
69.850 2.7500	112.712 4.4375	25.400 1.0000	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29675	29620
69.850 2.7500	114.300 4.5000	27.780 1.0937	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29675	29624

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

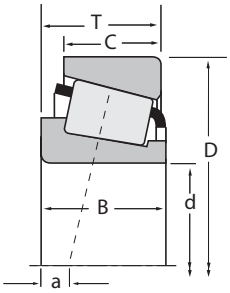
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
21.996 0.8660	18.825 0.7411	-0.8 -0.03	5.0 0.20	74.0 2.91	83.0 3.27	1.3 0.05	105.0 4.13	101.0 3.98	1.70 0.07	2.30 0.09	56	21.4	0.0984	0.73 1.61
21.996 0.8660	18.825 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	1.80 0.07	2.00 0.08	56	21.4	0.0984	0.78 1.71
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	1.80 0.07	2.00 0.08	56	21.4	0.0984	0.93 2.05
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	1.70 0.07	2.30 0.09	56	21.4	0.0984	0.91 2.01
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.32 2.90
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.35 2.97
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	1.50 0.06	2.20 0.08	77.2	23	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	2.30 0.09	1.10 0.04	84.2	25.9	0.1162	1.38 3.05
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	2.30 0.09	1.20 0.05	91	21.1	0.1108	1.71 3.77
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	2.30 0.09	1.20 0.05	91	21.1	0.1108	1.88 4.15
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	2.30 0.09	1.20 0.05	91	21.1	0.1108	1.83 4.04
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	3.20 0.13	1.80 0.07	101	24	0.1167	1.94 4.29
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	3.20 0.13	1.80 0.07	101	24	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	4.20 0.16	1.90 0.08	106	21	0.0814	2.33 5.14
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.67 5.90
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	3.70 0.15	3.00 0.12	113	22.8	0.0827	2.60 5.74
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	4.20 0.16	2.00 0.08	147	32.8	0.0993	3.23 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	4.20 0.16	2.00 0.08	147	32.8	0.0993	3.42 7.53
46.038 1.8125	31.750 1.2500	-3.8 -0.15	3.5 0.14	81.5 3.20	94.0 3.70	3.3 0.13	145.0 5.71	130.0 5.12	8.10 0.32	4.00 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	5.80 0.23	3.20 0.13	135	30.3	0.1165	4.41 9.73
46.038 1.8125	34.925 1.3750	-3.8 -0.15	3.5 0.14	81.5 3.20	94.0 3.70	3.3 0.13	146.0 5.75	131.0 5.16	8.10 0.32	4.00 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	90.5 3.56	97.0 3.82	3.3 0.13	153.0 6.03	138.0 5.43	9.10 0.36	4.00 0.16	102	18.4	0.0984	4.50 9.92
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	1.00 0.04	1.40 0.06	39.9	55	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	0.70 0.03	0.60 0.02	47.9	56.5	0.0972	0.38 0.84
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	0.80 0.03	1.40 0.05	64.3	52.5	0.1075	0.50 1.10
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	1.70 0.07	2.30 0.09	60.3	23.1	0.1019	0.78 1.72
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	2.30 0.09	1.50 0.06	77.7	43.3	0.1170	0.97 2.13
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	2.30 0.09	1.50 0.06	77.7	43.3	0.1170	1.06 2.33

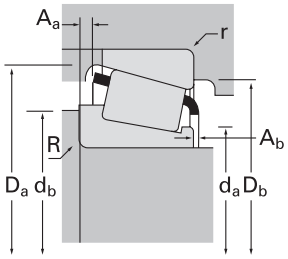
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
69.850 2.7500	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33275	33462
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	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
69.850 2.7500	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	482	472
69.850 2.7500	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	482	473
69.850 2.7500	120.000 4.7244	29.794 1.1730	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33275	33472
69.850 2.7500	120.000 4.7244	29.794 1.1730	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	482A	472
69.850 2.7500	120.000 4.7244	32.545 1.2813	166000 37200	0.36	1.67	42900 9650	26500 5950	1.62	249000 56000	47487	47420
69.850 2.7500	120.000 4.7244	32.545 1.2813	166000 37200	0.36	1.67	42900 9650	26500 5950	1.62	249000 56000	47487	47420A
69.850 2.7500	120.000 4.7244	46.751 1.8406	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	482E	472
69.850 2.7500	120.650 4.7500	25.400 1.0000	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29675	29630
69.850 2.7500	123.825 4.8750	30.162 1.1875	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	482	472X
69.850 2.7500	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	566	563
69.850 2.7500	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	566-S	563
69.850 2.7500	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	566X	563
69.850 2.7500	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813846	HM813810
69.850 2.7500	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813846	HM813811
69.850 2.7500	130.175 5.1250	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	643	633
69.850 2.7500	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	643	632
69.850 2.7500	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715344	H715310
69.850 2.7500	146.050 5.7500	36.512 1.4375	161000 36200	0.94	0.64	41700 9380	66900 15000	0.62	202000 45400	HM914545	HM914510
69.850 2.7500	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	655	653
69.850 2.7500	146.050 5.7500	41.275 1.6250	213000 47900	0.78	0.77	55200 12400	74000 16600	0.75	256000 57500	H913849	H913810
69.850 2.7500	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6454	6420
69.850 2.7500	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6484	6420
69.850 2.7500	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	744A	742
69.850 2.7500	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	745A	742
69.850 2.7500	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	655	652

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

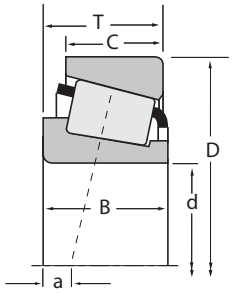
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
30.162 1.1875	23.812 0.9375	-2.8 -0.11	3.5 0.14	77.0 3.03	84.0 3.31	3.3 0.13	112.0 4.41	104.0 4.09	2.30 0.09	1.10 0.04	84.2	25.9	0.1162	1.25 2.76
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	1.50 0.06	2.20 0.08	77.2	23	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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.27 2.79
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.31 2.88
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.36 2.99
30.162 1.1875	23.444 0.9230	-2.8 -0.11	3.5 0.14	77.0 3.03	84.0 3.31	0.8 0.03	113.0 4.45	107.0 4.21	2.30 0.09	1.10 0.04	84.2	25.9	0.1162	1.34 2.96
29.007 1.1420	24.237 0.9542	-4.1 -0.16	4.8 0.19	77.0 3.03	86.0 3.39	2.0 0.08	114.0 4.49	107.0 4.21	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.30 2.86
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	2.20 0.09	1.90 0.08	98.4	26.3	0.1153	1.45 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	2.20 0.09	1.90 0.08	98.4	26.3	0.1153	1.47 3.24
45.963 1.8096	24.237 0.9542	-21.1 -0.83	1.0 0.04	77.0 3.03	87.0 3.43	2.0 0.08	114.0 4.49	107.0 4.21	18.50 0.73	2.20 0.08	77.2	23	0.1083	1.69 3.73
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	2.30 0.09	1.50 0.06	77.7	43.3	0.1170	1.17 2.59
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	1.50 0.06	2.20 0.08	77.2	23	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	3.20 0.13	1.80 0.07	101	24	0.1167	1.89 4.18
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	3.20 0.13	1.80 0.07	101	24	0.1167	1.91 4.20
36.170 1.4240	28.575 1.1250	-8.1 -0.32	6.8 0.27	78.0 3.07	91.0 3.58	3.3 0.13	120.0 4.72	112.0 4.41	3.20 0.13	1.80 0.07	101	24	0.1167	1.87 4.11
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	4.00 0.16	1.30 0.05	91.7	24.3	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	1.5 0.06	121.0 4.76	113.0 4.45	4.00 0.16	1.30 0.05	91.7	24.3	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	4.20 0.16	1.90 0.08	106	21	0.0814	2.28 5.02
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.62 5.77
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	4.20 0.16	2.00 0.08	147	32.8	0.0993	3.36 7.40
33.338 1.3125	23.812 0.9375	12.4 0.49	4.0 0.16	86.0 3.38	95.0 3.74	3.3 0.13	139.0 5.47	122.0 4.80	7.20 0.28	4.50 0.18	71.5	21.8	0.0943	2.57 5.66
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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.23 7.11
39.688 1.5625	25.400 1.0000	4.3 0.17	3.5 0.14	82.5 3.24	95.0 3.74	3.3 0.13	138.0 5.43	124.0 4.88	8.20 0.32	3.60 0.14	78.5	17.3	0.0927	2.86 6.30
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.53 9.98
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.51 9.95
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	3.90 8.60
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	3.91 8.62
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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.59 7.92

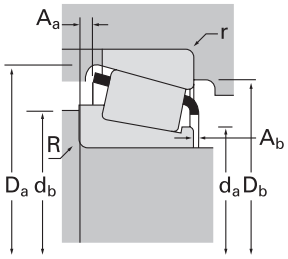
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
69.850 2.7500	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	835	832
69.914 2.7525	171.450 6.7500	49.212 1.9375	284000 63700	0.76	0.79	73500 16500	96200 21600	0.76	351000 78800	9382	9321
69.952 2.7540	121.442 4.7812	24.608 0.9688	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34274	34478
69.987 2.7554	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715347	H715311
69.987 2.7554	176.212 6.9375	54.770 2.1563	339000 76100	0.70	0.86	87800 19700	105000 23600	0.84	431000 96900	H916642	H916610
70.000 2.7559	110.000 4.3307	21.000 0.8268	84800 19100	0.46	1.30	22000 4940	17400 3900	1.27	112000 25200	JP7049	JP7010
70.000 2.7559	110.000 4.3307	26.000 1.0236	106000 23800	0.49	1.23	27500 6180	22900 5160	1.20	168000 37800	JLM813049	JLM813010
70.000 2.7559	115.000 4.5276	29.000 1.1417	139000 31200	0.43	1.39	36000 8100	26500 5960	1.36	198000 44500	JM612949	JM612910
70.000 2.7559	120.000 4.7244	29.002 1.1418	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	484	472A
70.000 2.7559	121.442 4.7812	24.608 0.9688	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34275	34478
70.000 2.7559	123.825 4.8750	30.162 1.1875	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	484	472X
70.000 2.7559	125.095 4.9250	24.000 0.9449	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34275	34492
70.000 2.7559	130.000 5.1181	36.937 1.4542	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	570X	562X
70.000 2.7559	130.000 5.1181	43.000 1.6929	254000 57200	0.33	1.80	65900 14800	37600 8450	1.75	360000 80800	JF7049A	JF7010
70.000 2.7559	130.000 5.1181	43.000 1.6929	254000 57200	0.33	1.80	65900 14800	37600 8450	1.75	360000 80800	JF7049	JF7010
70.000 2.7559	140.000 5.5118	39.000 1.5354	189000 42400	0.87	0.69	48900 11000	72500 16300	0.67	257000 57800	JW7049	JW7010
70.000 2.7559	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6459	6420
70.000 2.7559	150.000 5.9055	54.000 2.1260	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6459	6424
70.637 2.7810	112.712 4.4375	25.400 1.0000	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29680	29620
70.637 2.7810	112.712 4.4375	25.400 1.0000	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29681	29620
71.438 2.8125	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33281	33461
71.438 2.8125	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33281	33462
71.438 2.8125	120.000 4.7244	29.794 1.1730	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33281	33472
71.438 2.8125	120.000 4.7244	32.545 1.2813	166000 37200	0.36	1.67	42900 9650	26500 5950	1.62	249000 56000	47490	47420
71.438 2.8125	120.650 4.7500	32.545 1.2813	166000 37200	0.36	1.67	42900 9650	26500 5950	1.62	249000 56000	47490	47423
71.438 2.8125	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567A	563
71.438 2.8125	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567-S	563
71.438 2.8125	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813849	HM813810

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

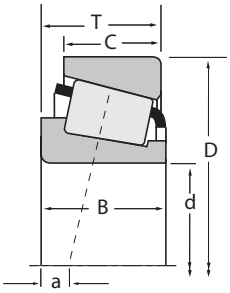
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
56.363 2.2190	41.275 1.6250	-18.5 -0.73	3.5 0.14	84.0 3.31	91.0 3.58	3.3 0.13	155.0 6.10	149.0 5.87	5.20 0.20	1.60 0.06	198	34.8	0.0937	6.09 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	9.00 0.35	3.90 0.15	118	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	2.60 0.10	2.10 0.08	69.3	27	0.1093	1.08 2.38
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	4.20 0.16	2.00 0.08	147	32.8	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	8.60 0.34	3.40 0.13	133	18.7	0.1071	6.32 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	105.5 4.15	101.0 3.98	1.50 0.06	2.80 0.11	51.1	30.9	0.0995	0.68 1.50
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	1.70 0.07	2.70 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	1.00 0.04	2.30 0.09	76.7	25.7	0.1122	1.13 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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.28 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	2.60 0.10	2.10 0.08	69.3	27	0.1093	1.08 2.38
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	1.50 0.06	2.20 0.08	77.2	23	0.1083	1.45 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	2.60 0.10	2.10 0.08	69.3	27	0.1093	1.16 2.55
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	3.20 0.13	1.80 0.07	101	24	0.1167	2.05 4.51
42.000 1.6535	35.000 1.3780	-12.4 -0.49	7.0 0.28	80.5 3.17	94.0 3.70	2.5 0.10	124.0 4.88	116.0 4.57	2.10 0.08	4.00 0.16	121	24.5	0.0828	2.45 5.40
42.000 1.6535	35.000 1.3780	-12.4 -0.49	3.0 0.12	80.5 3.17	86.0 3.39	2.5 0.10	124.0 4.88	116.0 4.57	2.10 0.08	4.00 0.16	121	24.5	0.0828	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	133.5 5.25	117.0 4.61	5.80 0.23	4.40 0.18	85.2	23.3	0.0984	2.63 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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.54 10.00
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.61 10.17
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	2.30 0.09	1.50 0.06	77.7	43.3	0.1170	0.95 2.08
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	2.30 0.09	1.50 0.06	77.7	43.3	0.1170	0.94 2.07
30.162 1.1875	23.812 0.9375	-2.8 -0.11	3.5 0.14	79.0 3.11	85.0 3.35	0.8 0.03	112.0 4.41	106.0 4.17	2.30 0.09	1.10 0.04	84.2	24.4	0.1162	1.22 2.70
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	2.30 0.09	1.10 0.04	84.2	24.4	0.1162	1.21 2.67
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	2.30 0.09	1.10 0.04	84.2	24.4	0.1162	1.30 2.87
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	2.20 0.09	1.90 0.08	98.4	26.3	0.1153	1.41 3.11
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	2.20 0.09	1.90 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	3.20 0.13	1.80 0.07	101	24	0.1167	1.85 4.07
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	3.20 0.13	1.80 0.07	101	24	0.1167	1.82 4.01
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	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	1.85 4.08

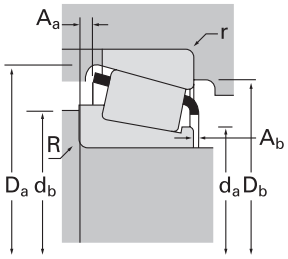
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
71.438 2.8125	127.000 5.0000	36.512 1.4375	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813849	HM813811
71.438 2.8125	130.175 5.1250	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	644	633
71.438 2.8125	130.175 5.1250	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	645	633
71.438 2.8125	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47675	47620
71.438 2.8125	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495-S	493
71.438 2.8125	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	644	632
71.438 2.8125	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	645	632
71.438 2.8125	136.525 5.3750	41.275 1.6250	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	645X	632
71.438 2.8125	136.525 5.3750	41.275 1.6250	252000 56700	0.36	1.67	65400 14700	40300 9060	1.62	335000 75400	H414249	H414210
71.438 2.8125	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715345	H715311
71.438 2.8125	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715345	H715310
73.025 2.8750	112.712 4.4375	25.400 1.0000	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29685	29620
73.025 2.8750	117.475 4.6250	25.400 1.0000	109000 24500	0.51	1.18	28300 6360	24700 5550	1.15	183000 41200	LM814845	LM814810
73.025 2.8750	117.475 4.6250	30.162 1.1875	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33287	33462
73.025 2.8750	120.000 4.7244	29.794 1.1730	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33287	33472
73.025 2.8750	120.000 4.7244	29.794 1.1730	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33287A	33472
73.025 2.8750	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27680	27620
73.025 2.8750	127.000 5.0000	30.162 1.1875	149000 33500	0.42	1.43	38700 8690	27700 6230	1.39	222000 49800	42683	42620
73.025 2.8750	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567	563
73.025 2.8750	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567	563X
73.025 2.8750	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567X	563
73.025 2.8750	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567X	563X
73.025 2.8750	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567XA	563
73.025 2.8750	130.000 5.1181	36.937 1.4542	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567X	562X
73.025 2.8750	130.048 5.1200	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567	562
73.025 2.8750	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	576	572
73.025 2.8750	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	657	653
73.025 2.8750	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6460	6420

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

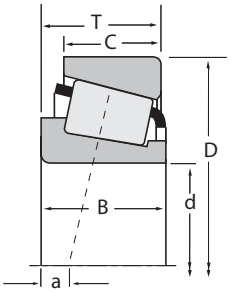
Dimensions, mm (inches)														Weight kg (lbs.)
Bearing			Shaft			Housing			Cage		Factors			
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
36.512 1.4375	26.988 1.0625	-3.8 -0.15	3.5 0.14	82.0 3.23	91.0 3.58	1.5 0.06	121.0 4.76	113.0 4.45	4.00 0.16	1.30 0.05	91.7	24.3	0.1252	1.85 4.08
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.23 4.91
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.19 4.83
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	2.30 0.09	2.40 0.09	119	29.2	0.1273	2.04 4.50
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	2.50 0.10	2.10 0.08	105	29.3	0.1252	1.93 4.25
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.57 5.67
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	4.20 0.16	1.90 0.08	106	21	0.0814	2.54 5.59
41.275 1.6250	31.750 1.2500	-11.2 -0.44	6.4 0.25	82.5 3.25	93.0 3.66	3.3 0.13	125.0 4.92	118.0 4.65	4.20 0.16	1.90 0.08	106	21	0.0814	2.53 5.59
41.275 1.6250	31.750 1.2500	-10.9 -0.43	3.5 0.14	83.0 3.27	89.0 3.50	3.3 0.13	129.0 5.08	121.0 4.76	3.70 0.15	3.00 0.12	113	22.8	0.0827	2.56 5.65
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	4.20 0.16	2.00 0.08	147	32.8	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	4.20 0.16	2.00 0.08	147	32.8	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	2.30 0.09	1.50 0.06	77.7	43.3	0.1170	0.89 1.97
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	2.50 0.10	1.40 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	80.0 3.15	87.0 3.43	3.3 0.13	112.0 4.41	104.0 4.09	2.30 0.09	1.10 0.04	84.2	24.4	0.1162	1.17 2.57
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	2.30 0.09	1.10 0.04	84.2	24.4	0.1162	1.26 2.77
30.162 1.1875	23.444 0.9230	-2.8 -0.11	0.3 0.01	81.0 3.19	81.0 3.19	0.8 0.03	113.0 4.45	107.0 4.21	2.30 0.09	1.10 0.04	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	1.50 0.06	1.70 0.07	98.2	41.8	0.1198	1.29 2.84
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	3.40 0.13	0.90 0.03	96.2	28.6	0.1197	1.52 3.34
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	3.20 0.13	1.80 0.07	101	24	0.1167	1.79 3.95
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	3.20 0.13	1.80 0.07	101	24	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	3.3 0.13	120.0 4.72	112.0 4.41	3.20 0.13	1.80 0.07	101	24	0.1167	1.80 3.96
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	3.20 0.13	1.80 0.07	101	24	0.1167	1.81 4.00
36.170 1.4240	28.575 1.1250	-8.1 -0.32	6.4 0.25	81.0 3.19	93.0 3.66	3.3 0.13	120.0 4.72	112.0 4.41	3.20 0.13	1.80 0.07	101	24	0.1167	1.79 3.94
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	3.20 0.13	1.80 0.07	101	24	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	3.20 0.13	1.80 0.07	101	24	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	3.40 0.14	1.90 0.07	126	32	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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.11 6.86
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.39 9.67

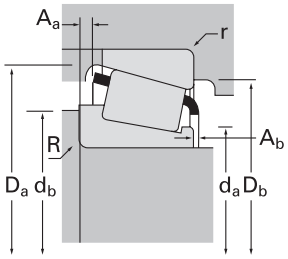
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
73.025 2.8750	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6460	6420A
73.025 2.8750	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	744	742
73.025 2.8750	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	657	652
73.817 2.9062	112.712 4.4375	25.400 1.0000	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29688	29620
73.817 2.9062	127.000 5.0000	36.512 1.4375	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	568	563
74.612 2.9375	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	577	572
74.612 2.9375	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	658	652
74.976 2.9518	127.000 5.0000	26.988 1.0625	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34294	34500
74.987 2.9523	129.974 5.1171	33.249 1.3090	149000 33500	0.42	1.43	38700 8690	27700 6230	1.39	222000 49800	42686	42624
75.000 2.9528	115.000 4.5276	25.000 0.9843	110000 24700	0.46	1.31	28400 6390	22300 5020	1.27	167000 37500	JLM714149	JLM714110
75.000 2.9528	120.000 4.7244	31.000 1.2205	148000 33200	0.44	1.35	38300 8600	29100 6540	1.31	229000 51500	JM714249A	JM714210
75.000 2.9528	120.000 4.7244	31.000 1.2205	148000 33200	0.44	1.35	38300 8600	29100 6540	1.31	229000 51500	JM714249	JM714210
75.000 2.9528	145.000 5.7087	51.000 2.0079	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	JH415647	JH415610
75.987 2.9916	131.976 5.1959	39.000 1.5354	222000 49900	0.33	1.80	57600 12900	32800 7370	1.76	324000 72800	HM215249	HM215210
76.000 2.9921	120.000 4.7244	23.000 0.9055	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34299X	34472X
76.200 3.0000	105.570 4.1563	13.495 0.5313	37900 8530	0.47	1.27	9830 2210	7960 1790	1.24	61000 13700	LL714649	LL714610
76.200 3.0000	109.538 4.3125	19.050 0.7500	64100 14400	0.50	1.20	16600 3730	14300 3210	1.16	120000 27000	L814749	L814710
76.200 3.0000	121.442 4.7812	24.608 0.9688	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34300	34478
76.200 3.0000	121.442 4.7812	24.608 0.9688	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34301	34478
76.200 3.0000	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27684	27620
76.200 3.0000	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27684A	27620
76.200 3.0000	127.000 5.0000	26.988 1.0625	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34300	34500
76.200 3.0000	127.000 5.0000	26.988 1.0625	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34301	34500
76.200 3.0000	127.000 5.0000	30.162 1.1875	149000 33500	0.42	1.43	38700 8690	27700 6230	1.39	222000 49800	42687	42620
76.200 3.0000	127.000 5.0000	30.162 1.1875	149000 33500	0.42	1.43	38700 8690	27700 6230	1.39	222000 49800	42688	42620
76.200 3.0000	133.350 5.2500	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495A	492A
76.200 3.0000	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47678	47620
76.200 3.0000	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47679	47620

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.41 9.71
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	3.78 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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.48 7.67
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	2.30 0.09	1.50 0.06	77.7	43.3	0.1170	0.87 1.93
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	3.20 0.13	1.80 0.07	101	24	0.1167	1.78 3.92
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	3.40 0.14	1.90 0.07	126	32	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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.42 7.54
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	2.60 0.10	2.10 0.08	69.3	27	0.1093	1.20 2.64
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	3.40 0.13	0.90 0.03	96.2	28.6	0.1197	1.68 3.70
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	2.00 0.08	2.10 0.08	76.3	30.5	0.1140	0.87 1.92
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	2.10 0.08	2.70 0.11	95	32.8	0.1218	1.27 2.80
29.500 1.1614	25.000 0.9843	-2.0 -0.08	3.0 0.12	83.0 3.26	88.0 3.46	2.5 0.10	115.0 4.53	108.0 4.25	2.10 0.08	2.70 0.11	95	32.1	0.1218	1.30 2.86
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	2.00 0.08	3.20 0.12	158	26.4	0.0931	3.80 8.39
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	1.20 0.05	2.80 0.11	126	30.2	0.0837	2.11 4.65
23.012 0.9060	16.000 0.6299	1.5 0.06	2.3 0.09	83.0 3.27	86.0 3.39	2.3 0.09	115.0 4.53	110.0 4.33	2.60 0.10	2.10 0.08	69.3	27	0.1093	0.88 1.94
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	0.90 0.04	1.20 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	0.90 0.04	1.20 0.05	76	59.6	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	2.60 0.10	2.10 0.08	69.3	27	0.1093	0.96 2.11
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	2.60 0.10	2.10 0.08	69.3	27	0.1093	0.94 2.08
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	1.50 0.06	1.70 0.07	98.2	41.8	0.1198	1.21 2.67
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	1.50 0.06	1.70 0.07	98.2	41.8	0.1198	1.22 2.70
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	2.60 0.10	2.10 0.08	69.3	27	0.1093	1.17 2.59
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	2.60 0.10	2.10 0.08	69.3	27	0.1093	1.16 2.56
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	3.40 0.13	0.90 0.03	96.2	28.6	0.1197	1.43 3.16
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	3.40 0.13	0.90 0.03	96.2	28.6	0.1197	1.40 3.08
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	2.50 0.10	2.10 0.08	105	29.3	0.1252	1.68 3.70
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	2.30 0.09	2.40 0.09	119	29.2	0.1273	1.87 4.12
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	2.30 0.09	2.40 0.09	119	29.2	0.1273	1.90 4.18

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

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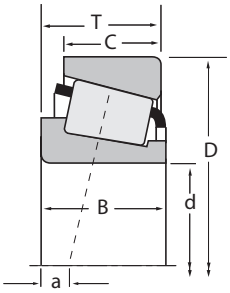
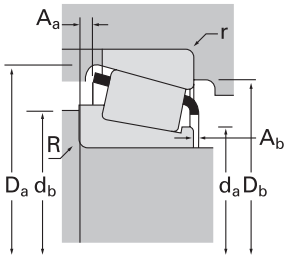
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
76.200 3.0000	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47680	47620
76.200 3.0000	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47679	47620A
76.200 3.0000	133.350 5.2500	39.688 1.5625	202000 45400	0.40	1.49	52400 11800	36100 8110	1.45	353000 79300	HM516442	HM516410
76.200 3.0000	135.733 5.3438	44.450 1.7500	237000 53200	0.41	1.48	61300 13800	42700 9600	1.44	380000 85400	5760	5735
76.200 3.0000	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495A	493
76.200 3.0000	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495AX	493
76.200 3.0000	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715346	H715311
76.200 3.0000	139.700 5.5000	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	575	572X
76.200 3.0000	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715346	H715310
76.200 3.0000	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	575	572
76.200 3.0000	139.992 5.5115	36.512 1.4375	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47679	47621
76.200 3.0000	139.992 5.5115	36.512 1.4375	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47680	47621
76.200 3.0000	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	575-S	572
76.200 3.0000	142.138 5.5960	44.450 1.7500	223000 50200	0.39	1.55	57900 13000	38200 8600	1.51	318000 71400	HM515745	HM515716
76.200 3.0000	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	659	653
76.200 3.0000	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6461	6420
76.200 3.0000	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6466	6420
76.200 3.0000	149.225 5.8750	53.975 2.1250	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6461A	6420
76.200 3.0000	150.000 5.9055	35.966 1.4160	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	590A	JM719113
76.200 3.0000	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	748-S	742
76.200 3.0000	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	590A	592A
76.200 3.0000	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	659	652
76.200 3.0000	160.000 6.2992	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6576	6525X
76.200 3.0000	161.925 6.3750	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	755	752
76.200 3.0000	161.925 6.3750	49.212 1.9375	275000 61900	0.71	0.85	71400 16100	86700 19500	0.82	330000 74200	9285	9220
76.200 3.0000	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6575	6535
76.200 3.0000	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6576	6535
76.200 3.0000	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6576	6536

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	2.30 0.09	2.40 0.09	119	29.2	0.1273	1.91 4.21
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	2.30 0.09	2.40 0.09	119	29.2	0.1273	1.91 4.22
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	1.70 0.07	2.50 0.10	154	43	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	5.40 0.21	1.40 0.06	145	31.6	0.0940	2.69 5.94
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	2.50 0.10	2.10 0.08	105	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	2.50 0.10	2.10 0.08	105	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	4.20 0.16	2.00 0.08	147	32.8	0.0993	2.91 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	3.40 0.14	1.90 0.07	126	32	0.1295	2.33 5.14
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	4.20 0.16	2.00 0.08	147	32.8	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	3.40 0.14	1.90 0.07	126	32	0.1295	2.36 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	2.30 0.09	2.40 0.09	119	29.2	0.1273	2.33 5.13
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	2.30 0.09	2.40 0.09	119	29.2	0.1273	2.34 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	3.40 0.14	1.90 0.07	126	32	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	6.00 0.24	-1.30 -0.05	122	26.3	0.0869	2.91 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	4.50 0.18	2.00 0.08	137	27.3	0.0919	2.99 6.59
54.229 2.1350	44.450 1.7500	-15.0 -0.59	3.5 0.14	89.5 3.52	96.0 3.78	3.3 0.13	140.0 5.51	129.0 5.08	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.23 9.32
54.229 2.1350	44.450 1.7500	-15.0 -0.59	6.4 0.25	89.5 3.52	102.0 4.02	3.3 0.13	140.0 5.51	129.0 5.08	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.20 9.26
54.229 2.1350	44.450 1.7500	-15.0 -0.59	9.7 0.38	89.5 3.52	108.0 4.25	3.3 0.13	140.0 5.51	129.0 5.08	2.70 0.11	0.70 0.03	158	29.1	0.0931	4.15 9.15
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	4.10 0.16	1.70 0.07	151	38.3	0.1416	2.94 6.48
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	3.65 8.04
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	4.10 0.16	1.70 0.07	151	38.3	0.1416	3.22 7.09
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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.36 7.40
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	153.5 6.04	141.0 5.55	4.10 0.16	0.90 0.03	199	33.5	0.1037	5.24 11.54
48.260 1.9000	38.100 1.5000	-11.9 -0.47	3.5 0.14	88.0 3.46	95.0 3.74	3.3 0.13	150.0 5.91	144.0 5.67	3.30 0.13	0.90 0.04	177	29.4	0.0945	4.69 10.34
46.038 1.8125	31.750 1.2500	0.0 0.00	3.5 0.14	90.5 3.56	103.0 4.06	3.3 0.13	153.0 6.03	138.0 5.43	9.10 0.36	4.00 0.16	102	18.4	0.0984	4.18 9.20
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	4.10 0.16	0.90 0.03	199	33.5	0.1037	5.34 11.78
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	4.10 0.16	0.90 0.03	199	33.5	0.1037	5.37 11.84
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	4.10 0.16	0.90 0.03	199	33.5	0.1037	5.39 11.89

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

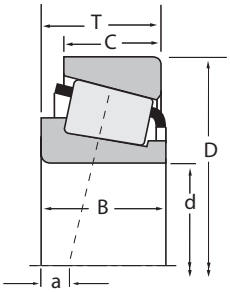
(7) Compound radius on inner race. Details on drawing for bearing.

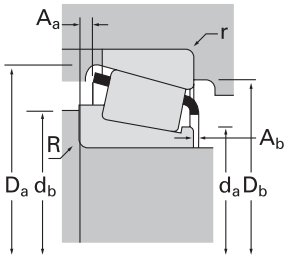
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
76.200 3.0000	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6576C	6535
76.200 3.0000	168.275 6.6250	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	755	753
76.200 3.0000	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	837	832
76.200 3.0000	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	843	832
76.200 3.0000	171.450 6.7500	49.212 1.9375	284000 63700	0.76	0.79	73500 16500	96200 21600	0.76	351000 78800	9380	9321
76.200 3.0000	171.450 6.7500	51.473 2.0265	284000 63700	0.76	0.79	73500 16500	96200 21600	0.76	351000 78800	9378	9321
76.200 3.0000	177.800 7.0000	52.388 2.0625	284000 63700	0.76	0.79	73500 16500	96200 21600	0.76	351000 78800	9380	9320
76.200 3.0000	177.800 7.0000	55.562 2.1875	284000 63700	0.76	0.79	73500 16500	96200 21600	0.76	351000 78800	9378	9320
76.200 3.0000	180.975 7.1250	53.975 2.1250	350000 78700	0.73	0.82	90800 20400	114000 25600	0.80	458000 103000	H917840	H917810
76.200 3.0000	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221430	HH221410
77.788 3.0625	117.475 4.6250	25.400 1.0000	109000 24500	0.51	1.18	28300 6360	24700 5550	1.15	183000 41200	LM814849	LM814810
77.788 3.0625	120.000 4.7244	23.000 0.9055	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34306	34472X
77.788 3.0625	120.650 4.7500	27.783 1.0938	109000 24500	0.51	1.18	28300 6360	24700 5550	1.15	183000 41200	LM814849	LM814814
77.788 3.0625	121.442 4.7812	24.608 0.9688	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34306	34478
77.788 3.0625	121.442 4.7812	24.608 0.9688	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34307	34478
77.788 3.0625	127.000 5.0000	30.162 1.1875	149000 33500	0.42	1.43	38700 8690	27700 6230	1.39	222000 49800	42690	42620
77.788 3.0625	133.350 5.2500	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495AS	492A
77.788 3.0625	135.733 5.3438	44.450 1.7500	237000 53200	0.41	1.48	61300 13800	42700 9600	1.44	380000 85400	5795	5735
77.788 3.0625	136.525 5.3750	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715348	H715311
77.788 3.0625	139.700 5.5000	46.038 1.8125	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715348	H715310
77.788 3.0625	164.976 6.4951	49.500 1.9488	325000 73200	0.51	1.17	84400 19000	73800 16600	1.14	400000 90000	H816249	H816210
79.375 3.1250	140.000 5.5118	44.450 1.7500	223000 50200	0.39	1.55	57900 13000	38200 8600	1.51	318000 71400	HM515749	HM515714
79.375 3.1250	142.138 5.5960	44.450 1.7500	223000 50200	0.39	1.55	57900 13000	38200 8600	1.51	318000 71400	HM515749	HM515716
79.375 3.1250	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	661	653
79.375 3.1250	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595A	592XE
79.375 3.1250	150.000 5.9055	35.992 1.4170	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595A	593X
79.375 3.1250	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	750	742
79.375 3.1250	152.400 6.0000	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595A	592AS

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**4.10** 0.16	**0.90** 0.03	**199**	**33.5**	**0.1037**	**5.37** 11.85
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**88.0** 3.46	**95.0** 3.74	**3.3** 0.13	**150.0** 5.91	**147.0** 5.79	**3.30** 0.13	**0.90** 0.04	**177**	**29.4**	**0.0945**	**5.16** 11.38
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	**5.20** 0.20	**1.60** 0.06	**198**	**34.8**	**0.0937**	**5.78** 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	**5.20** 0.20	**1.60** 0.06	**198**	**34.8**	**0.0937**	**5.76** 12.71
46.038 1.8125	**31.750** 1.2500	**4.3** 0.17	**3.5** 0.14	**98.5** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**9.00** 0.35	**3.90** 0.15	**118**	**18.6**	**0.1053**	**5.11** 11.26
50.800 2.0000	**31.750** 1.2500	**1.3** 0.05	**3.5** 0.14	**98.5** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**12.20** 0.48	**2.30** 0.09	**118**	**18.6**	**0.1053**	**5.35** 11.80
46.038 1.8125	**34.925** 1.3750	**4.3** 0.17	**3.5** 0.14	**98.5** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**148.0** 5.83	**9.00** 0.35	**3.90** 0.15	**118**	**18.6**	**0.1053**	**5.81** 12.80
50.800 2.0000	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**98.5** 3.87	**105.0** 4.13	**3.3** 0.13	**164.0** 6.46	**148.0** 5.83	**12.20** 0.48	**2.30** 0.09	**118**	**18.6**	**0.1053**	**6.05** 13.34
53.183 2.0938	**35.720** 1.4063	**0.5** 0.02	**3.5** 0.14	**100.0** 3.94	**110.0** 4.33	**3.3** 0.13	**170.0** 6.69	**152.0** 5.98	**9.50** 0.38	**2.80** 0.11	**147**	**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	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**8.87** 19.55
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	**2.50** 0.10	**1.40** 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	**90.0** 3.54	**2.3** 0.09	**115.0** 4.53	**110.0** 4.33	**2.60** 0.10	**2.10** 0.08	**69.3**	**27**	**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	**116.0** 4.56	**107.0** 4.21	**2.50** 0.10	**1.40** 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	**90.0** 3.54	**2.0** 0.08	**116.0** 4.57	**110.0** 4.33	**2.60** 0.10	**2.10** 0.08	**69.3**	**27**	**0.1093**	**0.91** 2.00
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	**2.60** 0.10	**2.10** 0.08	**69.3**	**27**	**0.1093**	**0.88** 1.94
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	**3.40** 0.13	**0.90** 0.03	**96.2**	**28.6**	**0.1197**	**1.38** 3.04
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	**2.50** 0.10	**2.10** 0.08	**105**	**29.3**	**0.1252**	**1.64** 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	**5.40** 0.21	**1.40** 0.06	**145**	**31.6**	**0.0940**	**2.62** 5.78
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	**4.20** 0.16	**2.00** 0.08	**147**	**32.8**	**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	**4.20** 0.16	**2.00** 0.08	**147**	**32.8**	**0.0993**	**3.02** 6.67
46.248 1.8208	**36.251** 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	**4.60** 0.18	**5.90** 0.23	**127**	**23.2**	**0.0959**	**4.84** 10.66
46.100 1.8150	**33.338** 1.3125	**-10.9** -0.43	**3.5** 0.14	**89.5** 3.52	**95.0** 3.74	**3.3** 0.13	**133.0** 5.24	**123.0** 4.84	**6.00** 0.24	**-1.30** -0.05	**122**	**26.3**	**0.0869**	**2.64** 5.83
46.100 1.8150	**33.338** 1.3125	**-10.9** -0.43	**3.5** 0.14	**89.5** 3.52	**95.0** 3.74	**3.3** 0.13	**133.0** 5.24	**124.0** 4.88	**6.00** 0.24	**-1.30** -0.05	**122**	**26.3**	**0.0869**	**2.77** 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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.86** 6.31
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.71** 5.97
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.82** 6.22
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	**1.90** 0.07	**1.20** 0.05	**160**	**26.3**	**0.0898**	**3.50** 7.72
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.94** 6.48

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

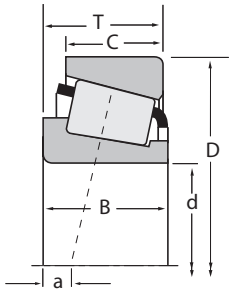
[7] Compound radius on inner race. Details on drawing for bearing.

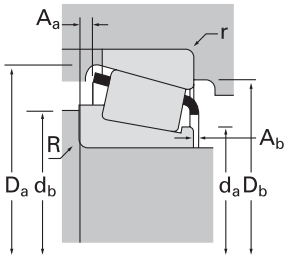
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
79.375 3.1250	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595A	592A
79.375 3.1250	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	661	652
79.375 3.1250	161.925 6.3750	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	756A	752
79.375 3.1250	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221431	HH221410
79.975 3.1486	146.975 5.7864	40.000 1.5748	254000 57000	0.33	1.80	65800 14800	37400 8420	1.76	388000 87300	HM218238	HM218210
79.975 3.1486	152.400 6.0000	40.000 1.5748	254000 57000	0.33	1.80	65800 14800	37400 8420	1.76	388000 87300	HM218238	HM218215
79.985 3.1490	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	578	572
79.985 3.1490	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	578X	572
79.985 3.1490	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	590	592XE
79.985 3.1490	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	590	592A
80.000 3.1496	125.000 4.9213	24.000 0.9449	105000 23600	0.45	1.33	27200 6110	21000 4730	1.29	141000 31800	JP8049	JP8010
80.000 3.1496	130.000 5.1181	35.000 1.3780	184000 41300	0.39	1.54	47700 10700	31700 7130	1.50	283000 63500	JM515649	JM515610
80.000 3.1496	141.000 5.5512	30.250 1.1909	151000 34000	0.42	1.43	39300 8830	28200 6350	1.39	187000 42000	XUB-30216	YFA30216
80.000 3.1496	150.000 5.9055	44.455 1.7502	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	748	743
80.000 3.1496	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	748	742
80.000 3.1496	160.000 6.2992	45.000 1.7717	244000 54900	0.87	0.69	63300 14200	93900 21100	0.67	339000 76100	JW8049	JW8010
80.000 3.1496	200.000 7.8740	52.761 2.0772	376000 84600	0.63	0.95	97500 21900	106000 23700	0.92	519000 117000	98316	98788
80.962 3.1875	133.350 5.2500	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	496	492A
80.962 3.1875	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47681	47620
80.962 3.1875	133.350 5.2500	39.688 1.5625	202000 45400	0.40	1.49	52400 11800	36100 8110	1.45	353000 79300	HM516447	HM516410
80.962 3.1875	133.350 5.2500	39.688 1.5625	202000 45400	0.40	1.49	52400 11800	36100 8110	1.45	353000 79300	HM516447	HM516410A
80.962 3.1875	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	496	493
80.962 3.1875	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	581	572
80.962 3.1875	146.050 5.7500	38.100 1.5000	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	662	653
80.962 3.1875	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	740	742
80.962 3.1875	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	838	832
82.550 3.2500	114.300 4.5000	15.083 0.5938	55400 12400	0.31	1.94	14400 3230	7610 1710	1.89	87000 19600	LL116249	LL116210
82.550 3.2500	115.888 4.5625	20.638 0.8125	83500 18800	0.31	1.95	21700 4870	11400 2570	1.90	147000 33100	L116149	L116110

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	4.10 0.16	1.70 0.07	151	38.3	0.1416	3.11 6.85
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	4.50 0.18	2.00 0.08	137	27.3	0.0919	3.23 7.13
48.260 1.9000	38.100 1.5000	-11.9 -0.47	8.0 0.31	91.0 3.58	106.0 4.17	3.3 0.13	150.0 5.91	144.0 5.67	3.30 0.13	0.90 0.04	177	29.4	0.0945	4.49 9.90
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	2.50 0.10	3.20 0.13	266	28.4	0.1072	8.69 19.16
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	1.40 0.06	2.90 0.12	168	34.7	0.0921	2.95 6.51
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	1.40 0.06	2.90 0.12	168	34.7	0.0921	3.28 7.23
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	3.40 0.14	1.90 0.07	126	32	0.1295	2.23 4.91
36.098 1.4212	28.575 1.1250	-5.3 -0.21	8.0 0.31	89.0 3.50	104.0 4.09	3.3 0.13	133.0 5.24	125.0 4.92	3.40 0.14	1.90 0.07	126	32	0.1295	2.17 4.79
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	4.10 0.16	1.70 0.07	151	38.3	0.1416	2.68 5.92
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	4.10 0.16	1.70 0.07	151	38.3	0.1416	3.08 6.80
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	1.90 0.08	3.40 0.14	69.7	37.4	0.1095	0.95 2.10
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	1.60 0.06	2.70 0.11	118	31.1	0.0863	1.71 3.77
28.000 1.1024	22.000 0.8661	-2.0 -0.08	0.5 0.02	90.0 3.54	90.0 3.54	2.0 0.08	133.0 5.24	128.0 5.04	3.80 0.15	3.50 0.14	80.7	25.6	0.0771	1.80 3.98
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	3.43 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	1.90 0.07	1.20 0.05	160	26.3	0.0898	3.48 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	7.10 0.28	4.80 0.19	117	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	8.60 0.34	5.40 0.21	203	37.4	0.1197	7.95 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	2.50 0.10	2.10 0.08	105	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	2.30 0.09	2.40 0.09	119	29.2	0.1273	1.74 3.84
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	1.70 0.07	2.50 0.10	154	43	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	1.70 0.07	2.50 0.10	154	43	0.0955	2.24 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	2.50 0.10	2.10 0.08	105	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	3.40 0.14	1.90 0.07	126	32	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	1.40 0.05	2.00 0.08	137	27.3	0.0919	2.67 5.90
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	1.90 0.07	1.20 0.05	160	26.3	0.0898	3.42 7.53
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	5.20 0.20	1.60 0.06	198	34.8	0.0937	5.52 12.18
15.082 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	0.30 0.01	2.10 0.08	66.2	68.2	0.0944	0.44 0.96
21.433 0.8438	16.670 0.6563	-1.3 -0.05	1.5 0.06	88.0 3.46	90.0 3.54	1.5 0.06	111.0 4.37	108.0 4.25	0.60 0.02	1.30 0.05	97.2	64.3	0.1079	0.66 1.46

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

[8] Pin-type cage. Please consult The Timken Company.

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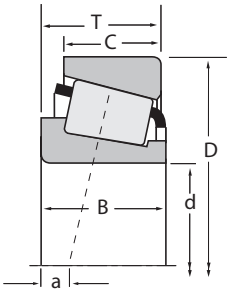
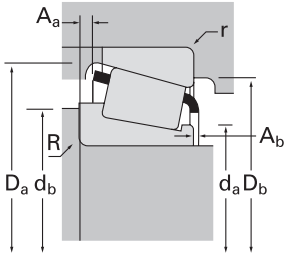
TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
82.550 3.2500	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27687	27620
82.550 3.2500	133.350 5.2500	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495	492A
82.550 3.2500	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47685	47620
82.550 3.2500	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47686	47620
82.550 3.2500	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47687	47620
82.550 3.2500	133.350 5.2500	39.688 1.5625	202000 45400	0.40	1.49	52400 11800	36100 8110	1.45	353000 79300	HM516448	HM516410
82.550 3.2500	133.350 5.2500	39.688 1.5625	202000 45400	0.40	1.49	52400 11800	36100 8110	1.45	353000 79300	HM516449A	HM516410
82.550 3.2500	133.350 5.2500	39.688 1.5625	202000 45400	0.40	1.49	52400 11800	36100 8110	1.45	353000 79300	HM516449C	HM516410
82.550 3.2500	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495	493
82.550 3.2500	139.700 5.5000	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	580	572X
82.550 3.2500	139.700 5.5000	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	582	572X
82.550 3.2500	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	580	572
82.550 3.2500	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	580	574
82.550 3.2500	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	582	572
82.550 3.2500	139.992 5.5115	36.512 1.4375	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47685	47621
82.550 3.2500	139.992 5.5115	36.512 1.4375	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47686	47621
82.550 3.2500	139.992 5.5115	36.512 1.4375	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	580X	572
82.550 3.2500	142.138 5.5960	42.862 1.6875	242000 54300	0.43	1.39	62700 14100	46300 10400	1.35	399000 89700	HM617045	HM617010
82.550 3.2500	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	663	653
82.550 3.2500	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	663A	653
82.550 3.2500	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595	592XE
82.550 3.2500	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595	592XS
82.550 3.2500	150.000 5.9055	35.992 1.4170	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595	593X
82.550 3.2500	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	749A	742
82.550 3.2500	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	750A	742
82.550 3.2500	152.400 6.0000	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595	592AS
82.550 3.2500	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595	592A
82.550 3.2500	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	663	652

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

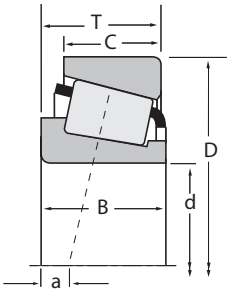
Dimensions, mm (inches)														Weight kg (lbs.)
Bearing			Shaft			Housing			Cage		Factors			
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**3.5** 0.14	**89.0** 3.50	**96.0** 3.78	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.50** 0.06	**1.70** 0.07	**98.2**	**41.8**	**0.1198**	**1.05** 2.33
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	**2.50** 0.10	**2.10** 0.08	**105**	**29.3**	**0.1252**	**1.50** 3.30
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	**2.30** 0.09	**2.40** 0.09	**119**	**29.2**	**0.1273**	**1.70** 3.75
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**3.5** 0.14	**90.0** 3.54	**97.0** 3.82	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.30** 0.09	**2.40** 0.09	**119**	**29.2**	**0.1273**	**1.69** 3.72
33.338 1.3125	**26.195** 1.0313	**-4.3** -0.17	**6.8** 0.27	**90.0** 3.54	**103.0** 4.06	**3.3** 0.13	**128.0** 5.04	**119.0** 4.69	**2.30** 0.09	**2.40** 0.09	**119**	**29.2**	**0.1273**	**1.65** 3.65
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	**1.70** 0.07	**2.50** 0.10	**154**	**43**	**0.0955**	**2.14** 4.72
39.688 1.5625	**32.545** 1.2813	**-7.4** -0.29	**6.0** 0.24	**92.0** 3.62	**105.0** 4.13	**3.3** 0.13	**128.0** 5.04	**118.0** 4.65	**1.70** 0.07	**2.50** 0.10	**154**	**43**	**0.0955**	**2.10** 4.62
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	**1.70** 0.07	**2.50** 0.10	**154**	**43**	**0.0955**	**2.15** 4.74
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	**2.50** 0.10	**2.10** 0.08	**105**	**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	**3.40** 0.14	**1.90** 0.07	**126**	**32**	**0.1295**	**2.11** 4.65
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	**3.40** 0.14	**1.90** 0.07	**126**	**32**	**0.1295**	**2.07** 4.56
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	**3.40** 0.14	**1.90** 0.07	**126**	**32**	**0.1295**	**2.14** 4.71
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	**3.40** 0.14	**1.90** 0.07	**126**	**32**	**0.1295**	**2.14** 4.72
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	**3.40** 0.14	**1.90** 0.07	**126**	**32**	**0.1295**	**2.10** 4.62
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	**2.30** 0.09	**2.40** 0.09	**119**	**29.2**	**0.1273**	**2.13** 4.70
33.338 1.3125	**29.370** 1.1563	**-4.3** -0.17	**3.5** 0.14	**90.0** 3.54	**97.0** 3.82	**3.3** 0.13	**130.0** 5.12	**122.0** 4.80	**2.30** 0.09	**2.40** 0.09	**119**	**29.2**	**0.1273**	**2.12** 4.67
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	**3.40** 0.14	**1.90** 0.07	**126**	**32**	**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	**3.30** 0.13	**2.40** 0.09	**163**	**38.9**	**0.0996**	**2.77** 6.11
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.73** 6.02
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.70** 5.94
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.59** 5.71
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.57** 5.67
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.71** 5.97
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	**1.90** 0.07	**1.20** 0.05	**160**	**26.3**	**0.0898**	**3.35** 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	**1.90** 0.07	**1.20** 0.05	**160**	**26.3**	**0.0898**	**3.32** 7.32
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.82** 6.23
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.99** 6.59
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**3.10** 6.84

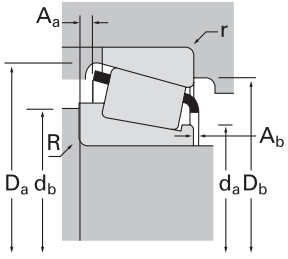
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
82.550 3.2500	159.995 6.2990	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	757	752A
82.550 3.2500	161.925 6.3750	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	757	752
82.550 3.2500	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6559C	6535
82.550 3.2500	168.275 6.6250	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	757	753
82.550 3.2500	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	839	832
82.550 3.2500	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	842	832
82.550 3.2500	180.975 7.1250	53.975 2.1250	350000 78700	0.73	0.82	90800 20400	114000 25600	0.80	458000 103000	H917849	H917810
83.345 3.2813	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27689	27620
83.345 3.2813	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27690	27620
83.345 3.2813	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27691	27620
83.345 3.2813	133.350 5.2500	33.338 1.3125	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47688	47620
84.000 3.3071	140.000 5.5118	32.000 1.2598	170000 38200	0.42	1.42	44000 9890	31900 7160	1.38	264000 59400	XUA32018X	Y32018X
84.138 3.3125	133.350 5.2500	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	498	492A
84.138 3.3125	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	498	493
84.138 3.3125	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	664	652
84.138 3.3125	171.450 6.7500	49.212 1.9375	284000 63700	0.76	0.79	73500 16500	96200 21600	0.76	351000 78800	9386H	9321
84.138 3.3125	177.800 7.0000	52.388 2.0625	284000 63700	0.76	0.79	73500 16500	96200 21600	0.76	351000 78800	9386H	9320
84.975 3.3455	125.412 4.9375	25.400 1.0000	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27695	27620
85.000 3.3465	130.000 5.1181	29.000 1.1417	151000 33800	0.44	1.36	39000 8770	29500 6640	1.32	235000 52900	XAA32017X	Y32017X
85.000 3.3465	130.000 5.1181	30.000 1.1811	149000 33600	0.44	1.35	38700 8700	29400 6620	1.31	245000 55100	JM716648	JM716610
85.000 3.3465	130.000 5.1181	30.000 1.1811	149000 33600	0.44	1.35	38700 8700	29400 6620	1.31	245000 55100	JM716649	JM716610
85.000 3.3465	140.000 5.5118	39.000 1.5354	220000 49500	0.41	1.47	57000 12800	39800 8940	1.43	339000 76300	JHM516849	JHM516810
85.000 3.3465	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	665X	653
85.000 3.3465	150.000 5.9055	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	665X	653X
85.000 3.3465	150.000 5.9055	46.000 1.8110	307000 69100	0.33	1.80	79700 17900	45400 10200	1.76	446000 100000	JH217249	JH217210
85.000 3.3465	188.912 7.4375	53.297 2.0983	299000 67300	0.87	0.69	77600 17400	115000 25900	0.67	392000 88100	90334	90744
85.000 3.3465	200.000 7.8740	52.761 2.0772	376000 84600	0.63	0.95	97500 21900	106000 23700	0.92	519000 117000	98335	98788
85.026 3.3475	150.000 5.9055	44.455 1.7502	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	749	743

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

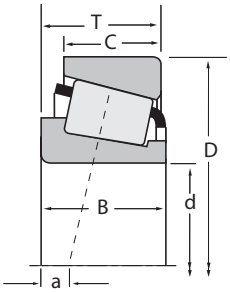
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**94.0** 3.70	**100.0** 3.94	**0.8** 0.03	**150.0** 5.91	**146.0** 5.75	**3.30** 0.13	**0.90** 0.04	**177**	**29.4**	**0.0945**	**4.26** 9.40
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	**3.30** 0.13	**0.90** 0.04	**177**	**29.4**	**0.0945**	**4.39** 9.68
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	**4.10** 0.16	**0.90** 0.03	**199**	**33.5**	**0.1037**	**5.03** 11.09
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	**3.30** 0.13	**0.90** 0.04	**177**	**29.4**	**0.0945**	**4.86** 10.72
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	**5.20** 0.20	**1.60** 0.06	**198**	**34.8**	**0.0937**	**5.43** 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	**5.20** 0.20	**1.60** 0.06	**198**	**34.8**	**0.0937**	**5.42** 11.95
53.183 2.0938	**35.720** 1.4063	**0.5** 0.02	**3.3** 0.13	**100.0** 3.94	**114.0** 4.49	**3.3** 0.13	**170.0** 6.69	**152.0** 5.98	**9.50** 0.38	**2.80** 0.11	**147**	**20.7**	**0.1123**	**6.22** 13.72
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	**1.50** 0.06	**1.70** 0.07	**98.2**	**41.8**	**0.1198**	**1.05** 2.31
25.400 1.0000	**19.845** 0.7813	**0.5** 0.02	**3.5** 0.14	**90.0** 3.54	**96.0** 3.78	**1.5** 0.06	**120.0** 4.72	**115.0** 4.53	**1.60** 0.06	**1.70** 0.07	**98.2**	**41.8**	**0.1198**	**1.03** 2.28
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	**1.50** 0.06	**1.70** 0.07	**98.2**	**41.8**	**0.1198**	**1.00** 2.21
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	**2.30** 0.09	**2.40** 0.09	**119**	**29.2**	**0.1273**	**1.66** 3.66
32.000 1.2598	**24.000** 0.9449	**-2.0** -0.08	**0.5** 0.02	**94.0** 3.70	**94.0** 3.70	**1.5** 0.06	**134.0** 5.28	**128.0** 5.04	**3.20** 0.13	**2.20** 0.09	**128**	**42.8**	**0.1317**	**1.96** 4.32
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	**2.50** 0.10	**2.10** 0.08	**105**	**29.3**	**0.1252**	**1.45** 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	**2.50** 0.10	**2.10** 0.08	**105**	**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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**3.03** 6.69
46.038 1.8125	**31.750** 1.2500	**4.3** 0.17	**3.5** 0.14	**98.5** 3.87	**111.0** 4.37	**3.3** 0.13	**164.0** 6.46	**147.0** 5.79	**9.00** 0.35	**3.90** 0.15	**118**	**18.6**	**0.1053**	**4.70** 10.36
46.038 1.8125	**34.925** 1.3750	**4.3** 0.17	**3.5** 0.14	**98.5** 3.87	**111.0** 4.37	**3.3** 0.13	**164.0** 6.46	**148.0** 5.83	**9.00** 0.35	**3.90** 0.15	**118**	**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	**1.50** 0.06	**1.70** 0.07	**98.2**	**41.8**	**0.1198**	**0.98** 2.15
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	**2.10** 0.08	**2.70** 0.11	**109**	**36.3**	**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	**2.10** 0.08	**2.50** 0.10	**117**	**36.6**	**0.1303**	**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	**2.10** 0.08	**2.50** 0.10	**117**	**36.6**	**0.1303**	**1.36** 3.00
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	**1.50** 0.06	**3.60** 0.14	**141**	**35.1**	**0.0929**	**2.27** 4.99
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.63** 5.79
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.86** 6.30
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	**1.10** 0.04	**3.40** 0.14	**169**	**33.3**	**0.0924**	**3.34** 7.37
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	**179.5** 7.06	**161.0** 6.34	**13.50** 0.53	**-0.60** -0.02	**150**	**23.8**	**0.1180**	**6.57** 14.48
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	**8.60** 0.34	**5.40** 0.21	**203**	**37.4**	**0.1197**	**7.70** 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	**1.90** 0.07	**1.20** 0.05	**160**	**26.3**	**0.0898**	**3.20** 7.06

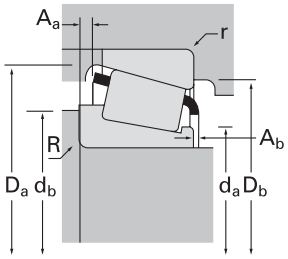
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
85.026 3.3475	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	749	742
85.026 3.3475	150.089 5.9090	44.450 1.7500	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	749-S	742
85.725 3.3750	133.350 5.2500	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	497	492A
85.725 3.3750	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	497	493
85.725 3.3750	136.525 5.3750	30.162 1.1875	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	497A	493
85.725 3.3750	142.138 5.5960	42.862 1.6875	242000 54300	0.43	1.39	62700 14100	46300 10400	1.35	399000 89700	HM617048	HM617010
85.725 3.3750	142.138 5.5960	42.862 1.6875	242000 54300	0.43	1.39	62700 14100	46300 10400	1.35	399000 89700	HM617049	HM617010
85.725 3.3750	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	665	653
85.725 3.3750	146.050 5.7500	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	665A	653
85.725 3.3750	147.828 5.8200	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	596	592AX
85.725 3.3750	150.000 5.9055	35.966 1.4160	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	596	JM719113
85.725 3.3750	150.000 5.9055	35.992 1.4170	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	596	593X
85.725 3.3750	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	596	592A
85.725 3.3750	152.400 6.0000	41.275 1.6250	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	665	652
85.725 3.3750	161.925 6.3750	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	758	752
85.725 3.3750	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	677	672
85.725 3.3750	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	841	832
87.312 3.4375	123.825 4.8750	20.638 0.8125	85800 19300	0.33	1.82	22200 5000	12600 2820	1.77	156000 35200	L217847	L217810
87.312 3.4375	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	596-S	592A
87.312 3.4375	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221432	HH221410
87.960 3.4630	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42346	42584
87.960 3.4630	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42346	42587
88.900 3.5000	121.442 4.7812	15.083 0.5938	55100 12400	0.33	1.81	14300 3210	8080 1820	1.77	88700 20000	LL217849	LL217810
88.900 3.5000	123.825 4.8750	20.638 0.8125	85800 19300	0.33	1.82	22200 5000	12600 2820	1.77	156000 35200	L217849	L217810
88.900 3.5000	127.000 5.0000	20.638 0.8125	85800 19300	0.33	1.82	22200 5000	12600 2820	1.77	156000 35200	L217849	L217813
88.900 3.5000	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42350	42584
88.900 3.5000	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42350	42587
88.900 3.5000	150.000 5.9055	35.966 1.4160	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593A	JM719113

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

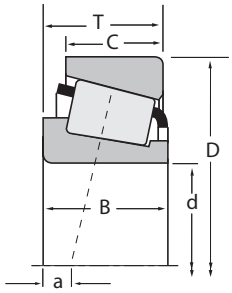
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
46.672 1.8375	**36.512** 1.4375	**-11.9** -0.47	**3.5** 0.14	**95.0** 3.74	**101.0** 3.98	**3.3** 0.13	**142.0** 5.59	**134.0** 5.28	**1.90** 0.07	**1.20** 0.05	**160**	**26.3**	**0.0898**	**3.25** 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	**1.90** 0.07	**1.20** 0.05	**160**	**26.3**	**0.0898**	**3.22** 7.10
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	**2.50** 0.10	**2.10** 0.08	**105**	**29.3**	**0.1252**	**1.40** 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	**2.50** 0.10	**2.10** 0.08	**105**	**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	**2.50** 0.10	**2.10** 0.08	**105**	**29.3**	**0.1252**	**1.48** 3.27
42.862 1.6875	**34.133** 1.3438	**-7.4** -0.29	**1.5** 0.06	**95.0** 3.75	**99.0** 3.90	**3.3** 0.13	**137.0** 5.39	**125.0** 4.92	**3.30** 0.13	**2.40** 0.09	**163**	**38.9**	**0.0996**	**2.64** 5.82
42.862 1.6875	**34.133** 1.3438	**-7.4** -0.29	**4.8** 0.19	**95.0** 3.75	**106.0** 4.17	**3.3** 0.13	**137.0** 5.39	**125.0** 4.92	**3.30** 0.13	**2.40** 0.09	**163**	**38.9**	**0.0996**	**2.62** 5.77
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.60** 5.72
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.57** 5.66
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.49** 5.48
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.59** 5.72
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.59** 5.70
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.87** 6.33
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	**4.50** 0.18	**2.00** 0.08	**137**	**27.3**	**0.0919**	**2.97** 6.54
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**97.0** 3.82	**103.0** 4.06	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.30** 0.13	**0.90** 0.04	**177**	**29.4**	**0.0945**	**4.23** 9.33
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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**0.1056**	**4.12** 9.08
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	**5.20** 0.20	**1.60** 0.06	**198**	**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	**0.50** 0.02	**2.10** 0.08	**111**	**74.7**	**0.1152**	**0.77** 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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.81** 6.19
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	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**8.17** 18.00
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	**2.80** 0.11	**3.00** 0.12	**130**	**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	**143.0** 5.63	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**2.10** 4.63
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	**0.50** 0.02	**2.00** 0.08	**73.4**	**74.1**	**0.0996**	**0.47** 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	**0.50** 0.02	**2.10** 0.08	**111**	**74.7**	**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	**0.50** 0.02	**2.10** 0.08	**111**	**74.7**	**0.1152**	**0.85** 1.87
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	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.93** 4.26
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	**143.0** 5.63	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**2.07** 4.57
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.44** 5.37

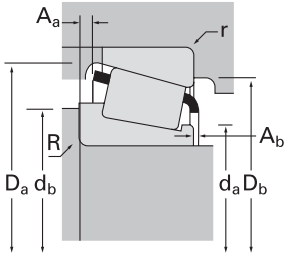
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
88.900 3.5000	150.000 5.9055	35.966 1.4160	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593	JM719113
88.900 3.5000	150.000 5.9055	35.992 1.4170	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593	593X
88.900 3.5000	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593	592A
88.900 3.5000	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593A	592A
88.900 3.5000	152.400 6.0000	39.688 1.5625	275000 61800	0.40	1.49	71200 16000	49000 11000	1.45	404000 90800	HM518445	HM518410
88.900 3.5000	159.995 6.2990	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	759	752A
88.900 3.5000	160.000 6.2992	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6580	6525X
88.900 3.5000	160.096 6.3030	30.124 1.1860	167000 37600	0.42	1.42	43400 9750	31400 7060	1.38	230000 51700	69350X	69630
88.900 3.5000	161.925 6.3750	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	759	752
88.900 3.5000	161.925 6.3750	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	766	752
88.900 3.5000	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6580	6535
88.900 3.5000	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6580	6536
88.900 3.5000	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	679	672
88.900 3.5000	168.275 6.6250	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	759	753
88.900 3.5000	168.275 6.6250	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	766	753
88.900 3.5000	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	850	832
88.900 3.5000	171.450 6.7500	47.625 1.8750	315000 70700	0.37	1.63	81500 18300	51200 11500	1.59	474000 107000	77350	77675
88.900 3.5000	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	775	772
88.900 3.5000	190.500 7.5000	57.150 2.2500	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	855	854
88.900 3.5000	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221434	HH221410
88.900 3.5000	200.000 7.8740	52.761 2.0772	376000 84600	0.63	0.95	97500 21900	106000 23700	0.92	519000 117000	98350	98788
89.090 3.5075	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593-S	592XE
89.090 3.5075	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593-S	592A
89.891 3.5390	168.275 6.6250	53.975 2.1250	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	850A	832
89.975 3.5423	146.975 5.7864	40.000 1.5748	254000 57000	0.33	1.80	65800 14800	37400 8420	1.76	388000 87300	HM218248	HM218210
89.992 3.5430	160.096 6.3030	30.124 1.1860	167000 37600	0.42	1.42	43400 9750	31400 7060	1.38	230000 51700	69354	69630
90.000 3.5433	135.000 5.3150	24.000 0.9449	110000 24600	0.49	1.21	28400 6390	24000 5410	1.18	155000 34900	JP9049	JP9010
90.000 3.5433	140.000 5.5118	32.000 1.2598	170000 38200	0.42	1.42	44000 9890	31900 7160	1.38	264000 59400	XAA32018X	Y32018X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	4.10 0.16	1.70 0.07	151	36.8	0.1416	2.47 5.44
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	4.10 0.16	1.70 0.07	151	36.8	0.1416	2.46 5.43
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	4.10 0.16	1.70 0.07	151	36.8	0.1416	2.75 6.05
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	4.10 0.16	1.70 0.07	151	36.8	0.1416	2.71 5.98
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	3.20 0.13	3.50 0.14	162	33.7	0.0966	2.79 6.14
48.260 1.9000	38.100 1.5000	-11.9 -0.47	3.5 0.14	99.0 3.90	106.0 4.17	0.8 0.03	150.0 5.91	146.0 5.75	3.30 0.13	0.90 0.04	177	29.4	0.0945	3.94 8.69
55.100 2.1693	44.450 1.7500	-13.2 -0.52	3.5 0.14	102.0 4.01	109.0 4.29	3.0 0.12	153.5 6.04	141.0 5.55	4.10 0.16	0.90 0.03	199	33.5	0.1037	4.52 9.97
30.162 1.1875	22.301 0.8780	-0.5 -0.02	2.3 0.09	98.0 3.86	102.0 4.02	3.3 0.13	149.0 5.87	143.0 5.63	3.80 0.15	2.50 0.10	117	39.6	0.0874	2.40 5.28
48.260 1.9000	38.100 1.5000	-11.9 -0.47	3.5 0.14	99.0 3.90	106.0 4.17	3.3 0.13	150.0 5.91	144.0 5.67	3.30 0.13	0.90 0.04	177	29.4	0.0945	4.07 8.97
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	3.30 0.13	0.90 0.04	177	29.4	0.0945	4.02 8.87
55.100 2.1693	42.862 1.6875	-13.2 -0.52	3.5 0.14	102.0 4.01	109.0 4.29	3.3 0.13	154.0 6.06	141.0 5.55	4.10 0.16	0.90 0.03	199	33.5	0.1037	4.66 10.28
55.100 2.1693	42.862 1.6875	-13.2 -0.52	3.5 0.14	102.0 4.01	109.0 4.29	0.8 0.03	154.0 6.06	144.0 5.67	4.10 0.16	0.90 0.03	199	33.5	0.1037	4.68 10.32
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	5.00 0.20	2.00 0.08	182	37.2	0.1056	3.98 8.77
48.260 1.9000	38.100 1.5000	-11.9 -0.47	3.5 0.14	99.0 3.90	106.0 4.17	3.3 0.13	150.0 5.91	147.0 5.79	3.30 0.13	0.90 0.04	177	29.4	0.0945	4.54 10.01
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	3.30 0.13	0.90 0.04	177	29.4	0.0945	4.49 9.91
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	5.20 0.20	1.60 0.06	198	34.8	0.0937	5.04 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	3.50 0.14	1.00 0.04	206	37.7	0.1017	4.87 10.74
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	3.60 0.14	1.30 0.05	227	41.3	0.1067	5.73 12.64
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	5.60 0.22	0.60 0.02	264	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	2.50 0.10	3.20 0.13	266	28.4	0.1072	8.07 17.78
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	8.60 0.34	5.40 0.21	203	37.4	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	4.10 0.16	1.70 0.07	151	38.3	0.1416	2.34 5.16
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	4.10 0.16	1.70 0.07	151	38.3	0.1416	2.74 6.04
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	5.20 0.20	1.60 0.06	198	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	1.40 0.06	2.90 0.12	168	34.7	0.0921	2.53 5.58
30.162 1.1875	22.301 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	3.80 0.15	2.50 0.10	117	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	1.90 0.07	3.30 0.13	83.8	46	0.1196	1.09 2.41
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	3.20 0.13	2.20 0.09	128	41.1	0.1317	1.70 3.75

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

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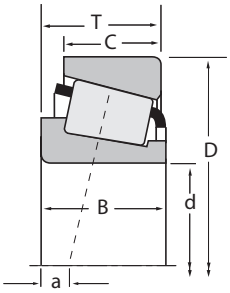
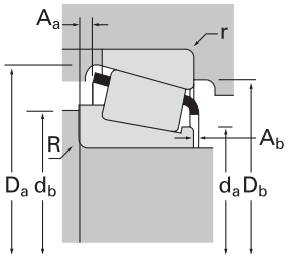
TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
90.000 3.5433	145.000 5.7087	35.000 1.3780	206000 46300	0.44	1.35	53400 12000	40600 9130	1.31	313000 70500	JM718149A	JM718110
90.000 3.5433	145.000 5.7087	35.000 1.3780	206000 46300	0.44	1.35	53400 12000	40600 9130	1.31	313000 70500	JM718149	JM718110
90.000 3.5433	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42354X	42587
90.000 3.5433	150.000 5.9055	35.992 1.4170	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	597X	593X
90.000 3.5433	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	597X	592A
90.000 3.5433	155.000 6.1024	44.000 1.7323	306000 68900	0.34	1.76	79400 17900	46400 10400	1.71	447000 101000	JHM318448	JHM318410
90.000 3.5433	160.000 6.2992	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6581X	6525X
90.000 3.5433	161.925 6.3750	53.975 2.1250	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6581X	6535
90.000 3.5433	190.000 7.4803	50.800 2.0000	299000 67300	0.87	0.69	77600 17400	115000 25900	0.67	392000 88100	J90354	J90748
90.000 3.5433	190.000 7.4803	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	JHH221436	JHH221413
90.488 3.5625	161.925 6.3750	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	760	752
90.488 3.5625	168.275 6.6250	47.625 1.8750	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	760	753
91.975 3.6210	142.875 5.6250	30.000 1.1811	152000 34100	0.48	1.25	39300 8830	32200 7230	1.22	240000 53900	LM718947	LM718910
92.075 3.6250	130.175 5.1250	20.638 0.8125	88300 19900	0.35	1.72	22900 5150	13700 3080	1.67	166000 37400	L319245	L319210
92.075 3.6250	146.050 5.7500	33.338 1.3125	182000 41000	0.45	1.34	47300 10600	36300 8160	1.30	307000 69000	47890	47820
92.075 3.6250	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598	592XE
92.075 3.6250	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598	592XS
92.075 3.6250	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42362	42584
92.075 3.6250	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42362	42587
92.075 3.6250	150.000 5.9055	35.966 1.4160	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598	JM719113
92.075 3.6250	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598	592A
92.075 3.6250	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598	592-S
92.075 3.6250	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598A	592A
92.075 3.6250	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598X	592A
92.075 3.6250	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	681	672
92.075 3.6250	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	681A	672
92.075 3.6250	171.450 6.7500	47.625 1.8750	315000 70700	0.37	1.63	81500 18300	51200 11500	1.59	474000 107000	77362	77675
92.075 3.6250	171.450 6.7500	47.625 1.8750	315000 70700	0.37	1.63	81500 18300	51200 11500	1.59	474000 107000	77364	77675

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

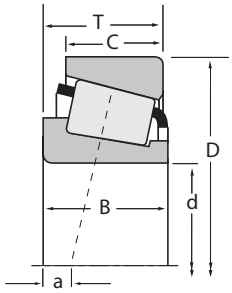
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
34.000 1.3386	**27.000** 1.0630	**-2.0** -0.08	**6.0** 0.24	**99.0** 3.90	**112.0** 4.41	**2.5** 0.10	**138.5** 5.46	**131.0** 5.16	**2.10** 0.08	**3.80** 0.15	**138**	**35.1**	**0.0946**	**2.13** 4.69
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	**138.5** 5.46	**131.0** 5.16	**2.10** 0.08	**3.80** 0.15	**138**	**35.1**	**0.0946**	**2.14** 4.72
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	**143.0** 5.63	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**2.04** 4.49
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.42** 5.34
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.71** 5.97
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	**1.30** 0.05	**3.30** 0.13	**179**	**32.4**	**0.0948**	**3.32** 7.31
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	**153.5** 6.04	**141.0** 5.55	**4.10** 0.16	**0.90** 0.03	**199**	**33.5**	**0.1037**	**4.47** 9.86
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	**4.10** 0.16	**0.90** 0.03	**199**	**33.5**	**0.1037**	**4.61** 10.16
46.038 1.8125	**31.750** 1.2500	**12.7** 0.50	**3.5** 0.14	**112.0** 4.40	**120.0** 4.72	**3.3** 0.13	**179.5** 7.06	**162.0** 6.38	**11.00** 0.43	**3.60** 0.14	**150**	**23.8**	**0.1180**	**6.04** 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	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**7.94** 17.51
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**150.0** 5.91	**144.0** 5.67	**3.30** 0.13	**0.90** 0.04	**177**	**29.4**	**0.0945**	**3.98** 8.78
48.260 1.9000	**38.100** 1.5000	**-11.9** -0.47	**3.5** 0.14	**101.0** 3.98	**107.0** 4.21	**3.3** 0.13	**150.0** 5.91	**147.0** 5.79	**3.30** 0.13	**0.90** 0.04	**177**	**29.4**	**0.0945**	**4.45** 9.82
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	**2.70** 0.11	**1.90** 0.08	**124**	**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	**0.70** 0.03	**1.40** 0.05	**125**	**90.7**	**0.1220**	**0.86** 1.89
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	**2.60** 0.10	**0.30** 0.01	**153**	**38.1**	**0.1428**	**2.05** 4.53
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.22** 4.89
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.20** 4.85
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	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.82** 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	**143.0** 5.63	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.96** 4.33
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.34** 5.16
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.62** 5.77
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.76** 6.09
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.59** 5.70
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.61** 5.76
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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**0.1056**	**3.83** 8.45
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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**0.1056**	**3.80** 8.38
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	**3.50** 0.14	**1.00** 0.04	**206**	**37.7**	**0.1017**	**4.72** 10.40
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	**3.50** 0.14	**1.00** 0.04	**206**	**37.7**	**0.1017**	**4.68** 10.33

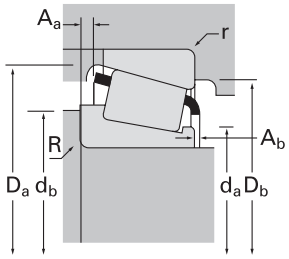
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
92.075 3.6250	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	778	772
92.075 3.6250	190.500 7.5000	57.150 2.2500	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	857	854
92.075 3.6250	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221438	HH221410
92.075 3.6250	214.312 8.4375	73.025 2.8750	596000 134000	0.46	1.31	155000 34800	121000 27300	1.27	786000 177000	EE213362	213843
93.662 3.6875	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42368	42584
93.662 3.6875	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42368	42587
93.662 3.6875	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	597	592A
94.975 3.7392	149.974 5.9045	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42373	42590
94.975 3.7392	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	682	672
95.000 3.7402	135.000 5.3150	20.000 0.7874	76900 17300	0.58	1.03	19900 4480	19900 4470	1.00	133000 29900	JL819349	JL819310
95.000 3.7402	145.000 5.7087	24.000 0.9449	116000 26100	0.47	1.27	30100 6770	24400 5480	1.24	172000 38700	JP10044	JP10010
95.000 3.7402	145.000 5.7087	39.000 1.5354	228000 51300	0.28	2.16	59100 13300	28100 6320	2.10	378000 85100	XAA33019	Y33019
95.000 3.7402	150.000 5.9055	35.000 1.3780	199000 44700	0.44	1.36	51500 11600	39000 8770	1.32	316000 71100	JM719149	JM719113
95.000 3.7402	152.400 6.0000	39.690 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	J594X	592A
95.000 3.7402	160.000 6.2992	46.000 1.8110	328000 73800	0.34	1.77	85100 19100	49300 11100	1.73	506000 114000	JF9549	JF9510
95.000 3.7402	190.000 7.4803	57.000 2.2441	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	862	853
95.250 3.7500	130.175 5.1250	20.638 0.8125	88300 19900	0.35	1.72	22900 5150	13700 3080	1.67	166000 37400	L319249	L319210
95.250 3.7500	136.525 5.3750	30.162 1.1875	129000 29100	0.28	2.11	33500 7530	16300 3660	2.06	227000 51100	LM119348	LM119311
95.250 3.7500	146.050 5.7500	33.338 1.3125	182000 41000	0.45	1.34	47300 10600	36300 8160	1.30	307000 69000	47896	47820
95.250 3.7500	146.050 5.7500	33.338 1.3125	182000 41000	0.45	1.34	47300 10600	36300 8160	1.30	307000 69000	47898	47820
95.250 3.7500	147.638 5.8125	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594	592XS
95.250 3.7500	147.828 5.8200	35.717 1.4062	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594	592AX
95.250 3.7500	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42375	42584
95.250 3.7500	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42376	42584
95.250 3.7500	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42375A	42584
95.250 3.7500	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42375	42587
95.250 3.7500	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42376	42587
95.250 3.7500	150.000 5.9055	35.966 1.4160	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594AA	JM719113

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

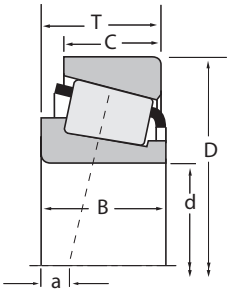
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
48.006 1.8900	**38.100** 1.5000	**-8.1** -0.32	**3.5** 0.14	**105.0** 4.13	**111.0** 4.37	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**3.60** 0.14	**1.30** 0.05	**227**	**41.3**	**0.1067**	**5.57** 12.29
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	**5.60** 0.22	**0.60** 0.02	**264**	**44.9**	**0.1072**	**7.45** 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	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**7.86** 17.33
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	**196.0** 7.71	**182.0** 7.17	* *	* *	**262**	**38.1**	**0.1180**	**12.33** 27.19
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	**2.80** 0.11	**3.00** 0.12	**130**	**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	**143.0** 5.63	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.92** 4.22
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.55** 5.63
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	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.91** 4.22
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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**0.1056**	**3.69** 8.15
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	**2.50** 0.10	**1.40** 0.05	**93.3**	**70.5**	**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	**1.90** 0.08	**3.30** 0.13	**104**	**40.9**	**0.1264**	**1.27** 2.79
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	**1.90** 0.07	**2.30** 0.09	**192**	**48.4**	**0.0907**	**2.23** 4.93
34.000 1.3386	**27.000** 1.0630	**-1.5** -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	**3.10** 0.12	**3.00** 0.12	**150**	**36.1**	**0.1413**	**2.17** 4.78
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	**4.10** 0.16	**1.70** 0.07	**151**	**38.3**	**0.1416**	**2.43** 5.37
46.000 1.8110	**38.000** 1.4961	**-10.7** -0.42	**3.0** 0.12	**105.5** 4.15	**111.0** 4.37	**3.0** 0.12	**154.0** 6.06	**145.0** 5.71	**1.40** 0.06	**3.00** 0.12	**210**	**39.7**	**0.0998**	**3.73** 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	**174.0** 6.86	**170.0** 6.69	**5.60** 0.22	**0.60** 0.02	**264**	**44.9**	**0.1072**	**7.36** 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	**0.70** 0.03	**1.40** 0.05	**125**	**90.7**	**0.1220**	**0.79** 1.75
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	**1.30** 0.05	**-0.20** -0.01	**149**	**69**	**0.1213**	**1.35** 2.97
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	**2.60** 0.10	**0.30** 0.01	**153**	**38.1**	**0.1428**	**1.93** 4.25
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	**2.60** 0.10	**0.30** 0.01	**153**	**38.1**	**0.1428**	**1.87** 4.12
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.07** 4.56
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.10** 4.63
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	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.73** 3.82
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	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.72** 3.79
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**0.8** 0.03	**103.0** 4.06	**104.0** 4.09	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.73** 3.82
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	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.87** 4.13
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	**143.0** 5.63	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.86** 4.10
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.22** 4.90

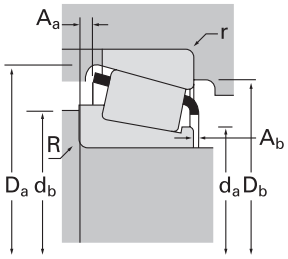
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
95.250 3.7500	150.000 5.9055	35.966 1.4160	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594	JM719113
95.250 3.7500	150.000 5.9055	35.992 1.4170	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594	593X
95.250 3.7500	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594	592A
95.250 3.7500	152.400 6.0000	39.688 1.5625	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594A	592A
95.250 3.7500	157.162 6.1875	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52375	52618
95.250 3.7500	161.925 6.3750	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52375	52637
95.250 3.7500	161.925 6.3750	39.690 1.5626	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52375	52638
95.250 3.7500	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	683	672
95.250 3.7500	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	683XA	672
95.250 3.7500	171.450 6.7500	47.625 1.8750	315000 70700	0.37	1.63	81500 18300	51200 11500	1.59	474000 107000	77375	77675
95.250 3.7500	171.450 6.7500	47.625 1.8750	315000 70700	0.37	1.63	81500 18300	51200 11500	1.59	474000 107000	77376	77675
95.250 3.7500	171.450 6.7500	50.800 2.0000	315000 70700	0.37	1.63	81500 18300	51200 11500	1.59	474000 107000	77375	77676X
95.250 3.7500	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	776	772
95.250 3.7500	190.500 7.5000	57.150 2.2500	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	864	854
95.250 3.7500	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221440	HH221410
95.250 3.7500	200.025 7.8750	61.912 2.4375	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221440	HH221416
95.250 3.7500	200.025 7.8750	73.025 2.8750	662000 149000	0.32	1.88	172000 38600	93700 21100	1.83	906000 204000	EH220749	EH220710
96.838 3.8125	148.430 5.8437	28.575 1.1250	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42381	42584
96.838 3.8125	149.225 5.8750	31.750 1.2500	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42381	42587
96.838 3.8125	188.912 7.4375	50.800 2.0000	299000 67300	0.87	0.69	77600 17400	115000 25900	0.67	392000 88100	90381	90744
98.425 3.8750	157.162 6.1875	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52387	52618
98.425 3.8750	161.925 6.3750	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52387	52637
98.425 3.8750	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	685	672
98.425 3.8750	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	779	772
98.425 3.8750	184.150 7.2500	63.500 2.5000	491000 110000	0.37	1.60	127000 28600	81500 18300	1.56	772000 174000	HH421246C	HH421210
98.425 3.8750	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221442	HH221410
98.425 3.8750	212.725 8.3750	66.675 2.6250	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224332	HH224310
99.975 3.9360	156.975 6.1801	42.000 1.6535	278000 62500	0.33	1.80	72100 16200	41000 9230	1.76	438000 98500	HM220149	HM220110

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

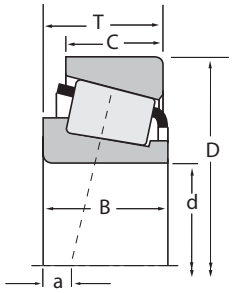
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
36.322 1.4300	**27.000** 1.0630	**-2.5** -0.10	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**2.5** 0.10	**143.0** 5.63	**135.0** 5.31	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.21** 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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.20** 4.85
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.48** 5.48
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	**4.10** 0.16	**1.70** 0.07	**151**	**36.8**	**0.1416**	**2.47** 5.44
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	**4.40** 0.17	**2.50** 0.10	**175**	**41.7**	**0.1519**	**2.66** 5.86
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	**4.40** 0.17	**2.50** 0.10	**175**	**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	**4.40** 0.17	**2.50** 0.10	**175**	**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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**0.1056**	**3.68** 8.12
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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**0.1056**	**3.67** 8.08
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	**3.50** 0.14	**1.00** 0.04	**206**	**37.7**	**0.1017**	**4.54** 10.01
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	**3.50** 0.14	**1.00** 0.04	**206**	**37.7**	**0.1017**	**4.51** 9.93
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	**3.50** 0.14	**1.00** 0.04	**206**	**37.7**	**0.1017**	**4.74** 10.44
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	**3.60** 0.14	**1.30** 0.05	**227**	**41.3**	**0.1067**	**5.40** 11.90
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	**5.60** 0.22	**0.60** 0.02	**264**	**44.9**	**0.1072**	**7.24** 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	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**7.65** 16.86
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	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**9.15** 20.17
73.025 2.8750	**58.738** 2.3125	**-24.6** -0.97	**3.3** 0.13	**115.5** 4.55	**120.0** 4.72	**3.3** 0.13	**187.0** 7.36	**177.0** 6.97	**5.80** 0.23	**2.40** 0.09	**306**	**26.2**	**0.1106**	**10.64** 23.46
28.971 1.1406	**21.433** 0.8438	**3.0** 0.12	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**3.0** 0.12	**142.0** 5.59	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.66** 3.67
28.971 1.1406	**24.608** 0.9688	**3.0** 0.12	**3.5** 0.14	**104.0** 4.09	**110.0** 4.33	**3.3** 0.13	**143.0** 5.63	**134.0** 5.28	**2.80** 0.11	**3.00** 0.12	**130**	**37.2**	**0.1386**	**1.80** 3.98
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	**179.5** 7.06	**161.0** 6.34	**11.00** 0.43	**3.60** 0.14	**150**	**22.1**	**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	**4.40** 0.17	**2.50** 0.10	**175**	**41.7**	**0.1519**	**2.52** 5.55
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	**4.40** 0.17	**2.50** 0.10	**175**	**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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**0.1056**	**3.53** 7.77
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	**3.60** 0.14	**1.30** 0.05	**227**	**41.3**	**0.1067**	**5.22** 11.50
63.500 2.5000	**52.388** 2.0625	**-16.8** -0.66	**6.4** 0.25	**115.0** 4.53	**127.0** 5.00	**3.3** 0.13	**176.0** 6.93	**163.0** 6.42	**3.10** 0.12	**3.10** 0.12	**298**	**40.9**	**0.1162**	**7.31** 16.11
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	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**7.49** 16.52
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	**201.5** 7.94	**192.0** 7.56	**4.90** 0.19	**2.80** 0.11	**367**	**47.8**	**0.1182**	**11.31** 24.94
42.000 1.6535	**34.000** 1.3386	**-8.6** -0.34	**8.0** 0.31	**108.0** 4.25	**123.0** 4.84	**3.5** 0.14	**151.0** 5.94	**142.0** 5.59	**2.10** 0.08	**2.40** 0.09	**204**	**45.9**	**0.0981**	**2.80** 6.17

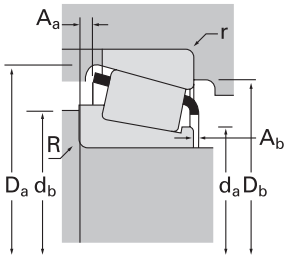
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
99.975 3.9360	214.975 8.4636	64.798 2.5511	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224334	HH224314
100.000 3.9370	145.000 5.7087	24.000 0.9449	116000 26100	0.47	1.27	30100 6770	24400 5480	1.24	172000 38700	JP10049A	JP10010
100.000 3.9370	145.000 5.7087	24.000 0.9449	116000 26100	0.47	1.27	30100 6770	24400 5480	1.24	172000 38700	JP10049	JP10010
100.000 3.9370	145.000 5.7087	24.000 0.9449	116000 26100	0.47	1.27	30100 6770	24400 5480	1.24	172000 38700	JP10049	JP10010A
100.000 3.9370	150.000 5.9055	32.000 1.2598	150000 33800	0.50	1.20	39000 8770	33500 7530	1.16	242000 54400	JLM820048	JLM820012
100.000 3.9370	155.000 6.1024	36.000 1.4173	214000 48200	0.47	1.27	55600 12500	45000 10100	1.24	355000 79900	JM720249	JM720210
100.000 3.9370	160.000 6.2992	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52394X	52630X
100.000 3.9370	160.000 6.2992	41.000 1.6142	259000 58100	0.47	1.28	67000 15100	54000 12100	1.24	416000 93500	JHM720249	JHM720210
100.000 3.9370	180.000 7.0866	48.000 1.8898	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	783	773
100.000 3.9370	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	783	772
100.000 3.9370	200.000 7.8740	52.761 2.0772	376000 84600	0.63	0.95	97500 21900	106000 23700	0.92	519000 117000	98394X	98788
100.000 3.9370	215.000 8.4646	66.680 2.6250	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	JHH224333	JHH224315
100.012 3.9375	157.162 6.1875	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52393	52618
100.012 3.9375	161.925 6.3750	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52393	52637
100.012 3.9375	161.925 6.3750	39.688 1.5625	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52393	52638
101.600 4.0000	134.938 5.3125	15.875 0.6250	60100 13500	0.37	1.62	15600 3500	9890 2220	1.58	104000 23400	LL420549	LL420510
101.600 4.0000	136.525 5.3750	21.433 0.8438	90500 20400	0.37	1.63	23500 5280	14800 3330	1.59	175000 39400	L420449	L420410
101.600 4.0000	146.050 5.7500	21.433 0.8438	88900 20000	0.39	1.53	23100 5180	15500 3480	1.49	175000 39400	L521945	L521910
101.600 4.0000	146.050 5.7500	25.400 1.0000	122000 27400	0.46	1.31	31600 7100	24800 5580	1.27	202000 45400	LM720648	LM720610
101.600 4.0000	152.400 6.0000	21.433 0.8438	88900 20000	0.39	1.53	23100 5180	15500 3480	1.49	175000 39400	L521945	L521914
101.600 4.0000	157.162 6.1875	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52400	52618
101.600 4.0000	157.162 6.1875	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52401	52618
101.600 4.0000	160.000 6.2992	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52400	52630X
101.600 4.0000	161.925 6.3750	36.512 1.4375	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52400	52637
101.600 4.0000	161.925 6.3750	39.688 1.5625	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52400	52638
101.600 4.0000	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	687	672
101.600 4.0000	168.275 6.6250	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	687	672A
101.600 4.0000	171.450 6.7500	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	687	674

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

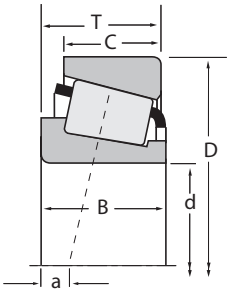
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
66.675 2.6250	50.800 2.0000	-18.8 -0.74	3.5 0.14	120.0 4.72	124.0 4.88	3.3 0.13	201.0 7.92	192.0 7.56	4.80 0.19	2.80 0.11	367	43.4	0.1182	11.30 24.91
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	1.90 0.08	3.30 0.13	104	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	3.0 0.12	140.0 5.51	134.0 5.28	1.90 0.08	3.30 0.13	104	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	1.90 0.08	3.30 0.13	104	40.9	0.1264	1.15 2.54
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	2.40 0.09	0.90 0.04	133	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	3.00 0.12	3.00 0.12	175	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	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.59 5.72
40.000 1.5748	32.000 1.2598	-2.5 -0.10	3.0 0.12	109.0 4.30	117.0 4.61	2.5 0.10	154.0 6.06	143.0 5.63	3.40 0.13	3.60 0.14	188	45.5	0.1068	2.99 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	3.60 0.14	1.30 0.05	227	41.3	0.1067	5.09 11.23
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	3.60 0.14	1.30 0.05	227	41.3	0.1067	5.12 11.30
49.212 1.9375	34.925 1.3750	1.3 0.05	3.5 0.14	120.5 4.75	126.0 4.96	3.3 0.13	188.0 7.40	174.0 6.85	8.60 0.34	5.40 0.21	203	37.4	0.1197	6.85 15.11
66.675 2.6250	53.975 2.1250	-18.8 -0.74	7.0 0.28	120.0 4.72	131.0 5.16	3.3 0.13	201.5 7.94	193.0 7.60	4.90 0.19	2.80 0.11	367	47.8	0.1182	11.46 25.27
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	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.45 5.39
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	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.69 5.93
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	4.40 0.17	2.50 0.10	175	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	1.10 0.04	2.10 0.08	95.5	89.7	0.1126	0.56 1.24
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	0.70 0.03	1.60 0.06	140	102	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	0.80 0.03	1.50 0.06	152	108	0.1346	1.16 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	2.50 0.10	1.10 0.04	128	58.4	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	0.80 0.03	1.50 0.06	152	108	0.1346	1.35 2.99
36.116 1.4219	26.195 1.0313	-5.1 -0.20	3.5 0.14	111.0 4.37	117.0 4.61	3.3 0.13	152.0 5.98	142.0 5.59	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.39 5.27
36.116 1.4219	26.195 1.0313	-0.5 -0.02	8.0 0.31	111.0 4.37	126.0 4.96	3.3 0.13	152.0 5.98	142.0 5.59	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.39 5.27
36.116 1.4219	26.195 1.0313	-5.1 -0.20	3.5 0.14	111.0 4.37	117.0 4.61	3.0 0.12	153.0 6.02	144.0 5.67	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.54 5.59
36.116 1.4219	26.195 1.0313	-5.1 -0.20	3.5 0.14	111.0 4.37	117.0 4.61	3.3 0.13	154.0 6.06	144.0 5.67	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.63 5.81
36.116 1.4219	29.370 1.1563	-5.1 -0.20	3.5 0.14	111.0 4.37	117.0 4.61	3.3 0.13	154.0 6.06	143.0 5.63	4.40 0.17	2.50 0.10	175	41.7	0.1519	2.80 6.17
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	5.00 0.20	2.00 0.08	182	37.2	0.1056	3.36 7.42
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	5.00 0.20	2.00 0.08	182	37.2	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	5.00 0.20	2.00 0.08	182	37.2	0.1056	3.54 7.81

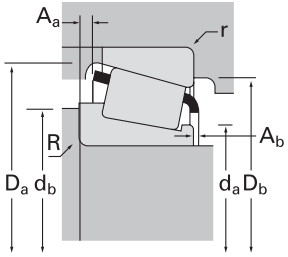
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
101.600 4.0000	177.800 7.0000	34.925 1.3750	158000 35500	1.17	0.51	40900 9200	82100 18400	0.50	219000 49200	LM921845	LM921810
101.600 4.0000	180.000 7.0866	48.000 1.8898	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	780	773
101.600 4.0000	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	780	772
101.600 4.0000	190.500 7.5000	57.150 2.2500	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	861	854
101.600 4.0000	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221449A	HH221410
101.600 4.0000	190.500 7.5000	57.150 2.2500	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221449	HH221410
101.600 4.0000	200.000 7.8740	52.761 2.0772	376000 84600	0.63	0.95	97500 21900	106000 23700	0.92	519000 117000	98400	98788
101.600 4.0000	212.725 8.3750	66.675 2.6250	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	941	932
101.600 4.0000	212.725 8.3750	66.675 2.6250	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224335	HH224310
101.600 4.0000	214.312 8.4375	55.562 2.1875	435000 97800	0.67	0.89	113000 25400	130000 29300	0.87	610000 137000	H924033	H924010
101.600 4.0000	214.975 8.4636	64.798 2.5511	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224335	HH224314
101.600 4.0000	250.825 9.8750	76.200 3.0000	647000 145000	0.70	0.86	168000 37700	201000 45100	0.84	827000 186000	HH923649	HH923611
103.188 4.0625	171.450 6.7500	41.275 1.6250	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	689	674
104.775 4.1250	142.083 5.5938	15.875 0.6250	60200 13500	0.39	1.53	15600 3510	10500 2350	1.49	107000 24000	LL521845	LL521810
104.775 4.1250	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	782	772
104.775 4.1250	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	786	772
104.775 4.1250	180.975 7.1250	47.625 1.8750	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	787	772
104.775 4.1250	190.500 7.5000	47.625 1.8750	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71412	71750
106.000 4.1732	160.000 6.2992	35.000 1.3780	210000 47300	0.44	1.35	54500 12300	41500 9320	1.31	339000 76200	XGA32021X	Y32021X
106.362 4.1875	165.100 6.5000	36.512 1.4375	210000 47100	0.50	1.21	54400 12200	46300 10400	1.18	355000 79700	56418	56650
106.975 4.2116	146.975 5.7864	28.500 1.1220	158000 35600	0.27	2.23	41000 9220	18900 4250	2.17	285000 64100	LM121349	LM121310
107.950 4.2500	142.083 5.5938	15.875 0.6250	60200 13500	0.39	1.53	15600 3510	10500 2350	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	107000 24000	0.61	0.99	27600 6220	28700 6450	0.96	179000 40100	37425	37625
107.950 4.2500	159.987 6.2987	34.925 1.3750	181000 40700	0.40	1.49	47000 10600	32300 7270	1.45	357000 80300	LM522546	LM522510
107.950 4.2500	161.925 6.3750	34.925 1.3750	178000 40000	0.51	1.19	46100 10400	39900 8970	1.16	308000 69200	48190	48120
107.950 4.2500	165.100 6.5000	36.512 1.4375	210000 47100	0.50	1.21	54400 12200	46300 10400	1.18	355000 79700	56425	56650

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

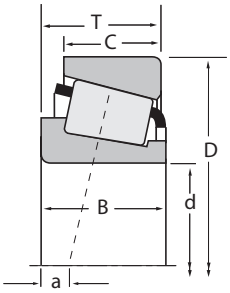
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
31.750 1.2500	**19.050** 0.7500	**34.5** 1.36	**3.3** 0.13	**119.0** 4.69	**128.0** 5.04	**3.3** 0.13	**172.0** 6.77	**154.0** 6.06	**8.90** 0.35	**3.30** 0.13	**114**	**37.4**	**0.1153**	**3.10** 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	**3.60** 0.14	**1.30** 0.05	**227**	**38.2**	**0.1067**	**5.00** 11.02
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	**3.60** 0.14	**1.30** 0.05	**227**	**38.2**	**0.1067**	**5.03** 11.08
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	**5.60** 0.22	**0.60** 0.02	**264**	**44.9**	**0.1072**	**6.79** 14.97
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**3.5** 0.14	**116.0** 4.56	**122.0** 4.80	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**7.27** 16.02
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**8.0** 0.31	**116.0** 4.56	**131.0** 5.16	**3.3** 0.13	**179.0** 7.05	**171.0** 6.73	**2.50** 0.10	**3.20** 0.13	**266**	**28.4**	**0.1072**	**7.20** 15.88
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**3.5** 0.14	**120.5** 4.75	**128.0** 5.04	**3.3** 0.13	**188.0** 7.40	**174.0** 6.85	**8.60** 0.34	**5.40** 0.21	**203**	**37.4**	**0.1197**	**6.76** 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	**193.0** 7.60	**187.0** 7.36	**6.70** 0.26	**1.20** 0.05	**339**	**39.7**	**0.1153**	**10.95** 24.13
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	**201.5** 7.94	**192.0** 7.56	**4.80** 0.19	**2.80** 0.11	**367**	**43.4**	**0.1182**	**11.00** 24.26
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	**6.60** 0.26	**3.40** 0.13	**246**	**32.2**	**0.1299**	**8.95** 19.72
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	**201.0** 7.92	**192.0** 7.56	**4.80** 0.19	**2.80** 0.11	**367**	**43.4**	**0.1182**	**11.12** 24.51
73.025 2.8750	**50.800** 2.0000	**-3.3** -0.13	**6.4** 0.25	**131.0** 5.15	**149.0** 5.87	**3.3** 0.13	**229.0** 9.01	**210.0** 8.27	**15.10** 0.60	**4.60** 0.18	**282**	**35.2**	**0.1370**	**17.07** 37.64
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	**5.00** 0.20	**2.00** 0.08	**182**	**37.2**	**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	**0.80** 0.03	**2.20** 0.09	**105**	**110**	**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	**3.60** 0.14	**1.30** 0.05	**227**	**38.2**	**0.1067**	**4.83** 10.66
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	**3.60** 0.14	**1.30** 0.05	**227**	**38.2**	**0.1067**	**4.80** 10.58
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	**3.60** 0.14	**1.30** 0.05	**227**	**41.3**	**0.1067**	**4.78** 10.54
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	**5.40** 0.21	**1.50** 0.06	**269**	**45.7**	**0.1156**	**5.78** 12.74
35.000 1.3780	**26.000** 1.0236	**-0.3** -0.01	**6.0** 0.24	**115.0** 4.53	**128.0** 5.04	**2.0** 0.08	**154.0** 6.06	**147.0** 5.79	**3.20** 0.13	**2.60** 0.10	**176**	**50.7**	**0.1024**	**2.36** 5.19
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	**4.00** 0.16	**1.50** 0.06	**191**	**47.7**	**0.1584**	**2.68** 5.91
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	**0.60** 0.02	**2.30** 0.09	**195**	**75.6**	**0.1302**	**1.31** 2.90
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	**0.80** 0.03	**2.20** 0.09	**105**	**110**	**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	**0.80** 0.03	**1.50** 0.06	**152**	**108**	**0.1346**	**0.99** 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	**0.80** 0.03	**1.50** 0.06	**152**	**108**	**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	**2.60** 0.10	**3.00** 0.12	**124**	**57**	**0.1443**	**1.35** 2.98
34.925 1.3750	**26.987** 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	**2.50** 0.10	**1.30** 0.05	**232**	**63.3**	**0.1576**	**2.34** 5.17
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	**2.90** 0.11	**0.70** 0.03	**180**	**44.7**	**0.1558**	**2.35** 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	**4.00** 0.16	**1.50** 0.06	**191**	**47.7**	**0.1584**	**2.60** 5.74

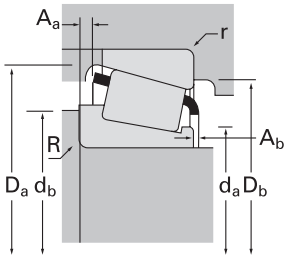
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
107.950 4.2500	165.100 6.5000	36.512 1.4375	210000 47100	0.50	1.21	54400 12200	46300 10400	1.18	355000 79700	56426	56650
107.950 4.2500	168.275 6.6250	36.512 1.4375	210000 47100	0.50	1.21	54400 12200	46300 10400	1.18	355000 79700	56425	56662
107.950 4.2500	171.450 6.7500	34.000 1.3386	182000 41000	0.47	1.27	47300 10600	38300 8600	1.24	268000 60300	67425	67675
107.950 4.2500	190.500 7.5000	47.625 1.8750	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71425	71750
107.950 4.2500	212.725 8.3750	66.675 2.6250	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	936	932
107.950 4.2500	212.725 8.3750	66.675 2.6250	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224340	HH224310
109.538 4.3125	158.750 6.2500	23.020 0.9063	107000 24000	0.61	0.99	27600 6220	28700 6450	0.96	179000 40100	37431	37625
109.538 4.3125	158.750 6.2500	23.020 0.9063	107000 24000	0.61	0.99	27600 6220	28700 6450	0.96	179000 40100	37431A	37625
109.952 4.3288	190.500 7.5000	47.625 1.8750	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71432	71750
109.975 4.3297	179.974 7.0856	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64432	64708
110.000 4.3301	214.312 8.4375	55.562 2.1875	435000 97800	0.67	0.89	113000 25400	130000 29300	0.87	610000 137000	H924043	H924010
109.987 4.3302	159.987 6.2987	34.925 1.3750	181000 40700	0.40	1.49	47000 10600	32300 7270	1.45	357000 80300	LM522548	LM522510
109.987 4.3302	159.987 6.2987	34.925 1.3750	181000 40700	0.40	1.49	47000 10600	32300 7270	1.45	357000 80300	LM522549	LM522510
109.992 4.3304	177.800 7.0000	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64433	64700
110.000 4.3307	165.000 6.4961	35.000 1.3780	210000 47300	0.50	1.21	54500 12300	46400 10400	1.18	356000 80100	JM822049	JM822010
110.000 4.3307	180.000 7.0866	47.000 1.8504	344000 77300	0.41	1.48	89100 20000	61900 13900	1.44	554000 125000	JHM522649A	JHM522610
110.000 4.3307	212.725 8.3750	66.675 2.6250	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	942	932
110.000 4.3307	215.000 8.4646	61.500 2.4213	502000 113000	0.44	1.38	130000 29300	97000 21800	1.34	753000 169000	XFA32224	Y32224
110.332 4.3438	171.450 6.7500	34.000 1.3386	182000 41000	0.47	1.27	47300 10600	38300 8600	1.24	268000 60300	67434	67675
111.125 4.3750	171.450 6.7500	34.000 1.3386	182000 41000	0.47	1.27	47300 10600	38300 8600	1.24	268000 60300	67437	67675
111.125 4.3750	190.500 7.5000	47.625 1.8750	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71437	71750
111.125 4.3750	214.312 8.4375	55.562 2.1875	435000 97800	0.67	0.89	113000 25400	130000 29300	0.87	610000 137000	H924045	H924010
114.300 4.5000	152.400 6.0000	21.433 0.8438	92400 20800	0.41	1.45	23900 5380	16900 3810	1.41	188000 42300	L623149	L623110
114.300 4.5000	177.800 7.0000	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64450	64700
114.300 4.5000	178.000 7.0079	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64450	64701X
114.300 4.5000	179.974 7.0856	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64450	64708
114.300 4.5000	180.975 7.1250	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64450	64713
114.300 4.5000	190.500 7.5000	47.625 1.8750	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71450	71750

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	4.00 0.16	1.50 0.06	191	47.7	0.1584	2.54 5.59
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	4.00 0.16	1.50 0.06	191	47.7	0.1584	2.78 6.13
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	3.40 0.13	2.10 0.08	152	50.5	0.0987	2.51 5.53
49.212 1.9375	34.925 1.3750	-6.6 -0.26	3.5 0.14	120.0 4.72	126.0 4.96	3.3 0.13	181.0 7.13	171.0 6.73	5.40 0.21	1.50 0.06	269	45.7	0.1156	5.57 12.29
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	193.0 7.60	187.0 7.36	6.70 0.26	1.20 0.05	339	39.7	0.1153	10.38 22.89
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	201.5 7.94	192.0 7.56	4.90 0.19	2.80 0.11	367	47.8	0.1182	10.44 23.01
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	2.60 0.10	3.00 0.12	124	48.7	0.1443	1.31 2.88
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	2.60 0.10	3.00 0.12	124	57	0.1443	1.30 2.87
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	5.40 0.21	1.50 0.06	269	45.7	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	5.30 0.21	2.00 0.08	219	45.3	0.1153	3.86 8.50
52.388 2.0625	39.688 1.5625	6.9 0.27	3.5 0.14	131.0 5.16	139.0 5.47	3.3 0.13	205.0 8.07	186.0 7.32	6.60 0.26	3.40 0.13	246	32.2	0.1299	8.37 18.46
34.925 1.3750	26.987 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	2.50 0.10	1.30 0.05	232	63.3	0.1576	2.18 4.80
34.925 1.3750	26.987 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	2.50 0.10	1.30 0.05	232	63.3	0.1576	2.25 4.96
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	5.30 0.21	2.00 0.08	219	45.3	0.1153	3.71 8.18
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	3.00 0.12	2.00 0.08	192	45.8	0.1585	2.44 5.38
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	2.70 0.10	3.90 0.15	259	52.1	0.1134	4.59 10.13
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	193.0 7.60	187.0 7.36	6.60 0.26	1.20 0.05	339	39.7	0.1153	10.25 22.59
58.000 2.2835	50.000 1.9685	-9.4 -0.37	3.0 0.12	133.0 5.24	137.0 5.39	2.5 0.10	204.0 8.03	192.0 7.56	7.80 0.31	3.00 0.12	329	52.3	0.1253	9.85 21.72
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	3.40 0.13	2.10 0.08	152	50.5	0.0987	2.41 5.32
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	3.40 0.13	2.10 0.08	152	50.5	0.0987	2.38 5.25
49.212 1.9375	34.925 1.3750	-6.6 -0.26	3.5 0.14	123.0 4.84	129.0 5.08	3.3 0.13	181.0 7.13	171.0 6.73	5.40 0.21	1.50 0.06	269	45.7	0.1156	5.36 11.82
52.388 2.0625	39.688 1.5625	6.9 0.27	3.5 0.14	131.0 5.16	139.0 5.47	3.3 0.13	205.0 8.07	186.0 7.32	6.60 0.26	3.40 0.13	246	32.2	0.1299	8.29 18.28
21.432 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	1.10 0.04	1.60 0.06	171	102	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	5.30 0.21	2.00 0.08	219	45.3	0.1153	3.47 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	5.30 0.21	2.00 0.08	219	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	5.30 0.21	2.00 0.08	219	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	5.30 0.21	2.00 0.08	219	45.3	0.1153	3.68 8.11
49.212 1.9375	34.925 1.3750	-6.6 -0.26	3.5 0.14	125.0 4.92	132.0 5.20	3.3 0.13	181.0 7.13	171.0 6.73	5.40 0.21	1.50 0.06	269	45.7	0.1156	5.15 11.34

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

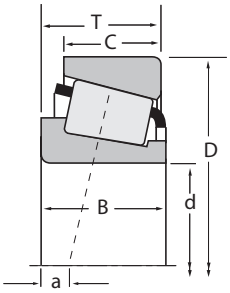
(7) Compound radius on inner race. Details on drawing for bearing.

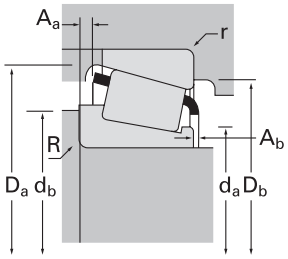
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
114.300 4.5000	206.375 8.1250	66.675 2.6250	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	938	930
114.300 4.5000	212.725 8.3750	66.675 2.6250	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	938	932
114.300 4.5000	212.725 8.3750	66.675 2.6250	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224346	HH224310
114.300 4.5000	214.975 8.4636	64.798 2.5511	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224346	HH224314
114.300 4.5000	228.600 9.0000	53.975 2.1250	458000 103000	0.74	0.81	119000 26700	150000 33700	0.79	673000 151000	HM926740	HM926710
114.300 4.5000	273.050 10.7500	82.550 3.2500	832000 187000	0.63	0.95	216000 48500	234000 52500	0.92	1080000 243000	HH926744	HH926710
114.300 4.5000	279.400 11.0000	82.550 3.2500	832000 187000	0.63	0.95	216000 48500	234000 52500	0.92	1080000 243000	HH926744	HH926716
114.975 4.5266	177.800 7.0000	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64452A	64700
114.975 4.5266	179.974 7.0856	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64452	64708
114.975 4.5266	180.975 7.1250	41.275 1.6250	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64452A	64713
114.975 4.5266	212.725 8.3750	66.675 2.6250	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224349	HH224310
115.000 4.5276	165.000 6.4961	28.000 1.1024	148000 33200	0.46	1.31	38300 8620	30100 6770	1.27	245000 55100	JLM722948	JLM722912
115.000 4.5276	178.000 7.0079	40.000 1.5748	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64452X	64701X
115.087 4.5310	190.500 7.5000	47.625 1.8750	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71453	71750
115.087 4.5310	190.500 7.5000	47.625 1.8750	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71455	71750
117.475 4.6250	179.974 7.0856	34.925 1.3750	181000 40700	0.50	1.21	46900 10600	39900 8980	1.18	271000 61000	68462	68709
117.475 4.6250	180.975 7.1250	34.925 1.3750	181000 40700	0.50	1.21	46900 10600	39900 8980	1.18	271000 61000	68462	68712
117.475 4.6250	180.975 7.1250	34.925 1.3750	181000 40700	0.50	1.21	46900 10600	39900 8980	1.18	271000 61000	68463	68712
119.964 4.7230	215.900 8.5000	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74472	74850
119.975 4.7234	174.625 6.8750	35.720 1.4063	226000 50900	0.33	1.80	58700 13200	33400 7510	1.76	422000 94900	M224748	M224710
120.000 4.7244	170.000 6.6929	25.400 1.0000	134000 30200	0.46	1.31	34800 7820	27300 6140	1.27	231000 52000	JL724348	JL724314
120.000 4.7244	170.000 6.6929	27.000 1.0630	153000 34400	0.47	1.27	39700 8920	32100 7220	1.24	238000 53500	JP12049A	JP12010
120.000 4.7244	170.000 6.6929	27.000 1.0630	153000 34400	0.47	1.27	39700 8920	32100 7220	1.24	238000 53500	JP12049	JP12010
120.000 4.7244	180.000 7.0866	36.000 1.4173	229000 51400	0.41	1.45	59300 13300	41900 9430	1.41	377000 84700	JM624649	JM624610
120.000 4.7244	180.000 7.0866	38.000 1.4961	271000 60900	0.46	1.31	70200 15800	55100 12400	1.27	466000 105000	XAA32024X	Y32024X
120.000 4.7244	215.900 8.5000	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74473X	74850
120.000 4.7244	230.000 9.0551	53.975 2.1250	348000 78300	0.74	0.81	90200 20300	114000 25600	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

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

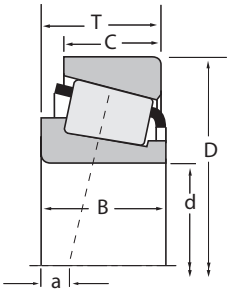
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
66.675 2.6250	53.975 2.1250	-19.8 -0.78	7.0 0.28	128.0 5.04	141.0 5.55	3.3 0.13	193.0 7.60	184.0 7.24	6.70 0.26	1.20 0.05	339	39.7	0.1153	8.92 19.66
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	193.0 7.60	187.0 7.36	6.70 0.26	1.20 0.05	339	39.7	0.1153	9.82 21.64
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	201.5 7.94	192.0 7.56	4.90 0.19	2.80 0.11	367	47.8	0.1182	9.88 21.77
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	201.0 7.92	192.0 7.56	4.90 0.19	2.80 0.11	367	47.8	0.1182	9.99 22.02
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	219.0 8.63	200.0 7.87	9.00 0.36	6.40 0.25	295	39	0.1416	9.54 21.04
82.550 3.2500	53.975 2.1250	-6.6 -0.26	6.4 0.25	147.5 5.80	164.0 6.46	6.4 0.25	253.0 9.97	230.0 9.06	15.10 0.60	4.10 0.16	384	37.8	0.1472	21.92 48.32
82.550 3.2500	53.975 2.1250	-6.6 -0.26	6.4 0.25	147.5 5.80	164.0 6.46	6.4 0.25	253.0 9.97	233.0 9.17	15.10 0.60	4.10 0.16	384	37.8	0.1472	23.08 50.88
41.275 1.6250	30.162 1.1875	1.3 0.05	9.0 0.35	126.0 4.96	143.0 5.63	3.3 0.13	172.0 6.77	160.0 6.30	5.30 0.21	2.00 0.08	219	45.3	0.1153	3.33 7.34
41.275 1.6250	30.162 1.1875	1.3 0.05	3.5 0.14	126.0 4.96	132.0 5.20	3.3 0.13	173.0 6.81	161.0 6.34	5.30 0.21	2.00 0.08	219	45.3	0.1153	3.57 7.87
41.275 1.6250	30.162 1.1875	1.3 0.05	9.0 0.35	126.0 4.96	143.0 5.63	3.3 0.13	173.0 6.81	161.0 6.34	5.30 0.21	2.00 0.08	219	45.3	0.1153	3.54 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	201.5 7.94	192.0 7.56	4.90 0.19	2.80 0.11	367	47.8	0.1182	9.81 21.63
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	2.20 0.09	2.40 0.09	161	57.2	0.1449	1.76 3.87
40.000 1.5748	30.162 1.1875	1.3 0.05	3.5 0.14	125.5 4.95	132.0 5.20	3.0 0.12	172.0 6.77	160.0 6.30	4.00 0.16	2.00 0.08	219	45.3	0.1153	3.37 7.44
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	5.40 0.21	1.50 0.06	269	45.7	0.1156	5.09 11.22
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	5.40 0.21	1.50 0.06	269	45.7	0.1156	5.02 11.06
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	5.10 0.20	2.30 0.09	163	51.7	0.1026	2.71 5.96
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	5.10 0.20	2.30 0.09	163	51.7	0.1026	2.74 6.04
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	5.10 0.20	2.30 0.09	163	51.7	0.1026	2.66 5.87
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	4.80 0.19	2.00 0.08	363	68.5	0.1338	7.52 16.57
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	168.0 6.61	162.0 6.38	3.80 0.15	0.50 0.02	279	86.6	0.1575	2.70 5.96
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	2.70 0.11	1.20 0.05	170	70.6	0.1472	1.62 3.56
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	164.0 6.46	158.0 6.22	2.80 0.11	3.70 0.14	158	76.7	0.1451	1.60 3.53
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	164.0 6.46	158.0 6.22	2.80 0.11	3.70 0.14	158	76.7	0.1451	1.62 3.58
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	3.60 0.14	2.70 0.10	227	61.6	0.1084	2.93 6.46
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	3.50 0.14	3.00 0.12	255	58.3	0.1169	3.26 7.19
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	4.80 0.19	2.00 0.08	363	68.5	0.1338	7.51 16.55
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	8.20 0.32	4.80 0.19	237	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	1.20 0.05	1.60 0.06	195	139	0.1509	1.21 2.66

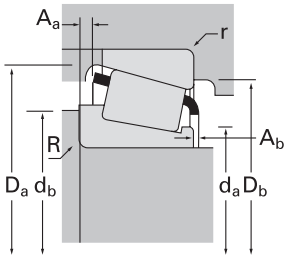
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
120.650 4.7500	166.688 6.5625	25.400 1.0000	134000 30200	0.46	1.31	34800 7820	27300 6140	1.27	231000 52000	L724349	L724310
120.650 4.7500	169.862 6.6875	25.400 1.0000	132000 29700	0.33	1.80	34300 7710	19500 4390	1.76	273000 61400	L225842	L225810
120.650 4.7500	172.242 6.7812	35.720 1.4063	226000 50900	0.33	1.80	58700 13200	33400 7510	1.76	422000 94900	M224749	M224711
120.650 4.7500	174.625 6.8750	35.720 1.4063	226000 50900	0.33	1.80	58700 13200	33400 7510	1.76	422000 94900	M224749	M224710
120.650 4.7500	174.625 6.8750	35.720 1.4063	226000 50900	0.33	1.80	58700 13200	33400 7510	1.76	422000 94900	M224749	M224712
120.650 4.7500	180.975 7.1250	25.400 1.0000	132000 29700	0.33	1.80	34300 7710	19500 4390	1.76	273000 61400	L225842	L225818
120.650 4.7500	182.562 7.1875	39.688 1.5625	248000 55800	0.31	1.97	64300 14500	33600 7550	1.91	493000 111000	48282	48220
120.650 4.7500	190.500 7.5000	46.038 1.8125	335000 75300	0.43	1.41	86800 19500	63400 14300	1.37	543000 122000	HM624749	HM624710
120.650 4.7500	199.974 7.8730	46.038 1.8125	335000 75300	0.43	1.41	86800 19500	63400 14300	1.37	543000 122000	HM624749	HM624716
120.650 4.7500	206.375 8.1250	47.625 1.8750	350000 78700	0.46	1.31	90800 20400	71300 16000	1.27	593000 133000	795	792
120.650 4.7500	234.950 9.2500	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95475	95925
120.650 4.7500	254.000 10.0000	77.788 3.0625	843000 189000	0.32	1.87	218000 49100	120000 27000	1.82	1240000 279000	HH228340	HH228310
120.650 4.7500	259.974 10.2352	77.788 3.0625	843000 189000	0.32	1.87	218000 49100	120000 27000	1.82	1240000 279000	HH228340	HH228318
120.650 4.7500	273.050 10.7500	82.550 3.2500	832000 187000	0.63	0.95	216000 48500	234000 52500	0.92	1080000 243000	HH926749	HH926710
123.825 4.8750	182.562 7.1875	39.688 1.5625	248000 55800	0.31	1.97	64300 14500	33600 7550	1.91	493000 111000	48286	48220
124.943 4.9190	234.950 9.2500	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95491	95925
125.000 4.9213	175.000 6.8898	25.400 1.0000	139000 31200	0.48	1.26	36000 8100	29400 6600	1.23	246000 55300	JL725346	JL725316
125.298 4.9330	228.600 9.0000	53.975 2.1250	458000 103000	0.74	0.81	119000 26700	150000 33700	0.79	673000 151000	HM926745	HM926710
127.000 5.0000	165.895 6.5313	18.258 0.7188	83500 18800	0.33	1.80	21600 4870	12300 2770	1.76	153000 34400	LL225749	LL225710
127.000 5.0000	169.862 6.6875	25.400 1.0000	132000 29700	0.33	1.80	34300 7710	19500 4390	1.76	273000 61400	L225849	L225810
127.000 5.0000	171.450 6.7500	25.400 1.0000	139000 31200	0.48	1.26	36000 8100	29400 6600	1.23	246000 55300	L725349	L725311
127.000 5.0000	174.625 6.8750	36.512 1.4375	204000 45800	0.31	1.95	52900 11900	27800 6250	1.90	413000 92900	LM125748	LM125711
127.000 5.0000	180.975 7.1250	25.400 1.0000	132000 29700	0.33	1.80	34300 7710	19500 4390	1.76	273000 61400	L225849	L225818
127.000 5.0000	182.562 7.1875	39.688 1.5625	248000 55800	0.31	1.97	64300 14500	33600 7550	1.91	493000 111000	48290	48220
127.000 5.0000	196.850 7.7500	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67388	67322
127.000 5.0000	203.200 8.0000	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67388	67320
127.000 5.0000	215.900 8.5000	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74500	74850
127.000 5.0000	228.600 9.0000	53.975 2.1250	348000 78300	0.74	0.81	90200 20300	114000 25600	0.79	486000 109000	97500	97900

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

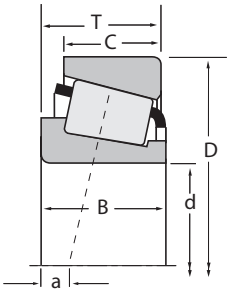
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
25.400 1.0000	**19.050** 0.7500	**7.9** 0.31	**3.3** 0.13	**128.0** 5.04	**133.0** 5.24	**3.3** 0.13	**161.0** 6.34	**154.0** 6.06	**2.70** 0.11	**1.20** 0.05	**170**	**70.6**	**0.1472**	**1.48** 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	**0.70** 0.03	**1.60** 0.06	**253**	**134**	**0.1511**	**1.86** 4.11
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	**167.0** 6.57	**162.0** 6.38	**3.80** 0.15	**0.50** 0.02	**279**	**86.6**	**0.1575**	**2.52** 5.57
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	**168.0** 6.61	**162.0** 6.38	**3.80** 0.15	**0.50** 0.02	**279**	**86.6**	**0.1575**	**2.67** 5.88
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	**168.0** 6.61	**161.0** 6.34	**3.80** 0.15	**0.50** 0.02	**279**	**86.6**	**0.1575**	**2.67** 5.88
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	**0.70** 0.03	**1.60** 0.06	**253**	**134**	**0.1511**	**2.35** 5.18
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	**1.90** 0.07	**3.20** 0.13	**353**	**91.3**	**0.1138**	**3.64** 8.03
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	**3.70** 0.15	**2.60** 0.10	**279**	**51.5**	**0.1178**	**4.60** 10.15
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	**3.70** 0.15	**2.60** 0.10	**279**	**51.5**	**0.1178**	**5.40** 11.90
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	**198.0** 7.80	**186.0** 7.32	**5.30** 0.21	**2.80** 0.11	**326**	**56.2**	**0.1269**	**6.32** 13.94
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	**6.40** 0.25	**3.80** 0.15	**454**	**59.3**	**0.1323**	**12.35** 27.22
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	**233.5** 9.20	**223.0** 8.78	**7.10** 0.28	**0.00** 0.00	**530**	**44.8**	**0.1329**	**18.50** 40.79
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	**233.5** 9.20	**228.0** 8.98	**7.10** 0.28	**0.00** 0.00	**530**	**44.8**	**0.1329**	**19.74** 43.52
82.550 3.2500	**53.975** 2.1250	**-6.6** -0.26	**6.4** 0.25	**147.5** 5.80	**168.0** 6.61	**6.4** 0.25	**253.0** 9.97	**230.0** 9.06	**15.10** 0.60	**4.10** 0.16	**384**	**37.8**	**0.1472**	**21.16** 46.65
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	**1.90** 0.07	**3.20** 0.13	**353**	**91.3**	**0.1138**	**3.46** 7.63
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	**6.40** 0.25	**3.80** 0.15	**454**	**59.3**	**0.1323**	**11.93** 26.31
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	**3.00** 0.12	**1.50** 0.06	**187**	**77.6**	**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	**219.0** 8.63	**200.0** 7.87	**9.00** 0.36	**6.40** 0.25	**295**	**39**	**0.1416**	**8.74** 19.27
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	**1.30** 0.05	**2.10** 0.08	**164**	**141**	**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	**0.70** 0.03	**1.60** 0.06	**253**	**106**	**0.1511**	**1.61** 3.55
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	**3.00** 0.12	**1.50** 0.06	**187**	**77.6**	**0.1535**	**1.50** 3.30
36.512 1.4375	**31.750** 1.2500	**-4.3** -0.17	**3.3** 0.13	**135.0** 5.31	**140.0** 5.51	**3.3** 0.13	**168.0** 6.61	**161.0** 6.34	**2.20** 0.09	**0.60** 0.02	**315**	**134**	**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	**0.70** 0.03	**1.60** 0.06	**253**	**106**	**0.1511**	**2.10** 4.63
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	**1.90** 0.07	**3.20** 0.13	**353**	**91.3**	**0.1138**	**3.27** 7.22
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	**4.20** 0.17	**1.30** 0.05	**384**	**70.1**	**0.1220**	**5.01** 11.05
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	**4.20** 0.17	**1.30** 0.05	**384**	**70.1**	**0.1220**	**5.61** 12.37
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	**4.80** 0.19	**2.00** 0.08	**363**	**68.5**	**0.1338**	**7.01** 15.45
49.428 1.9460	**38.100** 1.5000	**13.2** 0.52	**3.5** 0.14	**143.5** 5.65	**151.0** 5.94	**3.3** 0.13	**213.0** 8.38	**197.0** 7.76	**8.20** 0.32	**4.80** 0.19	**237**	**44.6**	**0.1311**	**8.24** 18.17

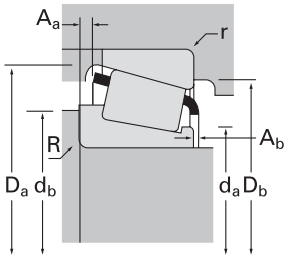
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
127.000 5.0000	228.600 9.0000	53.975 2.1250	458000 103000	0.74	0.81	119000 26700	150000 33700	0.79	673000 151000	HM926747	HM926710
127.000 5.0000	234.950 9.2500	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95500	95925
127.000 5.0000	244.475 9.6250	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95500	95962
127.000 5.0000	250.825 9.8750	63.500 2.5000	590000 133000	0.37	1.63	153000 34400	96200 21600	1.59	867000 195000	EE116050	116098
127.000 5.0000	254.000 10.0000	66.675 2.6250	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99500	99100
127.000 5.0000	254.000 10.0000	77.788 3.0625	843000 189000	0.32	1.87	218000 49100	120000 27000	1.82	1240000 279000	HH228349	HH228310
127.000 5.0000	288.925 11.3750	82.550 3.2500	977000 220000	0.32	1.88	253000 56900	138000 31100	1.83	1340000 302000	HH231637	HH231610
127.000 5.0000	295.275 11.6250	82.550 3.2500	977000 220000	0.32	1.88	253000 56900	138000 31100	1.83	1340000 302000	HH231637	HH231615
127.000 5.0000	304.800 12.0000	88.900 3.5000	904000 203000	0.73	0.82	234000 52700	292000 65700	0.80	1250000 282000	HH932132	HH932110
127.000 5.0000	311.150 12.2500	88.900 3.5000	904000 203000	0.73	0.82	234000 52700	292000 65700	0.80	1250000 282000	HH932132	HH932115
127.792 5.0312	228.600 9.0000	53.975 2.1250	458000 103000	0.74	0.81	119000 26700	150000 33700	0.79	673000 151000	HM926749	HM926710
128.588 5.0625	190.500 7.5000	34.925 1.3750	164000 36900	0.65	0.92	42500 9560	47500 10700	0.89	300000 67400	48506	48750
128.588 5.0625	206.375 8.1250	47.625 1.8750	350000 78700	0.46	1.31	90800 20400	71300 16000	1.27	593000 133000	799	792
129.975 5.1171	234.975 9.2510	64.798 2.5511	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95512	95929
130.000 5.1181	185.000 7.2835	29.000 1.1417	181000 40800	0.47	1.27	47000 10600	38100 8560	1.24	283000 63600	JP13049A	JP13010
130.000 5.1181	185.000 7.2835	29.000 1.1417	181000 40800	0.47	1.27	47000 10600	38100 8560	1.24	283000 63600	JP13049	JP13010
130.000 5.1181	206.375 8.1250	47.625 1.8750	350000 78700	0.46	1.31	90800 20400	71300 16000	1.27	593000 133000	797	792
130.000 5.1181	230.000 9.0551	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95512X	95905
130.000 5.1181	234.950 9.2500	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95512X	95925
130.000 5.1181	234.975 9.2510	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95512X	95928
130.175 5.1250	196.850 7.7500	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67389	67322
130.175 5.1250	203.200 8.0000	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67389	67320
130.175 5.1250	206.375 8.1250	47.625 1.8750	350000 78700	0.46	1.31	90800 20400	71300 16000	1.27	593000 133000	799A	792
133.350 5.2500	173.038 6.8125	19.050 0.7500	89300 20100	0.35	1.72	23100 5200	13800 3100	1.68	170000 38300	LL327049	LL327010
133.350 5.2500	177.008 6.9688	25.400 1.0000	136000 30600	0.35	1.72	35300 7940	21000 4730	1.68	289000 65000	L327249	L327210
133.350 5.2500	190.500 7.5000	39.688 1.5625	262000 58900	0.32	1.87	67900 15300	37300 8390	1.82	542000 122000	48385	48320
133.350 5.2500	196.850 7.7500	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67390	67322
133.350 5.2500	196.850 7.7500	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67391	67322

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

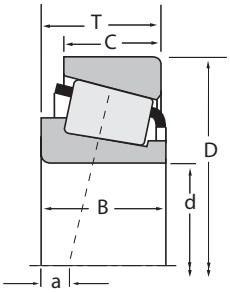
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
49.428 1.9460	38.100 1.5000	13.5 0.53	3.5 0.14	143.0 5.63	156.0 6.14	3.3 0.13	219.0 8.63	200.0 7.87	9.00 0.36	6.40 0.25	295	39	0.1416	8.61 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	6.40 0.25	3.80 0.15	454	53.8	0.1323	11.73 25.86
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	6.40 0.25	3.80 0.15	454	53.8	0.1323	13.08 28.83
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	8.50 0.34	1.60 0.06	417	57.3	0.1279	13.61 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	9.70 0.38	3.50 0.14	556	73.5	0.1459	15.44 34.03
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	233.5 9.20	223.0 8.78	7.10 0.28	0.00 0.00	530	44.8	0.1329	17.70 39.02
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	263.5 10.38	255.0 10.04	12.70 0.50	1.10 0.04	601	57.7	0.1083	25.21 55.57
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	263.5 10.38	258.0 10.16	12.70 0.50	1.10 0.04	601	57.7	0.1083	27.02 59.58
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	21.50 0.85	8.90 0.35	514	55.6	0.1333	29.48 65.00
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	21.50 0.85	8.90 0.35	514	55.6	0.1333	30.73 67.75
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	219.0 8.63	200.0 7.87	9.00 0.36	6.40 0.25	295	39	0.1416	8.55 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	4.40 0.18	0.80 0.03	218	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	198.0 7.80	186.0 7.32	5.30 0.21	2.80 0.11	326	61.9	0.1269	5.74 12.66
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	6.40 0.25	3.80 0.15	454	59.3	0.1323	11.52 25.41
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	2.40 0.09	4.10 0.16	192	60.3	0.1064	2.15 4.73
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	2.40 0.09	4.10 0.16	192	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	198.0 7.80	186.0 7.32	5.30 0.21	2.80 0.11	326	61.9	0.1269	5.63 12.42
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	6.40 0.25	3.80 0.15	454	59.3	0.1323	10.71 23.60
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	6.40 0.25	3.80 0.15	454	59.3	0.1323	11.43 25.21
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	6.40 0.25	3.80 0.15	454	59.3	0.1323	11.41 25.14
46.038 1.8125	38.100 1.5000	-6.4 -0.25	3.5 0.14	141.0 5.55	146.0 5.75	3.3 0.13	189.0 7.44	180.0 7.09	4.20 0.17	1.30 0.05	384	70.1	0.1220	4.78 10.54
46.038 1.8125	38.100 1.5000	-6.4 -0.25	3.5 0.14	141.0 5.55	146.0 5.75	3.3 0.13	191.0 7.52	183.0 7.20	4.20 0.17	1.30 0.05	384	70.1	0.1220	5.38 11.86
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	198.0 7.80	186.0 7.32	5.30 0.21	2.80 0.11	326	61.9	0.1269	5.62 12.39
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	1.40 0.06	1.90 0.08	188	146	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	0.80 0.03	1.70 0.07	280	156	0.1585	1.71 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	2.80 0.11	1.20 0.05	404	95.6	0.1209	3.56 7.85
46.038 1.8125	38.100 1.5000	-6.4 -0.25	3.5 0.14	143.0 5.63	149.0 5.87	3.3 0.13	189.0 7.44	180.0 7.09	4.20 0.17	1.30 0.05	384	70.1	0.1220	4.55 10.02
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	4.20 0.17	1.30 0.05	384	70.1	0.1220	4.53 10.00

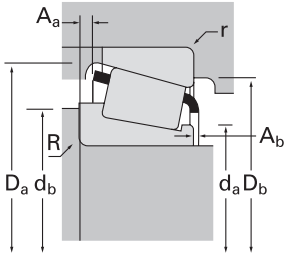
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
133.350 5.2500	203.200 8.0000	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67390	67320
133.350 5.2500	203.200 8.0000	46.038 1.8125	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67391	67320
133.350 5.2500	214.975 8.4636	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74525	74845
133.350 5.2500	215.900 8.5000	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74525	74850
133.350 5.2500	215.900 8.5000	53.975 2.1250	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74525	74853
133.350 5.2500	234.950 9.2500	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95525	95925
133.350 5.2500	234.950 9.2500	63.500 2.5000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95528	95925
136.525 5.3750	190.500 7.5000	39.688 1.5625	262000 58900	0.32	1.87	67900 15300	37300 8390	1.82	542000 122000	48393	48320
136.525 5.3750	203.200 8.0000	39.688 1.5625	262000 58900	0.32	1.87	67900 15300	37300 8390	1.82	542000 122000	48393	48328
136.525 5.3750	215.900 8.5000	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74537	74850
136.525 5.3750	217.488 8.5625	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74537	74856
136.525 5.3750	228.600 9.0000	57.150 2.2500	482000 108000	0.42	1.43	125000 28100	90000 20200	1.39	809000 182000	896	892
139.700 5.5000	187.325 7.3750	28.575 1.1250	177000 39800	0.36	1.69	45900 10300	27900 6270	1.65	375000 84300	LM328448	LM328410
139.700 5.5000	214.975 8.4636	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74550	74845
139.700 5.5000	215.900 8.5000	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74550	74850
139.700 5.5000	215.900 8.5000	47.625 1.8750	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74550A	74850
139.700 5.5000	222.250 8.7500	34.925 1.3750	229000 51400	0.44	1.37	59300 13300	44400 9970	1.34	342000 77000	73551	73875
139.700 5.5000	228.600 9.0000	57.150 2.2500	482000 108000	0.42	1.43	125000 28100	90000 20200	1.39	809000 182000	898	892
139.700 5.5000	228.600 9.0000	57.150 2.2500	482000 108000	0.42	1.43	125000 28100	90000 20200	1.39	809000 182000	898A	892
139.700 5.5000	236.538 9.3125	57.150 2.2500	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231132	HM231110
139.700 5.5000	241.300 9.5000	57.150 2.2500	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231132	HM231115
139.700 5.5000	254.000 10.0000	66.675 2.6250	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99550	99100
139.700 5.5000	288.925 11.3750	82.550 3.2500	977000 220000	0.32	1.88	253000 56900	138000 31100	1.83	1340000 302000	HH231649	HH231610
139.700 5.5000	295.275 11.6250	82.550 3.2500	977000 220000	0.32	1.88	253000 56900	138000 31100	1.83	1340000 302000	HH231649	HH231615
139.700 5.5000	307.975 12.1250	88.900 3.5000	1130000 254000	0.33	1.84	293000 65900	164000 36800	1.79	1580000 354000	HH234031	HH234010
139.700 5.5000	307.975 12.1250	88.900 3.5000	1130000 254000	0.33	1.84	293000 65900	164000 36800	1.79	1580000 354000	HH234032	HH234010
140.000 5.5118	195.000 7.6772	29.000 1.1417	188000 42300	0.50	1.19	48800 11000	42000 9440	1.16	304000 68400	JP14049	JP14010
142.875 5.6250	193.675 7.6250	28.575 1.1250	182000 40900	0.37	1.63	47100 10600	29700 6690	1.59	394000 88600	36686	36620

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
46.038 1.8125	**38.100** 1.5000	**-6.4** -0.25	**3.5** 0.14	**143.0** 5.63	**149.0** 5.87	**3.3** 0.13	**191.0** 7.52	**183.0** 7.20	**4.20** 0.17	**1.30** 0.05	**384**	**70.1**	**0.1220**	**5.14** 11.34
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	**4.20** 0.17	**1.30** 0.05	**384**	**70.1**	**0.1220**	**5.13** 11.31
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	**4.80** 0.19	**2.00** 0.08	**363**	**63.3**	**0.1338**	**6.41** 14.14
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	**4.80** 0.19	**2.00** 0.08	**363**	**63.3**	**0.1338**	**6.52** 14.38
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	**4.80** 0.19	**2.00** 0.08	**363**	**63.3**	**0.1338**	**7.20** 15.86
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	**6.40** 0.25	**3.80** 0.15	**454**	**53.8**	**0.1323**	**10.99** 24.23
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	**6.40** 0.25	**3.80** 0.15	**454**	**59.3**	**0.1323**	**11.11** 24.50
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	**2.80** 0.11	**1.20** 0.05	**404**	**95.6**	**0.1209**	**3.35** 7.38
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	**2.80** 0.11	**1.20** 0.05	**404**	**95.6**	**0.1209**	**4.37** 9.64
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	**4.80** 0.19	**2.00** 0.08	**363**	**68.5**	**0.1338**	**6.27** 13.82
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	**4.80** 0.19	**2.00** 0.08	**363**	**68.5**	**0.1338**	**6.40** 14.10
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	**6.40** 0.25	**1.40** 0.05	**430**	**78.2**	**0.1355**	**8.95** 19.72
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	**1.20** 0.05	**1.90** 0.08	**336**	**179**	**0.1700**	**2.20** 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	**4.80** 0.19	**2.00** 0.08	**363**	**63.3**	**0.1338**	**5.91** 13.02
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	**4.80** 0.19	**2.00** 0.08	**363**	**63.3**	**0.1338**	**6.01** 13.26
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	**4.80** 0.19	**2.00** 0.08	**363**	**63.3**	**0.1338**	**6.00** 13.23
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	**5.70** 0.23	**3.90** 0.15	**244**	**82**	**0.1122**	**4.26** 9.40
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	**6.40** 0.25	**1.40** 0.05	**430**	**78.2**	**0.1355**	**8.64** 19.04
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	**6.40** 0.25	**1.40** 0.05	**430**	**78.2**	**0.1355**	**8.59** 18.93
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	**4.30** 0.17	**3.70** 0.14	**533**	**85.9**	**0.1327**	**9.90** 21.82
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	**4.30** 0.17	**3.70** 0.14	**533**	**85.9**	**0.1327**	**10.52** 23.19
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	**9.70** 0.38	**3.50** 0.14	**556**	**73.5**	**0.1459**	**14.00** 30.87
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	**263.5** 10.38	**255.0** 10.04	**12.70** 0.50	**1.10** 0.04	**601**	**57.7**	**0.1083**	**23.53** 51.87
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	**263.5** 10.38	**258.0** 10.16	**12.70** 0.50	**1.10** 0.04	**601**	**57.7**	**0.1083**	**25.34** 55.87
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**168.0** 6.61	**180.0** 7.09	**6.8** 0.27	**285.5** 11.24	**276.0** 10.87	**12.50** 0.49	**-0.90** -0.04	**718**	**62.1**	**0.1157**	**30.78** 67.85
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**168.0** 6.61	**180.0** 7.09	**6.8** 0.27	**285.5** 11.24	**276.0** 10.87	**10.50** 0.42	**1.10** 0.04	**718**	**62.1**	**0.1157**	**29.48** 64.99
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	**2.60** 0.10	**4.10** 0.16	**220**	**68.1**	**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	**1.20** 0.05	**2.70** 0.11	**366**	**152**	**0.1768**	**2.43** 5.35

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

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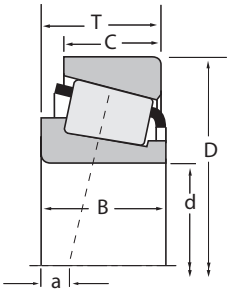
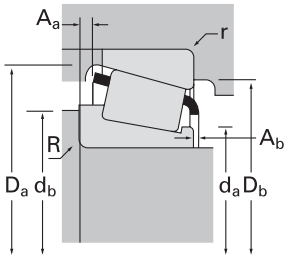
TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
142.875 5.6250	200.025 7.8750	41.275 1.6250	265000 59600	0.34	1.78	68800 15500	39600 8900	1.74	560000 126000	48684	48620
142.875 5.6250	200.025 7.8750	41.275 1.6250	265000 59600	0.34	1.78	68800 15500	39600 8900	1.74	560000 126000	48685	48620
142.875 5.6250	222.250 8.7500	34.925 1.3750	229000 51400	0.44	1.37	59300 13300	44400 9970	1.34	342000 77000	73562	73875
142.875 5.6250	236.538 9.3125	57.150 2.2500	477000 107000	0.44	1.36	124000 27800	93600 21000	1.32	810000 182000	82562A	82931
142.875 5.6250	241.300 9.5000	57.150 2.2500	477000 107000	0.44	1.36	124000 27800	93600 21000	1.32	810000 182000	82562A	82950
142.875 5.6250	241.300 9.5000	57.150 2.2500	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231136	HM231115
146.050 5.7500	188.120 7.4063	22.225 0.8750	105000 23500	0.38	1.57	27200 6100	17700 3990	1.53	214000 48200	LL529749	LL529710
146.050 5.7500	193.675 7.6250	28.575 1.1250	182000 40900	0.37	1.63	47100 10600	29700 6690	1.59	394000 88600	36690	36620
146.050 5.7500	193.675 7.6250	28.575 1.1250	182000 40900	0.37	1.63	47100 10600	29700 6690	1.59	394000 88600	36691	36620
146.050 5.7500	203.200 8.0000	28.575 1.1250	182000 40900	0.37	1.63	47100 10600	29700 6690	1.59	394000 88600	36690	36626
146.050 5.7500	203.200 8.0000	45.100 1.7756	309000 69500	0.33	1.80	80100 18000	45600 10300	1.76	573000 129000	M229349A	M229310
146.050 5.7500	203.200 8.0000	45.100 1.7756	309000 69500	0.33	1.80	80100 18000	45600 10300	1.76	573000 129000	M229349	M229310
146.050 5.7500	236.538 9.3125	57.150 2.2500	477000 107000	0.44	1.36	124000 27800	93600 21000	1.32	810000 182000	82576	82931
146.050 5.7500	241.300 9.5000	57.150 2.2500	477000 107000	0.44	1.36	124000 27800	93600 21000	1.32	810000 182000	82576	82950
146.050 5.7500	241.300 9.5000	57.150 2.2500	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231140	HM231115
146.050 5.7500	244.475 9.6250	47.625 1.8750	372000 83600	0.35	1.71	96400 21700	58100 13100	1.66	595000 134000	81575	81962
146.050 5.7500	254.000 10.0000	66.675 2.6250	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99575	99100
146.050 5.7500	268.288 10.5625	74.612 2.9375	726000 163000	0.39	1.55	188000 42300	125000 28100	1.51	1170000 263000	EE107057	107105
146.050 5.7500	304.800 12.0000	60.325 2.3750	718000 161000	0.33	1.80	186000 41800	106000 23800	1.76	871000 196000	EE750576	751200
146.050 5.7500	304.800 12.0000	88.900 3.5000	904000 203000	0.73	0.82	234000 52700	292000 65700	0.80	1250000 282000	HH932145	HH932110
146.050 5.7500	307.975 12.1250	88.900 3.5000	975000 219000	0.33	1.84	253000 56800	141000 31700	1.79	1480000 333000	EE450577	451212
146.050 5.7500	307.975 12.1250	88.900 3.5000	1130000 254000	0.33	1.84	293000 65900	164000 36800	1.79	1580000 354000	HH234040	HH234010
146.050 5.7500	311.150 12.2500	88.900 3.5000	904000 203000	0.73	0.82	234000 52700	292000 65700	0.80	1250000 282000	HH932145	HH932115
149.225 5.8750	236.538 9.3125	57.150 2.2500	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231148	HM231110
149.225 5.8750	236.538 9.3125	57.150 2.2500	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231149	HM231110
149.225 5.8750	241.300 9.5000	57.150 2.2500	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231149	HM231115
149.225 5.8750	254.000 10.0000	67.945 2.6750	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99587	99100
150.000 5.9055	203.200 8.0000	28.580 1.1250	179000 40300	0.46	1.31	46500 10500	36500 8210	1.27	339000 76100	JL730646	L730610

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.80** 0.11	**2.50** 0.10	**440**	**115**	**0.1261**	**3.74** 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	**2.80** 0.11	**2.50** 0.10	**440**	**115**	**0.1261**	**3.84** 8.46
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	**5.70** 0.23	**3.90** 0.15	**244**	**82**	**0.1122**	**4.09** 9.01
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	**5.80** 0.23	**2.10** 0.08	**460**	**81.1**	**0.1405**	**9.43** 20.78
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	**5.80** 0.23	**2.10** 0.08	**460**	**81.1**	**0.1405**	**10.05** 22.15
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	**4.30** 0.17	**3.70** 0.14	**533**	**85.9**	**0.1327**	**10.20** 22.50
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	**0.50** 0.02	**1.80** 0.07	**248**	**186**	**0.1557**	**1.42** 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	**1.20** 0.05	**2.70** 0.11	**366**	**121**	**0.1768**	**2.27** 5.00
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	**1.20** 0.05	**2.70** 0.11	**366**	**152**	**0.1768**	**2.23** 4.91
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	**1.20** 0.05	**2.70** 0.11	**366**	**121**	**0.1768**	**2.80** 6.17
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	**1.50** 0.06	**2.80** 0.11	**402**	**98**	**0.1220**	**3.99** 8.79
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	**1.50** 0.06	**2.80** 0.11	**402**	**98**	**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	**5.80** 0.23	**2.10** 0.08	**460**	**81.1**	**0.1405**	**9.20** 20.28
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	**5.80** 0.23	**2.10** 0.08	**460**	**81.1**	**0.1405**	**9.82** 21.65
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	**4.30** 0.17	**3.70** 0.14	**533**	**85.9**	**0.1327**	**9.88** 21.79
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**161.0** 6.34	**166.0** 6.54	**3.3** 0.13	**229.0** 9.02	**225.0** 8.86	**8.30** 0.33	**-0.10** 0.00	**413**	**98.4**	**0.1250**	**8.19** 18.06
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	**9.70** 0.38	**3.50** 0.14	**556**	**73.5**	**0.1459**	**13.25** 29.22
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	**249.5** 9.82	**237.0** 9.33	**7.70** 0.30	**3.00** 0.12	**606**	**76.3**	**0.1163**	**17.37** 38.30
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	**6.70** 0.26	**3.50** 0.14	**431**	**54.4**	**0.0974**	**17.64** 38.90
82.550 3.2500	**57.150** 2.2500	**1.8** 0.07	**6.4** 0.25	**174.5** 6.87	**195.0** 7.68	**6.4** 0.25	**288.0** 11.34	**260.0** 10.24	**21.50** 0.85	**8.90** 0.35	**514**	**55.6**	**0.1333**	**26.84** 59.16
93.662 3.6875	**61.912** 2.4375	**-28.2** -1.11	**9.7** 0.38	**172.0** 6.77	**185.0** 7.28	**6.8** 0.27	**275.0** 10.82	**269.0** 10.59	**17.90** 0.70	**-2.80** -0.11	**747**	**76.3**	**0.1176**	**29.59** 65.24
93.662 3.6875	**66.675** 2.6250	**-26.4** -1.04	**9.7** 0.38	**173.0** 6.81	**186.0** 7.32	**6.8** 0.27	**285.5** 11.24	**276.0** 10.87	**10.50** 0.42	**0.80** 0.03	**718**	**62.1**	**0.1157**	**28.43** 62.67
82.550 3.2500	**57.150** 2.2500	**1.8** 0.07	**6.4** 0.25	**174.5** 6.87	**195.0** 7.68	**6.4** 0.25	**288.0** 11.34	**262.0** 10.31	**21.50** 0.85	**8.90** 0.35	**514**	**55.6**	**0.1333**	**28.08** 61.91
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	**4.30** 0.17	**3.70** 0.14	**533**	**85.9**	**0.1327**	**8.88** 19.59
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	**4.30** 0.17	**3.70** 0.14	**533**	**85.9**	**0.1327**	**8.94** 19.70
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	**4.30** 0.17	**3.70** 0.14	**533**	**85.9**	**0.1327**	**9.56** 21.07
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**165.0** 6.50	**178.0** 7.01	**3.3** 0.13	**238.0** 9.37	**227.0** 8.94	**9.70** 0.38	**3.50** 0.14	**556**	**73.5**	**0.1459**	**12.87** 28.37
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	**2.40** 0.10	**1.40** 0.06	**295**	**103**	**0.1763**	**2.49** 5.48

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

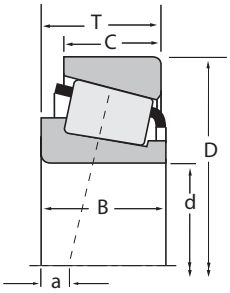
[7] Compound radius on inner race. Details on drawing for bearing.

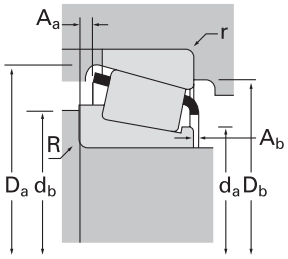
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
150.000 5.9055	205.000 8.0709	28.580 1.1250	179000 40300	0.46	1.31	46500 10500	36500 8210	1.27	339000 76100	JL730646	JL730612
150.000 5.9055	244.475 9.6250	47.625 1.8750	372000 83600	0.35	1.71	96400 21700	58100 13100	1.66	595000 134000	81590	81962
150.000 5.9055	245.000 9.6457	47.625 1.8750	372000 83600	0.35	1.71	96400 21700	58100 13100	1.66	595000 134000	81590	81964
150.812 5.9375	244.475 9.6250	47.625 1.8750	372000 83600	0.35	1.71	96400 21700	58100 13100	1.66	595000 134000	81593	81962
152.400 6.0000	192.088 7.5625	25.000 0.9843	132000 29700	0.42	1.44	34200 7690	24400 5480	1.40	277000 62200	L630349	L630310
152.400 6.0000	203.200 8.0000	28.575 1.1250	179000 40300	0.46	1.31	46500 10500	36500 8210	1.27	339000 76100	L730649	L730610
152.400 6.0000	203.200 8.0000	41.275 1.6250	262000 59000	0.35	1.73	68000 15300	40400 9090	1.68	556000 125000	LM330448	LM330410
152.400 6.0000	244.475 9.6250	47.625 1.8750	372000 83600	0.35	1.71	96400 21700	58100 13100	1.66	595000 134000	81600	81962
152.400 6.0000	249.974 9.8415	66.675 2.6250	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99600	99097
152.400 6.0000	250.000 9.8425	66.675 2.6250	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99600	99098X
152.400 6.0000	254.000 10.0000	66.675 2.6250	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99600	99100
152.400 6.0000	268.288 10.5625	74.612 2.9375	726000 163000	0.39	1.55	188000 42300	125000 28100	1.51	1170000 263000	EE107060	107105
152.400 6.0000	285.750 11.2500	76.200 3.0000	701000 158000	0.40	1.49	182000 40800	125000 28100	1.45	1060000 237000	EE217060	217112
152.400 6.0000	307.975 12.1250	88.900 3.5000	975000 219000	0.33	1.84	253000 56800	141000 31700	1.79	1480000 333000	EE450601	451212
152.400 6.0000	307.975 12.1250	88.900 3.5000	1130000 254000	0.33	1.84	293000 65900	164000 36800	1.79	1580000 354000	HH234048	HH234010
152.400 6.0000	307.975 12.1250	88.900 3.5000	1130000 254000	0.33	1.84	293000 65900	164000 36800	1.79	1580000 354000	HH234049	HH234010
152.400 6.0000	317.500 12.5000	88.900 3.5000	1130000 254000	0.33	1.84	293000 65900	164000 36800	1.79	1580000 354000	HH234049	HH234018
155.575 6.1250	330.200 13.0000	85.725 3.3750	960000 216000	0.81	0.74	249000 56000	345000 77500	0.72	1400000 316000	H936340	H936310
155.575 6.1250	336.550 13.2500	85.725 3.3750	960000 216000	0.81	0.74	249000 56000	345000 77500	0.72	1400000 316000	H936340	H936313
155.575 6.1250	342.900 13.5000	85.725 3.3750	960000 216000	0.81	0.74	249000 56000	345000 77500	0.72	1400000 316000	H936340	H936316
158.750 6.2500	205.583 8.0938	23.812 0.9375	136000 30600	0.37	1.61	35300 7930	22500 5060	1.57	280000 63000	L432348	L432310
158.750 6.2500	225.425 8.8750	41.275 1.6250	281000 63100	0.38	1.57	72800 16400	47800 10700	1.52	635000 143000	46780	46720
158.750 6.2500	285.750 11.2500	76.200 3.0000	701000 158000	0.40	1.49	182000 40800	125000 28100	1.45	1060000 237000	EE217062X	217112
158.750 6.2500	304.800 12.0000	66.675 2.6250	591000 133000	0.36	1.67	153000 34500	94500 21200	1.62	867000 195000	EE280626	281200
159.951 6.2973	244.475 9.6250	47.625 1.8750	372000 83600	0.35	1.71	96400 21700	58100 13100	1.66	595000 134000	81629	81962
159.951 6.2973	244.475 9.6250	47.625 1.8750	372000 83600	0.35	1.71	96400 21700	58100 13100	1.66	595000 134000	81630	81962
160.000 6.2992	240.000 9.4488	46.000 1.8110	393000 88400	0.44	1.37	102000 22900	76300 17200	1.34	759000 171000	JM734445	JM734410
160.325 6.3120	288.925 11.3750	63.500 2.5000	763000 171000	0.32	1.88	198000 44500	108000 24300	1.83	1240000 278000	HM237532	HM237510

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

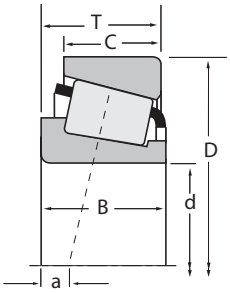
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
28.575 1.1250	**21.438** 0.8440	**11.4** 0.45	**3.3** 0.13	**158.0** 6.22	**164.0** 6.46	**3.3** 0.13	**198.0** 7.80	**190.0** 7.48	**2.40** 0.10	**1.40** 0.06	**295**	**103**	**0.1763**	**2.61** 5.76
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**163.0** 6.42	**169.0** 6.65	**3.3** 0.13	**229.0** 9.02	**225.0** 8.86	**8.30** 0.33	**-0.10** 0.00	**413**	**98.4**	**0.1250**	**7.87** 17.36
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**163.0** 6.42	**169.0** 6.65	**3.3** 0.13	**229.0** 9.02	**225.0** 8.86	**8.30** 0.33	**-0.10** 0.00	**413**	**98.4**	**0.1250**	**7.92** 17.46
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**164.0** 6.46	**169.0** 6.65	**3.3** 0.13	**229.0** 9.02	**225.0** 8.86	**8.30** 0.33	**-0.10** 0.00	**413**	**98.4**	**0.1250**	**7.80** 17.21
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	**1.90** 0.08	**2.50** 0.10	**293**	**164**	**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	**2.40** 0.10	**1.40** 0.06	**295**	**103**	**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	**2.90** 0.11	**0.90** 0.04	**456**	**135**	**0.1289**	**3.51** 7.74
50.005 1.9687	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**165.0** 6.50	**171.0** 6.73	**3.3** 0.13	**229.0** 9.02	**225.0** 8.86	**8.30** 0.33	**-0.10** 0.00	**413**	**98.4**	**0.1250**	**7.64** 16.84
66.675 2.6250	**53.400** 2.1024	**-12.2** -0.48	**7.0** 0.28	**169.5** 6.68	**181.0** 7.13	**3.0** 0.12	**240.0** 9.44	**226.0** 8.90	**9.70** 0.38	**3.50** 0.14	**556**	**66.7**	**0.1459**	**12.05** 26.56
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**169.5** 6.68	**181.0** 7.13	**3.3** 0.13	**238.0** 9.37	**226.0** 8.90	**9.70** 0.38	**3.50** 0.14	**556**	**66.7**	**0.1459**	**11.85** 26.13
66.675 2.6250	**47.625** 1.8750	**-12.2** -0.48	**7.0** 0.28	**169.5** 6.68	**181.0** 7.13	**3.3** 0.13	**238.0** 9.37	**227.0** 8.94	**9.70** 0.38	**3.50** 0.14	**556**	**66.7**	**0.1459**	**12.47** 27.50
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	**249.5** 9.82	**237.0** 9.33	**7.70** 0.30	**3.00** 0.12	**606**	**76.3**	**0.1163**	**16.50** 36.38
73.025 2.8750	**55.562** 2.1875	**-15.0** -0.59	**1.5** 0.06	**171.0** 6.73	**171.0** 6.73	**6.4** 0.25	**260.5** 10.25	**251.0** 9.88	**15.00** 0.59	**1.70** 0.07	**556**	**71.8**	**0.1140**	**19.41** 42.80
93.662 3.6875	**61.912** 2.4375	**-28.2** -1.11	**9.7** 0.38	**177.0** 6.97	**189.0** 7.44	**6.8** 0.27	**275.0** 10.82	**269.0** 10.59	**17.90** 0.70	**-2.80** -0.11	**747**	**76.3**	**0.1176**	**28.50** 62.82
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	**276.0** 10.87	**12.50** 0.49	**-0.90** -0.04	**718**	**62.1**	**0.1157**	**28.63** 63.11
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	**276.0** 10.87	**10.50** 0.42	**0.80** 0.03	**718**	**62.1**	**0.1157**	**27.33** 60.25
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	**280.0** 11.02	**10.50** 0.42	**0.80** 0.03	**718**	**62.1**	**0.1157**	**29.75** 65.59
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.5** 7.58	**209.0** 8.23	**6.4** 0.25	**311.5** 12.26	**282.0** 11.10	**18.40** 0.72	**9.20** 0.36	**638**	**69.1**	**0.1475**	**31.49** 69.42
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.5** 7.58	**209.0** 8.23	**6.4** 0.25	**311.0** 12.24	**285.0** 11.22	**18.40** 0.72	**9.20** 0.36	**638**	**69.1**	**0.1475**	**32.89** 72.51
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.5** 7.58	**209.0** 8.23	**6.4** 0.25	**311.5** 12.26	**287.0** 11.30	**18.40** 0.72	**9.20** 0.36	**638**	**69.1**	**0.1475**	**34.32** 75.66
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	**2.00** 0.08	**1.20** 0.05	**320**	**177**	**0.1683**	**1.85** 4.09
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	**4.00** 0.16	**2.00** 0.08	**572**	**133**	**0.1432**	**5.15** 11.34
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	**260.5** 10.25	**251.0** 9.88	**15.00** 0.59	**1.70** 0.07	**556**	**71.8**	**0.1140**	**18.84** 41.54
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	**15.20** 0.60	**0.90** 0.04	**591**	**86**	**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	**229.0** 9.02	**225.0** 8.86	**8.30** 0.33	**-0.10** 0.00	**413**	**98.4**	**0.1250**	**7.03** 15.49
46.830 1.8437	**33.338** 1.3125	**-5.3** -0.21	**3.5** 0.14	**171.0** 6.73	**176.0** 6.93	**3.3** 0.13	**229.0** 9.02	**225.0** 8.86	**8.30** 0.33	**3.10** 0.12	**413**	**98.4**	**0.1250**	**6.88** 15.18
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	**2.70** 0.11	**4.00** 0.16	**548**	**117**	**0.1164**	**7.16** 15.78
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	**271.5** 10.68	**266.0** 10.47	**5.80** 0.23	**4.10** 0.16	**751**	**101**	**0.1168**	**17.34** 38.23

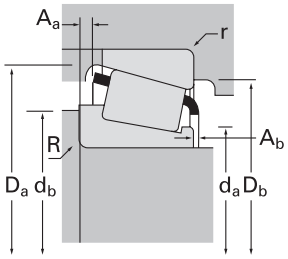
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
165.100 6.5000	215.900 8.5000	26.195 1.0313	165000 37200	0.36	1.65	42900 9640	26800 6010	1.60	335000 75300	L433749	L433710
165.100 6.5000	225.425 8.8750	41.275 1.6250	281000 63100	0.38	1.57	72800 16400	47800 10700	1.52	635000 143000	46790	46720
165.100 6.5000	225.425 8.8750	41.275 1.6250	281000 63100	0.38	1.57	72800 16400	47800 10700	1.52	635000 143000	46790A	46720
165.100 6.5000	247.650 9.7500	47.625 1.8750	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67780	67720
165.100 6.5000	254.000 10.0000	46.038 1.8125	389000 87400	0.37	1.62	101000 22700	63800 14300	1.58	644000 145000	86650	86100
165.100 6.5000	288.925 11.3750	63.500 2.5000	611000 137000	0.47	1.28	159000 35600	127000 28600	1.25	1070000 242000	94649	94113
165.100 6.5000	288.925 11.3750	63.500 2.5000	763000 171000	0.32	1.88	198000 44500	108000 24300	1.83	1240000 278000	HM237535	HM237510
165.100 6.5000	288.925 11.3750	63.500 2.5000	763000 171000	0.32	1.88	198000 44500	108000 24300	1.83	1240000 278000	HM237536	HM237510
165.100 6.5000	298.450 11.7500	82.550 3.2500	909000 204000	0.38	1.59	236000 53000	152000 34300	1.55	1520000 341000	EE219065	219117
165.100 6.5000	311.150 12.2500	82.550 3.2500	909000 204000	0.38	1.59	236000 53000	152000 34300	1.55	1520000 341000	EE219065	219122
165.100 6.5000	311.150 12.2500	82.550 3.2500	1040000 233000	0.33	1.81	269000 60400	152000 34200	1.77	1680000 378000	H238140	H238110
165.100 6.5000	336.550 13.2500	92.075 3.6250	1290000 291000	0.37	1.62	336000 75400	213000 47900	1.57	1930000 434000	HH437549	HH437510
165.100 6.5000	361.950 14.2500	106.362 4.1875	1420000 319000	0.33	1.79	367000 82600	211000 47300	1.74	1950000 439000	EE108065	108142
165.100 6.5000	365.049 14.3720	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420651	421437
166.687 6.5625	225.425 8.8750	41.275 1.6250	281000 63100	0.38	1.57	72800 16400	47800 10700	1.52	635000 143000	46792	46720
168.275 6.6250	247.650 9.7500	47.625 1.8750	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67782	67720
168.275 6.6250	330.200 13.0000	85.725 3.3750	960000 216000	0.81	0.74	249000 56000	345000 77500	0.72	1400000 316000	H936349	H936310
168.275 6.6250	342.900 13.5000	85.725 3.3750	960000 216000	0.81	0.74	249000 56000	345000 77500	0.72	1400000 316000	H936349	H936316
170.000 6.6929	230.000 9.0551	39.000 1.5354	310000 69700	0.38	1.57	80400 18100	52700 11900	1.52	590000 133000	JHM534149	JHM534110
170.000 6.6929	240.000 9.4488	46.000 1.8110	393000 88400	0.44	1.37	102000 22900	76300 17200	1.34	759000 171000	JM734449	JM734410
170.000 6.6929	254.000 10.0000	46.038 1.8125	389000 87400	0.37	1.62	101000 22700	63800 14300	1.58	644000 145000	86669	86100
170.000 6.6929	254.000 10.0000	46.038 1.8125	438000 98500	0.32	1.88	114000 25500	62000 13900	1.83	740000 166000	M235149	M235113
171.450 6.7500	260.350 10.2500	66.675 2.6250	605000 136000	0.40	1.49	157000 35300	108000 24300	1.45	1180000 265000	HM535349	HM535310
174.625 6.8750	247.650 9.7500	47.625 1.8750	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67786	67720
174.625 6.8750	247.650 9.7500	47.625 1.8750	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67787	67720
174.625 6.8750	260.350 10.2500	53.975 2.1250	497000 112000	0.33	1.80	129000 29000	73400 16500	1.76	933000 210000	M236845	M236810
174.625 6.8750	288.925 11.3750	63.500 2.5000	611000 137000	0.47	1.28	159000 35600	127000 28600	1.25	1070000 242000	94687	94113
174.625 6.8750	298.450 11.7500	82.550 3.2500	909000 204000	0.38	1.59	236000 53000	152000 34300	1.55	1520000 341000	EE219068	219117

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

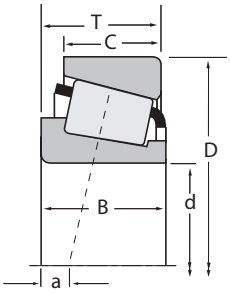
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
26.195 1.0313	**20.638** 0.8125	**8.6** 0.34	**1.5** 0.06	**172.0** 6.77	**174.0** 6.85	**1.5** 0.06	**209.0** 8.23	**205.0** 8.07	**2.50** 0.10	**1.40** 0.06	**365**	**168**	**0.1748**	**2.35** 5.18
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	**4.00** 0.16	**2.00** 0.08	**572**	**175**	**0.1432**	**4.64** 10.24
39.687 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	**4.00** 0.16	**2.00** 0.08	**572**	**154**	**0.1432**	**4.54** 10.01
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	**4.80** 0.19	**1.80** 0.07	**622**	**122**	**0.1214**	**7.95** 17.53
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	**6.90** 0.27	**1.90** 0.08	**466**	**112**	**0.1041**	**7.55** 16.65
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	**6.80** 0.27	**5.20** 0.21	**692**	**93.8**	**0.1287**	**16.98** 37.44
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	**271.5** 10.68	**266.0** 10.47	**5.80** 0.23	**4.10** 0.16	**751**	**101**	**0.1168**	**16.73** 36.89
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	**271.5** 10.68	**266.0** 10.47	**5.80** 0.23	**4.10** 0.16	**751**	**101**	**0.1168**	**16.72** 36.85
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	**10.00** 0.39	**0.20** 0.01	**841**	**94.9**	**0.1286**	**23.74** 52.33
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	**10.00** 0.39	**0.20** 0.01	**841**	**94.9**	**0.1286**	**26.75** 58.97
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	**288.5** 11.36	**280.0** 11.02	**8.20** 0.32	**2.10** 0.08	**914**	**92.1**	**0.1265**	**27.13** 59.80
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	**308.0** 12.12	**297.0** 11.69	**11.70** 0.46	**1.00** 0.04	**910**	**75**	**0.1310**	**37.04** 81.66
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	**329.0** 12.95	**323.0** 12.72	**16.90** 0.66	**5.60** 0.22	**942**	**71.4**	**0.1274**	**47.23** 104.13
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	**334.5** 13.16	**329.0** 12.95	**19.10** 0.75	**2.40** 0.10	**1150**	**128**	**0.1450**	**44.52** 98.14
39.687 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	**4.00** 0.16	**2.00** 0.08	**572**	**154**	**0.1432**	**4.51** 9.95
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	**4.80** 0.19	**1.80** 0.07	**622**	**122**	**0.1214**	**7.64** 16.85
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.5** 7.58	**218.0** 8.58	**6.4** 0.25	**311.5** 12.26	**282.0** 11.10	**18.40** 0.72	**9.20** 0.36	**638**	**69.1**	**0.1475**	**29.48** 64.99
79.375 3.1250	**53.975** 2.1250	**16.8** 0.66	**6.4** 0.25	**192.5** 7.58	**218.0** 8.58	**6.4** 0.25	**311.5** 12.26	**287.0** 11.30	**18.40** 0.72	**9.20** 0.36	**638**	**69.1**	**0.1475**	**32.31** 71.22
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	**1.00** 0.04	**3.40** 0.13	**480**	**89.8**	**0.1350**	**4.29** 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	**2.70** 0.11	**4.00** 0.16	**548**	**117**	**0.1164**	**6.25** 13.79
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	**6.90** 0.27	**1.90** 0.08	**466**	**112**	**0.1041**	**7.09** 15.63
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	**4.90** 0.19	**3.00** 0.12	**531**	**107**	**0.1037**	**7.30** 16.09
66.675 2.6250	**52.388** 2.0625	**-8.6** -0.34	**3.5** 0.14	**188.0** 7.40	**192.0** 7.56	**3.3** 0.13	**250.0** 9.84	**236.0** 9.29	**6.00** 0.24	**2.10** 0.08	**750**	**116**	**0.1263**	**12.16** 26.80
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	**4.80** 0.19	**1.80** 0.07	**622**	**122**	**0.1214**	**6.89** 15.20
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	**4.80** 0.19	**1.80** 0.07	**622**	**122**	**0.1214**	**7.00** 15.44
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	**4.60** 0.18	**3.20** 0.13	**691**	**100**	**0.1150**	**9.41** 20.75
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	**6.80** 0.27	**5.20** 0.21	**692**	**93.8**	**0.1287**	**15.72** 34.65
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	**10.00** 0.39	**0.20** 0.01	**841**	**94.9**	**0.1286**	**22.09** 48.70

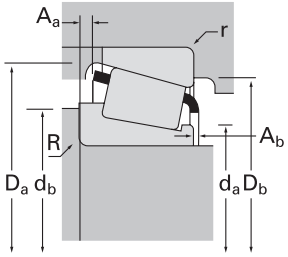
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
174.625 6.8750	311.150 12.2500	82.550 3.2500	909000 204000	0.38	1.59	236000 53000	152000 34300	1.55	1520000 341000	EE219068	219122
174.625 6.8750	311.150 12.2500	82.550 3.2500	1040000 233000	0.33	1.81	269000 60400	152000 34200	1.77	1680000 378000	H238148	H238110
177.800 7.0000	215.900 8.5000	20.638 0.8125	113000 25500	0.45	1.33	29400 6600	22600 5090	1.30	252000 56600	LL735449	LL735410
177.800 7.0000	247.650 9.7500	47.625 1.8750	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67790	67720
177.800 7.0000	247.650 9.7500	47.625 1.8750	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67791	67720
177.800 7.0000	260.350 10.2500	53.975 2.1250	497000 112000	0.33	1.80	129000 29000	73400 16500	1.76	933000 210000	M236848	M236810
177.800 7.0000	260.350 10.2500	53.975 2.1250	497000 112000	0.33	1.80	129000 29000	73400 16500	1.76	933000 210000	M236849	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	611000 137000	0.47	1.28	159000 35600	127000 28600	1.25	1070000 242000	94700	94113
177.800 7.0000	288.925 11.3750	63.500 2.5000	763000 171000	0.32	1.88	198000 44500	108000 24300	1.83	1240000 278000	HM237545	HM237510
177.800 7.0000	298.450 11.7500	63.500 2.5000	611000 137000	0.47	1.28	159000 35600	127000 28600	1.25	1070000 242000	94700	94118
177.800 7.0000	319.964 12.5970	88.900 3.5000	1030000 231000	0.32	1.88	267000 59900	145000 32700	1.83	1580000 356000	H239640	H239610
177.800 7.0000	320.675 12.6250	88.900 3.5000	1030000 231000	0.32	1.88	267000 59900	145000 32700	1.83	1580000 356000	H239640	H239612
177.800 7.0000	327.025 12.8750	90.488 3.5625	997000 224000	0.37	1.64	258000 58100	162000 36300	1.60	1580000 354000	EE470078X	470128
177.800 7.0000	330.200 13.0000	90.488 3.5625	997000 224000	0.37	1.64	258000 58100	162000 36300	1.60	1580000 354000	EE470073	470130
177.800 7.0000	330.200 13.0000	90.488 3.5625	997000 224000	0.37	1.64	258000 58100	162000 36300	1.60	1580000 354000	EE470078X	470130
177.800 7.0000	336.550 13.2500	90.488 3.5625	997000 224000	0.37	1.64	258000 58100	162000 36300	1.60	1580000 354000	EE470073	470132
177.800 7.0000	355.600 14.0000	61.912 2.4375	811000 182000	0.40	1.50	210000 47300	144000 32300	1.46	1080000 243000	EE780705	781400
177.800 7.0000	360.000 14.1732	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420701	421417
177.800 7.0000	365.049 14.3720	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420701	421437
177.800 7.0000	368.300 14.5000	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420701	421450
177.800 7.0000	428.625 16.8750	106.362 4.1875	1280000 289000	0.76	0.79	333000 74900	432000 97200	0.77	1700000 382000	EE350701	351687
179.975 7.0856	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93708	93125
180.000 7.0866	250.000 9.8425	47.000 1.8504	401000 90100	0.48	1.25	104000 23400	85500 19200	1.22	786000 177000	JM736149A	JM736110
180.000 7.0866	250.000 9.8425	47.000 1.8504	401000 90100	0.48	1.25	104000 23400	85500 19200	1.22	786000 177000	JM736149	JM736110
184.150 7.2500	234.950 9.2500	34.000 1.3386	263000 59100	0.33	1.79	68100 15300	39100 8780	1.74	550000 124000	LM236749	LM236710
184.150 7.2500	235.229 9.2610	34.000 1.3386	263000 59100	0.33	1.79	68100 15300	39100 8780	1.74	550000 124000	LM236749	LM236710A
184.150 7.2500	236.538 9.3125	26.192 1.0312	161000 36100	0.40	1.49	41700 9360	28700 6440	1.45	337000 75700	LL537649	LL537610

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

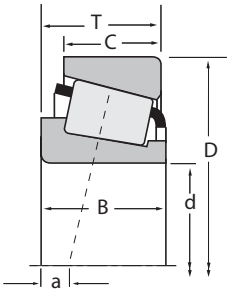
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
82.550 3.2500	63.500 2.5000	-15.2 -0.60	6.4 0.25	193.0 7.60	204.0 8.03	6.4 0.25	282.0 11.10	275.0 10.83	10.00 0.39	0.20 0.01	841	94.9	0.1286	25.10 55.34
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	288.5 11.36	280.0 11.02	8.20 0.32	2.10 0.08	914	92.1	0.1265	25.48 56.18
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	1.30 0.05	1.60 0.06	346	241	0.1825	1.44 3.18
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	4.80 0.19	1.80 0.07	622	122	0.1214	6.68 14.72
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	4.80 0.19	1.80 0.07	622	122	0.1214	6.46 14.25
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	4.60 0.18	3.20 0.13	691	100	0.1150	8.93 19.68
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	4.60 0.18	3.20 0.13	691	100	0.1150	9.04 19.93
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	5.90 0.23	2.10 0.08	788	118	0.1201	10.95 24.15
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	6.80 0.27	5.20 0.21	692	93.8	0.1287	15.28 33.68
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	271.5 10.68	266.0 10.47	5.80 0.23	4.10 0.16	751	101	0.1168	15.03 33.12
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	6.80 0.27	5.20 0.21	692	93.8	0.1287	16.91 37.29
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	300.5 11.84	293.0 11.54	11.50 0.45	2.80 0.11	906	90.3	0.1242	27.52 60.68
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	300.5 11.84	293.0 11.54	11.50 0.45	2.80 0.11	906	90.3	0.1242	27.71 61.08
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	105	0.1304	30.42 67.07
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	* *	* *	914	105	0.1304	31.28 68.95
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	105	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	298.0 11.73	* *	* *	914	105	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	321.0 12.64	320.0 12.60	7.80 0.30	5.50 0.22	646	79.4	0.1185	24.23 53.41
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	334.5 13.16	327.0 12.87	19.10 0.75	2.40 0.10	1150	128	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	334.5 13.16	329.0 12.95	19.10 0.75	2.40 0.10	1150	128	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	334.5 13.16	331.0 13.03	19.10 0.75	2.40 0.10	1150	128	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	21.10 0.83	16.00 0.63	828	77.3	0.1568	62.57 137.95
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	9.20 0.36	4.20 0.17	912	126	0.1460	21.19 46.71
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	242.5 9.55	232.0 9.13	3.40 0.13	4.10 0.16	589	128	0.1227	6.60 14.54
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	242.5 9.55	232.0 9.13	3.40 0.13	4.10 0.16	589	128	0.1227	6.64 14.64
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	0.40 0.02	3.60 0.14	559	173	0.1353	3.34 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	0.40 0.02	3.60 0.14	559	173	0.1353	3.37 7.42
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	3.20 0.12	1.40 0.06	418	211	0.1293	2.59 5.71

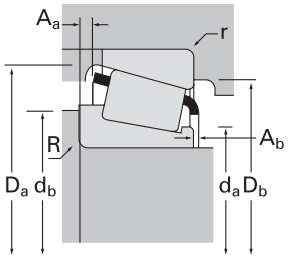
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
184.150 7.2500	266.700 10.5000	47.625 1.8750	386000 86700	0.48	1.26	99900 22500	81700 18400	1.22	835000 188000	67883	67820
187.325 7.3750	266.700 10.5000	47.625 1.8750	386000 86700	0.48	1.26	99900 22500	81700 18400	1.22	835000 188000	67884	67820
187.325 7.3750	269.875 10.6250	55.562 2.1875	508000 114000	0.33	1.80	132000 29600	74900 16800	1.76	999000 225000	M238849	M238810
187.325 7.3750	282.575 11.1250	50.800 2.0000	398000 89400	0.42	1.44	103000 23200	73300 16500	1.41	692000 156000	87737	87111
187.325 7.3750	320.675 12.6250	88.900 3.5000	1030000 231000	0.32	1.88	267000 59900	145000 32700	1.83	1580000 356000	H239649	H239612
190.000 7.4803	260.000 10.2362	46.000 1.8110	399000 89700	0.48	1.26	103000 23300	84500 19000	1.22	807000 181000	JM738249	JM738210
190.000 7.4803	269.875 10.6250	55.560 2.1875	508000 114000	0.33	1.80	132000 29600	74900 16800	1.76	999000 225000	JM238848	M238810
190.078 7.4834	289.992 11.4170	46.000 1.8110	386000 86700	0.48	1.26	99900 22500	81700 18400	1.22	835000 188000	67886	67835
190.500 7.5000	266.700 10.5000	47.625 1.8750	386000 86700	0.48	1.26	99900 22500	81700 18400	1.22	835000 188000	67885	67820
190.500 7.5000	282.575 11.1250	50.800 2.0000	398000 89400	0.42	1.44	103000 23200	73300 16500	1.41	692000 156000	87750	87111
190.500 7.5000	284.162 11.1875	55.562 2.1875	565000 127000	0.36	1.68	147000 33000	89700 20200	1.63	1060000 239000	82788	82722
190.500 7.5000	288.925 11.3750	55.562 2.1875	565000 127000	0.36	1.68	147000 33000	89700 20200	1.63	1060000 239000	82788	82720
190.500 7.5000	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93750	93125
190.500 7.5000	327.025 12.8750	90.488 3.5625	997000 224000	0.37	1.64	258000 58100	162000 36300	1.60	1580000 354000	EE470075	470128
190.500 7.5000	330.200 13.0000	63.500 2.5000	664000 149000	0.38	1.56	172000 38700	113000 25500	1.52	1050000 235000	EE210753	211300
190.500 7.5000	336.550 13.2500	90.488 3.5625	997000 224000	0.37	1.64	258000 58100	162000 36300	1.60	1580000 354000	EE470075	470132
190.500 7.5000	336.550 13.2500	98.425 3.8750	1130000 254000	0.58	1.04	293000 65800	289000 64900	1.01	2050000 460000	HH840249	HH840210
190.500 7.5000	360.000 14.1732	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420751	421417
190.500 7.5000	365.049 14.3720	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420751	421437
190.500 7.5000	368.300 14.5000	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420751	421450
190.500 7.5000	428.625 16.8750	106.362 4.1875	1280000 289000	0.76	0.79	333000 74900	432000 97200	0.77	1700000 382000	EE350750	351687
192.088 7.5625	266.700 10.5000	47.625 1.8750	386000 86700	0.48	1.26	99900 22500	81700 18400	1.22	835000 188000	67887	67820
193.675 7.6250	282.575 11.1250	50.800 2.0000	398000 89400	0.42	1.44	103000 23200	73300 16500	1.41	692000 156000	87762	87111
196.850 7.7500	257.175 10.1250	39.688 1.5625	295000 66300	0.45	1.34	76400 17200	58400 13100	1.31	718000 161000	LM739749	LM739710
196.850 7.7500	266.700 10.5000	39.688 1.5625	295000 66300	0.45	1.34	76400 17200	58400 13100	1.31	718000 161000	LM739749	LM739719
196.850 7.7500	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93775	93125
200.000 7.8740	300.000 11.8110	65.000 2.5591	682000 153000	0.52	1.15	177000 39700	158000 35500	1.12	1280000 287000	JHM840449	JHM840410
200.025 7.8750	292.100 11.5000	57.945 2.2813	588000 132000	0.33	1.80	152000 34300	86800 19500	1.76	1170000 263000	M241543	M241510

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	5.10 0.20	1.80 0.07	728	147	0.1310	8.61 18.98
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	5.10 0.20	1.80 0.07	728	147	0.1310	8.27 18.23
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	5.90 0.23	2.10 0.08	788	118	0.1201	9.77 21.53
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	266.5 10.50	261.0 10.28	8.80 0.34	2.60 0.10	575	131	0.1155	9.78 21.56
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	300.5 11.84	293.0 11.54	11.50 0.45	2.80 0.11	906	90.3	0.1242	25.83 56.94
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	3.20 0.13	4.00 0.16	653	147	0.1265	6.83 15.06
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	5.90 0.23	2.10 0.08	788	118	0.1201	9.48 20.89
46.000 1.8110	35.999 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	4.60 0.18	2.10 0.08	728	147	0.1310	10.57 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	5.10 0.20	1.80 0.07	728	147	0.1310	7.92 17.47
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	266.5 10.50	261.0 10.28	8.80 0.34	2.60 0.10	575	131	0.1155	9.43 20.79
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	5.20 0.21	2.30 0.09	805	111	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	5.20 0.21	2.30 0.09	805	111	0.1238	12.27 27.04
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	9.20 0.36	4.20 0.17	912	126	0.1460	19.65 43.32
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	105	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	11.60 0.46	4.00 0.16	737	116	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	105	0.1304	30.61 67.48
95.250 3.7500	73.025 2.8750	-5.6 -0.22	6.4 0.25	215.5 8.49	234.0 9.21	6.4 0.25	318.0 12.52	290.0 11.42	14.50 0.57	5.10 0.20	1090	104	0.1605	35.46 78.18
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	334.5 13.16	327.0 12.87	19.10 0.75	2.40 0.10	1150	128	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	334.5 13.16	329.0 12.95	19.10 0.75	2.40 0.10	1150	128	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	334.5 13.16	331.0 13.03	19.10 0.75	2.40 0.10	1150	128	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	21.10 0.83	16.00 0.63	828	77.3	0.1568	59.74 131.70
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	5.10 0.20	1.80 0.07	728	147	0.1310	7.52 16.58
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	266.5 10.50	261.0 10.28	8.80 0.34	2.60 0.10	575	131	0.1155	9.07 20.00
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	3.40 0.14	2.10 0.08	762	232	0.1296	5.26 11.60
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	3.40 0.14	2.10 0.08	762	232	0.1296	6.16 13.58
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	9.20 0.36	4.20 0.17	912	126	0.1460	18.69 41.20
62.000 2.4409	51.000 2.0079	8.1 0.32	3.5 0.14	215.0 8.46	223.0 8.78	2.5 0.10	289.0 11.37	273.0 10.75	4.80 0.19	6.10 0.24	854	126	0.1428	15.39 33.92
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	4.80 0.19	2.00 0.08	954	128	0.1279	12.50 27.55

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

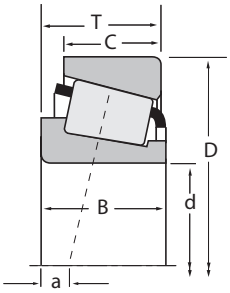
(7) Compound radius on inner race. Details on drawing for bearing.

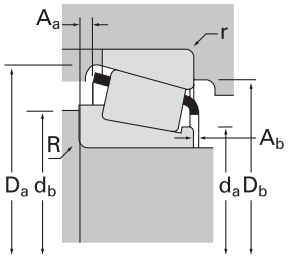
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)		Factors (5)	Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
200.025 7.8750	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93787	93125
200.025 7.8750	317.500 12.5000	68.262 2.6875	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93787	93126
200.025 7.8750	320.000 12.5984	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93787	J93129A
200.025 7.8750	355.600 14.0000	69.850 2.7500	781000 175000	0.33	1.82	202000 45500	114000 25700	1.77	1400000 314000	EE130787	131400
200.025 7.8750	384.175 15.1250	112.712 4.4375	1640000 369000	0.33	1.80	426000 95700	242000 54500	1.76	3110000 699000	H247535	H247510
200.025 7.8750	393.700 15.5000	111.125 4.3750	1650000 370000	0.30	2.01	427000 96000	218000 49100	1.96	2600000 585000	HH144642	HH144614
201.612 7.9375	365.049 14.3720	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420793	421437
201.612 7.9375	368.300 14.5000	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420793	421450
203.200 8.0000	261.142 10.2812	28.575 1.1250	192000 43200	0.41	1.47	49900 11200	34900 7850	1.43	405000 91100	LL641149	LL641110
203.200 8.0000	276.225 10.8750	42.862 1.6875	406000 91300	0.32	1.88	105000 23700	57500 12900	1.83	811000 182000	LM241149	LM241110
203.200 8.0000	282.575 11.1250	46.038 1.8125	393000 88300	0.51	1.18	102000 22900	88700 19900	1.15	876000 197000	67983	67920
203.200 8.0000	292.100 11.5000	57.945 2.2813	588000 132000	0.33	1.80	152000 34300	86800 19500	1.76	1170000 263000	M241547C	M241510
203.200 8.0000	292.100 11.5000	57.945 2.2813	588000 132000	0.33	1.80	152000 34300	86800 19500	1.76	1170000 263000	M241547	M241510
203.200 8.0000	317.500 12.5000	53.975 2.1250	518000 116000	0.31	1.91	134000 30200	72000 16200	1.86	900000 202000	EE132083	132125
203.200 8.0000	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93800	93125
203.200 8.0000	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93800A	93125
203.200 8.0000	360.000 14.1732	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420801	421417
203.200 8.0000	365.049 14.3720	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420801	421437
203.200 8.0000	368.300 14.5000	92.075 3.6250	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420801	421450
203.200 8.0000	406.400 16.0000	92.075 3.6250	1040000 234000	0.80	0.75	270000 60700	369000 82900	0.73	1460000 328000	EE114080	114160
203.200 8.0000	482.600 19.0000	117.475 4.6250	1410000 317000	0.87	0.69	366000 82200	542000 122000	0.67	2010000 453000	EE380080	380190
204.788 8.0625	292.100 11.5000	57.945 2.2813	588000 132000	0.33	1.80	152000 34300	86800 19500	1.76	1170000 263000	M241549	M241510
204.788 8.0625	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93806A	93125
206.375 8.1250	282.575 11.1250	46.038 1.8125	393000 88300	0.51	1.18	102000 22900	88700 19900	1.15	876000 197000	67985	67920
206.375 8.1250	317.500 12.5000	53.975 2.1250	518000 116000	0.31	1.91	134000 30200	72000 16200	1.86	900000 202000	EE132084	132125
206.375 8.1250	336.550 13.2500	98.425 3.8750	1250000 282000	0.33	1.80	325000 73100	185000 41600	1.76	2320000 522000	H242649	H242610
209.550 8.2500	279.400 11.0000	46.038 1.8125	393000 88300	0.51	1.18	102000 22900	88700 19900	1.15	876000 197000	67989	67919
209.550 8.2500	282.575 11.1250	46.038 1.8125	393000 88300	0.51	1.18	102000 22900	88700 19900	1.15	876000 197000	67989	67920

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	9.20 0.36	4.20 0.17	912	126	0.1460	18.20 40.11
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	9.20 0.36	4.20 0.17	912	126	0.1460	19.10 42.10
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	9.20 0.36	4.20 0.17	912	126	0.1460	18.64 41.10
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	330.5 13.01	329.0 12.95	12.30 0.48	3.30 0.13	1160	168	0.1358	28.09 61.93
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	362.0 14.26	346.0 13.62	10.20 0.40	2.80 0.11	1960	148	0.1638	60.18 132.67
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	356.5 14.04	352.0 13.86	15.60 0.62	1.40 0.06	1470	128	0.1429	58.68 129.37
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	334.5 13.16	329.0 12.95	19.10 0.75	2.40 0.10	1150	128	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	334.5 13.16	331.0 13.03	19.10 0.75	2.40 0.10	1150	128	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	3.10 0.12	1.70 0.07	522	231	0.1398	3.47 7.64
42.862 1.6875	34.133 1.3438	1.8 0.07	3.5 0.14	214.0 8.43	220.0 8.66	3.3 0.13	267.0 10.51	260.0 10.24	2.80 0.11	1.30 0.05	774	182	0.1170	6.96 15.35
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	4.50 0.18	1.70 0.07	820	172	0.1388	8.65 19.06
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	4.80 0.19	2.00 0.08	954	128	0.1279	12.04 26.55
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	4.80 0.19	2.00 0.08	954	128	0.1279	12.04 26.55
53.975 2.1250	34.925 1.3750	-6.1 -0.24	4.0 0.16	218.0 8.58	225.0 8.86	3.3 0.13	293.0 11.54	294.0 11.57	10.80 0.42	3.20 0.13	798	125	0.1174	13.87 30.57
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	9.20 0.36	4.20 0.17	912	126	0.1460	17.70 39.01
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	9.20 0.36	4.20 0.17	912	126	0.1460	17.58 38.77
88.897 3.4999	63.500 2.5000	-15.5 -0.61	3.3 0.13	227.0 8.94	230.0 9.06	3.3 0.13	334.5 13.16	327.0 12.87	19.10 0.75	2.40 0.10	1150	128	0.1450	35.59 78.47
88.897 3.4999	63.500 2.5000	-15.5 -0.61	3.3 0.13	227.0 8.94	230.0 9.06	3.3 0.13	334.5 13.16	329.0 12.95	19.10 0.75	2.40 0.10	1150	128	0.1450	37.02 81.62
88.897 3.4999	63.500 2.5000	-15.5 -0.61	3.3 0.13	227.0 8.94	230.0 9.06	3.3 0.13	334.5 13.16	331.0 13.03	19.10 0.75	2.40 0.10	1150	128	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	373.5 14.71	349.0 13.74	19.00 0.75	10.60 0.42	795	80.2	0.1571	44.72 98.58
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	22.30 0.88	16.90 0.67	1100	104	0.1792	88.54 195.20
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	4.80 0.19	2.00 0.08	954	128	0.1279	11.81 26.04
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	9.20 0.36	4.20 0.17	912	126	0.1460	17.44 38.46
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	4.50 0.18	1.70 0.07	820	172	0.1388	8.28 18.25
53.975 2.1250	34.925 1.3750	-6.1 -0.24	4.0 0.16	220.0 8.66	227.0 8.94	3.3 0.13	293.0 11.54	294.0 11.57	10.80 0.42	3.20 0.13	798	125	0.1174	13.44 29.62
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	11.20 0.44	1.80 0.07	1400	135	0.1465	33.01 72.76
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	4.50 0.18	1.70 0.07	820	172	0.1388	7.48 16.49
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	4.50 0.18	1.70 0.07	820	172	0.1388	7.91 17.43

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

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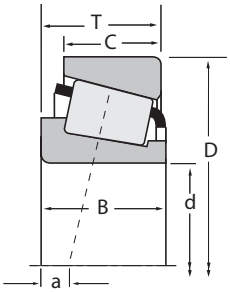
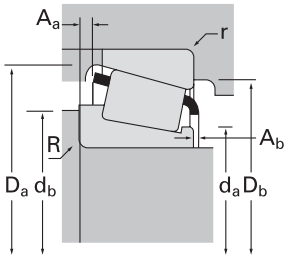
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
209.550 8.2500	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93825	93125
209.550 8.2500	317.500 12.5000	63.500 2.5000	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93825A	93125
209.550 8.2500	317.500 12.5000	68.262 2.6875	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93825	93126
209.550 8.2500	355.600 14.0000	68.262 2.6875	703000 158000	0.59	1.02	182000 41000	184000 41400	0.99	1420000 319000	96825	96140
212.725 8.3750	285.750 11.2500	46.038 1.8125	398000 89500	0.48	1.25	103000 23200	85000 19100	1.21	892000 200000	LM742745	LM742710
215.900 8.5000	285.750 11.2500	46.038 1.8125	398000 89500	0.48	1.25	103000 23200	85000 19100	1.21	892000 200000	LM742749AA	LM742710
215.900 8.5000	285.750 11.2500	46.038 1.8125	398000 89500	0.48	1.25	103000 23200	85000 19100	1.21	892000 200000	LM742749	LM742710
215.900 8.5000	288.925 11.3750	46.038 1.8125	398000 89500	0.48	1.25	103000 23200	85000 19100	1.21	892000 200000	LM742749	LM742714
215.900 8.5000	290.010 11.4177	31.750 1.2500	221000 49800	0.39	1.56	57400 12900	37900 8510	1.52	453000 102000	543085	543114
215.900 8.5000	355.600 14.0000	69.850 2.7500	781000 175000	0.33	1.82	202000 45500	114000 25700	1.77	1400000 314000	EE130851	131400
215.900 8.5000	360.000 14.1732	82.550 3.2500	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420850	421417
215.900 8.5000	365.049 14.3720	82.550 3.2500	1080000 243000	0.40	1.49	280000 63000	193000 43300	1.45	1820000 409000	EE420850	421437
219.969 8.6602	290.010 11.4177	31.750 1.2500	221000 49800	0.39	1.56	57400 12900	37900 8510	1.52	453000 102000	543086	543114
220.662 8.6875	314.325 12.3750	61.912 2.4375	636000 143000	0.33	1.80	165000 37100	93900 21100	1.76	1240000 279000	M244249A	M244210
220.663 8.6875	314.325 12.3750	61.912 2.4375	682000 153000	0.33	1.80	177000 39700	101000 22600	1.76	1370000 308000	M244249	M244210
223.838 8.8125	295.275 11.6250	46.038 1.8125	403000 90700	0.50	1.20	105000 23500	89200 20100	1.17	919000 207000	LM844049	LM844010
225.425 8.8750	355.600 14.0000	69.850 2.7500	781000 175000	0.33	1.82	202000 45500	114000 25700	1.77	1400000 314000	EE130889	131400
225.425 8.8750	400.050 15.7500	88.900 3.5000	1100000 248000	0.44	1.36	286000 64200	215000 48300	1.33	1920000 432000	EE430888	431575
228.397 8.9920	431.800 17.0000	92.075 3.6250	1090000 245000	0.88	0.68	282000 63500	427000 96000	0.66	1600000 361000	EE113089	113170
228.460 8.9945	431.800 17.0000	92.075 3.6250	1090000 245000	0.88	0.68	282000 63500	427000 96000	0.66	1600000 361000	EE113091	113170
228.600 9.0000	320.675 12.6250	50.800 2.0000	431000 97000	0.49	1.23	112000 25100	93200 21000	1.20	821000 185000	88900	88126
228.600 9.0000	327.025 12.8750	52.388 2.0625	431000 97000	0.49	1.23	112000 25100	93200 21000	1.20	821000 185000	88900	88128
228.600 9.0000	355.600 14.0000	68.262 2.6875	703000 158000	0.59	1.02	182000 41000	184000 41400	0.99	1420000 319000	96900	96140
228.600 9.0000	355.600 14.0000	69.850 2.7500	781000 175000	0.33	1.82	202000 45500	114000 25700	1.77	1400000 314000	EE130902	131400
228.600 9.0000	355.600 14.0000	69.850 2.7500	932000 210000	0.47	1.27	242000 54300	196000 44000	1.24	1690000 380000	HM746646	HM746610
228.600 9.0000	358.775 14.1250	71.438 2.8125	896000 202000	0.33	1.80	232000 52200	132000 29700	1.76	1850000 416000	M249732	M249710
228.600 9.0000	400.050 15.7500	88.900 3.5000	1100000 248000	0.44	1.36	286000 64200	215000 48300	1.33	1920000 432000	EE430900	431575
228.600 9.0000	488.950 19.2500	123.825 4.8750	1750000 394000	0.94	0.64	455000 102000	730000 164000	0.62	2510000 564000	HH949549	HH949510

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
63.500 2.5000	46.038 1.8125	7.9 0.31	4.3 0.17	227.0 8.93	233.0 9.17	3.3 0.13	300.0 11.81	286.0 11.26	9.20 0.36	4.20 0.17	912	126	0.1460	16.67 36.76
63.500 2.5000	46.038 1.8125	7.9 0.31	12.7 0.50	227.0 8.93	250.0 9.84	3.3 0.13	300.0 11.81	286.0 11.26	9.20 0.36	4.20 0.17	912	126	0.1460	16.29 35.91
63.500 2.5000	50.800 2.0000	7.9 0.31	4.3 0.17	227.0 8.93	233.0 9.17	3.3 0.13	300.0 11.81	285.0 11.22	9.20 0.36	4.20 0.17	912	126	0.1460	17.57 38.74
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	12.00 0.47	3.80 0.15	1140	160	0.1626	26.64 58.73
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	5.10 0.20	2.00 0.08	867	225	0.1388	7.93 17.47
46.038 1.8125	34.925 1.3750	14.2 0.56	9.0 0.35	227.0 8.94	243.0 9.57	3.3 0.13	279.0 10.98	266.0 10.47	5.10 0.20	2.00 0.08	867	225	0.1388	7.51 16.56
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	5.10 0.20	2.00 0.08	867	225	0.1388	7.54 16.62
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	5.10 0.20	2.00 0.08	867	225	0.1388	7.93 17.48
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	4.10 0.16	2.80 0.11	608	217	0.1135	5.38 11.87
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	330.5 13.01	329.0 12.95	12.30 0.48	3.30 0.13	1160	168	0.1358	25.25 55.66
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	334.5 13.16	327.0 12.87	9.60 0.38	2.40 0.10	1150	128	0.1450	30.87 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	334.5 13.16	329.0 12.95	9.60 0.38	2.40 0.10	1150	128	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	4.10 0.16	2.80 0.11	608	217	0.1135	5.04 11.10
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	3.30 0.13	0.30 0.01	1070	132	0.1327	14.89 32.83
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	5.00 0.20	2.40 0.10	1150	141	0.1360	14.51 31.99
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	2.30 0.21	1.90 0.08	927	269	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	330.5 13.01	329.0 12.95	12.30 0.48	3.30 0.13	1160	168	0.1358	23.44 51.67
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	364.0 14.34	360.0 14.17	14.80 0.58	1.50 0.06	1350	143	0.1572	43.79 96.54
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	397.5 15.64	375.0 14.76	19.40 0.77	11.50 0.45	967	98.1	0.1723	48.70 107.36
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	397.5 15.64	375.0 14.76	19.40 0.77	11.50 0.45	967	98.1	0.1723	48.70 107.36
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	11.20 0.44	2.70 0.10	800	189	0.1352	10.94 24.12
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	11.20 0.44	2.70 0.10	800	189	0.1352	12.02 26.49
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	12.00 0.47	3.80 0.15	1140	160	0.1626	23.21 51.17
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	330.5 13.01	329.0 12.95	12.30 0.48	3.30 0.13	1160	168	0.1358	22.82 50.31
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	339.0 13.34	324.0 12.76	6.10 0.24	4.40 0.17	1190	149	0.1542	25.23 55.63
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	8.00 0.32	3.00 0.12	1630	168	0.1526	26.73 58.94
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	364.0 14.34	360.0 14.17	14.80 0.58	1.50 0.06	1350	143	0.1572	42.71 94.16
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	21.50 0.85	11.80 0.46	1300	91.5	0.1931	94.73 208.84

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

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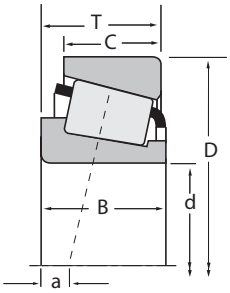
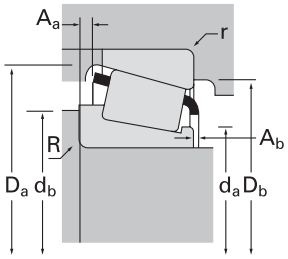
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
228.600 9.0000	508.000 20.0000	117.475 4.6250	1430000 322000	0.94	0.64	371000 83500	596000 134000	0.62	2100000 473000	EE390090	390200
231.775 9.1250	268.288 10.5625	22.500 0.8858	135000 30400	0.33	1.80	35100 7890	20000 4490	1.76	349000 78500	LL244549	LL244510
231.775 9.1250	336.550 13.2500	65.088 2.5625	773000 174000	0.33	1.80	200000 45100	114000 25700	1.76	1570000 352000	M246942	M246910
234.950 9.2500	311.150 12.2500	46.038 1.8125	432000 97200	0.36	1.66	112000 25200	69600 15600	1.61	926000 208000	LM446349	LM446310
234.950 9.2500	314.325 12.3750	49.212 1.9375	509000 114000	0.40	1.51	132000 29700	89700 20200	1.47	1040000 233000	LM545849A	LM545810
234.950 9.2500	314.325 12.3750	49.212 1.9375	479000 108000	0.40	1.51	124000 27900	84400 19000	1.47	949000 213000	LM545849E	LM545810
234.950 9.2500	320.675 12.6250	50.800 2.0000	431000 97000	0.49	1.23	112000 25100	93200 21000	1.20	821000 185000	88925	88126
234.950 9.2500	327.025 12.8750	52.388 2.0625	431000 97000	0.49	1.23	112000 25100	93200 21000	1.20	821000 185000	88925	88128
234.950 9.2500	355.600 14.0000	68.262 2.6875	703000 158000	0.59	1.02	182000 41000	184000 41400	0.99	1420000 319000	96925	96140
234.950 9.2500	381.000 15.0000	74.612 2.9375	982000 221000	0.33	1.80	255000 57200	145000 32600	1.76	2030000 455000	M252330	M252310
234.950 9.2500	384.175 15.1250	112.712 4.4375	1740000 390000	0.33	1.80	450000 101000	256000 57600	1.76	3370000 757000	H247548	H247510
234.950 9.2500	384.175 15.1250	112.712 4.4375	1640000 369000	0.33	1.80	426000 95700	242000 54500	1.76	3110000 699000	H247549	H247510
235.077 9.2550	314.325 12.3750	49.212 1.9375	479000 108000	0.40	1.51	124000 27900	84400 19000	1.47	949000 213000	LM545847	LM545810
236.538 9.3125	320.675 12.6250	44.450 1.7500	431000 97000	0.49	1.23	112000 25100	93200 21000	1.20	821000 185000	88931	88126
237.330 9.3437	336.550 13.2500	65.088 2.5625	722000 162000	0.33	1.80	187000 42100	107000 24000	1.76	1420000 319000	M246948	M246910
237.330 9.3437	336.550 13.2500	65.088 2.5625	773000 174000	0.33	1.80	200000 45100	114000 25700	1.76	1570000 352000	M246949	M246910
237.330 9.3437	358.775 14.1250	71.438 2.8125	896000 202000	0.33	1.80	232000 52200	132000 29700	1.76	1850000 416000	M249736	M249710
241.300 9.5000	349.148 13.7460	57.150 2.2500	647000 146000	0.35	1.70	168000 37700	101000 22800	1.65	1250000 282000	EE127095	127135
241.300 9.5000	355.600 14.0000	50.800 2.0000	549000 123000	0.36	1.65	142000 32000	88500 19900	1.61	1030000 231000	EE170950	171400
241.300 9.5000	355.600 14.0000	57.150 2.2500	647000 146000	0.35	1.70	168000 37700	101000 22800	1.65	1250000 282000	EE127095	127140
241.300 9.5000	365.049 14.3720	50.800 2.0000	549000 123000	0.36	1.65	142000 32000	88500 19900	1.61	1030000 231000	EE170950	171436
241.300 9.5000	368.300 14.5000	50.800 2.0000	549000 123000	0.36	1.65	142000 32000	88500 19900	1.61	1030000 231000	EE170950	171450
241.300 9.5000	368.300 14.5000	68.262 2.6875	828000 186000	0.34	1.75	215000 48200	126000 28400	1.70	1530000 345000	EE125095	125145
241.300 9.5000	393.700 15.5000	73.817 2.9062	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275095	275155
241.300 9.5000	406.400 16.0000	69.850 2.7500	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275095	275160
241.300 9.5000	444.500 17.5000	101.600 4.0000	1560000 350000	0.34	1.78	403000 90700	233000 52400	1.73	2420000 544000	EE923095	923175
241.300 9.5000	488.950 19.2500	120.650 4.7500	2070000 465000	0.31	1.92	537000 121000	287000 64600	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

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	456.0 17.96	423.0 16.65	22.50 0.88	19.20 0.76	1260	106	0.1909	94.81 209.02
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	0.30 0.01	2.40 0.09	694	584	0.1422	1.86 4.09
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	5.20 0.20	3.30 0.13	1350	198	0.1436	18.41 40.59
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	5.50 0.22	1.60 0.06	1010	243	0.1328	8.68 19.14
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	4.50 0.18	2.80 0.11	997	163	0.1367	9.86 21.74
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	4.30 0.17	0.00 0.00	938	176	0.1338	10.17 22.42
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	11.20 0.44	2.70 0.10	800	189	0.1352	10.05 22.15
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	11.20 0.44	2.70 0.10	800	189	0.1352	11.12 24.52
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	12.00 0.47	3.80 0.15	1140	160	0.1626	22.00 48.50
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	363.5 14.32	356.0 14.02	8.30 0.33	3.50 0.14	1840	226	0.1588	33.39 73.60
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	362.0 14.26	346.0 13.62	8.60 0.34	4.40 0.17	2080	156	0.1671	49.18 108.42
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	362.0 14.26	346.0 13.62	10.20 0.40	2.80 0.11	1960	148	0.1638	49.65 109.45
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	4.30 0.17	0.00 0.00	938	176	0.1338	10.14 22.34
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	4.80 0.19	1.10 0.04	800	189	0.1352	9.32 20.56
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	4.30 0.17	1.20 0.05	1260	174	0.1401	17.78 39.21
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	5.20 0.20	3.30 0.13	1350	198	0.1436	17.37 38.29
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	8.00 0.32	3.00 0.12	1630	168	0.1526	24.87 54.82
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	6.50 0.25	1.60 0.06	1180	164	0.1392	16.53 36.44
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	8.60 0.34	3.30 0.13	1070	172	0.1354	15.41 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	6.50 0.25	1.60 0.06	1180	164	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	8.60 0.34	3.30 0.13	1070	172	0.1354	16.80 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	8.60 0.34	3.30 0.13	1070	172	0.1354	17.29 38.12
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	344.0 13.54	341.0 13.43	7.70 0.30	0.10 0.00	1310	221	0.1432	24.20 53.35
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	378.0 14.89	366.0 14.41	14.40 0.57	3.30 0.13	1450	201	0.1555	31.84 70.19
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	378.0 14.89	373.0 14.69	14.40 0.57	3.30 0.13	1450	201	0.1555	33.95 74.84
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	12.30 0.48	2.10 0.08	1630	136	0.1531	62.00 136.69
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	18.70 0.73	4.00 0.16	2250	172	0.1664	98.39 216.91
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	456.0 17.96	423.0 16.65	22.50 0.88	18.90 0.74	1260	106	0.1909	91.31 201.31

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

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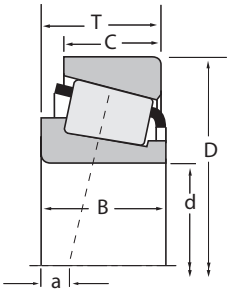
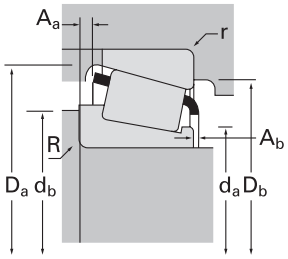
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
244.475 9.6250	381.000 15.0000	79.375 3.1250	889000 200000	0.52	1.16	231000 51800	204000 45800	1.13	1690000 381000	EE126097	126150
247.650 9.7500	304.800 12.0000	22.225 0.8750	146000 32700	0.32	1.85	37800 8490	21000 4720	1.80	373000 83900	28880	28820
247.650 9.7500	346.075 13.6250	63.500 2.5000	787000 177000	0.34	1.75	204000 45900	120000 27000	1.70	1620000 365000	M348449	M348410
247.650 9.7500	355.600 14.0000	50.800 2.0000	549000 123000	0.36	1.65	142000 32000	88500 19900	1.61	1030000 231000	EE170975	171400
247.650 9.7500	365.049 14.3720	50.800 2.0000	549000 123000	0.36	1.65	142000 32000	88500 19900	1.61	1030000 231000	EE170975	171436
247.650 9.7500	368.300 14.5000	50.800 2.0000	549000 123000	0.36	1.65	142000 32000	88500 19900	1.61	1030000 231000	EE170975	171450
247.650 9.7500	381.000 15.0000	74.612 2.9375	982000 221000	0.33	1.80	255000 57200	145000 32600	1.76	2030000 455000	M252337	M252310
247.650 9.7500	406.400 16.0000	115.888 4.5625	1930000 433000	0.33	1.80	499000 112000	284000 63900	1.76	3770000 846000	HH249949	HH249910
249.250 9.8130	381.000 15.0000	79.375 3.1250	889000 200000	0.52	1.16	231000 51800	204000 45800	1.13	1690000 381000	EE126098	126150
254.000 10.0000	323.850 12.7500	22.225 0.8750	148000 33300	0.35	1.73	38400 8630	22800 5120	1.69	391000 87800	29875	29820
254.000 10.0000	358.775 14.1250	71.438 2.8125	896000 202000	0.33	1.80	232000 52200	132000 29700	1.76	1850000 416000	M249749	M249710
254.000 10.0000	358.775 14.1250	71.438 2.8125	896000 202000	0.33	1.80	232000 52200	132000 29700	1.76	1850000 416000	M249749X	M249710
254.000 10.0000	365.125 14.3750	58.738 2.3125	666000 150000	0.37	1.60	173000 38800	111000 24900	1.56	1330000 299000	EE134100	134143
254.000 10.0000	368.300 14.5000	58.738 2.3125	666000 150000	0.37	1.60	173000 38800	111000 24900	1.56	1330000 299000	EE134100	134145
254.000 10.0000	393.700 15.5000	73.817 2.9062	865000 195000	0.40	1.49	224000 50400	154000 34700	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	406.400 16.0000	69.850 2.7500	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275100	275160
254.000 10.0000	422.275 16.6250	86.121 3.3906	1280000 288000	0.33	1.80	332000 74700	189000 42500	1.76	2020000 455000	HM252343	HM252310
254.000 10.0000	422.275 16.6250	86.121 3.3906	1320000 297000	0.33	1.80	343000 77000	195000 43900	1.76	2110000 475000	HM252344	HM252310
254.000 10.0000	533.400 21.0000	133.350 5.2500	2100000 471000	0.94	0.64	543000 122000	872000 196000	0.62	3090000 694000	HH953749	HH953710
257.175 10.1250	342.900 13.5000	57.150 2.2500	667000 150000	0.35	1.73	173000 38900	103000 23100	1.68	1430000 321000	M349549A	M349510
257.175 10.1250	342.900 13.5000	57.150 2.2500	667000 150000	0.35	1.73	173000 38900	103000 23100	1.68	1430000 321000	M349549	M349510
260.350 10.2500	365.125 14.3750	58.738 2.3125	666000 150000	0.37	1.60	173000 38800	111000 24900	1.56	1330000 299000	EE134102	134143
260.350 10.2500	368.300 14.5000	58.738 2.3125	666000 150000	0.37	1.60	173000 38800	111000 24900	1.56	1330000 299000	EE134102	134145
260.350 10.2500	400.050 15.7500	69.850 2.7500	811000 182000	0.39	1.52	210000 47300	142000 31900	1.48	1450000 326000	EE221026	221575
260.350 10.2500	419.100 16.5000	85.725 3.3750	1100000 248000	0.60	0.99	286000 64200	296000 66500	0.97	2010000 451000	EE435102	435165
260.350 10.2500	422.275 16.6250	86.121 3.3906	1280000 288000	0.33	1.80	332000 74700	189000 42500	1.76	2020000 455000	HM252348	HM252310
260.350 10.2500	422.275 16.6250	86.121 3.3906	1320000 297000	0.33	1.80	343000 77000	195000 43900	1.76	2110000 475000	HM252349	HM252310

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	13.10 0.52	2.00 0.08	1320	169	0.1640	30.30 66.80
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	1.70 0.06	1.90 0.07	807	572	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	4.00 0.16	3.60 0.14	1450	213	0.1483	17.51 38.60
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	8.60 0.34	3.30 0.13	1070	172	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	8.60 0.34	3.30 0.13	1070	172	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	8.60 0.34	3.30 0.13	1070	172	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	363.5 14.32	356.0 14.02	8.30 0.33	3.50 0.14	1840	226	0.1588	30.47 67.16
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	9.00 0.35	4.10 0.16	2370	173	0.1746	57.93 127.71
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	13.10 0.52	2.00 0.08	1320	169	0.1640	29.19 64.36
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	1.70 0.07	1.90 0.07	907	657	0.1567	4.26 9.39
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	8.00 0.32	3.00 0.12	1630	168	0.1526	21.35 47.07
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	8.00 0.32	3.00 0.12	1630	168	0.1526	21.35 47.07
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	8.30 0.32	1.70 0.07	1330	187	0.1474	18.11 39.93
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	8.30 0.32	1.70 0.07	1330	187	0.1474	18.72 41.28
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	378.0 14.89	366.0 14.41	14.40 0.57	3.30 0.13	1450	201	0.1555	29.13 64.23
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	6.30 0.25	5.30 0.21	1320	218	0.1413	24.88 54.85
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	378.0 14.89	373.0 14.69	14.40 0.57	3.30 0.13	1450	201	0.1555	31.24 68.88
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	13.00 0.51	4.80 0.19	1500	148	0.1482	41.60 91.71
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	10.50 0.41	6.10 0.24	1550	152	0.1498	41.76 92.06
120.650 4.7500	77.788 3.0625	45.5 1.79	6.4 0.25	306.5 12.06	328.0 12.91	6.4 0.25	495.5 19.51	455.0 17.91	21.80 0.86	14.20 0.56	1670	104	0.2101	120.15 264.88
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	4.80 0.19	3.00 0.12	1420	193	0.1475	13.33 29.40
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	4.80 0.19	3.00 0.12	1420	193	0.1475	13.57 29.92
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	8.30 0.32	1.70 0.07	1330	187	0.1474	16.93 37.32
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	8.30 0.32	1.70 0.07	1330	187	0.1474	17.54 38.67
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	14.30 0.56	5.60 0.22	1320	207	0.1497	26.68 58.82
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	395.0 15.56	376.0 14.80	14.10 0.55	2.00 0.08	1480	123	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	13.00 0.51	4.80 0.19	1500	148	0.1482	40.16 88.54
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	10.50 0.41	6.10 0.24	1550	152	0.1498	40.16 88.53

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

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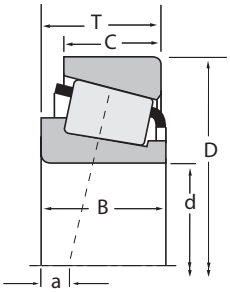
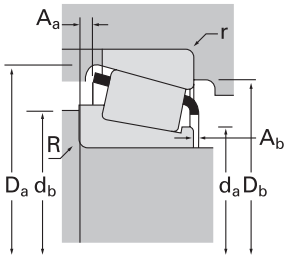
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
260.350 10.2500	488.950 19.2500	120.650 4.7500	2070000 465000	0.31	1.92	537000 121000	287000 64600	1.87	3310000 744000	EE295102	295193
263.525 10.3750	325.438 12.8125	28.575 1.1250	217000 48800	0.37	1.64	56300 12700	35200 7920	1.60	554000 125000	38880	38820
263.525 10.3750	355.600 14.0000	57.150 2.2500	688000 155000	0.36	1.67	178000 40100	110000 24700	1.62	1510000 339000	LM451345	LM451310
266.560 10.4945	325.438 12.8125	29.500 1.1614	210000 47100	0.37	1.64	54400 12200	34000 7650	1.60	527000 118000	38884	38820
266.700 10.5000	323.850 12.7500	22.225 0.8750	148000 33300	0.35	1.73	38400 8630	22800 5120	1.69	391000 87800	29880	29820
266.700 10.5000	325.438 12.8125	28.575 1.1250	217000 48800	0.37	1.64	56300 12700	35200 7920	1.60	554000 125000	38885	38820
266.700 10.5000	355.600 14.0000	57.150 2.2500	688000 155000	0.36	1.67	178000 40100	110000 24700	1.62	1510000 339000	LM451349A	LM451310
266.700 10.5000	355.600 14.0000	57.150 2.2500	688000 155000	0.36	1.67	178000 40100	110000 24700	1.62	1510000 339000	LM451349	LM451310
266.700 10.5000	393.700 15.5000	73.817 2.9062	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275105	275155
266.700 10.5000	406.400 16.0000	69.850 2.7500	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275105	275160
266.700 10.5000	444.500 17.5000	120.650 4.7500	1790000 402000	0.58	1.04	464000 104000	457000 103000	1.01	3520000 791000	H852849	H852810
269.875 10.6250	381.000 15.0000	74.612 2.9375	982000 221000	0.33	1.80	255000 57200	145000 32600	1.76	2030000 455000	M252349	M252310
273.050 10.7500	393.700 15.5000	73.817 2.9062	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275108	275155
273.050 10.7500	406.400 16.0000	69.850 2.7500	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275108	275160
276.225 10.8750	352.425 13.8750	36.512 1.4375	326000 73400	0.54	1.11	84600 19000	78000 17500	1.08	750000 169000	L853049	L853010
279.400 11.0000	317.500 12.5000	24.384 0.9600	159000 35800	0.35	1.73	41200 9270	24400 5500	1.69	467000 105000	LL352149	LL352110
279.400 11.0000	469.900 18.5000	95.250 3.7500	1380000 310000	0.38	1.59	357000 80300	231000 52000	1.55	2350000 527000	EE722110	722185
279.400 11.0000	488.950 19.2500	120.650 4.7500	2070000 465000	0.31	1.92	537000 121000	287000 64600	1.87	3310000 744000	EE295110	295193
279.982 11.0229	380.009 14.9610	65.088 2.5625	708000 159000	0.43	1.39	184000 41300	136000 30500	1.35	1720000 387000	LM654642	LM654611
280.000 11.0236	406.400 16.0000	69.850 2.7500	851000 191000	0.39	1.55	221000 49600	146000 32800	1.51	1660000 374000	EE128112	128160
280.192 11.0312	400.050 15.7500	52.388 2.0625	590000 133000	0.41	1.47	153000 34400	107000 24000	1.43	1180000 266000	EE101103	101575
280.192 11.0312	406.400 16.0000	52.388 2.0625	590000 133000	0.41	1.47	153000 34400	107000 24000	1.43	1180000 266000	EE101103	101600
280.192 11.0312	406.400 16.0000	69.850 2.7500	906000 204000	0.39	1.55	235000 52800	155000 34900	1.51	1820000 409000	EE128110	128160
280.192 11.0312	406.400 16.0000	69.850 2.7500	851000 191000	0.39	1.55	221000 49600	146000 32800	1.51	1660000 374000	EE128111	128160
285.750 11.2500	354.012 13.9375	33.338 1.3125	253000 56800	0.49	1.22	65500 14700	55200 12400	1.19	596000 134000	545112	545139
285.750 11.2500	358.775 14.1250	33.338 1.3125	253000 56800	0.49	1.22	65500 14700	55200 12400	1.19	596000 134000	545112	545141
288.925 11.3750	406.400 16.0000	77.788 3.0625	1170000 262000	0.34	1.77	302000 68000	175000 39300	1.73	2520000 567000	M255449	M255410
292.100 11.5000	374.650 14.7500	47.625 1.8750	510000 115000	0.40	1.49	132000 29700	90900 20400	1.45	1150000 258000	L555249	L555210

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

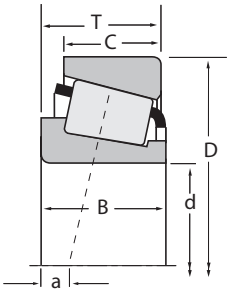
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
120.650 4.7500	92.075 3.6250	-31.0 -1.22	6.4 0.25	290.0 11.42	299.0 11.77	6.4 0.25	450.5 17.74	444.0 17.48	18.70 0.73	4.00 0.16	2250	172	0.1664	91.30 201.28
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	1.30 0.05	1.30 0.05	1030	496	0.1676	5.15 11.35
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	343.0 13.50	335.0 13.19	5.90 0.23	3.40 0.13	1550	212	0.1536	15.43 34.02
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	0.50 0.02	-0.80 -0.03	993	480	0.1656	5.35 11.79
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	1.70 0.07	1.90 0.07	907	657	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	1.30 0.05	1.30 0.05	1030	496	0.1676	4.85 10.70
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	343.0 13.50	335.0 13.19	5.90 0.23	3.40 0.13	1550	212	0.1536	14.52 32.00
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	343.0 13.50	335.0 13.19	5.90 0.23	3.40 0.13	1550	212	0.1536	14.84 32.72
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	378.0 14.89	366.0 14.41	14.40 0.57	3.30 0.13	1450	201	0.1555	26.29 57.96
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	378.0 14.89	373.0 14.69	14.40 0.57	3.30 0.13	1450	201	0.1555	28.40 62.61
117.475 4.6250	88.900 3.5000	-0.5 -0.02	6.4 0.25	297.0 11.69	315.0 12.40	6.4 0.25	422.5 16.63	390.0 15.35	19.20 0.76	4.10 0.16	2250	171	0.2040	72.32 159.43
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	363.5 14.32	356.0 14.02	8.30 0.33	3.50 0.14	1840	226	0.1588	25.28 55.74
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	378.0 14.89	366.0 14.41	14.40 0.57	3.30 0.13	1450	201	0.1555	24.82 54.71
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	378.0 14.89	373.0 14.69	14.40 0.57	3.30 0.13	1450	201	0.1555	26.92 59.36
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	6.00 0.24	3.40 0.14	1060	350	0.1517	7.67 16.91
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	1.80 0.07	2.10 0.08	1130	860	0.1688	2.58 5.69
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	433.0 17.04	430.0 16.93	16.80 0.66	0.40 0.02	1890	143	0.1669	58.94 129.95
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	18.70 0.73	4.00 0.16	2250	172	0.1664	83.81 184.76
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	7.90 0.31	0.70 0.03	1920	265	0.1744	20.64 45.51
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	8.20 0.32	0.90 0.04	1620	240	0.1592	27.03 59.58
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	7.70 0.30	5.30 0.21	1380	227	0.1527	18.74 41.31
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	7.70 0.30	5.30 0.21	1380	227	0.1527	19.83 43.72
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	6.90 0.27	1.50 0.06	1730	255	0.1628	26.81 59.09
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	8.20 0.32	0.90 0.04	1620	240	0.1592	26.96 59.43
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	5.70 0.22	2.90 0.11	1020	477	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	5.70 0.22	2.90 0.11	1020	477	0.1446	6.74 14.86
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	388.0 15.27	379.0 14.92	5.80 0.23	3.90 0.16	2300	287	0.1722	29.40 64.81
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	5.50 0.22	2.30 0.09	1480	340	0.1553	11.78 25.97

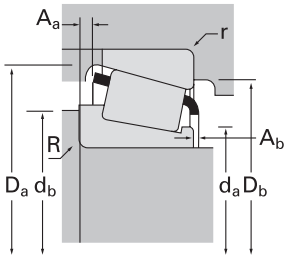
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
292.100 11.5000	393.700 15.5000	63.500 2.5000	468000 105000	0.61	0.98	121000 27300	127000 28500	0.96	997000 224000	84115	84155
292.100 11.5000	469.900 18.5000	95.250 3.7500	1380000 310000	0.38	1.59	357000 80300	231000 52000	1.55	2350000 527000	EE722115	722185
292.100 11.5000	558.800 22.0000	136.525 5.3750	2640000 594000	0.40	1.52	685000 154000	464000 104000	1.48	4100000 923000	EE790114	790221
298.450 11.7500	444.500 17.5000	63.500 2.5000	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291175	291750
299.975 11.8100	495.300 19.5000	141.288 5.5625	2810000 632000	0.33	1.80	729000 164000	415000 93300	1.76	5650000 1270000	HH258248	HH258210
300.038 11.8125	422.275 16.6250	82.550 3.2500	1270000 286000	0.34	1.78	330000 74100	190000 42700	1.73	2770000 622000	HM256849	HM256810
304.800 12.0000	393.700 15.5000	50.800 2.0000	575000 129000	0.36	1.67	149000 33500	91600 20600	1.63	1310000 295000	L357049	L357010
304.800 12.0000	406.400 16.0000	63.500 2.5000	754000 170000	0.44	1.36	196000 44000	148000 33200	1.32	1740000 392000	LM757049AA	LM757010
304.800 12.0000	406.400 16.0000	63.500 2.5000	754000 170000	0.44	1.36	196000 44000	148000 33200	1.32	1740000 392000	LM757049	LM757010
304.800 12.0000	438.048 17.2460	76.200 3.0000	879000 198000	0.42	1.44	228000 51200	162000 36500	1.40	1780000 401000	EE129120X	129172
304.800 12.0000	444.500 17.5000	63.500 2.5000	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291201	291749
304.800 12.0000	444.500 17.5000	63.500 2.5000	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291201	291750
304.800 12.0000	495.300 19.5000	76.200 3.0000	1320000 298000	0.40	1.49	343000 77200	236000 53100	1.45	2090000 471000	EE941205	941950
304.800 12.0000	495.300 19.5000	95.250 3.7500	1440000 324000	0.40	1.49	374000 84000	257000 57800	1.45	2550000 573000	EE724120	724195
304.800 12.0000	499.948 19.6830	101.600 4.0000	1140000 257000	1.17	0.51	296000 66600	594000 134000	0.50	1890000 424000	M959442	M959410
304.800 12.0000	558.800 22.0000	136.525 5.3750	2640000 594000	0.40	1.52	685000 154000	464000 104000	1.48	4100000 923000	EE790120	790221
312.738 12.3125	358.775 14.1250	22.225 0.8750	131000 29500	0.82	0.73	34000 7640	47900 10800	0.71	383000 86100	LL957049	LL957010
314.325 12.3750	495.300 19.5000	120.650 4.7500	1920000 432000	0.58	1.04	498000 112000	491000 110000	1.01	3950000 889000	H859049	H859010
317.500 12.5000	444.500 17.5000	63.500 2.5000	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291250	291749
317.500 12.5000	444.500 17.5000	63.500 2.5000	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291250	291750
317.500 12.5000	447.675 17.6250	85.725 3.3750	1320000 297000	0.33	1.79	342000 76900	196000 44100	1.74	2790000 628000	HM259048	HM259010
317.500 12.5000	447.675 17.6250	85.725 3.3750	1430000 322000	0.33	1.79	372000 83600	213000 47900	1.74	3140000 706000	HM259049	HM259010
317.500 12.5000	596.900 23.5000	136.525 5.3750	2830000 636000	0.42	1.42	733000 165000	530000 119000	1.38	4600000 1030000	EE720125	720236
317.500 12.5000	622.300 24.5000	147.638 5.8125	2700000 607000	0.94	0.64	700000 157000	1120000 253000	0.62	4130000 927000	H961649	H961610
323.850 12.7500	381.000 15.0000	28.575 1.1250	239000 53700	0.44	1.36	61900 13900	46600 10500	1.33	672000 151000	LL758744	LL758715
325.438 12.8125	596.900 23.5000	136.525 5.3750	2830000 636000	0.42	1.42	733000 165000	530000 119000	1.38	4600000 1030000	EE720128	720236
330.200 13.0000	415.925 16.3750	47.625 1.8750	475000 107000	0.50	1.20	123000 27700	105000 23600	1.17	1180000 266000	L860049	L860010
330.200 13.0000	482.600 19.0000	66.675 2.6250	878000 197000	0.42	1.44	228000 51200	162000 36500	1.40	1770000 398000	EE203130	203190

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

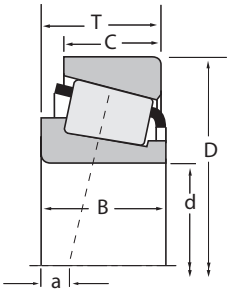
Dimensions, mm (inches)														Weight kg (lbs.)
Bearing			Shaft			Housing			Cage		Factors			
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
50.800 2.0000	44.450 1.7500	36.6 1.44	3.5 0.14	309.0 12.17	313.0 12.32	6.4 0.25	378.0 14.88	363.0 14.29	13.90 0.55	2.80 0.11	1230	302	0.1660	18.03 39.75
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	433.0 17.04	430.0 16.93	16.80 0.66	0.40 0.02	1890	143	0.1669	54.75 120.70
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	514.0 20.24	501.0 19.72	20.00 0.79	7.30 0.29	2660	170	0.1898	132.40 291.88
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	11.40 0.45	7.00 0.28	1580	245	0.1557	29.43 64.87
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	467.5 18.40	448.0 17.64	10.70 0.42	7.70 0.30	3850	220	0.2048	106.33 234.41
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	403.5 15.88	394.0 15.51	7.40 0.29	3.50 0.14	2550	282	0.1779	33.74 74.39
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	5.60 0.22	1.90 0.08	1750	301	0.1585	14.35 31.64
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	6.90 0.27	2.50 0.10	1990	260	0.1775	21.36 47.09
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	6.90 0.27	2.50 0.10	1990	260	0.1775	21.44 47.26
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	411.5 16.20	406.0 15.98	15.00 0.59	-2.00 -0.08	1880	273	0.1711	33.00 72.75
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	11.40 0.45	7.00 0.28	1580	245	0.1557	27.92 61.55
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	11.40 0.45	7.00 0.28	1580	245	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	463.0 18.22	459.0 18.07	10.30 0.40	5.90 0.23	1770	187	0.1657	48.34 106.57
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	459.0 18.07	450.0 17.72	17.30 0.68	2.20 0.09	2180	166	0.1783	62.33 137.41
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	481.0 18.94	438.0 17.24	* *	* *	1520	157	0.2137	63.02 138.93
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	514.0 20.24	501.0 19.72	20.00 0.79	7.30 0.29	2660	170	0.1898	126.22 278.25
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	3.10 0.12	2.10 0.08	990	809	0.2091	3.06 6.75
119.062 4.6875	88.900 3.5000	8.4 0.33	6.4 0.25	344.5 13.57	361.0 14.21	6.4 0.25	473.0 18.62	439.0 17.28	17.80 0.70	3.60 0.14	2950	250	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	3.3 0.13	415.0 16.34	415.0 16.34	11.40 0.45	7.00 0.28	1580	245	0.1557	24.90 54.90
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	11.40 0.45	7.00 0.28	1580	245	0.1557	24.95 55.00
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	427.5 16.84	418.0 16.46	6.40 0.25	3.70 0.15	2710	281	0.1809	40.55 89.39
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	427.5 16.84	418.0 16.46	6.80 0.27	3.70 0.15	2940	304	0.1863	40.26 88.76
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	547.5 21.55	534.0 21.02	20.40 0.80	7.90 0.31	3160	183	0.2053	152.24 335.63
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	581.5 22.90	531.0 20.91	25.10 0.99	17.60 0.69	2500	149	0.2401	169.68 374.08
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	373.0 14.69	365.0 14.37	2.80 0.11	2.50 0.10	1500	792	0.2007	5.27 11.61
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	547.5 21.55	534.0 21.02	20.40 0.80	8.20 0.32	3160	183	0.2053	147.98 326.23
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	7.30 0.29	0.10 0.00	1820	479	0.1774	14.01 30.88
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	456.0 17.96	449.0 17.68	15.50 0.61	5.80 0.23	2140	336	0.1778	35.76 78.83

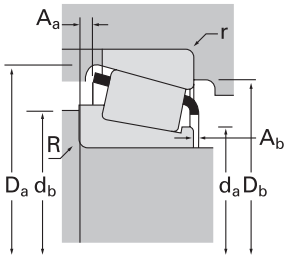
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

TS

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
330.200 13.0000	482.600 19.0000	85.725 3.3750	1230000 276000	0.39	1.54	318000 71400	213000 47800	1.49	2320000 523000	EE526130	526190
333.375 13.1250	469.900 18.5000	90.488 3.5625	1570000 353000	0.33	1.79	407000 91400	233000 52400	1.74	3460000 777000	HM261049	HM261010
342.900 13.5000	450.850 17.7500	66.675 2.6250	953000 214000	0.35	1.70	247000 55600	149000 33500	1.66	2210000 497000	LM361649	LM361610
342.900 13.5000	457.098 17.9960	66.675 2.6250	807000 181000	0.71	0.84	209000 47000	255000 57400	0.82	1940000 436000	LM961548	LM961510
342.900 13.5000	457.098 17.9960	68.262 2.6875	807000 181000	0.71	0.84	209000 47000	255000 57400	0.82	1940000 436000	LM961548	LM961511
346.075 13.6250	469.900 18.5000	60.325 2.3750	537000 121000	0.50	1.20	139000 31300	119000 26800	1.17	1110000 250000	EE161363	161850
346.075 13.6250	482.600 19.0000	60.325 2.3750	537000 121000	0.50	1.20	139000 31300	119000 26800	1.17	1110000 250000	EE161363	161900
346.075 13.6250	482.600 19.0000	66.675 2.6250	878000 197000	0.42	1.44	228000 51200	162000 36500	1.40	1770000 398000	EE203136	203190
346.075 13.6250	482.600 19.0000	66.675 2.6250	878000 197000	0.42	1.44	228000 51200	162000 36500	1.40	1770000 398000	EE203137	203190
346.075 13.6250	488.950 19.2500	95.250 3.7500	1590000 358000	0.33	1.79	413000 92900	237000 53200	1.74	3440000 774000	HM262748	HM262710
346.075 13.6250	488.950 19.2500	95.250 3.7500	1690000 381000	0.33	1.79	439000 98700	252000 56600	1.74	3760000 845000	HM262749	HM262710
349.250 13.7500	501.650 19.7500	90.488 3.5625	1320000 298000	0.37	1.63	343000 77200	216000 48500	1.59	2780000 626000	EE333137	333197
354.012 13.9375	469.900 18.5000	60.325 2.3750	537000 121000	0.50	1.20	139000 31300	119000 26800	1.17	1110000 250000	EE161394	161850
354.012 13.9375	482.600 19.0000	60.325 2.3750	537000 121000	0.50	1.20	139000 31300	119000 26800	1.17	1110000 250000	EE161394	161900
355.600 14.0000	444.500 17.5000	60.325 2.3750	718000 162000	0.31	1.95	186000 41900	98000 22000	1.90	1970000 444000	L163149	L163110
355.600 14.0000	501.650 19.7500	74.612 2.9375	899000 202000	0.44	1.36	233000 52400	176000 39500	1.33	1870000 420000	EE231400	231975
355.600 14.0000	501.650 19.7500	90.488 3.5625	1320000 298000	0.37	1.63	343000 77200	216000 48500	1.59	2780000 626000	EE333140	333197
361.950 14.2500	406.400 16.0000	23.812 0.9375	194000 43600	0.40	1.49	50300 11300	34600 7780	1.45	574000 129000	LL562749	LL562710
368.250 14.4980	523.875 20.6250	101.600 4.0000	1940000 437000	0.33	1.80	504000 113000	287000 64500	1.76	4340000 977000	HM265049	HM265010
371.475 14.6250	501.650 19.7500	74.612 2.9375	899000 202000	0.44	1.36	233000 52400	176000 39500	1.33	1870000 420000	EE231462	231975
374.650 14.7500	431.800 17.0000	28.575 1.1250	249000 56000	0.33	1.80	64500 14500	36700 8260	1.76	745000 167000	LL264648	LL264610
381.000 15.0000	479.425 18.8750	49.212 1.9375	582000 131000	0.50	1.21	151000 33900	128000 28800	1.18	1380000 311000	L865547	L865512
381.000 15.0000	508.000 20.0000	63.500 2.5000	646000 145000	0.53	1.13	167000 37600	153000 34300	1.10	1480000 332000	EE192150	192200
381.000 15.0000	522.288 20.5625	85.725 3.3750	1360000 306000	0.39	1.56	353000 79400	233000 52400	1.51	2950000 663000	LM565949	LM565910
381.000 15.0000	546.100 21.5000	104.775 4.1250	1940000 436000	0.33	1.80	502000 113000	286000 64300	1.76	4210000 946000	HM266446	HM266410
381.000 15.0000	546.100 21.5000	104.775 4.1250	2100000 473000	0.33	1.80	545000 123000	311000 69800	1.76	4730000 1060000	HM266447	HM266410
381.000 15.0000	590.550 23.2500	114.300 4.5000	2440000 549000	0.33	1.80	633000 142000	360000 81000	1.76	5550000 1250000	M268730	M268710
384.175 15.1250	441.325 17.3750	28.575 1.1250	228000 51200	0.34	1.76	59100 13300	34400 7740	1.72	667000 150000	LL365348	LL365310

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	14.50 0.57	3.10 0.12	2280	287	0.1790	44.95 99.10
90.488 3.5625	71.438 2.8125	-6.1 -0.24	6.4 0.25	357.0 14.06	363.0 14.29	3.3 0.13	449.5 17.69	439.0 17.28	7.70 0.30	3.30 0.13	3310	324	0.1935	46.58 102.69
66.675 2.6250	52.388 2.0625	8.9 0.35	8.5 0.33	360.0 14.17	373.0 14.69	3.5 0.14	435.0 17.13	425.0 16.73	4.70 0.19	4.90 0.19	2730	433	0.1833	26.40 58.19
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	443.0 17.44	423.0 16.65	12.60 0.50	4.90 0.19	2280	300	0.2146	28.02 61.77
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	443.0 17.44	423.0 16.65	12.60 0.50	4.90 0.19	2280	300	0.2146	28.49 62.80
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	14.40 0.57	3.80 0.15	1730	299	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	14.40 0.57	3.80 0.15	1730	299	0.1741	27.97 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	456.0 17.96	449.0 17.68	15.50 0.61	5.80 0.23	2140	336	0.1778	31.56 69.58
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	456.0 17.96	449.0 17.68	15.50 0.61	5.80 0.23	2140	336	0.1778	31.06 68.48
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	9.30 0.37	3.00 0.12	3430	322	0.1956	54.00 119.06
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	8.60 0.34	3.50 0.14	3650	342	0.1999	53.41 117.74
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	478.5 18.83	470.0 18.50	12.00 0.47	3.00 0.12	3040	337	0.1928	52.69 116.15
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	14.40 0.57	3.80 0.15	1730	299	0.1741	23.25 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	14.40 0.57	3.80 0.15	1730	299	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	5.20 0.20	2.30 0.09	3210	621	0.1838	20.56 45.32
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	481.0 18.94	472.0 18.58	19.00 0.75	5.90 0.23	2390	366	0.1874	39.04 86.07
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	478.5 18.83	470.0 18.50	12.00 0.47	3.00 0.12	3040	337	0.1928	50.37 111.04
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	1.10 0.04	2.40 0.09	1670	1060	0.2005	3.68 8.11
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	498.5 19.63	487.0 19.17	9.30 0.36	3.70 0.14	4300	372	0.2106	66.03 145.57
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	481.0 18.94	472.0 18.58	19.00 0.75	5.90 0.23	2390	366	0.1874	34.31 75.63
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	1.90 0.08	2.90 0.12	2160	1050	0.2055	6.08 13.40
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	6.60 0.26	2.70 0.11	2260	529	0.1897	18.40 40.57
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	18.00 0.71	3.90 0.15	2290	398	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	12.30 0.49	3.10 0.12	3380	378	0.2028	49.21 108.48
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	9.10 0.36	5.40 0.21	4380	279	0.2116	76.52 168.68
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	8.90 0.35	4.90 0.19	4760	301	0.2178	76.63 168.95
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	562.5 22.14	549.0 21.61	10.60 0.42	6.00 0.24	5750	421	0.2319	114.19 251.73
28.575 1.1250	20.638 0.8125	30.0 1.18	3.5 0.14	393.0 15.47	399.0 15.71	3.3 0.13	433.0 17.05	427.0 16.81	2.00 0.08	3.00 0.12	2060	1160	0.2033	6.14 13.55

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
(7) Compound radius on inner race. Details on drawing for bearing.
(8) Pin-type cage. Please consult The Timken Company.

Continued on next page.

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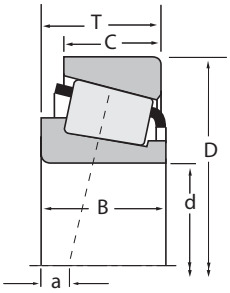
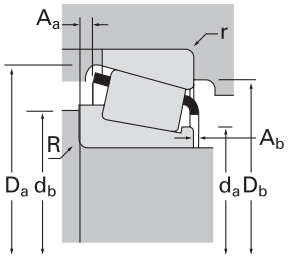
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
384.175 15.1250	546.100 21.5000	104.775 4.1250	1940000 436000	0.33	1.80	502000 113000	286000 64300	1.76	4210000 946000	HM266448	HM266410
384.175 15.1250	546.100 21.5000	104.775 4.1250	2100000 473000	0.33	1.80	545000 123000	311000 69800	1.76	4730000 1060000	HM266449	HM266410
385.762 15.1875	514.350 20.2500	82.550 3.2500	1330000 298000	0.42	1.43	344000 77300	246000 55400	1.40	3160000 710000	LM665949	LM665910
387.248 15.2460	546.100 21.5000	87.312 3.4375	1600000 359000	0.42	1.44	414000 93000	296000 66500	1.40	3940000 886000	M667935	M667911
393.700 15.5000	546.100 21.5000	76.200 3.0000	928000 209000	0.48	1.26	241000 54100	196000 44100	1.23	2010000 451000	EE234154	234215
403.225 15.8750	460.375 18.1250	28.575 1.1250	225000 50600	0.40	1.49	58400 13100	40200 9030	1.45	708000 159000	LL566848	LL566810
406.400 16.0000	508.000 20.0000	61.912 2.4375	842000 189000	0.37	1.64	218000 49100	137000 30700	1.60	2230000 502000	L467549	L467510
406.400 16.0000	546.100 21.5000	76.200 3.0000	928000 209000	0.48	1.26	241000 54100	196000 44100	1.23	2010000 451000	EE234160	234215
406.400 16.0000	546.100 21.5000	87.312 3.4375	1600000 359000	0.42	1.44	414000 93000	296000 66500	1.40	3940000 886000	M667944	M667911
406.400 16.0000	549.275 21.6250	85.725 3.3750	1400000 316000	0.41	1.47	364000 81800	254000 57100	1.43	3130000 704000	LM567949	LM567910
406.400 16.0000	558.800 22.0000	65.088 2.5625	928000 209000	0.48	1.26	241000 54100	196000 44100	1.23	2010000 451000	EE234160	234220
406.400 16.0000	762.000 30.0000	180.975 7.1250	4100000 922000	0.94	0.64	1060000 239000	1710000 384000	0.62	6840000 1540000	H969249	H969210
409.575 16.1250	546.100 21.5000	87.312 3.4375	1440000 325000	0.42	1.44	374000 84200	268000 60100	1.40	3420000 768000	M667948	M667911
415.925 16.3750	590.550 23.2500	114.300 4.5000	2440000 549000	0.33	1.80	633000 142000	360000 81000	1.76	5550000 1250000	M268749	M268710
430.212 16.9375	603.250 23.7500	76.200 3.0000	963000 216000	0.52	1.14	250000 56100	224000 50400	1.11	2190000 491000	EE241693	242375
431.800 17.0000	533.400 21.0000	46.038 1.8125	612000 138000	0.31	1.96	159000 35700	83000 18700	1.91	1520000 342000	80385	80325
431.800 17.0000	552.450 21.7500	44.450 1.7500	614000 138000	0.32	1.88	159000 35800	86900 19500	1.83	1550000 348000	80170	80217
431.800 17.0000	565.150 22.2500	44.450 1.7500	614000 138000	0.32	1.88	159000 35800	86900 19500	1.83	1550000 348000	80170	80222
431.800 17.0000	571.500 22.5000	74.612 2.9375	1210000 271000	0.55	1.10	312000 70200	292000 65700	1.07	2810000 632000	LM869448	LM869410
431.800 17.0000	603.250 23.7500	76.200 3.0000	963000 216000	0.52	1.14	250000 56100	224000 50400	1.11	2190000 491000	EE241701	242375
447.675 17.6250	552.450 21.7500	44.450 1.7500	614000 138000	0.32	1.88	159000 35800	86900 19500	1.83	1550000 348000	80176	80217
447.675 17.6250	552.450 21.7500	44.450 1.7500	606000 136000	0.36	1.65	157000 35300	98200 22100	1.60	1510000 340000	LL469949	LL469910
447.675 17.6250	565.150 22.2500	44.450 1.7500	614000 138000	0.32	1.88	159000 35800	86900 19500	1.83	1550000 348000	80176	80222
450.850 17.7500	603.250 23.7500	85.725 3.3750	1460000 328000	0.45	1.32	379000 85100	294000 66000	1.29	3440000 773000	LM770945	LM770910
457.073 17.9950	573.088 22.5625	74.612 2.9375	1210000 271000	0.40	1.49	313000 70300	215000 48400	1.45	3170000 713000	L570648	L570610
457.200 18.0000	552.450 21.7500	44.450 1.7500	614000 138000	0.32	1.88	159000 35800	86900 19500	1.83	1550000 348000	80180	80217
457.200 18.0000	573.088 22.5625	74.612 2.9375	1210000 271000	0.40	1.49	313000 70300	215000 48400	1.45	3170000 713000	L570649	L570610
457.200 18.0000	596.900 23.5000	76.200 3.0000	1210000 272000	0.40	1.48	313000 70500	217000 48800	1.44	2890000 649000	EE244180	244235

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	9.10 0.36	5.40 0.21	4380	279	0.2116	74.95 165.23
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	8.90 0.35	4.90 0.19	4760	301	0.2178	75.07 165.50
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	9.40 0.37	2.80 0.11	3740	480	0.2155	44.79 98.74
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	527.0 20.74	510.0 20.08	8.10 0.32	2.70 0.11	4640	498	0.2316	63.17 139.27
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	515.5 20.30	504.0 19.84	13.90 0.55	6.10 0.24	2780	448	0.2018	44.70 98.54
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	2.10 0.08	2.00 0.08	2300	1580	0.2225	6.54 14.41
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	6.20 0.24	2.70 0.11	3720	673	0.2038	26.32 58.03
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	515.5 20.30	504.0 19.84	13.90 0.55	6.10 0.24	2780	448	0.2018	40.88 90.12
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	527.0 20.74	510.0 20.08	8.10 0.32	2.20 0.08	4640	498	0.2316	55.01 121.28
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	526.5 20.72	519.0 20.43	12.70 0.50	3.20 0.12	3800	427	0.2143	53.68 118.34
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	13.90 0.55	6.10 0.24	2780	448	0.2018	40.30 88.84
161.925 6.3750	107.950 4.2500	79.2 3.12	12.7 0.50	463.5 18.24	513.0 20.20	12.7 0.50	719.5 28.32	657.0 25.87	25.80 1.02	20.50 0.81	4610	207	0.2945	313.78 691.76
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	527.0 20.74	510.0 20.08	9.40 0.37	3.10 0.12	4200	453	0.2235	53.52 117.98
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	562.5 22.14	549.0 21.61	10.60 0.42	6.00 0.24	5750	421	0.2319	94.63 208.62
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	563.0 22.16	558.0 21.97	18.70 0.74	-1.50 -0.06	3350	551	0.2207	59.19 130.50
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	4.20 0.16	1.20 0.05	3210	801	0.1815	20.48 45.14
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	5.90 0.23	4.40 0.17	3440	868	0.1880	25.03 55.18
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	5.90 0.23	4.40 0.17	3440	868	0.1880	27.80 61.28
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	11.40 0.45	-0.10 0.00	3720	491	0.2326	47.54 104.81
73.025 2.8750	50.800 2.0000	47.0 1.85	6.4 0.25	457.0 17.99	466.0 18.35	6.4 0.25	563.0 22.16	558.0 21.97	18.70 0.74	-1.50 -0.06	3350	551	0.2207	58.58 129.14
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	5.90 0.23	4.40 0.17	3440	868	0.1880	21.22 46.77
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	3.70 0.15	5.00 0.20	3160	930	0.1912	20.72 45.69
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	5.90 0.23	4.40 0.17	3440	868	0.1880	23.98 52.87
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	579.5 22.82	570.0 22.44	13.40 0.53	3.30 0.13	4660	537	0.2366	64.28 141.70
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	7.40 0.29	3.60 0.14	4970	560	0.2321	41.71 91.95
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	5.90 0.23	4.40 0.17	3440	868	0.1880	18.85 41.57
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	7.40 0.29	3.60 0.14	4970	560	0.2321	41.64 91.80
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	570.5 22.47	567.0 22.32	13.80 0.54	4.00 0.16	4410	627	0.2233	49.15 108.35

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

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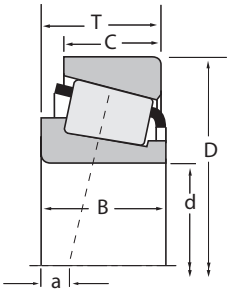
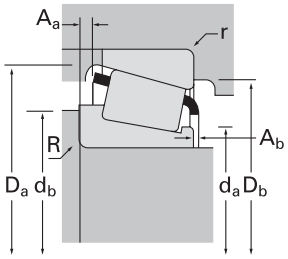
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
457.200 18.0000	603.250 23.7500	85.725 3.3750	1460000 328000	0.45	1.32	379000 85100	294000 66000	1.29	3440000 773000	LM770949	LM770910
457.200 18.0000	615.950 24.2500	85.725 3.3750	1660000 373000	0.33	1.80	430000 96700	245000 55000	1.76	4100000 921000	LM272235	LM272210
457.200 18.0000	730.148 28.7460	120.650 4.7500	2770000 623000	0.39	1.53	718000 161000	483000 109000	1.49	4870000 1100000	EE671801	672873
476.250 18.7500	565.150 22.2500	41.275 1.6250	460000 103000	0.47	1.28	119000 26800	95900 21600	1.24	1400000 315000	LL771948	LL771911
479.425 18.8750	679.450 26.7500	128.588 5.0625	3190000 717000	0.33	1.80	827000 186000	471000 106000	1.76	7400000 1660000	M272749	M272710
482.600 19.0000	615.950 24.2500	53.975 2.1250	643000 145000	0.35	1.72	167000 37500	99700 22400	1.67	1710000 384000	80480	80425
482.600 19.0000	615.950 24.2500	85.725 3.3750	1660000 373000	0.33	1.80	430000 96700	245000 55000	1.76	4100000 921000	LM272249	LM272210
482.600 19.0000	634.873 24.9950	80.962 3.1875	1440000 323000	0.34	1.75	373000 83900	219000 49200	1.70	3660000 822000	EE243190	243250
488.950 19.2500	634.873 24.9950	84.138 3.3125	1590000 357000	0.47	1.27	412000 92700	334000 75000	1.24	3870000 871000	LM772748	LM772710
488.950 19.2500	660.400 26.0000	93.662 3.6875	2030000 455000	0.31	1.95	525000 118000	276000 62000	1.90	4590000 1030000	EE640192	640260
498.323 19.6190	634.873 24.9950	80.962 3.1875	1440000 323000	0.34	1.75	373000 83900	219000 49200	1.70	3660000 822000	EE243197	243250
498.323 19.6190	634.873 24.9950	80.962 3.1875	1570000 352000	0.34	1.75	406000 91200	238000 53500	1.70	4130000 927000	EE243198	243250
498.475 19.6250	634.873 24.9950	80.962 3.1875	1570000 352000	0.34	1.75	406000 91200	238000 53500	1.70	4130000 927000	EE243195	243250
498.475 19.6250	634.873 24.9950	80.962 3.1875	1440000 323000	0.34	1.75	373000 83900	219000 49200	1.70	3660000 822000	EE243196	243250
508.000 20.0000	838.200 33.0000	146.050 5.7500	3540000 796000	0.48	1.25	918000 206000	754000 169000	1.22	6530000 1470000	EE426200	426330
533.400 21.0000	635.000 25.0000	50.800 2.0000	762000 171000	0.41	1.48	198000 44400	137000 30900	1.44	2040000 459000	LL575343	LL575310
536.575 21.1250	761.873 29.9950	146.050 5.7500	3930000 884000	0.33	1.80	1020000 229000	580000 130000	1.76	9250000 2080000	M276449	M276410
539.750 21.2500	635.000 25.0000	50.800 2.0000	762000 171000	0.41	1.48	198000 44400	137000 30900	1.44	2040000 459000	LL575349	LL575310
549.097 21.6180	692.150 27.2500	80.962 3.1875	1490000 335000	0.38	1.59	386000 86800	249000 55900	1.55	3970000 892000	L476548	L476510
549.275 21.6250	692.150 27.2500	80.962 3.1875	1490000 335000	0.38	1.59	386000 86800	249000 55900	1.55	3970000 892000	L476549	L476510
558.800 22.0000	736.600 29.0000	104.775 4.1250	2520000 567000	0.35	1.73	653000 147000	387000 87100	1.69	6370000 1430000	LM377449	LM377410
571.500 22.5000	812.800 32.0000	155.575 6.1250	4440000 999000	0.33	1.80	1150000 259000	656000 147000	1.76	10600000 2370000	M278749	M278710
584.200 23.0000	685.800 27.0000	49.212 1.9375	783000 176000	0.44	1.37	203000 45600	152000 34100	1.34	2280000 513000	LL778149	LL778110
596.900 23.5000	685.800 27.0000	31.750 1.2500	337000 75800	0.53	1.14	87400 19600	78800 17700	1.11	963000 217000	680235	680270
602.945 23.7380	787.400 31.0000	93.662 3.6875	2230000 502000	0.37	1.62	579000 130000	367000 82600	1.58	5620000 1260000	EE649237	649310
609.346 23.9900	787.400 31.0000	93.662 3.6875	2230000 502000	0.37	1.62	579000 130000	367000 82600	1.58	5620000 1260000	EE649238	649310
609.396 23.9920	762.000 30.0000	95.250 3.7500	1940000 437000	0.49	1.23	503000 113000	420000 94400	1.20	5470000 1230000	L879946	L879910
609.600 24.0000	762.000 30.0000	95.250 3.7500	1940000 437000	0.49	1.23	503000 113000	420000 94400	1.20	5470000 1230000	L879947	L879910

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)													Weight kg (lbs.)
Bearing			Shaft			Housing			Cage		Factors			
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	579.5 22.82	570.0 22.44	13.40 0.53	3.30 0.13	4660	537	0.2366	61.29 135.12
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	596.5 23.48	585.0 23.03	8.10 0.32	4.00 0.16	6040	665	0.2333	71.13 156.81
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	680.5 26.79	675.0 26.57	19.80 0.78	10.20 0.40	4970	343	0.2315	163.93 361.40
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	3.50 0.14	1.30 0.05	3790	1240	0.2189	19.28 42.51
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	9.90 0.39	7.60 0.30	8110	508	0.2598	141.63 312.24
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	6.20 0.24	2.90 0.12	4150	1070	0.2056	34.81 76.74
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	596.5 23.48	585.0 23.03	8.10 0.32	4.00 0.16	6040	665	0.2333	58.43 128.81
80.962 3.1875	63.500 2.5000	19.0 0.75	6.4 0.25	510.0 20.08	516.0 20.31	3.3 0.13	609.5 24.00	603.0 23.74	8.10 0.32	2.50 0.10	6060	726	0.2350	66.08 145.67
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	613.5 24.15	600.0 23.62	10.30 0.40	2.90 0.12	5450	602	0.2525	64.08 141.27
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	10.50 0.41	4.60 0.18	6320	601	0.2310	83.41 183.89
80.962 3.1875	63.500 2.5000	19.0 0.75	6.4 0.25	522.0 20.55	528.0 20.79	3.3 0.13	609.5 24.00	603.0 23.74	8.10 0.32	2.50 0.10	6060	726	0.2350	58.40 128.74
80.962 3.1875	63.500 2.5000	19.0 0.75	6.4 0.25	522.0 20.55	528.0 20.79	3.3 0.13	609.5 24.00	603.0 23.74	9.20 0.36	1.60 0.06	6590	788	0.2422	57.63 127.06
80.962 3.1875	63.500 2.5000	19.0 0.75	6.4 0.25	522.0 20.55	528.0 20.79	3.3 0.13	609.5 24.00	603.0 23.74	9.20 0.36	1.60 0.06	6590	788	0.2422	57.56 126.89
80.962 3.1875	63.500 2.5000	19.0 0.75	6.4 0.25	522.0 20.55	528.0 20.79	3.3 0.13	609.5 24.00	603.0 23.74	8.10 0.32	2.50 0.10	6060	726	0.2350	58.32 128.58
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	768.0 30.23	759.0 29.88	21.50 0.85	8.30 0.33	6650	435	0.2722	276.10 608.68
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	4.60 0.18	2.80 0.11	4810	1200	0.2270	28.27 62.33
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	725.5 28.57	711.0 27.99	13.30 0.52	5.50 0.22	10600	614	0.2839	202.61 446.67
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	4.60 0.18	2.80 0.11	4810	1200	0.2270	26.14 57.62
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	8.60 0.34	2.60 0.10	7260	889	0.2567	67.26 148.29
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	8.60 0.34	2.60 0.10	7260	889	0.2567	67.17 148.08
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	9.00 0.35	5.50 0.22	9310	907	0.2735	113.21 249.58
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	773.5 30.46	756.0 29.76	15.10 0.59	5.80 0.23	12400	669	0.2990	244.54 539.12
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	5.10 0.20	2.60 0.10	5980	1580	0.2494	28.83 63.57
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	1.80 0.07	1.50 -0.06	3740	1810	0.2225	16.76 36.95
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	755.5 29.74	747.0 29.41	11.20 0.44	6.20 0.24	9380	929	0.2790	110.72 244.10
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	755.5 29.74	747.0 29.41	11.20 0.44	6.20 0.24	9380	929	0.2790	106.26 234.25
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	11.70 0.46	5.10 0.20	9580	1010	0.3063	92.92 204.86
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	11.70 0.46	5.10 0.20	9580	1010	0.3063	92.78 204.55

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

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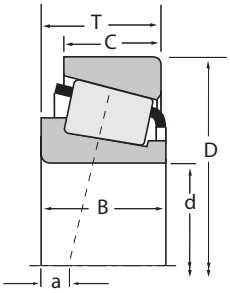
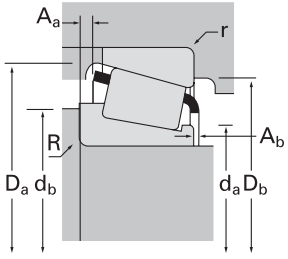
SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)		Factors (5)	Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
609.600 24.0000	774.700 30.5000	85.725 3.3750	1980000 444000	0.40	1.49	512000 115000	353000 79300	1.45	4620000 1040000	L580049	L580010
609.600 24.0000	787.400 31.0000	93.662 3.6875	2230000 502000	0.37	1.62	579000 130000	367000 82600	1.58	5620000 1260000	EE649240	649310
615.950 24.2500	708.025 27.8750	41.275 1.6250	593000 133000	0.39	1.55	154000 34500	102000 22900	1.51	1840000 414000	LL580049	LL580010
635.000 25.0000	933.450 36.7500	179.388 7.0625	5750000 1290000	0.33	1.80	1490000 335000	848000 191000	1.76	13900000 3120000	M281635	M281610
660.235 25.9935	812.800 32.0000	95.250 3.7500	2170000 487000	0.33	1.80	561000 126000	320000 71900	1.76	5940000 1340000	L281146	L281110
660.400 26.0000	812.800 32.0000	95.250 3.7500	2170000 487000	0.33	1.80	561000 126000	320000 71900	1.76	5940000 1340000	L281148	L281110
660.400 26.0000	854.075 33.6250	85.725 3.3750	1920000 431000	0.35	1.71	496000 112000	299000 67100	1.66	4620000 1040000	EE749260	749336
673.100 26.5000	793.750 31.2500	66.675 2.6250	1090000 244000	0.36	1.67	282000 63300	174000 39000	1.62	3140000 707000	LL481448	LL481411
679.450 26.7500	901.700 35.5000	142.875 5.6250	4290000 964000	0.33	1.80	1110000 250000	633000 142000	1.76	11000000 2480000	LM281849	LM281810
682.625 26.8750	965.200 38.0000	185.738 7.3125	6120000 1380000	0.33	1.80	1590000 357000	903000 203000	1.76	14900000 3340000	M282249	M282210
759.925 29.9183	889.000 35.0000	88.900 3.5000	2010000 452000	0.31	1.97	522000 117000	272000 61300	1.91	6230000 1400000	L183448	L183410
762.000 30.0000	889.000 35.0000	88.900 3.5000	2010000 452000	0.31	1.97	522000 117000	272000 61300	1.91	6230000 1400000	L183449	L183410
801.688 31.5625	914.400 36.0000	58.738 2.3125	1060000 239000	0.40	1.51	276000 62000	187000 42100	1.47	3460000 778000	LL584449	LL584410
838.200 33.0000	1041.400 41.0000	93.662 3.6875	2160000 487000	0.44	1.37	561000 126000	420000 94500	1.33	5930000 1330000	EE763330	763410
1092.200 43.0000	1320.800 52.0000	95.250 3.7500	2280000 512000	0.57	1.05	591000 133000	577000 130000	1.02	6990000 1570000	EE776430	776520

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)													Weight kg (lbs.)
Bearing			Shaft			Housing			Cage		Factors			
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	-8.90 -0.35	3.80 0.15	7660	933	0.2671	82.53 181.94
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	755.5 29.74	747.0 29.41	11.20 0.44	6.20 0.24	9380	929	0.2790	106.08 233.86
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	3.10 0.12	2.80 0.11	6270	2020	0.2418	23.23 51.21
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	17.90 0.71	9.60 0.38	17300	805	0.3335	401.62 885.40
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	788.5 31.04	777.0 30.59	9.00 0.35	4.50 0.18	11700	915	0.2888	98.70 217.60
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	788.5 31.04	777.0 30.59	9.00 0.35	4.50 0.18	11700	915	0.2888	98.58 217.32
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	11.70 0.46	2.30 0.09	9220	1360	0.2707	108.93 240.16
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	4.10 0.16	1.60 0.06	8760	1650	0.2659	51.77 114.12
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	866.5 34.12	852.0 33.54	12.80 0.50	7.40 0.29	16300	961	0.3252	235.16 518.42
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	919.5 36.21	900.0 35.43	19.20 0.76	10.50 0.41	18800	842	0.3426	408.57 900.73
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	4.60 0.18	6.00 0.24	16100	2020	0.3102	89.99 198.38
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	4.60 0.18	6.00 0.24	16100	2020	0.3102	88.26 194.58
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	7.90 0.31	3.10 0.12	12400	2700	0.3058	52.69 116.16
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	1001.0 39.41	996.0 39.21	16.10 0.63	4.80 0.19	14700	1740	0.3374	154.58 340.78
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	15.60 0.61	4.90 0.19	23200	2940	0.4231	228.66 504.09

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

If you need a product other than those shown here, please contact your Timken representative.

NOTES

TSF

TAPERED ROLLER BEARINGS

- Flange of the single-row type bearing is used for axial location in a housing.
- Through-boring of the housing results in accurately aligned seats.
- Flange is not normally clamped in position.
- To place an order or obtain a quotation, specify the inner- and outer-race part numbers.

Example: inner race — outer race

37425 - 37625-B

- Flanged outer race can be used with any single inner race from the same 'series.'
- The most commonly specified inner race part numbers are shown in the tables provided.
- Please consult a Timken representative for more information.

B

BEARING DATA TABLES

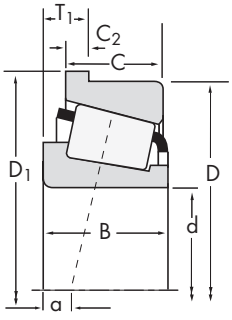
In the following bearing data tables, part numbers are listed in ascending order of bore, outside diameter and width.

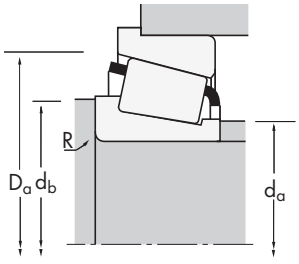
Bearing ratings shown in tables are based on environmental reference conditions. Effects of known operating conditions on bearing performance in an application should be investigated before final bearing selection is made.

Approximate mass is listed for every part number. For weight-critical applications or exact freight cost evaluation purposes, a more accurate value should be obtained from your Timken representative.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
7.938 0.3125	31.991 1.2595	4.458 0.1755	10600 2380	0.41	1.48	2750 618	1910 429	1.44	9230 2070	A2031	A2126-B
9.525 0.3750	31.991 1.2595	4.458 0.1755	10600 2380	0.41	1.48	2750 618	1910 429	1.44	9230 2070	A2037	A2126-B
11.987 0.4719	31.991 1.2595	4.458 0.1755	10600 2380	0.41	1.48	2750 618	1910 429	1.44	9230 2070	A2047	A2126-B
12.700 0.5000	34.988 1.3775	4.630 0.1823	12200 2740	0.45	1.32	3160 710	2450 550	1.29	11500 2580	A4050	A4138-B
14.987 0.5901	34.988 1.3775	4.630 0.1823	12200 2740	0.45	1.32	3160 710	2450 550	1.29	11500 2580	A4059	A4138-B
15.875 0.6250	39.992 1.5745	4.851 0.1910	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6062	A6157-B
15.875 0.6250	42.862 1.6875	6.350 0.2500	29100 6540	0.33	1.81	7550 1700	4280 962	1.76	29200 6560	17580	17520-B
15.875 0.6250	47.000 1.8504	6.038 0.2377	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05062	05185-B
16.993 0.6690	39.992 1.5745	4.851 0.1910	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6067	A6157-B
16.993 0.6690	47.000 1.8504	6.038 0.2377	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05066	05185-B
19.050 0.7500	39.992 1.5745	4.851 0.1910	12400 2790	0.53	1.14	3220 724	2900 653	1.11	12300 2770	A6075	A6157-B
19.050 0.7500	47.000 1.8504	6.038 0.2377	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05075	05185-B
19.050 0.7500	47.000 1.8504	14.381 0.5662	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05075X	05185-B
19.050 0.7500	49.225 1.9380	6.998 0.2755	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09067	09195AB
19.050 0.7500	53.975 2.1250	10.317 0.4062	43000 9670	0.59	1.02	11200 2510	11300 2540	0.99	42500 9560	21075	21212-B
19.050 0.7500	56.896 2.2400	7.455 0.2935	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1775	1729-B
19.987 0.7869	47.000 1.8504	6.048 0.2381	24700 5560	0.36	1.68	6420 1440	3920 881	1.64	25400 5720	05079	05185-B
20.000 0.7874	51.994 2.0470	5.080 0.2000	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07079	07204-B
20.625 0.8120	49.225 1.9380	8.809 0.3468	39700 8920	0.27	2.26	10300 2310	4680 1050	2.20	40500 9100	09081	09195AB
20.638 0.8125	61.912 2.4375	9.525 0.3750	82000 18400	0.28	2.13	21300 4780	10300 2310	2.07	89800 20200	3660	3620-B
22.225 0.8750	50.005 1.9687	6.749 0.2657	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07087	07196-B
22.225 0.8750	50.800 2.0000	5.080 0.2000	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07087X	07210XB
22.225 0.8750	51.994 2.0470	5.080 0.2000	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07087	07204-B
22.225 0.8750	56.896 2.2400	7.463 0.2938	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1755	1729-B
22.225 0.8750	60.325 2.3750	7.938 0.3125	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1975	1931-B
22.225 0.8750	66.421 2.6150	8.725 0.3435	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2684	2631-B
23.812 0.9375	51.994 2.0470	5.080 0.2000	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07093	07204-B
23.812 0.9375	56.896 2.2400	7.463 0.2938	42000 9450	0.31	1.95	10900 2450	5740 1290	1.90	45300 10200	1779	1729-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	3.17	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	3.17	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	3.17	0.0308	0.05 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	4.12	0.0355	0.06 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	4.12	0.0355	0.05 0.12
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	5.64	0.0404	0.08 0.17
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	4.53	0.0423	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	21.0 0.83	23.5 0.93	44.5 1.75	5.8	5.55	0.0448	0.14 0.31
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	5.64	0.0404	0.08 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	5.55	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	1.0 0.04	23.0 0.91	24.0 0.94	38.0 1.50	2.9	5.64	0.0404	0.07 0.16
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	5.55	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	25.5 1.00	44.5 1.75	5.8	5.55	0.0448	0.13 0.29
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	4.05	0.0452	0.18 0.40
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	3.55	0.0558	0.26 0.57
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	5.39	0.0521	0.28 0.62
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	5.55	0.0448	0.13 0.28
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	7.07	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	25.5 1.00	27.5 1.08	46.5 1.83	8	4.05	0.0452	0.18 0.40
30.416 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	6.38	0.0592	0.48 1.07
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	7.07	0.0509	0.13 0.30
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	7.07	0.0509	0.15 0.34
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	7.07	0.0509	0.16 0.36
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	5.39	0.0521	0.26 0.58
19.355 0.7620	15.875 0.6250	-5.8 -0.23	64.186 2.5270	3.967 0.1562	0.8 0.03	28.0 1.10	29.0 1.14	57.0 2.24	12.5	6.33	0.0565	0.31 0.68
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	0.0598	0.47 1.04
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	7.07	0.0509	0.16 0.34
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	5.39	0.0521	0.26 0.56

[4] These maximum fillet radii will be cleared by the bearing corners.

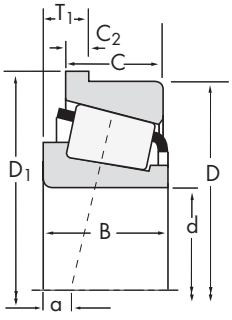
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

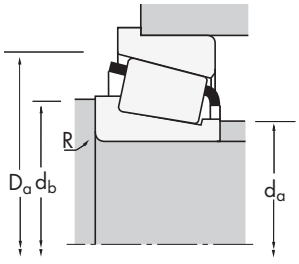
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.)							Part Number	
			Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static		
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
23.812 0.9375	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26093	26283-B
24.981 0.9835	50.005 1.9687	6.749 0.2657	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07098	07196-B
24.981 0.9835	51.994 2.0470	5.080 0.2000	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07098	07204-B
25.400 1.0000	50.800 2.0000	5.080 0.2000	27000 6060	0.40	1.49	6990 1570	4810 1080	1.45	29600 6650	07100-SA	07210XB
25.400 1.0000	57.150 2.2500	7.938 0.3125	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15578	15520-B
25.400 1.0000	58.738 2.3125	7.938 0.3125	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1986	1932-B
25.400 1.0000	60.325 2.3750	7.938 0.3125	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1986	1931-B
25.400 1.0000	65.088 2.5625	10.320 0.4063	50600 11400	0.73	0.82	13100 2950	16400 3690	0.80	55800 12500	23100	23256-B
25.400 1.0000	66.421 2.6150	8.725 0.3435	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2687	2631-B
25.400 1.0000	68.262 2.6875	8.730 0.3437	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02473	02420-B
25.400 1.0000	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26100	26283-B
25.400 1.0000	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3189	3120-B
25.400 1.0000	72.626 2.8593	12.700 0.5000	64600 14500	0.60	1.00	16700 3760	17300 3880	0.97	64100 14400	41100	41286-B
26.975 1.0620	60.325 2.3750	7.938 0.3125	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1987	1931-B
26.987 1.0625	66.421 2.6150	8.725 0.3435	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2688	2631-B
26.987 1.0625	72.626 2.8593	12.700 0.5000	64600 14500	0.60	1.00	16700 3760	17300 3880	0.97	64100 14400	41106	41286-B
28.575 1.1250	57.150 2.2500	8.166 0.3215	42600 9570	0.35	1.73	11000 2480	6550 1470	1.69	50100 11300	15590	15520-B
28.575 1.1250	60.325 2.3750	7.938 0.3125	44800 10100	0.33	1.82	11600 2610	6560 1470	1.77	50200 11300	1985	1931-B
28.575 1.1250	66.421 2.6150	8.725 0.3435	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2689	2631-B
28.575 1.1250	69.850 2.7500	8.733 0.3438	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2578	2523-B
28.575 1.1250	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26112	26283-B
28.575 1.1250	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3192	3120-B
28.575 1.1250	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3198	3120-B
28.575 1.1250	72.626 2.8593	12.700 0.5000	64600 14500	0.60	1.00	16700 3760	17300 3880	0.97	64100 14400	41125	41286-B
29.367 1.1562	66.421 2.6150	8.725 0.3435	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2690	2631-B
29.367 1.1562	66.421 2.6150	8.725 0.3435	71000 16000	0.25	2.36	18400 4140	8000 1800	2.30	81700 18400	2691	2631-B
29.987 1.1806	62.000 2.4409	5.270 0.2075	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17118	17244-B
29.987 1.1806	68.262 2.6875	8.730 0.3437	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02474A	02420-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	0.44 0.96
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	7.07	0.0509	0.12 0.27
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	7.07	0.0509	0.15 0.33
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	7.07	0.0509	0.14 0.30
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
19.355 0.7620	15.080 0.5937	-5.8 -0.23	62.598 2.4645	3.967 0.1562	1.3 0.05	30.5 1.20	32.5 1.28	56.0 2.20	12.5	6.33	0.0565	0.27 0.59
19.355 0.7620	15.875 0.6250	-5.8 -0.23	64.186 2.5270	3.967 0.1562	1.3 0.05	30.5 1.20	32.5 1.28	57.0 2.24	12.5	6.33	0.0565	0.29 0.64
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	6.57	0.0700	0.38 0.83
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	0.0598	0.45 0.99
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	8.48	0.0681	0.48 1.06
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	0.43 0.94
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	8.76	0.0697	0.67 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	5.83	0.0686	0.52 1.16
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	6.33	0.0565	0.28 0.62
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	0.0598	0.44 0.96
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	5.83	0.0686	0.51 1.13
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	0.21 0.47
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	6.33	0.0565	0.27 0.59
25.433 1.0013	19.050 0.7500	-9.4 -0.37	70.282 2.7670	3.962 0.1560	1.3 0.05	34.0 1.34	36.0 1.42	62.0 2.44	19.3	8	0.0598	0.42 0.93
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	9.63	0.0656	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	0.41 0.90
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	8.76	0.0697	0.64 1.41
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	8.76	0.0697	0.64 1.42
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	5.83	0.0686	0.49 1.09
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	0.0598	0.41 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	0.0598	0.42 0.92
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	7.49	0.0579	0.24 0.53
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	8.48	0.0681	0.45 0.99

(4) These maximum fillet radii will be cleared by the bearing corners.

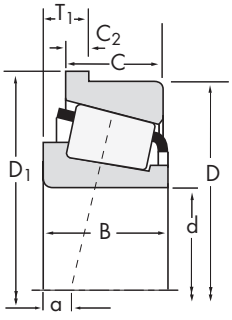
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

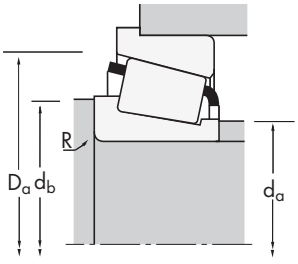
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
29.987 1.1806	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26118	26283-B
30.000 1.1811	69.012 2.7170	7.932 0.3123	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14117A	14276-B
30.000 1.1811	69.012 2.7170	7.932 0.3123	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14118	14276-B
30.000 1.1811	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26118-S	26283-B
30.000 1.1811	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3190	3120-B
30.162 1.1875	62.000 2.4409	5.270 0.2075	40000 9000	0.38	1.57	10400 2330	6800 1530	1.53	44100 9910	17119	17244-B
30.162 1.1875	64.292 2.5312	8.763 0.3450	55700 12500	0.55	1.10	14500 3250	13500 3040	1.07	71700 16100	M86649	M86611-B
30.162 1.1875	69.850 2.7500	8.733 0.3438	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2558	2523-B
30.162 1.1875	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3187	3120-B
30.162 1.1875	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3191	3120-B
30.162 1.1875	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3474	3420-B
30.162 1.1875	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	334	332-B
30.162 1.1875	80.000 3.1496	9.100 0.3583	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28118	28315-B
30.213 1.1895	63.500 2.5000	8.730 0.3437	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15118	15250-B
31.750 1.2500	58.738 2.3125	6.736 0.2652	29300 6600	0.47	1.27	7610 1710	6170 1390	1.23	35000 7880	08125	08231-B
31.750 1.2500	58.877 2.3180	6.833 0.2690	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67048	LM67010-BA
31.750 1.2500	59.131 2.3280	6.833 0.2690	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67047	LM67010-B
31.750 1.2500	59.131 2.3280	15.875 0.6250	36500 8210	0.41	1.46	9460 2130	6680 1500	1.42	44600 10000	LM67048	LM67010-B
31.750 1.2500	63.500 2.5000	7.841 0.3087	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15123	15250-B
31.750 1.2500	63.500 2.5000	8.730 0.3437	46800 10500	0.35	1.71	12100 2730	7280 1640	1.67	53900 12100	15125	15250-B
31.750 1.2500	68.262 2.6875	8.730 0.3437	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02475	02420-B
31.750 1.2500	68.262 2.6875	8.730 0.3437	59100 13300	0.42	1.44	15300 3440	10900 2450	1.40	70200 15800	02476	02420-B
31.750 1.2500	69.012 2.7170	7.932 0.3123	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14125A	14276-B
31.750 1.2500	69.850 2.7500	8.733 0.3438	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2580	2523-B
31.750 1.2500	69.850 2.7500	8.733 0.3438	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2582	2523-B
31.750 1.2500	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3188	3120-B
31.750 1.2500	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3193	3120-B
31.750 1.2500	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3199	3120-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	0.40 0.88
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	43.0 1.69	65.0 2.56	18	9.4	0.0668	0.37 0.82
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	9.4	0.0668	0.37 0.82
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	0.40 0.88
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	8.76	0.0697	0.62 1.37
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	7.49	0.0579	0.24 0.53
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	41.0 1.61	63.0 2.48	16.8	9.36	0.0736	0.36 0.79
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	9.63	0.0656	0.48 1.05
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	8.76	0.0697	0.63 1.38
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	8.76	0.0697	0.62 1.37
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
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	0.0676	0.60 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	0.55 1.21
20.638 0.8125	15.875 0.6250	-5.8 -0.23	67.366 2.6522	3.967 0.1562	3.5 0.14	35.5 1.40	41.5 1.63	60.0 2.36	14.6	7.58	0.0606	0.31 0.67
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
16.764 0.6600	11.811 0.4650	-3.0 -0.12	61.773 2.4320	2.769 0.1090	3.5 0.14	36.0 1.42	42.5 1.67	57.0 2.24	12.8	9.93	0.0612	0.18 0.40
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	9.93	0.0612	0.19 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	9.93	0.0612	0.18 0.39
19.050 0.7500	15.875 0.6250	-4.8 -0.19	67.366 2.6522	3.967 0.1562	0.0 0.00	36.5 1.44	42.5 1.67	60.0 2.36	14.6	7.58	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	7.58	0.0606	0.29 0.65
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	8.48	0.0681	0.43 0.94
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	8.48	0.0681	0.43 0.95
19.583 0.7710	15.875 0.6250	-4.3 -0.17	72.873 2.8690	3.962 0.1560	3.5 0.14	38.5 1.52	44.5 1.75	65.0 2.56	18	9.4	0.0668	0.36 0.79
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	9.63	0.0656	0.47 1.03
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	9.63	0.0656	0.46 1.01
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	8.76	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	8.76	0.0697	0.60 1.33
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	8.76	0.0697	0.61 1.34

(4) These maximum fillet radii will be cleared by the bearing corners.

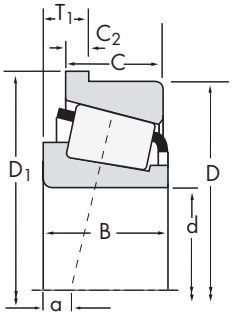
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

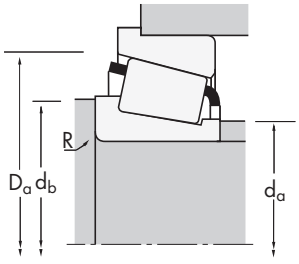
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
31.750 1.2500	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3476	3420-B
31.750 1.2500	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	346	332-B
32.004 1.2600	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26126	26283-B
33.338 1.3125	69.012 2.7170	7.938 0.3125	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14130	14276-B
33.338 1.3125	69.012 2.7170	7.938 0.3125	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14131	14276-B
33.338 1.3125	69.850 2.7500	8.725 0.3435	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2581	2523-B
33.338 1.3125	69.850 2.7500	8.733 0.3438	77500 17400	0.27	2.19	20100 4520	9410 2120	2.14	94400 21200	2585	2523-B
33.338 1.3125	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26131	26283-B
33.338 1.3125	72.000 2.8346	7.087 0.2790	54400 12200	0.36	1.67	14100 3170	8700 1960	1.62	60100 13500	26132	26283-B
33.338 1.3125	72.238 2.8440	8.733 0.3438	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16131	16284-B
33.338 1.3125	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3196	3120-B
33.338 1.3125	72.626 2.8593	11.112 0.4375	87700 19700	0.33	1.80	22700 5110	13000 2910	1.76	102000 22800	3197	3120-B
33.338 1.3125	76.200 3.0000	11.112 0.4375	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89443	HM89410-B
33.338 1.3125	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3477	3420-B
33.338 1.3125	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3483	3420-B
33.338 1.3125	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	335-S	332-B
34.925 1.3750	69.012 2.7170	7.938 0.3125	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14137A	14276-B
34.925 1.3750	69.012 2.7170	7.938 0.3125	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14138A	14276-B
34.925 1.3750	72.238 2.8440	8.733 0.3438	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16137	16284-B
34.925 1.3750	76.200 3.0000	10.320 0.4063	87700 19700	0.40	1.49	22700 5110	15600 3520	1.45	107000 24100	31593	31520-B
34.925 1.3750	76.200 3.0000	11.112 0.4375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2786	2720-B
34.925 1.3750	76.200 3.0000	11.112 0.4375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2793	2720-B
34.925 1.3750	76.200 3.0000	11.112 0.4375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2796	2720-B
34.925 1.3750	76.200 3.0000	11.112 0.4375	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89446	HM89410-B
34.925 1.3750	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3478	3420-B
34.925 1.3750	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3482	3420-B
34.925 1.3750	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	335	332-B
34.925 1.3750	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	343	332-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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
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	0.0676	0.58 1.29
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
19.583 0.7710	15.875 0.6250	-4.3 -0.17	72.873 2.8690	3.962 0.1560	3.5 0.14	39.5 1.56	46.0 1.81	65.0 2.56	18	9.4	0.0668	0.35 0.77
19.583 0.7710	15.875 0.6250	-4.3 -0.17	72.873 2.8690	3.962 0.1560	0.8 0.03	39.5 1.56	40.5 1.59	65.0 2.56	18	9.4	0.0668	0.35 0.77
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	9.63	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	9.63	0.0656	0.44 0.98
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	0.37 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
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	10.6	0.0707	0.41 0.91
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	8.76	0.0697	0.58 1.29
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	8.76	0.0697	0.59 1.30
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	13.1	0.0883	0.68 1.49
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
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	0.0676	0.57 1.26
19.583 0.7710	15.875 0.6250	-4.3 -0.17	72.873 2.8690	3.962 0.1560	1.5 0.06	41.0 1.61	43.0 1.69	65.0 2.56	18	9.4	0.0668	0.34 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	41.0 1.61	47.0 1.85	65.0 2.56	18	9.4	0.0668	0.34 0.74
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	10.6	0.0707	0.40 0.88
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	9.08	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	5.0 0.20	41.0 1.61	51.0 2.01	73.0 2.87	28.7	12.2	0.0725	0.57 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
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	0.58 1.28
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	13.1	0.0883	0.66 1.45
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 1.60
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
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	0.0676	0.55 1.22
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	0.0676	0.55 1.21

[4] These maximum fillet radii will be cleared by the bearing corners.

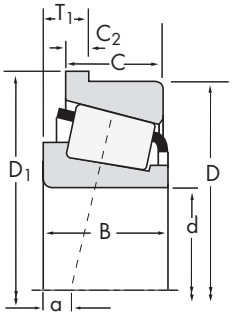
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

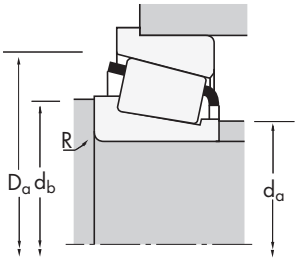
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
34.925 1.3750	80.000 3.1496	9.100 0.3583	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28137	28315-B
34.925 1.3750	80.167 3.1562	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3379	3320-B
34.925 1.3750	81.755 3.2187	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3379	3329-B
34.925 1.3750	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3581	3525-B
34.925 1.3750	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	449	432AB
34.925 1.3750	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	449	432-B
34.975 1.3770	69.012 2.7170	7.932 0.3123	50600 11400	0.38	1.57	13100 2950	8570 1930	1.53	61700 13900	14139	14276-B
34.976 1.3770	72.000 2.8346	6.287 0.2475	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138	19283-B
34.975 1.3770	80.000 3.1496	9.100 0.3583	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28138	28315-B
35.000 1.3780	68.262 2.6875	7.539 0.2968	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138X	19268-B
35.000 1.3780	72.000 2.8346	6.287 0.2475	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19138X	19283-B
35.000 1.3780	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3480	3420-B
35.000 1.3780	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	339	332-B
35.000 1.3780	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	441	432AB
35.000 1.3780	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	441	432-B
36.512 1.4375	68.262 2.6875	7.539 0.2968	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19143	19268-B
36.512 1.4375	72.000 2.8346	6.287 0.2475	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19143	19283-B
36.512 1.4375	72.238 2.8440	8.733 0.3438	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16143	16284-B
36.512 1.4375	76.200 3.0000	11.112 0.4375	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89448	HM89410-B
36.512 1.4375	76.200 3.0000	11.112 0.4375	86200 19400	0.55	1.10	22400 5030	20900 4700	1.07	119000 26700	HM89449	HM89410-B
36.512 1.4375	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3479	3420-B
36.512 1.4375	88.500 3.4843	13.492 0.5312	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44143	44348-B
38.100 1.5000	65.088 2.5625	5.944 0.2340	25100 5650	0.35	1.73	6520 1470	3860 869	1.69	33000 7430	13889	13836-B
38.100 1.5000	68.262 2.6875	7.539 0.2968	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19150	19268-B
38.100 1.5000	72.000 2.8346	6.287 0.2475	46900 10600	0.44	1.35	12200 2740	9260 2080	1.31	57800 13000	19150	19283-B
38.100 1.5000	72.238 2.8440	8.733 0.3438	52400 11800	0.40	1.49	13600 3060	9350 2100	1.45	65800 14800	16150	16284-B
38.100 1.5000	76.200 3.0000	11.112 0.4375	80400 18100	0.30	1.98	20800 4690	10800 2430	1.93	102000 23000	2788	2720-B
38.100 1.5000	79.375 3.1250	10.320 0.4063	96900 21800	0.37	1.64	25100 5650	15700 3530	1.60	119000 26800	3490	3420-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a [3]	D_1	C_2	R [4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	0.51 1.12
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	0.78 1.72
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 1.75
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	10.5	0.0808	0.94 2.07
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	1.04 2.28
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
19.583 0.7710	15.875 0.6250	-4.3 -0.17	72.873 2.8690	3.962 0.1560	1.3 0.05	41.0 1.61	42.5 1.67	65.0 2.56	18	9.4	0.0668	0.34 0.74
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
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	0.51 1.12
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	0.27 0.60
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
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
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	0.0676	0.55 1.22
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	1.03 2.27
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
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	0.26 0.58
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
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	10.6	0.0707	0.38 0.84
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	13.1	0.0883	0.64 1.41
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	13.1	0.0883	0.64 1.41
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
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	8.71	0.0899	0.76 1.68
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	0.17 0.37
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	0.25 0.55
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
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	10.6	0.0707	0.37 0.81
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	0.54 1.20
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

[4] These maximum fillet radii will be cleared by the bearing corners.

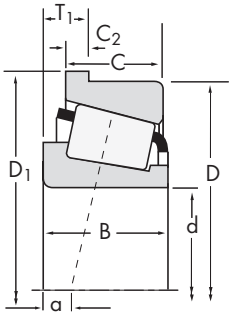
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

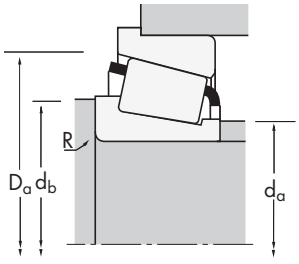
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
38.100 1.5000	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	347	332-B
38.100 1.5000	80.000 3.1496	9.100 0.3583	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28150	28315-B
38.100 1.5000	80.000 3.1496	9.100 0.3583	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28151	28315-B
38.100 1.5000	80.167 3.1562	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3381	3320-B
38.100 1.5000	80.167 3.1562	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3387	3320-B
38.100 1.5000	81.755 3.2187	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3381	3329-B
38.100 1.5000	81.755 3.2187	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3387	3329-B
38.100 1.5000	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3580	3525-B
38.100 1.5000	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3583	3525-B
38.100 1.5000	88.500 3.4843	13.492 0.5312	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44150	44348-B
38.100 1.5000	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	440	432AB
38.100 1.5000	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	444	432AB
38.100 1.5000	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	440	432-B
38.100 1.5000	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	444	432-B
38.100 1.5000	111.125 4.3750	14.288 0.5625	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	542	532-B
38.481 1.5150	65.088 2.5625	5.944 0.2340	25100 5650	0.35	1.73	6520 1470	3860 869	1.69	33000 7430	13890	13836-B
39.688 1.5625	80.167 3.1562	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3382	3320-B
39.688 1.5625	80.167 3.1562	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3386	3320-B
39.688 1.5625	81.755 3.2187	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3382	3329-B
39.688 1.5625	81.755 3.2187	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3386	3329-B
39.688 1.5625	88.500 3.4843	13.492 0.5312	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44156	44348-B
39.688 1.5625	88.500 3.4843	13.492 0.5312	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44158	44348-B
39.688 1.5625	120.650 4.7500	16.667 0.6562	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	620	612-B
40.000 1.5748	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	344A	332-B
40.000 1.5748	80.000 3.1496	9.100 0.3583	58800 13200	0.40	1.49	15200 3430	10500 2360	1.45	68900 15500	28158	28315-B
40.000 1.5748	85.725 3.3750	11.112 0.4375	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3879	3820-B
40.000 1.5748	88.500 3.4843	13.492 0.5312	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44157	44348-B
40.000 1.5748	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	442-S	432AB

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a [3]	D_1	C_2	R [4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	0.0676	0.52 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	0.48 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	0.47 1.04
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 1.62
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	0.74 1.63
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 1.65
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	0.76 1.67
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	10.5	0.0808	0.90 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	10.5	0.0808	0.89 1.97
23.698 0.9330	17.462 0.6875	2.3 0.09	93.937 3.6983	5.555 0.2187	2.3 0.09	51.0 2.00	55.0 2.17	86.0 3.39	22.9	8.71	0.0899	0.74 1.64
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	0.99 2.18
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
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
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
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 1.57
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	0.72 1.58
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 1.60
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
23.698 0.9330	17.462 0.6875	2.3 0.09	93.937 3.6983	5.555 0.2187	2.3 0.09	51.0 2.00	56.0 2.20	86.0 3.39	22.9	8.71	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	51.0 2.00	58.0 2.28	86.0 3.39	22.9	8.71	0.0899	0.72 1.59
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
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	0.0676	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	0.46 1.01
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
23.698 0.9330	17.462 0.6875	2.3 0.09	93.937 3.6983	5.555 0.2187	2.3 0.09	51.0 2.00	56.0 2.20	86.0 3.39	22.9	8.71	0.0899	0.72 1.59
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	0.96 2.12

[4] These maximum fillet radii will be cleared by the bearing corners.

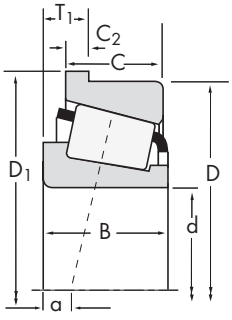
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

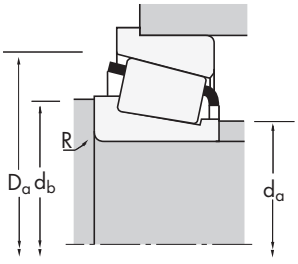
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)		Factors (5)	Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
40.000 1.5748	95.000 3.7402	10.000 0.3937	120000 27000	0.41	1.45	31200 7010	22100 4960	1.41	166000 37300	XGA33210	YSA33210R
40.000 1.5748	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	442-S	432-B
41.275 1.6250	76.200 3.0000	7.292 0.2871	44500 10000	0.49	1.23	11500 2600	9630 2170	1.20	55100 12400	11162	11300-B
41.275 1.6250	79.375 3.1250	8.733 0.3438	84300 19000	0.32	1.88	21900 4920	11900 2680	1.83	110000 24800	26882	26822-B
41.275 1.6250	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	336	332-B
41.275 1.6250	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	342	332-B
41.275 1.6250	80.167 3.1562	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3383	3320-B
41.275 1.6250	81.755 3.2187	10.320 0.4063	106000 23900	0.27	2.20	27600 6200	12900 2900	2.14	129000 29100	3383	3329-B
41.275 1.6250	85.725 3.3750	11.112 0.4375	115000 25900	0.40	1.49	29800 6710	20500 4610	1.45	148000 33200	3877	3820-B
41.275 1.6250	87.312 3.4375	11.100 0.4370	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3585	3525-B
41.275 1.6250	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3576	3525-B
41.275 1.6250	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3577	3525-B
41.275 1.6250	88.500 3.4843	13.492 0.5312	77900 17500	0.78	0.77	20200 4540	27000 6070	0.75	88600 19900	44162	44348-B
41.275 1.6250	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	447	432AB
41.275 1.6250	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	447	432-B
41.275 1.6250	98.425 3.8750	16.670 0.6563	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53162	53387-B
42.850 1.6870	107.950 4.2500	11.112 0.4375	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	461	453-B
42.862 1.6875	83.058 3.2700	8.733 0.3438	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25576	25521-B
42.862 1.6875	85.000 3.3465	9.525 0.3750	86400 19400	0.35	1.73	22400 5040	13300 2980	1.69	117000 26200	2973	2924-B
42.862 1.6875	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3579	3525-B
42.875 1.6880	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	342-S	332-B
43.000 1.6929	80.000 3.1496	7.938 0.3125	73600 16600	0.27	2.20	19100 4290	8920 2010	2.14	83400 18700	342X	332-B
44.450 1.7500	71.438 2.8125	5.969 0.2350	33400 7510	0.31	1.97	8660 1950	4530 1020	1.91	43600 9790	LL103049	LL103010-B
44.450 1.7500	73.025 2.8750	6.350 0.2500	52800 11900	0.32	1.88	13700 3080	7460 1680	1.83	78300 17600	L102849	L102810-B
44.450 1.7500	76.992 3.0312	9.126 0.3593	45900 10300	0.51	1.19	11900 2670	10300 2320	1.15	58100 13100	12175	12303-B
44.450 1.7500	79.375 3.1250	7.539 0.2968	48200 10800	0.37	1.60	12500 2810	7990 1800	1.56	61300 13800	18685	18620-B
44.450 1.7500	83.058 3.2700	8.733 0.3438	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25580	25521-B
44.450 1.7500	85.000 3.3465	7.938 0.3125	75800 17000	0.31	1.96	19600 4420	10300 2320	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) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	15.3	0.0957	1.23 2.70
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
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	12.8	0.0735	0.36 0.79
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
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	0.0676	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	0.0676	0.48 1.06
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	0.69 1.51
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
30.162 1.1875	23.812 0.9375	-8.1 -0.32	89.586 3.5270	4.762 0.1875	3.5 0.14	50.5 1.98	57.0 2.24	83.0 3.27	37.8	13.5	0.0873	0.82 1.80
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	10.5	0.0808	0.85 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	10.5	0.0808	0.85 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	10.5	0.0808	0.85 1.87
23.698 0.9330	17.462 0.6875	2.3 0.09	93.937 3.6983	5.555 0.2187	2.3 0.09	51.0 2.00	57.0 2.24	86.0 3.39	22.9	8.71	0.0899	0.71 1.56
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	0.94 2.07
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
28.301 1.1142	20.638 0.8125	-0.3 -0.01	104.673 4.1210	6.350 0.2500	1.5 0.06	52.5 2.07	57.0 2.24	92.0 3.62	26.7	9.63	0.0930	1.11 2.44
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 3.09
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
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
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	10.5	0.0808	0.82 1.81
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	0.0676	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	0.0676	0.47 1.03
12.700 0.5000	9.525 0.3750	-1.3 -0.05	74.231 2.9225	2.794 0.1100	1.5 0.06	48.5 1.91	51.0 2.01	69.0 2.72	20	23.6	0.0637	0.19 0.42
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	23.7	0.0751	0.31 0.68
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	15.8	0.0766	0.32 0.71
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	17.7	0.0725	0.37 0.81
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
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	12.2	0.0732	0.54 1.20

[4] These maximum fillet radii will be cleared by the bearing corners.

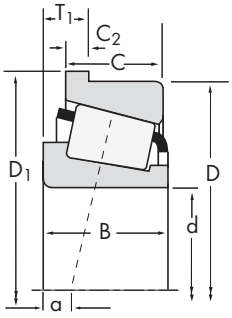
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

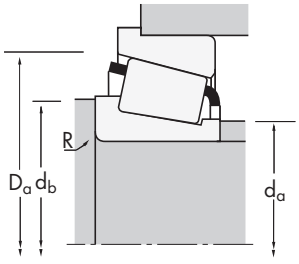
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
44.450 1.7500	85.000 3.3465	7.938 0.3125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	355X	354-B
44.450 1.7500	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3578	3525-B
44.450 1.7500	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	435	432AB
44.450 1.7500	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	438	432AB
44.450 1.7500	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	435	432-B
44.450 1.7500	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	438	432-B
44.450 1.7500	98.425 3.8750	16.670 0.6563	92800 20900	0.74	0.81	24000 5410	30500 6850	0.79	104000 23400	53176	53387-B
44.450 1.7500	101.600 4.0000	11.908 0.4688	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49576	49520-B
44.450 1.7500	107.950 4.2500	11.115 0.4376	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	460	453-B
44.450 1.7500	108.966 4.2900	14.288 0.5625	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59175	59429-B
44.450 1.7500	120.650 4.7500	16.574 0.6525	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	615	612-B
44.450 1.7500	127.000 5.0000	17.462 0.6875	283000 63700	0.30	2.01	73500 16500	37500 8440	1.96	370000 83300	6277	6220-B
44.983 1.7710	83.058 3.2700	8.733 0.3438	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25584	25521-B
44.983 1.7710	93.264 3.6718	11.112 0.4375	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3776	3720-B
45.000 1.7717	75.000 2.9528	8.000 0.3150	61500 13800	0.39	1.53	15900 3580	10700 2410	1.49	84300 19000	X32009X	Y32009XR
45.000 1.7717	80.000 3.1496	10.000 0.3937	88000 19800	0.38	1.57	22800 5130	15000 3370	1.52	119000 26800	X33109	Y33109R
45.000 1.7717	85.000 3.3465	7.938 0.3125	75800 17000	0.31	1.96	19600 4420	10300 2320	1.91	88800 20000	358	354-B
45.000 1.7717	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	367	362-B
45.237 1.7810	87.312 3.4375	11.112 0.4375	105000 23600	0.31	1.96	27200 6120	14300 3210	1.91	134000 30100	3586	3525-B
45.618 1.7960	83.058 3.2700	8.733 0.3438	83800 18800	0.33	1.79	21700 4880	12500 2800	1.74	111000 24900	25590	25521-B
46.038 1.8125	79.375 3.1250	7.539 0.2968	48200 10800	0.37	1.60	12500 2810	7990 1800	1.56	61300 13800	18690	18620-B
46.038 1.8125	85.000 3.3465	9.525 0.3750	86400 19400	0.35	1.73	22400 5040	13300 2980	1.69	117000 26200	2984	2924-B
46.038 1.8125	92.075 3.6250	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	436	432AB
46.038 1.8125	95.250 3.7500	11.115 0.4376	118000 26400	0.28	2.11	30500 6850	14800 3330	2.05	144000 32400	436	432-B
47.625 1.8750	88.900 3.5000	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	369-S	362AB
47.625 1.8750	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	369A	362-B
47.625 1.8750	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	369-S	362-B
47.625 1.8750	93.264 3.6718	11.112 0.4375	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3778	3720-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	12.2	0.0732	0.54 1.19
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	10.5	0.0808	0.79 1.75
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	0.90 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	0.89 1.96
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
28.301 1.1142	20.638 0.8125	-0.3 -0.01	104.673 4.1210	6.350 0.2500	1.3 0.05	52.5 2.07	59.0 2.32	92.0 3.62	26.7	9.63	0.0930	1.06 2.33
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	14.2	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	3.5 0.14	54.0 2.13	60.0 2.36	100.0 3.94	58.6	17.1	0.0946	1.37 3.02
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	14.7	0.0999	1.72 3.79
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
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	18.7	0.0757	3.66 8.07
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	0.57 1.27
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	90.0 3.54	49.9	14.5	0.0903	0.98 2.16
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
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	14.5	0.0843	0.55 1.22
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	12.2	0.0732	0.54 1.19
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	0.0773	0.62 1.37
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	10.5	0.0808	0.78 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
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	17.7	0.0725	0.35 0.77
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
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
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
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	0.0773	0.58 1.28
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	0.0773	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	0.0773	0.59 1.30
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	90.0 3.54	49.9	14.5	0.0903	0.92 2.02

[4] These maximum fillet radii will be cleared by the bearing corners.

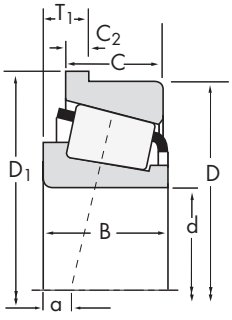
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

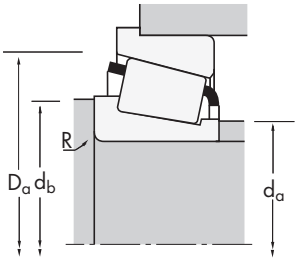
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)		Factors (5)	Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
47.625 1.8750	93.264 3.6718	11.112 0.4375	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3779	3720-B
47.625 1.8750	95.250 3.7500	11.140 0.4386	115000 25900	0.55	1.10	29900 6710	27900 6280	1.07	157000 35400	HM804846	HM804811-B
47.625 1.8750	107.950 4.2500	11.112 0.4375	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	463	453-B
47.625 1.8750	107.950 4.2500	11.112 0.4375	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	467	453-B
47.625 1.8750	108.966 4.2900	14.288 0.5625	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59187	59429-B
47.625 1.8750	120.650 4.7500	16.574 0.6525	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	617	612-B
49.212 1.9375	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365-S	362-B
49.212 1.9375	111.125 4.3750	14.288 0.5625	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	545	532-B
49.212 1.9375	114.300 4.5000	16.670 0.6563	207000 46500	0.43	1.39	53700 12100	39500 8880	1.36	256000 57500	65390	65320-B
49.982 1.9678	111.125 4.3750	14.288 0.5625	159000 35800	0.30	2.02	41300 9290	21000 4720	1.97	206000 46200	546	532-B
49.987 1.9680	80.962 3.1875	7.145 0.2813	56300 12700	0.36	1.69	14600 3280	8880 2000	1.64	88800 20000	L305648	L305610-B
50.000 1.9685	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	365	362-B
50.000 1.9685	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	366	362-B
50.800 2.0000	77.788 3.0625	5.969 0.2350	34600 7770	0.34	1.78	8960 2010	5160 1160	1.74	47200 10600	LL205449	LL205410-B
50.800 2.0000	80.962 3.1875	7.145 0.2813	56300 12700	0.36	1.69	14600 3280	8880 2000	1.64	88800 20000	L305649	L305610-B
50.800 2.0000	85.000 3.3465	7.539 0.2968	50600 11400	0.41	1.48	13100 2950	9110 2050	1.44	67500 15200	18790	18720-B
50.800 2.0000	85.725 3.3750	9.906 0.3900	47800 10700	0.57	1.06	12400 2780	12000 2710	1.03	63900 14400	18200	18337-B
50.800 2.0000	88.900 3.5000	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368	362AB
50.800 2.0000	88.900 3.5000	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368A	362AB
50.800 2.0000	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368	362-B
50.800 2.0000	90.000 3.5433	8.887 0.3499	79500 17900	0.32	1.88	20600 4640	11300 2540	1.83	95800 21500	368A	362-B
50.800 2.0000	92.075 3.6250	8.730 0.3437	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28580	28521-B
50.800 2.0000	93.264 3.6718	11.112 0.4375	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3775	3720-B
50.800 2.0000	93.264 3.6718	11.112 0.4375	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3780	3720-B
50.800 2.0000	101.600 4.0000	11.908 0.4688	123000 27600	0.40	1.50	31900 7160	21900 4910	1.46	155000 35000	49585	49520-B
50.800 2.0000	104.775 4.1250	11.908 0.4688	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45285	45220-B
50.800 2.0000	104.775 4.1250	11.908 0.4688	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45285A	45220-B
50.800 2.0000	104.775 4.1250	11.908 0.4688	158000 35500	0.40	1.49	41000 9210	28200 6340	1.45	202000 45400	59201	59412-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a [3]	D_1	C_2	R [4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	90.0 3.54	49.9	14.5	0.0903	0.93 2.06
29.370 1.1563	24.021 0.9457	-3.8 -0.15	100.686 3.9640	5.001 0.1969	3.5 0.14	57.5 2.26	66.0 2.60	93.0 3.66	44.8	14.6	0.1017	1.01 2.24
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 2.89
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 2.92
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	14.7	0.0999	1.65 3.64
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
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	0.0773	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	57.0 2.24	64.0 2.52	100.0 3.94	64.3	16.1	0.0938	1.79 3.94
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	0.1053	2.30 5.07
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	27.8	0.0841	0.38 0.83
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	0.0773	0.56 1.23
22.225 0.8750	15.875 0.6250	-4.3 -0.17	94.661 3.7268	4.762 0.1875	2.3 0.09	55.0 2.17	59.0 2.32	86.0 3.39	33.8	14	0.0773	0.56 1.23
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 0.47
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	27.8	0.0841	0.37 0.81
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	21.5	0.0789	0.40 0.89
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	20.3	0.0852	0.42 0.92
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	0.0773	0.53 1.18
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	12.7	0.0773	0.53 1.16
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	0.0773	0.54 1.20
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	12.7	0.0773	0.54 1.19
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	22.6	0.0912	0.73 1.61
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	90.0 3.54	49.9	14.5	0.0903	0.88 1.95
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	90.0 3.54	49.9	14.5	0.0903	0.87 1.93
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	14.2	0.0946	1.18 2.61
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	1.25 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	14.7	0.0999	1.45 3.19

[4] These maximum fillet radii will be cleared by the bearing corners.

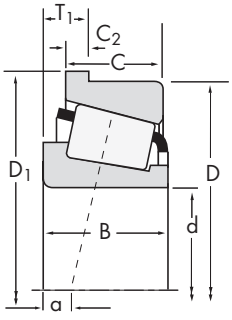
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

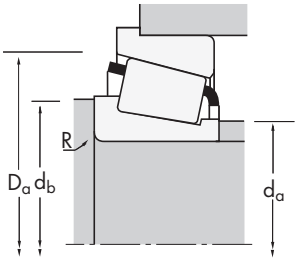
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
50.800 2.0000	104.775 4.1250	15.875 0.6250	159000 35700	0.49	1.23	41200 9260	34400 7730	1.20	223000 50200	HM807046	HM807010-B
50.800 2.0000	107.950 4.2500	11.112 0.4375	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455	453-B
50.800 2.0000	107.950 4.2500	11.115 0.4376	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	455-S	453-B
50.800 2.0000	111.125 4.3750	15.083 0.5938	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55200	55437-B
50.800 2.0000	120.650 4.7500	16.667 0.6562	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	619	612-B
50.800 2.0000	127.000 5.0000	16.670 0.6563	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65200	65500-B
52.000 2.0472	85.725 3.3750	9.906 0.3900	47800 10700	0.57	1.06	12400 2780	12000 2710	1.03	63900 14400	18204X	18337-B
52.388 2.0625	92.075 3.6250	8.730 0.3437	91600 20600	0.38	1.59	23700 5340	15300 3450	1.55	130000 29200	28584	28521-B
52.388 2.0625	93.264 3.6718	11.112 0.4375	113000 25400	0.34	1.77	29300 6590	17000 3820	1.73	153000 34300	3767	3720-B
52.388 2.0625	111.125 4.3750	15.083 0.5938	98500 22100	0.88	0.68	25500 5740	38600 8690	0.66	119000 26700	55206	55437-B
53.975 2.1250	93.264 3.6718	10.320 0.4063	120000 27000	0.33	1.82	31100 7000	17600 3950	1.77	161000 36200	33895	33820-B
53.975 2.1250	107.950 4.2500	11.115 0.4376	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	456	453-B
53.975 2.1250	120.650 4.7500	16.667 0.6562	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	621	612-B
53.975 2.1250	123.825 4.8750	14.288 0.5625	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	557-S	552-B
53.975 2.1250	127.000 5.0000	7.137 0.2810	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	557-S	553-BA
53.975 2.1250	127.000 5.0000	17.462 0.6875	283000 63700	0.30	2.01	73500 16500	37500 8440	1.96	370000 83300	6280	6220-B
53.975 2.1250	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	636	632-B
54.813 2.1580	135.755 5.3447	17.462 0.6875	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6380	6320-B
54.987 2.1649	135.755 5.3447	17.462 0.6875	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6381	6320-B
55.000 2.1654	96.838 3.8125	7.938 0.3125	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	385	382-B
55.000 2.1654	110.000 4.3307	16.000 0.6299	183000 41200	0.40	1.48	47500 10700	32800 7380	1.44	253000 56800	XGB-33212	Y33212R
55.000 2.1654	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	475	472-B
55.562 2.1875	107.950 4.2500	11.112 0.4375	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	466-S	453-B
55.575 2.1880	96.838 3.8125	7.938 0.3125	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	389	382-B
57.150 2.2500	84.933 3.3438	5.969 0.2350	33500 7520	0.37	1.62	8670 1950	5500 1240	1.58	46800 10500	LL408049	LL408010-B
57.150 2.2500	87.312 3.4375	7.145 0.2813	58100 13100	0.39	1.54	15100 3380	10000 2250	1.50	95600 21500	L507949	L507910-B
57.150 2.2500	96.838 3.8125	7.938 0.3125	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387	382-B
57.150 2.2500	96.838 3.8125	7.938 0.3125	84200 18900	0.35	1.69	21800 4910	13200 2980	1.65	107000 24100	387A	382-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
36.512 1.4375	28.575 1.1250	-7.4 -0.29	114.300 4.5000	7.937 0.3125	3.5 0.14	63.0 2.48	70.0 2.76	103.0 4.06	63.9	17.1	0.0760	1.60 3.53
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 2.79
29.317 1.1542	22.225 0.8750	-7.1 -0.28	113.386 4.4640	5.558 0.2188	3.5 0.14	59.0 2.32	65.0 2.56	100.0 3.94	58.6	17.1	0.0946	1.26 2.78
26.909 1.0594	20.638 0.8125	7.1 0.28	116.683 4.5938	5.558 0.2188	3.5 0.14	64.0 2.51	71.0 2.80	107.0 4.21	36.8	13.2	0.1085	1.28 2.83
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
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	2.99 6.59
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	20.3	0.0852	0.40 0.89
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	22.6	0.0912	0.69 1.53
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	90.0 3.54	49.9	14.5	0.0903	0.85 1.87
26.909 1.0594	20.638 0.8125	7.1 0.28	116.683 4.5938	5.558 0.2188	3.5 0.14	64.0 2.51	72.0 2.83	107.0 4.21	36.8	13.2	0.1085	1.25 2.77
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	0.78 1.72
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 2.64
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
36.678 1.4440	30.162 1.1875	-9.4 -0.37	130.073 5.1210	6.350 0.2500	3.5 0.14	65.0 2.56	71.0 2.80	116.0 4.57	91	21.1	0.1108	2.30 5.07
36.678 1.4440	34.925 1.3750	-9.4 -0.37	133.248 5.2460	6.350 0.2500	3.5 0.14	65.0 2.56	71.0 2.80	116.0 4.57	91	21.1	0.1108	2.45 5.39
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	18.7	0.0757	3.36 7.40
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	21	0.0814	3.20 7.06
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	124	22.4	0.0827	4.17 9.20
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	124	22.4	0.0827	4.16 9.17
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	15.7	0.0859	0.66 1.46
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	18.1	0.0758	1.72 3.80
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	0.1083	1.70 3.74
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 2.59
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	15.7	0.0859	0.65 1.44
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
18.258 0.7188	14.288 0.5625	-0.8 -0.03	90.487 3.5625	3.175 0.1250	1.5 0.06	62.0 2.44	65.0 2.56	85.0 3.35	46.1	36.9	0.0914	0.40 0.88
21.946 0.8640	17.826 0.7018	-3.0 -0.12	101.498 3.9960	4.762 0.1875	2.3 0.09	62.0 2.44	66.0 2.60	94.0 3.70	42	15.7	0.0859	0.63 1.38
21.946 0.8640	17.826 0.7018	-3.0 -0.12	101.498 3.9960	4.762 0.1875	3.5 0.14	62.0 2.44	69.0 2.72	94.0 3.70	42	15.7	0.0859	0.62 1.37

(4) These maximum fillet radii will be cleared by the bearing corners.

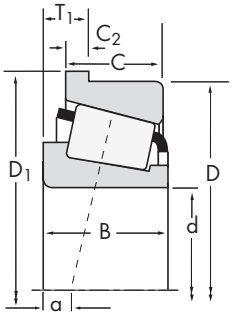
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

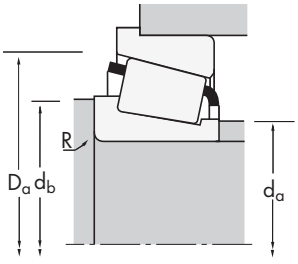
(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
57.150 2.2500	97.630 3.8437	9.124 0.3592	96300 21600	0.40	1.49	25000 5610	17200 3870	1.45	142000 32000	28682	28622-B
57.150 2.2500	104.775 4.1250	11.908 0.4688	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45290	45220-B
57.150 2.2500	104.775 4.1250	11.908 0.4688	142000 31900	0.33	1.80	36800 8270	20900 4710	1.76	189000 42600	45291	45220-B
57.150 2.2500	107.950 4.2500	11.115 0.4376	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	462	453-B
57.150 2.2500	107.950 4.2500	11.115 0.4376	126000 28200	0.34	1.79	32600 7320	18700 4200	1.74	166000 37200	469	453-B
57.150 2.2500	112.712 4.4375	11.112 0.4375	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3979	3920-B
57.150 2.2500	120.650 4.7500	16.667 0.6562	192000 43200	0.31	1.91	49800 11200	26800 6020	1.86	244000 54800	623	612-B
57.150 2.2500	123.825 4.8750	14.288 0.5625	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	555-S	552-B
57.150 2.2500	135.755 5.3447	17.462 0.6875	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6375	6320-B
57.150 2.2500	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	635	632-B
57.150 2.2500	139.700 5.5000	17.462 0.6875	225000 50700	0.49	1.23	58500 13100	48800 11000	1.20	297000 66700	65225	65550-B
57.150 2.2500	149.225 5.8750	17.462 0.6875	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6455	6420-B
58.738 2.3125	112.712 4.4375	11.112 0.4375	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3981	3920-B
59.931 2.3595	150.089 5.9090	15.875 0.6250	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	745	742-B
59.977 2.3613	100.000 3.9370	9.525 0.3750	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28980	28921-B
59.987 2.3617	104.775 4.1250	10.320 0.4063	89600 20100	0.39	1.55	23200 5220	15400 3470	1.51	120000 27000	39236	39412-B
59.987 2.3617	129.944 5.1159	14.288 0.5625	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	558-S	553-SB
59.987 2.3617	130.175 5.1250	16.637 0.6550	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911244	HM911210-B
60.000 2.3622	100.000 3.9370	8.500 0.3346	80900 18200	0.47	1.27	21000 4710	17000 3820	1.24	101000 22800	JP6049	JP6010-B
60.000 2.3622	107.950 4.2500	10.320 0.4063	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29580	29520-B
60.000 2.3622	110.000 4.3307	10.320 0.4063	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29580	29521-B
60.000 2.3622	112.712 4.4375	11.112 0.4375	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3977	3920-B
60.000 2.3622	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	476	472-B
60.325 2.3750	100.000 3.9370	9.525 0.3750	98200 22100	0.43	1.41	25500 5720	18500 4170	1.37	149000 33500	28985	28921-B
60.325 2.3750	112.712 4.4375	11.112 0.4375	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3980	3920-B
60.325 2.3750	123.825 4.8750	14.288 0.5625	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	558	552-B
60.325 2.3750	130.175 5.1250	19.050 0.7500	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911245	HM911210-B
60.325 2.3750	135.755 5.3447	17.462 0.6875	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6376	6320-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	20.2	0.0979	0.75 1.66
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	1.12 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	1.09 2.41
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 2.51
29.317 1.1542	22.225 0.8750	-7.1 -0.28	113.386 4.4640	5.558 0.2188	3.5 0.14	63.0 2.48	70.0 2.76	100.0 3.94	58.6	17.1	0.0946	1.14 2.50
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	1.41 3.10
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
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	21.1	0.1108	2.22 4.89
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	124	22.4	0.0827	4.07 8.97
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	21	0.0814	3.11 6.86
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	3.60 7.94
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	29.1	0.0931	5.20 11.46
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 3.02
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	160	26.3	0.0898	4.39 9.68
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
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 1.71
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	21.1	0.1108	2.45 5.41
30.924 1.2175	23.812 0.9375	7.9 0.31	136.525 5.3750	6.350 0.2500	3.5 0.14	74.5 2.93	84.0 3.31	123.5 4.87	56.4	16.5	0.0842	2.09 4.60
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
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	25.8	0.1112	1.02 2.26
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	25.8	0.1112	1.08 2.37
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 2.96
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	0.1083	1.59 3.51
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 1.73
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	1.34 2.95
36.678 1.4440	30.162 1.1875	-9.4 -0.37	130.073 5.1210	6.350 0.2500	2.3 0.09	69.0 2.72	73.0 2.87	116.0 4.57	91	21.1	0.1108	2.14 4.72
33.338 1.3125	23.812 0.9375	5.3 0.21	136.525 5.3750	6.350 0.2500	5.0 0.20	74.5 2.93	87.0 3.43	123.5 4.87	56.4	16.5	0.0842	2.15 4.75
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	124	22.4	0.0827	3.94 8.70

[4] These maximum fillet radii will be cleared by the bearing corners.

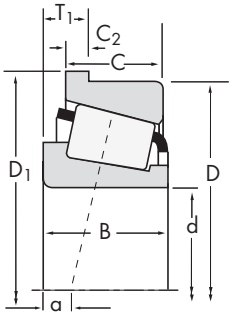
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

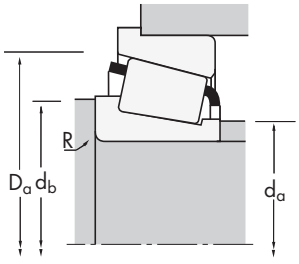
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
60.325 2.3750	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	637	632-B
60.325 2.3750	161.925 6.3750	23.012 0.9060	275000 61900	0.71	0.85	71400 16100	86700 19500	0.82	330000 74200	9275	9221-B
61.912 2.4375	123.825 4.8750	14.288 0.5625	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	554	552-B
61.912 2.4375	130.175 5.1250	19.050 0.7500	154000 34700	0.82	0.73	40000 9000	56200 12600	0.71	183000 41100	HM911249	HM911210-B
63.500 2.5000	104.775 4.1250	10.320 0.4063	89600 20100	0.39	1.55	23200 5220	15400 3470	1.51	120000 27000	39250	39412-B
63.500 2.5000	107.950 4.2500	10.320 0.4063	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29585	29520-B
63.500 2.5000	112.712 4.4375	7.917 0.3117	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	395	3920-B
63.500 2.5000	112.712 4.4375	11.112 0.4375	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3982	3920-B
63.500 2.5000	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	477	472-B
63.500 2.5000	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	483	472-B
63.500 2.5000	123.825 4.8750	14.288 0.5625	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	559	552-B
63.500 2.5000	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	565	563-B
63.500 2.5000	136.525 5.3750	16.637 0.6550	252000 56700	0.36	1.67	65400 14700	40300 9060	1.62	335000 75400	H414235	H414210-B
63.500 2.5000	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	639	632-B
63.500 2.5000	149.225 5.8750	17.462 0.6875	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6475	6420-B
64.960 2.5575	149.225 5.8750	17.462 0.6875	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6464	6420-B
64.963 2.5576	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	569	563-B
65.000 2.5591	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	478	472-B
65.088 2.5625	135.755 5.3447	17.462 0.6875	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6379	6320-B
65.883 2.5938	122.238 4.8125	13.495 0.5313	219000 49200	0.36	1.67	56800 12800	34800 7830	1.63	327000 73500	5595	5535-B
66.675 2.6250	107.950 4.2500	10.320 0.4063	102000 22900	0.46	1.31	26400 5950	20800 4670	1.27	161000 36300	29590	29520-B
66.675 2.6250	112.712 4.4375	11.112 0.4375	129000 28900	0.40	1.49	33300 7490	22900 5160	1.45	191000 43000	3984	3920-B
66.675 2.6250	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	479	472-B
66.675 2.6250	123.825 4.8750	14.288 0.5625	177000 39700	0.35	1.73	45800 10300	27100 6100	1.69	248000 55700	560	552-B
66.675 2.6250	130.200 5.1260	19.865 0.7821	179000 40300	0.50	1.20	46400 10400	39900 8970	1.16	256000 57600	HM813844	HM813815-B
66.675 2.6250	135.755 5.3447	17.462 0.6875	298000 66900	0.32	1.85	77200 17300	42900 9640	1.80	404000 90900	6386	6320-B
66.675 2.6250	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	641	632-B
66.675 2.6250	139.700 5.5000	17.462 0.6875	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715341	H715310-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	21	0.0814	3.02 6.65
46.038 1.8125	30.162 1.1875	1.8 0.07	171.450 6.7500	7.137 0.2810	3.5 0.14	86.0 3.39	92.0 3.62	153.0 6.03	102	18.4	0.0984	4.83 10.64
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	21.1	0.1108	2.09 4.61
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	123.5 4.87	56.4	16.5	0.0842	2.13 4.68
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	0.72 1.59
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	25.8	0.1112	0.96 2.11
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	21.4	0.0984	1.05 2.31
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 2.78
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	0.1083	1.52 3.35
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	0.1083	1.51 3.32
36.678 1.4440	30.162 1.1875	-9.4 -0.37	130.073 5.1210	6.350 0.2500	3.5 0.14	72.0 2.83	78.0 3.07	116.0 4.57	91	21.1	0.1108	2.04 4.51
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	24	0.1167	2.16 4.76
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	113	22.8	0.0827	2.95 6.50
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	21	0.0814	2.92 6.43
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	29.1	0.0931	4.94 10.90
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	29.1	0.0931	4.88 10.76
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	24	0.1167	2.12 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	0.1083	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	124	22.4	0.0827	3.74 8.24
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	24.2	0.0825	2.29 5.05
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	25.8	0.1112	0.89 1.97
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	1.19 2.61
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	0.1083	1.44 3.17
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	21.1	0.1108	1.95 4.30
36.512 1.4375	26.988 1.0625	-3.8 -0.15	138.200 5.4410	10.340 0.4071	3.5 0.14	82.0 3.23	88.0 3.46	124.0 4.88	91.7	24.3	0.1252	2.26 4.98
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	124	22.4	0.0827	3.66 8.07
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	21	0.0814	2.81 6.20
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	32.8	0.0993	3.67 8.08

[4] These maximum fillet radii will be cleared by the bearing corners.

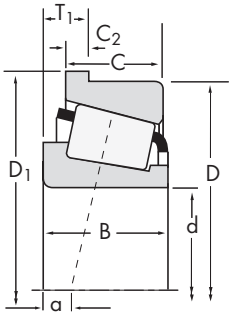
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

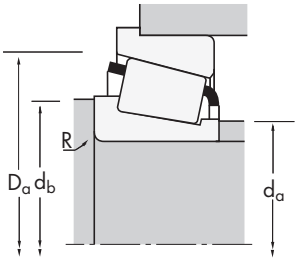
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
68.262 2.6875	110.000 4.3307	7.925 0.3120	91600 20600	0.40	1.49	23700 5340	16300 3670	1.45	125000 28100	399A	394AB
68.262 2.6875	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	480	472-B
68.262 2.6875	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	570	563-B
68.262 2.6875	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	642	632-B
68.262 2.6875	161.925 6.3750	24.600 0.9685	275000 61900	0.71	0.85	71400 16100	86700 19500	0.82	330000 74200	9278	9221-B
69.850 2.7500	112.712 4.4375	10.320 0.4063	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29675	29620-B
69.850 2.7500	112.712 4.4375	11.112 0.4375	93400 21000	0.42	1.44	24200 5450	17300 3880	1.40	130000 29300	LM613449	LM613410-B
69.850 2.7500	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	482	472-B
69.850 2.7500	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	566	563-B
69.850 2.7500	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	643	632-B
69.850 2.7500	149.225 5.8750	17.462 0.6875	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6454	6420-B
69.850 2.7500	150.089 5.9090	15.875 0.6250	294000 66100	0.33	1.84	76300 17100	42500 9550	1.80	417000 93800	745A	742-B
69.850 2.7500	152.400 6.0000	16.667 0.6562	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	655	652-B
69.850 2.7500	168.275 6.6250	22.225 0.8750	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	835	832-B
69.952 2.7540	122.238 4.8125	7.938 0.3125	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34274	34481-B
70.000 2.7559	110.000 4.3307	8.500 0.3346	84800 19100	0.46	1.30	22000 4940	17400 3900	1.27	112000 25200	JP7049	JP7010-B
70.000 2.7559	120.000 4.7244	11.095 0.4368	133000 29900	0.38	1.56	34400 7740	22700 5100	1.52	186000 41900	484	472-B
70.000 2.7559	122.238 4.8125	7.938 0.3125	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34275	34481-B
71.438 2.8125	117.475 4.6250	11.112 0.4375	128000 28800	0.44	1.38	33200 7470	24800 5570	1.34	197000 44300	33281	33462-B
71.438 2.8125	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567A	563-B
71.438 2.8125	136.525 5.3750	16.637 0.6550	252000 56700	0.36	1.67	65400 14700	40300 9060	1.62	335000 75400	H414249	H414210-B
71.438 2.8125	136.525 5.3750	16.662 0.6560	216000 48500	0.36	1.66	55900 12600	34700 7790	1.61	298000 67000	645	632-B
71.438 2.8125	139.700 5.5000	17.462 0.6875	249000 56000	0.47	1.27	64600 14500	52300 11800	1.24	405000 91000	H715345	H715310-B
73.025 2.8750	112.712 4.4375	10.320 0.4063	102000 23000	0.49	1.23	26500 5960	22100 4980	1.20	166000 37200	29685	29620-B
73.025 2.8750	117.475 4.6250	11.112 0.4375	109000 24500	0.51	1.18	28300 6360	24700 5550	1.15	183000 41200	LM814845	LM814810-B
73.025 2.8750	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567	563-B
73.025 2.8750	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	567X	563-B
73.025 2.8750	149.225 5.8750	17.462 0.6875	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6460	6420-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
21.996 0.8660	18.825 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	21.4	0.0984	0.78 1.73
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	0.1083	1.40 3.08
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	24	0.1167	2.02 4.45
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	21	0.0814	2.76 6.08
46.038 1.8125	30.162 1.1875	0.0 0.00	171.450 6.7500	7.137 0.2810	3.5 0.14	90.5 3.56	97.0 3.82	153.0 6.03	102	18.4	0.0984	4.59 10.12
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	1.00 2.20
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	0.83 1.82
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	0.1083	1.36 2.99
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	24	0.1167	1.97 4.34
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	21	0.0814	2.70 5.96
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	29.1	0.0931	4.65 10.25
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	160	26.3	0.0898	4.02 8.87
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	137	27.3	0.0919	3.70 8.16
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	198	34.8	0.0937	6.28 13.84
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	0.1093	1.18 2.60
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	105.5 4.15	51.1	30.9	0.0995	0.70 1.55
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	0.1083	1.36 3.00
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	0.1093	1.18 2.60
30.162 1.1875	23.812 0.9375	-2.8 -0.11	122.133 4.8084	4.762 0.1875	3.5 0.14	79.0 3.11	85.0 3.35	114.0 4.49	84.2	24.4	0.1162	1.29 2.85
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	24	0.1167	1.92 4.23
41.275 1.6250	31.750 1.2500	-10.9 -0.43	143.637 5.6550	7.112 0.2800	3.5 0.14	83.0 3.27	89.0 3.50	130.0 5.12	113	22.8	0.0827	2.68 5.90
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	21	0.0814	2.62 5.77
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	32.8	0.0993	3.48 7.68
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	0.92 2.03
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
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	24	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	24	0.1167	1.87 4.13
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	29.1	0.0931	4.51 9.94

[4] These maximum fillet radii will be cleared by the bearing corners.

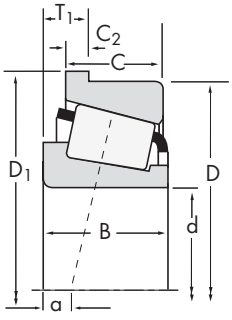
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

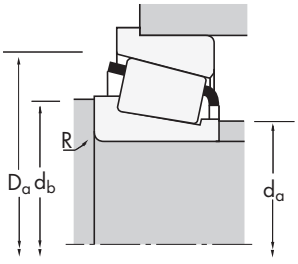
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
73.025 2.8750	152.400 6.0000	16.667 0.6562	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	657	652-B
73.817 2.9062	127.000 5.0000	14.288 0.5625	182000 40900	0.36	1.65	47100 10600	29400 6600	1.61	262000 58900	568	563-B
74.612 2.9375	139.992 5.5115	14.288 0.5625	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	577	572-B
76.200 3.0000	122.238 4.8125	7.938 0.3125	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34300	34481-B
76.200 3.0000	122.238 4.8125	7.940 0.3126	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34301	34481-B
76.200 3.0000	125.412 4.9375	10.317 0.4062	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27684	27620-B
76.200 3.0000	130.000 5.1181	13.495 0.5313	149000 33500	0.42	1.43	38700 8690	27700 6230	1.39	222000 49800	42687	42623-B
76.200 3.0000	136.525 5.3750	13.475 0.5305	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495A	493-B
76.200 3.0000	139.992 5.5115	14.288 0.5625	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	575	572-B
76.200 3.0000	149.225 5.8750	17.462 0.6875	321000 72200	0.36	1.66	83300 18700	51600 11600	1.61	463000 104000	6461	6420-B
76.200 3.0000	161.925 6.3750	17.450 0.6870	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	755	752-B
76.200 3.0000	161.925 6.3750	19.050 0.7500	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6575	6535-B
76.200 3.0000	161.925 6.3750	24.600 0.9685	275000 61900	0.71	0.85	71400 16100	86700 19500	0.82	330000 74200	9285	9221-B
76.200 3.0000	168.275 6.6250	22.225 0.8750	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	837	832-B
77.788 3.0625	117.475 4.6250	11.112 0.4375	109000 24500	0.51	1.18	28300 6360	24700 5550	1.15	183000 41200	LM814849	LM814810-B
77.788 3.0625	122.238 4.8125	7.938 0.3125	94600 21300	0.45	1.33	24500 5510	18900 4260	1.30	136000 30600	34306	34481-B
77.788 3.0625	127.000 5.0000	13.495 0.5313	149000 33500	0.42	1.43	38700 8690	27700 6230	1.39	222000 49800	42690	42620-B
79.375 3.1250	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595A	592-B
79.985 3.1490	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	590	592-B
80.000 3.1496	125.000 4.9213	10.500 0.4134	105000 23600	0.45	1.33	27200 6110	21000 4730	1.29	141000 31800	JP8049	JP8010-B
80.962 3.1875	133.350 5.2500	12.700 0.5000	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47681	47620-B
80.962 3.1875	136.525 5.3750	13.475 0.5305	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	496	493-B
80.962 3.1875	139.992 5.5115	14.288 0.5625	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	581	572-B
80.962 3.1875	168.275 6.6250	22.225 0.8750	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	838	832-B
82.550 3.2500	115.888 4.5625	7.938 0.3125	83500 18800	0.31	1.95	21700 4870	11400 2570	1.90	147000 33100	L116149	L116110-B
82.550 3.2500	125.412 4.9375	10.317 0.4062	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27687	27620-B
82.550 3.2500	133.350 5.2500	12.700 0.5000	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47685	47620-B
82.550 3.2500	133.350 5.2500	12.700 0.5000	167000 37600	0.40	1.48	43400 9750	30000 6750	1.44	262000 58900	47686	47620-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a [3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	137	27.3	0.0919	3.58 7.90
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	24	0.1167	1.86 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	126	32	0.1295	2.48 5.47
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	0.1093	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	0.1093	1.04 2.30
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
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	1.62 3.58
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	105	29.3	0.1252	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	86.0 3.39	92.0 3.62	134.0 5.28	126	32	0.1295	2.43 5.35
54.229 2.1350	44.450 1.7500	-15.0 -0.59	157.061 6.1835	7.938 0.3125	3.5 0.14	89.5 3.52	96.0 3.78	140.0 5.51	158	29.1	0.0931	4.35 9.59
48.260 1.9000	38.100 1.5000	-11.9 -0.47	169.748 6.6830	7.925 0.3120	3.5 0.14	88.0 3.46	95.0 3.74	150.0 5.91	177	29.4	0.0945	4.82 10.63
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	199	33.5	0.1037	5.43 11.98
46.038 1.8125	30.162 1.1875	0.0 0.00	171.450 6.7500	7.137 0.2810	3.5 0.14	90.5 3.56	103.0 4.06	153.0 6.03	102	18.4	0.0984	4.27 9.40
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	198	34.8	0.0937	5.97 13.15
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	0.95 2.11
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	90.0 3.54	118.0 4.65	69.3	27	0.1093	1.01 2.22
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	1.44 3.18
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	38.3	0.1416	3.19 7.03
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	38.3	0.1416	3.17 6.98
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	1.01 2.22
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	29.2	0.1273	1.90 4.18
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	105	29.3	0.1252	1.72 3.79
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	126	32	0.1295	2.26 4.98
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	198	34.8	0.0937	5.71 12.58
21.433 0.8438	16.670 0.6563	-1.3 -0.05	119.855 4.7187	3.970 0.1563	1.5 0.06	88.0 3.46	90.0 3.54	113.0 4.45	97.2	64.3	0.1079	0.69 1.52
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 2.41
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	29.2	0.1273	1.86 4.09
33.338 1.3125	26.195 1.0313	-4.3 -0.17	138.811 5.4650	5.558 0.2188	3.5 0.14	90.0 3.54	97.0 3.82	130.0 5.12	119	29.2	0.1273	1.84 4.06

[4] These maximum fillet radii will be cleared by the bearing corners.

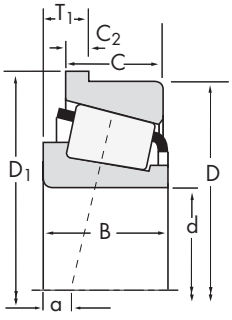
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

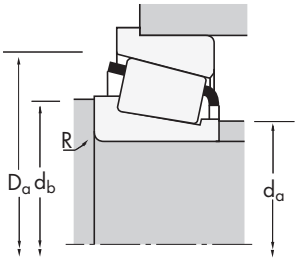
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
82.550 3.2500	136.525 5.3750	13.475 0.5305	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	495	493-B
82.550 3.2500	139.992 5.5115	14.288 0.5625	191000 43000	0.40	1.49	49600 11200	34300 7720	1.45	291000 65400	580	572-B
82.550 3.2500	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	595	592-B
82.550 3.2500	152.400 6.0000	16.667 0.6562	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	663	652-B
82.550 3.2500	161.925 6.3750	17.450 0.6870	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	757	752-B
82.550 3.2500	168.275 6.6250	22.225 0.8750	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	839	832-B
82.550 3.2500	168.275 6.6250	22.225 0.8750	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	842	832-B
83.345 3.2813	125.412 4.9375	10.317 0.4062	109000 24400	0.42	1.44	28100 6320	20000 4500	1.40	178000 39900	27690	27620-B
84.138 3.3125	136.525 5.3750	13.475 0.5305	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	498	493-B
85.000 3.3465	130.000 5.1181	11.560 0.4550	149000 33600	0.44	1.35	38700 8700	29400 6620	1.31	245000 55100	JM716649	JM716610-B
85.725 3.3750	136.525 5.3750	13.475 0.5305	143000 32100	0.44	1.35	37100 8330	28200 6340	1.31	216000 48600	497	493-B
85.725 3.3750	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	596	592-B
85.725 3.3750	152.400 6.0000	16.667 0.6562	229000 51400	0.41	1.47	59300 13300	41500 9330	1.43	335000 75300	665	652-B
85.725 3.3750	161.925 6.3750	17.450 0.6870	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	758	752-B
85.725 3.3750	168.275 6.6250	18.255 0.7187	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	677	672-B
85.725 3.3750	168.275 6.6250	22.225 0.8750	379000 85100	0.30	2.00	98200 22100	50300 11300	1.95	522000 117000	841	832-B
87.312 3.4375	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	596-S	592-B
88.900 3.5000	149.225 5.8750	12.700 0.5000	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42350	42587-B
88.900 3.5000	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	593	592-B
88.900 3.5000	161.925 6.3750	17.450 0.6870	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	766	752-B
88.900 3.5000	161.925 6.3750	17.462 0.6875	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	759	752-B
88.900 3.5000	161.925 6.3750	19.050 0.7500	343000 77200	0.40	1.50	89000 20000	61000 13700	1.46	523000 118000	6580	6535-B
88.900 3.5000	168.275 6.6250	18.255 0.7187	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	679	672-B
88.900 3.5000	180.975 7.1250	17.462 0.6875	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	775	772-B
88.900 3.5000	190.500 7.5000	22.225 0.8750	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	855	854-B
88.900 3.5000	190.500 7.5000	22.225 0.8750	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221434	HH221410-B
88.900 3.5000	200.000 7.8740	27.361 1.0772	376000 84600	0.63	0.95	97500 21900	106000 23700	0.92	519000 117000	98350	98788-B
90.000 3.5433	135.000 5.3150	10.500 0.4134	110000 24600	0.49	1.21	28400 6390	24000 5410	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) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	105	29.3	0.1252	1.67 3.68
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	126	32	0.1295	2.21 4.86
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	36.8	0.1416	3.07 6.78
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	137	27.3	0.0919	3.21 7.07
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	29.4	0.0945	4.52 9.97
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	198	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	198	34.8	0.0937	5.60 12.35
25.400 1.0000	19.845 0.7813	0.5 0.02	130.076 5.1211	4.762 0.1875	3.5 0.14	90.0 3.54	96.0 3.78	123.0 4.84	98.2	41.8	0.1198	1.07 2.37
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	105	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	36.6	0.1303	1.40 3.09
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	105	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	96.0 3.78	102.0 4.02	144.0 5.67	151	36.8	0.1416	2.95 6.51
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	137	27.3	0.0919	3.07 6.77
48.260 1.9000	38.100 1.5000	-11.9 -0.47	169.748 6.6830	7.925 0.3120	3.5 0.14	97.0 3.82	103.0 4.06	150.0 5.91	177	29.4	0.0945	4.37 9.62
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	37.2	0.1056	4.23 9.33
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	198	34.8	0.0937	5.42 11.95
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	38.3	0.1416	2.89 6.38
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	130	37.2	0.1386	2.13 4.70
36.322 1.4300	30.162 1.1875	-2.5 -0.10	158.648 6.2460	6.350 0.2500	3.5 0.14	98.0 3.86	104.0 4.09	144.0 5.67	151	36.8	0.1416	2.83 6.24
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	29.4	0.0945	4.16 9.16
48.260 1.9000	38.100 1.5000	-11.9 -0.47	169.748 6.6830	7.925 0.3120	3.5 0.14	99.0 3.90	106.0 4.17	150.0 5.91	177	29.4	0.0945	4.20 9.26
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 4.01	109.0 4.29	155.0 6.10	199	33.5	0.1037	4.75 10.47
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	37.2	0.1056	4.09 9.02
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	41.3	0.1067	5.89 12.98
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	44.9	0.1072	7.89 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	266	28.4	0.1072	8.33 18.36
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	37.4	0.1197	7.72 17.02
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	0.1196	1.14 2.51

[4] These maximum fillet radii will be cleared by the bearing corners.

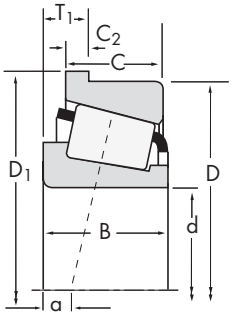
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

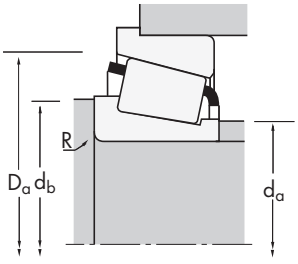
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
90.488 3.5625	161.925 6.3750	17.450 0.6870	303000 68100	0.34	1.76	78500 17700	45900 10300	1.71	441000 99200	760	752-B
92.075 3.6250	142.875 5.6250	15.080 0.5937	182000 41000	0.45	1.34	47300 10600	36300 8160	1.30	307000 69000	47890	47825-B
92.075 3.6250	149.225 5.8750	12.700 0.5000	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42362	42587-B
92.075 3.6250	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	598	592-B
92.075 3.6250	168.275 6.6250	18.255 0.7187	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	681	672-B
93.662 3.6875	149.225 5.8750	12.700 0.5000	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42368	42587-B
93.662 3.6875	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	597	592-B
95.250 3.7500	142.875 5.6250	15.080 0.5937	182000 41000	0.45	1.34	47300 10600	36300 8160	1.30	307000 69000	47896	47825-B
95.250 3.7500	149.225 5.8750	12.700 0.5000	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42375	42587-B
95.250 3.7500	152.400 6.0000	15.875 0.6250	200000 45000	0.44	1.36	51900 11700	39200 8820	1.32	319000 71600	594	592-B
95.250 3.7500	160.000 6.2992	16.667 0.6562	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52375	52630XB
95.250 3.7500	161.925 6.3750	16.667 0.6562	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52375	52637-B
95.250 3.7500	168.275 6.6250	18.255 0.7187	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	683	672-B
95.250 3.7500	171.450 6.7500	17.462 0.6875	315000 70700	0.37	1.63	81500 18300	51200 11500	1.59	474000 107000	77375	77675-B
95.250 3.7500	180.975 7.1250	17.462 0.6875	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	776	772-B
95.250 3.7500	180.975 7.1250	17.462 0.6875	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	777	772-B
95.250 3.7500	190.500 7.5000	22.225 0.8750	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	864	854-B
95.250 3.7500	190.500 7.5000	22.225 0.8750	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221440	HH221410-B
96.838 3.8125	149.225 5.8750	12.700 0.5000	151000 33900	0.49	1.22	39100 8790	33000 7410	1.19	241000 54300	42381	42587-B
98.425 3.8750	161.925 6.3750	16.667 0.6562	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52387	52637-B
98.425 3.8750	168.275 6.6250	18.255 0.7187	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	685	672-B
98.425 3.8750	180.975 7.1250	17.462 0.6875	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	779	772-B
98.425 3.8750	190.500 7.5000	22.225 0.8750	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221442	HH221410-B
98.425 3.8750	212.725 8.3750	23.812 0.9375	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224332	HH224310-B
99.982 3.9363	190.500 7.5000	22.225 0.8750	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221447	HH221410-B
100.000 3.9370	145.000 5.7087	10.500 0.4134	116000 26100	0.47	1.27	30100 6770	24400 5480	1.24	172000 38700	JP10049	JP10010-B
100.000 3.9370	180.975 7.1250	17.462 0.6875	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	783	772-B
101.600 4.0000	157.162 6.1875	16.667 0.6562	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52400	52618-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	107.0 4.21	150.0 5.91	177	29.4	0.0945	4.12 9.07
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	38.1	0.1428	2.00 4.41
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	130	37.2	0.1386	2.03 4.46
36.322 1.4300	30.162 1.1875	-2.5 -0.10	158.648 6.2460	6.350 0.2500	3.5 0.14	101.0 3.98	107.0 4.21	144.0 5.67	151	36.8	0.1416	2.70 5.96
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	37.2	0.1056	3.94 8.70
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	130	37.2	0.1386	1.98 4.36
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	38.3	0.1416	2.64 5.81
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	38.1	0.1428	1.87 4.13
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	130	37.2	0.1386	1.93 4.26
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	36.8	0.1416	2.57 5.66
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	41.7	0.1519	2.91 6.41
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	41.7	0.1519	2.99 6.59
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	37.2	0.1056	3.79 8.36
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	37.7	0.1017	4.72 10.40
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	41.3	0.1067	5.55 12.24
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	41.3	0.1067	5.45 12.03
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	44.9	0.1072	7.47 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	266	28.4	0.1072	7.91 17.44
28.971 1.1406	24.608 0.9688	3.0 0.12	154.681 6.0898	5.558 0.2188	3.5 0.14	104.0 4.09	110.0 4.33	152.0 5.98	130	37.2	0.1386	1.86 4.11
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	41.7	0.1519	2.85 6.28
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	37.2	0.1056	3.64 8.02
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	41.3	0.1067	5.37 11.84
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	266	28.4	0.1072	7.75 17.09
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	367	47.8	0.1182	12.40 27.34
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	266	28.4	0.1072	7.61 16.77
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	40.9	0.1264	1.18 2.61
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	41.3	0.1067	5.28 11.64
36.116 1.4219	26.195 1.0313	-5.1 -0.20	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	41.7	0.1519	2.47 5.45

[4] These maximum fillet radii will be cleared by the bearing corners.

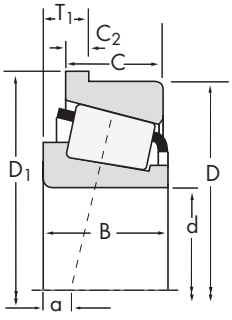
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

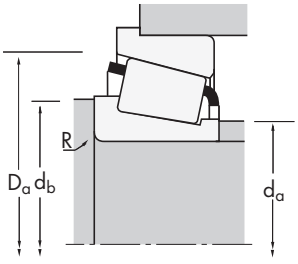
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
101.600 4.0000	160.000 6.2992	16.667 0.6562	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52400	52630XB
101.600 4.0000	161.925 6.3750	16.667 0.6562	207000 46500	0.47	1.26	53600 12100	43600 9800	1.23	343000 77000	52400	52637-B
101.600 4.0000	168.275 6.6250	18.255 0.7187	245000 55100	0.47	1.28	63500 14300	51200 11500	1.24	386000 86700	687	672-B
101.600 4.0000	180.975 7.1250	17.462 0.6875	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	780	772-B
101.600 4.0000	190.500 7.5000	22.225 0.8750	424000 95300	0.33	1.79	110000 24700	63000 14200	1.74	630000 142000	861	854-B
101.600 4.0000	190.500 7.5000	22.225 0.8750	494000 111000	0.33	1.79	128000 28800	73400 16500	1.74	692000 156000	HH221449	HH221410-B
101.600 4.0000	200.000 7.8740	27.361 1.0772	376000 84600	0.63	0.95	97500 21900	106000 23700	0.92	519000 117000	98400	98788-B
101.600 4.0000	212.725 8.3750	23.812 0.9375	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	941	932-B
104.775 4.1250	180.975 7.1250	17.462 0.6875	320000 72000	0.39	1.56	83100 18700	54800 12300	1.51	495000 111000	782	772-B
104.775 4.1250	190.500 7.5000	20.638 0.8125	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71412	71750-B
107.950 4.2500	165.100 6.5000	15.875 0.6250	210000 47100	0.50	1.21	54400 12200	46300 10400	1.18	355000 79700	56425	56650-B
107.950 4.2500	190.500 7.5000	20.638 0.8125	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71425	71750-B
107.950 4.2500	212.725 8.3750	23.812 0.9375	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	936	932-B
107.950 4.2500	212.725 8.3750	23.812 0.9375	630000 142000	0.33	1.84	163000 36700	91000 20500	1.79	906000 204000	HH224340	HH224310-B
109.538 4.3125	158.750 6.2500	11.908 0.4688	107000 24000	0.61	0.99	27600 6220	28700 6450	0.96	179000 40100	37431	37625-B
109.992 4.3304	177.800 7.0000	18.258 0.7188	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64433	64700-B
111.125 4.3750	190.500 7.5000	20.638 0.8125	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71437	71750-B
114.300 4.5000	177.800 7.0000	18.258 0.7188	254000 57200	0.52	1.16	65900 14800	58300 13100	1.13	419000 94200	64450	64700-B
114.300 4.5000	190.500 7.5000	20.638 0.8125	337000 75700	0.42	1.44	87300 19600	62200 14000	1.40	543000 122000	71450	71750-B
114.300 4.5000	212.725 8.3750	23.812 0.9375	530000 119000	0.33	1.84	137000 30900	76600 17200	1.79	786000 177000	938	932-B
115.000 4.5276	165.000 6.4961	12.500 0.4921	148000 33200	0.46	1.31	38300 8620	30100 6770	1.27	245000 55100	JLM722948	JLM722912-B
117.475 4.6250	180.975 7.1250	16.667 0.6562	181000 40700	0.50	1.21	46900 10600	39900 8980	1.18	271000 61000	68462	68712-B
120.000 4.7244	180.000 7.0866	16.350 0.6437	229000 51400	0.41	1.45	59300 13300	41900 9430	1.41	377000 84700	JM624649	JM624610-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
120.650 4.7500	234.950 9.2500	25.400 1.0000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95475	95925-B
123.825 4.8750	182.562 7.1875	12.700 0.5000	248000 55800	0.31	1.97	64300 14500	33600 7550	1.91	493000 111000	48286	48220-B
127.000 5.0000	182.562 7.1875	12.700 0.5000	248000 55800	0.31	1.97	64300 14500	33600 7550	1.91	493000 111000	48290	48220-B
127.000 5.0000	215.900 8.5000	20.638 0.8125	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74500	74850-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a[3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
36.116 1.4219	**26.195** 1.0313	**-5.1** -0.20	**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**	**41.7**	**0.1519**	**2.64** 5.83
36.116 1.4219	**26.195** 1.0313	**-5.1** -0.20	**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**	**41.7**	**0.1519**	**2.72** 6.01
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**	**37.2**	**0.1056**	**3.48** 7.66
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**	**38.2**	**0.1067**	**5.18** 11.43
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**	**44.9**	**0.1072**	**7.02** 15.48
57.531 2.2650	**46.038** 1.8125	**-15.0** -0.59	**199.923** 7.8710	**11.112** 0.4375	**8.0** 0.31	**116.0** 4.56	**131.0** 5.16	**179.0** 7.05	**266**	**28.4**	**0.1072**	**7.46** 16.45
49.212 1.9375	**34.925** 1.3750	**1.3** 0.05	**209.550** 8.2500	**9.525** 0.3750	**3.5** 0.14	**120.5** 4.75	**128.0** 5.04	**188.0** 7.40	**203**	**37.4**	**0.1197**	**6.99** 15.40
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	**339**	**39.7**	**0.1153**	**11.31** 24.93
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**	**38.2**	**0.1067**	**4.99** 11.00
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.937** 0.3125	**3.5** 0.14	**118.0** 4.65	**124.0** 4.88	**181.0** 7.13	**269**	**45.7**	**0.1156**	**5.94** 13.09
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	**191**	**47.7**	**0.1584**	**2.73** 6.01
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.937** 0.3125	**3.5** 0.14	**120.0** 4.72	**126.0** 4.96	**181.0** 7.13	**269**	**45.7**	**0.1156**	**5.73** 12.64
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	**339**	**39.7**	**0.1153**	**10.74** 23.69
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	**367**	**47.8**	**0.1182**	**11.53** 25.41
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	**124**	**48.7**	**0.1443**	**1.38** 3.05
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	**219**	**45.3**	**0.1153**	**3.92** 8.65
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.937** 0.3125	**3.5** 0.14	**123.0** 4.84	**129.0** 5.08	**181.0** 7.13	**269**	**45.7**	**0.1156**	**5.52** 12.17
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	**219**	**45.3**	**0.1153**	**3.68** 8.11
49.212 1.9375	**34.925** 1.3750	**-6.6** -0.26	**198.323** 7.8080	**7.937** 0.3125	**3.5** 0.14	**125.0** 4.92	**132.0** 5.20	**181.0** 7.13	**269**	**45.7**	**0.1156**	**5.31** 11.70
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	**339**	**39.7**	**0.1153**	**10.18** 22.44
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**	**57.2**	**0.1449**	**1.83** 4.05
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**	**51.7**	**0.1026**	**2.86** 6.31
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	**227**	**61.6**	**0.1084**	**3.04** 6.70
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**	**139**	**0.1509**	**1.19** 2.63
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	**454**	**59.3**	**0.1323**	**12.90** 28.43
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**	**91.3**	**0.1138**	**3.63** 8.00
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**	**91.3**	**0.1138**	**3.44** 7.59
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	**363**	**68.5**	**0.1338**	**7.19** 15.84

[4] These maximum fillet radii will be cleared by the bearing corners.

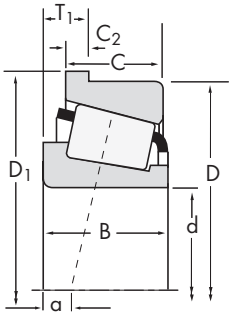
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

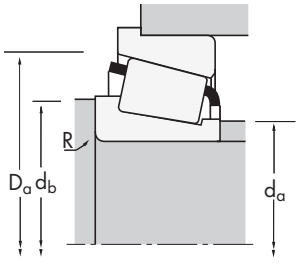
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
127.000 5.0000	234.950 9.2500	25.400 1.0000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95500	95925-B
130.000 5.1181	185.000 7.2835	13.000 0.5118	181000 40800	0.47	1.27	47000 10600	38100 8560	1.24	283000 63600	JP13049	JP13010-B
130.175 5.1250	196.850 7.7500	15.083 0.5938	340000 76500	0.34	1.74	88200 19800	52000 11700	1.70	625000 141000	67389	67322-B
133.350 5.2500	190.500 7.5000	11.908 0.4688	262000 58900	0.32	1.87	67900 15300	37300 8390	1.82	542000 122000	48385	48320-B
133.350 5.2500	215.900 8.5000	20.638 0.8125	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74525	74850-B
133.350 5.2500	234.950 9.2500	25.400 1.0000	582000 131000	0.37	1.62	151000 33900	95500 21500	1.58	931000 209000	95525	95925-B
136.525 5.3750	215.900 8.5000	20.638 0.8125	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74537	74850-B
136.525 5.3750	254.000 10.0000	30.162 1.1875	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99537	99100-B
139.700 5.5000	215.900 8.5000	20.638 0.8125	354000 79500	0.49	1.23	91700 20600	76500 17200	1.20	614000 138000	74550	74850-B
139.700 5.5000	241.300 9.5000	22.225 0.8750	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231132	HM231115-B
139.700 5.5000	254.000 10.0000	30.162 1.1875	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99550	99100-B
140.000 5.5118	195.000 7.6772	13.000 0.5118	188000 42300	0.50	1.19	48800 11000	42000 9440	1.16	304000 68400	JP14049	JP14010-B
142.875 5.6250	193.675 7.6250	9.525 0.3750	182000 40900	0.37	1.63	47100 10600	29700 6690	1.59	394000 88600	36686	36620-B
142.875 5.6250	200.025 7.8750	12.700 0.5000	265000 59600	0.34	1.78	68800 15500	39600 8900	1.74	560000 126000	48685	48620-B
142.875 5.6250	241.300 9.5000	22.225 0.8750	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231136	HM231115-B
146.050 5.7500	193.675 7.6250	9.525 0.3750	182000 40900	0.37	1.63	47100 10600	29700 6690	1.59	394000 88600	36690	36620-B
146.050 5.7500	241.300 9.5000	22.225 0.8750	477000 107000	0.44	1.36	124000 27800	93600 21000	1.32	810000 182000	82576	82950-B
146.050 5.7500	241.300 9.5000	22.225 0.8750	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231140	HM231115-B
146.050 5.7500	254.000 10.0000	30.162 1.1875	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99575	99100-B
149.225 5.8750	241.300 9.5000	22.225 0.8750	553000 124000	0.32	1.88	143000 32200	78200 17600	1.83	932000 210000	HM231149	HM231115-B
149.225 5.8750	254.000 10.0000	30.162 1.1875	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99587	99100-B
150.000 5.9055	205.000 8.0709	12.000 0.4724	179000 40300	0.46	1.31	46500 10500	36500 8210	1.27	339000 76100	JL730646	JL730612-B
152.400 6.0000	192.088 7.5625	9.970 0.3925	132000 29700	0.42	1.44	34200 7690	24400 5480	1.40	277000 62200	L630349	L630310-B
152.400 6.0000	254.000 10.0000	30.162 1.1875	611000 137000	0.41	1.47	158000 35600	110000 24800	1.43	1030000 231000	99600	99100-B
158.750 6.2500	225.425 8.8750	13.495 0.5313	281000 63100	0.38	1.57	72800 16400	47800 10700	1.52	635000 143000	46780	46720-B
160.325 6.3120	288.925 11.3750	26.988 1.0625	763000 171000	0.32	1.88	198000 44500	108000 24300	1.83	1240000 278000	HM237532	HM237510-B
165.100 6.5000	225.425 8.8750	13.495 0.5313	281000 63100	0.38	1.57	72800 16400	47800 10700	1.52	635000 143000	46790	46720-B
165.100 6.5000	247.650 9.7500	16.670 0.6563	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67780	67720-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a [3]	D_1	C_2	R [4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	454	53.8	0.1323	12.28 27.07
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	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	146.0 5.75	191.0 7.52	384	70.1	0.1220	5.04 11.11
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	404	95.6	0.1209	3.60 7.94
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	363	63.3	0.1338	6.70 14.77
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	454	53.8	0.1323	11.54 25.44
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	363	68.5	0.1338	6.45 14.22
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	556	73.5	0.1459	14.75 32.53
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	363	63.3	0.1338	6.19 13.65
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	533	85.9	0.1327	10.73 23.65
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	556	73.5	0.1459	14.37 31.68
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	220	68.1	0.1133	2.40 5.30
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	152	0.1768	2.48 5.46
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	440	115	0.1261	3.85 8.50
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	533	85.9	0.1327	10.42 22.96
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	121	0.1768	2.31 5.10
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	81.1	0.1405	10.34 22.79
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	533	85.9	0.1327	10.10 22.26
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	556	73.5	0.1459	13.62 30.03
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	533	85.9	0.1327	9.77 21.54
66.675 2.6250	47.625 1.8750	-12.2 -0.48	264.973 10.4320	11.112 0.4375	7.0 0.28	165.0 6.50	178.0 7.01	238.0 9.37	556	73.5	0.1459	13.24 29.18
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	103	0.1763	2.68 5.90
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	164	0.1698	1.63 3.59
66.675 2.6250	47.625 1.8750	-12.2 -0.48	264.973 10.4320	11.112 0.4375	7.0 0.28	169.5 6.68	181.0 7.13	238.0 9.37	556	66.7	0.1459	12.84 28.31
39.688 1.5625	33.337 1.3125	2.5 0.10	230.881 9.0898	5.557 0.2188	3.5 0.14	169.0 6.65	176.0 6.93	219.0 8.62	572	133	0.1432	5.18 11.42
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	101	0.1168	17.84 39.33
39.688 1.5625	33.337 1.3125	2.5 0.10	230.881 9.0898	5.557 0.2188	3.5 0.14	174.0 6.85	181.0 7.13	219.0 8.62	572	175	0.1432	4.68 10.32
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	122	0.1214	8.48 18.70

[4] These maximum fillet radii will be cleared by the bearing corners.

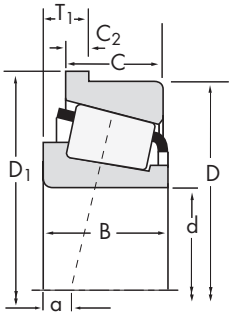
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

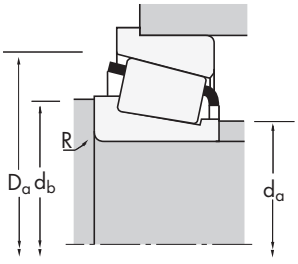
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

Continued on next page.

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T_1	C_1	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
165.100 6.5000	254.000 10.0000	22.225 0.8750	389000 87400	0.37	1.62	101000 22700	63800 14300	1.58	644000 145000	86650	86100-B
171.450 6.7500	260.350 10.2500	25.400 1.0000	605000 136000	0.40	1.49	157000 35300	108000 24300	1.45	1180000 265000	HM535349	HM535310-B
174.625 6.8750	288.925 11.3750	26.988 1.0625	611000 137000	0.47	1.28	159000 35600	127000 28600	1.25	1070000 242000	94687	94113-B
174.625 6.8750	288.925 11.3750	26.988 1.0625	763000 171000	0.32	1.88	198000 44500	108000 24300	1.83	1240000 278000	HM237542	HM237510-B
177.800 7.0000	247.650 9.7500	16.670 0.6563	375000 84300	0.44	1.36	97200 21900	73200 16500	1.33	779000 175000	67790	67720-B
177.800 7.0000	288.925 11.3750	26.988 1.0625	611000 137000	0.47	1.28	159000 35600	127000 28600	1.25	1070000 242000	94700	94113-B
179.975 7.0856	317.500 12.5000	28.575 1.1250	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93708	93125-B
190.500 7.5000	266.700 10.5000	16.670 0.6563	386000 86700	0.48	1.26	99900 22500	81700 18400	1.22	835000 188000	67885	67820-B
190.500 7.5000	317.500 12.5000	28.575 1.1250	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93750	93125-B
193.675 7.6250	282.575 11.1250	23.812 0.9375	398000 89400	0.42	1.44	103000 23200	73300 16500	1.41	692000 156000	87762	87111-B
200.025 7.8750	317.500 12.5000	28.575 1.1250	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93787	93125-B
203.200 8.0000	282.575 11.1250	16.670 0.6563	393000 88300	0.51	1.18	102000 22900	88700 19900	1.15	876000 197000	67983	67920-B
203.200 8.0000	317.500 12.5000	28.575 1.1250	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93800	93125-B
206.375 8.1250	282.575 11.1250	16.670 0.6563	393000 88300	0.51	1.18	102000 22900	88700 19900	1.15	876000 197000	67985	67920-B
209.550 8.2500	317.500 12.5000	28.575 1.1250	677000 152000	0.52	1.15	175000 39500	157000 35300	1.12	1290000 290000	93825	93125-B
215.900 8.5000	285.750 11.2500	19.050 0.7500	398000 89500	0.48	1.25	103000 23200	85000 19100	1.21	892000 200000	LM742749	LM742710-B
228.600 9.0000	327.025 12.8750	25.400 1.0000	517000 116000	0.41	1.48	134000 30100	93300 21000	1.44	1070000 240000	8573	8520-B
241.300 9.5000	327.025 12.8750	25.400 1.0000	517000 116000	0.41	1.48	134000 30100	93300 21000	1.44	1070000 240000	8578	8520-B
244.475 9.6250	381.000 15.0000	34.925 1.3750	889000 200000	0.52	1.16	231000 51800	204000 45800	1.13	1690000 381000	EE126097	126150-B
254.000 10.0000	358.775 14.1250	30.162 1.1875	896000 202000	0.33	1.80	232000 52200	132000 29700	1.76	1850000 416000	M249749	M249710-B
254.000 10.0000	403.225 15.8750	38.100 1.5000	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275100	275158-B
266.700 10.5000	355.600 14.0000	22.225 0.8750	688000 155000	0.36	1.67	178000 40100	110000 24700	1.62	1510000 339000	LM451349	LM451310-B
266.700 10.5000	403.225 15.8750	38.100 1.5000	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275105	275158-B
273.050 10.7500	403.225 15.8750	38.100 1.5000	865000 195000	0.40	1.49	224000 50400	154000 34700	1.45	1600000 359000	EE275108	275158-B
276.225 10.8750	349.948 13.7775	18.700 0.7362	326000 73400	0.54	1.11	84600 19000	78000 17500	1.08	750000 169000	L853049	L853011-B
280.192 11.0312	406.400 16.0000	28.575 1.1250	906000 204000	0.39	1.55	235000 52800	155000 34900	1.51	1820000 409000	EE128110	128160-B
280.192 11.0312	406.400 16.0000	28.575 1.1250	851000 191000	0.39	1.55	221000 49600	146000 32800	1.51	1660000 374000	EE128111	128160-B
298.450 11.7500	444.500 17.5000	36.512 1.4375	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291175	291750-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a [3]	D_1	C_2	R [4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	112	0.1041	7.96 17.55
66.675 2.6250	52.388 2.0625	-8.6 -0.34	271.374 10.6840	11.112 0.4375	3.5 0.14	188.0 7.40	192.0 7.56	250.0 9.84	750	116	0.1263	12.71 28.02
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	93.8	0.1287	16.36 36.07
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	101	0.1168	15.96 35.20
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	122	0.1214	7.21 15.89
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	93.8	0.1287	15.92 35.10
63.500 2.5000	46.038 1.8125	7.9 0.31	328.523 12.9340	11.112 0.4375	3.5 0.14	204.0 8.03	209.0 8.23	300.0 11.81	912	126	0.1460	21.69 47.82
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	728	147	0.1310	8.07 17.78
63.500 2.5000	46.038 1.8125	7.9 0.31	328.523 12.9340	11.112 0.4375	4.3 0.17	212.0 8.35	218.0 8.58	300.0 11.81	912	126	0.1460	20.15 44.43
47.625 1.8750	36.512 1.4375	3.8 0.15	292.000 11.4960	9.525 0.3750	3.5 0.14	206.0 8.11	211.0 8.31	272.0 10.71	575	131	0.1155	9.47 20.88
63.500 2.5000	46.038 1.8125	7.9 0.31	328.523 12.9340	11.112 0.4375	4.3 0.17	219.0 8.62	225.0 8.86	300.0 11.81	912	126	0.1460	18.70 41.22
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	820	172	0.1388	8.80 19.40
63.500 2.5000	46.038 1.8125	7.9 0.31	328.523 12.9340	11.112 0.4375	4.3 0.17	222.0 8.74	227.0 8.94	300.0 11.81	912	126	0.1460	18.20 40.12
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	820	172	0.1388	8.43 18.59
63.500 2.5000	46.038 1.8125	7.9 0.31	328.523 12.9340	11.112 0.4375	4.3 0.17	227.0 8.93	233.0 9.17	300.0 11.81	912	126	0.1460	17.18 37.87
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	867	225	0.1388	7.81 17.21
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	172	0.1401	13.66 30.11
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	172	0.1401	11.73 25.86
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	1320	169	0.1640	31.86 70.24
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	1630	168	0.1526	22.21 48.96
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	1450	201	0.1555	31.80 70.11
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	1550	212	0.1536	15.65 34.51
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	1450	201	0.1555	28.96 63.84
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	1450	201	0.1555	27.48 60.59
34.925 1.3750	23.812 0.9375	35.1 1.38	357.950 14.0925	6.000 0.2362	3.5 0.14	288.0 11.34	293.0 11.54	342.0 13.46	1060	350	0.1517	7.58 16.72
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	1730	255	0.1628	27.79 61.27
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	1620	240	0.1592	27.94 61.60
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	1580	245	0.1557	30.43 67.09

[4] These maximum fillet radii will be cleared by the bearing corners.

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

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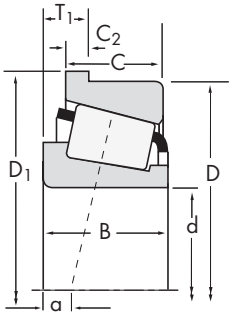
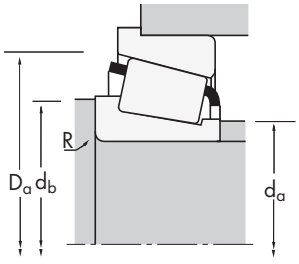
B

TSF

SINGLE-ROW





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T_1	C (1)	e	Y	C_{90}	Ca_{90}	K	C_0	Inner	Outer
304.800 12.0000	404.950 15.9429	22.225 0.8750	575000 129000	0.36	1.67	149000 33500	91600 20600	1.63	1310000 295000	L357049	L357019-B
304.800 12.0000	406.400 16.0000	25.400 1.0000	754000 170000	0.44	1.36	196000 44000	148000 33200	1.32	1740000 392000	LM757049	LM757010-B
304.800 12.0000	444.500 17.5000	36.512 1.4375	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291201	291750-B
317.500 12.5000	444.500 17.5000	36.512 1.4375	758000 170000	0.38	1.59	196000 44200	127000 28600	1.55	1390000 312000	EE291250	291750-B
330.200 13.0000	482.600 19.0000	41.275 1.6250	1230000 276000	0.39	1.54	318000 71400	213000 47800	1.49	2320000 523000	EE526130	526190-B
349.250 13.7500	501.650 19.7500	34.925 1.3750	1320000 298000	0.37	1.63	343000 77200	216000 48500	1.59	2780000 626000	EE333137	333197-B
371.475 14.6250	508.000 20.0000	38.100 1.5000	899000 202000	0.44	1.36	233000 52400	176000 39500	1.33	1870000 420000	EE231462	232000-B
381.000 15.0000	479.425 18.8750	23.812 0.9375	582000 131000	0.50	1.21	151000 33900	128000 28800	1.18	1380000 311000	L865547	L865512-B
381.000 15.0000	522.288 20.5625	38.100 1.5000	1360000 306000	0.39	1.56	353000 79400	233000 52400	1.51	2950000 663000	LM565949	LM565910-B
396.875 15.6250	549.275 21.6250	38.100 1.5000	1400000 316000	0.41	1.47	364000 81800	254000 57100	1.43	3130000 704000	LM567943	LM567910-B
406.400 16.0000	508.000 20.0000	25.400 1.0000	842000 189000	0.37	1.64	218000 49100	137000 30700	1.60	2230000 502000	L467549	L467510-B
406.400 16.0000	549.275 21.6250	38.100 1.5000	1400000 316000	0.41	1.47	364000 81800	254000 57100	1.43	3130000 704000	LM567949	LM567910-B
488.950 19.2500	660.400 26.0000	38.100 1.5000	2030000 455000	0.31	1.95	525000 118000	276000 62000	1.90	4590000 1030000	EE640192	640260-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.

Dimensions, mm (inches)									Factors			Weight kg (lbs.)
Bearing					Shaft			Housing				
					max shaft fillet radius	backing shoulder dia.	backing shoulder dia.	backing shoulder dia.				
B	C	a [3]	D_1	C_2	R[4]	d_a	d_b	D_a	G_1	G_2	Cg	
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	**1750**	**301**	**0.1585**	**17.28** 38.10
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	**1990**	**260**	**0.1775**	**21.93** 48.35
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	**1580**	**245**	**0.1557**	**28.97** 63.87
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	**1580**	**245**	**0.1557**	**25.95** 57.22
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	**2280**	**287**	**0.1790**	**46.44** 102.38
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	**3040**	**337**	**0.1928**	**54.31** 119.74
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	**2390**	**366**	**0.1874**	**37.31** 82.25
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	**2260**	**529**	**0.1897**	**18.86** 41.58
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	**3380**	**378**	**0.2028**	**50.16** 110.59
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	**3800**	**427**	**0.2143**	**58.76** 129.54
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	**3720**	**673**	**0.2038**	**27.21** 59.98
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	**3800**	**427**	**0.2143**	**55.12** 121.52
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	**6320**	**601**	**0.2310**	**86.40** 190.48

[4] These maximum fillet radii will be cleared by the bearing corners.
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

NOTES

TDO
DOUBLE OUTER RACE

TAPERED ROLLER BEARINGS

- TDO consists of a single piece (double) outer race and two single inner races.
- Configuration offers a wide effective bearing spread to support loads created by overturning moments.
- Bearings can be used at fixed positions or allowed to float in the housing bore to compensate for shaft expansion.

D	CD suffix now replaces the D suffix listed for part numbers in previous publications.
	A groove with oil holes is provided for lubrication in suffix outer race.
CD	Outer races can be pinned to prevent circumferential precession in the housing at floating positions (see the following tables for details).
	This suffix in current part numbers now replaces the D and DC suffixes listed for part numbers in previous publications.
	A groove with oil holes is provided for lubrication in suffix outer races.
DC	Can be pinned to prevent circumferential precession in the housing at floating positions (see the following tables for details).
	Outer races have one lubricant hole. Normally, these are used at floating positions with a fixing pin.

- TDO bearings are usually supplied complete with an inner race spacer as a pre-set assembly.
- To suit the application duty, the built-in setting value needs to be established by your Timken representative before an order is placed.
- The tables list part numbers of plain-ring spacers.
- If a spacer with provision for lubricant passage is required, consult your Timken representative.
- To place an order or obtain a price quotation, specify the bearing and spacer part number.

Example: inner race — outer race

A2047 - A2120D

R800003 spacer

- Double outer race can be used with any single race from the same 'series.'
- The tables list regularly specified inner race part numbers.
- Please consult a Timken representative for more information.

BEARING DATA TABLES

In the following bearing data tables, part numbers are listed in ascending order of bore, outside diameter and width.

Bearing ratings shown in tables are based on environmental reference conditions. Effects of known operating conditions on bearing performance in an application should be investigated before final bearing selection is made.

Approximate mass is listed for every part number. For weight-critical applications or exact freight cost evaluation purposes, a more accurate value should be obtained from your Timken representative.

B

TDO

DOUBLE OUTER RACE

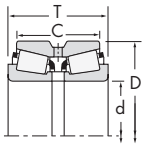
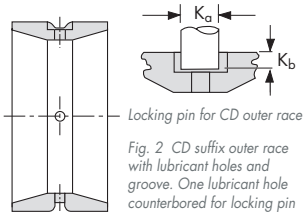
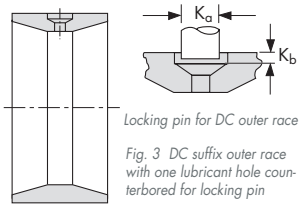


Fig. 1 D suffix outer race with lubricant holes and groove



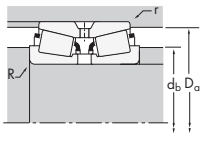
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.) Dynamic (1)		Factors (5)		Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
11.987 0.4719	**30.480** 1.2000	**25.400** 1.0000	**21.260** 0.8370	**18500** 4150	**0.41**	**1.67**	**2.48**	**2750** 618	**1910** 429	**4780** 1080	**1.44**
14.987 0.5901	**34.987** 1.3775	**25.174** 0.9911	**20.638** 0.8125	**21200** 4770	**0.45**	**1.49**	**2.22**	**3160** 710	**2450** 550	**5500** 1240	**1.29**
16.993 0.6690	**47.000** 1.8504	**31.750** 1.2500	**25.212** 0.9926	**43100** 9690	**0.36**	**1.89**	**2.82**	**6420** 1440	**3920** 881	**11200** 2510	**1.64**
19.050 0.7500	**47.000** 1.8504	**31.750** 1.2500	**25.212** 0.9926	**43100** 9690	**0.36**	**1.89**	**2.82**	**6420** 1440	**3920** 881	**11200** 2510	**1.64**
19.050 0.7500	**57.150** 2.2500	**49.212** 1.9375	**36.512** 1.4375	**74900** 16800	**0.59**	**1.14**	**1.70**	**11200** 2510	**11300** 2540	**19400** 4370	**0.99**
19.987 0.7869	**45.984** 1.8104	**31.750** 1.2500	**25.212** 0.9926	**43100** 9690	**0.36**	**1.89**	**2.82**	**6420** 1440	**3920** 881	**11200** 2510	**1.64**
19.987 0.7869	**47.000** 1.8504	**31.750** 1.2500	**25.212** 0.9926	**43100** 9690	**0.36**	**1.89**	**2.82**	**6420** 1440	**3920** 881	**11200** 2510	**1.64**
20.000 0.7874	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**46900** 10500	**0.40**	**1.68**	**2.50**	**6990** 1570	**4810** 1080	**12200** 2730	**1.45**
23.812 0.9375	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
23.812 0.9375	**71.975** 2.8336	**42.761** 1.6835	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
24.384 0.9600	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**125000** 28100	**0.67**	**1.01**	**1.50**	**18600** 4190	**21300** 4790	**32400** 7290	**0.87**
24.981 0.9835	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**46900** 10500	**0.40**	**1.68**	**2.50**	**6990** 1570	**4810** 1080	**12200** 2730	**1.45**
24.981 0.9835	**62.000** 2.4409	**39.688** 1.5625	**36.258** 1.4275	**69700** 15700	**0.38**	**1.77**	**2.63**	**10400** 2330	**6800** 1530	**18100** 4060	**1.53**
25.000 0.9843	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**46900** 10500	**0.40**	**1.68**	**2.50**	**6990** 1570	**4810** 1080	**12200** 2730	**1.45**
25.000 0.9843	**62.000** 2.4409	**39.688** 1.5625	**36.258** 1.4275	**69700** 15700	**0.38**	**1.77**	**2.63**	**10400** 2330	**6800** 1530	**18100** 4060	**1.53**
25.400 1.0000	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**46900** 10500	**0.40**	**1.68**	**2.50**	**6990** 1570	**4810** 1080	**12200** 2730	**1.45**
25.400 1.0000	**50.005** 1.9687	**33.340** 1.3126	**25.400** 1.0000	**46900** 10500	**0.40**	**1.68**	**2.50**	**6990** 1570	**4810** 1080	**12200** 2730	**1.45**
25.400 1.0000	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**81400** 18300	**0.35**	**1.93**	**2.87**	**12100** 2730	**7280** 1640	**21100** 4750	**1.67**
25.400 1.0000	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**81400** 18300	**0.35**	**1.93**	**2.87**	**12100** 2730	**7280** 1640	**21100** 4750	**1.67**
25.400 1.0000	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**81400** 18300	**0.35**	**1.93**	**2.87**	**12100** 2730	**7280** 1640	**21100** 4750	**1.67**
25.400 1.0000	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
25.400 1.0000	**71.975** 2.8336	**42.761** 1.6835	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
28.575 1.1250	**63.500** 2.5000	**46.038** 1.8125	**36.512** 1.4375	**81400** 18300	**0.35**	**1.93**	**2.87**	**12100** 2730	**7280** 1640	**21100** 4750	**1.67**
28.575 1.1250	**66.421** 2.6150	**44.453** 1.7501	**38.100** 1.5000	**90100** 20200	**0.34**	**1.99**	**2.96**	**13400** 3010	**7790** 1750	**23300** 5250	**1.72**
28.575 1.1250	**69.850** 2.7500	**66.675** 2.6250	**57.150** 2.2500	**135000** 30300	**0.27**	**2.47**	**3.67**	**20100** 4520	**9410** 2120	**35000** 7870	**2.14**
28.575 1.1250	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
28.575 1.1250	**71.975** 2.8336	**42.761** 1.6835	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
28.575 1.1250	**76.200** 3.0000	**47.625** 1.8750	**38.100** 1.5000	**106000** 23800	**0.45**	**1.49**	**2.21**	**15800** 3550	**12300** 2750	**27500** 6170	**1.29**

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	$R^{(3)}$	d_b	$r^{(3)}$	D_a	K_a	K_b	G_1	G_2	Cg	
A2047	A2120D	R800003	0.8 0.03	16.5 0.65	0.0 0.00	28.0 1.10			1.7	3.17	0.0308	0.08 0.19
A4059	A4138D	X6SA4059	0.8 0.03	19.5 0.77	0.6 0.02	31.5 1.24			2.3	4.12	0.0355	0.12 0.26
05066	05185D	X1S-05066	1.5 0.06	24.5 0.96	0.8 0.03	42.5 1.67			5.8	5.55	0.0448	0.28 0.62
05075	05185D	X3S-05075	1.3 0.05	25.0 0.98	0.8 0.03	42.5 1.67			5.8	5.55	0.0448	0.26 0.58
21075	21226D	X1S-21075	1.5 0.06	31.5 1.24	0.8 0.03	51.0 2.01			7	3.55	0.0558	0.65 1.44
05079	05180D		1.5 0.06	26.5 1.04	0.8 0.03	42.0 1.65			5.8	5.55	0.0448	0.26 0.56
05079	05185D	X1S-05079	1.5 0.06	26.5 1.04	0.8 0.03	42.5 1.67			5.8	5.55	0.0448	0.26 0.57
07079	07196D	X1S-07079	1.5 0.06	27.5 1.08	0.6 0.02	46.5 1.83			7.6	7.07	0.0509	0.32 0.70
26093	26282D		2.3 0.09	35.0 1.38	0.4 0.02	65.0 2.56			16.1	10.1	0.0630	0.88 1.94
26093	26284D		2.3 0.09	35.0 1.38	0.8 0.03	65.0 2.56			16.1	10.1	0.0630	0.90 1.98
43096	43319D	X1S-43096	0.8 0.03	40.5 1.59	1.5 0.06	74.0 2.91			16.8	7.57	0.0774	1.43 3.14
07098	07196D	X1S-07097	1.5 0.06	31.0 1.22	0.6 0.02	46.5 1.83			7.6	7.07	0.0509	0.28 0.61
17098	17245D	X1S-17098	1.5 0.06	33.0 1.30	0.8 0.03	57.0 2.24			11.8	7.49	0.0579	0.60 1.33
07097	07196D	X1S-07097	1.5 0.06	31.0 1.22	0.6 0.02	46.5 1.83			7.6	7.07	0.0509	0.28 0.61
17098X	17245D	X1S-17098	1.5 0.06	33.0 1.30	0.8 0.03	57.0 2.24			11.8	7.49	0.0579	0.60 1.33
07100-S	07196D	X1S-07100	1.5 0.06	31.5 1.24	0.6 0.02	46.5 1.83			7.6	7.07	0.0509	0.27 0.60
07100-SA	07196D	X1S-07100	3.3 0.13	35.0 1.38	0.6 0.02	46.5 1.83			7.6	7.07	0.0509	0.27 0.59
15100	15251D		3.5 0.14	38.0 1.50	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.69 1.53
15100-S	15251D	X1S-15101	1.3 0.05	33.5 1.32	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.72 1.59
15101	15251D	X1S-15101	0.8 0.03	32.5 1.28	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.72 1.59
26100	26282D	X1S-26100	1.5 0.06	34.5 1.36	0.4 0.02	65.0 2.56			16.1	10.1	0.0630	0.87 1.91
26100	26284D		1.5 0.06	34.5 1.36	0.8 0.03	65.0 2.56			16.1	10.1	0.0630	0.88 1.95
15112	15251D	X1S-15112	3.5 0.14	40.0 1.57	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.66 1.45
24112	24262D		1.5 0.06	36.0 1.42	0.8 0.03	61.0 2.40			14	8.28	0.0589	0.70 1.54
2578	2524YD		2.3 0.09	39.0 1.54	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.19 2.63
26112	26282D		1.5 0.06	37.0 1.46	0.4 0.02	65.0 2.56			16.1	10.1	0.0630	0.83 1.82
26112	26284D		1.5 0.06	37.0 1.46	0.8 0.03	65.0 2.56			16.1	10.1	0.0630	0.84 1.86
02872	02823D	X1S-02872	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

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

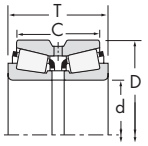
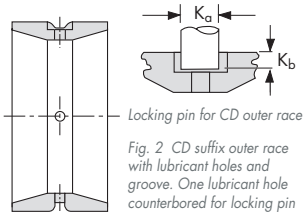
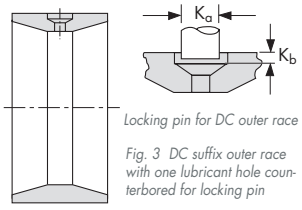


Fig. 1 D suffix outer race with lubricant holes and groove



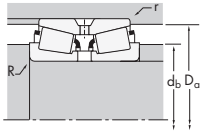
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.) Dynamic (1)		Factors (5)		Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
28.575 1.1250	80.962 3.1875	55.562 2.1875	39.688 1.5625	125000 28100	0.67	1.01	1.50	18600 4190	21300 4790	32400 7290	0.87
29.987 1.1806	62.000 2.4409	39.688 1.5625	36.258 1.4275	69700 15700	0.38	1.77	2.63	10400 2330	6800 1530	18100 4060	1.53
29.987 1.1806	63.500 2.5000	46.038 1.8125	36.512 1.4375	81400 18300	0.35	1.93	2.87	12100 2730	7280 1640	21100 4750	1.67
29.987 1.1806	71.438 2.8125	42.862 1.6875	36.512 1.4375	94700 21300	0.36	1.87	2.79	14100 3170	8700 1960	24600 5520	1.62
29.987 1.1806	71.975 2.8336	42.761 1.6835	36.512 1.4375	94700 21300	0.36	1.87	2.79	14100 3170	8700 1960	24600 5520	1.62
29.987 1.1806	80.962 3.1875	55.562 2.1875	39.688 1.5625	125000 28100	0.67	1.01	1.50	18600 4190	21300 4790	32400 7290	0.87
30.000 1.1811	69.012 2.7170	46.040 1.8126	38.100 1.5000	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
30.000 1.1811	69.012 2.7170	46.040 1.8126	38.100 1.5000	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
30.162 1.1875	58.738 2.3125	32.542 1.2812	24.608 0.9688	51100 11500	0.47	1.42	2.12	7610 1710	6170 1390	13200 2980	1.23
30.162 1.1875	62.000 2.4409	39.688 1.5625	36.258 1.4275	69700 15700	0.38	1.77	2.63	10400 2330	6800 1530	18100 4060	1.53
30.162 1.1875	66.421 2.6150	44.453 1.7501	38.100 1.5000	90100 20200	0.34	1.99	2.96	13400 3010	7790 1750	23300 5250	1.72
30.162 1.1875	69.850 2.7500	66.675 2.6250	57.150 2.2500	135000 30300	0.27	2.47	3.67	20100 4520	9410 2120	35000 7870	2.14
30.162 1.1875	80.035 3.1510	46.040 1.8126	34.925 1.3750	102000 23000	0.40	1.68	2.50	15200 3430	10500 2360	26500 5970	1.45
30.162 1.1875	80.962 3.1875	55.562 2.1875	39.688 1.5625	125000 28100	0.67	1.01	1.50	18600 4190	21300 4790	32400 7290	0.87
30.213 1.1895	63.500 2.5000	46.038 1.8125	36.512 1.4375	81400 18300	0.35	1.93	2.87	12100 2730	7280 1640	21100 4750	1.67
30.213 1.1895	63.500 2.5000	46.038 1.8125	36.512 1.4375	81400 18300	0.35	1.93	2.87	12100 2730	7280 1640	21100 4750	1.67
31.750 1.2500	58.738 2.3125	32.542 1.2812	24.608 0.9688	51100 11500	0.47	1.42	2.12	7610 1710	6170 1390	13200 2980	1.23
31.750 1.2500	63.500 2.5000	44.259 1.7425	36.512 1.4375	81400 18300	0.35	1.93	2.87	12100 2730	7280 1640	21100 4750	1.67
31.750 1.2500	63.500 2.5000	46.038 1.8125	36.512 1.4375	81400 18300	0.35	1.93	2.87	12100 2730	7280 1640	21100 4750	1.67
31.750 1.2500	63.500 2.5000	46.038 1.8125	36.512 1.4375	81400 18300	0.35	1.93	2.87	12100 2730	7280 1640	21100 4750	1.67
31.750 1.2500	69.012 2.7170	46.040 1.8126	38.100 1.5000	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
31.750 1.2500	69.850 2.7500	66.675 2.6250	57.150 2.2500	135000 30300	0.27	2.47	3.67	20100 4520	9410 2120	35000 7870	2.14
31.750 1.2500	69.850 2.7500	66.675 2.6250	57.150 2.2500	135000 30300	0.27	2.47	3.67	20100 4520	9410 2120	35000 7870	2.14
31.750 1.2500	76.200 3.0000	47.625 1.8750	38.100 1.5000	106000 23800	0.45	1.49	2.21	15800 3550	12300 2750	27500 6170	1.29
31.750 1.2500	76.200 3.0000	47.625 1.8750	38.100 1.5000	106000 23800	0.45	1.49	2.21	15800 3550	12300 2750	27500 6170	1.29
31.750 1.2500	80.962 3.1875	55.562 2.1875	39.688 1.5625	125000 28100	0.67	1.01	1.50	18600 4190	21300 4790	32400 7290	0.87
31.750 1.2500	82.550 3.2500	66.678 2.6251	55.562 2.1875	169000 37900	0.37	1.85	2.75	25100 5650	15700 3530	43700 9830	1.60
32.004 1.2600	71.438 2.8125	42.862 1.6875	36.512 1.4375	94700 21300	0.36	1.87	2.79	14100 3170	8700 1960	24600 5520	1.62

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
43112	43319D	X1S-43112	0.8 0.03	42.5 1.67	1.5 0.06	74.0 2.91			16.8	7.57	0.0774	1.37 3.01
17118	17245D	X1S-17119	1.5 0.06	37.0 1.46	0.8 0.03	57.0 2.24			11.8	7.49	0.0579	0.54 1.18
15117	15251D	X1S-15117	1.3 0.05	36.5 1.44	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.65 1.43
26118	26282D	X2S-26118	1.5 0.06	38.0 1.50	0.4 0.02	65.0 2.56			16.1	10.1	0.0630	0.81 1.78
26118	26284D	X1S-26118	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
43117	43319D		1.5 0.06	44.5 1.75	1.5 0.06	74.0 2.91			16.8	7.57	0.0774	1.31 2.88
14117A	14276D	X1S-14117A	3.5 0.14	43.0 1.69	0.8 0.03	63.0 2.48			18	9.4	0.0668	0.79 1.75
14118	14276D	X1S-14117A	0.8 0.03	37.0 1.46	0.8 0.03	63.0 2.48			18	9.4	0.0668	0.79 1.75
08118	08231D	X1S-08118	3.5 0.14	41.5 1.63	0.4 0.02	55.0 2.17			10.7	10.6	0.0601	0.37 0.81
17119	17245D	X4S-17119	1.5 0.06	37.0 1.46	0.8 0.03	57.0 2.24			11.8	7.49	0.0579	0.53 1.18
24118	24262D	X1S-24118	1.5 0.06	37.5 1.48	0.8 0.03	61.0 2.40			14	8.28	0.0589	0.69 1.53
2558	2524YD		2.3 0.09	40.0 1.57	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.16 2.56
28118	28318D		1.5 0.06	40.0 1.57	0.8 0.03	73.0 2.87			20.7	12.5	0.0709	1.10 2.43
43118	43319D	X1S-43118	1.5 0.06	45.0 1.77	1.5 0.06	74.0 2.91			16.8	7.57	0.0774	1.33 2.93
15118	15251D		3.5 0.14	41.5 1.63	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.62 1.37
15119	15251D	X1S-15118	1.5 0.06	37.5 1.48	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.65 1.43
08125	08231D	X6S-08125	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	X1S-15123	0.0 0.00	42.5 1.67	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.59 1.30
15125	15251D	X1S-15125	3.5 0.14	42.5 1.67	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.61 1.35
15126	15251D	X1S-15126	0.8 0.03	37.0 1.46	0.8 0.03	59.0 2.32			14.6	7.58	0.0606	0.62 1.37
14125A	14276D	X1S-14125A	3.5 0.14	44.5 1.75	0.8 0.03	63.0 2.48			18	9.4	0.0668	0.76 1.68
2580	2524YD	X2S-2580	0.8 0.03	38.5 1.52	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.18 2.61
2582	2524YD		3.5 0.14	44.0 1.73	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.13 2.48
02875	02823D	X3S-02875	3.5 0.14	45.5 1.79	0.8 0.03	70.0 2.76			20.6	10.1	0.0740	1.05 2.32
02876	02823D		0.8 0.03	40.0 1.57	0.8 0.03	70.0 2.76			20.6	10.1	0.0740	1.06 2.34
43125	43319D	X1S-43125	1.5 0.06	44.0 1.73	1.5 0.06	74.0 2.91			16.8	7.57	0.0774	1.31 2.88
3476	3423D	X1S-3476	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
26126	26282D		1.5 0.06	39.5 1.56	0.4 0.02	65.0 2.56			16.1	10.1	0.0630	0.78 1.71

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

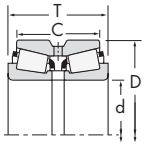
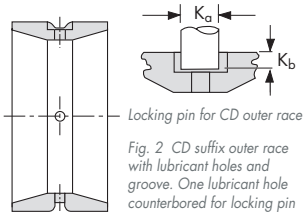
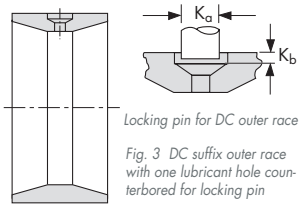


Fig. 1 D suffix outer race with lubricant holes and groove



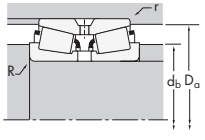
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
32.004 1.2600	**71.975** 2.8336	**42.761** 1.6835	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
33.338 1.3125	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**88000** 19800	**0.38**	**1.77**	**2.63**	**13100** 2950	**8570** 1930	**22800** 5130	**1.53**
33.338 1.3125	**69.850** 2.7500	**66.675** 2.6250	**57.150** 2.2500	**135000** 30300	**0.27**	**2.47**	**3.67**	**20100** 4520	**9410** 2120	**35000** 7870	**2.14**
33.338 1.3125	**69.850** 2.7500	**66.675** 2.6250	**57.150** 2.2500	**135000** 30300	**0.27**	**2.47**	**3.67**	**20100** 4520	**9410** 2120	**35000** 7870	**2.14**
33.338 1.3125	**69.850** 2.7500	**66.675** 2.6250	**57.150** 2.2500	**135000** 30300	**0.27**	**2.47**	**3.67**	**20100** 4520	**9410** 2120	**35000** 7870	**2.14**
33.338 1.3125	**69.850** 2.7500	**66.675** 2.6250	**57.150** 2.2500	**135000** 30300	**0.27**	**2.47**	**3.67**	**20100** 4520	**9410** 2120	**35000** 7870	**2.14**
33.338 1.3125	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
33.338 1.3125	**71.438** 2.8125	**42.862** 1.6875	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
33.338 1.3125	**71.975** 2.8336	**42.761** 1.6835	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
33.338 1.3125	**71.975** 2.8336	**42.761** 1.6835	**36.512** 1.4375	**94700** 21300	**0.36**	**1.87**	**2.79**	**14100** 3170	**8700** 1960	**24600** 5520	**1.62**
33.338 1.3125	**73.025** 2.8750	**42.862** 1.6875	**35.522** 1.3985	**85700** 19300	**0.51**	**1.33**	**1.98**	**12800** 2870	**11100** 2500	**22200** 5000	**1.15**
33.338 1.3125	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**125000** 28100	**0.67**	**1.01**	**1.50**	**18600** 4190	**21300** 4790	**32400** 7290	**0.87**
33.338 1.3125	**80.962** 3.1875	**55.562** 2.1875	**39.688** 1.5625	**125000** 28100	**0.67**	**1.01**	**1.50**	**18600** 4190	**21300** 4790	**32400** 7290	**0.87**
34.925 1.3750	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**88000** 19800	**0.38**	**1.77**	**2.63**	**13100** 2950	**8570** 1930	**22800** 5130	**1.53**
34.925 1.3750	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**88000** 19800	**0.38**	**1.77**	**2.63**	**13100** 2950	**8570** 1930	**22800** 5130	**1.53**
34.925 1.3750	**76.200** 3.0000	**47.625** 1.8750	**38.100** 1.5000	**106000** 23800	**0.45**	**1.49**	**2.21**	**15800** 3550	**12300** 2750	**27500** 6170	**1.29**
34.925 1.3750	**76.200** 3.0000	**47.625** 1.8750	**38.100** 1.5000	**106000** 23800	**0.45**	**1.49**	**2.21**	**15800** 3550	**12300** 2750	**27500** 6170	**1.29**
34.925 1.3750	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**102000** 23000	**0.40**	**1.68**	**2.50**	**15200** 3430	**10500** 2360	**26500** 5970	**1.45**
34.925 1.3750	**80.035** 3.1510	**57.150** 2.2500	**44.958** 1.7700	**126000** 28300	**0.56**	**1.20**	**1.79**	**18700** 4210	**18000** 4040	**32600** 7330	**1.04**
34.925 1.3750	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**
34.975 1.3770	**69.012** 2.7170	**46.040** 1.8126	**38.100** 1.5000	**88000** 19800	**0.38**	**1.77**	**2.63**	**13100** 2950	**8570** 1930	**22800** 5130	**1.53**
34.975 1.3770	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**102000** 23000	**0.40**	**1.68**	**2.50**	**15200** 3430	**10500** 2360	**26500** 5970	**1.45**
35.000 1.3780	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**
36.512 1.4375	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**91400** 20600	**0.40**	**1.68**	**2.50**	**13600** 3060	**9370** 2110	**23700** 5330	**1.45**
36.512 1.4375	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**91400** 20600	**0.40**	**1.68**	**2.50**	**13600** 3060	**9370** 2110	**23700** 5330	**1.45**
36.512 1.4375	**82.550** 3.2500	**66.678** 2.6251	**55.562** 2.1875	**169000** 37900	**0.37**	**1.85**	**2.75**	**25100** 5650	**15700** 3530	**43700** 9830	**1.60**
36.512 1.4375	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**146000** 32800	**0.33**	**2.02**	**3.00**	**21700** 4880	**12500** 2800	**37800** 8500	**1.74**
36.512 1.4375	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**136000** 30500	**0.78**	**0.86**	**1.29**	**20200** 4540	**27000** 6070	**35200** 7910	**0.75**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
26126	26284D		1.5 0.06	39.5 1.56	0.8 0.03	65.0 2.56			16.1	10.1	0.0630	0.79 1.75
14131	14276D	X1S-14131	0.8 0.03	40.5 1.59	0.8 0.03	63.0 2.48			18	9.4	0.0668	0.74 1.63
2581	2523D		0.8 0.03	39.5 1.56	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.10 2.43
2581	2524YD		0.8 0.03	39.5 1.56	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.10 2.43
2585	2523D	X1S-2585	3.5 0.14	45.0 1.77	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.13 2.49
2585	2524YD		3.5 0.14	45.0 1.77	0.8 0.03	64.0 2.52			23.6	9.63	0.0656	1.09 2.41
26131	26282D	X1S-26131	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
26132	26282D		1.5 0.06	40.5 1.59	0.4 0.02	65.0 2.56			16.1	10.1	0.0630	0.76 1.67
26131	26284D	X1S-26131	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
26132	26284D		1.5 0.06	40.5 1.59	0.8 0.03	65.0 2.56			16.1	10.1	0.0630	0.77 1.71
25132	25289D	X1S-25132	2.3 0.09	43.5 1.71	0.8 0.03	66.5 2.62			14.6	13.4	0.0681	0.87 1.93
43131	43319D	X1S-43131	3.5 0.14	51.0 2.01	1.5 0.06	74.0 2.91			16.8	7.57	0.0774	1.26 2.78
43132	43319D	X1S-43131	2.0 0.08	48.0 1.89	1.5 0.06	74.0 2.91			16.8	7.57	0.0774	1.27 2.80
14137A	14276D	X2S-14137	1.5 0.06	43.0 1.69	0.8 0.03	63.0 2.48			18	9.4	0.0668	0.71 1.57
14138A	14276D	X2S-14137	3.5 0.14	47.0 1.85	0.8 0.03	63.0 2.48			18	9.4	0.0668	0.71 1.57
02877	02823D	X1S-02877	3.5 0.14	48.5 1.91	0.8 0.03	70.0 2.76			20.6	10.1	0.0740	1.00 2.21
02878	02823D	X1S-02877	0.8 0.03	42.5 1.67	0.8 0.03	70.0 2.76			20.6	10.1	0.0740	1.02 2.24
28137	28318D	X1S-28138	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
27875	27820D	X2S-27875	0.8 0.03	45.5 1.79	0.8 0.03	75.0 2.95			24.6	12.6	0.0839	1.30 2.87
449	432D		0.8 0.03	44.0 1.73	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	2.28 5.02
14139	14276D	X2S-14137	1.3 0.05	42.5 1.67	0.8 0.03	63.0 2.48			18	9.4	0.0668	0.71 1.57
28138	28318D		1.5 0.06	43.5 1.71	0.8 0.03	73.0 2.87			20.7	12.5	0.0709	1.02 2.25
441	432D		3.5 0.14	50.0 1.97	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	2.26 4.99
13682	13621D		3.5 0.14	48.0 1.89	0.8 0.03	65.0 2.56			20.7	12.2	0.0713	0.66 1.45
13682	13621DC	X1S-13682	3.5 0.14	48.0 1.89	0.8 0.03	65.0 2.56	6.1 0.24	2.3 0.09	20.7	12.2	0.0713	0.71 1.56
3479	3423D	X2S-3479	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	X1S-25570	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	X1S-44143	2.3 0.09	54.0 2.13	1.5 0.06	85.0 3.35			22.9	8.71	0.0899	1.72 3.78

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

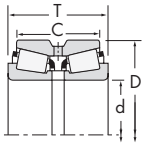
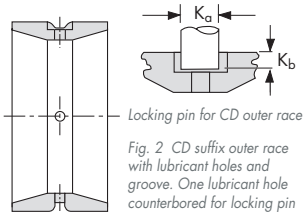
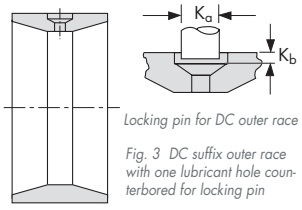


Fig. 1 D suffix outer race with lubricant holes and groove



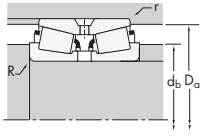
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
38.100 1.5000	**63.500** 2.5000	**38.100** 1.5000	**31.750** 1.2500	**43800** 9840	**0.35**	**1.95**	**2.90**	**6520** 1470	**3860** 869	**11300** 2550	**1.69**
38.100 1.5000	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**91400** 20600	**0.40**	**1.68**	**2.50**	**13600** 3060	**9370** 2110	**23700** 5330	**1.45**
38.100 1.5000	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**91400** 20600	**0.40**	**1.68**	**2.50**	**13600** 3060	**9370** 2110	**23700** 5330	**1.45**
38.100 1.5000	**69.012** 2.7170	**46.035** 1.8124	**38.100** 1.5000	**91400** 20600	**0.40**	**1.68**	**2.50**	**13600** 3060	**9370** 2110	**23700** 5330	**1.45**
38.100 1.5000	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**102000** 23000	**0.40**	**1.68**	**2.50**	**15200** 3430	**10500** 2360	**26500** 5970	**1.45**
38.100 1.5000	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**102000** 23000	**0.40**	**1.68**	**2.50**	**15200** 3430	**10500** 2360	**26500** 5970	**1.45**
38.100 1.5000	**80.035** 3.1510	**57.150** 2.2500	**44.958** 1.7700	**126000** 28300	**0.56**	**1.20**	**1.79**	**18700** 4210	**18000** 4040	**32600** 7330	**1.04**
38.100 1.5000	**80.035** 3.1510	**57.150** 2.2500	**44.958** 1.7700	**126000** 28300	**0.56**	**1.20**	**1.79**	**18700** 4210	**18000** 4040	**32600** 7330	**1.04**
38.100 1.5000	**82.550** 3.2500	**66.678** 2.6251	**55.562** 2.1875	**169000** 37900	**0.37**	**1.85**	**2.75**	**25100** 5650	**15700** 3530	**43700** 9830	**1.60**
38.100 1.5000	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**146000** 32800	**0.33**	**2.02**	**3.00**	**21700** 4880	**12500** 2800	**37800** 8500	**1.74**
38.100 1.5000	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**136000** 30500	**0.78**	**0.86**	**1.29**	**20200** 4540	**27000** 6070	**35200** 7910	**0.75**
38.100 1.5000	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**
38.100 1.5000	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**
38.100 1.5000	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**209000** 47000	**0.33**	**2.05**	**3.05**	**31100** 7000	**17600** 3950	**54200** 12200	**1.77**
38.100 1.5000	**95.250** 3.7500	**65.088** 2.5625	**44.450** 1.7500	**161000** 36300	**0.74**	**0.91**	**1.36**	**24000** 5410	**30500** 6850	**41900** 9410	**0.79**
38.100 1.5000	**111.125** 4.3750	**79.375** 3.1250	**63.500** 2.5000	**277000** 62400	**0.30**	**2.28**	**3.39**	**41300** 9290	**21000** 4720	**71900** 16200	**1.97**
38.481 1.5150	**63.500** 2.5000	**38.100** 1.5000	**31.750** 1.2500	**43800** 9840	**0.35**	**1.95**	**2.90**	**6520** 1470	**3860** 869	**11300** 2550	**1.69**
39.688 1.5625	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**136000** 30500	**0.78**	**0.86**	**1.29**	**20200** 4540	**27000** 6070	**35200** 7910	**0.75**
39.688 1.5625	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**136000** 30500	**0.78**	**0.86**	**1.29**	**20200** 4540	**27000** 6070	**35200** 7910	**0.75**
39.980 1.5740	**80.035** 3.1510	**43.459** 1.7110	**34.925** 1.3750	**102000** 23000	**0.40**	**1.68**	**2.50**	**15200** 3430	**10500** 2360	**26500** 5970	**1.45**
39.980 1.5740	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**102000** 23000	**0.40**	**1.68**	**2.50**	**15200** 3430	**10500** 2360	**26500** 5970	**1.45**
40.000 1.5748	**80.035** 3.1510	**46.040** 1.8126	**34.925** 1.3750	**102000** 23000	**0.40**	**1.68**	**2.50**	**15200** 3430	**10500** 2360	**26500** 5970	**1.45**
40.000 1.5748	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
40.000 1.5748	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
40.000 1.5748	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
40.000 1.5748	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
40.000 1.5748	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**136000** 30500	**0.78**	**0.86**	**1.29**	**20200** 4540	**27000** 6070	**35200** 7910	**0.75**
40.000 1.5748	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
13889	13835D	X1S-13889	1.5 0.06	45.0 1.77	0.4 0.02	60.0 2.36			14.8	23.3	0.0601	0.42 0.93
13685	13621DC	X1S-13687	3.5 0.14	49.5 1.95	0.8 0.03	65.0 2.56	6.1 0.24	2.3 0.09	20.7	10.9	0.0713	0.68 1.49
13685	13621D	X2S-13687	3.5 0.14	49.5 1.95	0.8 0.03	65.0 2.56			20.7	10.9	0.0713	0.65 1.44
13687	13621D	X1S-13687	2.0 0.08	46.5 1.83	0.8 0.03	65.0 2.56			20.7	10.9	0.0713	0.66 1.46
28150	28318D	X4S-28150	1.5 0.06	45.5 1.79	0.8 0.03	73.0 2.87			20.7	12.5	0.0709	0.98 2.17
28151	28318D		3.5 0.14	50.0 1.97	0.8 0.03	73.0 2.87			20.7	12.5	0.0709	0.95 2.10
27880	27820D	X1S-27880	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	X1S-27881	3.5 0.14	53.0 2.09	0.8 0.03	75.0 2.95			24.6	12.6	0.0839	1.21 2.66
3490	3423D	X1S-3490	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	X1S-25572	0.8 0.03	46.0 1.81	0.8 0.03	77.0 3.03			35.2	14.3	0.0801	1.48 3.26
44150	44363D	X1S-44150	2.3 0.09	55.0 2.17	1.5 0.06	85.0 3.35			22.9	8.71	0.0899	1.67 3.69
440	432D		0.8 0.03	46.5 1.83	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	2.19 4.83
444	432D		3.5 0.14	52.0 2.05	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	2.18 4.80
33880	33821D	X1S-33880	3.5 0.14	54.0 2.13	0.8 0.03	90.0 3.54			52.5	18.5	0.0910	2.25 4.97
53150	53376D	X2S-53150	1.5 0.06	55.0 2.17	0.8 0.03	89.0 3.50			26.7	9.63	0.0930	2.11 4.64
542	533D	X1S-542	3.5 0.14	55.0 2.17	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.98 8.77
13890	13835D	X1S-13890	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	X1S-44156	2.3 0.09	56.0 2.20	1.5 0.06	85.0 3.35			22.9	8.71	0.0899	1.60 3.53
44158	44363D		3.5 0.14	58.0 2.28	1.5 0.06	85.0 3.35			22.9	8.71	0.0899	1.59 3.51
28156	28318D		2.3 0.09	49.0 1.93	0.8 0.03	73.0 2.87			20.7	12.5	0.0709	0.90 1.98
28159	28318D	X1S-28158	3.5 0.14	52.0 2.05	0.8 0.03	73.0 2.87			20.7	12.5	0.0709	0.94 2.07
28158	28318D	X2S-28158	1.5 0.06	47.5 1.87	0.8 0.03	73.0 2.87			20.7	12.5	0.0709	0.95 2.09
350	353D		4.0 0.16	54.0 2.13	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.46 3.23
350	353DC	X1S-357	4.0 0.16	54.0 2.13	0.8 0.03	82.0 3.23	7.9 0.31	3.8 0.15	30	12.2	0.0732	1.52 3.35
350A	353D	X1S-357	0.8 0.03	47.5 1.87	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.54 3.39
357	353D	X1S-357	2.3 0.09	51.0 2.01	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.53 3.38
44157	44363D		2.3 0.09	56.0 2.20	1.5 0.06	85.0 3.35			22.9	8.71	0.0899	1.59 3.51
442-S	432D		3.5 0.14	54.0 2.13	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	2.12 4.68

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

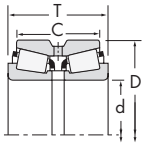
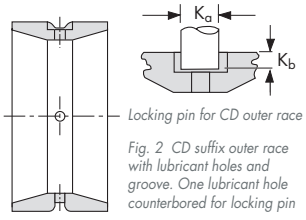
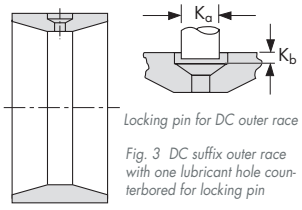


Fig. 1 D suffix outer race with lubricant holes and groove



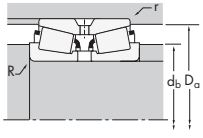
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
41.275 1.6250	**76.200** 3.0000	**49.212** 1.9375	**39.688** 1.5625	**122000** 27400	**0.39**	**1.72**	**2.56**	**18100** 4080	**12200** 2740	**31600** 7100	**1.49**
41.275 1.6250	**76.200** 3.0000	**49.212** 1.9375	**39.688** 1.5625	**122000** 27400	**0.39**	**1.72**	**2.56**	**18100** 4080	**12200** 2740	**31600** 7100	**1.49**
41.275 1.6250	**90.000** 3.5433	**50.010** 1.9689	**42.070** 1.6563	**138000** 31100	**0.32**	**2.11**	**3.14**	**20600** 4640	**11300** 2540	**35900** 8070	**1.83**
41.275 1.6250	**92.075** 3.6250	**55.562** 2.1875	**39.688** 1.5625	**136000** 30500	**0.78**	**0.86**	**1.29**	**20200** 4540	**27000** 6070	**35200** 7910	**0.75**
41.275 1.6250	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**
41.275 1.6250	**95.250** 3.7500	**65.088** 2.5625	**44.450** 1.7500	**161000** 36300	**0.74**	**0.91**	**1.36**	**24000** 5410	**30500** 6850	**41900** 9410	**0.79**
41.275 1.6250	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
41.275 1.6250	**111.125** 4.3750	**79.375** 3.1250	**63.500** 2.5000	**277000** 62400	**0.30**	**2.28**	**3.39**	**41300** 9290	**21000** 4720	**71900** 16200	**1.97**
42.850 1.6870	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
42.862 1.6875	**82.550** 3.2500	**44.450** 1.7500	**34.925** 1.3750	**105000** 23700	**0.43**	**1.57**	**2.34**	**15700** 3530	**11500** 2600	**27300** 6140	**1.36**
42.862 1.6875	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**146000** 32800	**0.33**	**2.02**	**3.00**	**21700** 4880	**12500** 2800	**37800** 8500	**1.74**
44.450 1.7500	**79.375** 3.1250	**41.272** 1.6249	**33.338** 1.3125	**83800** 18800	**0.37**	**1.80**	**2.69**	**12500** 2810	**7990** 1800	**21700** 4890	**1.56**
44.450 1.7500	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**146000** 32800	**0.33**	**2.02**	**3.00**	**21700** 4880	**12500** 2800	**37800** 8500	**1.74**
44.450 1.7500	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**146000** 32800	**0.33**	**2.02**	**3.00**	**21700** 4880	**12500** 2800	**37800** 8500	**1.74**
44.450 1.7500	**82.931** 3.2650	**57.150** 2.2500	**47.625** 1.8750	**146000** 32800	**0.33**	**2.02**	**3.00**	**21700** 4880	**12500** 2800	**37800** 8500	**1.74**
44.450 1.7500	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
44.450 1.7500	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
44.450 1.7500	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
44.450 1.7500	**90.119** 3.5480	**50.795** 1.9998	**44.450** 1.7500	**132000** 29700	**0.31**	**2.20**	**3.28**	**19600** 4420	**10300** 2320	**34200** 7690	**1.91**
44.450 1.7500	**93.264** 3.6718	**65.088** 2.5625	**52.388** 2.0625	**197000** 44300	**0.34**	**1.99**	**2.97**	**29300** 6590	**17000** 3820	**51000** 11500	**1.73**
44.450 1.7500	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**
44.450 1.7500	**95.250** 3.7500	**61.915** 2.4376	**50.800** 2.0000	**205000** 46000	**0.28**	**2.37**	**3.53**	**30500** 6850	**14800** 3330	**53000** 11900	**2.05**
44.450 1.7500	**95.250** 3.7500	**63.500** 2.5000	**52.385** 2.0624	**209000** 47000	**0.33**	**2.05**	**3.05**	**31100** 7000	**17600** 3950	**54200** 12200	**1.77**
44.450 1.7500	**95.250** 3.7500	**65.088** 2.5625	**44.450** 1.7500	**161000** 36300	**0.74**	**0.91**	**1.36**	**24000** 5410	**30500** 6850	**41900** 9410	**0.79**
44.450 1.7500	**95.250** 3.7500	**65.088** 2.5625	**44.450** 1.7500	**161000** 36300	**0.74**	**0.91**	**1.36**	**24000** 5410	**30500** 6850	**41900** 9410	**0.79**
44.450 1.7500	**95.250** 3.7500	**65.088** 2.5625	**44.450** 1.7500	**161000** 36300	**0.74**	**0.91**	**1.36**	**24000** 5410	**30500** 6850	**41900** 9410	**0.79**
44.450 1.7500	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
44.450 1.7500	**111.125** 4.3750	**79.375** 3.1250	**63.500** 2.5000	**277000** 62400	**0.30**	**2.28**	**3.39**	**41300** 9290	**21000** 4720	**71900** 16200	**1.97**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
24780	24720D		3.5 0.14	54.0 2.13	0.8 0.03	72.0 2.83			26.4	12.5	0.0767	0.93 2.04
24780	24720XD		3.5 0.14	54.0 2.13	0.8 0.03	72.0 2.83			26.4	12.5	0.0767	0.91 2.00
365A	363D	X1S-365A	3.5 0.14	55.0 2.17	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.41 3.11
44162	44363D	X2S-44162	2.3 0.09	57.0 2.24	1.5 0.06	85.0 3.35			22.9	8.71	0.0899	1.59 3.51
447	432D	X1S-447	3.5 0.14	55.0 2.17	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	2.11 4.65
53162	53376D		1.5 0.06	57.0 2.24	0.8 0.03	89.0 3.50			26.7	9.63	0.0930	1.96 4.32
464	452D	X1S-464	2.3 0.09	56.0 2.20	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	3.08 6.79
541	533D		3.5 0.14	58.0 2.28	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.86 8.51
461	452D		0.8 0.03	54.0 2.13	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.97 6.56
22168	22325D	X2S-22168	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	X1S-25578	2.3 0.09	53.0 2.09	0.8 0.03	77.0 3.03			35.2	14.3	0.0801	1.33 2.93
18685	18620D	X2S-18685	2.8 0.11	54.0 2.13	0.8 0.03	74.0 2.91			23.9	17.7	0.0725	0.78 1.73
25580	25520DC	X1S-25581	3.5 0.14	57.0 2.24	0.8 0.03	77.0 3.03	9.4 0.37	2.3 0.09	35.2	14.3	0.0801	1.31 2.88
25580	25520D	X3S-25580	3.5 0.14	57.0 2.24	0.8 0.03	77.0 3.03			35.2	14.3	0.0801	1.31 2.88
25581	25520D	X1S-25581	0.5 0.02	51.0 2.01	0.8 0.03	77.0 3.03			35.2	14.3	0.0801	1.32 2.92
355	353D	X3S-355	2.3 0.09	54.0 2.13	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.41 3.10
355A	353D	X2S-355	0.8 0.03	51.0 2.01	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.41 3.11
355X	353D		3.5 0.14	56.0 2.20	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.37 3.01
355X	353DC	X3S-355	3.5 0.14	56.0 2.20	0.8 0.03	82.0 3.23	7.9 0.31	3.8 0.15	30	12.2	0.0732	1.37 3.01
3782	3729D	X1S-3782	3.5 0.14	58.0 2.28	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	2.06 4.53
435	432D	R800002	0.8 0.03	52.0 2.05	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	2.00 4.41
438	432D	R800002	3.5 0.14	57.0 2.24	0.8 0.03	87.0 3.43			42.5	11.3	0.0805	1.98 4.37
33885	33821D	X1S-33885	0.8 0.03	53.0 2.09	0.8 0.03	90.0 3.54			52.5	18.5	0.0910	2.12 4.66
53176	53376D		1.3 0.05	59.0 2.32	0.8 0.03	89.0 3.50			26.7	9.63	0.0930	1.90 4.18
53177	53376D	X2S-53176	3.5 0.14	63.0 2.48	0.8 0.03	89.0 3.50			26.7	9.63	0.0930	1.88 4.15
53178	53376D	X2S-53176	2.0 0.08	60.0 2.36	0.8 0.03	89.0 3.50			26.7	9.63	0.0930	1.89 4.18
460	452D		3.5 0.14	60.0 2.36	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.91 6.42
535	533D		3.5 0.14	60.0 2.36	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.74 8.24

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

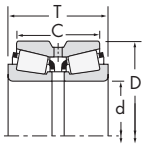
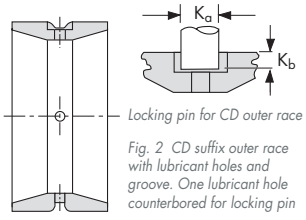
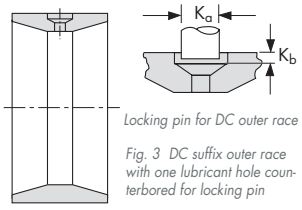


Fig. 1 D suffix outer race with lubricant holes and groove



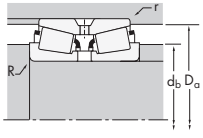
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic (1)	Factors (5)			Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
44.450 1.7500	112.712 4.4375	65.088 2.5625	46.038 1.8125	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
44.983 1.7710	82.931 3.2650	57.150 2.2500	47.625 1.8750	146000 32800	0.33	2.02	3.00	21700 4880	12500 2800	37800 8500	1.74
44.983 1.7710	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
45.000 1.7717	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
45.000 1.7717	90.119 3.5480	50.795 1.9998	44.450 1.7500	132000 29700	0.31	2.20	3.28	19600 4420	10300 2320	34200 7690	1.91
45.000 1.7717	90.119 3.5480	50.795 1.9998	44.450 1.7500	132000 29700	0.31	2.20	3.28	19600 4420	10300 2320	34200 7690	1.91
45.000 1.7717	100.000 3.9370	50.800 2.0000	39.690 1.5626	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
45.618 1.7960	82.931 3.2650	57.150 2.2500	47.625 1.8750	146000 32800	0.33	2.02	3.00	21700 4880	12500 2800	37800 8500	1.74
46.038 1.8125	79.375 3.1250	41.272 1.6249	33.338 1.3125	83800 18800	0.37	1.80	2.69	12500 2810	7990 1800	21700 4890	1.56
46.038 1.8125	79.375 3.1250	41.272 1.6249	33.338 1.3125	83800 18800	0.37	1.80	2.69	12500 2810	7990 1800	21700 4890	1.56
46.038 1.8125	90.119 3.5480	50.795 1.9998	44.450 1.7500	132000 29700	0.31	2.20	3.28	19600 4420	10300 2320	34200 7690	1.91
46.038 1.8125	90.119 3.5480	50.795 1.9998	44.450 1.7500	132000 29700	0.31	2.20	3.28	19600 4420	10300 2320	34200 7690	1.91
46.038 1.8125	95.250 3.7500	61.915 2.4376	50.800 2.0000	205000 46000	0.28	2.37	3.53	30500 6850	14800 3330	53000 11900	2.05
47.625 1.8750	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
47.625 1.8750	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
47.625 1.8750	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
47.625 1.8750	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
47.625 1.8750	100.000 3.9370	49.200 1.9370	39.675 1.5620	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
47.625 1.8750	100.000 3.9370	52.388 2.0625	42.862 1.6875	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
47.625 1.8750	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
47.625 1.8750	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
47.625 1.8750	109.982 4.3300	63.500 2.5000	42.865 1.6876	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
47.625 1.8750	111.125 4.3750	79.375 3.1250	63.500 2.5000	277000 62400	0.30	2.28	3.39	41300 9290	21000 4720	71900 16200	1.97
47.625 1.8750	112.712 4.4375	65.088 2.5625	46.038 1.8125	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
47.625 1.8750	117.475 4.6250	73.025 2.8750	53.975 2.1250	240000 54000	0.63	1.08	1.60	35800 8040	38300 8620	62300 14000	0.93
47.625 1.8750	123.825 4.8750	77.788 3.0625	55.562 2.1875	266000 59800	0.74	0.92	1.36	39600 8910	50000 11200	69000 15500	0.79
49.212 1.9375	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
49.212 1.9375	111.125 4.3750	79.375 3.1250	63.500 2.5000	277000 62400	0.30	2.28	3.39	41300 9290	21000 4720	71900 16200	1.97

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
55175	55444D	X2S-55176	3.5 0.14	67.0 2.64	1.5 0.06	105.0 4.13			36.8	13.2	0.1085	3.03 6.67
25584	25520D	X1S-25584	1.5 0.06	53.0 2.09	0.8 0.03	77.0 3.03			35.2	14.3	0.0801	1.30 2.87
3776	3729D	X1S-3776	3.5 0.14	59.0 2.32	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	2.03 4.47
367	363D	X3S-367	2.0 0.08	55.0 2.17	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.34 2.95
358	353D	X2S-358	1.5 0.06	53.0 2.09	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.40 3.08
358A	353D	X1S-358	3.5 0.14	57.0 2.24	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.39 3.06
376X	372D		2.0 0.08	56.0 2.20	0.8 0.03	90.0 3.54			37.6	15.4	0.0816	1.76 3.88
25590	25520D	X1S-25590	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
18690	18620DC	X1S-18690	2.8 0.11	56.0 2.20	0.8 0.03	74.0 2.91	4.6 0.18	2.3 0.09	23.9	17.7	0.0725	0.74 1.64
18690	18620D	X2S-18690	2.8 0.11	56.0 2.20	0.8 0.03	74.0 2.91			23.9	17.7	0.0725	0.74 1.64
359A	353D		3.5 0.14	57.0 2.24	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.33 2.92
359-S	353D	X1S-359-S	2.3 0.09	55.0 2.17	0.8 0.03	82.0 3.23			30	12.2	0.0732	1.36 3.01
436	432D	X1S-436	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	X1S-369A	3.5 0.14	60.0 2.36	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.26 2.78
369-S	363D	X1S-369A	2.3 0.09	57.0 2.24	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.27 2.79
3778	3729D		6.4 0.25	67.0 2.64	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	1.88 4.13
3779	3729D	X1S-3779	3.5 0.14	61.0 2.40	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	1.94 4.27
386A	384ED	X1S-386A	0.8 0.03	56.0 2.20	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.75 3.85
386A	384D	X2S-386A	0.8 0.03	56.0 2.20	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.84 4.05
463	452D		4.8 0.19	65.0 2.56	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.79 6.15
467	452D	X1S-467	0.8 0.03	57.0 2.24	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.89 6.37
55187	55433D	X2S-55187	3.5 0.14	69.0 2.72	0.5 0.02	105.0 4.13			36.8	13.2	0.1085	2.77 6.11
536	533D		3.5 0.14	62.0 2.44	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.60 7.94
55187	55444D	X1S-55187	3.5 0.14	69.0 2.72	1.5 0.06	105.0 4.13			36.8	13.2	0.1085	2.91 6.41
66187	66462D	X1S-66187	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
72187	72488D	X1S-72187	3.5 0.14	72.0 2.83	1.5 0.06	115.0 4.53			47.7	14.1	0.0772	4.36 9.60
3781	3729D	X1S-366	3.5 0.14	62.0 2.44	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	1.88 4.14
545	533D		3.5 0.14	64.0 2.52	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.53 7.79

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

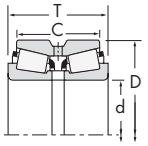
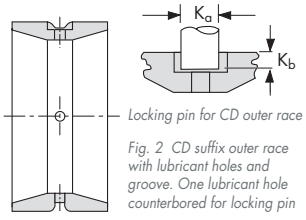
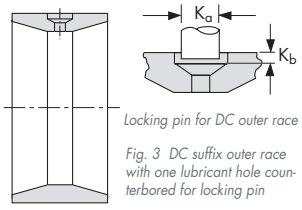


Fig. 1 D suffix outer race with lubricant holes and groove



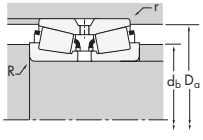
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic (1)	Factors (5)			Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
49.975 1.9675	109.982 4.3300	63.500 2.5000	42.865 1.6876	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
49.975 1.9675	112.712 4.4375	65.088 2.5625	46.038 1.8125	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
49.982 1.9678	111.125 4.3750	79.375 3.1250	63.500 2.5000	277000 62400	0.30	2.28	3.39	41300 9290	21000 4720	71900 16200	1.97
50.000 1.9685	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.000 1.9685	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.000 1.9685	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.000 1.9685	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
50.800 2.0000	80.962 3.1875	42.865 1.6876	34.925 1.3750	98000 22000	0.36	1.90	2.83	14600 3280	8880 2000	25400 5710	1.64
50.800 2.0000	89.985 3.5427	50.400 1.9843	49.949 1.9665	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.800 2.0000	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.800 2.0000	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.800 2.0000	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.800 2.0000	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
50.800 2.0000	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
50.800 2.0000	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
50.800 2.0000	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
50.800 2.0000	95.250 3.7500	63.500 2.5000	52.385 2.0624	209000 47000	0.33	2.05	3.05	31100 7000	17600 3950	54200 12200	1.77
50.800 2.0000	95.250 3.7500	63.500 2.5000	52.385 2.0624	209000 47000	0.33	2.05	3.05	31100 7000	17600 3950	54200 12200	1.77
50.800 2.0000	100.000 3.9370	49.200 1.9370	39.675 1.5620	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
50.800 2.0000	100.000 3.9370	49.200 1.9370	39.675 1.5620	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
50.800 2.0000	100.000 3.9370	52.388 2.0625	42.862 1.6875	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
50.800 2.0000	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
50.800 2.0000	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
50.800 2.0000	109.982 4.3300	63.500 2.5000	42.865 1.6876	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
50.800 2.0000	109.982 4.3300	63.500 2.5000	42.865 1.6876	206000 46200	0.88	0.76	1.14	30600 6880	46300 10400	53300 12000	0.66
50.800 2.0000	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
50.800 2.0000	112.712 4.4375	65.088 2.5625	46.038 1.8125	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
55197	55433D	X1S-55197	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	X2S-55197	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
546	533D		3.5 0.14	65.0 2.56	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.50 7.71
365	363D	X1S-366	2.0 0.08	58.0 2.28	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.20 2.64
366	363DC	X1S-366	2.3 0.09	59.0 2.32	0.8 0.03	84.0 3.31	7.9 0.31	2.3 0.09	33.8	14	0.0773	1.24 2.73
366	363D	X3S-368	2.3 0.09	59.0 2.32	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.20 2.64
396	394D	X2S-396	0.8 0.03	61.0 2.40	0.8 0.03	104.5 4.11			56	21.4	0.0984	2.31 5.09
L305649	L305610D	L305649XC	1.5 0.06	58.0 2.28	0.8 0.03	77.0 3.03			38.8	27.8	0.0841	0.78 1.73
368A	362XD	X5S-368A	3.5 0.14	62.0 2.44	0.5 0.02	86.5 3.40			33.8	12.7	0.0773	1.27 2.79
368	363D	X3S-368	1.5 0.06	58.0 2.28	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.18 2.60
368A	363DC	X3S-368	3.5 0.14	62.0 2.44	0.8 0.03	84.0 3.31	7.9 0.31	2.3 0.09	33.8	12.7	0.0773	1.21 2.66
368A	363D	X2S-368A	3.5 0.14	62.0 2.44	0.8 0.03	84.0 3.31			33.8	12.7	0.0773	1.17 2.57
3775	3729DC		0.8 0.03	58.0 2.28	0.8 0.03	88.0 3.46	9.4 0.37	2.3 0.09	49.9	14.5	0.0903	1.81 3.99
3775	3729D	X3S-3775	0.8 0.03	58.0 2.28	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	1.84 4.06
3780	3729DC	X1S-3780	3.5 0.14	64.0 2.52	0.8 0.03	88.0 3.46	9.4 0.37	2.3 0.09	49.9	14.5	0.0903	1.82 4.02
3780	3729D	X1S-3780	3.5 0.14	64.0 2.52	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	1.82 4.02
3784	3729D	X1S-3780	6.4 0.25	70.0 2.76	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	1.78 3.93
33889	33821DC	X1S-33889	3.5 0.14	64.0 2.52	0.8 0.03	90.0 3.54	10.9 0.43	2.3 0.09	52.5	18.5	0.0910	1.85 4.08
33889	33821D	X1S-33889	3.5 0.14	64.0 2.52	0.8 0.03	90.0 3.54			52.5	18.5	0.0910	1.85 4.08
385A	384EDC	X2S-385A	2.3 0.09	61.0 2.40	0.8 0.03	93.0 3.66	7.9 0.31	3.0 0.12	42	15.7	0.0859	1.62 3.58
385A	384ED	X2S-385A	2.3 0.09	61.0 2.40	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.62 3.58
385A	384D	X1S-385A	2.3 0.09	61.0 2.40	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.76 3.89
455	452D	X2S-455	0.8 0.03	60.0 2.36	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.77 6.10
455-S	452D	X1S-455	3.5 0.14	65.0 2.56	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.75 6.07
55200	55433D	X4S-55200	3.5 0.14	71.0 2.80	0.5 0.02	105.0 4.13			36.8	13.2	0.1085	2.68 5.90
55200C	55433D	X4S-55200	3.5 0.14	71.0 2.80	0.5 0.02	105.0 4.13			48.7	15.4	0.1198	2.85 6.29
398	394D	X1S-398	0.8 0.03	62.0 2.44	0.8 0.03	104.5 4.11			56	21.4	0.0984	2.29 5.04
55200	55444D	X3S-55200	3.5 0.14	71.0 2.80	1.5 0.06	105.0 4.13			36.8	13.2	0.1085	2.79 6.15

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

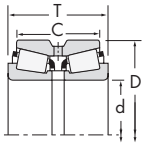
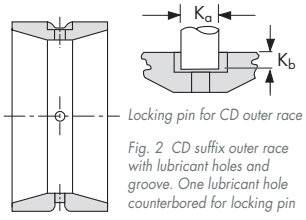
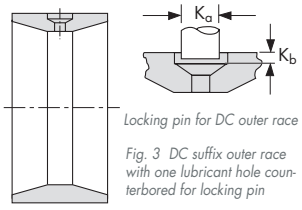


Fig. 1 D suffix outer race with lubricant holes and groove



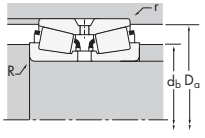
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.) Dynamic (1)		Factors (5)		Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
50.800 2.0000	117.475 4.6250	73.025 2.8750	53.975 2.1250	240000 54000	0.63	1.08	1.60	35800 8040	38300 8620	62300 14000	0.93
50.800 2.0000	123.825 4.8750	77.785 3.0624	55.562 2.1875	291000 65500	0.74	0.92	1.36	43400 9760	54800 12300	75600 17000	0.79
50.800 2.0000	123.825 4.8750	79.375 3.1250	63.500 2.5000	307000 69100	0.35	1.95	2.90	45800 10300	27100 6100	79700 17900	1.69
51.592 2.0312	90.000 3.5433	50.010 1.9689	42.070 1.6563	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
52.388 2.0625	93.264 3.6718	65.088 2.5625	52.388 2.0625	197000 44300	0.34	1.99	2.97	29300 6590	17000 3820	51000 11500	1.73
52.388 2.0625	95.250 3.7500	63.500 2.5000	52.385 2.0624	209000 47000	0.33	2.05	3.05	31100 7000	17600 3950	54200 12200	1.77
52.388 2.0625	95.250 3.7500	63.500 2.5000	52.385 2.0624	209000 47000	0.33	2.05	3.05	31100 7000	17600 3950	54200 12200	1.77
52.388 2.0625	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
52.388 2.0625	109.982 4.3300	63.500 2.5000	42.865 1.6876	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
52.388 2.0625	111.125 4.3750	79.375 3.1250	63.500 2.5000	277000 62400	0.30	2.28	3.39	41300 9290	21000 4720	71900 16200	1.97
52.388 2.0625	112.712 4.4375	65.088 2.5625	46.038 1.8125	172000 38600	0.88	0.76	1.14	25500 5740	38600 8690	44500 10000	0.66
53.975 2.1250	95.250 3.7500	63.500 2.5000	52.385 2.0624	209000 47000	0.33	2.05	3.05	31100 7000	17600 3950	54200 12200	1.77
53.975 2.1250	100.000 3.9370	49.200 1.9370	39.675 1.5620	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
53.975 2.1250	100.000 3.9370	52.388 2.0625	42.862 1.6875	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
53.975 2.1250	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
53.975 2.1250	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
53.975 2.1250	111.125 4.3750	79.375 3.1250	63.500 2.5000	277000 62400	0.30	2.28	3.39	41300 9290	21000 4720	71900 16200	1.97
53.975 2.1250	117.475 4.6250	73.025 2.8750	53.975 2.1250	240000 54000	0.63	1.08	1.60	35800 8040	38300 8620	62300 14000	0.93
53.975 2.1250	123.825 4.8750	79.375 3.1250	63.500 2.5000	307000 69100	0.35	1.95	2.90	45800 10300	27100 6100	79700 17900	1.69
53.975 2.1250	136.525 5.3750	95.250 3.7500	76.200 3.0000	376000 84500	0.36	1.86	2.78	55900 12600	34700 7790	97400 21900	1.61
53.975 2.1250	139.700 5.5000	77.790 3.0626	51.803 2.0395	322000 72300	0.87	0.78	1.16	47900 10800	71000 16000	83400 18800	0.67
54.987 2.1649	107.950 4.2500	65.090 2.5626	53.975 2.1250	219000 49200	0.34	2.01	3.00	32600 7320	18700 4200	56700 12700	1.74
55.000 2.1654	100.000 3.9370	49.200 1.9370	39.675 1.5620	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
55.000 2.1654	100.000 3.9370	49.200 1.9370	39.675 1.5620	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
55.000 2.1654	100.000 3.9370	49.200 1.9370	39.675 1.5620	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
55.000 2.1654	100.000 3.9370	52.388 2.0625	42.862 1.6875	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
55.000 2.1654	100.000 3.9370	52.388 2.0625	42.862 1.6875	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
55.000 2.1654	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
66200	66462D	X4S-55200	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
72200C	72488D		3.5 0.14	77.0 3.03	1.5 0.06	115.0 4.53			57.4	13.5	0.0825	4.34 9.56
555	552D	X1S-555	2.3 0.09	66.0 2.60	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.77 10.51
368-S	363D	X1S-368-S	2.0 0.08	59.0 2.32	0.8 0.03	84.0 3.31			33.8	14	0.0773	1.15 2.54
3767	3729D	X1S-3767	2.3 0.09	63.0 2.48	0.8 0.03	88.0 3.46			49.9	14.5	0.0903	1.77 3.90
33890	33821D	X1S-33890	1.5 0.06	61.0 2.40	0.8 0.03	90.0 3.54			52.5	18.5	0.0910	1.82 4.00
33891	33821D	X1S-33890	3.5 0.14	66.0 2.60	0.8 0.03	90.0 3.54			52.5	18.5	0.0910	1.80 3.97
468	452D	X1S-468	1.5 0.06	62.0 2.44	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.64 5.82
55206	55433D	X2S-55206	3.5 0.14	72.0 2.83	0.5 0.02	105.0 4.13			36.8	13.2	0.1085	2.60 5.73
540	533D		3.5 0.14	67.0 2.64	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.39 7.46
55206	55444D	X1S-55206	3.5 0.14	72.0 2.83	1.5 0.06	105.0 4.13			36.8	13.2	0.1085	2.71 5.98
33895	33821D	X2S-33895	1.5 0.06	63.0 2.48	0.8 0.03	90.0 3.54			52.5	18.5	0.0910	1.74 3.85
389A	384ED	X2S-389A	0.8 0.03	61.0 2.40	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.55 3.41
389A	384D	X1S-389A	0.8 0.03	61.0 2.40	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.66 3.65
456	452DC		3.5 0.14	68.0 2.68	0.8 0.03	100.0 3.94	10.9 0.43	3.8 0.15	58.6	17.1	0.0946	2.57 5.66
456	452D	X1S-456	3.5 0.14	68.0 2.68	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.61 5.76
539	533D	X2S-539	3.5 0.14	68.0 2.68	1.5 0.06	100.0 3.94			64.3	16.1	0.0938	3.35 7.37
66212	66462D	X1S-66212	3.5 0.14	73.0 2.87	0.8 0.03	111.0 4.37			50.2	16.4	0.0751	3.57 7.87
557-S	552D	X1S-557-S	3.5 0.14	71.0 2.80	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.64 10.22
636	632D		3.5 0.14	73.0 2.87	1.5 0.06	125.0 4.92			106	21	0.0814	6.71 14.80
78215C	78549D	X1S-78215	3.5 0.14	84.0 3.31	1.5 0.06	131.0 5.16			71.3	17.6	0.0926	5.84 12.87
466	452D	X1S-466	2.3 0.09	66.0 2.60	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.58 5.70
385	384EDC	X4S-385	2.3 0.09	65.0 2.56	0.8 0.03	93.0 3.66	7.9 0.31	3.0 0.12	42	15.7	0.0859	1.50 3.32
385	384ED	X4S-385	2.3 0.09	65.0 2.56	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.50 3.32
385X	384ED	X4S-385	3.5 0.14	67.0 2.64	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.49 3.30
385	384D	X1S-385	2.3 0.09	65.0 2.56	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.61 3.55
385X	384D	X1S-385	3.5 0.14	67.0 2.64	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.60 3.53
475	472DC	X1S-475	0.8 0.03	67.0 2.64	0.8 0.03	114.0 4.49	14.2 0.56	3.0 0.12	77.2	23	0.1083	3.65 8.05

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

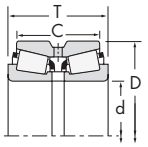
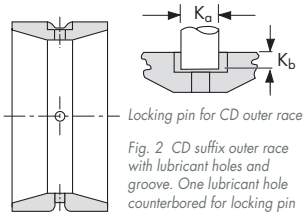
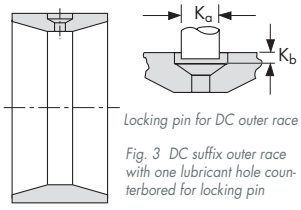


Fig. 1 D suffix outer race with lubricant holes and groove



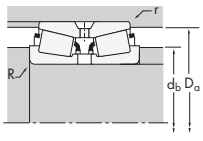
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
55.000 2.1654	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**231000** 52000	**0.38**	**1.75**	**2.61**	**34400** 7740	**22700** 5100	**59900** 13500	**1.52**
55.562 2.1875	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
55.562 2.1875	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
55.575 2.1880	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**92.075** 3.6250	**42.070** 1.6563	**34.130** 1.3437	**101000** 22700	**0.39**	**1.74**	**2.59**	**15100** 3380	**10000** 2250	**26200** 5890	**1.50**
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**100.000** 3.9370	**105.131** 4.1390	**95.606** 3.7640	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.150 2.2500	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
57.150 2.2500	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
57.150 2.2500	**107.950** 4.2500	**65.090** 2.5626	**53.975** 2.1250	**219000** 49200	**0.34**	**2.01**	**3.00**	**32600** 7320	**18700** 4200	**56700** 12700	**1.74**
57.150 2.2500	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**159000** 35800	**0.40**	**1.68**	**2.50**	**23700** 5340	**16300** 3670	**41300** 9290	**1.45**
57.150 2.2500	**114.287** 4.4995	**58.738** 2.3125	**46.038** 1.8125	**178000** 40000	**0.49**	**1.38**	**2.06**	**26500** 5960	**22100** 4980	**46200** 10400	**1.20**
57.150 2.2500	**117.475** 4.6250	**73.025** 2.8750	**53.975** 2.1250	**240000** 54000	**0.63**	**1.08**	**1.60**	**35800** 8040	**38300** 8620	**62300** 14000	**0.93**
57.150 2.2500	**123.825** 4.8750	**77.785** 3.0624	**55.562** 2.1875	**291000** 65500	**0.74**	**0.92**	**1.36**	**43400** 9760	**54800** 12300	**75600** 17000	**0.79**
57.150 2.2500	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**307000** 69100	**0.35**	**1.95**	**2.90**	**45800** 10300	**27100** 6100	**79700** 17900	**1.69**
57.150 2.2500	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**376000** 84500	**0.36**	**1.86**	**2.78**	**55900** 12600	**34700** 7790	**97400** 21900	**1.61**
57.150 2.2500	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**276000** 62000	**0.87**	**0.78**	**1.16**	**41100** 9230	**60900** 13700	**71500** 16100	**0.67**
57.531 2.2650	**100.000** 3.9370	**49.200** 1.9370	**39.675** 1.5620	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**
57.531 2.2650	**100.000** 3.9370	**52.388** 2.0625	**42.862** 1.6875	**147000** 33000	**0.35**	**1.91**	**2.84**	**21800** 4910	**13200** 2980	**38000** 8550	**1.65**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
475	472D	X1S-475	0.8 0.03	67.0 2.64	0.8 0.03	114.0 4.49			77.2	23	0.1083	3.65 8.05
466-S	452DC		2.3 0.09	66.0 2.60	0.8 0.03	100.0 3.94	10.9 0.43	3.8 0.15	58.6	17.1	0.0946	2.52 5.55
466-S	452D	X1S-466-S	2.3 0.09	66.0 2.60	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.56 5.65
389	384ED	X2S-389	2.3 0.09	65.0 2.56	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.49 3.29
L507949	L507914D	L507949XS	1.5 0.06	65.0 2.56	0.8 0.03	86.0 3.39			46.1	36.9	0.0914	1.08 2.38
387	384ED	X2S-387	2.3 0.09	66.0 2.60	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.44 3.18
387A	384EDC	X1S-387	3.5 0.14	69.0 2.72	0.8 0.03	93.0 3.66	7.9 0.31	3.0 0.12	42	15.7	0.0859	1.43 3.16
387A	384ED	X1S-387	3.5 0.14	69.0 2.72	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.43 3.16
387AS	384ED	X1S-387	5.0 0.20	72.0 2.83	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.41 3.11
387-S	384ED	X1S-387	0.8 0.03	63.0 2.48	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.45 3.20
387	384D	X1S-387A	2.3 0.09	66.0 2.60	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.54 3.40
387A	384D	X1S-387A	3.5 0.14	69.0 2.72	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.53 3.38
387AS	384D	X1S-387A	5.0 0.20	72.0 2.83	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.51 3.33
387-S	384DC	X1S-387A	0.8 0.03	63.0 2.48	0.8 0.03	93.0 3.66	7.9 0.31	3.0 0.12	42	15.7	0.0859	1.55 3.42
387-S	384D	X1S-387A	0.8 0.03	63.0 2.48	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.55 3.42
387A	384XD	X4S-387A	3.5 0.14	69.0 2.72	0.8 0.03	94.0 3.70			42	15.7	0.0859	2.90 6.40
462	452DC	X2S-462	2.3 0.09	67.0 2.64	0.8 0.03	100.0 3.94	10.9 0.43	3.8 0.15	58.6	17.1	0.0946	2.51 5.53
462	452D	X2S-469	2.3 0.09	67.0 2.64	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.51 5.53
469	452D	X2S-469	3.5 0.14	70.0 2.76	0.8 0.03	100.0 3.94			58.6	17.1	0.0946	2.50 5.50
390	394D	X2S-390	2.3 0.09	70.0 2.76	0.8 0.03	104.5 4.11			56	21.4	0.0984	2.12 4.68
29665	29622D	X1S-29665	3.5 0.14	75.0 2.95	0.8 0.03	109.0 4.29			77.7	43.3	0.1170	2.71 5.97
66225	66462D	X1S-66225	3.5 0.14	76.0 2.99	0.8 0.03	111.0 4.37			50.2	16.4	0.0751	3.34 7.37
72225C	72488D	X1S-72225	3.5 0.14	81.0 3.19	1.5 0.06	115.0 4.53			57.4	13.5	0.0825	4.15 9.15
555-S	552D	X1S-555-S	3.5 0.14	73.0 2.87	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.47 9.86
635	632D	X1S-635	3.5 0.14	75.0 2.95	1.5 0.06	125.0 4.92			106	21	0.0814	6.77 14.93
78225	78549D	X2S-78225	3.5 0.14	83.0 3.27	1.5 0.06	131.0 5.16			62.6	19.1	0.0884	5.41 11.92
388A	384ED	X2S-388A	3.5 0.14	69.0 2.72	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.46 3.21
388A	384D	X1S-388A	3.5 0.14	69.0 2.72	0.8 0.03	93.0 3.66			42	15.7	0.0859	1.51 3.34

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

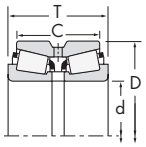
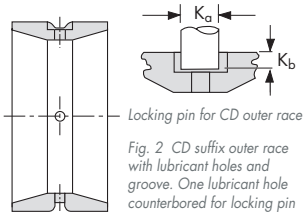
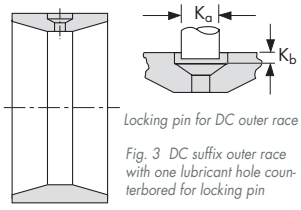


Fig. 1 D suffix outer race with lubricant holes and groove



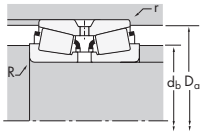
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
59.972 2.3611	129.982 5.1174	69.850 2.7500	47.625 1.8750	249000 56000	0.67	1.01	1.51	37100 8340	42300 9500	64600 14500	0.88
59.977 2.3613	100.000 3.9370	55.560 2.1874	44.450 1.7500	171000 38400	0.43	1.59	2.36	25500 5720	18500 4170	44300 9960	1.37
59.987 2.3617	123.825 4.8750	79.375 3.1250	63.500 2.5000	307000 69100	0.35	1.95	2.90	45800 10300	27100 6100	79700 17900	1.69
60.000 2.3622	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
60.000 2.3622	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
60.000 2.3622	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52
60.000 2.3622	129.982 5.1174	69.850 2.7500	47.625 1.8750	249000 56000	0.67	1.01	1.51	37100 8340	42300 9500	64600 14500	0.88
60.325 2.3750	100.000 3.9370	55.560 2.1874	44.450 1.7500	171000 38400	0.43	1.59	2.36	25500 5720	18500 4170	44300 9960	1.37
60.325 2.3750	100.000 3.9370	55.560 2.1874	44.450 1.7500	171000 38400	0.43	1.59	2.36	25500 5720	18500 4170	44300 9960	1.37
60.325 2.3750	123.825 4.8750	79.375 3.1250	63.500 2.5000	307000 69100	0.35	1.95	2.90	45800 10300	27100 6100	79700 17900	1.69
60.325 2.3750	123.825 4.8750	79.375 3.1250	63.500 2.5000	307000 69100	0.35	1.95	2.90	45800 10300	27100 6100	79700 17900	1.69
60.325 2.3750	123.825 4.8750	79.375 3.1250	63.500 2.5000	307000 69100	0.35	1.95	2.90	45800 10300	27100 6100	79700 17900	1.69
60.325 2.3750	136.525 5.3750	95.250 3.7500	76.200 3.0000	376000 84500	0.36	1.86	2.78	55900 12600	34700 7790	97400 21900	1.61
61.912 2.4375	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
61.912 2.4375	123.825 4.8750	79.375 3.1250	63.500 2.5000	307000 69100	0.35	1.95	2.90	45800 10300	27100 6100	79700 17900	1.69
61.976 2.4400	100.000 3.9370	53.975 2.1250	44.450 1.7500	171000 38400	0.43	1.59	2.36	25500 5720	18500 4170	44300 9960	1.37
62.738 2.4700	100.000 3.9370	55.560 2.1874	44.450 1.7500	171000 38400	0.43	1.59	2.36	25500 5720	18500 4170	44300 9960	1.37
62.738 2.4700	100.000 3.9370	55.560 2.1874	44.450 1.7500	171000 38400	0.43	1.59	2.36	25500 5720	18500 4170	44300 9960	1.37
63.500 2.5000	94.458 3.7188	42.860 1.6874	34.925 1.3750	108000 24300	0.42	1.59	2.37	16100 3620	11700 2630	28000 6300	1.38
63.500 2.5000	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
63.500 2.5000	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
63.500 2.5000	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
63.500 2.5000	110.000 4.3307	52.388 2.0625	46.038 1.8125	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
63.500 2.5000	112.712 4.4375	55.562 2.1875	42.862 1.6875	178000 39900	0.46	1.47	2.19	26400 5950	20800 4670	46000 10400	1.27
63.500 2.5000	117.475 4.6250	66.675 2.6250	53.975 2.1250	223000 50100	0.44	1.55	2.31	33200 7470	24800 5570	57800 13000	1.34
63.500 2.5000	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52
63.500 2.5000	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52
63.500 2.5000	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
66589	66522D	X1S-66585	0.8 0.03	74.0 2.91	0.8 0.03	118.0 4.65			57	18.3	0.0797	3.94 8.68
28980	28921D	X2S-28980	3.5 0.14	73.0 2.87	0.8 0.03	96.0 3.78			60.1	24.5	0.1032	1.66 3.67
558-S	552D	X1S-558-S	3.5 0.14	75.0 2.95	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.31 9.50
397	394DC	X1S-397	0.8 0.03	69.0 2.72	0.8 0.03	104.5 4.11	9.4 0.37	2.3 0.09	56	21.4	0.0984	2.01 4.43
397	394D	X1S-397	0.8 0.03	69.0 2.72	0.8 0.03	104.5 4.11			56	21.4	0.0984	2.01 4.43
476	472D	X1S-476	2.0 0.08	73.0 2.87	0.8 0.03	114.0 4.49			77.2	23	0.1083	3.42 7.54
66585	66522D	X1S-66585	3.5 0.14	79.0 3.11	0.8 0.03	118.0 4.65			57	18.3	0.0797	3.92 8.64
28985	28921DC	X2S-28985	3.5 0.14	73.0 2.87	0.8 0.03	96.0 3.78	7.9 0.31	2.3 0.09	60.1	24.5	0.1032	1.65 3.64
28985	28921D	X3S-28985	3.5 0.14	73.0 2.87	0.8 0.03	96.0 3.78			60.1	24.5	0.1032	1.65 3.64
558	552DC	X1S-558	2.3 0.09	73.0 2.87	1.5 0.06	115.0 4.53	14.2 0.56	4.6 0.18	91	21.1	0.1108	4.31 9.49
558	552D	X1S-558	2.3 0.09	73.0 2.87	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.31 9.49
558A	552D	X1S-558	3.5 0.14	76.0 2.99	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.29 9.47
637	632D	X1S-637	3.5 0.14	78.0 3.07	1.5 0.06	125.0 4.92			106	21	0.0814	6.55 14.44
392	394D	X1S-392	0.8 0.03	70.0 2.76	0.8 0.03	104.5 4.11			56	21.4	0.0984	1.97 4.35
554	552D	X2S-554	3.5 0.14	77.0 3.03	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.17 9.19
28990	28921D		2.0 0.08	72.0 2.83	0.8 0.03	96.0 3.78			60.1	24.5	0.1032	1.58 3.49
28995	28921DC	X1S-28995	3.5 0.14	75.0 2.95	0.8 0.03	96.0 3.78	7.9 0.31	2.3 0.09	60.1	24.5	0.1032	1.55 3.42
28995	28921D	X2S-28995	3.5 0.14	75.0 2.95	0.8 0.03	96.0 3.78			60.1	24.5	0.1032	1.55 3.42
L610549	L610510D	L610549XB	1.5 0.06	71.0 2.80	0.8 0.03	91.0 3.58			56.7	43.6	0.1006	0.97 2.15
390A	394DC	X1S-395	1.5 0.06	73.0 2.87	0.8 0.03	104.5 4.11	9.4 0.37	2.3 0.09	56	21.4	0.0984	1.90 4.18
390A	394D	X1S-395	1.5 0.06	73.0 2.87	0.8 0.03	104.5 4.11			56	21.4	0.0984	1.90 4.18
395	394DC	X1S-395	3.5 0.14	77.0 3.03	0.8 0.03	104.5 4.11	9.4 0.37	2.3 0.09	56	21.4	0.0984	1.88 4.14
395	394D	X3S-395	3.5 0.14	77.0 3.03	0.8 0.03	104.5 4.11			56	21.4	0.0984	1.88 4.14
29586	29526D	R800008	1.5 0.06	73.0 2.87	0.8 0.03	105.0 4.13			70.3	25.8	0.1112	2.19 4.83
33251	33462D	X2S-33251	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	X4S-477	0.8 0.03	73.0 2.87	0.8 0.03	114.0 4.49			77.2	23	0.1083	3.28 7.23
483	472DC	X3S-477	3.5 0.14	78.0 3.07	0.8 0.03	114.0 4.49	14.2 0.56	3.0 0.12	77.2	23	0.1083	3.26 7.19
483	472D	X3S-477	3.5 0.14	78.0 3.07	0.8 0.03	114.0 4.49			77.2	23	0.1083	3.26 7.19

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

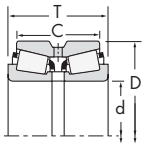
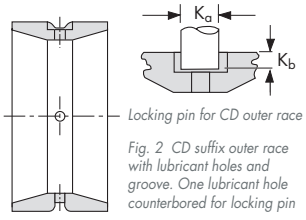
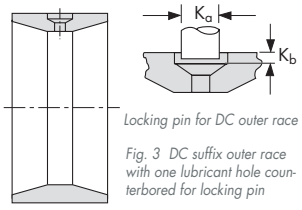


Fig. 1 D suffix outer race with lubricant holes and groove



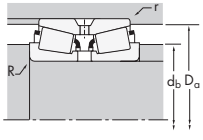
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
63.500 2.5000	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**307000** 69100	**0.35**	**1.95**	**2.90**	**45800** 10300	**27100** 6100	**79700** 17900	**1.69**
63.500 2.5000	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**307000** 69100	**0.35**	**1.95**	**2.90**	**45800** 10300	**27100** 6100	**79700** 17900	**1.69**
63.500 2.5000	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**317000** 71200	**0.36**	**1.86**	**2.76**	**47100** 10600	**29400** 6600	**82100** 18500	**1.61**
63.500 2.5000	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**376000** 84500	**0.36**	**1.86**	**2.78**	**55900** 12600	**34700** 7790	**97400** 21900	**1.61**
63.500 2.5000	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**276000** 62000	**0.87**	**0.78**	**1.16**	**41100** 9230	**60900** 13700	**71500** 16100	**0.67**
63.500 2.5000	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
64.960 2.5575	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**398000** 89500	**0.41**	**1.65**	**2.46**	**59300** 13300	**41500** 9330	**103000** 23200	**1.43**
64.960 2.5575	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
64.963 2.5576	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**317000** 71200	**0.36**	**1.86**	**2.76**	**47100** 10600	**29400** 6600	**82100** 18500	**1.61**
64.987 2.5586	**139.700** 5.5000	**77.788** 3.0625	**51.803** 2.0395	**276000** 62000	**0.87**	**0.78**	**1.16**	**41100** 9230	**60900** 13700	**71500** 16100	**0.67**
65.000 2.5591	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**231000** 52000	**0.38**	**1.75**	**2.61**	**34400** 7740	**22700** 5100	**59900** 13500	**1.52**
66.675 2.6250	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**159000** 35800	**0.40**	**1.68**	**2.50**	**23700** 5340	**16300** 3670	**41300** 9290	**1.45**
66.675 2.6250	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**159000** 35800	**0.40**	**1.68**	**2.50**	**23700** 5340	**16300** 3670	**41300** 9290	**1.45**
66.675 2.6250	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**159000** 35800	**0.40**	**1.68**	**2.50**	**23700** 5340	**16300** 3670	**41300** 9290	**1.45**
66.675 2.6250	**117.475** 4.6250	**66.675** 2.6250	**53.975** 2.1250	**223000** 50100	**0.44**	**1.55**	**2.31**	**33200** 7470	**24800** 5570	**57800** 13000	**1.34**
66.675 2.6250	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**231000** 52000	**0.38**	**1.75**	**2.61**	**34400** 7740	**22700** 5100	**59900** 13500	**1.52**
66.675 2.6250	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**307000** 69100	**0.35**	**1.95**	**2.90**	**45800** 10300	**27100** 6100	**79700** 17900	**1.69**
66.675 2.6250	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**307000** 69100	**0.35**	**1.95**	**2.90**	**45800** 10300	**27100** 6100	**79700** 17900	**1.69**
66.675 2.6250	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**376000** 84500	**0.36**	**1.86**	**2.78**	**55900** 12600	**34700** 7790	**97400** 21900	**1.61**
68.262 2.6875	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**159000** 35800	**0.40**	**1.68**	**2.50**	**23700** 5340	**16300** 3670	**41300** 9290	**1.45**
68.262 2.6875	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**159000** 35800	**0.40**	**1.68**	**2.50**	**23700** 5340	**16300** 3670	**41300** 9290	**1.45**
68.262 2.6875	**110.000** 4.3307	**52.388** 2.0625	**46.038** 1.8125	**159000** 35800	**0.40**	**1.68**	**2.50**	**23700** 5340	**16300** 3670	**41300** 9290	**1.45**
68.262 2.6875	**120.000** 4.7244	**65.090** 2.5626	**53.975** 2.1250	**231000** 52000	**0.38**	**1.75**	**2.61**	**34400** 7740	**22700** 5100	**59900** 13500	**1.52**
68.262 2.6875	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**307000** 69100	**0.35**	**1.95**	**2.90**	**45800** 10300	**27100** 6100	**79700** 17900	**1.69**
68.262 2.6875	**123.825** 4.8750	**79.375** 3.1250	**63.500** 2.5000	**307000** 69100	**0.35**	**1.95**	**2.90**	**45800** 10300	**27100** 6100	**79700** 17900	**1.69**
68.262 2.6875	**127.000** 5.0000	**80.962** 3.1875	**65.088** 2.5625	**317000** 71200	**0.36**	**1.86**	**2.76**	**47100** 10600	**29400** 6600	**82100** 18500	**1.61**
68.262 2.6875	**136.525** 5.3750	**95.250** 3.7500	**76.200** 3.0000	**376000** 84500	**0.36**	**1.86**	**2.78**	**55900** 12600	**34700** 7790	**97400** 21900	**1.61**
68.262 2.6875	**161.925** 6.3750	**105.562** 4.1560	**70.637** 2.7810	**480000** 108000	**0.71**	**0.95**	**1.42**	**71400** 16100	**86700** 19500	**124000** 28000	**0.82**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
559	552DC	X2S-559	3.5 0.14	78.0 3.07	1.5 0.06	115.0 4.53	14.2 0.56	4.6 0.18	91	21.1	0.1108	4.25 9.38
559	552D	X2S-559	3.5 0.14	78.0 3.07	1.5 0.06	115.0 4.53			91	21.1	0.1108	4.25 9.38
565	563D	X1S-565	3.5 0.14	80.0 3.15	1.5 0.06	119.0 4.69			101	24	0.1167	4.53 9.99
639	632D	X2S-639	3.5 0.14	81.0 3.19	1.5 0.06	125.0 4.92			106	21	0.0814	6.31 13.92
78250	78549D	X1S-78250	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	X2S-745-S	3.5 0.14	84.0 3.31	1.5 0.06	143.0 5.63			160	26.3	0.0898	9.86 21.74
656	654DC	X1S-656	3.5 0.14	85.0 3.35	1.5 0.06	141.0 5.55	17.3 0.68	5.3 0.21	137	27.3	0.0919	8.33 18.36
747-S	742D	X1S-747-S	3.5 0.14	85.0 3.35	1.5 0.06	143.0 5.63			160	26.3	0.0898	9.72 21.43
569	563D	X1S-569	3.5 0.14	81.0 3.19	1.5 0.06	119.0 4.69			101	24	0.1167	4.44 9.79
78255X	78549D	X1S-78255X	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	X2S-478	2.3 0.09	77.0 3.03	0.8 0.03	114.0 4.49			77.2	23	0.1083	3.18 7.02
395A	394D	X1S-395-S	0.8 0.03	73.0 2.87	0.8 0.03	104.5 4.11			56	21.4	0.0984	1.76 3.89
395-S	394DC	X1S-395-S	3.5 0.14	79.0 3.11	0.8 0.03	104.5 4.11	9.4 0.37	2.3 0.09	56	21.4	0.0984	1.76 3.87
395-S	394D	X3S-395-S	3.5 0.14	79.0 3.11	0.8 0.03	104.5 4.11			56	21.4	0.0984	1.76 3.87
33262	33462D	X1S-33262	3.5 0.14	81.0 3.19	0.8 0.03	112.0 4.41			84.2	25.9	0.1162	2.96 6.52
479	472D	X1S-479	2.3 0.09	78.0 3.07	0.8 0.03	114.0 4.49			77.2	23	0.1083	3.10 6.83
560	552DC	X2S-560	3.5 0.14	81.0 3.19	1.5 0.06	115.0 4.53	14.2 0.56	4.6 0.18	91	21.1	0.1108	3.90 8.61
560	552D	X3S-560	3.5 0.14	81.0 3.19	1.5 0.06	115.0 4.53			91	21.1	0.1108	3.90 8.61
641	632D	X1S-641	3.5 0.14	83.0 3.27	1.5 0.06	125.0 4.92			106	21	0.0814	6.08 13.40
399A	394D	X4S-399A	2.3 0.09	78.0 3.07	0.8 0.03	104.5 4.11			56	21.4	0.0984	1.69 3.72
399AS	394DC	X1S-399A	5.0 0.20	83.0 3.27	0.8 0.03	104.5 4.11	9.4 0.37	2.3 0.09	56	21.4	0.0984	1.65 3.64
399AS	394D	X4S-399A	5.0 0.20	83.0 3.27	0.8 0.03	104.5 4.11			56	21.4	0.0984	1.65 3.64
480	472D	X2S-480	3.5 0.14	82.0 3.23	0.8 0.03	114.0 4.49			77.2	23	0.1083	3.00 6.62
560-S	552DC	X1S-560-S	3.5 0.14	83.0 3.27	1.5 0.06	115.0 4.53	14.2 0.56	4.6 0.18	91	21.1	0.1108	3.79 8.35
560-S	552D	X1S-560-S	3.5 0.14	83.0 3.27	1.5 0.06	115.0 4.53			91	21.1	0.1108	3.79 8.35
570	563D	X1S-570	3.5 0.14	83.0 3.27	1.5 0.06	119.0 4.69			101	24	0.1167	4.23 9.31
642	632D	X1S-642	3.5 0.14	85.0 3.35	1.5 0.06	125.0 4.92			106	21	0.0814	5.93 13.08
9278	9220D	X1S-9278	3.5 0.14	97.0 3.82	0.8 0.03	153.0 6.03			102	18.4	0.0984	9.41 20.76

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

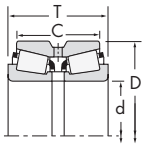
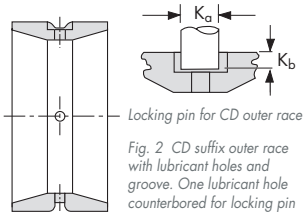
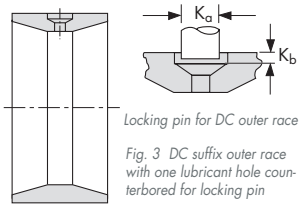


Fig. 1 D suffix outer race with lubricant holes and groove



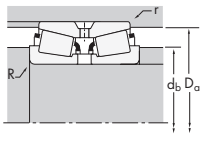
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic (1)	Factors (5)			Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
69.850 2.7500	114.287 4.4995	58.738 2.3125	46.038 1.8125	178000 40000	0.49	1.38	2.06	26500 5960	22100 4980	46200 10400	1.20
69.850 2.7500	114.287 4.4995	58.738 2.3125	46.038 1.8125	178000 40000	0.49	1.38	2.06	26500 5960	22100 4980	46200 10400	1.20
69.850 2.7500	117.475 4.6250	66.675 2.6250	53.975 2.1250	223000 50100	0.44	1.55	2.31	33200 7470	24800 5570	57800 13000	1.34
69.850 2.7500	117.475 4.6250	66.675 2.6250	53.975 2.1250	223000 50100	0.44	1.55	2.31	33200 7470	24800 5570	57800 13000	1.34
69.850 2.7500	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52
69.850 2.7500	120.000 4.7244	71.438 2.8125	58.738 2.3125	288000 64800	0.36	1.87	2.79	42900 9650	26500 5950	74700 16800	1.62
69.850 2.7500	127.000 5.0000	80.962 3.1875	65.088 2.5625	317000 71200	0.36	1.86	2.76	47100 10600	29400 6600	82100 18500	1.61
69.850 2.7500	136.525 5.3750	95.250 3.7500	76.200 3.0000	376000 84500	0.36	1.86	2.78	55900 12600	34700 7790	97400 21900	1.61
69.850 2.7500	152.400 6.0000	95.250 3.7500	76.200 3.0000	398000 89500	0.41	1.65	2.46	59300 13300	41500 9330	103000 23200	1.43
69.850 2.7500	155.575 6.1250	101.600 4.0000	85.725 3.3750	512000 115000	0.33	2.08	3.09	76300 17100	42500 9550	133000 29900	1.80
69.850 2.7500	155.575 6.1250	101.600 4.0000	85.725 3.3750	512000 115000	0.33	2.08	3.09	76300 17100	42500 9550	133000 29900	1.80
69.850 2.7500	171.450 6.7500	125.412 4.9375	100.012 3.9375	659000 148000	0.30	2.26	3.36	98200 22100	50300 11300	171000 38400	1.95
69.914 2.7525	177.800 7.0000	109.538 4.3125	74.612 2.9375	494000 111000	0.76	0.88	1.31	73500 16500	96200 21600	128000 28800	0.76
69.952 2.7540	121.442 4.7812	52.390 2.0626	38.100 1.5000	165000 37000	0.45	1.50	2.23	24500 5510	18900 4260	42700 9600	1.30
70.000 2.7559	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52
70.000 2.7559	120.000 4.7244	65.090 2.5626	53.975 2.1250	231000 52000	0.38	1.75	2.61	34400 7740	22700 5100	59900 13500	1.52
70.637 2.7810	114.287 4.4995	58.738 2.3125	46.038 1.8125	178000 40000	0.49	1.38	2.06	26500 5960	22100 4980	46200 10400	1.20
70.637 2.7810	114.287 4.4995	58.738 2.3125	46.038 1.8125	178000 40000	0.49	1.38	2.06	26500 5960	22100 4980	46200 10400	1.20
71.438 2.8125	117.475 4.6250	66.675 2.6250	53.975 2.1250	223000 50100	0.44	1.55	2.31	33200 7470	24800 5570	57800 13000	1.34
71.438 2.8125	120.000 4.7244	71.438 2.8125	58.738 2.3125	288000 64800	0.36	1.87	2.79	42900 9650	26500 5950	74700 16800	1.62
71.438 2.8125	127.000 5.0000	80.962 3.1875	65.088 2.5625	317000 71200	0.36	1.86	2.76	47100 10600	29400 6600	82100 18500	1.61
71.438 2.8125	127.000 5.0000	80.962 3.1875	65.088 2.5625	317000 71200	0.36	1.86	2.76	47100 10600	29400 6600	82100 18500	1.61
71.438 2.8125	136.525 5.3750	69.850 2.7500	53.975 2.1250	249000 56000	0.44	1.52	2.26	37100 8330	28200 6340	64600 14500	1.31
71.438 2.8125	136.525 5.3750	95.250 3.7500	76.200 3.0000	376000 84500	0.36	1.86	2.78	55900 12600	34700 7790	97400 21900	1.61
71.438 2.8125	136.525 5.3750	95.250 3.7500	76.200 3.0000	376000 84500	0.36	1.86	2.78	55900 12600	34700 7790	97400 21900	1.61
73.025 2.8750	114.287 4.4995	58.738 2.3125	46.038 1.8125	178000 40000	0.49	1.38	2.06	26500 5960	22100 4980	46200 10400	1.20
73.025 2.8750	114.287 4.4995	58.738 2.3125	46.038 1.8125	178000 40000	0.49	1.38	2.06	26500 5960	22100 4980	46200 10400	1.20
73.025 2.8750	117.475 4.6250	66.675 2.6250	53.975 2.1250	223000 50100	0.44	1.55	2.31	33200 7470	24800 5570	57800 13000	1.34

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
(3) These maximum fillet radii will be cleared by the bearing corners.
(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
29675	29622DC	X1S-29675	1.5 0.06	80.0 3.15	0.8 0.03	109.0 4.29	7.9 0.31	2.3 0.09	77.7	43.3	0.1170	2.25 4.96
29675	29622D	X2S-29675	1.5 0.06	80.0 3.15	0.8 0.03	109.0 4.29			77.7	43.3	0.1170	2.25 4.96
33275	33462DC	X3S-33275	3.5 0.14	84.0 3.31	0.8 0.03	112.0 4.41	10.9 0.43	3.8 0.15	84.2	25.9	0.1162	2.80 6.16
33275	33462D	X4S-33275	3.5 0.14	84.0 3.31	0.8 0.03	112.0 4.41			84.2	25.9	0.1162	2.80 6.16
482	472D	X3S-482	3.5 0.14	83.0 3.27	0.8 0.03	114.0 4.49			77.2	23	0.1083	2.92 6.44
47487	47420D	X1S-47487	3.5 0.14	84.0 3.31	0.8 0.03	114.0 4.49			98.4	26.3	0.1153	3.12 6.87
566	563D	X3S-566	3.5 0.14	85.0 3.35	1.5 0.06	119.0 4.69			101	24	0.1167	4.16 9.16
643	632D	X2S-643	3.5 0.14	86.0 3.39	1.5 0.06	125.0 4.92			106	21	0.0814	5.82 12.84
655	654D	X1S-655	3.5 0.14	88.0 3.46	1.5 0.06	141.0 5.55			137	27.3	0.0919	8.08 17.81
744A	742D	X1S-744A	5.0 0.20	91.0 3.58	1.5 0.06	143.0 5.63			160	26.3	0.0898	9.31 20.53
745A	742D	X1S-745A	3.5 0.14	88.0 3.46	1.5 0.06	143.0 5.63			160	26.3	0.0898	9.15 20.17
835	834D	X1S-835	3.5 0.14	91.0 3.58	0.8 0.03	155.0 6.10			198	34.8	0.0937	14.37 31.68
9382	9320D	X1S-9382	3.5 0.14	101.0 3.98	2.3 0.09	164.0 6.46			118	18.6	0.1053	12.79 28.19
34274	34478D	X1S-34274	2.0 0.08	81.0 3.19	0.8 0.03	116.0 4.57			69.3	27	0.1093	2.26 4.99
484	472DC	X2S-484	2.0 0.08	80.0 3.15	0.8 0.03	114.0 4.49	14.2 0.56	3.0 0.12	77.2	23	0.1083	2.92 6.44
484	472D	X2S-484	2.0 0.08	80.0 3.15	0.8 0.03	114.0 4.49			77.2	23	0.1083	2.92 6.44
29680	29622DC	X1S-29680	1.3 0.05	80.0 3.15	0.8 0.03	109.0 4.29	7.9 0.31	2.3 0.09	77.7	43.3	0.1170	2.20 4.84
29680	29622D	X1S-29680	1.3 0.05	80.0 3.15	0.8 0.03	109.0 4.29			77.7	43.3	0.1170	2.20 4.84
33281	33462D	X1S-33281	3.5 0.14	85.0 3.35	0.8 0.03	112.0 4.41			84.2	24.4	0.1162	2.72 5.99
47490	47420D	X1S-47490	3.5 0.14	86.0 3.39	0.8 0.03	114.0 4.49			98.4	26.3	0.1153	3.02 6.65
567A	563D	X1S-567A	3.5 0.14	86.0 3.39	1.5 0.06	119.0 4.69			101	24	0.1167	4.02 8.86
567-S	563D	X1S-567A	6.4 0.25	92.0 3.62	1.5 0.06	119.0 4.69			101	24	0.1167	3.97 8.75
495-S	493D	X1S-495-S	3.5 0.14	88.0 3.46	0.8 0.03	130.0 5.12			105	29.3	0.1252	4.40 9.70
644	632D	X1S-645	3.5 0.14	87.0 3.43	1.5 0.06	125.0 4.92			106	21	0.0814	5.72 12.60
645	632D	X1S-645	6.4 0.25	93.0 3.66	1.5 0.06	125.0 4.92			106	21	0.0814	5.65 12.45
29685	29622DC	X1S-29685	3.5 0.14	86.0 3.39	0.8 0.03	109.0 4.29	7.9 0.31	2.3 0.09	77.7	43.3	0.1170	2.09 4.60
29685	29622D	X2S-29685	3.5 0.14	86.0 3.39	0.8 0.03	109.0 4.29			77.7	43.3	0.1170	2.09 4.60
33287	33462DC	X3S-33287	3.5 0.14	87.0 3.43	0.8 0.03	112.0 4.41	10.9 0.43	3.8 0.15	84.2	24.4	0.1162	2.62 5.78

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

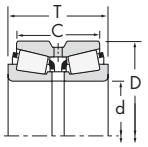
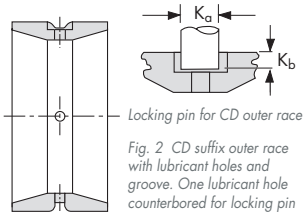
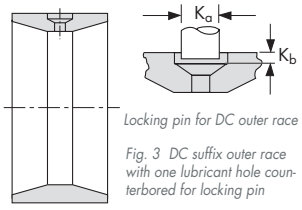


Fig. 1 D suffix outer race with lubricant holes and groove



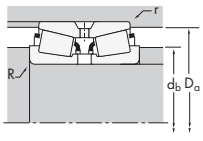
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
73.025 2.8750	117.475 4.6250	66.675 2.6250	53.975 2.1250	223000 50100	0.44	1.55	2.31	33200 7470	24800 5570	57800 13000	1.34
73.025 2.8750	120.000 4.7244	79.908 3.1460	67.285 2.6490	223000 50100	0.44	1.55	2.31	33200 7470	24800 5570	57800 13000	1.34
73.025 2.8750	127.000 5.0000	80.962 3.1875	65.088 2.5625	317000 71200	0.36	1.86	2.76	47100 10600	29400 6600	82100 18500	1.61
73.025 2.8750	127.000 5.0000	80.962 3.1875	65.088 2.5625	317000 71200	0.36	1.86	2.76	47100 10600	29400 6600	82100 18500	1.61
73.025 2.8750	139.992 5.5115	82.550 3.2500	66.675 2.6250	333000 75000	0.40	1.67	2.49	49600 11200	34300 7720	86400 19400	1.45
73.025 2.8750	152.400 6.0000	95.250 3.7500	76.200 3.0000	398000 89500	0.41	1.65	2.46	59300 13300	41500 9330	103000 23200	1.43
73.025 2.8750	155.575 6.1250	101.600 4.0000	85.725 3.3750	512000 115000	0.33	2.08	3.09	76300 17100	42500 9550	133000 29900	1.80
73.817 2.9062	114.287 4.4995	58.738 2.3125	46.038 1.8125	178000 40000	0.49	1.38	2.06	26500 5960	22100 4980	46200 10400	1.20
73.817 2.9062	127.000 5.0000	80.962 3.1875	65.088 2.5625	317000 71200	0.36	1.86	2.76	47100 10600	29400 6600	82100 18500	1.61
74.612 2.9375	139.992 5.5115	82.550 3.2500	66.675 2.6250	333000 75000	0.40	1.67	2.49	49600 11200	34300 7720	86400 19400	1.45
74.976 2.9518	121.442 4.7812	52.390 2.0626	38.100 1.5000	165000 37000	0.45	1.50	2.23	24500 5510	18900 4260	42700 9600	1.30
76.200 3.0000	109.538 4.3125	42.860 1.6874	34.925 1.3750	112000 25100	0.50	1.34	2.00	16600 3730	14300 3210	28900 6500	1.16
76.200 3.0000	121.442 4.7812	52.390 2.0626	38.100 1.5000	165000 37000	0.45	1.50	2.23	24500 5510	18900 4260	42700 9600	1.30
76.200 3.0000	121.442 4.7812	52.390 2.0626	38.100 1.5000	165000 37000	0.45	1.50	2.23	24500 5510	18900 4260	42700 9600	1.30
76.200 3.0000	136.525 5.3750	69.850 2.7500	53.975 2.1250	249000 56000	0.44	1.52	2.26	37100 8330	28200 6340	64600 14500	1.31
76.200 3.0000	136.525 5.3750	69.850 2.7500	53.975 2.1250	249000 56000	0.44	1.52	2.26	37100 8330	28200 6340	64600 14500	1.31
76.200 3.0000	139.992 5.5115	82.550 3.2500	66.675 2.6250	333000 75000	0.40	1.67	2.49	49600 11200	34300 7720	86400 19400	1.45
76.200 3.0000	139.992 5.5115	82.550 3.2500	66.675 2.6250	333000 75000	0.40	1.67	2.49	49600 11200	34300 7720	86400 19400	1.45
76.200 3.0000	152.400 6.0000	82.550 3.2500	63.500 2.5000	348000 78300	0.44	1.53	2.27	51900 11700	39200 8820	90300 20300	1.32
76.200 3.0000	152.400 6.0000	95.250 3.7500	76.200 3.0000	398000 89500	0.41	1.65	2.46	59300 13300	41500 9330	103000 23200	1.43
76.200 3.0000	152.400 6.0000	95.250 3.7500	76.200 3.0000	398000 89500	0.41	1.65	2.46	59300 13300	41500 9330	103000 23200	1.43
76.200 3.0000	155.575 6.1250	101.600 4.0000	85.725 3.3750	512000 115000	0.33	2.08	3.09	76300 17100	42500 9550	133000 29900	1.80
76.200 3.0000	155.575 6.1250	101.600 4.0000	85.725 3.3750	512000 115000	0.33	2.08	3.09	76300 17100	42500 9550	133000 29900	1.80
76.200 3.0000	161.925 6.3750	104.775 4.1250	85.725 3.3750	528000 119000	0.34	1.98	2.95	78500 17700	45900 10300	137000 30700	1.71
76.200 3.0000	161.925 6.3750	105.562 4.1560	70.637 2.7810	480000 108000	0.71	0.95	1.42	71400 16100	86700 19500	124000 28000	0.82
76.200 3.0000	171.450 6.7500	125.412 4.9375	100.012 3.9375	659000 148000	0.30	2.26	3.36	98200 22100	50300 11300	171000 38400	1.95
76.200 3.0000	171.450 6.7500	125.412 4.9375	100.012 3.9375	659000 148000	0.30	2.26	3.36	98200 22100	50300 11300	171000 38400	1.95
76.200 3.0000	177.800 7.0000	109.538 4.3125	74.612 2.9375	494000 111000	0.76	0.88	1.31	73500 16500	96200 21600	128000 28800	0.76

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
33287	33462D	X3S-33287	3.5 0.14	87.0 3.43	0.8 0.03	112.0 4.41			84.2	24.4	0.1162	2.62 5.78
33287	33472DC	X1S-33287	3.5 0.14	87.0 3.43	0.8 0.03	113.0 4.45	10.9 0.43	3.8 0.15	84.2	24.4	0.1162	3.32 7.32
567	563D	X5S-567	3.5 0.14	88.0 3.46	1.5 0.06	119.0 4.69			101	24	0.1167	3.92 8.64
567X	563D	X2S-567	4.8 0.19	90.0 3.54	1.5 0.06	119.0 4.69			101	24	0.1167	3.93 8.66
576	572D	X1S-576	3.5 0.14	90.0 3.54	0.8 0.03	133.0 5.24			126	32	0.1295	5.47 12.05
657	654D	X1S-657	3.5 0.14	91.0 3.58	1.5 0.06	141.0 5.55			137	27.3	0.0919	7.81 17.21
744	742D	X2S-744	3.5 0.14	91.0 3.58	1.5 0.06	143.0 5.63			160	26.3	0.0898	9.05 19.95
29688	29622D	X1S-29688	1.5 0.06	83.0 3.27	0.8 0.03	109.0 4.29			77.7	43.3	0.1170	2.05 4.51
568	563D	X2S-568	0.8 0.03	83.0 3.27	1.5 0.06	119.0 4.69			101	24	0.1167	3.89 8.57
577	572D	X1S-577	3.5 0.14	91.0 3.58	0.8 0.03	133.0 5.24			126	32	0.1295	5.40 11.91
34294	34478D	X1S-34294	2.0 0.08	85.0 3.35	0.8 0.03	116.0 4.57			69.3	27	0.1093	2.03 4.47
L814749	L814710D	L814749XA	1.5 0.06	84.0 3.31	0.8 0.03	105.0 4.13			76	59.6	0.1164	1.26 2.78
34300	34478D	X5S-34300	2.0 0.08	86.0 3.39	0.8 0.03	116.0 4.57			69.3	27	0.1093	1.98 4.37
34301	34478D	X2S-34301	3.5 0.14	89.0 3.50	0.8 0.03	116.0 4.57			69.3	27	0.1093	1.96 4.32
495A	493DC	X1S-495A	3.5 0.14	92.0 3.62	0.8 0.03	130.0 5.12	12.4 0.49	4.6 0.18	105	29.3	0.1252	4.07 8.98
495A	493D	X2S-495A	3.5 0.14	92.0 3.62	0.8 0.03	130.0 5.12			105	29.3	0.1252	4.07 8.98
575	572DC	X1S-575	3.5 0.14	92.0 3.62	0.8 0.03	133.0 5.24	15.7 0.62	4.6 0.18	126	32	0.1295	5.27 11.61
575	572D	X2S-575	3.5 0.14	92.0 3.62	0.8 0.03	133.0 5.24			126	32	0.1295	5.27 11.61
590A	592D	X1S-590A	3.5 0.14	95.0 3.74	0.8 0.03	144.0 5.67			151	38.3	0.1416	6.81 15.01
659	654DC	X1S-659	3.5 0.14	93.0 3.66	1.5 0.06	141.0 5.55	17.3 0.68	5.3 0.21	137	27.3	0.0919	7.53 16.61
659	654D	X1S-659	3.5 0.14	93.0 3.66	1.5 0.06	141.0 5.55			137	27.3	0.0919	7.53 16.61
748-S	742DC	X2S-748-S	3.5 0.14	93.0 3.66	1.5 0.06	143.0 5.63	19.0 0.75	6.4 0.25	160	26.3	0.0898	8.75 19.30
748-S	742D	X3S-748-S	3.5 0.14	93.0 3.66	1.5 0.06	143.0 5.63			160	26.3	0.0898	8.75 19.30
755	752D	X2S-755	3.5 0.14	95.0 3.74	1.5 0.06	150.0 5.91			177	29.4	0.0945	10.10 22.26
9285	9220D	X4S-9285	3.5 0.14	103.0 4.06	0.8 0.03	153.0 6.03			102	18.4	0.0984	8.66 19.09
837	834D	X1S-843	0.8 0.03	90.0 3.54	0.8 0.03	155.0 6.10			198	34.8	0.0937	13.52 29.80
843	834D	X1S-843	6.4 0.25	101.0 3.98	0.8 0.03	155.0 6.10			198	34.8	0.0937	13.48 29.72
9380	9320D	X1S-9380	3.5 0.14	105.0 4.13	2.3 0.09	164.0 6.46			118	18.6	0.1053	12.15 26.80

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

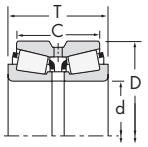
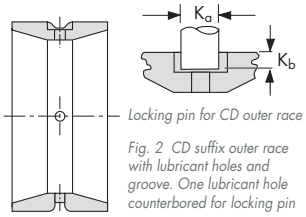
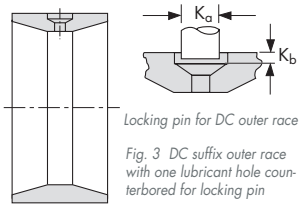


Fig. 1 D suffix outer race with lubricant holes and groove



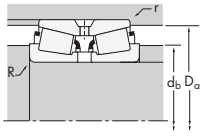
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.) Dynamic (1)	Factors (5)			Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
76.200 3.0000	**177.800** 7.0000	**115.888** 4.5625	**74.612** 2.9375	**494000** 111000	**0.76**	**0.88**	**1.31**	**73500** 16500	**96200** 21600	**128000** 28800	**0.76**
76.200 3.0000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**860000** 193000	**0.33**	**2.02**	**3.00**	**128000** 28800	**73400** 16500	**223000** 50100	**1.74**
77.788 3.0625	**121.442** 4.7812	**52.390** 2.0626	**38.100** 1.5000	**165000** 37000	**0.45**	**1.50**	**2.23**	**24500** 5510	**18900** 4260	**42700** 9600	**1.30**
77.788 3.0625	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
77.788 3.0625	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
79.375 3.1250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
79.375 3.1250	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**398000** 89500	**0.41**	**1.65**	**2.46**	**59300** 13300	**41500** 9330	**103000** 23200	**1.43**
79.375 3.1250	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**398000** 89500	**0.41**	**1.65**	**2.46**	**59300** 13300	**41500** 9330	**103000** 23200	**1.43**
79.375 3.1250	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
79.985 3.1490	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**333000** 75000	**0.40**	**1.67**	**2.49**	**49600** 11200	**34300** 7720	**86400** 19400	**1.45**
79.985 3.1490	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
80.000 3.1496	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
80.000 3.1496	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**655000** 147000	**0.63**	**1.07**	**1.59**	**97500** 21900	**106000** 23700	**170000** 38200	**0.92**
80.962 3.1875	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
80.962 3.1875	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**333000** 75000	**0.40**	**1.67**	**2.49**	**49600** 11200	**34300** 7720	**86400** 19400	**1.45**
80.962 3.1875	**152.400** 6.0000	**88.900** 3.5000	**76.200** 3.0000	**398000** 89500	**0.41**	**1.65**	**2.46**	**59300** 13300	**41500** 9330	**103000** 23200	**1.43**
80.962 3.1875	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
82.550 3.2500	**115.888** 4.5625	**47.625** 1.8750	**39.690** 1.5626	**145000** 32700	**0.31**	**2.19**	**3.26**	**21700** 4870	**11400** 2570	**37700** 8470	**1.90**
82.550 3.2500	**115.888** 4.5625	**47.625** 1.8750	**39.690** 1.5626	**145000** 32700	**0.31**	**2.19**	**3.26**	**21700** 4870	**11400** 2570	**37700** 8470	**1.90**
82.550 3.2500	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
82.550 3.2500	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
82.550 3.2500	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**333000** 75000	**0.40**	**1.67**	**2.49**	**49600** 11200	**34300** 7720	**86400** 19400	**1.45**
82.550 3.2500	**139.992** 5.5115	**82.550** 3.2500	**66.675** 2.6250	**333000** 75000	**0.40**	**1.67**	**2.49**	**49600** 11200	**34300** 7720	**86400** 19400	**1.45**
82.550 3.2500	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
82.550 3.2500	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
82.550 3.2500	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**398000** 89500	**0.41**	**1.65**	**2.46**	**59300** 13300	**41500** 9330	**103000** 23200	**1.43**
82.550 3.2500	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
82.550 3.2500	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**528000** 119000	**0.34**	**1.98**	**2.95**	**78500** 17700	**45900** 10300	**137000** 30700	**1.71**

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
9378	9320D	X1S-9378	3.5 0.14	105.0 4.13	2.3 0.09	164.0 6.46			118	18.6	0.1053	12.69 27.98
HH221430	HH221410D	HH221430XA	3.5 0.14	101.0 3.98	1.5 0.06	179.0 7.05			266	28.4	0.1072	18.92 41.71
34306	34478D	X4S-34306	3.5 0.14	90.0 3.54	0.8 0.03	116.0 4.57			69.3	27	0.1093	1.87 4.12
495AS	493DC	X1S-495AS	3.5 0.14	93.0 3.66	0.8 0.03	130.0 5.12	12.4 0.49	4.6 0.18	105	29.3	0.1252	3.99 8.80
495AS	493D	X1S-495AS	3.5 0.14	93.0 3.66	0.8 0.03	130.0 5.12			105	29.3	0.1252	3.99 8.80
595A	592D	X1S-595A	3.5 0.14	98.0 3.86	0.8 0.03	144.0 5.67			151	38.3	0.1416	6.54 14.42
661	654D		3.5 0.14	96.0 3.78	1.5 0.06	141.0 5.55			137	27.3	0.0919	7.07 15.58
661	654DC	X2S-661	3.5 0.14	96.0 3.78	1.5 0.06	141.0 5.55	17.3 0.68	5.3 0.21	137	27.3	0.0919	7.24 15.95
750	742D		3.5 0.14	96.0 3.78	1.5 0.06	143.0 5.63			160	26.3	0.0898	8.33 18.37
578	572D	X1S-578	3.5 0.14	95.0 3.74	0.8 0.03	133.0 5.24			126	32	0.1295	4.96 10.94
590	592D	X1S-590	3.5 0.14	98.0 3.86	0.8 0.03	144.0 5.67			151	38.3	0.1416	6.53 14.41
748	742D	X1S-748	3.0 0.12	96.0 3.78	1.5 0.06	143.0 5.63			160	26.3	0.0898	8.36 18.44
98316	98789D	X1S-98316	3.5 0.14	111.0 4.37	2.3 0.09	188.0 7.40			203	37.4	0.1197	17.29 38.11
496	493D	X2S-496	3.5 0.14	95.0 3.74	0.8 0.03	130.0 5.12			105	29.3	0.1252	3.76 8.29
581	572D	X1S-581	3.5 0.14	96.0 3.78	0.8 0.03	133.0 5.24			126	32	0.1295	4.88 10.75
662	654D	X1S-662	3.5 0.14	98.0 3.86	1.5 0.06	141.0 5.55			137	27.3	0.0919	6.77 14.93
740	742D		5.0 0.20	101.0 3.98	1.5 0.06	143.0 5.63			160	26.3	0.0898	8.16 17.98
L116149	L116110DC	L116149XA	1.5 0.06	90.0 3.54	0.8 0.03	111.0 4.37	6.1 0.24	2.3 0.09	97.2	64.3	0.1079	1.43 3.15
L116149	L116110D	L116149XC	1.5 0.06	90.0 3.54	0.8 0.03	111.0 4.37			97.2	64.3	0.1079	1.43 3.15
495	493DC	X1S-495	3.5 0.14	97.0 3.82	0.8 0.03	130.0 5.12	12.4 0.49	4.6 0.18	105	29.3	0.1252	3.65 8.04
495	493D	X3S-495	3.5 0.14	97.0 3.82	0.8 0.03	130.0 5.12			105	29.3	0.1252	3.65 8.04
580	572D	X2S-580	3.5 0.14	98.0 3.86	0.8 0.03	133.0 5.24			126	32	0.1295	4.76 10.50
582	572D	X1S-580	6.8 0.27	104.0 4.09	0.8 0.03	133.0 5.24			126	32	0.1295	4.68 10.32
595	592DC	X1S-595	3.5 0.14	100.0 3.94	0.8 0.03	144.0 5.67	14.2 0.56	5.3 0.21	151	36.8	0.1416	6.42 14.14
595	592D	X2S-595	3.5 0.14	100.0 3.94	0.8 0.03	144.0 5.67			151	36.8	0.1416	6.42 14.14
663	654D	X4S-663	3.5 0.14	99.0 3.90	1.5 0.06	141.0 5.55			137	27.3	0.0919	6.94 15.29
749A	742D	X2S-749A	3.5 0.14	99.0 3.90	1.5 0.06	143.0 5.63			160	26.3	0.0898	8.12 17.90
757	752D	X2S-757	3.5 0.14	100.0 3.94	1.5 0.06	150.0 5.91			177	29.4	0.0945	9.43 20.78

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

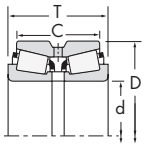
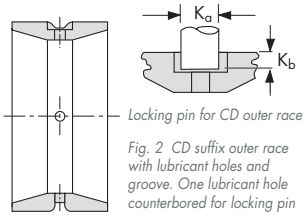
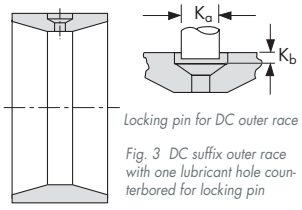


Fig. 1 D suffix outer race with lubricant holes and groove



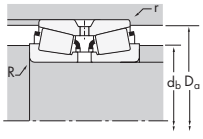
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
82.550 3.2500	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**659000** 148000	**0.30**	**2.26**	**3.36**	**98200** 22100	**50300** 11300	**171000** 38400	**1.95**
83.345 3.2813	**125.412** 4.9375	**55.560** 2.1874	**44.450** 1.7500	**189000** 42500	**0.42**	**1.62**	**2.42**	**28100** 6320	**20000** 4500	**49000** 11000	**1.40**
84.138 3.3125	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
84.138 3.3125	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**398000** 89500	**0.41**	**1.65**	**2.46**	**59300** 13300	**41500** 9330	**103000** 23200	**1.43**
84.138 3.3125	**177.800** 7.0000	**109.538** 4.3125	**74.612** 2.9375	**494000** 111000	**0.76**	**0.88**	**1.31**	**73500** 16500	**96200** 21600	**128000** 28800	**0.76**
85.000 3.3465	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**655000** 147000	**0.63**	**1.07**	**1.59**	**97500** 21900	**106000** 23700	**170000** 38200	**0.92**
85.026 3.3475	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
85.026 3.3475	**155.575** 6.1250	**101.600** 4.0000	**85.725** 3.3750	**512000** 115000	**0.33**	**2.08**	**3.09**	**76300** 17100	**42500** 9550	**133000** 29900	**1.80**
85.725 3.3750	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
85.725 3.3750	**136.525** 5.3750	**69.850** 2.7500	**53.975** 2.1250	**249000** 56000	**0.44**	**1.52**	**2.26**	**37100** 8330	**28200** 6340	**64600** 14500	**1.31**
85.725 3.3750	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
85.725 3.3750	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
85.725 3.3750	**152.400** 6.0000	**95.250** 3.7500	**76.200** 3.0000	**398000** 89500	**0.41**	**1.65**	**2.46**	**59300** 13300	**41500** 9330	**103000** 23200	**1.43**
85.725 3.3750	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**528000** 119000	**0.34**	**1.98**	**2.95**	**78500** 17700	**45900** 10300	**137000** 30700	**1.71**
85.725 3.3750	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**427000** 95900	**0.47**	**1.43**	**2.14**	**63500** 14300	**51200** 11500	**111000** 24900	**1.24**
85.725 3.3750	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**659000** 148000	**0.30**	**2.26**	**3.36**	**98200** 22100	**50300** 11300	**171000** 38400	**1.95**
87.312 3.4375	**123.825** 4.8750	**50.797** 1.9999	**42.862** 1.6875	**149000** 33600	**0.33**	**2.05**	**3.05**	**22200** 5000	**12600** 2820	**38700** 8700	**1.77**
87.312 3.4375	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
87.312 3.4375	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**860000** 193000	**0.33**	**2.02**	**3.00**	**128000** 28800	**73400** 16500	**223000** 50100	**1.74**
87.312 3.4375	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**860000** 193000	**0.33**	**2.02**	**3.00**	**128000** 28800	**73400** 16500	**223000** 50100	**1.74**
87.960 3.4630	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
88.900 3.5000	**123.825** 4.8750	**50.797** 1.9999	**42.862** 1.6875	**149000** 33600	**0.33**	**2.05**	**3.05**	**22200** 5000	**12600** 2820	**38700** 8700	**1.77**
88.900 3.5000	**123.825** 4.8750	**50.797** 1.9999	**42.862** 1.6875	**149000** 33600	**0.33**	**2.05**	**3.05**	**22200** 5000	**12600** 2820	**38700** 8700	**1.77**
88.900 3.5000	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
88.900 3.5000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
88.900 3.5000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
88.900 3.5000	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
88.900 3.5000	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**528000** 119000	**0.34**	**1.98**	**2.95**	**78500** 17700	**45900** 10300	**137000** 30700	**1.71**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
842	834D	X1S-842	3.5 0.14	101.0 3.98	0.8 0.03	155.0 6.10			198	34.8	0.0937	12.90 28.45
27690	27620DA	X2S-27690	3.5 0.14	96.0 3.78	0.8 0.03	0.0 0.00	14.2 0.56	2.3 0.09	98.2	41.8	0.1198	2.30 5.08
498	493D	X4S-498	3.5 0.14	98.0 3.86	0.8 0.03	130.0 5.12			105	29.3	0.1252	3.53 7.79
664	654D	X1S-664	3.5 0.14	100.0 3.94	1.5 0.06	141.0 5.55			137	27.3	0.0919	6.80 15.00
9386H	9320D	X2S-9385	3.5 0.14	111.0 4.37	2.3 0.09	164.0 6.46			118	18.6	0.1053	11.28 24.87
98335	98789D	X1S-98335	3.5 0.14	115.0 4.53	2.3 0.09	188.0 7.40			203	37.4	0.1197	16.86 37.17
749	742DC	X2S-749	3.5 0.14	101.0 3.98	1.5 0.06	143.0 5.63	19.0 0.75	6.4 0.25	160	26.3	0.0898	7.90 17.41
749	742D	X3S-749	3.5 0.14	101.0 3.98	1.5 0.06	143.0 5.63			160	26.3	0.0898	7.90 17.41
497	493DC	X3S-497	3.5 0.14	99.0 3.90	0.8 0.03	130.0 5.12	12.4 0.49	4.6 0.18	105	29.3	0.1252	3.43 7.56
497	493D	X3S-497	3.5 0.14	99.0 3.90	0.8 0.03	130.0 5.12			105	29.3	0.1252	3.43 7.56
596	592DC	X1S-596	3.5 0.14	102.0 4.02	0.8 0.03	144.0 5.67	14.2 0.56	5.3 0.21	151	36.8	0.1416	6.10 13.46
596	592D	X1S-596	3.5 0.14	102.0 4.02	0.8 0.03	144.0 5.67			151	36.8	0.1416	6.10 13.46
665	654D	X1S-665	3.5 0.14	102.0 4.02	1.5 0.06	141.0 5.55			137	27.3	0.0919	6.68 14.72
758	752D	X2S-758	3.5 0.14	103.0 4.06	1.5 0.06	150.0 5.91			177	29.4	0.0945	9.06 19.98
677	672D	X1S-677	3.5 0.14	105.0 4.13	0.8 0.03	160.0 6.30			182	37.2	0.1056	9.18 20.23
841	834D	X2S-841	3.5 0.14	104.0 4.09	0.8 0.03	155.0 6.10			198	34.8	0.0937	12.58 27.73
L217847	L217810D	L217847XA	1.5 0.06	96.0 3.78	0.8 0.03	119.0 4.69			111	74.7	0.1152	1.78 3.92
596-S	592D	X2S-596	3.5 0.14	103.0 4.06	0.8 0.03	144.0 5.67			151	38.3	0.1416	5.99 13.20
HH221432	HH221410DC	HH221432XA	8.0 0.31	118.0 4.65	1.5 0.06	179.0 7.05	22.1 0.87	5.3 0.21	266	28.4	0.1072	17.58 38.76
HH221432	HH221410D	HH221432XA	8.0 0.31	118.0 4.65	1.5 0.06	179.0 7.05			266	28.4	0.1072	17.58 38.76
42346	42587D	X1S-42346	3.0 0.12	103.0 4.06	0.8 0.03	143.0 5.63			130	37.2	0.1386	4.57 10.06
L217849	L217810DC	L217849XA	1.5 0.06	97.0 3.82	0.8 0.03	119.0 4.69	7.9 0.31	2.3 0.09	111	74.7	0.1152	1.69 3.72
L217849	L217810D	L217849XB	1.5 0.06	97.0 3.82	0.8 0.03	119.0 4.69			111	74.7	0.1152	1.69 3.72
42350	42587D	X1S-42350	3.0 0.12	104.0 4.09	0.8 0.03	143.0 5.63			130	37.2	0.1386	4.50 9.93
593	592DC	X1S-593	3.5 0.14	104.0 4.09	0.8 0.03	144.0 5.67	14.2 0.56	5.3 0.21	151	36.8	0.1416	5.84 12.88
593	592D	X2S-593	3.5 0.14	104.0 4.09	0.8 0.03	144.0 5.67			151	36.8	0.1416	5.84 12.88
593A	592D	X1S-593	6.4 0.25	110.0 4.33	0.8 0.03	144.0 5.67			151	36.8	0.1416	5.78 12.74
759	752D	X8S-759	3.5 0.14	106.0 4.17	1.5 0.06	150.0 5.91			177	29.4	0.0945	8.71 19.19

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

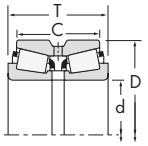
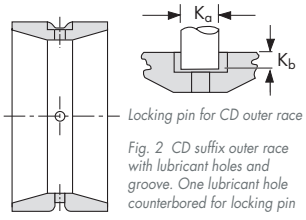
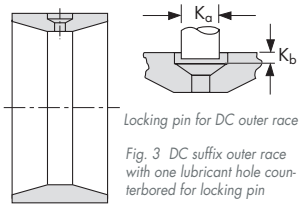


Fig. 1 D suffix outer race with lubricant holes and groove



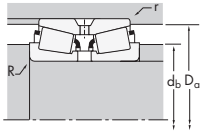
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
88.900 3.5000	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**528000** 119000	**0.34**	**1.98**	**2.95**	**78500** 17700	**45900** 10300	**137000** 30700	**1.71**
88.900 3.5000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**427000** 95900	**0.47**	**1.43**	**2.14**	**63500** 14300	**51200** 11500	**111000** 24900	**1.24**
88.900 3.5000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**427000** 95900	**0.47**	**1.43**	**2.14**	**63500** 14300	**51200** 11500	**111000** 24900	**1.24**
88.900 3.5000	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**659000** 148000	**0.30**	**2.26**	**3.36**	**98200** 22100	**50300** 11300	**171000** 38400	**1.95**
88.900 3.5000	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
88.900 3.5000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**860000** 193000	**0.33**	**2.02**	**3.00**	**128000** 28800	**73400** 16500	**223000** 50100	**1.74**
88.900 3.5000	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**655000** 147000	**0.63**	**1.07**	**1.59**	**97500** 21900	**106000** 23700	**170000** 38200	**0.92**
89.891 3.5390	**171.450** 6.7500	**125.412** 4.9375	**100.012** 3.9375	**659000** 148000	**0.30**	**2.26**	**3.36**	**98200** 22100	**50300** 11300	**171000** 38400	**1.95**
89.916 3.5400	**189.967** 7.4790	**85.852** 3.3800	**54.102** 2.1300	**462000** 104000	**0.87**	**0.78**	**1.16**	**68800** 15500	**102000** 22900	**120000** 26900	**0.67**
89.980 3.5425	**161.900** 6.3740	**69.850** 2.7500	**44.450** 1.7500	**327000** 73600	**0.73**	**0.92**	**1.37**	**48700** 11000	**61100** 13700	**84900** 19100	**0.80**
90.488 3.5625	**161.925** 6.3750	**104.775** 4.1250	**85.725** 3.3750	**528000** 119000	**0.34**	**1.98**	**2.95**	**78500** 17700	**45900** 10300	**137000** 30700	**1.71**
92.075 3.6250	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
92.075 3.6250	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
92.075 3.6250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
92.075 3.6250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
92.075 3.6250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
92.075 3.6250	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
92.075 3.6250	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**427000** 95900	**0.47**	**1.43**	**2.14**	**63500** 14300	**51200** 11500	**111000** 24900	**1.24**
92.075 3.6250	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
93.662 3.6875	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
93.662 3.6875	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
95.250 3.7500	**130.175** 5.1250	**47.622** 1.8749	**39.688** 1.5625	**154000** 34600	**0.35**	**1.93**	**2.88**	**22900** 5150	**13700** 3080	**39900** 8960	**1.67**
95.250 3.7500	**136.525** 5.3750	**68.260** 2.6874	**57.150** 2.2500	**225000** 50600	**0.28**	**2.38**	**3.54**	**33500** 7530	**16300** 3660	**58300** 13100	**2.06**
95.250 3.7500	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
95.250 3.7500	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
95.250 3.7500	**149.225** 5.8750	**66.672** 2.6249	**52.388** 2.0625	**263000** 59000	**0.49**	**1.37**	**2.04**	**39100** 8790	**33000** 7410	**68100** 15300	**1.19**
95.250 3.7500	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**
95.250 3.7500	**152.400** 6.0000	**82.550** 3.2500	**63.500** 2.5000	**348000** 78300	**0.44**	**1.53**	**2.27**	**51900** 11700	**39200** 8820	**90300** 20300	**1.32**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
766	752D		7.0 0.28	113.0 4.45	1.5 0.06	150.0 5.91			177	29.4	0.0945	8.52 18.78
679	672DC	X1S-679	3.5 0.14	107.0 4.21	0.8 0.03	160.0 6.30	15.7 0.62	4.6 0.18	182	37.2	0.1056	8.86 19.52
679	672D	X2S-679	3.5 0.14	107.0 4.21	0.8 0.03	160.0 6.30			182	37.2	0.1056	8.86 19.52
850	834D	X2S-850	3.5 0.14	106.0 4.17	0.8 0.03	155.0 6.10			198	34.8	0.0937	12.21 26.91
775	774D	X2S-775	4.8 0.19	112.0 4.41	1.5 0.06	168.0 6.61			227	41.3	0.1067	12.13 26.73
HH221434	HH221410D	HH221434XB	8.0 0.31	120.0 4.72	1.5 0.06	179.0 7.05			266	28.4	0.1072	17.36 38.27
98350	98789D	X3S-98350	3.5 0.14	118.0 4.65	2.3 0.09	188.0 7.40			203	37.4	0.1197	16.33 36.00
850A	834D	X1S-850A	3.5 0.14	107.0 4.21	0.8 0.03	155.0 6.10			198	34.8	0.0937	12.08 26.64
HM921343	HM921310D	HM921343XA	3.5 0.14	117.0 4.61	1.5 0.06	181.0 7.13			137	32	0.1143	10.44 23.02
M919048	M919010D	M919049XC	3.5 0.14	109.0 4.29	1.5 0.06	154.0 6.06			102	30.7	0.0990	5.40 11.90
760	752D	X1S-760	3.5 0.14	107.0 4.21	1.5 0.06	150.0 5.91			177	29.4	0.0945	8.56 18.87
42362	42587DC	X1S-42362	3.5 0.14	107.0 4.21	0.8 0.03	143.0 5.63	10.9 0.43	3.8 0.15	130	37.2	0.1386	4.28 9.44
42362	42587D	X3S-42362	3.5 0.14	107.0 4.21	0.8 0.03	143.0 5.63			130	37.2	0.1386	4.28 9.44
598	592DC	X1S-598	3.5 0.14	107.0 4.21	0.8 0.03	144.0 5.67	14.2 0.56	5.3 0.21	151	36.8	0.1416	5.55 12.24
598	592D	X3S-598	3.5 0.14	107.0 4.21	0.8 0.03	144.0 5.67			151	36.8	0.1416	5.55 12.24
598X	592DC	X1S-598	3.5 0.14	107.0 4.21	0.8 0.03	144.0 5.67	14.2 0.56	5.3 0.21	151	38.3	0.1416	5.54 12.22
598X	592D	X1S-598	3.5 0.14	107.0 4.21	0.8 0.03	144.0 5.67			151	38.3	0.1416	5.54 12.22
681	672D	X1S-681	3.5 0.14	110.0 4.33	0.8 0.03	160.0 6.30			182	37.2	0.1056	8.53 18.80
778	774D	X1S-778	3.5 0.14	111.0 4.37	1.5 0.06	168.0 6.61			227	41.3	0.1067	11.73 25.85
42368	42587D	X1S-42368	3.0 0.12	107.0 4.21	0.8 0.03	143.0 5.63			130	37.2	0.1386	4.17 9.20
597	592D	X1S-597	3.5 0.14	109.0 4.29	0.8 0.03	144.0 5.67			151	38.3	0.1416	5.41 11.93
L319249	L319210D	L319249XB	1.5 0.06	103.0 4.06	0.8 0.03	125.0 4.92			125	90.7	0.1220	1.75 3.87
LM119348	LM119311D	LM119348XA	2.3 0.09	105.0 4.13	0.8 0.03	131.0 5.16			149	69	0.1213	2.98 6.57
42375	42587D	X1S-42376	3.0 0.12	108.0 4.25	0.8 0.03	143.0 5.63			130	37.2	0.1386	4.05 8.92
42376	42587DC	X1S-42376	3.5 0.14	109.0 4.29	0.8 0.03	143.0 5.63	10.9 0.43	3.8 0.15	130	37.2	0.1386	3.94 8.69
42376	42587D	X1S-42376	3.5 0.14	109.0 4.29	0.8 0.03	143.0 5.63			130	37.2	0.1386	4.02 8.87
594	592DC	X2S-594	3.5 0.14	110.0 4.33	0.8 0.03	144.0 5.67	14.2 0.56	5.3 0.21	151	36.8	0.1416	5.26 11.61
594	592D	X3S-594	3.5 0.14	110.0 4.33	0.8 0.03	144.0 5.67			151	36.8	0.1416	5.26 11.61

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

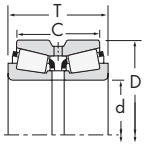
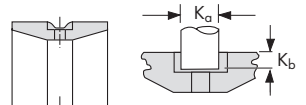
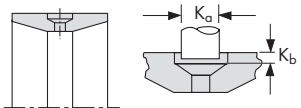


Fig. 1 D suffix outer race with lubricant holes and groove



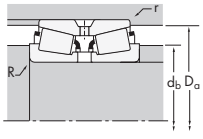
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
95.250 3.7500	152.400 6.0000	82.550 3.2500	63.500 2.5000	348000 78300	0.44	1.53	2.27	51900 11700	39200 8820	90300 20300	1.32
95.250 3.7500	161.925 6.3750	82.547 3.2499	61.912 2.4375	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23
95.250 3.7500	168.275 6.6250	92.075 3.6250	69.850 2.7500	427000 95900	0.47	1.43	2.14	63500 14300	51200 11500	111000 24900	1.24
95.250 3.7500	168.275 6.6250	92.075 3.6250	69.850 2.7500	427000 95900	0.47	1.43	2.14	63500 14300	51200 11500	111000 24900	1.24
95.250 3.7500	180.975 7.1250	104.775 4.1250	85.725 3.3750	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
95.250 3.7500	180.975 7.1250	104.775 4.1250	85.725 3.3750	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
95.250 3.7500	190.500 7.5000	127.000 5.0000	104.775 4.1250	860000 193000	0.33	2.02	3.00	128000 28800	73400 16500	223000 50100	1.74
96.838 3.8125	149.225 5.8750	66.672 2.6249	52.388 2.0625	263000 59000	0.49	1.37	2.04	39100 8790	33000 7410	68100 15300	1.19
96.838 3.8125	149.225 5.8750	66.672 2.6249	52.388 2.0625	263000 59000	0.49	1.37	2.04	39100 8790	33000 7410	68100 15300	1.19
98.425 3.8750	161.925 6.3750	82.547 3.2499	61.912 2.4375	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23
98.425 3.8750	168.275 6.6250	92.075 3.6250	69.850 2.7500	427000 95900	0.47	1.43	2.14	63500 14300	51200 11500	111000 24900	1.24
98.425 3.8750	168.275 6.6250	92.075 3.6250	69.850 2.7500	427000 95900	0.47	1.43	2.14	63500 14300	51200 11500	111000 24900	1.24
98.425 3.8750	180.000 7.0866	104.775 4.1250	85.725 3.3750	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
98.425 3.8750	180.975 7.1250	104.775 4.1250	85.725 3.3750	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
98.425 3.8750	190.500 7.5000	127.000 5.0000	104.775 4.1250	860000 193000	0.33	2.02	3.00	128000 28800	73400 16500	223000 50100	1.74
98.425 3.8750	212.725 8.3750	142.875 5.6250	117.475 4.6250	1100000 246000	0.33	2.07	3.09	163000 36700	91000 20500	284000 63900	1.79
99.975 3.9360	212.725 8.3750	142.875 5.6250	117.475 4.6250	1100000 246000	0.33	2.07	3.09	163000 36700	91000 20500	284000 63900	1.79
99.980 3.9362	196.850 7.7500	103.378 4.0700	74.422 2.9300	608000 137000	0.61	1.11	1.66	90500 20300	93900 21100	158000 35400	0.96
99.982 3.9363	190.500 7.5000	127.000 5.0000	104.775 4.1250	860000 193000	0.33	2.02	3.00	128000 28800	73400 16500	223000 50100	1.74
100.000 3.9370	180.000 7.0866	104.775 4.1250	85.725 3.3750	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
100.000 3.9370	180.975 7.1250	104.775 4.1250	85.725 3.3750	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
100.000 3.9370	190.500 7.5000	127.000 5.0000	101.600 4.0000	738000 166000	0.33	2.02	3.00	110000 24700	63000 14200	191000 43000	1.74
100.000 3.9370	200.025 7.8750	115.888 4.5625	80.216 3.1581	655000 147000	0.63	1.07	1.59	97500 21900	106000 23700	170000 38200	0.92
100.012 3.9375	161.925 6.3750	82.547 3.2499	61.912 2.4375	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23
101.600 4.0000	146.050 5.7500	49.210 1.9374	38.895 1.5313	219000 49100	0.39	1.74	2.59	32500 7320	21600 4860	56700 12700	1.51
101.600 4.0000	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
101.600 4.0000	161.925 6.3750	82.547 3.2499	61.912 2.4375	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23
101.600 4.0000	161.925 6.3750	82.547 3.2499	61.912 2.4375	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
594A	592D	X2S-594	5.0 0.20	113.0 4.45	0.8 0.03	144.0 5.67			151	36.8	0.1416	5.23 11.53
52375	52637D	X2S-52375	3.5 0.14	112.0 4.41	0.8 0.03	154.0 6.06			175	41.7	0.1519	6.50 14.33
683	672DC	X1S-683	3.5 0.14	113.0 4.45	0.8 0.03	160.0 6.30	15.7 0.62	4.6 0.18	182	37.2	0.1056	8.19 18.06
683	672D	X2S-683	3.5 0.14	113.0 4.45	0.8 0.03	160.0 6.30			182	37.2	0.1056	8.19 18.06
776	774D	X2S-776	3.5 0.14	114.0 4.49	1.5 0.06	168.0 6.61			227	41.3	0.1067	11.37 25.06
777	774D		9.7 0.38	126.0 4.96	1.5 0.06	168.0 6.61			227	41.3	0.1067	10.97 24.19
HH221440	HH221410D	HH221440XA	8.0 0.31	125.0 4.92	1.5 0.06	179.0 7.05			266	28.4	0.1072	16.44 36.24
42381	42587DC	X1S-42381	3.5 0.14	110.0 4.33	0.8 0.03	143.0 5.63	10.9 0.43	3.8 0.15	130	37.2	0.1386	3.91 8.62
42381	42587D	X2S-42381	3.5 0.14	110.0 4.33	0.8 0.03	143.0 5.63			130	37.2	0.1386	3.91 8.62
52387	52637D	X3S-52387	3.5 0.14	114.0 4.49	0.8 0.03	154.0 6.06			175	41.7	0.1519	6.18 13.62
685	672DC	X1S-685	3.5 0.14	116.0 4.57	0.8 0.03	160.0 6.30	15.7 0.62	4.6 0.18	182	37.2	0.1056	7.90 17.41
685	672D	X3S-685	3.5 0.14	116.0 4.57	0.8 0.03	160.0 6.30			182	37.2	0.1056	7.90 17.41
779	773D	X4S-779	3.5 0.14	116.0 4.57	0.8 0.03	168.0 6.61			227	41.3	0.1067	10.86 23.94
779	774D	X3S-779	3.5 0.14	116.0 4.57	1.5 0.06	168.0 6.61			227	41.3	0.1067	10.98 24.21
HH221442	HH221410D	HH221442XB	3.5 0.14	119.0 4.69	1.5 0.06	179.0 7.05			266	28.4	0.1072	16.09 35.46
HH224332	HH224310CD	HH224332XA	3.5 0.14	123.0 4.84	1.5 0.06	201.5 7.94	25.4 1.00	7.9 0.31	367	47.8	0.1182	23.31 51.40
HH224334	HH224310CD	HH224334XA	3.5 0.14	124.0 4.88	1.5 0.06	201.5 7.94	25.4 1.00	7.9 0.31	367	43.4	0.1182	23.13 51.00
HM821547	HM821511D	HM821547XB	3.5 0.14	123.0 4.84	1.5 0.06	187.0 7.36			166	24.2	0.1100	12.48 27.52
HH221447	HH221410D	HH221447XC	6.4 0.25	126.0 4.96	1.5 0.06	179.0 7.05			266	28.4	0.1072	15.77 34.77
783	773D	X3S-783	3.5 0.14	118.0 4.65	0.8 0.03	168.0 6.61			227	41.3	0.1067	10.68 23.54
783	774D	X3S-783	3.5 0.14	118.0 4.65	1.5 0.06	168.0 6.61			227	41.3	0.1067	10.78 23.77
863X	854DC	X1S-863X	6.0 0.24	124.0 4.88	1.5 0.06	174.0 6.85	22.1 0.87	6.4 0.25	264	44.9	0.1072	15.05 33.19
98394X	98789D	X1S-98394X	3.5 0.14	126.0 4.96	2.3 0.09	188.0 7.40			203	37.4	0.1197	14.94 32.93
52393	52637D	X2S-52393	3.5 0.14	116.0 4.57	0.8 0.03	154.0 6.06			175	41.7	0.1519	6.02 13.27
LM520349	LM520310D	LM520349XA	1.5 0.06	110.0 4.33	0.8 0.03	140.0 5.51			121	58.7	0.1249	2.43 5.37
L521945	L521910D	L521945XA	1.5 0.06	112.0 4.41	0.8 0.03	141.0 5.55			152	108	0.1346	2.54 5.60
52400	52637DC	X1S-52400	3.5 0.14	117.0 4.61	0.8 0.03	154.0 6.06	14.2 0.56	5.3 0.21	175	41.7	0.1519	5.89 12.99
52400	52637D	X7S-52400	3.5 0.14	117.0 4.61	0.8 0.03	154.0 6.06			175	41.7	0.1519	5.89 12.99

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

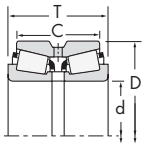
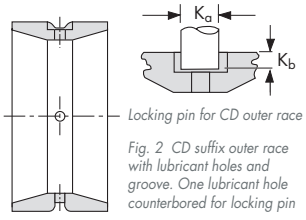
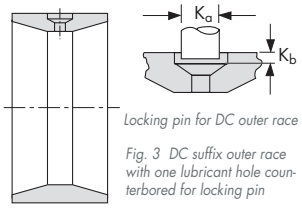


Fig. 1 D suffix outer race with lubricant holes and groove



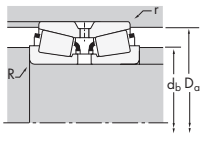
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
101.600 4.0000	**161.925** 6.3750	**82.547** 3.2499	**61.912** 2.4375	**360000** 81000	**0.47**	**1.42**	**2.12**	**53600** 12100	**43600** 9800	**93400** 21000	**1.23**
101.600 4.0000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**427000** 95900	**0.47**	**1.43**	**2.14**	**63500** 14300	**51200** 11500	**111000** 24900	**1.24**
101.600 4.0000	**168.275** 6.6250	**92.075** 3.6250	**69.850** 2.7500	**427000** 95900	**0.47**	**1.43**	**2.14**	**63500** 14300	**51200** 11500	**111000** 24900	**1.24**
101.600 4.0000	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
101.600 4.0000	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
101.600 4.0000	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
101.600 4.0000	**190.500** 7.5000	**127.000** 5.0000	**101.600** 4.0000	**738000** 166000	**0.33**	**2.02**	**3.00**	**110000** 24700	**63000** 14200	**191000** 43000	**1.74**
101.600 4.0000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**860000** 193000	**0.33**	**2.02**	**3.00**	**128000** 28800	**73400** 16500	**223000** 50100	**1.74**
101.600 4.0000	**190.500** 7.5000	**127.000** 5.0000	**104.775** 4.1250	**860000** 193000	**0.33**	**2.02**	**3.00**	**128000** 28800	**73400** 16500	**223000** 50100	**1.74**
101.600 4.0000	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**655000** 147000	**0.63**	**1.07**	**1.59**	**97500** 21900	**106000** 23700	**170000** 38200	**0.92**
101.600 4.0000	**200.025** 7.8750	**115.888** 4.5625	**80.216** 3.1581	**655000** 147000	**0.63**	**1.07**	**1.59**	**97500** 21900	**106000** 23700	**170000** 38200	**0.92**
101.600 4.0000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**922000** 207000	**0.33**	**2.07**	**3.09**	**137000** 30900	**76600** 17200	**239000** 53700	**1.79**
101.600 4.0000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1100000** 246000	**0.33**	**2.07**	**3.09**	**163000** 36700	**91000** 20500	**284000** 63900	**1.79**
101.600 4.0000	**214.312** 8.4375	**115.888** 4.5625	**84.138** 3.3125	**758000** 170000	**0.67**	**1.00**	**1.49**	**113000** 25400	**130000** 29300	**196000** 44200	**0.87**
104.775 4.1250	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
104.775 4.1250	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
104.775 4.1250	**180.000** 7.0866	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
104.775 4.1250	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
104.775 4.1250	**180.975** 7.1250	**104.775** 4.1250	**85.725** 3.3750	**558000** 125000	**0.39**	**1.75**	**2.61**	**83100** 18700	**54800** 12300	**145000** 32500	**1.51**
104.775 4.1250	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**
106.362 4.1875	**165.100** 6.5000	**82.550** 3.2500	**63.500** 2.5000	**365000** 82100	**0.50**	**1.36**	**2.02**	**54400** 12200	**46300** 10400	**94600** 21300	**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	**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	**186000** 41700	**0.61**	**1.11**	**1.66**	**27600** 6220	**28700** 6450	**48100** 10800	**0.96**
107.950 4.2500	**159.987** 6.2987	**74.612** 2.9375	**58.738** 2.3125	**316000** 70900	**0.40**	**1.68**	**2.50**	**47000** 10600	**32300** 7270	**81800** 18400	**1.45**
107.950 4.2500	**165.100** 6.5000	**82.550** 3.2500	**63.500** 2.5000	**365000** 82100	**0.50**	**1.36**	**2.02**	**54400** 12200	**46300** 10400	**94600** 21300	**1.18**
107.950 4.2500	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
52401	52637D	X1S-52400	8.0 0.31	126.0 4.96	0.8 0.03	154.0 6.06			175	41.7	0.1519	5.89 12.99
687	672DC	X1S-687	3.5 0.14	118.0 4.65	0.8 0.03	160.0 6.30	15.7 0.62	4.6 0.18	182	37.2	0.1056	7.64 16.85
687	672D	X3S-687	3.5 0.14	118.0 4.65	0.8 0.03	160.0 6.30			182	37.2	0.1056	7.64 16.85
780	773DC	X1S-780	3.5 0.14	119.0 4.69	0.8 0.03	168.0 6.61	19.0 0.75	6.4 0.25	227	38.2	0.1067	10.69 23.56
780	773D	X2S-780	3.5 0.14	119.0 4.69	0.8 0.03	168.0 6.61			227	38.2	0.1067	10.69 23.56
780	774D	X1S-780	3.5 0.14	119.0 4.69	1.5 0.06	168.0 6.61			227	38.2	0.1067	10.63 23.44
861	854DC	X3S-861	8.0 0.31	129.0 5.08	1.5 0.06	174.0 6.85	22.1 0.87	6.4 0.25	264	44.9	0.1072	14.75 32.52
HH221449	HH221410DC	HH221449XA	8.0 0.31	131.0 5.16	1.5 0.06	179.0 7.05	22.1 0.87	5.3 0.21	266	28.4	0.1072	15.47 34.11
HH221449	HH221410D	HH221449XB	8.0 0.31	131.0 5.16	1.5 0.06	179.0 7.05			266	28.4	0.1072	15.47 34.11
98400	98789DC	X1S-98400	3.5 0.14	128.0 5.04	2.3 0.09	188.0 7.40	17.3 0.68	8.6 0.34	203	37.4	0.1197	14.67 32.35
98400	98789D	X2S-98400	3.5 0.14	128.0 5.04	2.3 0.09	188.0 7.40			203	37.4	0.1197	14.67 32.34
941	932CD	X2S-941	7.0 0.28	130.0 5.12	1.5 0.06	193.0 7.60	22.1 0.87	8.6 0.34	339	39.7	0.1153	22.54 49.69
HH224335	HH224310CD	HH224335XB	7.0 0.28	132.0 5.20	1.5 0.06	201.5 7.94	25.4 1.00	7.9 0.31	367	43.4	0.1182	22.75 50.15
H924033	H924010D	H924033XA	3.5 0.14	132.0 5.20	1.5 0.06	205.0 8.07			246	32.2	0.1299	19.23 42.39
782	773D	X3S-782	3.5 0.14	122.0 4.80	0.8 0.03	168.0 6.61			227	38.2	0.1067	10.26 22.62
786	773D	X1S-786	6.4 0.25	128.0 5.04	0.8 0.03	168.0 6.61			227	38.2	0.1067	10.02 22.10
787	773D	X3S-782	7.0 0.28	129.0 5.08	0.8 0.03	168.0 6.61			227	41.3	0.1067	10.16 22.39
782	774DC	X3S-782	3.5 0.14	122.0 4.80	1.5 0.06	168.0 6.61	19.0 0.75	6.4 0.25	227	38.2	0.1067	10.51 23.18
782	774D	X3S-782	3.5 0.14	122.0 4.80	1.5 0.06	168.0 6.61			227	38.2	0.1067	10.20 22.49
786	774DC	X3S-782	6.4 0.25	128.0 5.04	1.5 0.06	168.0 6.61	19.0 0.75	6.4 0.25	227	38.2	0.1067	10.44 23.01
71412	71751D	X2S-71412	3.5 0.14	124.0 4.88	1.5 0.06	181.0 7.13			269	45.7	0.1156	12.40 27.34
56418	56650D	X2S-56418	3.5 0.14	122.0 4.80	0.8 0.03	159.0 6.26			191	47.7	0.1584	5.95 13.12
L521949	L521910DC	L521949XA	1.5 0.06	116.0 4.57	0.8 0.03	141.0 5.55	7.9 0.31	3.0 0.12	152	108	0.1346	2.20 4.84
L521949	L521910D	L521949XA	1.5 0.06	116.0 4.57	0.8 0.03	141.0 5.55			152	108	0.1346	2.20 4.84
37425	37626D	X1S-37425	3.5 0.14	122.0 4.80	0.8 0.03	152.0 5.98			124	57	0.1443	3.21 7.07
LM522546	LM522510D	LM522546XB	3.5 0.14	122.0 4.80	0.8 0.03	154.0 6.06			232	63.3	0.1576	5.07 11.19
56425	56650D	X2S-56425	3.5 0.14	123.0 4.84	0.8 0.03	159.0 6.26			191	47.7	0.1584	5.80 12.78
71425	71751DC	X2S-71425	3.5 0.14	126.0 4.96	1.5 0.06	181.0 7.13	17.3 0.68	5.3 0.21	269	45.7	0.1156	11.87 26.18

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

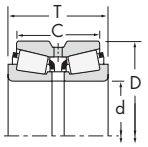
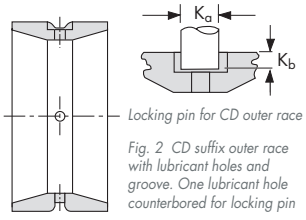
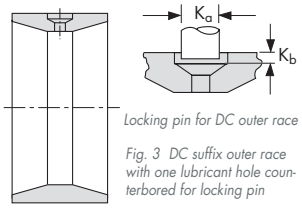


Fig. 1 D suffix outer race with lubricant holes and groove



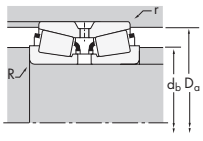
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic (1)	Factors (5)			Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
107.950 4.2500	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**
107.950 4.2500	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**922000** 207000	**0.33**	**2.07**	**3.09**	**137000** 30900	**76600** 17200	**239000** 53700	**1.79**
107.950 4.2500	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1100000** 246000	**0.33**	**2.07**	**3.09**	**163000** 36700	**91000** 20500	**284000** 63900	**1.79**
109.538 4.3125	**158.750** 6.2500	**53.978** 2.1251	**39.688** 1.5625	**186000** 41700	**0.61**	**1.11**	**1.66**	**27600** 6220	**28700** 6450	**48100** 10800	**0.96**
109.538 4.3125	**158.750** 6.2500	**53.978** 2.1251	**39.688** 1.5625	**186000** 41700	**0.61**	**1.11**	**1.66**	**27600** 6220	**28700** 6450	**48100** 10800	**0.96**
109.952 4.3288	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**
110.000 4.3301	**214.312** 8.4375	**115.888** 4.5625	**84.138** 3.3125	**758000** 170000	**0.67**	**1.00**	**1.49**	**113000** 25400	**130000** 29300	**196000** 44200	**0.87**
109.987 4.3302	**159.987** 6.2987	**74.612** 2.9375	**58.738** 2.3125	**316000** 70900	**0.40**	**1.68**	**2.50**	**47000** 10600	**32300** 7270	**81800** 18400	**1.45**
109.987 4.3302	**159.987** 6.2987	**74.612** 2.9375	**58.738** 2.3125	**316000** 70900	**0.40**	**1.68**	**2.50**	**47000** 10600	**32300** 7270	**81800** 18400	**1.45**
109.992 4.3304	**177.800** 7.0000	**92.075** 3.6250	**69.850** 2.7500	**443000** 99600	**0.52**	**1.31**	**1.95**	**65900** 14800	**58300** 13100	**115000** 25800	**1.13**
110.000 4.3307	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**922000** 207000	**0.33**	**2.07**	**3.09**	**137000** 30900	**76600** 17200	**239000** 53700	**1.79**
111.125 4.3750	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**
111.125 4.3750	**214.312** 8.4375	**115.888** 4.5625	**84.138** 3.3125	**758000** 170000	**0.67**	**1.00**	**1.49**	**113000** 25400	**130000** 29300	**196000** 44200	**0.87**
111.125 4.3750	**241.300** 9.5000	**158.750** 6.2500	**107.950** 4.2500	**1080000** 243000	**0.73**	**0.92**	**1.37**	**161000** 36200	**202000** 45400	**281000** 63100	**0.80**
114.300 4.5000	**152.400** 6.0000	**47.625** 1.8750	**38.100** 1.5000	**161000** 36200	**0.41**	**1.63**	**2.43**	**23900** 5380	**16900** 3810	**41700** 9370	**1.41**
114.300 4.5000	**177.800** 7.0000	**92.075** 3.6250	**69.850** 2.7500	**443000** 99600	**0.52**	**1.31**	**1.95**	**65900** 14800	**58300** 13100	**115000** 25800	**1.13**
114.300 4.5000	**177.800** 7.0000	**92.075** 3.6250	**69.850** 2.7500	**443000** 99600	**0.52**	**1.31**	**1.95**	**65900** 14800	**58300** 13100	**115000** 25800	**1.13**
114.300 4.5000	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**
114.300 4.5000	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**
114.300 4.5000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**922000** 207000	**0.33**	**2.07**	**3.09**	**137000** 30900	**76600** 17200	**239000** 53700	**1.79**
114.300 4.5000	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1100000** 246000	**0.33**	**2.07**	**3.09**	**163000** 36700	**91000** 20500	**284000** 63900	**1.79**
114.300 4.5000	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**798000** 179000	**0.74**	**0.92**	**1.36**	**119000** 26700	**150000** 33700	**207000** 46500	**0.79**
114.975 4.5266	**177.800** 7.0000	**92.075** 3.6250	**69.850** 2.7500	**443000** 99600	**0.52**	**1.31**	**1.95**	**65900** 14800	**58300** 13100	**115000** 25800	**1.13**
114.975 4.5266	**212.725** 8.3750	**142.875** 5.6250	**117.475** 4.6250	**1100000** 246000	**0.33**	**2.07**	**3.09**	**163000** 36700	**91000** 20500	**284000** 63900	**1.79**
115.087 4.5310	**190.500** 7.5000	**106.362** 4.1875	**80.962** 3.1875	**586000** 132000	**0.42**	**1.62**	**2.42**	**87300** 19600	**62200** 14000	**152000** 34200	**1.40**
119.062 4.6875	**194.873** 7.6722	**125.255** 4.9313	**131.351** 5.1713	**662000** 149000	**0.26**	**2.55**	**3.80**	**98600** 22200	**44600** 10000	**172000** 38600	**2.21**
119.062 4.6875	**195.262** 7.6875	**136.779** 5.3850	**142.875** 5.6250	**662000** 149000	**0.26**	**2.55**	**3.80**	**98600** 22200	**44600** 10000	**172000** 38600	**2.21**
119.957 4.7227	**194.873** 7.6722	**125.255** 4.9313	**131.351** 5.1713	**662000** 149000	**0.26**	**2.55**	**3.80**	**98600** 22200	**44600** 10000	**172000** 38600	**2.21**

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
71425	71751D	X5S-71425	3.5 0.14	126.0 4.96	1.5 0.06	181.0 7.13			269	45.7	0.1156	11.87 26.18
936	932CD	X3S-936	8.0 0.31	137.0 5.39	1.5 0.06	193.0 7.60	22.1 0.87	8.6 0.34	339	39.7	0.1153	21.49 47.37
HH224340	HH224310CD	HH224340XA	8.0 0.31	139.0 5.47	1.5 0.06	201.5 7.94	25.4 1.00	7.9 0.31	367	47.8	0.1182	21.55 47.51
37431	37626DC	X1S-37431	3.5 0.14	123.0 4.84	0.8 0.03	152.0 5.98	7.9 0.31	3.8 0.15	124	48.7	0.1443	3.13 6.91
37431	37626D	X1S-37431	3.5 0.14	123.0 4.84	0.8 0.03	152.0 5.98			124	48.7	0.1443	3.13 6.91
71432	71751D	X1S-71432	3.5 0.14	128.0 5.04	1.5 0.06	181.0 7.13			269	45.7	0.1156	12.02 26.50
H924043	H924010D	H924043XA	3.5 0.14	139.0 5.47	1.5 0.06	205.0 8.07			246	32.2	0.1299	17.81 39.27
LM522548	LM522510D	LM522549XA	8.0 0.31	133.0 5.24	0.8 0.03	154.0 6.06			232	63.3	0.1576	4.72 10.41
LM522549	LM522510D	LM522549XB	3.5 0.14	124.0 4.88	0.8 0.03	154.0 6.06			232	63.3	0.1576	4.87 10.73
64433	64700D	X1S-64433	3.5 0.14	128.0 5.04	0.8 0.03	172.0 6.77			219	45.3	0.1153	8.31 18.31
942	932CD	X1S-64433	6.4 0.25	136.0 5.35	1.5 0.06	193.0 7.60	22.1 0.87	8.6 0.34	339	39.7	0.1153	21.09 46.50
71437	71751D	X2S-71437	3.5 0.14	129.0 5.08	1.5 0.06	181.0 7.13			269	45.7	0.1156	11.50 25.35
H924045	H924010D	H924045XB	3.5 0.14	139.0 5.47	1.5 0.06	205.0 8.07			246	32.2	0.1299	17.78 39.20
HH924349	HH924310D	HH924349XA	6.4 0.25	157.0 6.18	1.5 0.06	226.0 8.90			306	37.3	0.1432	30.71 67.70
L623149	L623110D	L623149XA	1.5 0.06	123.0 4.84	0.8 0.03	147.0 5.79			171	102	0.1422	2.16 4.75
64450	64700DC	X1S-64450	3.5 0.14	131.0 5.16	0.8 0.03	172.0 6.77	17.3 0.68	5.3 0.21	219	45.3	0.1153	7.82 17.24
64450	64700D	X5S-64450	3.5 0.14	131.0 5.16	0.8 0.03	172.0 6.77			219	45.3	0.1153	7.81 17.21
71450	71751DC	X3S-71450	3.5 0.14	132.0 5.20	1.5 0.06	181.0 7.13	17.3 0.68	5.3 0.21	269	45.7	0.1156	11.08 24.43
71450	71751D	X4S-71450	3.5 0.14	132.0 5.20	1.5 0.06	181.0 7.13			269	45.7	0.1156	11.08 24.43
938	932CD	X4S-938	7.0 0.28	141.0 5.55	1.5 0.06	193.0 7.60	22.1 0.87	8.6 0.34	339	39.7	0.1153	20.24 44.62
HH224346	HH224310CD	HH224346XB	7.0 0.28	143.0 5.63	1.5 0.06	201.5 7.94	25.4 1.00	7.9 0.31	367	47.8	0.1182	20.38 44.92
HM926740	HM926710D	HM926740XC	3.5 0.14	146.0 5.75	2.3 0.09	219.0 8.63			295	39	0.1416	20.75 45.74
64452A	64700D	X1S-64452	9.0 0.35	143.0 5.63	0.8 0.03	172.0 6.77			219	45.3	0.1153	7.54 16.62
HH224349	HH224310CD	HH224349XA	7.0 0.28	144.0 5.67	1.5 0.06	201.5 7.94	25.4 1.00	7.9 0.31	367	47.8	0.1182	20.26 44.67
71453	71751D	X2S-71453	3.5 0.14	133.0 5.24	1.5 0.06	181.0 7.13			269	45.7	0.1156	10.91 24.04
HM124646	HM124616XD	HM124646XC	1.5 0.06	131.0 5.16	1.0 0.04	183.0 7.20			340	69.2	0.1076	14.54 32.06
HM124646	HM124618XD		1.5 0.06	131.0 5.16	1.0 0.04	183.0 7.20			340	69.2	0.1076	15.17 33.44
HM124649	HM124616XD		3.0 0.12	134.0 5.28	1.0 0.04	183.0 7.20			340	69.2	0.1076	14.14 31.16

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

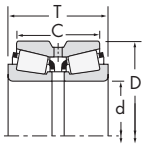
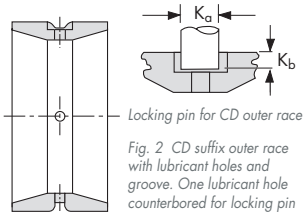
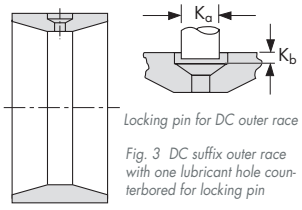


Fig. 1 D suffix outer race with lubricant holes and groove



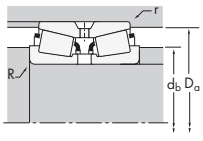
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
119.957 4.7227	**195.262** 7.6875	**136.779** 5.3850	**142.875** 5.6250	**662000** 149000	**0.26**	**2.55**	**3.80**	**98600** 22200	**44600** 10000	**172000** 38600	**2.21**
119.964 4.7230	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**616000** 138000	**0.49**	**1.38**	**2.06**	**91700** 20600	**76500** 17200	**160000** 35900	**1.20**
119.975 4.7234	**174.625** 6.8750	**77.788** 3.0625	**61.912** 2.4375	**394000** 88600	**0.33**	**2.03**	**3.02**	**58700** 13200	**33400** 7510	**102000** 23000	**1.76**
119.975 4.7234	**174.625** 6.8750	**77.788** 3.0625	**61.912** 2.4375	**394000** 88600	**0.33**	**2.03**	**3.02**	**58700** 13200	**33400** 7510	**102000** 23000	**1.76**
120.650 4.7500	**161.925** 6.3750	**63.500** 2.5000	**53.975** 2.1250	**170000** 38200	**0.43**	**1.55**	**2.31**	**25300** 5680	**18800** 4230	**44000** 9890	**1.34**
120.650 4.7500	**169.975** 6.6919	**58.738** 2.3125	**49.212** 1.9375	**230000** 51700	**0.33**	**2.03**	**3.02**	**34300** 7710	**19500** 4390	**59700** 13400	**1.76**
120.650 4.7500	**174.625** 6.8750	**77.788** 3.0625	**61.912** 2.4375	**394000** 88600	**0.33**	**2.03**	**3.02**	**58700** 13200	**33400** 7510	**102000** 23000	**1.76**
120.650 4.7500	**182.562** 7.1875	**85.728** 3.3751	**73.025** 2.8750	**432000** 97100	**0.31**	**2.21**	**3.29**	**64300** 14500	**33600** 7550	**112000** 25200	**1.91**
120.650 4.7500	**182.562** 7.1875	**85.728** 3.3751	**73.025** 2.8750	**432000** 97100	**0.31**	**2.21**	**3.29**	**64300** 14500	**33600** 7550	**112000** 25200	**1.91**
120.650 4.7500	**206.375** 8.1250	**107.950** 4.2500	**82.550** 3.2500	**610000** 137000	**0.46**	**1.47**	**2.19**	**90800** 20400	**71300** 16000	**158000** 35500	**1.27**
120.650 4.7500	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1010000** 228000	**0.37**	**1.83**	**2.72**	**151000** 33900	**95500** 21500	**263000** 59100	**1.58**
123.825 4.8750	**182.562** 7.1875	**85.728** 3.3751	**73.025** 2.8750	**432000** 97100	**0.31**	**2.21**	**3.29**	**64300** 14500	**33600** 7550	**112000** 25200	**1.91**
123.825 4.8750	**182.562** 7.1875	**85.728** 3.3751	**73.025** 2.8750	**432000** 97100	**0.31**	**2.21**	**3.29**	**64300** 14500	**33600** 7550	**112000** 25200	**1.91**
124.943 4.9190	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1010000** 228000	**0.37**	**1.83**	**2.72**	**151000** 33900	**95500** 21500	**263000** 59100	**1.58**
125.298 4.9330	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**798000** 179000	**0.74**	**0.92**	**1.36**	**119000** 26700	**150000** 33700	**207000** 46500	**0.79**
126.987 4.9995	**207.962** 8.1875	**146.304** 5.7600	**152.400** 6.0000	**717000** 161000	**0.26**	**2.55**	**3.80**	**107000** 24000	**48400** 10900	**186000** 41800	**2.21**
127.000 5.0000	**169.975** 6.6919	**58.738** 2.3125	**49.212** 1.9375	**230000** 51700	**0.33**	**2.03**	**3.02**	**34300** 7710	**19500** 4390	**59700** 13400	**1.76**
127.000 5.0000	**182.562** 7.1875	**85.728** 3.3751	**73.025** 2.8750	**432000** 97100	**0.31**	**2.21**	**3.29**	**64300** 14500	**33600** 7550	**112000** 25200	**1.91**
127.000 5.0000	**182.562** 7.1875	**85.728** 3.3751	**73.025** 2.8750	**432000** 97100	**0.31**	**2.21**	**3.29**	**64300** 14500	**33600** 7550	**112000** 25200	**1.91**
127.000 5.0000	**196.850** 7.7500	**101.600** 4.0000	**85.725** 3.3750	**593000** 133000	**0.34**	**1.96**	**2.92**	**88200** 19800	**52000** 11700	**154000** 34500	**1.70**
127.000 5.0000	**196.850** 7.7500	**101.600** 4.0000	**85.725** 3.3750	**593000** 133000	**0.34**	**1.96**	**2.92**	**88200** 19800	**52000** 11700	**154000** 34500	**1.70**
127.000 5.0000	**200.025** 7.8750	**101.600** 4.0000	**85.725** 3.3750	**593000** 133000	**0.34**	**1.96**	**2.92**	**88200** 19800	**52000** 11700	**154000** 34500	**1.70**
127.000 5.0000	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**616000** 138000	**0.49**	**1.38**	**2.06**	**91700** 20600	**76500** 17200	**160000** 35900	**1.20**
127.000 5.0000	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**606000** 136000	**0.74**	**0.92**	**1.36**	**90200** 20300	**114000** 25600	**157000** 35300	**0.79**
127.000 5.0000	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**798000** 179000	**0.74**	**0.92**	**1.36**	**119000** 26700	**150000** 33700	**207000** 46500	**0.79**
127.000 5.0000	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**798000** 179000	**0.74**	**0.92**	**1.36**	**119000** 26700	**150000** 33700	**207000** 46500	**0.79**
127.000 5.0000	**234.950** 9.2500	**142.875** 5.6250	**114.300** 4.5000	**1010000** 228000	**0.37**	**1.83**	**2.72**	**151000** 33900	**95500** 21500	**263000** 59100	**1.58**
127.792 5.0312	**228.600** 9.0000	**115.888** 4.5625	**84.138** 3.3125	**798000** 179000	**0.74**	**0.92**	**1.36**	**119000** 26700	**150000** 33700	**207000** 46500	**0.79**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
HM124649	HM124618XD		3.0 0.12	134.0 5.28	1.0 0.04	183.0 7.20			340	69.2	0.1076	15.00 33.06
74472	74851CD	X1S-74472	3.5 0.14	142.0 5.59	1.5 0.06	208.0 8.19	19.0 0.75	7.1 0.28	363	68.5	0.1338	15.93 35.13
M224748	M224710DC	M224748XA	3.5 0.14	134.0 5.28	0.8 0.03	168.0 6.61	14.2 0.56	3.8 0.15	279	86.6	0.1575	5.72 12.62
M224748	M224710D	M224748XB	3.5 0.14	134.0 5.28	0.8 0.03	168.0 6.61			279	86.6	0.1575	5.72 12.62
L624549	L624514D	L624549XB	1.5 0.06	129.0 5.08	0.8 0.03	156.0 6.14			195	139	0.1509	3.22 7.11
L225842	L225812D	L225842XA	1.5 0.06	131.0 5.16	1.0 0.04	164.0 6.46			253	134	0.1511	3.92 8.65
M224749	M224710D	M224749XC	3.5 0.14	135.0 5.31	0.8 0.03	168.0 6.61			279	86.6	0.1575	5.64 12.44
48282	48220DC	X1S-48282	3.5 0.14	137.0 5.39	0.8 0.03	176.0 6.93	17.3 0.68	3.8 0.15	353	91.3	0.1138	7.88 17.38
48282	48220D	X1S-48282	3.5 0.14	137.0 5.39	0.8 0.03	176.0 6.93			353	91.3	0.1138	7.88 17.38
795	792CD	X4S-795	3.3 0.13	139.0 5.47	0.8 0.03	198.0 7.80	19.0 0.75	7.9 0.31	326	56.2	0.1269	13.68 30.17
95475	95927CD	X2S-95475	6.4 0.25	149.0 5.87	1.5 0.06	217.0 8.54	22.1 0.87	8.6 0.34	454	59.3	0.1323	26.72 58.90
48286	48220DC	X1S-48286	3.5 0.14	139.0 5.47	0.8 0.03	176.0 6.93	17.3 0.68	3.8 0.15	353	91.3	0.1138	7.59 16.73
48286	48220D	X2S-48286	3.5 0.14	139.0 5.47	0.8 0.03	176.0 6.93			353	91.3	0.1138	7.59 16.73
95491	95927CD	X2S-95491	6.4 0.25	152.0 5.98	1.5 0.06	217.0 8.54	22.1 0.87	8.6 0.34	454	59.3	0.1323	25.64 56.53
HM926745	HM926710D	HM926745XA	3.5 0.14	154.0 6.06	2.3 0.09	219.0 8.63			295	39	0.1416	18.84 41.53
HM127440	HM127415XD		1.5 0.06	140.0 5.51	1.0 0.04	198.0 7.79			423	85.4	0.1156	17.67 38.95
L225849	L225812D	L225849XA	1.5 0.06	136.0 5.35	1.0 0.04	164.0 6.46			253	106	0.1511	3.46 7.63
48290	48220DC	X1S-48290	3.5 0.14	141.0 5.55	0.8 0.03	176.0 6.93	17.3 0.68	3.8 0.15	353	91.3	0.1138	7.12 15.70
48290	48220D	X2S-48290	3.5 0.14	141.0 5.55	0.8 0.03	176.0 6.93			353	91.3	0.1138	7.12 15.70
67388	67322DC	X1S-67388	3.5 0.14	144.0 5.67	0.8 0.03	190.0 7.48	19.0 0.75	4.6 0.18	384	70.1	0.1220	10.65 23.48
67388	67322D	X3S-67388	3.5 0.14	144.0 5.67	0.8 0.03	190.0 7.48			384	70.1	0.1220	10.65 23.48
67388	67325D	X1S-67388	3.5 0.14	144.0 5.67	0.8 0.03	191.0 7.52			384	70.1	0.1220	11.72 25.83
74500	74851CD	X2S-74500	3.5 0.14	148.0 5.83	1.5 0.06	208.0 8.19	19.0 0.75	7.1 0.28	363	68.5	0.1338	14.89 32.83
97500	97901D	X1S-97500	3.5 0.14	151.0 5.94	2.3 0.09	213.0 8.38			237	44.6	0.1311	17.45 38.47
HM926747	HM926710DC	HM926747XA	3.5 0.14	156.0 6.14	2.3 0.09	219.0 8.63	19.0 0.75	8.6 0.34	295	39	0.1416	18.59 40.98
HM926747	HM926710D	HM926747XC	3.5 0.14	156.0 6.14	2.3 0.09	219.0 8.63			295	39	0.1416	18.59 40.98
95500	95927CD	X8S-95500	6.4 0.25	154.0 6.06	1.5 0.06	217.0 8.54	22.1 0.87	8.6 0.34	454	53.8	0.1323	25.49 56.19
HM926749	HM926710D	HM926749XE	3.5 0.14	156.0 6.14	2.3 0.09	219.0 8.63			295	39	0.1416	18.47 40.72

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

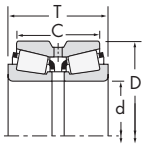
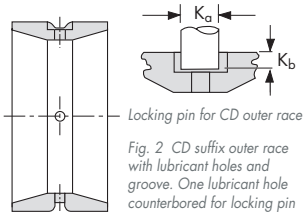
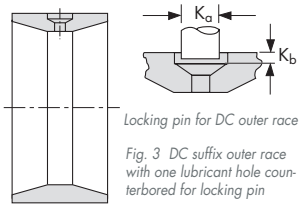


Fig. 1 D suffix outer race with lubricant holes and groove



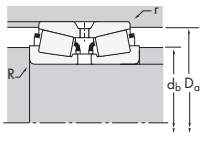
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic (1)	Factors (5)			Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
128.588 5.0625	206.375 8.1250	107.950 4.2500	82.550 3.2500	610000 137000	0.46	1.47	2.19	90800 20400	71300 16000	158000 35500	1.27
129.967 5.1168	229.873 9.0501	150.002 5.9056	160.000 6.2992	816000 183000	0.26	2.55	3.80	122000 27300	55000 12400	212000 47600	2.21
129.967 5.1168	229.873 9.0501	150.043 5.9072	160.000 6.2992	914000 206000	0.26	2.55	3.80	136000 30600	61600 13900	237000 53300	2.21
129.967 5.1168	229.873 9.0501	150.043 5.9072	160.000 6.2992	816000 183000	0.26	2.55	3.80	122000 27300	55000 12400	212000 47600	2.21
129.975 5.1171	234.950 9.2500	142.875 5.6250	114.300 4.5000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
130.000 5.1181	206.375 8.1250	107.950 4.2500	82.550 3.2500	610000 137000	0.46	1.47	2.19	90800 20400	71300 16000	158000 35500	1.27
130.175 5.1250	196.850 7.7500	101.600 4.0000	85.725 3.3750	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
130.175 5.1250	196.850 7.7500	101.600 4.0000	85.725 3.3750	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
130.175 5.1250	200.025 7.8750	101.600 4.0000	85.725 3.3750	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
130.175 5.1250	206.375 8.1250	107.950 4.2500	82.550 3.2500	610000 137000	0.46	1.47	2.19	90800 20400	71300 16000	158000 35500	1.27
131.750 5.1870	207.962 8.1875	146.304 5.7600	152.400 6.0000	717000 161000	0.26	2.55	3.80	107000 24000	48400 10900	186000 41800	2.21
133.350 5.2500	177.008 6.9688	57.150 2.2500	47.625 1.8750	237000 53300	0.35	1.94	2.89	35300 7940	21000 4730	61500 13800	1.68
133.350 5.2500	190.500 7.5000	85.725 3.3750	73.025 2.8750	456000 103000	0.32	2.10	3.13	67900 15300	37300 8390	118000 26600	1.82
133.350 5.2500	190.500 7.5000	85.725 3.3750	73.025 2.8750	456000 103000	0.32	2.10	3.13	67900 15300	37300 8390	118000 26600	1.82
133.350 5.2500	196.850 7.7500	101.600 4.0000	85.725 3.3750	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
133.350 5.2500	196.850 7.7500	101.600 4.0000	85.725 3.3750	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
133.350 5.2500	196.850 7.7500	101.600 4.0000	85.725 3.3750	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
133.350 5.2500	200.025 7.8750	101.600 4.0000	85.725 3.3750	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
133.350 5.2500	215.900 8.5000	106.362 4.1875	80.962 3.1875	616000 138000	0.49	1.38	2.06	91700 20600	76500 17200	160000 35900	1.20
133.350 5.2500	234.950 9.2500	142.875 5.6250	114.300 4.5000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
133.350 5.2500	234.950 9.2500	142.875 5.6250	114.300 4.5000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
136.525 5.3750	190.500 7.5000	85.725 3.3750	73.025 2.8750	456000 103000	0.32	2.10	3.13	67900 15300	37300 8390	118000 26600	1.82
136.525 5.3750	190.500 7.5000	85.725 3.3750	73.025 2.8750	456000 103000	0.32	2.10	3.13	67900 15300	37300 8390	118000 26600	1.82
136.525 5.3750	215.900 8.5000	106.362 4.1875	80.962 3.1875	616000 138000	0.49	1.38	2.06	91700 20600	76500 17200	160000 35900	1.20
136.525 5.3750	228.600 9.0000	123.825 4.8750	98.425 3.8750	839000 189000	0.42	1.60	2.39	125000 28100	90000 20200	218000 48900	1.39
136.525 5.3750	254.000 10.0000	149.225 5.8750	111.125 4.3750	1060000 239000	0.41	1.66	2.47	158000 35600	110000 24800	276000 62000	1.43
136.525 5.3750	254.000 10.0000	152.400 6.0000	114.300 4.5000	1060000 239000	0.41	1.66	2.47	158000 35600	110000 24800	276000 62000	1.43
139.700 5.5000	215.900 8.5000	106.362 4.1875	80.962 3.1875	616000 138000	0.49	1.38	2.06	91700 20600	76500 17200	160000 35900	1.20

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
799	792CD	X1S-799	3.3 0.13	146.0 5.75	0.8 0.03	198.0 7.80	19.0 0.75	7.9 0.31	326	61.9	0.1269	12.42 27.39
H127747	H127715D		1.5 0.06	145.0 5.71	1.0 0.04	0.0 0.00			419	95.3	0.1151	26.62 58.69
H127746	H127715AD		1.5 0.06	145.0 5.71	10.0 0.00	0.0 0.00			470	106	0.1198	26.51 58.44
H127747	H127715AD		1.5 0.06	145.0 5.71	10.0 0.00	0.0 0.00			419	95.3	0.1151	26.02 57.37
95512	95927CD	X1S-95512	6.4 0.25	157.0 6.18	1.5 0.06	217.0 8.54	22.1 0.87	8.6 0.34	454	59.3	0.1323	24.71 54.47
797	792CD	X3S-797	3.5 0.14	148.0 5.83	0.8 0.03	198.0 7.80	19.0 0.75	7.9 0.31	326	61.9	0.1269	12.12 26.72
67389	67322DC	X1S-67389	3.5 0.14	146.0 5.75	0.8 0.03	190.0 7.48	19.0 0.75	4.6 0.18	384	70.1	0.1220	10.16 22.39
67389	67322D	X3S-67389	3.5 0.14	146.0 5.75	0.8 0.03	190.0 7.48			384	70.1	0.1220	10.16 22.39
67389	67325D	X1S-67389	3.5 0.14	146.0 5.75	0.8 0.03	191.0 7.52			384	70.1	0.1220	11.23 24.75
799A	792CD	X1S-799A	3.5 0.14	148.0 5.83	0.8 0.03	198.0 7.80	19.0 0.75	7.9 0.31	326	61.9	0.1269	12.15 26.78
HM127446	HM127415XD		1.5 0.06	144.0 5.67	1.0 0.04	198.0 7.79			423	85.4	0.1156	16.80 37.04
L327249	L327210D	L327249XB	1.5 0.06	142.0 5.59	0.8 0.03	171.0 6.73			280	156	0.1585	3.66 8.06
48385	48320DC	X1S-48385	3.5 0.14	148.0 5.83	0.8 0.03	184.0 7.24	17.3 0.68	3.8 0.15	404	95.6	0.1209	7.46 16.44
48385	48320D	X2S-48385	3.5 0.14	148.0 5.83	0.8 0.03	184.0 7.24			404	95.6	0.1209	7.46 16.44
67390	67322DC	X1S-67390	3.5 0.14	149.0 5.87	0.8 0.03	190.0 7.48	19.0 0.75	4.6 0.18	384	70.1	0.1220	9.66 21.29
67390	67322D	X2S-67390	3.5 0.14	149.0 5.87	0.8 0.03	190.0 7.48			384	70.1	0.1220	9.66 21.29
67391	67322D	X1S-67390	8.0 0.31	157.0 6.18	0.8 0.03	190.0 7.48			384	70.1	0.1220	9.63 21.23
67390	67325D	X2S-67390	3.5 0.14	149.0 5.87	0.8 0.03	191.0 7.52			384	70.1	0.1220	10.72 23.64
74525	74851CD	X4S-74525	3.5 0.14	152.0 5.98	1.5 0.06	208.0 8.19	19.0 0.75	7.1 0.28	363	63.3	0.1338	13.91 30.67
95525	95927CD	X3S-95525	9.7 0.38	166.0 6.54	1.5 0.06	217.0 8.54	22.1 0.87	8.6 0.34	454	53.8	0.1323	23.61 52.05
95528	95927CD	X1S-95525	4.8 0.19	157.0 6.18	1.5 0.06	217.0 8.54	22.1 0.87	8.6 0.34	454	59.3	0.1323	23.85 52.58
48393	48320DC	X1S-48393	3.5 0.14	151.0 5.94	0.8 0.03	184.0 7.24	17.3 0.68	3.8 0.15	404	95.6	0.1209	7.01 15.45
48393	48320D	X2S-48393	3.5 0.14	151.0 5.94	0.8 0.03	184.0 7.24			404	95.6	0.1209	7.01 15.45
74537	74851CD	X1S-74537	3.5 0.14	155.0 6.10	1.5 0.06	208.0 8.19	19.0 0.75	7.1 0.28	363	68.5	0.1338	13.28 29.27
896	892CD	X2S-896	3.5 0.14	156.0 6.14	1.5 0.06	216.0 8.50	22.1 0.87	7.1 0.28	430	78.2	0.1355	18.81 41.47
99537	99102CD	X1S-99537	7.0 0.28	167.0 6.57	1.5 0.06	238.0 9.37	22.1 0.87	7.9 0.31	556	73.5	0.1459	30.70 67.67
99537	99101D	X2S-99537	7.0 0.28	167.0 6.57	1.5 0.06	238.0 9.37			556	73.5	0.1459	32.18 70.95
74550	74851CD	X3S-74550	3.5 0.14	158.0 6.22	1.5 0.06	208.0 8.19	19.0 0.75	7.1 0.28	363	63.3	0.1338	12.81 28.24

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

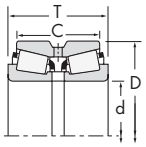
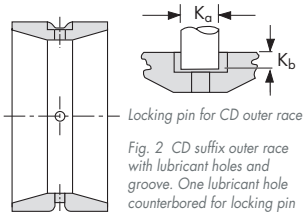
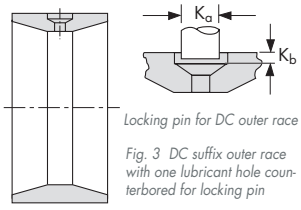


Fig. 1 D suffix outer race with lubricant holes and groove



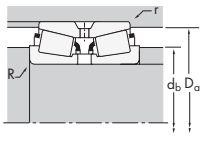
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
139.700 5.5000	**215.900** 8.5000	**106.362** 4.1875	**80.962** 3.1875	**616000** 138000	**0.49**	**1.38**	**2.06**	**91700** 20600	**76500** 17200	**160000** 35900	**1.20**
139.700 5.5000	**222.250** 8.7500	**75.700** 2.9803	**53.975** 2.1250	**398000** 89500	**0.44**	**1.54**	**2.30**	**59300** 13300	**44400** 9970	**103000** 23200	**1.34**
139.700 5.5000	**228.600** 9.0000	**123.825** 4.8750	**98.425** 3.8750	**839000** 189000	**0.42**	**1.60**	**2.39**	**125000** 28100	**90000** 20200	**218000** 48900	**1.39**
139.700 5.5000	**228.600** 9.0000	**123.825** 4.8750	**98.425** 3.8750	**839000** 189000	**0.42**	**1.60**	**2.39**	**125000** 28100	**90000** 20200	**218000** 48900	**1.39**
139.700 5.5000	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**962000** 216000	**0.32**	**2.12**	**3.15**	**143000** 32200	**78200** 17600	**249000** 56100	**1.83**
139.700 5.5000	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**962000** 216000	**0.32**	**2.12**	**3.15**	**143000** 32200	**78200** 17600	**249000** 56100	**1.83**
139.700 5.5000	**254.000** 10.0000	**149.225** 5.8750	**111.125** 4.3750	**1060000** 239000	**0.41**	**1.66**	**2.47**	**158000** 35600	**110000** 24800	**276000** 62000	**1.43**
139.700 5.5000	**254.000** 10.0000	**152.400** 6.0000	**114.300** 4.5000	**1060000** 239000	**0.41**	**1.66**	**2.47**	**158000** 35600	**110000** 24800	**276000** 62000	**1.43**
139.700 5.5000	**307.975** 12.1250	**200.025** 7.8750	**155.575** 6.1250	**1970000** 442000	**0.33**	**2.07**	**3.08**	**293000** 65900	**164000** 36800	**510000** 115000	**1.79**
139.700 5.5000	**307.975** 12.1250	**200.025** 7.8750	**155.575** 6.1250	**1970000** 442000	**0.33**	**2.07**	**3.08**	**293000** 65900	**164000** 36800	**510000** 115000	**1.79**
142.875 5.6250	**193.675** 7.6250	**65.085** 2.5624	**53.975** 2.1250	**317000** 71200	**0.37**	**1.83**	**2.73**	**47100** 10600	**29700** 6690	**82100** 18500	**1.59**
142.875 5.6250	**200.025** 7.8750	**87.315** 3.4376	**73.025** 2.8750	**462000** 104000	**0.34**	**2.01**	**2.99**	**68800** 15500	**39600** 8900	**120000** 26900	**1.74**
142.875 5.6250	**200.025** 7.8750	**87.315** 3.4376	**73.025** 2.8750	**462000** 104000	**0.34**	**2.01**	**2.99**	**68800** 15500	**39600** 8900	**120000** 26900	**1.74**
142.875 5.6250	**200.025** 7.8750	**87.315** 3.4376	**73.025** 2.8750	**462000** 104000	**0.34**	**2.01**	**2.99**	**68800** 15500	**39600** 8900	**120000** 26900	**1.74**
142.875 5.6250	**222.250** 8.7500	**75.700** 2.9803	**53.975** 2.1250	**398000** 89500	**0.44**	**1.54**	**2.30**	**59300** 13300	**44400** 9970	**103000** 23200	**1.34**
142.875 5.6250	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**962000** 216000	**0.32**	**2.12**	**3.15**	**143000** 32200	**78200** 17600	**249000** 56100	**1.83**
144.450 5.6870	**220.662** 8.6875	**155.839** 6.1354	**163.510** 6.4374	**751000** 169000	**0.26**	**2.55**	**3.80**	**112000** 25100	**50600** 11400	**195000** 43800	**2.21**
146.050 5.7500	**193.675** 7.6250	**65.085** 2.5624	**53.975** 2.1250	**317000** 71200	**0.37**	**1.83**	**2.73**	**47100** 10600	**29700** 6690	**82100** 18500	**1.59**
146.050 5.7500	**193.675** 7.6250	**65.085** 2.5624	**53.975** 2.1250	**317000** 71200	**0.37**	**1.83**	**2.73**	**47100** 10600	**29700** 6690	**82100** 18500	**1.59**
146.050 5.7500	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**962000** 216000	**0.32**	**2.12**	**3.15**	**143000** 32200	**78200** 17600	**249000** 56100	**1.83**
146.050 5.7500	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**830000** 187000	**0.44**	**1.53**	**2.27**	**124000** 27800	**93600** 21000	**215000** 48400	**1.32**
146.050 5.7500	**241.300** 9.5000	**131.762** 5.1875	**106.362** 4.1875	**962000** 216000	**0.32**	**2.12**	**3.15**	**143000** 32200	**78200** 17600	**249000** 56100	**1.83**
146.050 5.7500	**244.475** 9.6250	**107.950** 4.2500	**79.375** 3.1250	**648000** 146000	**0.35**	**1.92**	**2.86**	**96400** 21700	**58100** 13100	**168000** 37700	**1.66**
146.050 5.7500	**254.000** 10.0000	**149.225** 5.8750	**111.125** 4.3750	**1060000** 239000	**0.41**	**1.66**	**2.47**	**158000** 35600	**110000** 24800	**276000** 62000	**1.43**
146.050 5.7500	**254.000** 10.0000	**152.400** 6.0000	**114.300** 4.5000	**1060000** 239000	**0.41**	**1.66**	**2.47**	**158000** 35600	**110000** 24800	**276000** 62000	**1.43**
146.050 5.7500	**268.288** 10.5625	**160.338** 6.3125	**125.412** 4.9375	**1260000** 284000	**0.39**	**1.74**	**2.59**	**188000** 42300	**125000** 28100	**328000** 73700	**1.51**
146.050 5.7500	**304.800** 12.0000	**135.733** 5.3438	**97.633** 3.8438	**1250000** 281000	**0.33**	**2.03**	**3.02**	**186000** 41800	**106000** 23800	**324000** 72800	**1.76**
149.225 5.8750	**236.538** 9.3125	**131.762** 5.1875	**106.362** 4.1875	**962000** 216000	**0.32**	**2.12**	**3.15**	**143000** 32200	**78200** 17600	**249000** 56100	**1.83**

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
74550A	74851CD	X1S-74550	6.4 0.25	166.0 6.54	1.5 0.06	208.0 8.19	19.0 0.75	7.1 0.28	363	63.3	0.1338	12.79 28.19
73551	73876CD	X2S-73551	3.5 0.14	156.0 6.14	2.3 0.09	207.0 8.15	10.9 0.43	6.4 0.25	244	82	0.1122	9.36 20.64
898	892CD	X5S-898	3.5 0.14	160.0 6.30	1.5 0.06	216.0 8.50	22.1 0.87	7.1 0.28	430	78.2	0.1355	18.09 39.89
898A	892CD	X4S-898	6.4 0.25	165.0 6.50	1.5 0.06	216.0 8.50	22.1 0.87	7.1 0.28	430	78.2	0.1355	17.99 39.67
HM231132	HM231111CD	HM231132XA	3.5 0.14	160.0 6.30	1.5 0.06	224.0 8.82	22.1 0.87	7.9 0.31	533	85.9	0.1327	21.68 47.79
HM231132	HM231116D		3.5 0.14	160.0 6.30	1.5 0.06	224.0 8.82			533	85.9	0.1327	22.53 49.68
99550	99102CD	X5S-99550	7.0 0.28	170.0 6.69	1.5 0.06	238.0 9.37	22.1 0.87	7.9 0.31	556	73.5	0.1459	30.10 66.35
99550	99101D	X8S-99550	7.0 0.28	170.0 6.69	1.5 0.06	238.0 9.37			556	73.5	0.1459	31.24 68.86
HH234031	HH234011CD	HH234032XB	9.7 0.38	180.0 7.09	2.3 0.09	285.5 11.24	28.4 1.12	10.2 0.40	718	62.1	0.1157	65.45 144.29
HH234032	HH234011CD	HH234032XC	9.7 0.38	180.0 7.09	2.3 0.09	285.5 11.24	28.4 1.12	10.2 0.40	718	62.1	0.1157	62.85 138.55
36686	36620D	X1S-48685	1.5 0.06	153.0 6.02	0.8 0.03	188.0 7.40			366	152	0.1768	5.27 11.62
48684	48620D	X1S-48685	8.0 0.31	166.0 6.54	0.8 0.03	193.0 7.60			440	115	0.1261	7.76 17.10
48685	48620DC	X1S-48685	3.5 0.14	158.0 6.22	0.8 0.03	193.0 7.60	17.3 0.68	4.6 0.18	440	115	0.1261	7.94 17.51
48685	48620D	X4S-48685	3.5 0.14	158.0 6.22	0.8 0.03	193.0 7.60			440	115	0.1261	7.94 17.51
73562	73876CD	X2S-73562	3.5 0.14	159.0 6.26	2.3 0.09	207.0 8.15	10.9 0.43	6.4 0.25	244	82	0.1122	8.95 19.74
HM231136	HM231116D	HM231136XA	3.5 0.14	162.0 6.38	1.5 0.06	224.0 8.82			533	85.9	0.1327	22.53 49.66
HM129848	HM129814XD		1.5 0.06	156.0 6.14	1.0 0.04	211.0 8.30			494	101	0.1215	19.07 42.03
36690	36620DC	X1S-36690	1.5 0.06	155.0 6.10	0.8 0.03	188.0 7.40	10.9 0.43	3.8 0.15	366	121	0.1768	4.94 10.88
36690	36620D	X2S-36690	1.5 0.06	155.0 6.10	0.8 0.03	188.0 7.40			366	121	0.1768	4.93 10.87
HM231140	HM231111CD	HM231140XE	3.5 0.14	164.0 6.46	1.5 0.06	224.0 8.82	22.1 0.87	7.9 0.31	533	85.9	0.1327	20.26 44.66
82576	82951CD	X1S-82576	3.5 0.14	166.0 6.54	1.5 0.06	226.0 8.90	22.1 0.87	8.6 0.34	460	81.1	0.1405	21.82 48.11
HM231140	HM231116D	HM231140XA	3.5 0.14	164.0 6.46	1.5 0.06	224.0 8.82			533	85.9	0.1327	21.83 48.12
81575	81963CD	X1S-81575	3.5 0.14	166.0 6.54	1.5 0.06	229.0 9.02	19.0 0.75	7.9 0.31	413	98.4	0.1250	17.51 38.61
99575	99102CD	X4S-99575	7.0 0.28	175.0 6.89	1.5 0.06	238.0 9.37	22.1 0.87	7.9 0.31	556	73.5	0.1459	28.51 62.84
99575	99101D	X5S-99575	7.0 0.28	175.0 6.89	1.5 0.06	238.0 9.37			556	73.5	0.1459	29.64 65.35
EE107057	107105CD	X4S-107057	6.4 0.25	176.0 6.93	1.5 0.06	249.5 9.82	28.4 1.12	10.2 0.40	606	76.3	0.1163	36.36 80.17
EE750576	751204D	X3S-750576	3.3 0.13	167.0 6.57	1.5 0.06	268.0 10.55			431	54.4	0.0974	38.56 85.01
HM231148	HM231111CD	HM231149XB	6.4 0.25	172.0 6.77	1.5 0.06	224.0 8.82	22.1 0.87	7.9 0.31	533	85.9	0.1327	19.50 42.99

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

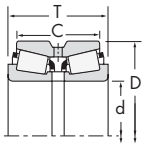
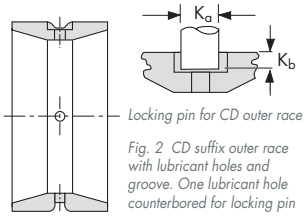
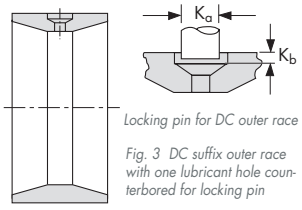


Fig. 1 D suffix outer race with lubricant holes and groove



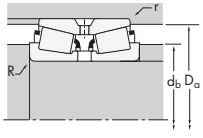
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.) Dynamic (1)		Factors (5)		Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
149.225 5.8750	236.538 9.3125	131.762 5.1875	106.362 4.1875	962000 216000	0.32	2.12	3.15	143000 32200	78200 17600	249000 56100	1.83
149.225 5.8750	241.300 9.5000	131.762 5.1875	106.362 4.1875	962000 216000	0.32	2.12	3.15	143000 32200	78200 17600	249000 56100	1.83
149.225 5.8750	254.000 10.0000	149.225 5.8750	111.125 4.3750	1060000 239000	0.41	1.66	2.47	158000 35600	110000 24800	276000 62000	1.43
149.225 5.8750	254.000 10.0000	152.400 6.0000	114.300 4.5000	1060000 239000	0.41	1.66	2.47	158000 35600	110000 24800	276000 62000	1.43
149.967 5.9042	249.872 9.8375	153.764 6.0537	160.000 6.2992	1020000 230000	0.26	2.55	3.80	152000 34300	69100 15500	266000 59700	2.21
150.000 5.9055	244.475 9.6250	107.950 4.2500	79.375 3.1250	648000 146000	0.35	1.92	2.86	96400 21700	58100 13100	168000 37700	1.66
150.812 5.9375	244.475 9.6250	107.950 4.2500	79.375 3.1250	648000 146000	0.35	1.92	2.86	96400 21700	58100 13100	168000 37700	1.66
152.400 6.0000	203.200 8.0000	92.075 3.6250	79.375 3.1250	457000 103000	0.35	1.94	2.89	68000 15300	40400 9090	118000 26600	1.68
152.400 6.0000	244.475 9.6250	107.950 4.2500	79.375 3.1250	648000 146000	0.35	1.92	2.86	96400 21700	58100 13100	168000 37700	1.66
152.400 6.0000	254.000 10.0000	149.225 5.8750	111.125 4.3750	1060000 239000	0.41	1.66	2.47	158000 35600	110000 24800	276000 62000	1.43
152.400 6.0000	254.000 10.0000	152.400 6.0000	114.300 4.5000	1060000 239000	0.41	1.66	2.47	158000 35600	110000 24800	276000 62000	1.43
152.400 6.0000	268.288 10.5625	160.338 6.3125	125.412 4.9375	1260000 284000	0.39	1.74	2.59	188000 42300	125000 28100	328000 73700	1.51
152.400 6.0000	307.975 12.1250	200.025 7.8750	146.050 5.7500	1700000 382000	0.33	2.07	3.08	253000 56800	141000 31700	440000 98900	1.79
152.400 6.0000	307.975 12.1250	200.025 7.8750	155.575 6.1250	1970000 442000	0.33	2.07	3.08	293000 65900	164000 36800	510000 115000	1.79
152.400 6.0000	307.975 12.1250	200.025 7.8750	155.575 6.1250	1970000 442000	0.33	2.07	3.08	293000 65900	164000 36800	510000 115000	1.79
158.750 6.2500	225.425 8.8750	85.725 3.3750	69.850 2.7500	489000 110000	0.38	1.76	2.62	72800 16400	47800 10700	127000 28500	1.52
159.951 6.2973	244.475 9.6250	107.950 4.2500	79.375 3.1250	648000 146000	0.35	1.92	2.86	96400 21700	58100 13100	168000 37700	1.66
159.951 6.2973	244.475 9.6250	107.950 4.2500	79.375 3.1250	648000 146000	0.35	1.92	2.86	96400 21700	58100 13100	168000 37700	1.66
160.325 6.3120	288.925 11.3750	142.875 5.6250	111.125 4.3750	1330000 299000	0.32	2.12	3.15	198000 44500	108000 24300	344000 77400	1.83
165.087 6.4995	276.225 10.8750	181.023 7.1269	185.725 7.3120	1180000 265000	0.26	2.55	3.80	175000 39400	79300 17800	305000 68600	2.21
165.100 6.5000	215.900 8.5000	58.740 2.3126	47.625 1.8750	288000 64800	0.36	1.85	2.76	42900 9640	26800 6010	74700 16800	1.60
165.100 6.5000	225.425 8.8750	85.725 3.3750	69.850 2.7500	489000 110000	0.38	1.76	2.62	72800 16400	47800 10700	127000 28500	1.52
165.100 6.5000	247.650 9.7500	103.188 4.0625	84.138 3.3125	653000 147000	0.44	1.54	2.29	97200 21900	73200 16500	169000 38100	1.33
165.100 6.5000	288.925 11.3750	142.875 5.6250	111.125 4.3750	1060000 239000	0.47	1.44	2.15	159000 35600	127000 28600	276000 62000	1.25
165.100 6.5000	288.925 11.3750	142.875 5.6250	111.125 4.3750	1330000 299000	0.32	2.12	3.15	198000 44500	108000 24300	344000 77400	1.83
165.100 6.5000	288.925 11.3750	142.875 5.6250	111.125 4.3750	1330000 299000	0.32	2.12	3.15	198000 44500	108000 24300	344000 77400	1.83
165.100 6.5000	298.450 11.7500	142.875 5.6250	111.125 4.3750	1060000 239000	0.47	1.44	2.15	159000 35600	127000 28600	276000 62000	1.25
166.687 6.5625	225.425 8.8750	85.725 3.3750	69.850 2.7500	489000 110000	0.38	1.76	2.62	72800 16400	47800 10700	127000 28500	1.52

(1) Based on 1×10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90×10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
HM231149	HM231111CD	HM231149XB	3.5 0.14	167.0 6.57	1.5 0.06	224.0 8.82	22.1 0.87	7.9 0.31	533	85.9	0.1327	19.61 43.22
HM231149	HM231116D	HM231149XA	3.5 0.14	167.0 6.57	1.5 0.06	224.0 8.82			533	85.9	0.1327	21.17 46.68
99587	99102CD	X3S-99587	7.0 0.28	178.0 7.01	1.5 0.06	238.0 9.37	22.1 0.87	7.9 0.31	556	73.5	0.1459	27.83 61.35
99587	99101D		7.0 0.28	178.0 7.01	1.5 0.06	238.0 9.37			556	73.5	0.1459	28.18 62.11
HM133436	HM133413XD		3.0 0.12	169.0 6.65	1.0 0.04	239.0 9.41			669	103	0.1344	30.05 66.24
81590	81963CD	X1S-81590	3.5 0.14	169.0 6.65	1.5 0.06	229.0 9.02	19.0 0.75	7.9 0.31	413	98.4	0.1250	16.87 37.20
81593	81963CD	X1S-81593	3.5 0.14	169.0 6.65	1.5 0.06	229.0 9.02	19.0 0.75	7.9 0.31	413	98.4	0.1250	16.69 36.78
LM330448	LM330410D	LM330448XA	3.3 0.13	166.0 6.54	0.8 0.03	197.0 7.76			456	135	0.1289	7.60 16.75
81600	81963CD	X4S-81600	3.5 0.14	171.0 6.73	1.5 0.06	229.0 9.02	19.0 0.75	7.9 0.31	413	98.4	0.1250	16.88 37.21
99600	99102CD	X7S-99600	7.0 0.28	181.0 7.13	1.5 0.06	238.0 9.37	22.1 0.87	7.9 0.31	556	66.7	0.1459	26.93 59.37
99600	99101D	X4S-99600	7.0 0.28	181.0 7.13	1.5 0.06	238.0 9.37			556	66.7	0.1459	28.13 62.02
EE107060	107105CD	X3S-107060	6.4 0.25	181.0 7.13	1.5 0.06	249.5 9.82	28.4 1.12	10.2 0.40	606	76.3	0.1163	34.63 76.35
EE450601	451215CD	X7S-450601	9.7 0.38	189.0 7.44	2.3 0.09	275.0 10.82	28.4 1.12	11.7 0.46	747	76.3	0.1176	59.88 132.01
HH234048	HH234011CD	HH234048XA	9.7 0.38	191.0 7.52	2.3 0.09	285.5 11.24	28.4 1.12	10.2 0.40	718	62.1	0.1157	60.93 134.32
HH234049	HH234011CD	HH234049XA	9.7 0.38	191.0 7.52	2.3 0.09	285.5 11.24	28.4 1.12	10.2 0.40	718	62.1	0.1157	58.33 128.58
46780	46720CD	X2S-46780	3.5 0.14	176.0 6.93	0.8 0.03	218.0 8.58	15.7 0.62	5.3 0.21	572	133	0.1432	10.71 23.60
81629	81963CD		3.5 0.14	176.0 6.93	1.5 0.06	229.0 9.02	19.0 0.75	7.9 0.31	413	98.4	0.1250	14.91 32.87
81630	81963CD	X1S-81630	3.5 0.14	176.0 6.93	1.5 0.06	229.0 9.02	19.0 0.75	7.9 0.31	413	98.4	0.1250	15.09 33.27
HM237532	HM237510CD	HM237532XC	7.0 0.28	192.0 7.56	1.5 0.06	271.5 10.68	22.1 0.87	8.6 0.34	751	101	0.1168	36.92 81.40
HM136940	HM136916XD		1.5 0.06	183.0 7.20	1.0 0.04	261.5 10.30			828	112	0.1135	40.98 90.35
L433749	L433710D	L433749XA	1.5 0.06	174.0 6.85	0.8 0.03	209.0 8.23			365	168	0.1748	5.11 11.27
46790	46720CD	X2S-46790	3.5 0.14	181.0 7.13	0.8 0.03	218.0 8.58	15.7 0.62	5.3 0.21	572	175	0.1432	9.69 21.36
67780	67720CD	X2S-67780	3.5 0.14	185.0 7.28	0.8 0.03	240.0 9.45	19.0 0.75	7.1 0.28	622	122	0.1214	17.18 37.87
94649	94114CD	X5S-94650	7.0 0.28	197.0 7.76	1.5 0.06	272.0 10.71	22.1 0.87	10.2 0.40	692	93.8	0.1287	36.66 80.81
HM237535	HM237510CD	HM237535XC	7.0 0.28	195.0 7.68	1.5 0.06	271.5 10.68	22.1 0.87	8.6 0.34	751	101	0.1168	35.86 79.05
HM237536	HM237510CD	HM237535XB	7.0 0.28	195.0 7.68	1.5 0.06	271.5 10.68	22.1 0.87	8.6 0.34	751	101	0.1168	35.83 78.98
94649	94118D	X3S-94650	7.0 0.28	197.0 7.76	1.5 0.06	272.0 10.71			692	93.8	0.1287	41.10 90.61
46792	46720CD	X2S-46792	3.5 0.14	182.0 7.17	0.8 0.03	218.0 8.58	15.7 0.62	5.3 0.21	572	154	0.1432	9.39 20.69

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

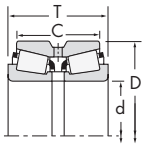
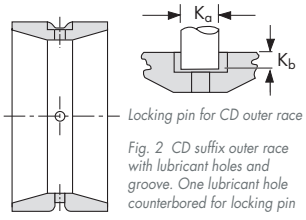
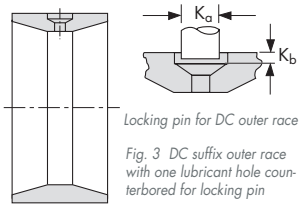


Fig. 1 D suffix outer race with lubricant holes and groove



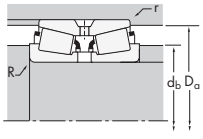
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
168.275 6.6250	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**653000** 147000	**0.44**	**1.54**	**2.29**	**97200** 21900	**73200** 16500	**169000** 38100	**1.33**
170.000 6.6929	**254.000** 10.0000	**101.600** 4.0000	**76.200** 3.0000	**763000** 172000	**0.32**	**2.12**	**3.15**	**114000** 25500	**62000** 13900	**198000** 44500	**1.83**
174.625 6.8750	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**653000** 147000	**0.44**	**1.54**	**2.29**	**97200** 21900	**73200** 16500	**169000** 38100	**1.33**
174.625 6.8750	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**653000** 147000	**0.44**	**1.54**	**2.29**	**97200** 21900	**73200** 16500	**169000** 38100	**1.33**
174.625 6.8750	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1060000** 239000	**0.47**	**1.44**	**2.15**	**159000** 35600	**127000** 28600	**276000** 62000	**1.25**
174.625 6.8750	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1330000** 299000	**0.32**	**2.12**	**3.15**	**198000** 44500	**108000** 24300	**344000** 77400	**1.83**
177.787 6.9995	**276.225** 10.8750	**181.023** 7.1269	**185.725** 7.3120	**1180000** 265000	**0.26**	**2.55**	**3.80**	**175000** 39400	**79300** 17800	**305000** 68600	**2.21**
177.800 7.0000	**227.012** 8.9375	**66.672** 2.6249	**52.388** 2.0625	**337000** 75800	**0.44**	**1.53**	**2.28**	**50200** 11300	**37900** 8510	**87400** 19600	**1.33**
177.800 7.0000	**247.650** 9.7500	**103.188** 4.0625	**84.138** 3.3125	**653000** 147000	**0.44**	**1.54**	**2.29**	**97200** 21900	**73200** 16500	**169000** 38100	**1.33**
177.800 7.0000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1060000** 239000	**0.47**	**1.44**	**2.15**	**159000** 35600	**127000** 28600	**276000** 62000	**1.25**
177.800 7.0000	**288.925** 11.3750	**142.875** 5.6250	**111.125** 4.3750	**1330000** 299000	**0.32**	**2.12**	**3.15**	**198000** 44500	**108000** 24300	**344000** 77400	**1.83**
177.800 7.0000	**298.450** 11.7500	**142.875** 5.6250	**111.125** 4.3750	**1060000** 239000	**0.47**	**1.44**	**2.15**	**159000** 35600	**127000** 28600	**276000** 62000	**1.25**
177.800 7.0000	**320.675** 12.6250	**185.738** 7.3125	**138.112** 5.4375	**1790000** 402000	**0.32**	**2.12**	**3.15**	**267000** 59900	**145000** 32700	**464000** 104000	**1.83**
179.975 7.0856	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1180000** 265000	**0.52**	**1.29**	**1.92**	**175000** 39500	**157000** 35300	**306000** 68700	**1.12**
184.150 7.2500	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**671000** 151000	**0.48**	**1.41**	**2.11**	**99900** 22500	**81700** 18400	**174000** 39100	**1.22**
187.325 7.3750	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**671000** 151000	**0.48**	**1.41**	**2.11**	**99900** 22500	**81700** 18400	**174000** 39100	**1.22**
187.325 7.3750	**269.875** 10.6250	**119.062** 4.6875	**93.663** 3.6875	**884000** 199000	**0.33**	**2.03**	**3.02**	**132000** 29600	**74900** 16800	**229000** 51500	**1.76**
187.325 7.3750	**282.575** 11.1250	**107.950** 4.2500	**79.375** 3.1250	**692000** 156000	**0.42**	**1.62**	**2.42**	**103000** 23200	**73300** 16500	**180000** 40400	**1.41**
187.325 7.3750	**320.675** 12.6250	**185.738** 7.3125	**138.112** 5.4375	**1790000** 402000	**0.32**	**2.12**	**3.15**	**267000** 59900	**145000** 32700	**464000** 104000	**1.83**
190.500 7.5000	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**671000** 151000	**0.48**	**1.41**	**2.11**	**99900** 22500	**81700** 18400	**174000** 39100	**1.22**
190.500 7.5000	**282.575** 11.1250	**107.950** 4.2500	**79.375** 3.1250	**692000** 156000	**0.42**	**1.62**	**2.42**	**103000** 23200	**73300** 16500	**180000** 40400	**1.41**
190.500 7.5000	**282.575** 11.1250	**107.950** 4.2500	**79.375** 3.1250	**692000** 156000	**0.42**	**1.62**	**2.42**	**103000** 23200	**73300** 16500	**180000** 40400	**1.41**
190.500 7.5000	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1180000** 265000	**0.52**	**1.29**	**1.92**	**175000** 39500	**157000** 35300	**306000** 68700	**1.12**
190.500 7.5000	**368.300** 14.5000	**193.675** 7.6250	**136.525** 5.3750	**1880000** 423000	**0.40**	**1.68**	**2.50**	**280000** 63000	**193000** 43300	**488000** 110000	**1.45**
192.088 7.5625	**266.700** 10.5000	**103.188** 4.0625	**84.138** 3.3125	**671000** 151000	**0.48**	**1.41**	**2.11**	**99900** 22500	**81700** 18400	**174000** 39100	**1.22**
193.675 7.6250	**282.575** 11.1250	**107.950** 4.2500	**79.375** 3.1250	**692000** 156000	**0.42**	**1.62**	**2.42**	**103000** 23200	**73300** 16500	**180000** 40400	**1.41**
193.675 7.6250	**282.575** 11.1250	**107.950** 4.2500	**79.375** 3.1250	**692000** 156000	**0.42**	**1.62**	**2.42**	**103000** 23200	**73300** 16500	**180000** 40400	**1.41**
196.850 7.7500	**254.000** 10.0000	**61.910** 2.4374	**47.625** 1.8750	**340000** 76400	**0.40**	**1.70**	**2.53**	**50600** 11400	**34400** 7730	**88100** 19800	**1.47**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	$R^{(3)}$	d_b	$r^{(3)}$	D_a	K_a	K_b	G_1	G_2	Cg	
67782	67720CD	X1S-67782	3.5 0.14	187.0 7.36	0.8 0.03	240.0 9.45	19.0 0.75	7.1 0.28	622	122	0.1214	16.39 36.13
M235149	M235113CD	M235149XB	4.8 0.19	189.0 7.44	1.5 0.06	240.0 9.45	19.0 0.75	7.9 0.31	531	107	0.1037	15.37 33.89
67786	67720CD	X1S-67787	8.0 0.31	200.0 7.87	0.8 0.03	240.0 9.45	19.0 0.75	7.1 0.28	622	122	0.1214	14.89 32.82
67787	67720CD	X2S-67787	3.5 0.14	192.0 7.56	0.8 0.03	240.0 9.45	19.0 0.75	7.1 0.28	622	122	0.1214	15.11 33.31
94687	94114CD	X1S-94687	7.0 0.28	204.0 8.03	1.5 0.06	272.0 10.71	22.1 0.87	10.2 0.40	692	93.8	0.1287	34.02 74.99
HM237542	HM237510CD	HM237542XB	7.0 0.28	202.0 7.95	1.5 0.06	271.5 10.68	22.1 0.87	8.6 0.34	751	101	0.1168	33.15 73.07
HM136948	HM136916XD		1.5 0.06	192.0 7.56	1.0 0.04	261.5 10.30			828	112	0.1135	36.99 81.54
36990	36920CD	X2S-36990	1.5 0.06	188.0 7.40	0.8 0.03	221.0 8.70	10.9 0.43	4.6 0.18	515	241	0.1434	6.14 13.53
67790	67720CD	X2S-67790	3.5 0.14	194.0 7.64	0.8 0.03	240.0 9.45	19.0 0.75	7.1 0.28	622	122	0.1214	14.41 31.78
94700	94114CD	X6S-94700	7.0 0.28	207.0 8.15	1.5 0.06	272.0 10.71	22.1 0.87	10.2 0.40	692	93.8	0.1287	32.98 72.72
HM237545	HM237510CD	HM237545XC	7.0 0.28	205.0 8.07	1.5 0.06	271.5 10.68	22.1 0.87	8.6 0.34	751	101	0.1168	32.16 70.91
94700	94118D	X6S-94700	7.0 0.28	207.0 8.15	1.5 0.06	272.0 10.71			692	93.8	0.1287	36.71 80.93
H239640	H239612CD	H239640XB	3.5 0.14	202.0 7.95	1.5 0.06	300.5 11.84	28.4 1.12	10.2 0.40	906	90.3	0.1242	56.99 125.63
93708	93127CD	X1S-93708	3.5 0.14	209.0 8.23	1.5 0.06	300.0 11.81	22.1 0.87	10.2 0.40	912	126	0.1460	47.28 104.23
67883	67820CD	X2S-67883	3.5 0.14	204.0 8.03	0.8 0.03	259.0 10.20	22.1 0.87	7.1 0.28	728	147	0.1310	18.17 40.07
67884	67820CD	X3S-67884	3.5 0.14	206.0 8.11	0.8 0.03	259.0 10.20	22.1 0.87	7.1 0.28	728	147	0.1310	17.45 38.47
M238849	M238810CD	M238849XB	3.5 0.14	205.0 8.07	1.5 0.06	256.0 10.08	19.0 0.75	7.9 0.31	788	118	0.1201	20.36 44.89
87737	87112D	X1S-87737	3.5 0.14	207.0 8.15	1.5 0.06	266.5 10.50			575	131	0.1155	20.89 46.05
H239649	H239612CD	H239649XB	5.5 0.22	214.0 8.43	1.5 0.06	300.5 11.84	28.4 1.12	10.2 0.40	906	90.3	0.1242	52.92 116.66
67885	67820CD	X2S-67885	3.5 0.14	209.0 8.23	0.8 0.03	259.0 10.20	22.1 0.87	7.1 0.28	728	147	0.1310	16.69 36.81
87750	87112DC	X1S-87750	3.5 0.14	209.0 8.23	1.5 0.06	266.5 10.50	17.3 0.68	5.3 0.21	575	131	0.1155	20.68 45.59
87750	87112D	X1S-87750	3.5 0.14	209.0 8.23	1.5 0.06	266.5 10.50			575	131	0.1155	20.16 44.45
93750	93127CD	X4S-93750	4.3 0.17	218.0 8.58	1.5 0.06	300.0 11.81	22.1 0.87	10.2 0.40	912	126	0.1460	43.76 96.48
EE420751	421451CD	X2S-420750	6.4 0.25	227.0 8.94	1.5 0.06	334.5 13.16	25.4 1.00	11.7 0.46	1150	128	0.1450	84.09 185.38
67887	67820CD	X1S-67887	10.5 0.41	223.0 8.78	0.8 0.03	259.0 10.20	22.1 0.87	7.1 0.28	728	147	0.1310	15.89 35.04
87762	87112DC	X1S-87762	3.5 0.14	211.0 8.31	1.5 0.06	266.5 10.50	17.3 0.68	5.3 0.21	575	131	0.1155	19.88 43.82
87762	87112D	X1S-87762	3.5 0.14	211.0 8.31	1.5 0.06	266.5 10.50			575	131	0.1155	19.36 42.68
L540049	L540010D	L540049XA	1.5 0.06	207.0 8.15	0.8 0.03	247.0 9.72			504	226	0.1371	7.12 15.70

(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

(6) For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

(7) Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

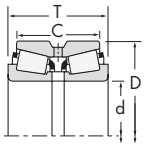
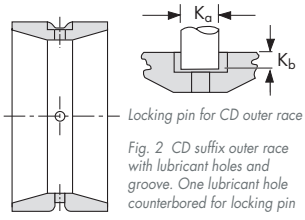
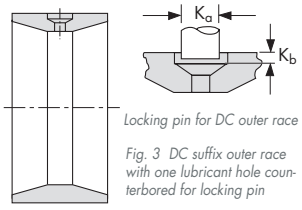


Fig. 1 D suffix outer race with lubricant holes and groove



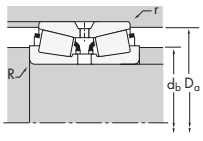
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
196.850 7.7500	**257.175** 10.1250	**85.725** 3.3750	**66.675** 2.6250	**513000** 115000	**0.45**	**1.51**	**2.25**	**76400** 17200	**58400** 13100	**133000** 29900	**1.31**
196.850 7.7500	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1180000** 265000	**0.52**	**1.29**	**1.92**	**175000** 39500	**157000** 35300	**306000** 68700	**1.12**
200.025 7.8750	**292.100** 11.5000	**125.415** 4.9376	**101.600** 4.0000	**1020000** 230000	**0.33**	**2.03**	**3.02**	**152000** 34300	**86800** 19500	**265000** 59700	**1.76**
200.025 7.8750	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1180000** 265000	**0.52**	**1.29**	**1.92**	**175000** 39500	**157000** 35300	**306000** 68700	**1.12**
200.025 7.8750	**384.175** 15.1250	**238.125** 9.3750	**193.675** 7.6250	**2860000** 643000	**0.33**	**2.03**	**3.02**	**426000** 95700	**242000** 54500	**741000** 167000	**1.76**
203.200 8.0000	**276.225** 10.8750	**90.485** 3.5624	**73.025** 2.8750	**707000** 159000	**0.32**	**2.12**	**3.15**	**105000** 23700	**57500** 12900	**183000** 41200	**1.83**
203.200 8.0000	**282.575** 11.1250	**101.600** 4.0000	**82.550** 3.2500	**684000** 154000	**0.51**	**1.33**	**1.97**	**102000** 22900	**88700** 19900	**177000** 39800	**1.15**
203.200 8.0000	**292.100** 11.5000	**109.538** 4.3125	**84.138** 3.3125	**914000** 205000	**0.40**	**1.69**	**2.51**	**136000** 30600	**93300** 21000	**237000** 53200	**1.46**
203.200 8.0000	**292.100** 11.5000	**125.415** 4.9376	**101.600** 4.0000	**1020000** 230000	**0.33**	**2.03**	**3.02**	**152000** 34300	**86800** 19500	**265000** 59700	**1.76**
203.200 8.0000	**301.625** 11.8750	**125.453** 4.9391	**140.005** 5.5120	**1020000** 230000	**0.33**	**2.03**	**3.02**	**152000** 34300	**86800** 19500	**265000** 59700	**1.76**
203.200 8.0000	**301.625** 11.8750	**125.453** 4.9391	**140.005** 5.5120	**1020000** 230000	**0.33**	**2.03**	**3.02**	**152000** 34300	**86800** 19500	**265000** 59700	**1.76**
203.200 8.0000	**317.500** 12.5000	**127.000** 5.0000	**88.900** 3.5000	**901000** 203000	**0.31**	**2.15**	**3.21**	**134000** 30200	**72000** 16200	**234000** 52500	**1.86**
203.200 8.0000	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1180000** 265000	**0.52**	**1.29**	**1.92**	**175000** 39500	**157000** 35300	**306000** 68700	**1.12**
203.200 8.0000	**368.300** 14.5000	**193.675** 7.6250	**136.525** 5.3750	**1880000** 423000	**0.40**	**1.68**	**2.50**	**280000** 63000	**193000** 43300	**488000** 110000	**1.45**
204.788 8.0625	**292.100** 11.5000	**125.415** 4.9376	**101.600** 4.0000	**1020000** 230000	**0.33**	**2.03**	**3.02**	**152000** 34300	**86800** 19500	**265000** 59700	**1.76**
206.375 8.1250	**282.575** 11.1250	**101.600** 4.0000	**82.550** 3.2500	**684000** 154000	**0.51**	**1.33**	**1.97**	**102000** 22900	**88700** 19900	**177000** 39800	**1.15**
206.375 8.1250	**317.500** 12.5000	**127.000** 5.0000	**88.900** 3.5000	**901000** 203000	**0.31**	**2.15**	**3.21**	**134000** 30200	**72000** 16200	**234000** 52500	**1.86**
206.375 8.1250	**336.550** 13.2500	**211.138** 8.3125	**169.862** 6.6875	**2180000** 491000	**0.33**	**2.03**	**3.02**	**325000** 73100	**185000** 41600	**566000** 127000	**1.76**
209.550 8.2500	**282.575** 11.1250	**101.600** 4.0000	**82.550** 3.2500	**684000** 154000	**0.51**	**1.33**	**1.97**	**102000** 22900	**88700** 19900	**177000** 39800	**1.15**
209.550 8.2500	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1180000** 265000	**0.52**	**1.29**	**1.92**	**175000** 39500	**157000** 35300	**306000** 68700	**1.12**
209.550 8.2500	**317.500** 12.5000	**146.050** 5.7500	**111.125** 4.3750	**1180000** 265000	**0.52**	**1.29**	**1.92**	**175000** 39500	**157000** 35300	**306000** 68700	**1.12**
209.550 8.2500	**355.600** 14.0000	**152.400** 6.0000	**111.125** 4.3750	**1220000** 275000	**0.59**	**1.14**	**1.70**	**182000** 41000	**184000** 41400	**317000** 71300	**0.99**
212.725 8.3750	**285.750** 11.2500	**98.425** 3.8750	**76.200** 3.0000	**693000** 156000	**0.48**	**1.40**	**2.09**	**103000** 23200	**85000** 19100	**180000** 40400	**1.21**
215.900 8.5000	**285.750** 11.2500	**98.425** 3.8750	**76.200** 3.0000	**646000** 145000	**0.48**	**1.40**	**2.09**	**96200** 21600	**79200** 17800	**167000** 37600	**1.21**
215.900 8.5000	**285.750** 11.2500	**98.425** 3.8750	**76.200** 3.0000	**693000** 156000	**0.48**	**1.40**	**2.09**	**103000** 23200	**85000** 19100	**180000** 40400	**1.21**
215.900 8.5000	**406.400** 16.0000	**195.262** 7.6875	**147.638** 5.8125	**2510000** 565000	**0.39**	**1.72**	**2.55**	**374000** 84200	**252000** 56700	**652000** 147000	**1.48**
220.663 8.6875	**314.325** 12.3750	**131.762** 5.1875	**106.362** 4.1875	**1190000** 267000	**0.33**	**2.03**	**3.02**	**177000** 39700	**101000** 22600	**308000** 69200	**1.76**
225.425 8.8750	**400.050** 15.7500	**187.325** 7.3750	**136.525** 5.3750	**1920000** 431000	**0.44**	**1.54**	**2.29**	**286000** 64200	**215000** 48300	**497000** 112000	**1.33**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
LM739749	LM739710CD	LM739749XA	3.5 0.14	213.0 8.39	0.8 0.03	251.0 9.88	14.2 0.56	6.4 0.25	762	232	0.1296	11.08 24.43
93775	93127CD	X1S-93775	4.3 0.17	223.0 8.78	1.5 0.06	300.0 11.81	22.1 0.87	10.2 0.40	912	126	0.1460	41.54 91.58
M241543	M241510CD	M241543XA	3.5 0.14	219.0 8.62	1.5 0.06	279.0 10.98	19.0 0.75	8.6 0.34	954	128	0.1279	26.09 57.52
93787	93127CD	X3S-93787	4.3 0.17	225.0 8.86	1.5 0.06	300.0 11.81	22.1 0.87	10.2 0.40	912	126	0.1460	40.58 89.46
H247535	H247510CD	H247535XA	6.4 0.25	241.0 9.49	1.5 0.06	362.0 14.26	28.4 1.12	11.7 0.46	1960	148	0.1638	123.53 272.34
LM241149	LM241110D	LM241149XA	3.5 0.14	220.0 8.66	0.8 0.03	267.0 10.51			774	182	0.1170	14.52 32.02
67983	67920CD	X2S-67983	3.5 0.14	222.0 8.74	0.8 0.03	275.0 10.83	19.0 0.75	7.1 0.28	820	172	0.1388	18.66 41.14
M541349	M541310CD	M541349XA	3.5 0.14	221.0 8.70	0.8 0.03	281.0 11.06	19.0 0.75	7.9 0.31	752	147	0.1253	21.43 47.24
M241547	M241510CD	X2S-67983	3.5 0.14	221.0 8.70	1.5 0.06	279.0 10.98	19.0 0.75	8.6 0.34	954	128	0.1279	25.12 55.37
M241547C	M241513D	M241547XA	3.5 0.14	221.0 8.70	0.8 0.03	290.0 11.42			954	128	0.1279	31.06 68.46
M241547	M241513XD	M241547XA	3.5 0.14	221.0 8.70	0.8 0.03	286.5 11.28			954	128	0.1279	31.73 69.95
EE132083	132126D	X1S-132081	4.0 0.16	225.0 8.86	1.5 0.06	293.0 11.54			798	125	0.1174	34.36 75.74
93800	93127CD	X5S-93800	4.3 0.17	227.0 8.94	1.5 0.06	300.0 11.81	22.1 0.87	10.2 0.40	912	126	0.1460	39.58 87.26
EE420801	421451CD	X3S-420801	3.3 0.13	230.0 9.06	1.5 0.06	334.5 13.16	25.4 1.00	11.7 0.46	1150	128	0.1450	78.57 173.20
M241549	M241510CD	M241549XA	3.5 0.14	223.0 8.78	1.5 0.06	279.0 10.98	19.0 0.75	8.6 0.34	954	128	0.1279	24.60 54.24
67985	67920CD	X2S-67985	3.5 0.14	224.0 8.82	0.8 0.03	275.0 10.83	19.0 0.75	7.1 0.28	820	172	0.1388	17.87 39.39
EE132084	132126D	X2S-132084	4.0 0.16	227.0 8.94	1.5 0.06	293.0 11.54			798	125	0.1174	33.32 73.45
H242649	H242610CD	H242649XB	3.3 0.13	231.0 9.09	1.5 0.06	318.0 12.51	28.4 1.12	10.2 0.40	1400	135	0.1465	68.93 151.97
67989	67920CD	X1S-67989	3.5 0.14	227.0 8.94	0.8 0.03	275.0 10.83	19.0 0.75	7.1 0.28	820	172	0.1388	17.21 37.95
93825	93127CD	X3S-93825	4.3 0.17	233.0 9.17	1.5 0.06	300.0 11.81	22.1 0.87	10.2 0.40	912	126	0.1460	37.26 82.14
93825A	93127CD	X1S-93825	12.7 0.50	250.0 9.84	1.5 0.06	300.0 11.81	22.1 0.87	10.2 0.40	912	126	0.1460	36.49 80.45
96825	96140CD	X1S-96825	7.0 0.28	246.0 9.69	1.5 0.06	334.0 13.15	25.4 1.00	9.4 0.37	1140	160	0.1626	57.19 126.08
LM742745	LM742710CD	LM742745XB	3.5 0.14	230.0 9.06	0.8 0.03	279.0 10.98	17.3 0.68	7.1 0.28	867	225	0.1388	16.55 36.48
LM742748	LM742710CD		3.5 0.14	233.0 9.17	0.8 0.03	279.0 10.98	17.3 0.68	7.1 0.28	808	211	0.1354	15.50 34.18
LM742749	LM742710CD	LM742749XC	3.5 0.14	233.0 9.17	0.8 0.03	279.0 10.98	17.3 0.68	7.1 0.28	867	225	0.1388	15.74 34.70
EE820085	820161CD	X1S-820085	6.4 0.25	251.0 9.88	1.5 0.06	372.0 14.65	28.4 1.12	11.7 0.46	1330	112	0.1509	102.16 225.21
M244249	M244210CD	M244249XA	6.4 0.25	245.0 9.65	1.5 0.06	300.0 11.81	22.1 0.87	9.4 0.37	1150	141	0.1360	31.22 68.83
EE430888	431576CD	X1S-430888	1.5 0.06	251.0 9.88	1.5 0.06	364.0 14.34	28.4 1.12	11.7 0.46	1350	143	0.1572	90.91 200.41

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

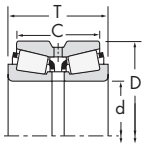
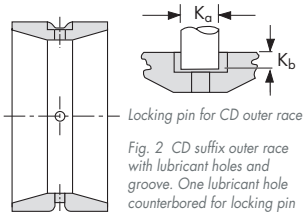
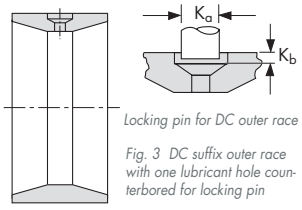


Fig. 1 D suffix outer race with lubricant holes and groove



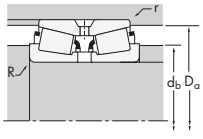
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.) Dynamic (1)		Factors (5)		Dynamic (2)			Factors (5)
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
228.397 8.9920	431.800 17.0000	196.850 7.7500	111.125 4.3750	1900000 426000	0.88	0.76	1.14	282000 63500	427000 96000	492000 111000	0.66
228.460 8.9945	431.800 17.0000	196.850 7.7500	111.125 4.3750	1900000 426000	0.88	0.76	1.14	282000 63500	427000 96000	492000 111000	0.66
228.600 9.0000	327.025 12.8750	114.300 4.5000	82.550 3.2500	900000 202000	0.41	1.66	2.47	134000 30100	93300 21000	233000 52500	1.44
228.600 9.0000	355.600 14.0000	152.400 6.0000	111.125 4.3750	1220000 275000	0.59	1.14	1.70	182000 41000	184000 41400	317000 71300	0.99
228.600 9.0000	355.600 14.0000	152.400 6.0000	111.125 4.3750	1360000 306000	0.33	2.04	3.04	202000 45500	114000 25700	352000 79200	1.77
228.600 9.0000	355.600 14.0000	152.400 6.0000	114.300 4.5000	1620000 365000	0.47	1.43	2.12	242000 54300	196000 44000	421000 94600	1.24
228.600 9.0000	358.775 14.1250	152.400 6.0000	117.475 4.6250	1560000 351000	0.33	2.03	3.02	232000 52200	132000 29700	405000 91000	1.76
228.600 9.0000	400.050 15.7500	187.325 7.3750	136.525 5.3750	1920000 431000	0.44	1.54	2.29	286000 64200	215000 48300	497000 112000	1.33
228.600 9.0000	400.050 15.7500	187.325 7.3750	136.525 5.3750	1920000 431000	0.44	1.54	2.29	286000 64200	215000 48300	497000 112000	1.33
228.600 9.0000	488.950 19.2500	254.000 10.0000	152.400 6.0000	3050000 686000	0.94	0.72	1.07	455000 102000	730000 164000	792000 178000	0.62
231.775 9.1250	358.775 14.1250	152.400 6.0000	117.475 4.6250	1560000 351000	0.33	2.03	3.02	232000 52200	132000 29700	405000 91000	1.76
234.950 9.2500	311.150 12.2500	98.425 3.8750	73.025 2.8750	753000 169000	0.36	1.86	2.77	112000 25200	69600 15600	195000 43900	1.61
234.950 9.2500	327.025 12.8750	114.300 4.5000	82.550 3.2500	866000 195000	0.41	1.66	2.47	129000 29000	89700 20200	224000 50500	1.44
234.950 9.2500	327.025 12.8750	114.300 4.5000	82.550 3.2500	900000 202000	0.41	1.66	2.47	134000 30100	93300 21000	233000 52500	1.44
234.950 9.2500	355.600 14.0000	152.400 6.0000	111.125 4.3750	1220000 275000	0.59	1.14	1.70	182000 41000	184000 41400	317000 71300	0.99
234.950 9.2500	384.175 15.1250	238.125 9.3750	193.675 7.6250	3020000 680000	0.33	2.03	3.02	450000 101000	256000 57600	784000 176000	1.76
234.950 9.2500	384.175 15.1250	238.125 9.3750	193.675 7.6250	2860000 643000	0.33	2.03	3.02	426000 95700	242000 54500	741000 167000	1.76
237.330 9.3437	358.775 14.1250	152.400 6.0000	117.475 4.6250	1560000 351000	0.33	2.03	3.02	232000 52200	132000 29700	405000 91000	1.76
241.300 9.5000	327.025 12.8750	114.300 4.5000	82.550 3.2500	900000 202000	0.41	1.66	2.47	134000 30100	93300 21000	233000 52500	1.44
241.300 9.5000	349.148 13.7460	127.000 5.0000	101.600 4.0000	1130000 253000	0.35	1.91	2.85	168000 37700	101000 22800	292000 65700	1.65
241.300 9.5000	368.300 14.5000	120.650 4.7500	85.725 3.3750	956000 215000	0.36	1.86	2.77	142000 32000	88500 19900	248000 55700	1.61
241.300 9.5000	406.400 16.0000	155.575 6.1250	107.950 4.2500	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45
241.300 9.5000	406.400 16.0000	215.900 8.5000	184.150 7.2500	2780000 625000	0.33	2.03	3.02	414000 93100	236000 53000	721000 162000	1.76
244.475 9.6250	380.898 14.9960	171.450 6.7500	127.000 5.0000	1550000 348000	0.52	1.31	1.95	231000 51800	204000 45800	402000 90300	1.13
244.475 9.6250	381.000 15.0000	171.450 6.7500	127.000 5.0000	1550000 348000	0.52	1.31	1.95	231000 51800	204000 45800	402000 90300	1.13
247.650 9.7500	368.300 14.5000	120.650 4.7500	85.725 3.3750	956000 215000	0.36	1.86	2.77	142000 32000	88500 19900	248000 55700	1.61
247.650 9.7500	381.000 15.0000	158.750 6.2500	123.825 4.8750	1710000 384000	0.33	2.03	3.02	255000 57200	145000 32600	443000 99600	1.76
249.250 9.8130	380.898 14.9960	171.450 6.7500	127.000 5.0000	1550000 348000	0.52	1.31	1.95	231000 51800	204000 45800	402000 90300	1.13

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

(3) These maximum fillet radii will be cleared by the bearing corners.

(4) If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
EE113089	113171D	X1S-113089	6.4 0.25	274.0 10.79	3.3 0.13	397.5 15.64			967	98.1	0.1723	104.99 231.46
EE113091	113171D	X1S-113091	6.4 0.25	274.0 10.79	3.3 0.13	397.5 15.64			967	98.1	0.1723	104.99 231.46
8573	8520CD	X3S-8573	6.4 0.25	255.0 10.04	1.5 0.06	313.0 12.32	19.0 0.75	7.9 0.31	1050	172	0.1401	28.35 62.49
96900	96140CD	X5S-96900	7.0 0.28	260.0 10.24	1.5 0.06	334.0 13.15	25.4 1.00	9.4 0.37	1140	160	0.1626	49.51 109.14
EE130902	131401CD	X1S-130902	6.8 0.27	257.0 10.12	1.5 0.06	330.0 12.99	22.1 0.87	8.6 0.34	1160	168	0.1358	48.30 106.48
HM746646	HM746610CD	HM746646XC	6.4 0.25	258.0 10.16	1.5 0.06	339.0 13.34	25.4 1.00	9.4 0.37	1190	149	0.1542	55.05 121.37
M249732	M249710CD	M249732XA	3.5 0.14	256.0 10.08	1.5 0.06	343.0 13.50	25.4 1.00	8.6 0.34	1630	168	0.1526	56.44 124.42
EE430900	431576CD	X3S-430900	10.5 0.41	271.0 10.67	1.5 0.06	364.0 14.34	28.4 1.12	11.7 0.46	1350	143	0.1572	88.47 195.04
EE430902	431576CD	X2S-430900	19.8 0.78	290.0 11.42	1.5 0.06	364.0 14.34	28.4 1.12	11.7 0.46	1350	143	0.1572	86.76 191.28
HH949549	HH949510DC	HH949549XA	6.4 0.25	297.0 11.69	1.5 0.06	456.0 17.95	28.4 1.12	11.7 0.46	1300	91.5	0.1931	197.00 434.31
M249734	M249710CD	M249734XB	6.4 0.25	263.0 10.35	1.5 0.06	343.0 13.50	25.4 1.00	8.6 0.34	1630	168	0.1526	54.98 121.22
LM446349	LM446310D	LM446349XA	3.5 0.14	252.0 9.92	0.8 0.03	301.0 11.85			1010	243	0.1328	18.37 40.49
8574	8520CD	X1S-8575	6.4 0.25	259.0 10.20	1.5 0.06	313.0 12.32	19.0 0.75	7.9 0.31	1010	166	0.1382	26.12 57.59
8575	8520CD	X2S-8575	6.4 0.25	259.0 10.20	1.5 0.06	313.0 12.32	19.0 0.75	7.9 0.31	1050	172	0.1401	26.16 57.67
96925	96140CD	X1S-96925	7.0 0.28	265.0 10.43	1.5 0.06	334.0 13.15	25.4 1.00	9.4 0.37	1140	160	0.1626	46.71 102.98
H247548	H247510CD	H247549XB	6.4 0.25	269.0 10.59	1.5 0.06	362.0 14.26	28.4 1.12	11.7 0.46	2080	156	0.1671	101.24 223.20
H247549	H247510CD	H247549XB	6.4 0.25	269.0 10.59	1.5 0.06	362.0 14.26	28.4 1.12	11.7 0.46	1960	148	0.1638	102.18 225.26
M249736	M249710CD	M249736XA	6.4 0.25	267.0 10.51	1.5 0.06	343.0 13.50	25.4 1.00	8.6 0.34	1630	168	0.1526	51.88 114.37
8578	8520CD	X2S-8578	6.4 0.25	264.0 10.39	1.5 0.06	313.0 12.32	19.0 0.75	7.9 0.31	1050	172	0.1401	24.10 53.12
EE127095	127136CD	X2S-127095	6.4 0.25	267.0 10.51	1.5 0.06	329.0 12.95	22.1 0.87	9.4 0.37	1180	164	0.1392	34.96 77.06
EE170950	171451CD	X1S-170951	6.4 0.25	269.0 10.59	1.5 0.06	337.0 13.27	19.0 0.75	10.2 0.40	1070	172	0.1354	39.99 88.17
EE275095	275161D	X3S-275095	6.4 0.25	278.0 10.94	1.5 0.06	378.0 14.89			1450	201	0.1555	73.44 161.91
H249148	H249111CD	H249148XB	6.4 0.25	273.0 10.75	1.5 0.06	385.0 15.16	28.4 1.12	11.7 0.46	1710	135	0.1556	104.29 229.92
EE126097	126149D		6.4 0.25	275.0 10.83	1.5 0.06	358.0 14.09			1320	169	0.1640	63.77 140.58
EE126097	126151CD	X1S-126097	6.4 0.25	275.0 10.83	1.5 0.06	358.0 14.09	28.4 1.12	11.7 0.46	1320	169	0.1640	65.08 143.47
EE170975	171451CD	X1S-170975	6.4 0.25	274.0 10.79	1.5 0.06	337.0 13.27	19.0 0.75	10.2 0.40	1070	172	0.1354	37.53 82.73
M252337	M252310CD	LM249748XA	6.4 0.25	280.0 11.02	1.5 0.06	363.5 14.32	28.4 1.12	10.2 0.40	1840	226	0.1588	62.36 137.48
EE126098	126149D	X1S-126098	6.4 0.25	279.0 10.98	1.5 0.06	358.0 14.09			1320	169	0.1640	62.71 138.24

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDO

DOUBLE OUTER RACE

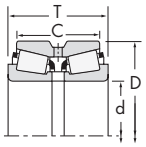
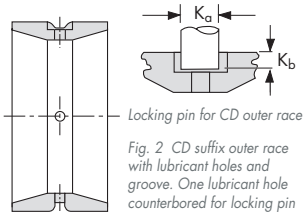
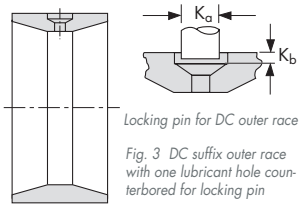


Fig. 1 D suffix outer race with lubricant holes and groove



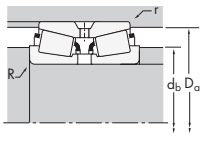
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
249.250 9.8130	381.000 15.0000	171.450 6.7500	127.000 5.0000	1550000 348000	0.52	1.31	1.95	231000 51800	204000 45800	402000 90300	1.13
254.000 10.0000	323.850 12.7500	63.500 2.5000	50.800 2.0000	258000 57900	0.35	1.95	2.90	38400 8630	22800 5120	66800 15000	1.69
254.000 10.0000	347.662 13.6875	95.250 3.7500	69.850 2.7500	912000 205000	0.33	2.03	3.02	136000 30500	77300 17400	236000 53200	1.76
254.000 10.0000	358.775 14.1250	152.400 6.0000	117.475 4.6250	1560000 351000	0.33	2.03	3.02	232000 52200	132000 29700	405000 91000	1.76
254.000 10.0000	365.125 14.3750	130.175 5.1250	98.425 3.8750	1160000 261000	0.37	1.80	2.69	173000 38800	111000 24900	301000 67600	1.56
254.000 10.0000	406.400 16.0000	155.575 6.1250	107.950 4.2500	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45
254.000 10.0000	422.275 16.6250	173.038 6.8125	128.588 5.0625	2230000 502000	0.33	2.03	3.02	332000 74700	189000 42500	578000 130000	1.76
254.000 10.0000	422.275 16.6250	173.038 6.8125	128.588 5.0625	2300000 517000	0.33	2.03	3.02	343000 77000	195000 43900	597000 134000	1.76
254.000 10.0000	422.275 16.6250	178.592 7.0312	139.700 5.5000	2230000 502000	0.33	2.03	3.02	332000 74700	189000 42500	578000 130000	1.76
254.000 10.0000	422.275 16.6250	178.592 7.0312	139.700 5.5000	2300000 517000	0.33	2.03	3.02	343000 77000	195000 43900	597000 134000	1.76
254.000 10.0000	431.724 16.9970	173.038 6.8125	128.588 5.0625	2230000 502000	0.33	2.03	3.02	332000 74700	189000 42500	578000 130000	1.76
254.000 10.0000	431.724 16.9970	173.038 6.8125	128.588 5.0625	2300000 517000	0.33	2.03	3.02	343000 77000	195000 43900	597000 134000	1.76
254.000 10.0000	533.400 21.0000	276.225 10.8750	165.100 6.5000	3650000 820000	0.94	0.72	1.07	543000 122000	872000 196000	946000 213000	0.62
260.350 10.2500	365.125 14.3750	130.175 5.1250	98.425 3.8750	1160000 261000	0.37	1.80	2.69	173000 38800	111000 24900	301000 67600	1.56
260.350 10.2500	400.050 15.7500	155.580 6.1252	107.950 4.2500	1410000 318000	0.39	1.71	2.55	210000 47300	142000 31900	366000 82300	1.48
260.350 10.2500	419.100 16.5000	184.150 7.2500	136.525 5.3750	1920000 431000	0.60	1.12	1.66	286000 64200	296000 66500	497000 112000	0.97
260.350 10.2500	419.100 16.5000	184.150 7.2500	136.525 5.3750	1920000 431000	0.60	1.12	1.66	286000 64200	296000 66500	497000 112000	0.97
260.350 10.2500	422.275 16.6250	173.038 6.8125	128.588 5.0625	2230000 502000	0.33	2.03	3.02	332000 74700	189000 42500	578000 130000	1.76
260.350 10.2500	422.275 16.6250	178.592 7.0312	139.700 5.5000	2230000 502000	0.33	2.03	3.02	332000 74700	189000 42500	578000 130000	1.76
260.350 10.2500	422.275 16.6250	178.592 7.0312	139.700 5.5000	2300000 517000	0.33	2.03	3.02	343000 77000	195000 43900	597000 134000	1.76
260.350 10.2500	431.724 16.9970	173.038 6.8125	128.588 5.0625	2230000 502000	0.33	2.03	3.02	332000 74700	189000 42500	578000 130000	1.76
260.350 10.2500	431.724 16.9970	173.038 6.8125	128.588 5.0625	2300000 517000	0.33	2.03	3.02	343000 77000	195000 43900	597000 134000	1.76
263.525 10.3750	355.600 14.0000	127.000 5.0000	101.600 4.0000	1200000 269000	0.36	1.87	2.79	178000 40100	110000 24700	310000 69800	1.62
266.700 10.5000	323.850 12.7500	63.500 2.5000	50.800 2.0000	258000 57900	0.35	1.95	2.90	38400 8630	22800 5120	66800 15000	1.69
266.700 10.5000	323.850 12.7500	63.500 2.5000	50.800 2.0000	258000 57900	0.35	1.95	2.90	38400 8630	22800 5120	66800 15000	1.69
266.700 10.5000	355.600 14.0000	127.000 5.0000	101.600 4.0000	1200000 269000	0.36	1.87	2.79	178000 40100	110000 24700	310000 69800	1.62
266.700 10.5000	393.700 15.5000	157.162 6.1875	109.538 4.3125	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45
266.700 10.5000	406.400 16.0000	155.575 6.1250	107.950 4.2500	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
EE126098	126151CD	X1S-126098	6.4 0.25	279.0 10.98	1.5 0.06	358.0 14.09	28.4 1.12	11.7 0.46	1320	169	0.1640	62.59 137.99
29875	29820D	X2S-29875	1.5 0.06	267.0 10.51	0.8 0.03	312.0 12.28			907	657	0.1567	11.03 24.31
LM249748	LM249710CD	LM249748XA	3.5 0.14	272.0 10.71	1.5 0.06	333.0 13.11	15.7 0.62	7.1 0.28	1000	166	0.1287	22.69 50.02
M249749	M249710CD	M249749XC	3.5 0.14	274.0 10.79	1.5 0.06	343.0 13.50	25.4 1.00	8.6 0.34	1630	168	0.1526	44.80 98.76
EE134100	134144CD	X1S-134100	6.4 0.25	281.0 11.06	1.5 0.06	347.0 13.66	22.1 0.87	10.2 0.40	1330	187	0.1474	38.97 85.91
EE275100	275161D	X2S-275100	6.4 0.25	287.0 11.30	1.5 0.06	378.0 14.89			1450	201	0.1555	68.38 150.76
HM252343	HM252311D	HM252343XA	6.8 0.27	287.0 11.30	1.5 0.06	399.5 15.73			1500	148	0.1482	84.11 185.43
HM252344	HM252311D	HM252343XA	6.8 0.27	287.0 11.30	1.5 0.06	399.5 15.73			1550	152	0.1498	84.43 186.13
HM252343	HM252310CD	HM252343XC	6.8 0.27	287.0 11.30	1.5 0.06	399.5 15.73	28.4 1.12	11.7 0.46	1500	148	0.1482	85.43 188.34
HM252344	HM252310CD	HM252343XB	6.8 0.27	287.0 11.30	1.5 0.06	399.5 15.73	28.4 1.12	11.7 0.46	1550	152	0.1498	90.24 198.95
HM252343	HM252315D	HM252343XA	6.8 0.27	287.0 11.30	1.5 0.06	398.5 15.68			1500	148	0.1482	90.46 199.44
HM252344	HM252315D		6.8 0.27	287.0 11.30	1.5 0.06	398.5 15.68			1550	152	0.1498	89.42 197.14
HH953749	HH953710D	HH953749XA	6.4 0.25	328.0 12.91	1.5 0.06	495.5 19.51			1670	104	0.2101	252.22 556.05
EE134102	134144CD	X1S-134102	6.4 0.25	286.0 11.26	1.5 0.06	347.0 13.66	22.1 0.87	10.2 0.40	1330	187	0.1474	36.45 80.36
EE221026	221576CD	X1S-221025	9.7 0.38	296.0 11.65	1.5 0.06	371.5 14.63	22.1 0.87	10.2 0.40	1320	207	0.1497	59.70 131.62
EE435102	435165DC		6.4 0.25	295.0 11.61	1.5 0.06	395.0 15.56	28.4 1.12	10.2 0.40	1480	123	0.1787	87.65 193.23
EE435102	435165D	X2S-435102	6.4 0.25	295.0 11.61	1.5 0.06	395.0 15.56			1480	123	0.1787	88.83 195.83
HM252348	HM252311D	HM252347XB	6.8 0.27	292.0 11.50	1.5 0.06	399.5 15.73			1500	148	0.1482	81.33 179.29
HM252348	HM252310CD	HM252349XB	6.8 0.27	292.0 11.50	1.5 0.06	399.5 15.73	28.4 1.12	11.7 0.46	1500	148	0.1482	82.22 181.26
HM252349	HM252310CD	HM252349XC	6.8 0.27	292.0 11.50	1.5 0.06	399.5 15.73	28.4 1.12	11.7 0.46	1550	152	0.1498	86.70 191.14
HM252348	HM252315D	HM252347XB	6.8 0.27	292.0 11.50	1.5 0.06	398.5 15.68			1500	148	0.1482	87.68 193.30
HM252349	HM252315D	HM252347XB	6.8 0.27	292.0 11.50	1.5 0.06	398.5 15.68			1550	152	0.1498	87.67 193.27
LM451345	LM451310CD	LM451345XA	3.5 0.14	283.0 11.14	1.5 0.06	343.0 13.50	22.1 0.87	8.6 0.34	1550	212	0.1536	32.91 72.55
29880	29820DC	X1S-29880	1.5 0.06	277.0 10.91	0.8 0.03	312.0 12.28	10.9 0.43	5.3 0.21	907	657	0.1567	9.05 19.95
29880	29820D	X1S-29880	1.5 0.06	277.0 10.91	0.8 0.03	312.0 12.28			907	657	0.1567	9.04 19.93
LM451349	LM451310CD	LM451349XB	3.5 0.14	285.0 11.22	1.5 0.06	343.0 13.50	22.1 0.87	8.6 0.34	1550	212	0.1536	31.73 69.96
EE275105	275156CD	X1S-275105	6.4 0.25	296.0 11.65	1.5 0.06	378.0 14.89	25.4 1.00	9.4 0.37	1450	201	0.1555	55.21 121.71
EE275105	275161D	X2S-275105	6.4 0.25	296.0 11.65	1.5 0.06	378.0 14.89			1450	201	0.1555	62.05 136.80

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

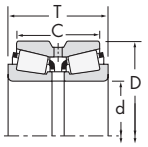
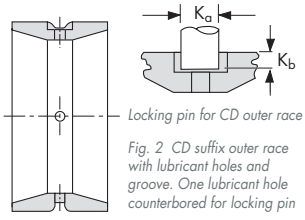
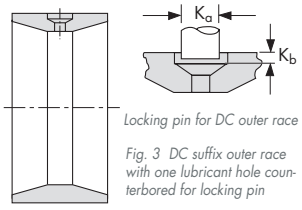


Fig. 1 D suffix outer race with lubricant holes and groove



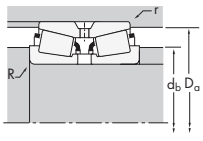
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]	Factors [5]			Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
269.875 10.6250	381.000 15.0000	158.750 6.2500	123.825 4.8750	1710000 384000	0.33	2.03	3.02	255000 57200	145000 32600	443000 99600	1.76
273.050 10.7500	393.700 15.5000	157.162 6.1875	109.538 4.3125	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45
273.050 10.7500	406.400 16.0000	155.575 6.1250	107.950 4.2500	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45
279.400 11.0000	469.900 18.5000	200.025 7.8750	149.225 5.8750	2400000 540000	0.38	1.79	2.66	357000 80300	231000 52000	622000 140000	1.55
279.982 11.0229	380.898 14.9960	139.700 5.5000	107.950 4.2500	1230000 277000	0.43	1.56	2.33	184000 41300	136000 30500	320000 71800	1.35
280.192 11.0312	406.400 16.0000	120.650 4.7500	85.725 3.3750	1030000 231000	0.41	1.65	2.46	153000 34400	107000 24000	266000 59900	1.43
280.192 11.0312	406.400 16.0000	149.225 5.8750	117.475 4.6250	1580000 355000	0.39	1.75	2.60	235000 52800	155000 34900	409000 92000	1.51
280.192 11.0312	406.400 16.0000	149.225 5.8750	117.475 4.6250	1480000 333000	0.39	1.75	2.60	221000 49600	146000 32800	384000 86400	1.51
285.750 11.2500	358.775 14.1250	76.200 3.0000	53.975 2.1250	440000 98900	0.49	1.37	2.04	65500 14700	55200 12400	114000 25600	1.19
285.750 11.2500	501.650 19.7500	203.200 8.0000	120.650 4.7500	2330000 523000	0.83	0.81	1.20	346000 77900	495000 111000	603000 136000	0.70
288.925 11.3750	406.400 16.0000	165.100 6.5000	130.175 5.1250	2030000 457000	0.34	2.00	2.97	302000 68000	175000 39300	526000 118000	1.73
292.100 11.5000	469.900 18.5000	200.025 7.8750	149.225 5.8750	2400000 540000	0.38	1.79	2.66	357000 80300	231000 52000	622000 140000	1.55
299.975 11.8100	495.300 19.5000	301.625 11.8750	247.650 9.7500	4900000 1100000	0.33	2.03	3.02	729000 164000	415000 93300	1270000 285000	1.76
300.038 11.8125	422.275 16.6250	174.625 6.8750	136.525 5.3750	2210000 498000	0.34	2.00	2.99	330000 74100	190000 42700	574000 129000	1.73
304.800 12.0000	393.700 15.5000	107.950 4.2500	82.550 3.2500	1000000 225000	0.36	1.88	2.80	149000 33500	91600 20600	259000 58300	1.63
304.800 12.0000	444.500 17.5000	146.050 5.7500	98.425 3.8750	1320000 297000	0.38	1.79	2.66	196000 44200	127000 28600	342000 76900	1.55
317.500 12.5000	444.500 17.5000	146.050 5.7500	98.425 3.8750	1320000 297000	0.38	1.79	2.66	196000 44200	127000 28600	342000 76900	1.55
330.200 13.0000	482.600 19.0000	177.800 7.0000	127.000 5.0000	2130000 480000	0.39	1.73	2.57	318000 71400	213000 47800	553000 124000	1.49
333.375 13.1250	469.900 18.5000	190.500 7.5000	152.400 6.0000	2730000 614000	0.33	2.02	3.00	407000 91400	233000 52400	708000 159000	1.74
339.949 13.3838	589.949 23.2263	340.002 13.3859	278.000 10.9449	6660000 1500000	0.33	2.03	3.02	992000 223000	565000 127000	1730000 388000	1.76
342.900 13.5000	457.098 17.9960	142.875 5.6250	101.600 4.0000	1400000 316000	0.71	0.95	1.41	209000 47000	255000 57400	364000 81900	0.82
346.075 13.6250	482.600 19.0000	133.350 5.2500	88.900 3.5000	935000 210000	0.50	1.35	2.01	139000 31300	119000 26800	242000 54500	1.17
346.075 13.6250	488.950 19.2500	200.025 7.8750	158.750 6.2500	2770000 624000	0.33	2.02	3.00	413000 92900	237000 53200	719000 162000	1.74
346.075 13.6250	488.950 19.2500	200.025 7.8750	158.750 6.2500	2950000 663000	0.33	2.02	3.00	439000 98700	252000 56600	765000 172000	1.74
349.250 13.7500	514.350 20.2500	193.675 7.6250	152.400 6.0000	2300000 518000	0.37	1.84	2.74	343000 77200	216000 48500	598000 134000	1.59
354.012 13.9375	482.600 19.0000	133.350 5.2500	88.900 3.5000	935000 210000	0.50	1.35	2.01	139000 31300	119000 26800	242000 54500	1.17
355.600 14.0000	444.500 17.5000	136.525 5.3750	111.125 4.3750	1250000 281000	0.31	2.20	3.27	186000 41900	98000 22000	324000 72900	1.90
355.600 14.0000	501.650 19.7500	155.575 6.1250	107.950 4.2500	1570000 352000	0.44	1.53	2.28	233000 52400	176000 39500	406000 91200	1.33

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
M252349	M252310CD	M252349XC	6.4 0.25	296.0 11.65	1.5 0.06	363.5 14.32	28.4 1.12	10.2 0.40	1840	226	0.1588	52.17 115.01
EE275108	275156CD	X1S-275108	6.4 0.25	301.0 11.85	1.5 0.06	378.0 14.89	25.4 1.00	9.4 0.37	1450	201	0.1555	51.95 114.53
EE275108	275161D	X2S-275108	6.4 0.25	301.0 11.85	1.5 0.06	378.0 14.89			1450	201	0.1555	58.76 129.55
EE722110	722186CD	X2S-722110	9.7 0.38	321.0 12.64	1.5 0.06	433.0 17.04	28.4 1.12	11.7 0.46	1890	143	0.1669	120.44 265.52
LM654642	LM654610CD	LM654642XC	3.5 0.14	302.0 11.89	1.5 0.06	368.0 14.49	22.1 0.87	10.2 0.40	1920	265	0.1744	43.44 95.78
EE101103	101601CD	X2S-101103	6.8 0.27	309.0 12.17	1.5 0.06	376.0 14.80	19.0 0.75	10.2 0.40	1380	227	0.1527	45.04 99.30
EE128110	128160CD	X2S-128111	6.8 0.27	309.0 12.17	1.5 0.06	384.0 15.12	25.4 1.00	9.4 0.37	1730	255	0.1628	55.92 123.28
EE128111	128160CD	X2S-128111	6.8 0.27	309.0 12.17	1.5 0.06	384.0 15.12	25.4 1.00	9.4 0.37	1620	240	0.1592	56.22 123.95
545112	545142CD	X2S-545112	3.5 0.14	302.0 11.89	1.5 0.06	345.0 13.58	14.2 0.56	7.9 0.31	1020	477	0.1446	15.27 33.66
EE147112	147198DC	X1S-147112	6.4 0.25	329.0 12.95	3.3 0.13	468.0 18.43	28.4 1.12	11.7 0.46	1490	138	0.1954	145.20 320.10
M255449	M255410CD	M255449XB	6.4 0.25	316.0 12.44	1.5 0.06	388.0 15.27	28.4 1.12	10.9 0.43	2300	287	0.1722	62.80 138.46
EE722115	722186CD	X2S-722115	9.7 0.38	330.0 12.99	1.5 0.06	433.0 17.04	28.4 1.12	11.7 0.46	1890	143	0.1669	111.31 245.38
HH258248	HH258210CD	HH258248XB	6.4 0.25	342.0 13.46	1.5 0.06	467.5 18.40	28.4 1.12	14.2 0.56	3850	220	0.2048	229.00 504.84
HM256849	HM256810CD	HM256849XC	6.4 0.25	328.0 12.91	1.5 0.06	403.5 15.88	28.4 1.12	11.7 0.46	2550	282	0.1779	72.15 159.06
L357049	L357010CD	L357049XA	6.4 0.25	329.0 12.95	1.5 0.06	380.0 14.96	19.0 0.75	7.9 0.31	1750	301	0.1585	29.83 65.76
EE291201	291751CD	X1S-291201	8.0 0.31	337.0 13.27	1.5 0.06	414.0 16.30	22.1 0.87	11.7 0.46	1580	245	0.1557	62.62 138.05
EE291250	291751CD	X1S-291250	8.0 0.31	346.0 13.62	1.5 0.06	414.0 16.30	22.1 0.87	11.7 0.46	1580	245	0.1557	55.13 121.55
EE526130	526191CD	X1S-526132	6.4 0.25	360.0 14.17	1.5 0.06	454.0 17.87	28.4 1.12	11.7 0.46	2280	287	0.1790	92.08 203.00
HM261049	HM261010CD	HM261049XC	6.4 0.25	363.0 14.29	1.5 0.06	449.5 17.69	28.4 1.12	11.7 0.46	3310	324	0.1935	95.17 209.80
HH264149	HH264110CD	HH264149XA	14.0 0.55	402.0 15.83	3.5 0.14	552.0 21.73	28.4 1.12	15.0 0.59	5000	238	0.2228	378.88 835.26
LM961548	LM961511D	LM961548XB	3.3 0.13	367.0 14.45	1.5 0.06	443.0 17.44			2280	300	0.2146	59.66 131.52
EE161363	161901CD	X1S-161362	7.0 0.28	379.0 14.92	1.5 0.06	455.0 17.91	22.1 0.87	11.7 0.46	1730	299	0.1741	61.90 136.45
HM262748	HM262710CD	HM262749XC	6.4 0.25	377.0 14.84	1.5 0.06	467.0 18.39	28.4 1.12	11.7 0.46	3430	322	0.1956	110.39 243.37
HM262749	HM262710CD	HM262749XC	6.4 0.25	377.0 14.84	1.5 0.06	467.0 18.39	28.4 1.12	11.7 0.46	3650	342	0.1999	114.34 252.06
EE333137	333203CD	X1S-333137	6.4 0.25	382.0 15.04	1.5 0.06	478.5 18.83	28.4 1.12	11.7 0.46	3040	337	0.1928	123.32 271.86
EE161394	161901CD	X1S-161393	7.0 0.28	385.0 15.16	1.5 0.06	455.0 17.91	22.1 0.87	11.7 0.46	1730	299	0.1741	58.34 128.62
L163149	L163110CD	L163149XE	3.5 0.14	374.0 14.72	1.5 0.06	430.0 16.93	22.1 0.87	9.4 0.37	3210	621	0.1838	46.06 101.53
EE231400	231976CD	X2S-161400	6.4 0.25	388.0 15.28	1.5 0.06	481.0 18.94	22.1 0.87	11.7 0.46	2390	366	0.1874	81.86 180.48

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

B

TDO

DOUBLE OUTER RACE

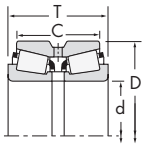
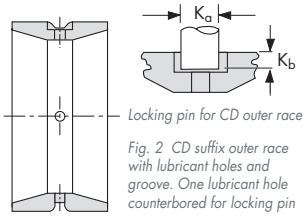
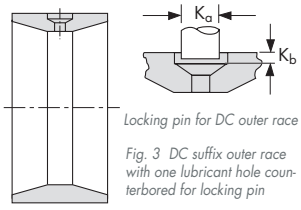


Fig. 1 D suffix outer race with lubricant holes and groove



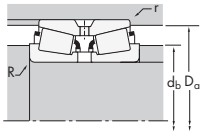
Locking pin for CD outer race

Fig. 2 CD suffix outer race with lubricant holes and groove. One lubricant hole counterbored for locking pin



Locking pin for DC outer race

Fig. 3 DC suffix outer race with one lubricant hole counterbored for locking pin



Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]			Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
355.600 14.0000	514.350 20.2500	155.575 6.1250	107.950 4.2500	1570000 352000	0.44	1.53	2.28	233000 52400	176000 39500	406000 91200	1.33
355.600 14.0000	514.350 20.2500	193.675 7.6250	152.400 6.0000	2300000 518000	0.37	1.84	2.74	343000 77200	216000 48500	598000 134000	1.59
361.950 14.2500	477.838 18.8125	138.112 5.4375	103.188 4.0625	1730000 389000	0.47	1.43	2.12	257000 57900	208000 46900	448000 101000	1.24
368.250 14.4980	523.875 20.6250	214.312 8.4375	169.862 6.6875	3380000 760000	0.33	2.03	3.02	504000 113000	287000 64500	877000 197000	1.76
371.475 14.6250	501.650 19.7500	155.575 6.1250	107.950 4.2500	1570000 352000	0.44	1.53	2.28	233000 52400	176000 39500	406000 91200	1.33
371.475 14.6250	514.350 20.2500	155.575 6.1250	107.950 4.2500	1570000 352000	0.44	1.53	2.28	233000 52400	176000 39500	406000 91200	1.33
381.000 15.0000	590.550 23.2500	244.475 9.6250	193.675 7.6250	4250000 955000	0.33	2.03	3.02	633000 142000	360000 81000	1100000 248000	1.76
385.762 15.1875	514.350 20.2500	177.800 7.0000	139.700 5.5000	2310000 519000	0.42	1.61	2.40	344000 77300	246000 55400	599000 135000	1.40
393.700 15.5000	539.750 21.2500	142.875 5.6250	101.600 4.0000	1620000 363000	0.48	1.42	2.11	241000 54100	196000 44100	419000 94200	1.23
393.700 15.5000	558.800 22.0000	146.050 5.7500	104.775 4.1250	1620000 363000	0.48	1.42	2.11	241000 54100	196000 44100	419000 94200	1.23
406.400 16.0000	539.750 21.2500	142.875 5.6250	101.600 4.0000	1620000 363000	0.48	1.42	2.11	241000 54100	196000 44100	419000 94200	1.23
406.400 16.0000	558.800 22.0000	146.050 5.7500	104.775 4.1250	1620000 363000	0.48	1.42	2.11	241000 54100	196000 44100	419000 94200	1.23
406.400 16.0000	762.000 30.0000	368.300 14.5000	222.250 8.7500	7140000 1610000	0.94	0.72	1.07	1060000 239000	1710000 384000	1850000 416000	0.62
415.925 16.3750	590.550 23.2500	244.475 9.6250	193.675 7.6250	4250000 955000	0.33	2.03	3.02	633000 142000	360000 81000	1100000 248000	1.76
430.212 16.9375	603.250 23.7500	159.639 6.2850	104.775 4.1250	1680000 377000	0.52	1.29	1.92	250000 56100	224000 50400	435000 97700	1.11
431.800 17.0000	603.250 23.7500	159.639 6.2850	104.775 4.1250	1680000 377000	0.52	1.29	1.92	250000 56100	224000 50400	435000 97700	1.11
431.902 17.0040	685.698 26.9960	365.125 14.3750	295.275 11.6250	7920000 1780000	0.32	2.08	3.09	1180000 265000	656000 147000	2050000 462000	1.80
457.200 18.0000	596.900 23.5000	165.100 6.5000	120.650 4.7500	2100000 473000	0.40	1.67	2.48	313000 70500	217000 48800	546000 123000	1.44
457.200 18.0000	730.148 28.7460	254.000 10.0000	177.800 7.0000	4820000 1080000	0.39	1.72	2.56	718000 161000	483000 109000	1250000 281000	1.49
488.950 19.2500	634.873 24.9950	180.975 7.1250	136.525 5.3750	2770000 622000	0.47	1.43	2.12	412000 92700	334000 75000	718000 161000	1.24
549.275 21.6250	692.150 27.2500	174.625 6.8750	136.525 5.3750	2590000 583000	0.38	1.79	2.67	386000 86800	249000 55900	672000 151000	1.55
558.800 22.0000	736.600 29.0000	165.100 6.5000	114.300 4.5000	2390000 537000	0.51	1.33	1.98	356000 80000	310000 69600	619000 139000	1.15
558.800 22.0000	736.600 29.0000	225.425 8.8750	177.800 7.0000	4390000 987000	0.35	1.95	2.90	653000 147000	387000 87100	1140000 256000	1.69
711.200 28.0000	914.400 36.0000	190.500 7.5000	139.700 5.5000	3550000 798000	0.38	1.77	2.64	529000 119000	344000 77400	920000 207000	1.54
723.900 28.5000	914.400 36.0000	187.325 7.3750	139.700 5.5000	3550000 798000	0.38	1.77	2.64	529000 119000	344000 77400	920000 207000	1.54
723.900 28.5000	977.900 38.5000	187.325 7.3750	139.700 5.5000	3550000 798000	0.38	1.77	2.64	529000 119000	344000 77400	920000 207000	1.54
723.900 28.5000	1003.300 39.5000	187.325 7.3750	139.700 5.5000	3550000 798000	0.38	1.77	2.64	529000 119000	344000 77400	920000 207000	1.54
1784.350 70.2500	2006.600 79.0000	241.300 9.5000	177.800 7.0000	8250000 1850000	0.44	1.54	2.29	1230000 276000	924000 208000	2140000 481000	1.33

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] If a spacer with provision for lubricant passage is required, consult your Timken representative.

Part Number			Dimensions, mm (inches)						Factors			Weight kg (lbs.)
			Shaft		Housing		Pin					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.						
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	K_a	K_b	G_1	G_2	Cg	
EE231400	232026D	X1S-231401	6.4 0.25	388.0 15.28	1.5 0.06	481.0 18.94			2390	366	0.1874	92.55 204.04
EE333140	333203CD	X1S-333140	6.4 0.25	387.0 15.24	1.5 0.06	478.5 18.83	28.4 1.12	11.7 0.46	3040	337	0.1928	117.25 258.50
LM763848	LM763811DC	LM763848XA	3.3 0.13	383.0 15.08	1.5 0.06	461.5 18.16	22.1 0.87	7.1 0.28	2600	418	0.1980	59.39 130.93
HM265049	HM265010CD	HM265049XC	6.4 0.25	400.0 15.75	1.5 0.06	498.5 19.63	28.4 1.12	11.7 0.46	4300	372	0.2106	140.91 310.64
EE231462	231976CD	X2S-231462	6.4 0.25	400.0 15.75	1.5 0.06	481.0 18.94	22.1 0.87	11.7 0.46	2390	366	0.1874	72.19 159.14
EE231462	232026D	X1S-231462	6.4 0.25	400.0 15.75	1.5 0.06	481.0 18.94			2390	366	0.1874	82.88 182.71
M268730	M268710CD	M268730XA	6.4 0.25	425.0 16.73	1.5 0.06	562.0 22.13	28.4 1.12	14.2 0.56	5750	421	0.2319	236.50 521.39
LM665949	LM665910CD	LM665949XB	6.4 0.25	415.0 16.34	1.5 0.06	495.0 19.49	28.4 1.12	12.7 0.50	3740	480	0.2155	93.50 206.14
EE234154	234213CD	X3S-234154	6.4 0.25	426.0 16.77	1.5 0.06	515.5 20.30	22.1 0.87	12.7 0.50	2780	448	0.2018	83.95 185.07
EE234154	234221D	X1S-234154	6.4 0.25	426.0 16.77	1.5 0.06	515.5 20.30			2780	448	0.2018	99.47 219.28
EE234160	234213CD	X1S-234160	6.4 0.25	435.0 17.13	1.5 0.06	515.5 20.30	22.1 0.87	12.7 0.50	2780	448	0.2018	75.19 165.77
EE234160	234221D	X3S-234160	6.4 0.25	435.0 17.13	1.5 0.06	515.5 20.30			2780	448	0.2018	90.77 200.11
H969249	H969210D	H969249XA	12.7 0.50	513.0 20.20	3.3 0.13	719.5 28.32			4610	207	0.2945	649.84 1432.63
M268749	M268710CD	M268749XE	6.4 0.25	451.0 17.76	1.5 0.06	562.0 22.13	28.4 1.12	14.2 0.56	5750	421	0.2319	205.00 451.94
EE241693	242377CD	X2S-241693	6.4 0.25	465.0 18.31	1.5 0.06	561.0 22.09	22.1 0.87	13.5 0.53	3350	551	0.2207	121.97 268.90
EE241701	242377CD	X2S-241701	6.4 0.25	466.0 18.35	1.5 0.06	561.0 22.09	22.1 0.87	13.5 0.53	3350	551	0.2207	121.18 267.15
EE650170	650270D	X1S-650170	6.4 0.25	477.0 18.78	3.3 0.13	648.5 25.53			7670	341	0.2542	484.91 1069.04
EE244180	244236CD	X1S-244180	9.7 0.38	494.0 19.45	1.5 0.06	570.5 22.47	28.4 1.12	11.7 0.46	4410	627	0.2233	105.26 232.06
EE671801	672875D	X1S-671801	9.7 0.38	507.0 19.96	1.5 0.06	680.5 26.79			4970	343	0.2315	366.55 808.08
LM772748	LM772710CD	LM772748XB	6.4 0.25	522.0 20.55	1.5 0.06	612.0 24.09	28.4 1.12	14.2 0.56	5450	602	0.2525	134.20 295.86
L476549	L476510CD	L476549XA	6.4 0.25	579.0 22.80	1.5 0.06	666.0 26.22	28.4 1.12	14.2 0.56	7260	889	0.2567	142.18 313.45
EE542220	542291CD	X2S-542220	6.4 0.25	594.0 23.39	3.3 0.13	705.0 27.76	25.4 1.00	13.5 0.53	5730	782	0.2604	166.76 367.63
LM377449	LM377410CD	LM377449XB	6.4 0.25	594.0 23.39	1.5 0.06	708.0 27.87	28.4 1.12	16.5 0.65	9310	907	0.2735	245.75 541.77
EE755280	755361CD	X1S-755280	6.4 0.25	750.0 29.53	3.3 0.13	877.0 34.53	28.4 1.12	15.7 0.62	11100	1280	0.2952	292.59 645.04
EE755285	755361CD	X2S-755285	5.5 0.22	756.0 29.76	3.3 0.13	877.0 34.53	28.4 1.12	15.7 0.62	11100	1280	0.2952	269.33 593.76
EE755285	755365CD		5.5 0.22	756.0 29.76	3.3 0.13	900.0 35.43	28.4 1.12	19.8 0.78	11100	1280	0.2952	344.62 759.74
EE755285	755367CD	X1S-755285	5.5 0.22	756.0 29.76	3.3 0.13	912.0 35.91	28.4 1.12	19.8 0.78	11100	1280	0.2952	396.42 873.94
LL789849	LL789810D	LL789849XA	12.7 0.50	1840.0 72.44	3.3 0.13	1966.0 77.40			93400	10400	0.6160	937.57 2066.96

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.

NOTES

TDI
DOUBLE INNER RACE

TAPERED ROLLER BEARINGS

- TDI style consists of a single piece (double) inner race plus two single outer races.
- Normally supplied complete with an outer race spacer as a pre-set assembly.
- To suit the application duty, the built-in setting value needs to be established by your Timken representative before an order is placed.
- Groove and holes in the outer race spacer allow for lubricant passage from the bearing housing.
- To obtain a price quotation, specify the bearing and spacer part numbers.

Example:

	inner race		outer race	
	17116D	**-**	**17244**	
	Y3S	**-**	**17244**	spacer

BEARING DATA TABLES

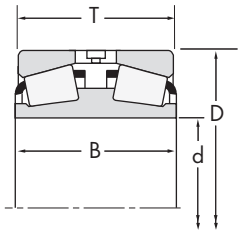
In the following bearing data tables, part numbers are listed in ascending order of bore, outside diameter and width.

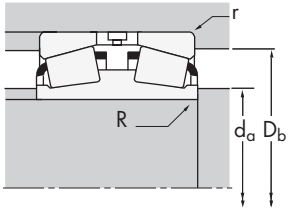
Bearing ratings shown in tables are based on environmental reference conditions. Effects of known operating conditions on bearing performance in an application should be investigated before final bearing selection is made.

Approximate mass is listed for every part number. For weight-critical applications or exact freight cost evaluation purposes, a more accurate value should be obtained from your Timken representative.

TDI

DOUBLE INNER RACE





Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]		Dynamic [2]	Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
25.400 1.0000	51.994 2.0470	30.079 1.1842	36.512 1.4375	46900 10500	0.40	1.68	2.50	6990 1570	4810 1080	12200 2730	1.45
30.162 1.1875	62.000 2.4409	33.797 1.3306	34.925 1.3750	69700 15700	0.38	1.77	2.63	10400 2330	6800 1530	18100 4060	1.53
31.750 1.2500	69.012 2.7170	39.705 1.5632	39.182 1.5426	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
31.750 1.2500	69.012 2.7170	39.705 1.5632	39.182 1.5426	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
31.750 1.2500	72.085 2.8380	44.785 1.7632	39.182 1.5426	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
33.338 1.3125	69.012 2.7170	39.705 1.5632	39.182 1.5426	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
33.338 1.3125	69.012 2.7170	39.705 1.5632	39.182 1.5426	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
33.338 1.3125	72.085 2.8380	44.785 1.7632	39.182 1.5426	88000 19800	0.38	1.77	2.63	13100 2950	8570 1930	22800 5130	1.53
36.512 1.4375	68.262 2.6875	36.810 1.4492	38.100 1.5000	81700 18400	0.44	1.52	2.26	12200 2740	9260 2080	21200 4760	1.31
36.512 1.4375	71.438 2.8125	36.810 1.4492	38.100 1.5000	81700 18400	0.44	1.52	2.26	12200 2740	9260 2080	21200 4760	1.31
36.512 1.4375	72.000 2.8346	39.096 1.5392	38.100 1.5000	81700 18400	0.44	1.52	2.26	12200 2740	9260 2080	21200 4760	1.31
42.862 1.6875	80.962 3.1875	34.925 1.3750	31.750 1.2500	81900 18400	0.53	1.28	1.90	12200 2740	11000 2480	21200 4770	1.11
42.862 1.6875	85.000 3.3465	50.262 1.9788	52.375 2.0620	132000 29700	0.31	2.20	3.28	19600 4420	10300 2320	34200 7690	1.91
42.862 1.6875	90.119 3.5480	54.991 2.1650	52.375 2.0620	132000 29700	0.31	2.20	3.28	19600 4420	10300 2320	34200 7690	1.91
44.450 1.7500	80.962 3.1875	34.925 1.3750	31.750 1.2500	81900 18400	0.53	1.28	1.90	12200 2740	11000 2480	21200 4770	1.11
47.625 1.8750	93.264 3.6718	50.013 1.9690	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
47.625 1.8750	96.838 3.8125	53.188 2.0940	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
47.625 1.8750	100.000 3.9370	58.735 2.3124	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
49.212 1.9375	93.264 3.6718	50.013 1.9690	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
49.212 1.9375	96.838 3.8125	53.188 2.0940	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
49.212 1.9375	100.000 3.9370	58.735 2.3124	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
50.800 2.0000	88.900 3.5000	41.275 1.6250	61.112 2.4060	138000 31100	0.32	2.11	3.14	20600 4640	11300 2540	35900 8070	1.83
50.800 2.0000	93.264 3.6718	50.013 1.9690	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
50.800 2.0000	96.838 3.8125	53.188 2.0940	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
50.800 2.0000	100.000 3.9370	58.735 2.3124	53.188 2.0940	142000 31900	0.34	1.99	2.97	21100 4750	12200 2750	36800 8260	1.73
54.987 2.1649	140.030 5.5130	66.091 2.6020	65.989 2.5980	276000 62000	0.87	0.78	1.16	41100 9230	60900 13700	71500 16100	0.67
55.562 2.1875	96.838 3.8125	51.298 2.0196	53.188 2.0940	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65
55.562 2.1875	100.000 3.9370	51.298 2.0196	53.188 2.0940	147000 33000	0.35	1.91	2.84	21800 4910	13200 2980	38000 8550	1.65

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] A groove and holes in the outer race spacer allow for lubricant passage from the bearing housing.

Part Number			Dimensions, mm (inches)				Factors			Weight kg (lbs.)
			Shaft		Housing					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.				
Inner	Outer	Spacer [4]	R[3]	d_a	r[3]	D_b	G_1	G_2	Cg	
07100D	07204		0.8 0.03	30.0 1.18	1.3 0.05	45.0 1.77	7.6	6.99	0.0509	0.30 0.67
17116D	17244		0.8 0.03	35.5 1.40	1.5 0.06	54.0 2.13	11.8	7.49	0.0579	0.46 1.02
14126D	14274		1.5 0.06	40.0 1.57	3.3 0.13	59.0 2.32	18	9.4	0.0668	0.70 1.54
14126D	14276	Y2S-14276	1.5 0.06	40.0 1.57	1.3 0.05	60.0 2.36	18	9.4	0.0668	0.71 1.57
14126D	14283		1.5 0.06	40.0 1.57	2.3 0.09	60.0 2.36	18	9.4	0.0668	0.86 1.90
14134D	14274		1.5 0.06	41.0 1.61	3.3 0.13	59.0 2.32	18	9.4	0.0668	0.67 1.48
14134D	14276		1.5 0.06	41.0 1.61	1.3 0.05	60.0 2.36	18	9.4	0.0668	0.69 1.51
14134D	14283		1.5 0.06	41.0 1.61	2.3 0.09	60.0 2.36	18	9.4	0.0668	0.84 1.85
19145D	19268		0.8 0.03	42.5 1.67	1.5 0.06	61.0 2.40	17.5	11.5	0.0694	0.60 1.32
19145D	19281		0.8 0.03	42.5 1.67	1.0 0.04	63.0 2.48	17.5	11.5	0.0694	0.66 1.46
19145D	19283		0.8 0.03	42.5 1.67	1.5 0.06	63.0 2.48	17.5	11.5	0.0694	0.72 1.58
13169D	13318	Y2S-13318	0.8 0.03	50.0 1.97	1.5 0.06	72.0 2.83	23	15.4	0.0799	0.74 1.64
358D	354A		1.5 0.06	51.0 2.01	1.3 0.05	77.0 3.03	30	12.2	0.0732	1.27 2.79
358D	352		1.5 0.06	51.0 2.01	2.3 0.09	78.0 3.07	30	12.2	0.0732	1.56 3.44
13176D	13318	Y1S-13318	0.1 0.01	50.0 1.97	1.5 0.06	72.0 2.83	23	15.4	0.0799	0.72 1.58
376DE	374		0.8 0.03	55.0 2.17	1.3 0.05	85.0 3.35	37.6	15.4	0.0816	1.52 3.35
376DE	372A		0.8 0.03	55.0 2.17	1.5 0.06	86.0 3.39	37.6	15.4	0.0816	1.73 3.82
376DE	372		0.8 0.03	55.0 2.17	2.0 0.08	86.0 3.39	37.6	15.4	0.0816	2.01 4.43
378DE	374		0.8 0.03	56.0 2.20	1.3 0.05	85.0 3.35	37.6	15.4	0.0816	1.47 3.25
378DE	372A		0.8 0.03	56.0 2.20	1.5 0.06	86.0 3.39	37.6	15.4	0.0816	1.69 3.72
378DE	372		0.8 0.03	56.0 2.20	2.0 0.08	86.0 3.39	37.6	15.4	0.0816	1.96 4.33
368D	362A		0.8 0.03	57.0 2.24	1.3 0.05	81.0 3.19	33.8	12.5	0.0773	1.22 2.68
375D	374	Y1S-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	Y1S-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
375D	372		0.8 0.03	57.0 2.24	2.0 0.08	86.0 3.39	37.6	15.4	0.0816	1.89 4.17
78216D	78551		2.3 0.09	79.0 3.11	2.3 0.09	117.0 4.61	62.6	19.1	0.0884	5.19 11.45
389DE	382A	Y2S-382A	0.8 0.03	62.0 2.44	0.8 0.03	89.0 3.50	42	15.7	0.0859	2.04 4.50
389DE	383A		0.8 0.03	62.0 2.44	2.0 0.08	89.0 3.50	42	15.7	0.0859	1.59 3.49

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

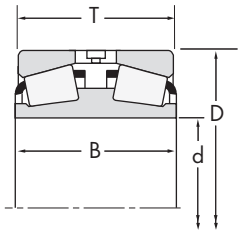
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

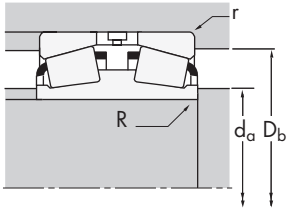
[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDI

DOUBLE INNER RACE





Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]		Dynamic [2]	Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
61.912 2.4375	110.000 4.3307	55.550 2.1870	55.550 2.1870	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
61.912 2.4375	110.000 4.3307	55.550 2.1870	55.550 2.1870	159000 35800	0.40	1.68	2.50	23700 5340	16300 3670	41300 9290	1.45
63.500 2.5000	112.712 4.4375	60.325 2.3750	60.325 2.3750	269000 60500	0.34	1.99	2.96	40100 9010	23300 5230	69800 15700	1.72
63.500 2.5000	136.525 5.3750	66.091 2.6020	65.989 2.5980	276000 62000	0.87	0.78	1.16	41100 9230	60900 13700	71500 16100	0.67
63.500 2.5000	140.030 5.5130	66.091 2.6020	65.989 2.5980	276000 62000	0.87	0.78	1.16	41100 9230	60900 13700	71500 16100	0.67
64.987 2.5586	136.525 5.3750	66.091 2.6020	65.989 2.5980	276000 62000	0.87	0.78	1.16	41100 9230	60900 13700	71500 16100	0.67
64.987 2.5586	140.030 5.5130	66.091 2.6020	65.989 2.5980	276000 62000	0.87	0.78	1.16	41100 9230	60900 13700	71500 16100	0.67
80.962 3.1875	133.350 5.2500	60.325 2.3750	59.538 2.3440	249000 56000	0.44	1.52	2.26	37100 8330	28200 6340	64600 14500	1.31
80.962 3.1875	136.525 5.3750	60.325 2.3750	59.538 2.3440	249000 56000	0.44	1.52	2.26	37100 8330	28200 6340	64600 14500	1.31
80.962 3.1875	139.992 5.5115	80.962 3.1875	80.134 3.1549	333000 75000	0.40	1.67	2.49	49600 11200	34300 7720	86400 19400	1.45
84.138 3.3125	133.350 5.2500	76.200 3.0000	75.413 2.9690	249000 56000	0.44	1.52	2.26	37100 8330	28200 6340	64600 14500	1.31
84.138 3.3125	136.525 5.3750	76.200 3.0000	75.413 2.9690	249000 56000	0.44	1.52	2.26	37100 8330	28200 6340	64600 14500	1.31
85.725 3.3750	123.825 4.8750	41.278 1.6251	44.450 1.7500	149000 33600	0.33	2.05	3.05	22200 5000	12600 2820	38700 8700	1.77
85.725 3.3750	127.000 5.0000	41.278 1.6251	44.450 1.7500	149000 33600	0.33	2.05	3.05	22200 5000	12600 2820	38700 8700	1.77
88.900 3.5000	161.925 6.3750	101.549 3.9980	107.950 4.2500	528000 119000	0.34	1.98	2.95	78500 17700	45900 10300	137000 30700	1.71
88.900 3.5000	168.275 6.6250	101.549 3.9980	107.950 4.2500	528000 119000	0.34	1.98	2.95	78500 17700	45900 10300	137000 30700	1.71
92.075 3.6250	148.430 5.8437	57.150 2.2500	57.942 2.2812	263000 59000	0.49	1.37	2.04	39100 8790	33000 7410	68100 15300	1.19
92.075 3.6250	149.225 5.8750	63.500 2.5000	57.942 2.2812	263000 59000	0.49	1.37	2.04	39100 8790	33000 7410	68100 15300	1.19
95.250 3.7500	136.525 5.3750	57.150 2.2500	57.150 2.2500	225000 50600	0.28	2.38	3.54	33500 7530	16300 3660	58300 13100	2.06
95.250 3.7500	190.500 7.5000	117.475 4.6250	127.000 5.0000	860000 193000	0.33	2.02	3.00	128000 28800	73400 16500	223000 50100	1.74
98.425 3.8750	180.975 7.1250	101.600 4.0000	102.362 4.0300	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
101.600 4.0000	157.162 6.1875	80.167 3.1562	79.375 3.1250	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23
101.600 4.0000	161.925 6.3750	80.167 3.1562	79.375 3.1250	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23
101.600 4.0000	161.925 6.3750	86.517 3.4062	79.375 3.1250	360000 81000	0.47	1.42	2.12	53600 12100	43600 9800	93400 21000	1.23
101.600 4.0000	190.500 7.5000	117.475 4.6250	127.000 5.0000	738000 166000	0.33	2.02	3.00	110000 24700	63000 14200	191000 43000	1.74
104.775 4.1250	180.975 7.1250	101.600 4.0000	102.362 4.0300	558000 125000	0.39	1.75	2.61	83100 18700	54800 12300	145000 32500	1.51
107.950 4.2500	190.500 7.5000	98.425 3.8750	101.600 4.0000	586000 132000	0.42	1.62	2.42	87300 19600	62200 14000	152000 34200	1.40
107.950 4.2500	191.976 7.5581	98.425 3.8750	101.600 4.0000	586000 132000	0.42	1.62	2.42	87300 19600	62200 14000	152000 34200	1.40

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] A groove and holes in the outer race spacer allow for lubricant passage from the bearing housing.

Part Number			Dimensions, mm (inches)				Factors			Weight kg (lbs.)
			Shaft		Housing					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.				
Inner	Outer	Spacer [4]	$R^{(3)}$	d_a	$r^{(3)}$	D_b	G_1	G_2	Cg	
399D	394A		0.8 0.03	70.0 2.76	1.3 0.05	101.0 3.98	56	21.4	0.0984	2.04 4.50
399D	394AS		0.8 0.03	70.0 2.76	3.3 0.13	99.0 3.90	56	21.4	0.0984	2.01 4.44
39585D	39520	Y8S-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	Y2S-78537	2.3 0.09	79.0 3.11	3.3 0.13	115.0 4.53	62.6	19.1	0.0884	4.49 9.90
78251D	78551	Y1S-78551	2.3 0.09	79.0 3.11	2.3 0.09	117.0 4.61	62.6	19.1	0.0884	4.76 10.50
78255D	78537	Y1S-78537	1.5 0.06	79.0 3.11	3.3 0.13	115.0 4.53	62.6	19.1	0.0884	4.48 9.89
78255D	78551	Y3S-78551	1.5 0.06	79.0 3.11	2.3 0.09	117.0 4.61	62.6	19.1	0.0884	4.75 10.48
496D	492A	Y2S-492A	1.5 0.06	91.0 3.58	3.3 0.13	120.0 4.72	105	29.3	0.1252	3.37 7.43
496D	493	Y4S-493	1.5 0.06	91.0 3.58	3.3 0.13	122.0 4.80	105	29.3	0.1252	3.52 7.77
581D	572	Y5S-572	1.5 0.06	92.0 3.62	3.3 0.13	125.0 4.92	126	32	0.1295	5.22 11.51
498D	492A	Y3S-492A	0.8 0.03	92.0 3.62	3.3 0.13	120.0 4.72	105	29.3	0.1252	3.68 8.11
498D	493	Y5S-493	0.8 0.03	92.0 3.62	3.3 0.13	122.0 4.80	105	29.3	0.1252	3.95 8.70
L217845D	L217810	L217810EA	0.8 0.03	93.0 3.66	1.5 0.06	116.0 4.57	111	74.7	0.1152	1.72 3.80
L217845D	L217813	L217813EA	0.8 0.03	93.0 3.66	1.5 0.06	117.0 4.61	111	74.7	0.1152	1.94 4.28
767D	752	Y7S-752	1.5 0.06	101.5 3.99	3.3 0.13	144.0 5.67	177	32.4	0.0945	8.76 19.32
767D	753		1.5 0.06	101.5 3.99	3.3 0.13	147.0 5.79	177	32.4	0.0945	9.66 21.30
42362D	42584	Y3S-42584	1.5 0.06	103.0 4.06	3.0 0.12	134.0 5.28	130	37.2	0.1386	3.84 8.48
42362D	42587		1.5 0.06	103.0 4.06	3.3 0.13	134.0 5.28	130	37.2	0.1386	4.15 9.14
LM119348D	LM119311	LM119311EA	0.8 0.03	102.0 4.02	2.3 0.09	126.0 4.96	149	69	0.1213	2.71 5.97
HH221440D	HH221410		6.4 0.25	116.0 4.56	3.3 0.13	171.0 6.73	266	30.7	0.1072	15.16 33.42
779D	772	Y5S-772	1.5 0.06	112.0 4.41	3.3 0.13	161.0 6.34	227	41.3	0.1067	11.34 25.01
52400D	52618	Y23S-52618	1.5 0.06	112.5 4.43	3.3 0.13	142.0 5.59	175	41.7	0.1519	5.27 11.61
52400D	52637		1.5 0.06	112.5 4.43	3.3 0.13	144.0 5.67	175	41.7	0.1519	7.48 16.50
52400D	52638	Y1S-52638	1.5 0.06	112.5 4.43	3.3 0.13	143.0 5.63	175	41.7	0.1519	6.28 13.83
868D	854		1.5 0.06	116.0 4.57	3.3 0.13	170.0 6.69	264	44.9	0.1072	23.29 51.35
782D	772	Y6S-772	1.5 0.06	118.0 4.64	3.3 0.13	161.0 6.34	227	41.3	0.1067	10.53 23.20
71426D	71750		1.5 0.06	122.0 4.80	3.3 0.13	171.0 6.73	269	45.7	0.1156	12.30 27.11
71426D	71753		1.5 0.06	122.0 4.80	3.3 0.13	172.0 6.77	269	45.7	0.1156	12.93 28.50

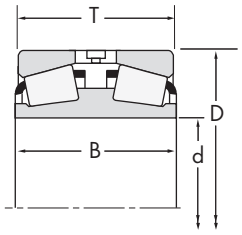
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.

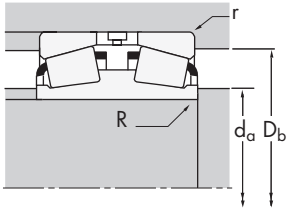
Continued on next page.

TDI

DOUBLE INNER RACE

B





Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]		Dynamic [2]	Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
107.950 4.2500	212.725 8.3750	142.875 5.6250	152.400 6.0000	922000 207000	0.33	2.07	3.09	137000 30900	76600 17200	239000 53700	1.79
114.300 4.5000	190.500 7.5000	98.425 3.8750	101.600 4.0000	586000 132000	0.42	1.62	2.42	87300 19600	62200 14000	152000 34200	1.40
114.300 4.5000	212.725 8.3750	142.875 5.6250	152.400 6.0000	1100000 246000	0.33	2.07	3.09	163000 36700	91000 20500	284000 63900	1.79
114.300 4.5000	234.950 9.2500	139.700 5.5000	152.400 6.0000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
114.300 4.5000	247.650 9.7500	139.700 5.5000	152.400 6.0000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
120.650 4.7500	174.625 6.8750	66.678 2.6251	68.262 2.6875	394000 88600	0.33	2.03	3.02	58700 13200	33400 7510	102000 23000	1.76
120.650 4.7500	234.950 9.2500	139.700 5.5000	152.400 6.0000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
120.650 4.7500	247.650 9.7500	139.700 5.5000	152.400 6.0000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
127.000 5.0000	196.850 7.7500	92.075 3.6250	92.075 3.6250	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
127.000 5.0000	228.600 9.0000	160.338 6.3125	151.244 5.9545	606000 136000	0.74	0.92	1.36	90200 20300	114000 25600	157000 35300	0.79
127.000 5.0000	234.950 9.2500	139.700 5.5000	152.400 6.0000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
127.000 5.0000	247.650 9.7500	139.700 5.5000	152.400 6.0000	1010000 228000	0.37	1.83	2.72	151000 33900	95500 21500	263000 59100	1.58
130.005 5.1183	215.900 8.5000	123.825 4.8750	123.825 4.8750	616000 138000	0.49	1.38	2.06	91700 20600	76500 17200	160000 35900	1.20
130.005 5.1183	217.488 8.5625	123.825 4.8750	123.825 4.8750	616000 138000	0.49	1.38	2.06	91700 20600	76500 17200	160000 35900	1.20
130.175 5.1250	215.900 8.5000	101.600 4.0000	101.600 4.0000	616000 138000	0.49	1.38	2.06	91700 20600	76500 17200	160000 35900	1.20
130.175 5.1250	217.488 8.5625	101.600 4.0000	101.600 4.0000	616000 138000	0.49	1.38	2.06	91700 20600	76500 17200	160000 35900	1.20
133.350 5.2500	196.850 7.7500	92.075 3.6250	92.075 3.6250	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
133.350 5.2500	203.200 8.0000	92.075 3.6250	92.075 3.6250	593000 133000	0.34	1.96	2.92	88200 19800	52000 11700	154000 34500	1.70
136.525 5.3750	190.500 7.5000	77.788 3.0625	77.788 3.0625	456000 103000	0.32	2.10	3.13	67900 15300	37300 8390	118000 26600	1.82
136.525 5.3750	225.425 8.8750	120.650 4.7500	120.650 4.7500	1040000 234000	0.33	2.03	3.02	155000 34900	88400 19900	270000 60800	1.76
149.225 5.8750	236.538 9.3125	106.362 4.1875	105.346 4.1475	830000 187000	0.44	1.53	2.27	124000 27800	93600 21000	215000 48400	1.32
149.225 5.8750	241.300 9.5000	106.362 4.1875	105.346 4.1475	830000 187000	0.44	1.53	2.27	124000 27800	93600 21000	215000 48400	1.32
149.225 5.8750	254.000 10.0000	120.650 4.7500	120.650 4.7500	1060000 239000	0.41	1.66	2.47	158000 35600	110000 24800	276000 62000	1.43
152.400 6.0000	244.475 9.6250	87.312 3.4375	92.075 3.6250	648000 146000	0.35	1.92	2.86	96400 21700	58100 13100	168000 37700	1.66
155.575 6.1250	247.650 9.7500	122.238 4.8125	122.238 4.8125	1080000 243000	0.37	1.83	2.73	161000 36100	101000 22800	280000 62900	1.59
165.100 6.5000	225.425 8.8750	79.375 3.1250	76.200 3.0000	489000 110000	0.38	1.76	2.62	72800 16400	47800 10700	127000 28500	1.52
174.625 6.8750	288.925 11.3750	123.825 4.8750	123.825 4.8750	1330000 299000	0.32	2.12	3.15	198000 44500	108000 24300	344000 77400	1.83
177.800 7.0000	247.650 9.7500	90.488 3.5625	90.488 3.5625	653000 147000	0.44	1.54	2.29	97200 21900	73200 16500	169000 38100	1.33

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] A groove and holes in the outer race spacer allow for lubricant passage from the bearing housing.

Part Number			Dimensions, mm (inches)				Factors			Weight kg (lbs.)
			Shaft		Housing					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.				
Inner	Outer	Spacer [4]	$R^{(3)}$	d_a	$r^{(3)}$	D_b	G_1	G_2	Cg	
946D	932	Y9S-932	3.3 0.13	128.0 5.04	3.3 0.13	187.0 7.36	339	43.8	0.1153	22.36 49.30
71450D	71750	Y7S-71750	1.5 0.06	128.0 5.04	3.3 0.13	171.0 6.73	269	49.5	0.1156	11.00 24.25
HH224346DD	HH224310	HH224310EA	3.3 0.13	133.0 5.24	3.3 0.13	192.0 7.56	367	47.8	0.1182	21.93 48.35
95451D	95925		13.2 0.52	153.0 6.03	3.3 0.13	209.0 8.23	454	59.3	0.1323	28.51 62.84
95451D	95975		13.2 0.52	153.0 6.03	3.3 0.13	214.0 8.43	454	59.3	0.1323	34.69 76.47
M224749D	M224710	M224710EA	0.8 0.03	129.0 5.08	1.5 0.06	162.0 6.38	279	86.6	0.1575	5.82 12.83
95474D	95925		6.4 0.25	149.0 5.87	3.3 0.13	209.0 8.23	454	59.3	0.1323	27.14 59.83
95474D	95975		6.4 0.25	149.0 5.87	3.3 0.13	214.0 8.43	454	59.3	0.1323	33.32 73.46
67388D	67322	Y1S-67322	1.5 0.06	140.0 5.51	3.3 0.13	180.0 7.09	384	70.1	0.1220	10.63 23.44
97500D	97900	Y3S-97900	1.5 0.06	144.0 5.67	3.3 0.13	197.0 7.76	237	44.6	0.1311	24.43 53.85
95499D	95925	Y4S-95925	5.0 0.20	152.0 5.98	3.3 0.13	209.0 8.23	454	59.3	0.1323	25.94 57.18
95499D	95975		5.0 0.20	152.0 5.98	3.3 0.13	214.0 8.43	454	59.3	0.1323	31.93 70.38
74510D	74850	Y5S-74850	1.5 0.06	146.0 5.75	3.3 0.13	196.0 7.72	363	68.5	0.1338	17.54 38.66
74510D	74856		1.5 0.06	146.0 5.75	3.3 0.13	197.0 7.76	363	68.5	0.1338	17.32 38.18
74512D	74850	Y7S-74850	1.5 0.06	146.0 5.75	3.3 0.13	196.0 7.72	363	68.5	0.1338	15.05 33.17
74512D	74856		1.5 0.06	146.0 5.75	3.3 0.13	197.0 7.76	363	68.5	0.1338	15.44 34.04
67390D	67322	Y1S-67322	1.5 0.06	145.0 5.71	3.3 0.13	180.0 7.09	384	70.1	0.1220	9.69 21.37
67390D	67320		1.5 0.06	145.0 5.71	3.3 0.13	183.0 7.20	384	70.1	0.1220	12.12 26.72
48393D	48320		1.5 0.06	144.0 5.67	3.3 0.13	177.0 6.97	404	105	0.1209	6.86 15.11
H228649D	H228610	H228610EB	1.5 0.06	152.0 5.98	3.3 0.13	203.0 7.99	540	76.7	0.1358	19.61 43.22
82587D	82931	Y1S-82931	1.5 0.06	165.0 6.50	3.3 0.13	213.0 8.39	460	81.1	0.1405	17.53 38.65
82587D	82950	Y5S-82950	1.5 0.06	165.0 6.50	3.3 0.13	215.0 8.46	460	81.1	0.1405	19.15 42.22
99587D	99100	Y18S-99100	1.5 0.06	167.0 6.57	3.3 0.13	227.0 8.94	556	73.5	0.1459	25.91 57.12
81601D	81962	Y1S-81963	1.5 0.06	166.0 6.54	3.3 0.13	225.0 8.86	413	98.4	0.1250	14.89 32.82
H432549D	H432510	H432510EA	1.5 0.06	172.0 6.77	3.3 0.13	224.0 8.82	658	97.7	0.1178	23.65 52.15
46790D	46720	Y5S-46720	0.8 0.03	175.0 6.89	3.3 0.13	209.0 8.23	572	175	0.1432	9.38 20.68
HM237542D	HM237510	HM237510EA	1.5 0.06	191.0 7.52	3.3 0.13	266.0 10.47	751	101	0.1168	31.74 69.98
67790D	67720	Y2S-67720	1.5 0.06	190.0 7.48	3.3 0.13	229.0 9.02	622	122	0.1214	13.31 29.35

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

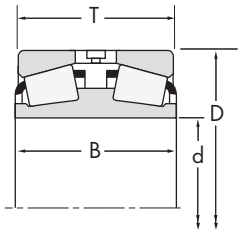
[7] Compound radius on inner race. Details on drawing for bearing.

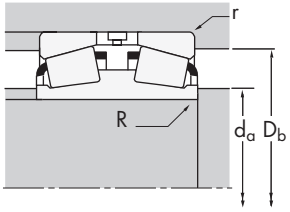
Continued on next page.

TDI

DOUBLE INNER RACE

B





Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]		Dynamic [2]	Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
177.800 7.0000	279.400 11.0000	112.710 4.4374	112.712 4.4375	911000 205000	0.52	1.29	1.92	136000 30500	122000 27400	236000 53100	1.11
177.800 7.0000	288.925 11.3750	123.825 4.8750	123.825 4.8750	1060000 239000	0.47	1.44	2.15	159000 35600	127000 28600	276000 62000	1.25
177.800 7.0000	288.925 11.3750	123.825 4.8750	123.825 4.8750	1330000 299000	0.32	2.12	3.15	198000 44500	108000 24300	344000 77400	1.83
177.800 7.0000	288.925 11.3750	158.750 6.2500	158.750 6.2500	1330000 299000	0.32	2.12	3.15	198000 44500	108000 24300	344000 77400	1.83
177.800 7.0000	304.800 12.0000	109.438 4.3086	114.300 4.5000	1030000 231000	0.36	1.87	2.79	153000 34500	94500 21200	267000 60000	1.62
187.325 7.3750	319.964 12.5970	168.275 6.6250	161.925 6.3750	1790000 402000	0.32	2.12	3.15	267000 59900	145000 32700	464000 104000	1.83
187.325 7.3750	320.675 12.6250	168.275 6.6250	161.925 6.3750	1790000 402000	0.32	2.12	3.15	267000 59900	145000 32700	464000 104000	1.83
190.500 7.5000	317.500 12.5000	133.350 5.2500	133.350 5.2500	1180000 265000	0.52	1.29	1.92	175000 39500	157000 35300	306000 68700	1.12
190.500 7.5000	317.500 12.5000	142.875 5.6250	133.350 5.2500	1180000 265000	0.52	1.29	1.92	175000 39500	157000 35300	306000 68700	1.12
190.500 7.5000	365.049 14.3720	158.750 6.2500	152.400 6.0000	1880000 423000	0.40	1.68	2.50	280000 63000	193000 43300	488000 110000	1.45
190.500 7.5000	368.300 14.5000	158.750 6.2500	152.400 6.0000	1880000 423000	0.40	1.68	2.50	280000 63000	193000 43300	488000 110000	1.45
199.975 7.8730	317.500 12.5000	133.350 5.2500	133.350 5.2500	1180000 265000	0.52	1.29	1.92	175000 39500	157000 35300	306000 68700	1.12
199.975 7.8730	317.500 12.5000	142.875 5.6250	133.350 5.2500	1180000 265000	0.52	1.29	1.92	175000 39500	157000 35300	306000 68700	1.12
203.200 8.0000	317.500 12.5000	123.825 4.8750	123.825 4.8750	1180000 265000	0.52	1.29	1.92	175000 39500	157000 35300	306000 68700	1.12
203.200 8.0000	317.500 12.5000	133.350 5.2500	133.350 5.2500	1180000 265000	0.52	1.29	1.92	175000 39500	157000 35300	306000 68700	1.12
203.200 8.0000	317.500 12.5000	142.875 5.6250	133.350 5.2500	1180000 265000	0.52	1.29	1.92	175000 39500	157000 35300	306000 68700	1.12
203.200 8.0000	365.049 14.3720	158.750 6.2500	152.400 6.0000	1880000 423000	0.40	1.68	2.50	280000 63000	193000 43300	488000 110000	1.45
203.200 8.0000	368.300 14.5000	158.750 6.2500	152.400 6.0000	1880000 423000	0.40	1.68	2.50	280000 63000	193000 43300	488000 110000	1.45
206.375 8.1250	282.575 11.1250	87.312 3.4375	87.312 3.4375	684000 154000	0.51	1.33	1.97	102000 22900	88700 19900	177000 39800	1.15
206.375 8.1250	336.550 13.2500	180.975 7.1250	184.150 7.2500	2180000 491000	0.33	2.03	3.02	325000 73100	185000 41600	566000 127000	1.76
215.900 8.5000	355.600 14.0000	127.000 5.0000	130.175 5.1250	1220000 275000	0.59	1.14	1.70	182000 41000	184000 41400	317000 71300	0.99
219.075 8.6250	358.775 14.1250	196.850 7.7500	200.025 7.8750	2470000 555000	0.33	2.03	3.02	367000 82600	209000 47000	639000 144000	1.76
228.600 9.0000	355.600 14.0000	120.650 4.7500	120.650 4.7500	1360000 306000	0.33	2.04	3.04	202000 45500	114000 25700	352000 79200	1.77
228.600 9.0000	355.600 14.0000	120.650 4.7500	120.650 4.7500	1360000 306000	0.33	2.04	3.04	202000 45500	114000 25700	352000 79200	1.77
228.600 9.0000	400.050 15.7500	139.700 5.5000	139.700 5.5000	1900000 428000	0.31	2.19	3.25	283000 63700	150000 33700	493000 111000	1.89
234.950 9.2500	384.175 15.1250	209.550 8.2500	209.550 8.2500	2860000 643000	0.33	2.03	3.02	426000 95700	242000 54500	741000 167000	1.76
241.224 9.4970	355.600 14.0000	107.950 4.2500	107.950 4.2500	1130000 253000	0.35	1.91	2.85	168000 37700	101000 22800	292000 65700	1.65
254.000 10.0000	355.600 14.0000	92.710 3.6500	92.862 3.6560	956000 215000	0.36	1.86	2.77	142000 32000	88500 19900	248000 55700	1.61

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] A groove and holes in the outer race spacer allow for lubricant passage from the bearing housing.

Part Number			Dimensions, mm (inches)				Factors			Weight kg (lbs.)
			Shaft		Housing					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.				
Inner	Outer	Spacer [4]	$R^{(3)}$	d_a	$r^{(3)}$	D_b	G_1	G_2	Cg	
82680D	82620	Y1S-82620	1.5 0.06	195.0 7.68	3.3 0.13	251.0 9.88	661	119	0.1313	26.31 57.99
94706D	94113	Y7S-94113	1.5 0.06	195.0 7.68	3.3 0.13	259.0 10.20	692	93.8	0.1287	32.48 71.61
HM237546D	HM237510	HM237510EF	1.5 0.06	194.0 7.64	3.3 0.13	266.0 10.47	751	101	0.1168	30.92 68.17
HM237546DD	HM237510		1.5 0.06	194.0 7.64	3.3 0.13	266.0 10.47	751	101	0.1168	36.67 80.84
EE280700D	281200	Y1S-281200	3.3 0.13	200.0 7.87	3.3 0.13	279.0 10.98	591	86	0.1115	31.88 70.29
H239649D	H239610	H239610EA	3.3 0.13	209.0 8.23	4.8 0.19	293.0 11.54	906	90.3	0.1242	52.48 115.70
H239649D	H239612	H239612EE	3.3 0.13	209.0 8.23	4.8 0.19	293.0 11.54	906	90.3	0.1242	53.02 116.90
93751D	93125	Y1S-93126	6.4 0.25	222.0 8.74	3.3 0.13	286.0 11.26	912	126	0.1460	41.77 92.09
93751D	93126		6.4 0.25	222.0 8.74	3.3 0.13	285.0 11.22	912	126	0.1460	43.57 96.06
EE420750D	421437		3.3 0.13	221.0 8.70	3.3 0.13	329.0 12.95	1150	128	0.1450	76.29 168.18
EE420750D	421450	Y4S-421450	3.3 0.13	221.0 8.70	3.3 0.13	331.0 13.03	1150	128	0.1450	76.88 169.49
93788D	93125	Y15S-93125	6.4 0.25	227.0 8.93	3.3 0.13	286.0 11.26	912	126	0.1460	46.94 103.49
93788D	93126		6.4 0.25	227.0 8.93	3.3 0.13	285.0 11.22	912	126	0.1460	40.54 89.37
93800D	93125	Y11S-93125	1.5 0.06	222.0 8.74	3.3 0.13	286.0 11.26	912	126	0.1460	42.43 93.53
93801D	93125	Y1S-93126	6.4 0.25	227.0 8.93	3.3 0.13	286.0 11.26	912	126	0.1460	37.13 81.85
93801D	93126	Y1S-93126	6.4 0.25	227.0 8.93	3.3 0.13	285.0 11.22	912	126	0.1460	38.93 85.83
EE420800D	421437	Y1S-421437	3.3 0.13	230.0 9.06	3.3 0.13	329.0 12.95	1150	128	0.1450	70.53 155.49
EE420800D	421450		3.3 0.13	230.0 9.06	3.3 0.13	331.0 13.03	1150	128	0.1450	71.12 156.80
67985D	67920	Y1S-67920	0.8 0.03	219.0 8.62	3.3 0.13	260.0 10.24	820	172	0.1388	16.46 36.29
H242649D	H242610	H242610EA	1.5 0.06	227.0 8.94	3.3 0.13	306.0 12.05	1400	135	0.1465	64.57 142.36
96851D	96140	Y4S-96140	6.4 0.25	249.0 9.80	3.3 0.13	318.0 12.52	1140	160	0.1626	50.93 112.27
H244849D	H244810	H244810EA	1.5 0.06	242.0 9.53	6.4 0.25	323.0 12.72	1630	150	0.1540	83.42 183.91
EE130900D	131400	Y5S-131400	1.5 0.06	247.0 9.72	1.5 0.06	329.0 12.95	1160	168	0.1358	43.36 95.59
EE130901D	131400		5.5 0.22	255.0 10.04	1.5 0.06	329.0 12.95	1160	168	0.1358	46.82 103.22
EE529091D	529157		3.3 0.13	256.0 10.08	3.3 0.13	367.0 14.45	1400	153	0.1415	73.75 162.60
H247549D	H247510	H247510EA	1.5 0.06	259.0 10.20	6.4 0.25	346.0 13.62	1960	148	0.1638	97.43 214.79
EE127094D	127140		1.5 0.06	257.0 10.12	3.3 0.13	327.0 12.87	1180	164	0.1392	36.32 80.08
EE171000D	171400	Y1S-171400	1.5 0.06	269.0 10.59	3.3 0.13	334.0 13.15	1070	172	0.1354	27.99 61.70

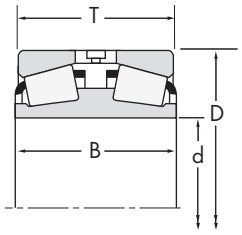
[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.

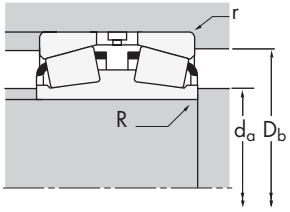
Continued on next page.

TDI

DOUBLE INNER RACE

B





Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors [5]		Dynamic [2]		Dynamic [2]	Factors [5]
d	D	T	B	C_1	e	Y_1	Y_2	C_{90}	Ca_{90}	$C_{90(2)}$	K
254.000 10.0000	358.775 14.1250	130.175 5.1250	130.175 5.1250	1560000 351000	0.33	2.03	3.02	232000 52200	132000 29700	405000 91000	1.76
254.000 10.0000	365.049 14.3720	92.710 3.6500	92.862 3.6560	956000 215000	0.36	1.86	2.77	142000 32000	88500 19900	248000 55700	1.61
254.000 10.0000	368.300 14.5000	92.710 3.6500	92.862 3.6560	956000 215000	0.36	1.86	2.77	142000 32000	88500 19900	248000 55700	1.61
260.350 10.2500	365.125 14.3750	107.950 4.2500	107.950 4.2500	1160000 261000	0.37	1.80	2.69	173000 38800	111000 24900	301000 67600	1.56
260.350 10.2500	400.050 15.7500	119.060 4.6874	114.300 4.5000	1410000 318000	0.39	1.71	2.55	210000 47300	142000 31900	366000 82300	1.48
269.875 10.6250	381.000 15.0000	136.525 5.3750	136.525 5.3750	1710000 384000	0.33	2.03	3.02	255000 57200	145000 32600	443000 99600	1.76
276.225 10.8750	393.700 15.5000	130.175 5.1250	130.175 5.1250	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45
276.225 10.8750	406.400 16.0000	122.240 4.8126	130.175 5.1250	1510000 339000	0.40	1.68	2.50	224000 50400	154000 34700	391000 87800	1.45
288.925 11.3750	406.400 16.0000	144.462 5.6875	144.462 5.6875	2030000 457000	0.34	2.00	2.97	302000 68000	175000 39300	526000 118000	1.73
300.038 11.8125	422.275 16.6250	150.812 5.9375	150.812 5.9375	2210000 498000	0.34	2.00	2.99	330000 74100	190000 42700	574000 129000	1.73
304.648 11.9940	438.048 17.2460	131.762 5.1875	131.762 5.1875	1880000 423000	0.33	2.04	3.03	280000 63000	159000 35800	488000 110000	1.76
304.648 11.9940	438.048 17.2460	131.762 5.1875	131.762 5.1875	1840000 414000	0.33	2.04	3.03	274000 61700	156000 35000	478000 107000	1.76
304.648 11.9940	438.048 17.2460	138.112 5.4375	128.588 5.0625	1880000 422000	0.47	1.43	2.12	279000 62800	226000 50800	486000 109000	1.24
304.800 12.0000	495.300 19.5000	137.952 5.4312	134.938 5.3125	2310000 519000	0.40	1.68	2.50	343000 77200	236000 53100	598000 134000	1.45
304.800 12.0000	495.300 19.5000	171.450 6.7500	165.100 6.5000	2510000 564000	0.40	1.68	2.50	374000 84000	257000 57800	651000 146000	1.45
317.500 12.5000	447.675 17.6250	158.750 6.2500	158.750 6.2500	2500000 561000	0.33	2.02	3.00	372000 83600	213000 47900	647000 145000	1.74
330.302 13.0040	438.023 17.2450	120.650 4.7500	114.300 4.5000	1250000 282000	0.46	1.47	2.19	187000 41900	146000 32900	325000 73000	1.27
346.075 13.6250	488.950 19.2500	174.625 6.8750	174.625 6.8750	2950000 663000	0.33	2.02	3.00	439000 98700	252000 56600	765000 172000	1.74
355.600 14.0000	457.200 18.0000	120.650 4.7500	120.650 4.7500	1610000 361000	0.32	2.12	3.15	239000 53800	131000 29400	417000 93600	1.83
393.700 15.5000	546.100 21.5000	141.288 5.5625	120.650 4.7500	1620000 363000	0.48	1.42	2.11	241000 54100	196000 44100	419000 94200	1.23
393.700 15.5000	558.800 22.0000	119.062 4.6875	120.650 4.7500	1620000 363000	0.48	1.42	2.11	241000 54100	196000 44100	419000 94200	1.23
406.400 16.0000	590.550 23.2500	193.675 7.6250	193.675 7.6250	3940000 886000	0.33	2.08	3.09	587000 132000	327000 73400	1020000 230000	1.80
449.949 17.7145	594.949 23.4232	178.000 7.0079	178.000 7.0079	3400000 765000	0.33	2.03	3.02	507000 114000	289000 64900	882000 198000	1.76
457.200 18.0000	863.498 33.9960	368.300 14.5000	368.300 14.5000	9200000 2070000	0.36	1.87	2.79	1370000 308000	845000 190000	2390000 536000	1.62
585.788 23.0625	771.525 30.3750	230.188 9.0625	230.188 9.0625	5620000 1260000	0.33	2.03	3.02	836000 188000	476000 107000	1460000 327000	1.76
595.312 23.4375	844.550 33.2500	296.862 11.6875	296.862 11.6875	8300000 1870000	0.33	2.03	3.02	1240000 278000	704000 158000	2150000 484000	1.76
660.400 26.0000	812.800 32.0000	176.212 6.9375	176.213 6.9375	4070000 915000	0.33	2.03	3.02	606000 136000	345000 77600	1060000 237000	1.76
682.625 26.8750	965.200 38.0000	338.138 13.3125	338.138 13.3125	10700000 2400000	0.33	2.03	3.02	1590000 357000	903000 203000	2760000 621000	1.76

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.

[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.

[3] These maximum fillet radii will be cleared by the bearing corners.

[4] A groove and holes in the outer race spacer allow for lubricant passage from the bearing housing.

Part Number			Dimensions, mm (inches)				Factors			Weight kg (lbs.)
			Shaft		Housing					
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.				
Inner	Outer	Spacer [4]	$R^{(3)}$	d_a	$r^{(3)}$	D_b	G_1	G_2	Cg	
M249748D	M249710	M249710EA	3.3 0.13	272.5 10.73	3.3 0.13	335.0 13.19	1630	168	0.1526	42.26 93.16
EE171000D	171436	Y2S-171436	1.5 0.06	269.0 10.59	3.3 0.13	338.0 13.31	1070	172	0.1354	30.85 68.02
EE171000D	171450	Y2S-171450	1.5 0.06	269.0 10.59	3.3 0.13	340.0 13.39	1070	172	0.1354	32.05 70.66
EE134102D	134143	Y1S-134143	3.3 0.13	280.0 11.02	6.4 0.25	339.0 13.35	1330	187	0.1474	33.77 74.46
EE221025D	221575		6.4 0.25	290.0 11.42	6.4 0.25	366.0 14.41	1320	207	0.1497	51.08 112.61
M252349D	M252310	M252310EB	3.3 0.13	290.0 11.42	3.3 0.13	356.0 14.02	1840	226	0.1588	49.31 108.70
EE275109D	275155	Y1S-275155	1.5 0.06	293.5 11.56	6.4 0.25	366.0 14.41	1450	201	0.1555	49.64 109.44
EE275109D	275160		1.5 0.06	293.5 11.56	6.4 0.25	373.0 14.69	1450	201	0.1555	65.71 144.87
M255449D	M255410	M255410EA	3.3 0.13	310.0 12.20	3.3 0.13	379.0 14.92	2300	287	0.1722	58.31 128.54
HM256849D	HM256810	HM256810EA	3.3 0.13	322.0 12.68	3.3 0.13	394.0 15.51	2550	282	0.1779	66.34 146.25
EE329117D	329172	Y1S-329172	3.3 0.13	327.0 12.87	3.3 0.13	410.0 16.14	2100	262	0.1651	61.46 135.49
EE329119D	329172		3.3 0.13	327.0 12.87	3.3 0.13	410.0 16.14	2050	257	0.1638	62.83 138.51
M757447D	M757410	M757410EA	3.3 0.13	328.0 12.91	4.8 0.19	407.0 16.02	1840	253	0.1775	64.12 141.35
EE941206D	941950		1.5 0.06	329.0 12.95	3.3 0.13	459.0 18.07	1770	187	0.1657	97.13 214.13
EE724121D	724195	Y1S-724195	3.3 0.13	334.0 13.15	6.4 0.25	450.0 17.72	2180	166	0.1783	124.80 275.14
HM259049D	HM259010	HM259010EA	3.3 0.13	340.0 13.39	3.3 0.13	418.0 16.46	2940	304	0.1863	78.83 173.78
EE138131D	138172	Y1S-138172	1.5 0.06	347.0 13.66	3.3 0.13	412.0 16.22	1970	290	0.1786	46.18 101.82
HM262749D	HM262710	HM262710EB	3.3 0.13	371.0 14.61	3.3 0.13	456.0 17.95	3650	342	0.1999	105.90 233.47
LM263149D	LM263110	LM263110EA	1.5 0.06	372.0 14.65	3.3 0.13	434.0 17.09	3090	470	0.1845	50.39 111.09
EE234157D	234215		3.3 0.13	420.0 16.54	6.4 0.25	504.0 19.84	2780	448	0.2018	93.77 206.72
EE234157D	234220	Y1S-234220	3.3 0.13	420.0 16.54	6.4 0.25	516.0 20.31	2780	448	0.2018	95.13 209.73
EE833161XD	833232	Y1S-833232	3.3 0.13	435.0 17.13	6.4 0.25	549.0 21.61	4960	446	0.2186	175.96 387.92
M270449DA	M270410	M270410EA	3.0 0.12	474.0 18.66	6.0 0.24	561.0 22.09	6020	562	0.2343	130.94 288.68
EE480181D	480340	Y2S-480340	6.4 0.25	516.0 20.31	6.4 0.25	780.0 30.71	7380	343	0.2575	935.42 2062.22
LM278848D	LM278810	LM278810EA	6.4 0.25	616.0 24.25	6.4 0.25	726.0 28.58	11600	784	0.2906	285.67 629.78
M280049D	M280010		3.3 0.13	633.0 24.92	6.4 0.25	786.0 30.94	13600	704	0.3081	536.88 1183.60
L281149D	L281110	L281110EA	3.3 0.13	683.0 26.88	6.4 0.25	777.0 30.59	12600	984	0.2968	195.70 431.45
M282249D	M282210	M282210EA	3.3 0.13	723.0 28.46	6.4 0.25	900.0 35.43	18800	843	0.3426	808.16 1781.66

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

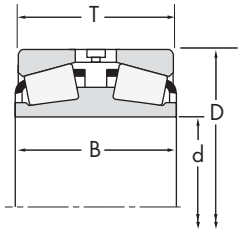
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

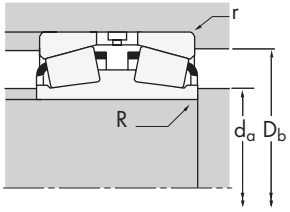
[7] Compound radius on inner race. Details on drawing for bearing.

Continued on next page.

TDI

TWO-ROW





Dimensions, mm (inches)				Load Ratings, N (lbf.)							
				Dynamic [1]		Factors		Dynamic [2]		Dynamic [2]	Factors [5]
d	D	T	B	C[1]	e	Y[1]	Y[2]	C_{90}	Ca_{90}	$C_{90(2)}$	K
708.025 27.8750	**930.275** 36.6250	**273.050** 10.7500	**273.050** 10.7500	**7910000** 1780000	**0.33**	**2.03**	**3.02**	**1180000** 265000	**670000** 151000	**2050000** 461000	**1.76**
749.300 29.5000	**1066.800** 42.0000	**361.950** 14.2500	**349.250** 13.7500	**12200000** 2730000	**0.33**	**2.05**	**3.05**	**1810000** 407000	**1020000** 230000	**3150000** 709000	**1.77**
762.000 30.0000	**1295.400** 51.0000	**311.153** 12.2501	**311.150** 12.2500	**12700000** 2860000	**0.38**	**1.76**	**2.62**	**1890000** 425000	**1240000** 279000	**3290000** 741000	**1.52**
938.212 36.9375	**1270.000** 50.0000	**400.050** 15.7500	**400.050** 15.7500	**15600000** 3500000	**0.33**	**2.03**	**3.02**	**2320000** 521000	**1320000** 297000	**4040000** 907000	**1.76**

[1] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[2] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and Ca_{90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[3] These maximum fillet radii will be cleared by the bearing corners.
[4] A groove and holes in the outer race spacer allow for lubricant passage from the bearing housing.

Part Number			Dimensions, mm (inches) Shaft			Housing	Factors			Weight kg (lbs.)
			max shaft fillet radius	backing shoulder dia.	max housing fillet radius	backing shoulder dia.				
Inner	Outer	Spacer [4]	R[3]	d_b	r[3]	D_a	G_1	G_2	Cg	
LM282549D	LM282510	LM282510EA	3.3 0.13	741.0 29.17	6.4 0.25	879.0 34.61	18200	1090	0.3379	498.22 1098.37
EE325296D	325420	Y1S-325420	9.2 0.36	806.5 31.75	12.7 0.50	996.0 39.21	21200	980	0.3551	1005.09 2215.80
EE433301D	433512		6.4 0.25	852.0 33.54	6.4 0.25	1210.0 47.64	22200	957	0.3760	1703.94 3756.49
LM287649D	LM287610	LM287610EA	4.8 0.19	990.0 38.98	12.7 0.50	1190.0 46.85	37200	1610	0.4283	1474.36 3250.36

[5] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.

NOTES

TAPERED ROLLER BEARINGS - IsoClass™ METRIC 30000 SERIES BEARINGS

IsoClass™

- Timken offers more than 170 part numbers in the 30000 Series, representing 95 percent of the market value for metric bearings.
- Part numbers give specifiers the widest possible choice from the comprehensive range of metric (ISO and 'J' prefix) and inch-sizes available.
- Consult your Timken representative before making a final bearing selection to ensure suitability, availability and the most cost-effective application.
- To place an order or obtain a quotation, specify the inner and outer part numbers.

  Example: inner race — outer race

  XAA32004X - YA32004X
- In most ISO bearings, only one bearing number is specified for both races:

  Example: **30203**

  Conforms to the ISO 355 standard.

BEARING DATA TABLES

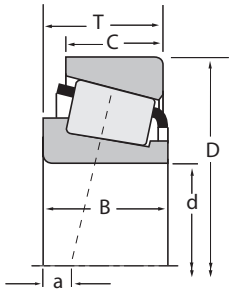
In the following bearing data tables, part numbers are listed in ascending order of bore, outside diameter and width.

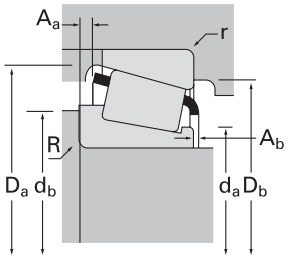
Bearing ratings shown in tables are based on environmental reference conditions. Effects of known operating conditions on bearing performance in an application should be investigated before final bearing selection is made.

Approximate mass is listed for every part number. For weight-critical applications or exact freight cost evaluation purposes, a more accurate value should be obtained from your Timken representative.

IsoClass™

METRIC 30000





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
17.000 0.6693	40.000 1.5748	13.250 0.5217	19800 4440	0.35	1.74	5120 1150	3030 680	1.69	19900 4460	30203	30203
20.000 0.7874	42.000 1.6535	15.000 0.5906	25700 5770	0.37	1.60	6660 1500	4260 959	1.56	29400 6600	32004X	32004X
20.000 0.7874	42.000 1.6535	15.000 0.5906	25700 5770	0.37	1.60	6660 1500	4260 959	1.56	29400 6600	XAA32004X	YAA32004X
20.000 0.7874	52.000 2.0472	16.250 0.6398	35700 8020	0.30	2.00	9250 2080	4750 1070	1.95	34500 7760	30304	30304
20.000 0.7874	52.000 2.0472	22.250 0.8760	46400 10400	0.30	2.00	12000 2710	6180 1390	1.95	48300 10900	32304	32304
25.000 0.9843	47.000 1.8504	15.000 0.5906	28500 6410	0.43	1.39	7390 1660	5440 1220	1.36	35400 7950	XAA32005X	YAA32005X
25.000 0.9843	52.000 2.0472	16.250 0.6398	31600 7100	0.38	1.60	8190 1840	5260 1180	1.56	34400 7730	30205	30205
25.000 0.9843	52.000 2.0472	22.000 0.8661	51100 11500	0.35	1.71	13200 2980	7950 1790	1.66	63600 14300	33205	33205
25.000 0.9843	62.000 2.4409	25.250 0.9941	67100 15100	0.30	2.00	17400 3910	8930 2010	1.95	72400 16300	32305	32305
30.000 1.1811	55.000 2.1654	17.000 0.6693	36300 8160	0.43	1.39	9410 2120	6930 1560	1.36	45300 10200	32006X	32006X
30.000 1.1811	62.000 2.4409	17.250 0.6791	45700 10300	0.38	1.60	11800 2660	7580 1710	1.56	51800 11600	30206	30206
30.000 1.1811	62.000 2.4409	21.250 0.8366	59400 13400	0.38	1.60	15400 3460	9890 2220	1.56	71900 16200	32206	32206
30.000 1.1811	62.000 2.4409	21.250 0.8366	51700 11600	0.56	1.07	13400 3010	12900 2900	1.04	62300 14000	32206-B	32206-B
30.000 1.1811	72.000 2.8346	20.750 0.8169	60600 13600	0.32	1.90	15700 3530	8470 1900	1.85	61900 13900	30306	30306
30.000 1.1811	72.000 2.8346	28.750 1.1319	81200 18200	0.32	1.90	21000 4730	11300 2550	1.85	89800 20200	32306	32306
35.000 1.3780	62.000 2.4409	18.000 0.7087	44100 9920	0.45	1.32	11400 2570	8890 2000	1.29	57600 12900	32007X	32007X
35.000 1.3780	72.000 2.8346	24.250 0.9547	69400 15600	0.38	1.60	18000 4040	11500 2600	1.56	82300 18500	32207	32207
35.000 1.3780	80.000 3.1496	22.750 0.8957	80500 18100	0.32	1.90	20900 4690	11300 2530	1.85	86100 19400	30307	30307
40.000 1.5748	68.000 2.6772	19.000 0.7480	51400 11600	0.38	1.58	13300 3000	8640 1940	1.54	71600 16100	32008X	32008X
40.000 1.5748	68.000 2.6772	19.000 0.7480	51400 11600	0.38	1.58	13300 3000	8640 1940	1.54	71600 16100	XAA32008X	Y32008X
40.000 1.5748	75.000 2.9528	26.000 1.0236	81500 18300	0.36	1.69	21100 4750	12900 2890	1.64	105000 23600	XAA33108	Y33108
40.000 1.5748	80.000 3.1496	24.750 0.9744	74900 16800	0.38	1.60	19400 4370	12500 2800	1.56	86500 19400	32208	32208
40.000 1.5748	80.000 3.1496	32.000 1.2598	112000 25200	0.36	1.68	29000 6520	17800 4000	1.63	144000 32400	33208	33208
40.000 1.5748	90.000 3.5433	25.250 0.9941	91500 20600	0.35	1.74	23700 5330	14000 3150	1.69	102000 23000	30308	30308
40.000 1.5748	90.000 3.5433	25.250 0.9941	79000 17800	0.83	0.73	20500 4610	28900 6510	0.71	88100 19800	31308	31308
40.000 1.5748	90.000 3.5433	35.250 1.3878	123000 27500	0.55	1.10	31800 7140	29700 6670	1.07	160000 36100	XBA32308-B	Y32308-B
45.000 1.7717	75.000 2.9528	20.000 0.7874	61500 13800	0.39	1.53	15900 3580	10700 2410	1.49	84300 19000	32009X	32009X
45.000 1.7717	75.000 2.9528	20.000 0.7874	61500 13800	0.39	1.53	15900 3580	10700 2410	1.49	84300 19000	XAA32009X	Y32009X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	$a^{(3)}$	$R^{(4)}$	d_a	d_b	$r^{(4)}$	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	0.10 0.00	1.60 0.06	4.2	5.96	0.0398	0.08 0.18
15.000 0.5906	12.000 0.4724	-4.6 -0.18	0.6 0.02	25.5 1.00	26.5 1.04	0.6 0.02	39.5 1.56	37.0 1.46	0.40 0.02	1.40 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	0.40 0.02	1.40 0.06	6.2	6.1	0.0469	0.10 0.21
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	-0.60 -0.02	2.60 0.10	7.5	5.5	0.0458	0.17 0.38
21.000 0.8268	18.000 0.7087	-8.4 -0.33	1.5 0.06	26.0 1.02	28.0 1.10	1.5 0.06	47.5 1.87	44.5 1.75	0.90 0.04	2.20 0.09	9.3	5.73	0.0495	0.24 0.52
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	0.60 0.02	1.20 0.05	8.6	8.7	0.0546	0.11 0.25
15.000 0.5906	13.000 0.5118	-3.6 -0.14	1.0 0.04	30.5 1.20	32.0 1.26	1.0 0.04	48.5 1.91	46.0 1.81	0.4 0.02	1.60 0.06	8.4	6.21	0.0514	0.15 0.34
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	0.70 0.03	1.90 0.08	13.4	8.6	0.0594	0.22 0.50
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	2.20 0.09	2.30 0.09	15.1	5.58	0.0580	0.37 0.81
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	52.5 2.07	49.0 1.93	1.00 0.04	1.30 0.05	12.1	10.5	0.0611	0.17 0.38
16.000 0.6299	14.000 0.5512	-3.6 -0.14	1.0 0.04	36.5 1.44	38.0 1.50	1.0 0.04	58.0 2.28	55.0 2.17	0.20 0.01	2.30 0.09	13.4	10.7	0.0601	0.24 0.52
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	2.00 0.08	2.90 0.11	16.8	10.9	0.0652	0.29 0.63
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	1.60 0.06	2.80 0.11	14.1	8.92	0.0700	0.30 0.65
19.000 0.7480	16.000 0.6299	-5.8 -0.23	1.5 0.06	35.5 1.40	38.0 1.50	1.5 0.06	66.0 2.60	64.0 2.52	0.90 0.04	3.10 0.12	16.2	8.17	0.0600	0.39 0.87
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	2.90 0.11	2.70 0.11	20.6	8.55	0.0654	0.56 1.23
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	0.80 0.03	1.40 0.06	16.7	15.7	0.0691	0.23 0.50
23.000 0.9055	19.000 0.7480	-6.4 -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	1.90 0.08	1.80 0.07	21.5	11.4	0.0705	0.44 0.96
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	0.50 0.02	3.90 0.15	22.9	12.6	0.0675	0.52 1.16
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	0.90 0.04	1.70 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	52.0 2.05	1.0 0.04	65.0 2.56	61.0 2.40	0.90 0.04	1.70 0.07	23.8	16.1	0.0732	0.27 0.61
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	71.0 2.80	67.0 2.64	1.80 0.07	1.70 0.07	29.4	14.9	0.0771	0.50 1.09
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	1.60 0.06	2.40 0.10	25	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	2.80 0.11	2.40 0.10	35.9	11.2	0.0827	0.73 1.61
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	1.80 0.07	2.80 0.11	30.1	11.6	0.0762	0.73 1.61
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	4.10 0.16	3.10 0.12	22.9	9.14	0.0910	0.72 1.58
33.500 1.3189	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	3.50 0.14	2.90 0.11	38.1	14	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	0.60 0.02	2.10 0.08	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	0.60 0.02	2.10 0.08	28.7	16.2	0.0788	0.34 0.76

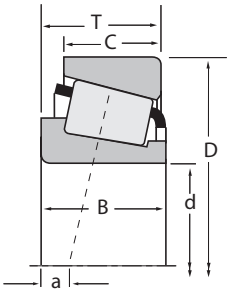
[7] Compound radius on inner race. Details on drawing for bearing.

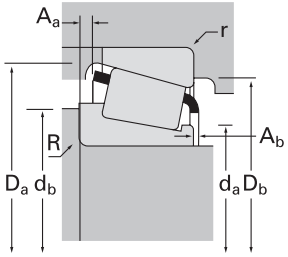
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

IsoClass™

METRIC 30000





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
45.000 1.7717	75.000 2.9528	20.000 0.7874	61500 13800	0.39	1.53	15900 3580	10700 2410	1.49	84300 19000	XAB-32009X	Y32009X
45.000 1.7717	80.000 3.1496	26.000 1.0236	88000 19800	0.38	1.57	22800 5130	15000 3370	1.52	119000 26800	33109	33109
45.000 1.7717	85.000 3.3465	20.750 0.8169	74100 16700	0.40	1.48	19200 4320	13300 3000	1.44	89000 20000	30209	30209
45.000 1.7717	85.000 3.3465	24.750 0.9744	81100 18200	0.40	1.48	21000 4730	14600 3280	1.44	98700 22200	32209	32209
45.000 1.7717	85.000 3.3465	32.000 1.2598	116000 26100	0.39	1.56	30100 6770	19900 4470	1.51	155000 34800	33209	33209
45.000 1.7717	100.000 3.9370	27.250 1.0728	97900 22000	0.83	0.73	25400 5700	35900 8050	0.71	113000 25400	31309	31309
45.000 1.7717	100.000 3.9370	38.250 1.5059	147000 33100	0.55	1.10	38100 8580	35600 8020	1.07	187000 42000	32309-B	32309-B
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	32010X	32010X
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAA32010X	Y32010X
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAB-32010X	Y32010X
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAD32010X	Y32010X
50.000 1.9685	80.000 3.1496	20.000 0.7874	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAE32010X	Y32010X
50.000 1.9685	82.000 3.2283	21.500 0.8465	64700 14500	0.42	1.42	16800 3770	12200 2730	1.38	92700 20800	XAB-32010X	YKB-32010X
50.000 1.9685	85.000 3.3465	26.000 1.0236	89500 20100	0.41	1.46	23200 5220	16300 3670	1.42	125000 28100	33110	33110
50.000 1.9685	90.000 3.5433	21.750 0.8563	73600 16500	0.42	1.43	19100 4290	13700 3080	1.39	87400 19700	30210	30210
50.000 1.9685	100.000 3.9370	33.500 1.3189	150000 33700	0.40	1.50	38900 8750	26600 5980	1.46	202000 45300	XLA33211	Y33211
50.000 1.9685	110.000 4.3307	29.250 1.1516	131000 29600	0.35	1.74	34100 7660	20100 4530	1.69	150000 33800	30310	30310
50.000 1.9685	110.000 4.3307	29.250 1.1516	115000 25900	0.83	0.73	29900 6720	42200 9490	0.71	132000 29700	31310	31310
50.000 1.9685	110.000 4.3307	42.250 1.6634	173000 38900	0.35	1.74	44900 10100	26500 5960	1.69	211000 47500	32310	32310
50.000 1.9685	110.000 4.3307	42.250 1.6634	179000 40200	0.55	1.10	46300 10400	43300 9740	1.07	241000 54300	32310-B	32310-B
50.815 2.0006	100.000 3.9370	35.000 1.3780	150000 33700	0.40	1.50	38900 8750	26600 5980	1.46	202000 45300	XGA33211	Y33211
52.000 2.0472	90.000 3.5433	21.750 0.8563	73600 16500	0.42	1.43	19100 4290	13700 3080	1.39	87400 19700	XGA30210	Y30210
55.000 2.1654	90.000 3.5433	23.000 0.9055	87900 19800	0.41	1.48	22800 5120	15900 3560	1.44	126000 28300	32011X	32011X
55.000 2.1654	90.000 3.5433	27.000 1.0630	92100 20700	0.31	1.92	23900 5370	12800 2870	1.87	141000 31700	33011	33011
55.000 2.1654	100.000 3.9370	22.750 0.8957	99100 22300	0.40	1.48	25700 5780	17800 4010	1.44	122000 27400	30211	30211
55.000 2.1654	100.000 3.9370	35.000 1.3780	150000 33700	0.40	1.50	38900 8750	26600 5980	1.46	202000 45300	33211	33211
55.000 2.1654	120.000 4.7244	31.500 1.2402	134000 30200	0.83	0.73	34800 7830	49200 11100	0.71	157000 35300	31311	31311
55.000 2.1654	120.000 4.7244	45.500 1.7913	206000 46400	0.55	1.10	53500 12000	50000 11200	1.07	286000 64300	32311-B	32311-B

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
20.000 0.7874	15.500 0.6102	-3.3 -0.13	2.3 0.09	51.0 2.01	58.0 2.28	1.0 0.04	72.0 2.83	68.0 2.68	0.60 0.02	2.10 0.08	28.7	16.2	0.0788	0.34 0.75
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	1.90 0.08	1.70 0.07	35.7	14.5	0.0843	0.53 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	1.10 0.04	3.80 0.15	28.3	16.4	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	1.10 0.04	3.80 0.15	30.5	12.4	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	2.90 0.12	2.40 0.10	41.9	13.2	0.0892	0.79 1.73
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	100.0 3.94	86.0 3.39	5.40 0.21	4.40 0.17	30.4	12.7	0.1001	0.94 2.07
36.000 1.4173	30.000 1.1811	-7.9 -0.31	2.0 0.08	55.0 2.17	54.0 2.13	1.5 0.06	95.0 3.74	85.0 3.35	4.50 0.18	2.50 0.10	44.9	18.7	0.1017	1.42 3.14
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	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 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	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 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	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 0.82
20.000 0.7874	15.500 0.6102	-2.0 -0.08	1.5 0.06	56.0 2.20	59.0 2.32	1.0 0.04	77.0 3.03	73.0 2.87	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 0.82
20.000 0.7874	15.500 0.6102	-2.0 -0.08	0.3 0.01	55.0 2.17	56.0 2.20	1.0 0.04	77.0 3.03	73.0 2.87	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.37 0.82
20.000 0.7874	17.000 0.6693	-2.0 -0.08	3.0 0.12	55.0 2.17	62.0 2.44	0.5 0.02	77.0 3.03	76.0 2.99	0.90 0.04	2.10 0.08	34	20.3	0.0853	0.42 0.93
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	2.30 0.09	1.70 0.07	40.6	20.6	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	1.40 0.05	3.10 0.12	30.3	14.9	0.0814	0.54 1.19
33.500 1.3189	27.000 1.0630	-8.1 -0.32	2.0 0.08	62.0 2.44	67.0 2.64	1.5 0.06	96.0 3.78	89.0 3.50	1.40 0.05	2.80 0.11	59.3	15.3	0.1010	1.24 2.73
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	2.00 0.08	3.20 0.12	48.7	16.7	0.0892	1.26 2.77
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	5.20 0.20	4.20 0.16	37.1	14.6	0.0690	1.21 2.68
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	4.60 0.18	2.90 0.11	60.6	16	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	4.30 0.17	3.30 0.13	62.7	17.9	0.0783	1.94 4.28
35.000 1.3780	27.000 1.0630	-9.7 -0.38	2.0 0.08	62.0 2.44	67.0 2.64	1.5 0.06	96.0 3.78	89.0 3.50	2.90 0.11	2.80 0.11	59.3	15.3	0.1010	1.25 2.76
20.000 0.7874	17.000 0.6693	-2.0 -0.08	4.0 0.16	59.0 2.32	66.0 2.60	1.5 0.06	85.0 3.35	81.0 3.19	1.40 0.05	3.10 0.12	30.3	15.9	0.0814	0.51 1.13
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	1.80 0.07	2.00 0.08	46	28	0.0931	0.57 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	2.40 0.09	1.90 0.07	56.5	27.9	0.0915	0.66 1.46
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	1.50 0.06	4.40 0.17	41.9	22.8	0.0897	0.72 1.58
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	2.90 0.11	2.80 0.11	59.3	15.3	0.1010	1.16 2.55
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	4.80 0.19	4.30 0.17	45.5	15.9	0.0739	1.57 3.45
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	4.50 0.18	3.50 0.14	78.8	24.6	0.0794	2.45 5.40

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

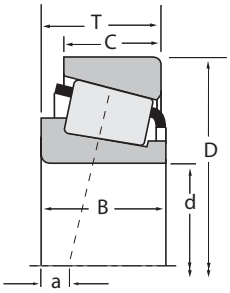
[7] Compound radius on inner race. Details on drawing for bearing.

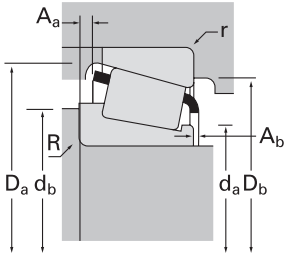
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

IsoClass™

METRIC 30000





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
60.000 2.3622	95.000 3.7402	23.000 0.9055	89600 20100	0.43	1.39	23200 5220	17100 3840	1.36	132000 29600	32012X	32012X
60.000 2.3622	95.000 3.7402	27.000 1.0630	95100 21400	0.33	1.83	24600 5540	13800 3110	1.78	150000 33600	33012	33012
60.000 2.3622	100.000 3.9370	30.000 1.1811	127000 28500	0.40	1.51	32800 7380	22300 5020	1.47	180000 40500	33112	33112
60.000 2.3622	110.000 4.3307	23.750 0.9350	99100 22300	0.40	1.48	25700 5770	17800 4000	1.44	117000 26200	30212	30212
60.000 2.3622	110.000 4.3307	38.000 1.4961	183000 41200	0.40	1.48	47500 10700	32800 7380	1.44	253000 56800	33212	33212
60.000 2.3622	110.000 4.3307	38.000 1.4961	183000 41200	0.40	1.48	47500 10700	32800 7380	1.44	253000 56800	XAA33212	Y33212
60.000 2.3622	110.000 4.3307	38.000 1.4961	183000 41200	0.40	1.48	47500 10700	32800 7380	1.44	253000 56800	XAB-33212	Y33212
60.000 2.3622	130.000 5.1181	33.500 1.3189	186000 41900	0.35	1.74	48300 10900	28500 6420	1.69	221000 49800	30312	30312
60.000 2.3622	130.000 5.1181	33.500 1.3189	159000 35700	0.83	0.73	41200 9250	58200 13100	0.71	188000 42200	31312	31312
60.000 2.3622	130.000 5.1181	48.500 1.9094	245000 55000	0.35	1.74	63400 14300	37500 8420	1.69	310000 69800	32312	32312
65.000 2.5591	100.000 3.9370	23.000 0.9055	90800 20400	0.46	1.31	23500 5290	18500 4160	1.27	137000 30900	32013X	32013X
65.000 2.5591	100.000 3.9370	27.000 1.0630	99100 22300	0.35	1.72	25700 5780	15300 3450	1.68	162000 36400	33013	33013
65.000 2.5591	110.000 4.3307	34.000 1.3386	155000 34700	0.39	1.55	40100 9010	26600 5980	1.51	225000 50600	33113	33113
65.000 2.5591	120.000 4.7244	24.750 0.9744	128000 28800	0.40	1.48	33300 7480	23100 5190	1.44	158000 35500	30213	30213
65.000 2.5591	120.000 4.7244	32.750 1.2894	161000 36200	0.40	1.48	41700 9380	28900 6500	1.44	209000 46900	32213	32213
65.000 2.5591	120.000 4.7244	41.000 1.6142	182000 40900	0.39	1.54	47200 10600	31500 7080	1.50	280000 63000	33213	33213
65.000 2.5591	140.000 5.5118	36.000 1.4173	206000 46300	0.35	1.74	53400 12000	31500 7090	1.69	242000 54400	30313	30313
65.000 2.5591	140.000 5.5118	36.000 1.4173	182000 40800	0.83	0.73	47100 10600	66500 15000	0.71	217000 48700	31313	31313
70.000 2.7559	110.000 4.3307	25.000 0.9843	104000 23400	0.43	1.38	27000 6060	20100 4510	1.34	163000 36700	32014X	32014X
70.000 2.7559	110.000 4.3307	31.000 1.2205	142000 31900	0.28	2.11	36800 8280	17900 4040	2.05	236000 53000	33014	33014
70.000 2.7559	120.000 4.7244	37.000 1.4567	183000 41200	0.38	1.58	47500 10700	30800 6930	1.54	270000 60800	33114	33114
70.000 2.7559	125.000 4.9213	26.250 1.0335	128000 28800	0.42	1.43	33200 7450	23800 5360	1.39	157000 35300	30214	30214
70.000 2.7559	125.000 4.9213	33.250 1.3091	169000 38000	0.42	1.43	43800 9840	31500 7080	1.39	224000 50400	32214	32214
70.000 2.7559	150.000 5.9055	38.000 1.4961	197000 44400	0.83	0.73	51200 11500	72300 16200	0.71	235000 52900	31314	31314
70.000 2.7559	150.000 5.9055	54.000 2.1260	339000 76200	0.35	1.74	87900 19800	51900 11700	1.69	448000 101000	32314	32314
75.000 2.9528	115.000 4.5276	25.000 0.9842	106000 23700	0.46	1.31	27400 6150	21500 4830	1.27	170000 38200	32015X	32015X
75.000 2.9528	115.000 4.5276	31.000 1.2205	146000 32800	0.30	2.01	37800 8510	19300 4340	1.96	239000 53700	33015	33015
75.000 2.9528	125.000 4.9213	37.000 1.4567	189000 42600	0.40	1.51	49100 11000	33400 7510	1.47	287000 64500	33115	33115

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

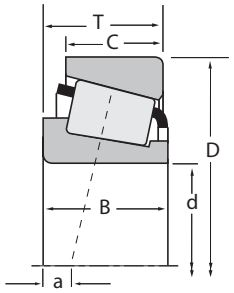
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
23.000 0.9055	17.500 0.6890	-1.8 -0.07	1.5 0.06	66.0 2.60	68.0 2.68	1.5 0.06	91.0 3.58	86.0 3.39	1.80 0.07	2.00 0.08	51.2	31.4	0.0982	0.60 1.32
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	2.50 0.10	1.90 0.07	63	31.1	0.0964	0.69 1.53
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	2.40 0.10	2.50 0.10	61.7	24	0.1021	0.91 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	1.50 0.06	3.50 0.14	44.1	27	0.0909	0.89 1.96
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	4.00 0.16	2.50 0.10	76.2	18.1	0.0758	1.53 3.37
38.000 1.4961	29.000 1.1417	-9.9 -0.39	6.0 0.24	68.0 2.68	85.0 3.35	1.5 0.06	105.0 4.13	98.0 3.86	4.00 0.16	2.50 0.10	76.2	18.1	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	4.00 0.16	2.50 0.10	76.2	18.1	0.0758	1.53 3.37
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	2.50 0.10	3.90 0.16	75.8	16.7	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	5.80 0.23	4.10 0.16	56.2	25.1	0.0792	1.97 4.33
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	7.00 0.28	3.40 0.13	94.1	21.2	0.0768	2.88 6.35
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	2.00 0.08	2.00 0.08	57.4	35.6	0.1039	0.64 1.40
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	2.50 0.10	1.90 0.08	72.4	36.1	0.1029	0.74 1.64
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	2.40 0.10	2.50 0.10	80.1	24.5	0.1105	1.26 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	114.0 4.49	110.0 4.33	2.10 0.08	4.30 0.17	60.4	27.4	0.0653	1.15 2.53
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	3.70 0.14	3.10 0.12	72.9	20.5	0.0742	1.51 3.34
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	3.40 0.14	2.70 0.11	90.3	21.8	0.0745	1.97 4.35
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	2.50 0.10	4.70 0.18	87.4	22.9	0.0743	2.46 5.43
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	6.20 0.24	4.70 0.18	67.1	22.2	0.0839	2.40 5.30
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	2.40 0.09	1.80 0.07	74.1	44.8	0.1112	0.87 1.91
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	0.60 0.02	3.60 0.14	105	50.4	0.0985	1.10 2.43
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	2.70 0.11	2.40 0.09	99.5	31.5	0.0809	1.68 3.71
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	1.80 0.07	3.80 0.15	63.7	24.7	0.0714	1.25 2.75
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	3.40 0.13	3.30 0.13	81.4	25.6	0.0779	1.64 3.61
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	5.70 0.22	5.60 0.22	75.8	29.5	0.0873	2.93 6.47
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	4.00 0.16	4.50 0.18	142	33.1	0.0828	4.41 9.72
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	2.50 0.10	1.80 0.07	81.8	49.9	0.1166	0.91 2.01
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	1.50 0.06	2.50 0.10	109	47.2	0.1122	1.15 2.54
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	2.80 0.11	2.40 0.09	111	26.3	0.0851	1.76 3.88

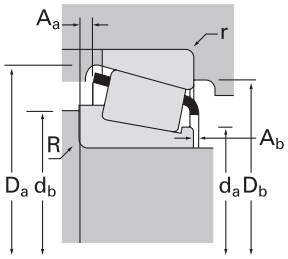
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

IsoClass™

METRIC 30000





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)	Factors (5)		Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
75.000 2.9528	130.000 5.1181	27.250 1.0728	141000 31600	0.44	1.38	36500 8190	27100 6100	1.34	179000 40300	30215	30215
75.000 2.9528	130.000 5.1181	33.250 1.3091	170000 38300	0.44	1.38	44100 9920	32900 7390	1.34	227000 51100	32215	32215
75.000 2.9528	130.000 5.1181	41.000 1.6142	219000 49200	0.43	1.40	56700 12800	41500 9340	1.37	316000 71000	33215	33215
75.000 2.9528	160.000 6.2992	40.000 1.5748	273000 61400	0.35	1.74	70800 15900	41800 9390	1.69	333000 74800	30315	30315
75.000 2.9528	160.000 6.2992	40.000 1.5748	236000 53200	0.83	0.73	61300 13800	86600 19500	0.71	288000 64700	31315	31315
80.000 3.1496	125.000 4.9213	29.000 1.1417	154000 34600	0.42	1.42	39800 8960	28900 6490	1.38	238000 53600	32016X	32016X
80.000 3.1496	130.000 5.1181	37.000 1.4567	193000 43400	0.42	1.44	50100 11300	35700 8020	1.40	300000 67300	33116	33116
80.000 3.1496	130.000 5.1181	37.000 1.4567	172000 38700	0.42	1.44	44700 10000	31800 7120	1.40	300000 67300	XA33116	Y33116
80.000 3.1496	140.000 5.5118	28.250 1.1122	161000 36300	0.42	1.43	41800 9400	30100 6760	1.39	204000 45900	30216	30216
80.000 3.1496	140.000 5.5118	35.250 1.3878	190000 42800	0.42	1.43	49400 11100	35500 7980	1.39	249000 56000	32216	32216
80.000 3.1496	140.000 5.5118	46.000 1.8110	275000 61800	0.43	1.41	71300 16000	51900 11700	1.37	409000 91900	33216	33216
80.000 3.1496	141.000 5.5512	30.250 1.1909	151000 34000	0.42	1.43	39300 8830	28200 6350	1.39	187000 42000	XUB-30216	YFA30216
80.000 3.1496	170.000 6.6929	42.500 1.6732	309000 69400	0.35	1.74	80000 18000	47300 10600	1.69	379000 85200	30316	30316
80.000 3.1496	170.000 6.6929	61.500 2.4213	414000 93000	0.35	1.74	107000 24100	63200 14200	1.69	563000 127000	32316	32316
84.000 3.3071	140.000 5.5118	32.000 1.2598	170000 38200	0.42	1.42	44000 9890	31900 7160	1.38	264000 59400	XUA32018X	Y32018X
85.000 3.3465	130.000 5.1181	29.000 1.1417	151000 33800	0.44	1.36	39000 8770	29500 6640	1.32	235000 52900	32017X	32017X
85.000 3.3465	130.000 5.1181	29.000 1.1417	151000 33800	0.44	1.36	39000 8770	29500 6640	1.32	235000 52900	XAA32017X	Y32017X
85.000 3.3465	130.000 5.1181	36.000 1.4173	204000 45800	0.29	2.06	52900 11900	26400 5930	2.00	343000 77100	33017	33017
85.000 3.3465	140.000 5.5118	41.000 1.6142	235000 52800	0.41	1.48	60900 13700	42400 9540	1.44	386000 86800	33117	33117
85.000 3.3465	150.000 5.9055	30.500 1.2008	185000 41500	0.42	1.43	47900 10800	34400 7740	1.39	236000 53000	30217	30217
85.000 3.3465	150.000 5.9055	38.500 1.5157	227000 51100	0.42	1.43	58900 13200	42300 9520	1.39	305000 68700	32217	32217
85.000 3.3465	150.000 5.9055	49.000 1.9291	325000 73100	0.42	1.43	84300 19000	60400 13600	1.40	483000 109000	33217	33217
85.000 3.3465	180.000 7.0866	44.500 1.7520	290000 65300	0.35	1.74	75300 16900	44400 9990	1.69	346000 77700	30317	30317
90.000 3.5433	140.000 5.5118	32.000 1.2598	170000 38200	0.42	1.42	44000 9890	31900 7160	1.38	264000 59400	32018X	32018X
90.000 3.5433	140.000 5.5118	32.000 1.2598	170000 38200	0.42	1.42	44000 9890	31900 7160	1.38	264000 59400	XAA32018X	Y32018X
90.000 3.5433	140.000 5.5118	39.000 1.5354	229000 51500	0.27	2.23	59400 13300	27300 6140	2.17	377000 84700	33018	33018
90.000 3.5433	150.000 5.9055	45.000 1.7717	284000 63800	0.40	1.51	73500 16500	50000 11200	1.47	447000 100000	33118	33118
90.000 3.5433	160.000 6.2992	32.500 1.2795	197000 44300	0.42	1.43	51100 11500	36700 8260	1.39	249000 56000	30218	30218

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.00** 0.08	**3.80** 0.15	**74.1**	**35.2**	**0.0760**	**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	**3.50** 0.14	**3.40** 0.13	**87.5**	**37.8**	**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	**4.20** 0.17	**2.70** 0.11	**111**	**27**	**0.0874**	**2.16** 4.77
37.000 1.4567	**31.000** 1.2205	**-7.9** -0.31	**3.0** 0.12	**90.0** 3.54	**94.0** 3.70	**2.5** 0.10	**149.0** 5.87	**145.0** 5.71	**2.40** 0.10	**5.40** 0.21	**125**	**36.2**	**0.0788**	**3.60** 7.93
37.000 1.4567	**26.000** 1.0236	**10.2** 0.40	**3.0** 0.12	**90.0** 3.54	**109.0** 4.29	**2.5** 0.10	**151.5** 5.96	**138.0** 5.43	**6.30** 0.25	**5.50** 0.22	**93.8**	**19**	**0.0938**	**3.43** 7.56
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	**2.80** 0.11	**2.40** 0.09	**104**	**32.7**	**0.1234**	**1.27** 2.80
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	**3.40** 0.13	**2.40** 0.10	**122**	**37.8**	**0.0891**	**1.86** 4.11
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	**3.40** 0.13	**2.40** 0.10	**122**	**37.8**	**0.0838**	**1.86** 4.10
26.000 1.0236	**22.000** 0.8661	**-0.5** -0.02	**2.5** 0.10	**90.0** 3.54	**94.0** 3.70	**2.0** 0.08	**133.0** 5.24	**128.0** 5.04	**2.00** 0.08	**6.00** 0.23	**85.8**	**37.4**	**0.0742**	**1.66** 3.66
33.000 1.2992	**28.000** 1.1024	**-4.6** -0.18	**2.5** 0.10	**89.0** 3.50	**94.0** 3.70	**2.0** 0.08	**133.0** 5.24	**126.0** 4.96	**3.90** 0.15	**4.00** 0.16	**98.4**	**28.7**	**0.0828**	**2.05** 4.51
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	**5.40** 0.21	**2.80** 0.11	**143**	**38**	**0.0948**	**2.94** 6.49
28.000 1.1024	**22.000** 0.8661	**-2.0** -0.08	**0.5** 0.02	**90.0** 3.54	**90.0** 3.54	**2.0** 0.08	**133.0** 5.24	**128.0** 5.04	**3.80** 0.15	**3.50** 0.14	**80.7**	**25.6**	**0.0771**	**1.80** 3.98
39.000 1.5354	**33.000** 1.2992	**-7.9** -0.31	**3.0** 0.12	**96.0** 3.78	**100.0** 3.94	**2.5** 0.10	**159.0** 6.26	**154.0** 6.06	**1.90** 0.08	**5.90** 0.23	**147**	**37.5**	**0.0830**	**4.33** 9.54
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	**151.0** 5.94	**6.00** 0.24	**4.50** 0.18	**196**	**38.8**	**0.0922**	**6.35** 13.99
32.000 1.2598	**24.000** 0.9449	**-2.0** -0.08	**0.5** 0.02	**94.0** 3.70	**94.0** 3.70	**1.5** 0.06	**134.0** 5.28	**128.0** 5.04	**3.20** 0.13	**2.20** 0.09	**128**	**42.8**	**0.1317**	**1.96** 4.32
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	**2.10** 0.08	**2.70** 0.11	**109**	**36.3**	**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	**2.10** 0.08	**2.70** 0.11	**109**	**36.3**	**0.1270**	**1.31** 2.89
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	**1.50** 0.06	**2.80** 0.11	**158**	**55.4**	**0.0865**	**1.74** 3.83
41.000 1.6142	**32.000** 1.2598	**-8.1** -0.32	**2.5** 0.10	**96.0** 3.78	**100.0** 3.94	**2.0** 0.08	**135.0** 5.31	**126.0** 4.96	**4.50** 0.18	**2.80** 0.11	**161**	**39.6**	**0.0972**	**2.46** 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	**2.00** 0.08	**4.10** 0.16	**101**	**40.6**	**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	**4.10** 0.16	**3.20** 0.12	**121**	**25.7**	**0.0888**	**2.62** 5.78
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	**5.60** 0.22	**3.20** 0.13	**168**	**34.4**	**0.0995**	**3.59** 7.92
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	**6.00** 0.24	**3.50** 0.14	**144**	**41.6**	**0.0823**	**4.78** 10.54
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	**3.20** 0.13	**2.20** 0.09	**128**	**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	**3.20** 0.13	**2.20** 0.09	**128**	**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	**1.80** 0.07	**2.30** 0.09	**183**	**55.8**	**0.0884**	**2.20** 4.85
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	**3.80** 0.15	**2.90** 0.12	**180**	**43.2**	**0.0942**	**3.15** 6.94
30.000 1.1811	**26.000** 1.0236	**-0.8** -0.03	**2.5** 0.10	**98.0** 3.86	**103.0** 4.06	**2.0** 0.08	**151.0** 5.94	**146.0** 5.75	**2.40** 0.09	**4.80** 0.19	**112**	**47.7**	**0.0859**	**2.52** 5.57

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.

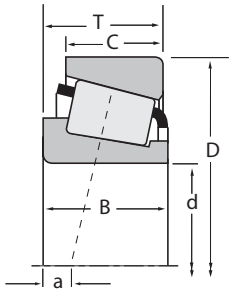
[7] Compound radius on inner race. Details on drawing for bearing.

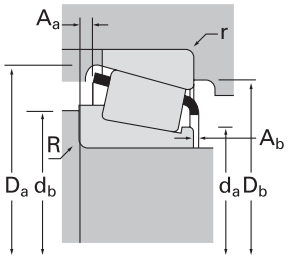
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

IsoClass™

METRIC 30000





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)			Dynamic (2)		Factors (5)	Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
95.000 3.7402	145.000 5.7087	39.000 1.5354	228000 51300	0.28	2.16	59100 13300	28100 6320	2.10	378000 85100	XAA33019	Y33019
95.000 3.7402	170.000 6.6929	34.500 1.3583	245000 55000	0.42	1.43	63400 14300	45600 10300	1.39	325000 73000	30219	30219
95.000 3.7402	170.000 6.6929	45.500 1.7913	293000 65800	0.42	1.43	75900 17100	54600 12300	1.39	401000 90100	32219	32219
100.000 3.9370	150.000 5.9055	39.000 1.5354	232000 52200	0.29	2.09	60200 13500	29600 6650	2.03	393000 88300	33020	33020
100.000 3.9370	180.000 7.0866	37.000 1.4567	279000 62800	0.42	1.43	72400 16300	52100 11700	1.39	376000 84500	30220	30220
100.000 3.9370	180.000 7.0866	49.000 1.9291	364000 81900	0.42	1.43	94400 21200	67900 15200	1.39	521000 117000	32220	32220
105.000 4.1339	160.000 6.2992	35.000 1.3780	210000 47300	0.44	1.35	54500 12300	41500 9320	1.31	339000 76200	32021X	32021X
105.000 4.1339	160.000 6.2992	43.000 1.6929	269000 60600	0.28	2.12	69800 15700	33800 7590	2.07	449000 101000	33021	33021
105.000 4.1339	190.000 7.4803	53.000 2.0866	369000 82900	0.42	1.43	95600 21500	68800 15500	1.39	516000 116000	32221	32221
106.000 4.1732	160.000 6.2992	35.000 1.3780	210000 47300	0.44	1.35	54500 12300	41500 9320	1.31	339000 76200	XGA32021X	Y32021X
110.000 4.3307	170.000 6.6929	38.000 1.4961	261000 58600	0.43	1.39	67600 15200	49800 11200	1.36	433000 97300	32022X	32022X
110.000 4.3307	200.000 7.8740	41.000 1.6142	345000 77500	0.42	1.43	89300 20100	64200 14500	1.39	472000 106000	30222	30222
110.000 4.3307	200.000 7.8740	56.000 2.2047	426000 95800	0.42	1.43	111000 24800	79500 17900	1.39	612000 137000	32222	32222
110.000 4.3307	215.000 8.4646	61.500 2.4213	502000 113000	0.44	1.38	130000 29300	97000 21800	1.34	753000 169000	XFA32224	Y32224
120.000 4.7244	165.000 6.4961	29.000 1.1417	164000 36800	0.35	1.72	42500 9550	25400 5700	1.68	303000 68100	32924	32924
120.000 4.7244	180.000 7.0866	38.000 1.4961	269000 60400	0.46	1.31	69700 15700	54700 12300	1.27	464000 104000	32024X	32024X
120.000 4.7244	180.000 7.0866	38.000 1.4961	271000 60900	0.46	1.31	70200 15800	55100 12400	1.27	466000 105000	XAA32024X	Y32024X
120.000 4.7244	215.000 8.4646	43.500 1.7126	367000 82500	0.44	1.38	95100 21400	70800 15900	1.34	508000 114000	30224	30224
120.000 4.7244	215.000 8.4646	61.500 2.4213	543000 122000	0.44	1.38	141000 31600	105000 23500	1.34	832000 187000	32224	32224
130.000 5.1181	200.000 7.8740	45.000 1.7717	359000 80700	0.43	1.38	93100 20900	69300 15600	1.34	620000 139000	32026X	32026X
130.000 5.1181	230.000 9.0551	43.750 1.7224	399000 89700	0.44	1.38	103000 23300	76700 17400	1.34	550000 124000	30226	30226
140.000 5.5118	190.000 7.4803	32.000 1.2598	207000 46600	0.36	1.67	53800 12100	33200 7460	1.62	398000 89500	32928	32928
140.000 5.5118	210.000 8.2677	45.000 1.7717	365000 82100	0.46	1.31	94700 21300	74400 16700	1.27	646000 145000	XAA32028X	Y32028X
140.000 5.5118	250.000 9.8425	45.750 1.8012	465000 104000	0.44	1.38	120000 27100	89400 20200	1.34	649000 146000	30228	30228
150.000 5.9055	210.000 8.2677	38.000 1.4961	300000 67500	0.33	1.83	77800 17500	43700 9830	1.78	573000 129000	32930	32930
150.000 5.9055	225.000 8.8583	48.000 1.8898	410000 92200	0.46	1.31	106000 23900	83200 18800	1.27	730000 164000	32030X	32030X
150.000 5.9055	270.000 10.6299	49.000 1.9291	523000 118000	0.44	1.38	136000 30500	101000 22700	1.34	735000 165000	30230	30230
160.000 6.2992	240.000 9.4488	51.000 2.0079	471000 106000	0.46	1.31	122000 27500	95800 21600	1.27	853000 192000	32032X	32032X

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

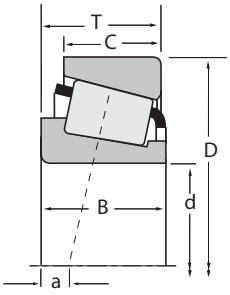
Dimensions, mm (inches)											Factors			Weight kg (lbs.)
Bearing			Shaft			Housing			Cage					
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
39.000 1.5354	32.500 1.2795	-10.2 -0.40	6.0 0.24	102.0 4.02	114.0 4.49	1.5 0.06	139.0 5.47	133.0 5.24	1.90 0.07	2.30 0.09	192	48.4	0.0907	2.23 4.93
32.000 1.2598	27.000 1.0630	-1.0 -0.04	3.0 0.12	108.0 4.25	113.0 4.45	2.5 0.10	161.0 6.34	154.0 6.06	2.60 0.10	6.20 0.24	143	49.8	0.0880	3.14 6.92
43.000 1.6929	37.000 1.4567	-6.4 -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	4.80 0.19	3.00 0.12	166	35.3	0.0984	4.06 8.94
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	1.90 0.08	2.30 0.09	206	65.1	0.0938	2.37 5.22
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	2.10 0.08	6.10 0.24	168	51.9	0.0928	3.77 8.3
46.000 1.8110	39.000 1.5354	-7.4 -0.29	3.0 0.12	113.0 4.45	122.0 4.80	2.5 0.10	171.0 6.73	162.0 6.38	5.30 0.21	5.40 0.21	211	49.9	0.1006	5.00 11.02
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	147.0 5.79	3.20 0.13	2.60 0.10	176	50.7	0.1024	2.40 5.29
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	3.10 0.12	3.10 0.12	236	54.8	0.0975	2.95 6.50
50.000 1.9685	43.000 1.6929	-7.9 -0.31	3.0 0.12	118.0 4.65	123.0 4.84	2.5 0.10	180.0 7.09	171.0 6.73	5.20 0.20	2.70 0.11	220	43.5	0.1082	5.98 13.18
35.000 1.3780	26.000 1.0236	-0.3 -0.01	6.0 0.24	115.0 4.53	128.0 5.04	2.0 0.08	154.0 6.06	147.0 5.79	3.20 0.13	2.60 0.10	176	50.7	0.1024	2.36 5.19
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	3.30 0.13	3.00 0.12	222	46.3	0.1095	3.06 6.74
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	3.20 0.12	7.20 0.28	219	59.9	0.1012	5.24 11.55
53.000 2.0866	46.000 1.8110	-8.6 -0.34	3.0 0.12	124.0 4.88	129.0 5.08	2.5 0.10	190.0 7.48	179.0 7.05	6.40 0.25	3.00 0.12	261	55.9	0.1146	7.18 15.82
58.000 2.2835	50.000 1.9685	-9.4 -0.37	3.0 0.12	133.0 5.24	137.0 5.39	2.5 0.10	204.0 8.03	192.0 7.56	7.80 0.31	3.00 0.12	329	52.3	0.1253	9.85 21.72
29.000 1.1417	23.000 0.9055	0.3 0.01	1.5 0.06	127.0 5.00	129.0 5.08	1.5 0.06	160.0 6.30	155.0 6.10	1.10 0.04	3.10 0.12	222	114	0.1332	1.79 3.95
38.000 1.4961	29.000 1.1417	1.8 0.07	2.5 0.10	130.0 5.12	136.0 5.35	2.0 0.08	174.0 6.85	165.0 6.50	1.90 0.07	4.10 0.16	255	66.2	0.1100	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	3.50 0.14	3.00 0.12	255	58.3	0.1169	3.26 7.19
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	3.70 0.15	6.20 0.25	252	64.7	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	204.0 8.03	191.0 7.52	5.50 0.22	6.50 0.26	352	68.2	0.1208	9.26 20.42
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	192.0 7.56	184.0 7.24	3.50 0.14	3.60 0.14	340	97.2	0.1190	4.95 10.92
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	2.80 0.11	7.10 0.28	287	76.9	0.1118	7.06 15.56
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	1.60 0.06	2.70 0.11	314	144	0.1509	2.51 5.53
45.000 1.7717	34.000 1.3386	1.5 0.06	6.5 0.26	151.0 5.94	166.0 6.54	2.0 0.08	203.0 7.99	193.0 7.60	3.10 0.12	3.60 0.14	375	108	0.1250	5.24 11.55
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	233.0 9.17	227.0 8.94	3.30 0.13	8.30 0.33	348	75.7	0.1191	8.23 18.14
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	1.60 0.06	3.90 0.15	429	157	0.1167	4.00 8.82
48.001 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	4.80 0.19	4.30 0.17	437	115	0.1314	6.38 14.06
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	3.00 0.12	7.50 0.29	407	78.1	0.1254	11.08 24.43
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	3.50 0.14	4.00 0.16	522	134	0.1166	7.90 17.42

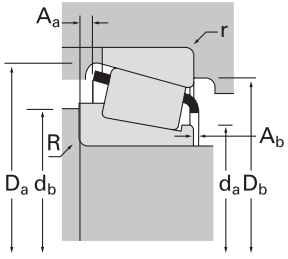
[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

Continued on next page.

IsoClass™

METRIC 30000





Dimensions, mm (inches)			Load Ratings, N (lbf.) Dynamic (1)		Factors (5)	Dynamic (2)	Factors (5)		Static	Part Number	
d	D	T	C_1	e	Y	C_{90}	C_{a90}	K	C_0	Inner	Outer
170.000 6.6929	230.000 9.0551	38.000 1.4961	333000 74800	0.38	1.57	86200 19400	56600 12700	1.52	652000 146000	32934	32934
180.000 7.0866	250.000 9.8425	45.000 1.7717	376000 84600	0.48	1.25	97500 21900	80200 18000	1.22	739000 166000	32936	32936
180.000 7.0866	280.000 11.0236	64.000 2.5197	722000 162000	0.42	1.42	187000 42100	135000 30500	1.38	1280000 287000	32036X	32036X
190.000 7.4803	290.000 11.4173	64.000 2.5197	734000 165000	0.44	1.36	190000 42800	144000 32400	1.32	1330000 298000	32038X	32038X
200.000 7.8740	280.000 11.0236	51.000 2.0079	522000 117000	0.39	1.52	135000 30400	91300 20600	1.48	1050000 237000	32940	32940
220.000 8.6614	300.000 11.8110	51.000 2.0079	550000 124000	0.43	1.41	143000 32100	104000 23400	1.37	1090000 245000	32944	32944
220.000 8.6614	340.000 13.3858	76.000 2.9921	975000 219000	0.43	1.39	253000 56800	186000 41800	1.36	1800000 405000	32044X	32044X
280.000 11.0236	380.000 14.9606	63.500 2.5000	833000 187000	0.43	1.39	216000 48600	160000 36000	1.35	1780000 401000	32956	32956
320.000 12.5984	480.000 18.8976	100.000 3.9370	1770000 398000	0.46	1.31	459000 103000	360000 80900	1.27	3420000 768000	32064X	32064X
360.000 14.1732	480.000 18.8976	76.000 2.9921	1220000 275000	0.46	1.31	317000 71400	249000 56100	1.27	2780000 624000	32972	32972

(1) Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
(2) Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
(3) Negative value indicates effective center inside cone backface.
(4) These maximum fillet radii will be cleared by the bearing corners.
(5) These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

Dimensions, mm (inches)													Weight kg (lbs.)
Bearing			Shaft			Housing			Cage		Factors			
			max shaft fillet radius	backing shoulder dia.	backing shoulder dia.		backing shoulder dia.							
B	C	a[3]	R[4]	d_a	d_b	r[4]	D_a	D_b	A_a	A_b	G_1	G_2	C_g	
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	**2.10** 0.08	**4.60** 0.18	**519**	**180**	**0.1305**	**4.40** 9.71
45.000 1.7717	**34.000** 1.3386	**8.9** 0.35	**2.5** 0.10	**191.0** 7.52	**196.0** 7.72	**2.0** 0.08	**241.0** 9.49	**232.0** 9.13	**3.60** 0.14	**3.40** 0.13	**569**	**184**	**0.1211**	**6.51** 14.34
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	**6.20** 0.25	**3.70** 0.15	**773**	**147**	**0.1298**	**11.39** 25.10
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	**282.0** 11.10	**267.0** 10.51	**6.40** 0.25	**3.90** 0.15	**842**	**161**	**0.1353**	**14.81** 32.65
51.000 2.0079	**39.000** 1.5354	**3.3** 0.13	**3.0** 0.12	**213.0** 8.39	**217.0** 8.54	**2.5** 0.10	**272.0** 10.71	**262.0** 10.31	**3.30** 0.13	**3.50** 0.14	**848**	**220**	**0.1300**	**9.45** 20.83
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	**4.80** 0.19	**3.10** 0.12	**909**	**152**	**0.1361**	**9.90** 21.83
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	**10.20** 0.40	**4.30** 0.17	**1210**	**128**	**0.1509**	**24.04** 53.01
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	**7.40** 0.29	**3.40** 0.13	**1700**	**236**	**0.1680**	**19.87** 43.81
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	**13.50** 0.53	**5.20** 0.21	**2670**	**201**	**0.1998**	**59.73** 131.68
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	**10.80** 0.43	**4.10** 0.16	**2980**	**344**	**0.2061**	**36.43** 80.31

[6] For standard class (4 or 2) only, the maximum metric value is a whole millimeter dimension.
[7] Compound radius on inner race. Details on drawing for bearing.
[8] Pin-type cage. Please consult The Timken Company.

NOTES

RADIAL CYLINDRICAL ROLLER BEARINGS

Overview: A radial cylindrical roller bearing consists of an inner and/or outer ring, a roller retaining cage and a complement of controlled contour cylindrical rollers. Depending on the style of bearing, either the inner or the outer ring will have two roller guiding ribs. The other ring, separable from the assembly, has one rib or none. The ring with two ribs axially locates the position of the roller assembly. The diameters of these ribs may be used to support the roller cage. One of the ribs may carry light thrust loads when an opposing rib is provided in the mating ring.

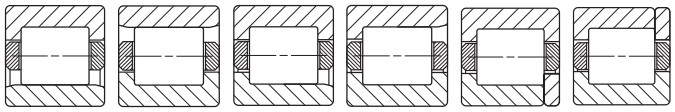
- **Sizes:** 15 mm - 65 mm (0.5906 in. to 2.5591 in.) and 100 mm - 600 mm (4 in. - 27.20 in.).
- **Markets:** Power generation, oil field, mining and aggregate processing, gear drives and rolling mills.
- **Features:** Extensive product range for integration into heavy-duty industrial applications.
- **Benefits:** Accommodate heavy radial loads through expertly designed critical dimensions, such as roller and raceway diameter and contact geometry.

Radial Cylindrical Roller Bearings

Bore

inch:		metric:	
200	20.0 in.	**200**	200 mm
42	4.25 in.	**210**	210 mm
43	4.375 in.	**220**	220 mm
standard sizes are 4 - 27.20 inch		standard sizes are 100 - 600 mm	

Standard Styles inch/metric



RIU,RU,NU **RIN,RN,N** **RIJ,RJ,NJ** **RIF,RF,NF** **RIT,RT,NUP** **RIP,RP,NP**

METRIC **200** **RU** **02** **OA107** **R3**

Series:
two digits indicates metric envelope dimensions
three digits indicates inch envelope dimensions

Modifications:
(First two letters are assigned by Timken engineers)
letter other than "O" in first position indicates modification to inner ring.
Letter other than "O" in second position indicates modification to outer ring.

Common Modifications:

- **101** outer ring with special lubrication hole size
- **107** outer ring with standard lubrication holes and machined lubrication groove in center of O.D.
- **127** steel cage
- **132** wide inner ring
- **229** rings and rollers made of carburized grade steel
- **305** inner ring with oversize bore outer ring with standard lubrication holes and machined lubrication groove in center of O.D.
- **334** centrifically cast brass cage
- **771** mark bearings serially

Radial Internal Clearance:

R1 < R2	**C2 < C0**
R2 < R3	**C0 < C3**
R3 = Standard	**C3 < C4**
R4 > R3	**C4 < C5**
R5 > R4	**C5**

Cylindrical Roller Radial Bearings - Metric Nominal Dimensions

Prefix

- **NJ** = cylindrical roller radial bearing (two ribs on outer ring, one rib on inner ring)
- **NU** = cylindrical roller radial bearing (two ribs on outer ring, cylindrical inner ring)
- **NUP** = cylindrical roller radial bearing (two ribs on outer ring, one fixed rib and one loose rib/flat washer on inner ring)
- **RNU** = cylindrical roller radial bearing (two ribs on outer ring, without an inner ring)

Inner Ring Bore Diameter
02 = 15 mm
03 = 17 mm
(for inner ring bore > 20 mm):
bore code x 5 = bore diameter
04 = 4 x 5 = 20 mm

NJ **2** **04** **E.TVP**

Series

- **10** = width series 1; diameter series 0 (dimension series 10)
- **2** = width series 0; diameter series 2 (dimension series 02)
- **22** = width series 2; diameter series 2 (dimension series 22)
- **3** = width series 0; diameter series 3 (dimension series 03)
- **23** = width series 2; diameter series 3 (dimension series 23)

Suffix

- **E.TVP** = "E" design bearing, molded reinforced polymer window-type cage
- **M** = machined brass cage

B

Radial Cylindrical Roller Bearings

Page

METRIC SERIES (SMALL BORE)

Types B328

Construction B328

Dimensional Accuracy B329

Mounting B329

Load Ratings B331

CYLINDRICAL ROLLER RADIAL BEARINGS SINGLE-ROW

Bearing Types B333

Metric Series B335

Standard Series B339

5200, A5200 Metric Series B346

5200, A5200 Metric Series
Shaft and Housing Fits and Tolerances B347

Type NCF/NU size range:
200 mm - 1300 mm (7.87 in. - 51.18 in.) B349

SINGLE-ROW RADIAL BEARINGS – METRIC SERIES

The Timken radial cylindrical roller bearing has integral end ribs on the outer ring for end guiding the cylindrical rollers. The inner ring is separable for simplified mounting and removal.

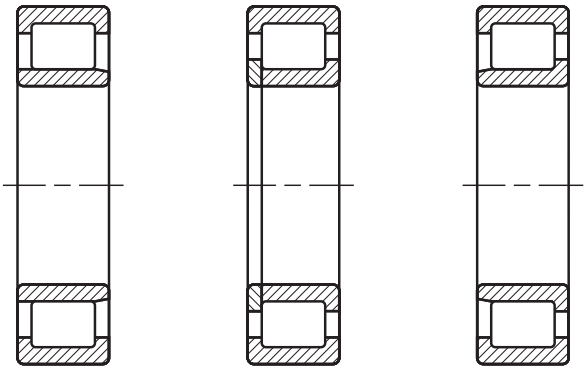
All NU design bearings are available on request without inner rings. For this requirement add letter R in the prefix.

The modified line contact between the cylindrical rollers and raceways reduces edge stressing.

REFERENCE STANDARDS ARE:

- DIN 5412 single-row cylindrical roller bearings.
- ISO 246 & DIN 5412 angle rings (thrust collar).

TYPES OF METRIC SERIES CYLINDRICAL ROLLER RADIAL BEARINGS



NU NUP NJ

SUFFIXES

E.TVP	E-design bearing, molded window type cage of engineered polymer.
M	Machined brass cages.

CONSTRUCTION

Cylindrical roller radial bearings can be recognized by the arrangement of their end ribs. Bearings of NU design have two ribs on the outer ring, the inner ring being cylindrical, making them well-suited for use as floating bearings. They are separable, which simplifies mounting and removal. Radial cylindrical roller bearings of NJ design have two ribs on the outer ring and one rib on the inner ring. They can accept axial loading in one direction.

Bearings of NUP design have two ribs on the outer ring, and one fixed and one loose rib (a flat washer) on the inner ring. These radial cylindrical roller bearings are used for locating purposes and can accept reversing axial loading. A radial cylindrical roller bearing of NJ design with an HJ Type thrust collar forms a locating bearing similar to the NUP design.

Cylindrical roller bearings of RNU Type, available on request, are supplied without an inner ring so that the cylindrical rollers run directly on a hardened and ground shaft. For most general applications, the shaft may be machined to g6 and the housing bore to K6 tolerances.

CAGE DESIGNS

The majority of cylindrical roller bearings of series 2..E, 22..E, 3..E and 23..E use cages of glass-fiber reinforced nylon. This cage construction allows bearings to be designed with maximum load carrying capability. These cages can also be used at operating temperatures of up to 120° C over extended periods. When bearings are lubricated with an oil, presence of additives may reduce operating life if the temperature exceeds 100° C over extended periods. Furthermore, stagnant oil may affect the performance of the cage at these temperatures, requiring oil change intervals to be strictly observed.

Suffix M indicates that the bearings use machined brass cages.

DIMENSIONAL ACCURACY

TOLERANCES AND BEARING CLEARANCE

Metric series radial cylindrical roller bearings are available in various tolerance classes and clearance groups. Single-row cylindrical roller bearings are made to normal clearance group C0, although bearings with radial clearance groups C2, C3 and C4 may be obtained on request.

For tolerances of radial cylindrical roller bearings see the engineering section. For radial internal clearances of radial cylindrical roller bearings see the engineering section.

ALIGNMENT

The modified line contact between the cylindrical rollers and raceways of cylindrical roller bearings reduces stress concentration at ends of the rollers and provides some aligning capability. The angular alignment of single-row cylindrical roller bearings must not exceed a maximum of four angular minutes at a .001% load of C/P≥5= equivalent dynamic load, kN. At higher applied loads, or with presence of greater misalignment, consultation with Timken engineering is strongly encouraged.

MOUNTING DIMENSIONS

The bearing inner and outer rings should be mounted against the stepped portion on the shaft and the shoulder of the housing. Under no circumstances should they interfere with the shaft or housing fillets. For this reason, the maximum fillet radius $r_{as\ max}$ of the mating component must be no greater than the minimum chamfer dimension of the corresponding cylindrical roller bearing ring corner $r_{s\ min}$.

The shoulder of the mating components must be such that, even with the maximum permissible single chamfer dimension of the corresponding bearing ring, there is an adequate contact surface area. Table 1 lists the maximum fillet radius $r_{as\ max}$ and the minimum shoulder height. At high axial loads the ribs must be supported over half their height.

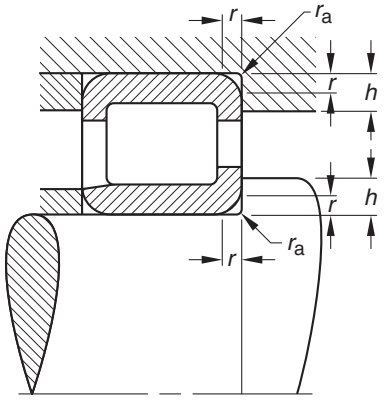
$$\left(\frac{H+E}{2} \text{ and } \frac{F+J}{2}\right)$$

where from bearing tables:

F raceway diameter of the inner ring
E raceway diameter of the outer ring
J rib diameter of the inner ring
H rib diameter of the outer ring

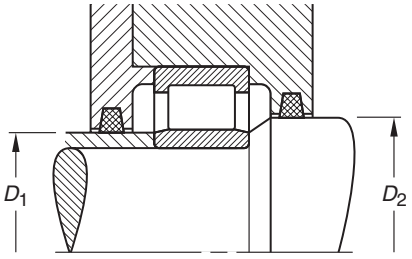
The shaft can be mounted and removed if the mounting dimensions shown in Table 2 on page B330 are observed.

TABLE 1 –
ABUTMENT DIMENSIONS AS SPECIFIED IN DIN 5418 FOR METRIC SERIES BEARINGS

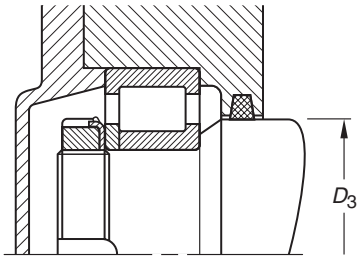


$r_{s\ min}$ mm	$r_{as\ max}$	h_{min} BEARING SERIES	
		10	2..E 3..E 22..E 23..E
0.3	0.3	1	1.2
0.6	0.6	1.6	2.1
1	1	2.3	2.8
1.1	1	3	3.5
1.5	1.5	3.5	4.5
2	2	4.4	5.5
2.1	2.1	5.1	6
3	2.5	6.2	7
4	3	7.3	8.5
5	4	9	10
6	5	11.5	13

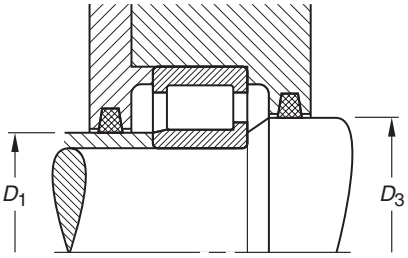
See the Needle section for cylindrical roller bearings with inner rings.



NU



NUP



NJ

TABLE 2 – MOUNTING DIMENSIONS FOR METRIC SERIES SINGLE-ROW CYLINDRICAL ROLLER BEARINGS

Bore Reference Number	Shaft Dia.	BEARING SERIES							
		10	22..E		2..E	23..E	3..E		
	mm	D_1 max.	D_2 min.	D_1 max.	D_2 min.	D_3 min.	D_1 max.	D_2 min.	D_3 min.
02	15			20	23	26			
03	17			21	25	27	24	27	30
04	20	25	27	26	29	32	27	30	33
05	25	30	32	31	34	37	33	37	40
06	30	35	38	37	40	44	40	44	48
07	35	41	44	43	46	50	45	48	53
08	40	46	49	49	52	56	51	55	60
09	45	52	54	54	57	61	57	60	66
10	50	57	59	58	62	67	63	67	73
11	55	63	66	65	68	73	69	72	80
12	60	68	71	71	75	80	75	79	86
13	65	73	76	77	81	87	81	85	93
14	70	78	82	82	86	92	87	92	100
15	75	83	87	87	90	96	93	97	106
16	80	90	94	94	97	104	99	105	114

LOAD RATINGS

CYLINDRICAL ROLLER BEARING MAXIMUM ALLOWABLE AXIAL LOAD

Metric series cylindrical roller bearings of NUP, NJ, as well as NU or NJ designs with a thrust collar can transmit axial loads if they are radially loaded at the same time. The allowable axial load ratio F_a/C of 0.1 maximum depends to a great extent on the magnitude of radial load, the operating speed, type of lubricant used, the operating temperature, and heat transfer conditions at the bearing location. The heat balance achieved at the bearing location is used as a basis for determination of the allowable axial load.

The nomogram on page B332 should be used to determine the allowable axial load F_{az} based on the following operating conditions:

- The axial load is of constant direction and magnitude.
- Radial load ratio $F_r/C \leq 0.2$.
- Ratio of axial load to radial load $F_a/F_r<0.4$.
- The temperature of the bearing is 80° C at an ambient temperature of 20° C.
- Lubricating oil is ISO VG 100 using oil bath lubrication or circulating oil.
- As an alternative, the bearing may be lubricated with a grease using the above specified base oil and viscosity. Use of EP additives will be necessary, although considerably shorter relubrication intervals may be expected than with purely radially loaded radial cylindrical roller bearings.

EXAMPLE OF USING THE NOMOGRAM

From the lower part of the nomogram, determine the intersection point of the inner ring bore diameter and the dimension series of the bearing. From the upper part, the allowable axial load ratio F_{az}/C can be found as a function of the operating speed, n.

For a cylindrical roller radial bearing **NU2207E.TVP**
C = 63 kN; d = 35 mm
n = 2000 RPM
F_r = 10 kN

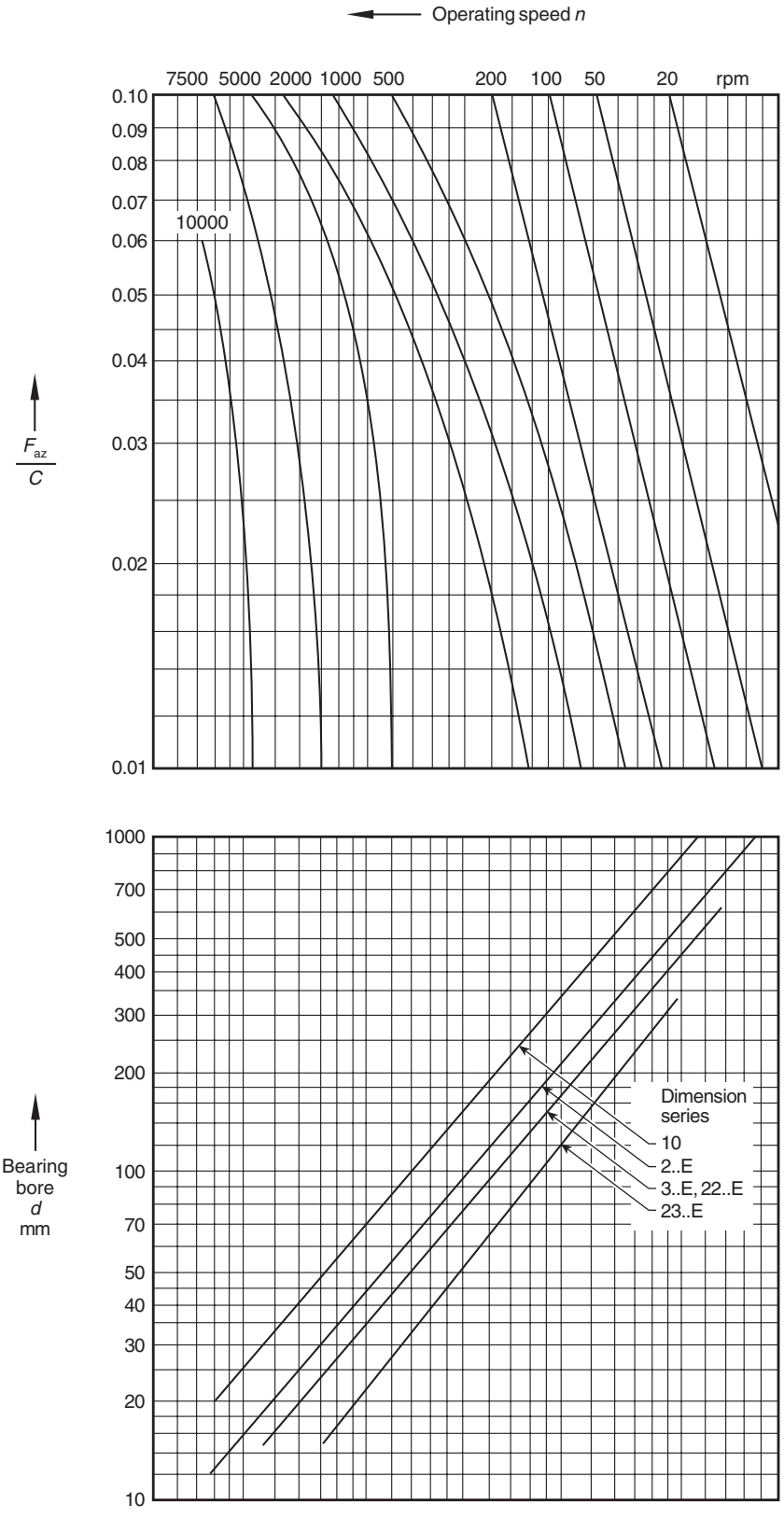
From the nomogram:
$F_{az}/C = 0.06$
Then $F_{az} = 0.06 \bullet 63$
The calculated allowable axial load F_{az} is 3.78 kN

It should be noted that an axial load as high as that determined by means of the nomogram should not be applied if an oil of rated kinematic viscosity lower than ISO VG 100 is used. Suitable EP additives, which are known for fatigue life improving qualities, may allow for an increase in applied axial load subject to thorough testing.

HIGHER APPLIED AXIAL LOADS

Axial loads greater than those determined by means of the nomogram may be considered, providing they are to be applied intermittently. Also, the bearing should be cooled using circulating oil lubrication. If the operating temperature, due to the internal friction and the higher axial load, exceeds 80° C, a more viscous oil must be used.

NOMOGRAM FOR DETERMINING THE ALLOWABLE AXIAL LOAD F_{az}



INTRODUCTION

Timken heavy-duty radial cylindrical roller bearings are designed to provide the highest possible radial capacity for a given cross section, and to perform under heavy radial loads.

These bearings incorporate improved internal proportions developed through computer-assisted optimization studies to make maximum use of the total available cross-sectional area. Controlled contour rollers redistribute end-stress concentration and provide more uniform distribution of the applied load.

Cylindrical roller bearings with bore sizes from 100 mm (3.937 in.) up to 700 mm (27.5 in.) are shown in this catalog, and even larger sizes can be provided on special order. Consult your Timken representative for complete information on your bearing size requirements.

The standard cylindrical roller bearing furnished consists of an outer ring, a complement of controlled contour rollers, a cage and an inner ring. The 5200 Series bearings include styles without an inner ring for applications where the shaft functions as the inner ring. Bearing rings and rollers are manufactured from bearing-quality steel.

BEARING TYPES

STANDARD SIZES

Six standard styles of cylindrical roller bearings are listed in this section of the catalog. All six styles have the same roller complement for a given cross section or envelope and, therefore, the same radial load capacity.

In all six styles, one ring (either the inner or the outer) has two integral roller-guiding ribs. The other ring is separable from the assembly and has either one integral rib or none. The two-rib ring locates the roller complement axially, and the ground diameter of the ribs may be used to support the cage.

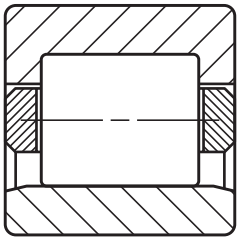
Moderate thrust loads from one direction only are acceptable for those styles with three integral ribs (RJ, RF, RT and RP). The decision as to which ring should be double-ribbed is determined by conditions of assembly and mounting procedures in a specific application. Standard cage material is fully machined brass with stamped steel also available.

For convenience, all six styles of bearings are listed in the dimension tables in order of ascending bore size, with both inch and metric sizes indicated for each bearing. ABMA designations are used for these bearings. Inch-sized bearings are identified by the letter "I" with the part number in bold type. RIU, for example, indicates an inch bearing, while RU indicates the equivalent style in metric dimensions.

All types can be mounted with interference fits on either inner or outer ring (or both). In the latter case, a bearing with increased internal clearance must be specified to provide proper running clearance.

RIU, RU

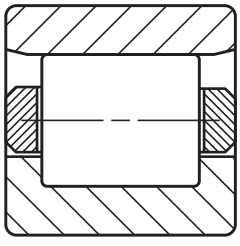
These bearings carry radial load only and can accommodate expansion or contraction. The relative axial displacement of one ring to the other occurs with minimum friction while the bearing is rotating. These bearings may be used in one or two positions for shaft support if other means of axial location are provided. The outer ring has two integral ribs while the inner ring has a cylindrical O.D. without ribs.



RIU, RU, NU

RIN, RN

This series has the same characteristics as RIU and RU, bearings except that two ribs are incorporated in the inner ring, and the outer ring has a cylindrical bore without ribs.

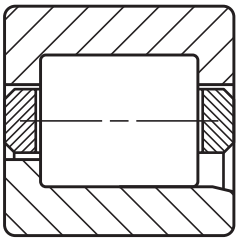


RIN, RN, N

RIJ, RJ

Types RIJ and RJ have double-ribbed outer and single-ribbed inner rings and can support heavy radial loads, as well as light unidirectional thrust loads up to 10 percent of the radial load. The thrust load is transmitted between the diagonally opposed rib faces in a sliding rather than a rolling action. Thus, when limiting thrust conditions are approached, lubrication can become critical.

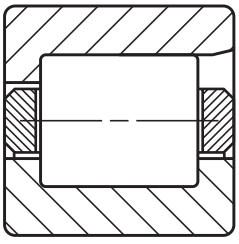
Your Timken representative should be consulted for such applications. When thrust loads are very light, these bearings may be used in an opposed mounting to locate the shaft. In these cases, shaft endplay should be adjusted at time of assembly.



RIJ, RJ, NJ

RIF, RF

This type has the same characteristics as RIJ and RJ, except it incorporates a double-ribbed inner ring and a single-ribbed outer ring.

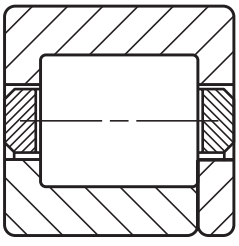


RIF, RF, NF

RIT, RT

These types have a double-ribbed outer ring and a single-ribbed inner ring with an abutting loose rib, which allows the bearing to provide axial location and to carry light thrust loads in both directions. Factors governing radial and thrust capacities are the same as for RIJ and RJ.

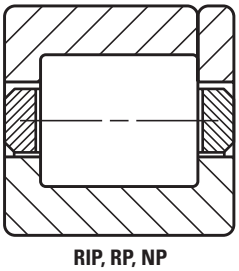
A type RIT or RT bearing may be used in conjunction with a type RN or RU bearing for applications where axial shaft expansion is anticipated. In these cases, the fixed bearing is usually placed nearest the drive end of the shaft to minimize alignment variations in the drive. Shaft endplay (or float) is determined by the axial clearance in the bearing.



RIT, RT, NUP

RIP, RP

These types have the same characteristics as RIT and RT, except the inner ring is double-ribbed with a loose abutting rib.



RIP, RP, NP

5200 METRIC SERIES

The Timken 5200 metric cylindrical roller bearing offers an enhanced radial capacity in most applications due to its internal design proportions. The outer ring of a 5200 Series bearing is double-ribbed to create a recessed raceway for the complement of rollers. Style A-5200, which fits the widest variety of applications in industry, includes a full-width plain inner ring.

Because of the manufacturing tolerances established by Timken for the 5200 Series, components for any one cross section are interchangeable. This enables Timken to supply finished 5200 Series bearings to customers quickly from our complete inventory. 5200 Series bearings are available with bore sizes from 100 mm to 240 mm (3.9370 in. to 9.4488 in.).

The designer also is offered the option of specifying these bearings without the inner ring, for installations with limited radial cross sections. In these installations, the shaft serves as the inner ring and must therefore be hardened to Rc58 (minimum) and ground to a 14Ra or better surface finish.

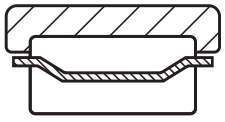
The 5200 Series bearings are supplied with a stamped steel cage that is land-riding on the outer ring ribs (indicated by the suffix "S" on the catalog number). The cage is designed to provide free-rolling separation and also to retain the rollers. If the bearing is to be used under special conditions, such as reversing or high-speed applications, a machined brass cage is available (suffix "M" on catalog number). Your Timken representative should be consulted for specific suggestions.

The outer rings and rollers of 5200 Series bearings are made from bearing-quality alloy steel. The inner rings are deep-case hardened to accommodate the hoop stresses resulting from heavy press fits.

When supplied with an inner ring, all 5200 Series bearings have an R6 radial internal clearance as standard (see page B348). Other radial internal clearances can be provided as required by using a different inner ring. Proper roller guidance is assured by integral ribs and roller end-clearance control.

5200

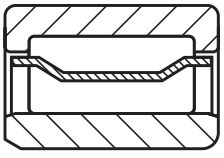
This type carries radial load only and has a double-ribbed outer ring. It has enhanced radial capacity due to internal design proportions. The bearings are useful for installations in which limited radial cross section is available where the shaft serves as the inner ring.



5200

A-5200-WS

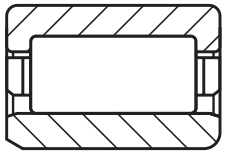
This type has the same characteristics as the 5200, except, includes a full-width cylindrical O.D. inner ring.



A-5200-WS

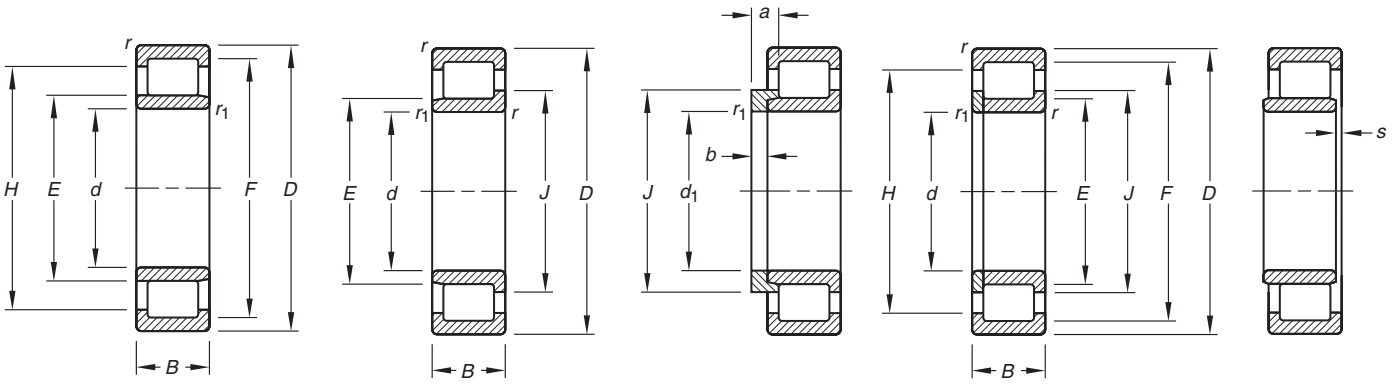
A-5200-WM

This type has the same characteristics as the WS except, with a machined brass cage.



A-52XX-WM

CYLINDRICAL ROLLER RADIAL BEARINGS SINGLE-ROW METRIC SERIES

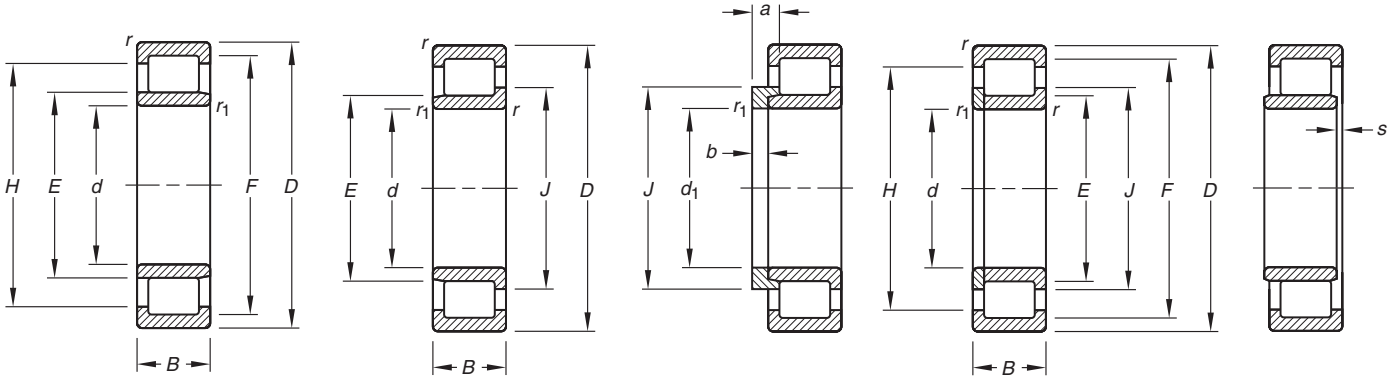


Bearing Number	Bore d or d_1	O.D. D	Width B	Min Outer r	Fillet Radius Inner r_1	Backing Dia. Shaft E	Backing Dia. Housing F	Rib Dia. Inner J	Rib Dia. Outer H	a	b	s	Load Ratings Static C_0	Load Ratings Dynamic C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt. Brg.	Wt. Thrust Collar
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.	kg lbs.
NJ202E.TVP	**15** 0.5906	**35** 1.3780	**11** 0.4331	**0.3** 0.01	**0.6** 0.02	**19.3** 0.76	**30.3** 1.19	**21.8** 0.86	**27.8** 1.09	**5.0** 0.20	**2.5** 0.10		**11.6** 2610	**13.9** 3120	**0.0327**	**14000**	**17000**	**0.047** 0.104	**0.015** 0.007
NU202E.TVP	**15** 0.5906	**35** 1.3780	**11** 0.4331	**0.3** 0.01	**0.6** 0.02	**19.3** 0.76	**30.3** 1.19		**27.8** 1.09			**1.0** 0.04	**11.6** 2610	**13.9** 3120	**0.0327**	**14000**	**17000**	**0.047** 0.104	
NJ203E.TVP	**17** 0.6693	**40** 1.5748	**12** 0.4724	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26	**5.5** 0.22	**3.0** 0.12		**16.0** 3600	**18.9** 4250	**0.0366**	**12000**	**15000**	**0.068** 0.150	**0.020** 0.009
NU203E.TVP	**17** 0.6693	**40** 1.5748	**12** 0.4724	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38		**32.0** 1.26			**1.2** 0.05	**16.0** 3600	**18.9** 4250	**0.0366**	**12000**	**15000**	**0.068** 0.150	
NUP203E.TVP	**17** 0.6693	**40** 1.5748	**12** 0.4724	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26				**16.0** 3600	**18.9** 4250	**0.0366**	**12000**	**15000**	**0.068** 0.150	
NJ2203E.TVP	**17** 0.6693	**40** 1.5748	**16** 0.6299	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26	**6.0** 0.24	**3.0** 0.12		**23.3** 5240	**25.3** 5690	**0.0402**	**11000**	**13000**	**0.091** 0.201	**0.022** 0.010
NU2203E.TVP	**17** 0.6693	**40** 1.5748	**16** 0.6299	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38		**32.0** 1.26			**1.0** 0.04	**23.3** 5240	**25.3** 5690	**0.0402**	**11000**	**13000**	**0.091** 0.201	
NUP2203E.TVP	**17** 0.6693	**40** 1.5748	**16** 0.6299	**0.3** 0.01	**0.6** 0.02	**22.1** 0.87	**35.1** 1.38	**24.7** 0.97	**32.0** 1.26				**23.3** 5240	**25.3** 5690	**0.0402**	**11000**	**13000**	**0.091** 0.201	
NJ303E.TVP	**17** 0.6693	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.1** 0.04	**24.2** 0.95	**40.2** 1.58	**27.6** 1.09	**36.8** 1.45	**6.5** 0.26	**4.0** 0.16		**22.8** 5130	**26.7** 6000	**0.0392**	**11000**	**13000**	**0.121** 0.267	**0.012** 0.026
NU303E.TVP	**17** 0.6693	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.1** 0.04	**24.2** 0.95	**40.2** 1.58		**36.8** 1.45			**1.2** 0.05	**22.8** 5130	**26.7** 6000	**0.0392**	**11000**	**13000**	**0.121** 0.267	
NJ204E.TVP	**20** 0.7874	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51	**5.5** 0.22	**3.0** 0.12		**26.5** 5960	**29.0** 6520	**0.0436**	**11000**	**13000**	**0.133** 0.293	**0.024** 0.011
NU204E.TVP	**20** 0.7874	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63		**38.4** 1.51			**1.0** 0.04	**26.5** 5960	**29.0** 6520	**0.0436**	**11000**	**13000**	**0.133** 0.293	
NUP204E.TVP	**20** 0.7874	**47** 1.8504	**14** 0.5512	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51				**26.5** 5960	**29.0** 6520	**0.0433**	**11000**	**13000**	**0.133** 0.293	
NJ2204E.TVP	**20** 0.7874	**47** 1.8504	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51	**6.5** 0.26	**3.0** 0.12		**32.7** 7350	**34.1** 7670	**0.0459**	**9400**	**11000**	**0.142** 0.313	**0.012** 0.026
NU2204E.TVP	**20** 0.7874	**47** 1.8504	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63		**38.4** 1.51			**1.8** 0.07	**32.7** 7350	**34.1** 7670	**0.0459**	**9400**	**11000**	**0.142** 0.313	
NUP2204E.TVP	**20** 0.7874	**47** 1.8504	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**26.5** 1.04	**41.5** 1.63	**29.9** 1.18	**38.4** 1.51				**32.7** 7350	**34.1** 7670	**0.0459**	**9400**	**11000**	**0.142** 0.313	
NJ304E.TVP	**20** 0.7874	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79	**31.4** 1.24	**41.8** 1.65	**6.5** 0.26	**4.0** 0.16		**28.0** 6290	**32.6** 7330	**0.0435**	**10000**	**12000**	**0.152** 0.335	**0.017** 0.037
NU304E.TVP	**20** 0.7874	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79		**41.8** 1.65			**1.1** 0.04	**28.0** 6290	**32.6** 7330	**0.0435**	**10000**	**12000**	**0.152** 0.335	
NUP304E.TVP	**20** 0.7874	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79	**31.4** 1.24	**41.8** 1.65				**28.0** 6290	**32.6** 7330	**0.0435**	**10000**	**12000**	**0.152** 0.335	
NJ2304E.TVP	**20** 0.7874	**52** 2.0472	**21** 0.8268	**0.6** 0.02	**1.1** 0.04	**27.5** 1.08	**45.5** 1.79	**31.4** 1.24	**41.8** 1.65	**7.5** 0.30	**4.0** 0.16		**40.0** 8990	**42.9** 9640	**0.0475**	**8200**	**9800**	**0.207** 0.456	**0.020** 0.044

Bearing Number	Bore d or d_1	O.D. D	Width B	Min Outer r	Fillet Radius Inner r_1	Backing Dia. Shaft E	Backing Dia. Housing F	Rib Dia. Inner J	Rib Dia. Outer H	a	b	s	Load Ratings Static C_0	Load Ratings Dynamic C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt. Brg.	Wt. Thrust Collar
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.	kg lbs.
NJ205E.TVP	**25** 0.9843	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70	**6.0** 0.24	**3.0** 0.12		**29.8** 6700	**31.0** 6970	**0.0489**	**9600**	**12000**	**0.140** 0.309	**0.031** 0.014
NU205E.TVP	**25** 0.9843	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83		**43.3** 1.70			**1.3** 0.05	**29.8** 6700	**31.0** 6970	**0.0489**	**9600**	**12000**	**0.140** 0.309	
NUP205E.TVP	**25** 0.9843	**52** 2.0472	**15** 0.5906	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70				**29.8** 6700	**31.0** 6970	**0.0486**	**9600**	**12000**	**0.140** 0.309	
NJ2205E.TVP	**25** 0.9843	**52** 2.0472	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70	**6.5** 0.26	**3.0** 0.12		**36.7** 8250	**36.5** 8210	**0.0515**	**8100**	**9700**	**0.160** 0.353	**0.014** 0.031
NU2205E.TVP	**25** 0.9843	**52** 2.0472	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83		**43.3** 1.70			**1.7** 0.07	**36.7** 8250	**36.5** 8210	**0.0515**	**8100**	**9700**	**0.160** 0.353	
NUP2205E.TVP	**25** 0.9843	**52** 2.0472	**18** 0.7087	**0.6** 0.02	**1.0** 0.04	**31.5** 1.24	**46.5** 1.83	**34.9** 1.37	**43.3** 1.70				**36.7** 8250	**36.5** 8210	**0.0515**	**8100**	**9700**	**0.160** 0.353	
NJ305E.TVP	**25** 0.9843	**62** 2.4409	**17** 0.6693	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13	**38.3** 1.51	**50.1** 1.97	**7.0** 0.28	**4.0** 0.16		**38.9** 8750	**42.8** 9620	**0.0508**	**8500**	**10000**	**0.243** 0.536	**0.025** 0.055
NU305E.TVP	**25** 0.9843	**62** 2.4409	**17** 0.6693	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13		**50.1** 1.97			**1.5** 0.06	**38.9** 8750	**42.8** 9620	**0.0508**	**8500**	**10000**	**0.243** 0.536	
NUP305E.TVP	**25** 0.9843	**62** 2.4409	**17** 0.6693	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13	**38.3** 1.51	**50.1** 1.97				**38.9** 8750	**42.8** 9620	**0.0508**	**8500**	**10000**	**0.243** 0.536	
NJ2305E.TVP	**25** 0.9843	**62** 2.4409	**24** 0.9449	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13	**38.3** 1.51	**50.1** 1.97	**8.0** 0.31	**4.0** 0.16		**57.6** 12900	**58.1** 13100	**0.0561**	**6900**	**8300**	**0.348** 0.767	**0.026** 0.057
NU2305E.TVP	**25** 0.9843	**62** 2.4409	**24** 0.9449	**1.1** 0.04	**1.1** 0.04	**34.0** 1.34	**54.0** 2.13		**50.1** 1.97			**1.9** 0.07	**57.6** 12900	**58.1** 13100	**0.0561**	**6900**	**8300**	**0.348** 0.767	
NJ206E.TVP	**30** 1.1811	**62** 2.4409	**16** 0.6299	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05	**7.0** 0.28	**4.0** 0.16		**39.0** 8770	**40.4** 9080	**0.0552**	**8000**	**9700**	**0.206** 0.454	**0.055** 0.025
NU206E.TVP	**30** 1.1811	**62** 2.4409	**16** 0.6299	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19		**52.0** 2.05			**1.4** 0.06	**39.0** 8770	**40.4** 9080	**0.0280**	**8000**	**9700**	**0.206** 0.454	
NUP206E.TVP	**30** 1.1811	**62** 2.4409	**16** 0.6299	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05				**39.0** 8770	**40.4** 9080	**0.0552**	**8000**	**9700**	**0.206** 0.454	
NJ2206E.TVP	**30** 1.1811	**62** 2.4409	**20** 0.7874	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05	**7.5** 0.30	**4.0** 0.16		**51.5** 11600	**50.1** 11300	**0.0591**	**6800**	**8100**	**0.255** 0.562	**0.025** 0.055
NU2206E.TVP	**30** 1.1811	**62** 2.4409	**20** 0.7874	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19		**52.0** 2.05			**1.6** 0.06	**51.5** 11600	**50.1** 11300	**0.0591**	**6800**	**8100**	**0.255** 0.562	
NUP2206E.TVP	**30** 1.1811	**62** 2.4409	**20** 0.7874	**0.6** 0.02	**1.0** 0.04	**37.5** 1.48	**55.5** 2.19	**41.4** 1.63	**52.0** 2.05				**51.5** 11600	**50.1** 11300	**0.0591**	**6800**	**8100**	**0.255** 0.562	
NJ306E.TVP	**30** 1.1811	**72** 2.8346	**19** 0.7480	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30	**8.5** 0.33	**5.0** 0.20		**52.1** 11700	**54.6** 12300	**0.0581**	**7400**	**8800**	**0.370** 0.816	**0.042** 0.093
NU306E.TVP	**30** 1.1811	**72** 2.8346	**19** 0.7480	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46		**58.3** 2.30			**1.9** 0.07	**52.1** 11700	**54.6** 12300	**0.0581**	**7400**	**8800**	**0.370** 0.816	
NUP306E.TVP	**30** 1.1811	**72** 2.8346	**19** 0.7480	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30				**52.1** 11700	**54.6** 12300	**0.0581**	**7400**	**8800**	**0.370** 0.816	
NJ2306E.TVP	**30** 1.1811	**72** 2.8346	**27** 1.0630	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30	**9.5** 0.37	**5.0** 0.20		**79.5** 17900	**75.9** 17100	**0.0645**	**6000**	**7200**	**0.530** 1.169	**0.095** 0.043
NUP2306E.TVP	**30** 1.1811	**72** 2.8346	**27** 1.0630	**1.1** 0.04	**1.1** 0.04	**40.5** 1.59	**62.5** 2.46	**45.1** 1.78	**58.3** 2.30				**79.5** 17900	**75.9** 17100	**0.0642**	**6000**	**7200**	**0.530** 1.169	
NJ207E.TVP	**35** 1.3780	**72** 2.8346	**17** 0.6693	**0.6** 0.02	**1.1** 0.04	**44.0** 1.73	**64.0** 2.52	**48.0** 1.89	**60.1** 2.37	**7.0** 0.28	**4.0** 0.16		**52.2** 11700	**51.8** 11600	**0.0624**	**6800**	**8200**	**0.303** 0.668	**0.073** 0.033
NU2207E.TVP	**35** 1.3780	**72** 2.8346	**23** 0.9055	**0.6** 0.02	**1.1** 0.04	**44.0** 1.73	**64.0** 2.52		**60.1** 2.37			**2.9** 0.11	**67.3** 15100	**63.0** 14200	**0.0664**	**6100**	**7300**	**0.395** 0.871	
NUP2207E.TVP	**35** 1.3780	**72** 2.8346	**23** 0.9055	**0.6** 0.02	**1.1** 0.04	**44.0** 1.73	**64.0** 2.52	**48.0** 1.89	**60.1** 2.37				**67.3** 15100	**63.0** 14200	**0.0664**	**6100**	**7300**	**0.395** 0.871	
NJ307E.TVP	**35** 1.3780	**80** 3.1496	**21** 0.8268	**1.1** 0.04	**1.5** 0.06	**46.2** 1.82	**70.2** 2.76	**51.2** 2.02	**65.7** 2.59	**9.5** 0.37	**6.0** 0.24		**66.4** 14900	**67.3** 15100	**0.0653**	**6700**	**7900**	**0.485** 1.069	**0.132** 0.060
NUP307E.TVP	**35** 1.3780	**80** 3.1496	**21** 0.8268	**1.1** 0.04	**1.5** 0.06	**46.2** 1.82	**70.2** 2.76	**51.2** 2.02	**65.7** 2.59				**66.4** 14900	**67.3** 15100	**0.0653**	**6700**	**7900**	**0.485** 1.069	
NU2307E.TVP	**35** 1.3780	**80** 3.1496	**31** 1.2205	**1.1** 0.04	**1.5** 0.06	**46.2** 1.82	**70.2** 2.76		**65.7** 2.59			**3.0** 0.12	**102.0** 22900	**93.7** 21100	**0.0724**	**5600**	**6600**	**0.720** 1.588	
NUP208E.TVP	**40** 1.5748	**80** 3.1496	**18** 0.7087	**1.1** 0.04	**1.1** 0.04	**49.5** 1.95	**71.5** 2.81	**54.1** 2.13	**67.3** 2.65				**57.7** 13000	**57.3** 12900	**0.0668**	**6200**	**7500**	**0.380** 0.838	

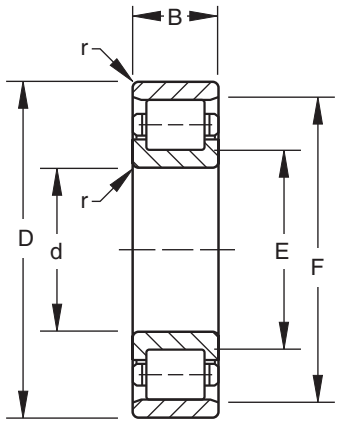
Continued on next page.

CYLINDRICAL ROLLER RADIAL BEARINGS SINGLE-ROW METRIC SERIES - *continued*



Bearing Number	Bore d or d_1	O.D. D	Width B	Min Outer r	Fillet Radius Inner r_1	Backing Dia. Shaft E	Backing Dia. Housing F	Rib Dia. Inner J	Rib Dia. Outer H	a	b	s	Load Ratings Static C_0	Load Ratings Dynamic C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt. Brg.	Wt. Thrust Collar
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.	kg lbs.
NU2208E.TVP	**40** 1.5748	**80** 3.1496	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**49.5** 1.95	**71.5** 2.81		**67.3** 2.65			**2.3** 0.09	**79.8** 17900	**73.8** 16600	**0.0724**	**5300**	**6300**	**0.490** 1.080	
NUP308E.TVP	**40** 1.5748	**90** 3.5433	**23** 0.9055	**1.5** 0.06	**1.5** 0.06	**52.0** 2.05	**80.0** 3.15	**57.7** 2.27	**74.9** 2.95				**82.7** 18600	**84.0** 18900	**0.0714**	**6000**	**7100**	**0.660** 1.455	
NJ2308E.TVP	**40** 1.5748	**90** 3.5433	**33** 1.2992	**1.5** 0.06	**1.5** 0.06	**52.0** 2.05	**80.0** 3.15	**57.7** 2.27	**74.9** 2.95	**12.5** 0.49	**7.0** 0.28		**123.0** 27700	**115.0** 25900	**0.0788**	**5000**	**5900**	**0.950** 2.095	**0.091** 0.201
NU2209E.TVP	**45** 1.7717	**85** 3.3465	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**54.5** 2.15	**76.5** 3.01		**72.4** 2.85			**2.3** 0.09	**87.0** 19600	**77.7** 17500	**0.0775**	**4800**	**5700**	**0.530** 1.169	
NUP2209E.TVP	**45** 1.7717	**85** 3.3465	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**54.5** 2.15	**76.5** 3.01	**59.1** 2.33	**72.4** 2.85				**87.0** 19600	**77.7** 17500	**0.0775**	**4800**	**5700**	**0.530** 1.169	
NJ309E.TVP	**45** 1.7717	**100** 3.9370	**25** 0.9843	**1.5** 0.06	**1.5** 0.06	**58.5** 2.30	**88.5** 3.48	**64.6** 2.54	**83.1** 3.27	**11.5** 0.45	**7.0** 0.28		**104.0** 23400	**101.0** 22700	**0.0785**	**5500**	**6400**	**0.895** 1.973	**0.110** 0.243
NUP210E.TVP	**50** 1.9685	**90** 3.5433	**20** 0.7874	**1.1** 0.04	**1.1** 0.04	**59.5** 2.34	**81.5** 3.21	**64.1** 2.52	**77.4** 3.05				**74.5** 16700	**67.7** 15200	**0.0778**	**5500**	**6600**	**0.490** 1.080	
NU2210E.TVP	**50** 1.9685	**90** 3.5433	**23** 0.9055	**1.1** 0.04	**1.1** 0.04	**59.5** 2.34	**81.5** 3.21		**77.4** 3.05			**2.2** 0.09	**94.1** 21200	**81.2** 18300	**0.0824**	**4400**	**5200**	**0.575** 1.268	
NUP211E.TVP	**55** 2.1654	**100** 3.9370	**21** 0.8268	**1.1** 0.04	**1.5** 0.06	**66.0** 2.60	**90.0** 3.54	**71.0** 2.80	**85.6** 3.37				**100.0** 22500	**87.2** 19600	**0.0862**	**4800**	**5700**	**0.665** 1.466	
NU311E.TVP	**55** 2.1654	**120** 4.7244	**29** 1.1417	**2.0** 0.08	**2.0** 0.08	**70.5** 2.78	**106.5** 4.19		**100.3** 3.95			**3.0** 0.12	**149.0** 33500	**142.0** 31900	**0.0628**	**4700**	**5500**	**1.470** 3.241	
NUP212E.TVP	**60** 2.3622	**110** 4.3307	**22** 0.8661	**1.5** 0.06	**1.5** 0.06	**72.0** 2.83	**100.0** 3.94	**77.7** 3.06	**95.1** 3.74				**109.0** 24500	**98.6** 22200	**0.0896**	**4500**	**5300**	**0.825** 1.819	
NUP2212E.TVP	**60** 2.3622	**110** 4.3307	**28** 1.1024	**1.5** 0.06	**1.5** 0.06	**72.0** 2.83	**100.0** 3.94	**77.7** 3.06	**95.1** 3.74				**158.0** 35500	**132.0** 29700	**0.0984**	**3700**	**4300**	**1.080** 2.381	
NUP2213E.TVP	**65** 2.5591	**120** 4.7244	**31** 1.2205	**1.5** 0.06	**1.5** 0.06	**78.5** 3.09	**108.5** 4.27	**84.6** 3.33	**103.2** 4.06				**188.0** 42300	**153.0** 34400	**0.0723**	**3500**	**4100**	**1.420** 3.131	

STANDARD STYLES



Bearing Number and Style					d Bore	D O.D.	B Width	r (1) Fillet Radius (max.)	Backing Dia.		Load Ratings		Lubrication Factor C_g	Reference Speed	Thermal Ratings	Wt.
									Shaft E	Housing F	Static Load Rating C_0	Dynamic Load Ratings C		Grease	Oil	
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
100RU02	100RN02	100RJ02	100RF02	100RT02	100.000 3.9370	180.000 7.0866	34.000 1.3386	2.0 0.08	114 4.5	165 6.5	245 55000	216 49000	0.088	2200	2600	3.8 8.5
100RU33	100RN33	100RJ33	100RF33	100RT33	100.000 3.9370	215.000 8.4646	82.600 3.2500	2.5 0.10	122 4.8	193 7.6	865 196000	670 150000	0.119	2200	2500	15.5 34.2
40RIU130	40RIN130	40RIJ130	40RIF130	40RIT130	101.600 4.0000	142.880 5.6250	22.230 0.8750	2.5 0.10	110 4.3	135 5.3	134 30000	98 22000	0.081	2100	2500	1.1 2.4
40RIU133	40RIN133	40RIJ133	40RIF133	40RIT133	101.600 4.0000	215.900 8.5000	44.450 1.7500	4.0 0.16	121 4.8	197 7.8	325 73500	320 72000	0.095	2200	2600	8.3 18.3
105RU02	105RN02	105RJ02	105RF02	105RT02	105.000 4.1339	190.000 7.4803	36.000 1.4173	2.0 0.08	121 4.8	175 6.9	250 57000	224 50000	0.090	2100	2600	4.6 10.2
105RU32	105RN32	105RJ32	105RF32	105RT32	105.000 4.1339	190.000 7.4803	65.100 2.5625	2.0 0.08	121 4.8	175 6.9	655 146000	480 108000	0.113	2300	2700	8.3 18.3
105RU03	105RN03	105RJ03	105RF03	105RT03	105.000 4.1339	225.000 8.8583	49.000 1.9291	2.5 0.10	127 5.0	203 8.0	450 100000	400 90000	0.104	2100	2400	10.1 22.2
42RIU194	42RIN194	42RIJ194	42RIF194	42RIT194	107.950 4.2500	222.250 8.7500	69.850 2.7500	4.0 0.16	127 5.0	203 8.0	720 160000	570 129000	0.115	2100	2400	13.6 30.0
110RU02	110RN02	110RJ02	110RF02	110RT02	110.000 4.3307	200.000 7.8740	38.000 1.4961	2.0 0.08	125 4.9	185 7.3	315 71000	275 62000	0.098	2000	2400	5.4 11.8
110RU03	110RN03	110RJ03	110RF03	110RT03	110.000 4.3307	240.000 9.4488	50.000 1.9685	2.5 0.10	135 5.3	215 8.5	750 170000	550 122000	0.106	1600	1900	11.7 25.8
45RIU196	45RIN196	45RIJ196	45RIF196	45RIT196	114.300 4.5000	203.200 8.0000	33.340 1.3125	3.0 0.12	130 5.1	187 7.4	245 55000	224 50000	0.090	1900	2300	4.8 10.5
120RU30	120RN30	120RJ30	120RF30	120RT30	120.000 4.7244	180.000 7.0866	46.000 1.8110	2.0 0.08	130 5.1	170 6.7	390 88000	255 57000	0.108	2200	2600	4.2 9.3
120RU02	120RN02	120RJ02	120RF02	120RT02	120.000 4.7244	215.000 8.4646	40.000 1.5748	2.0 0.08	137 5.4	198 7.8	320 72000	285 64000	0.098	1900	2300	6.5 14.4
120RU92	120RN92	120RJ92	120RF92	120RT92	120.000 4.7244	215.000 8.4646	76.200 3.0000	2.0 0.08	137 5.4	198 7.8	865 196000	620 140000	0.125	2000	2300	12.4 27.3
120RU03	120RN03	120RJ03	120RF03	120RT03	120.000 4.7244	260.000 10.2362	55.000 2.1654	2.5 0.10	145 5.7	235 9.2	540 120000	490 112000	0.114	1800	2100	15.2 33.4
130RU30	130RN30	130RJ30	130RF30	130RT30	130.000 5.1181	200.000 7.8740	52.000 2.0472	2.0 0.08	143 5.6	187 7.4	540 122000	355 80000	0.119	2000	2300	6.1 13.5
130RU02	130RN02	130RJ02	130RF02	130RT02	130.000 5.1181	230.000 9.0551	40.000 1.5748	2.5 0.10	148 5.8	212 8.3	355 80000	305 69500	0.105	1800	2100	7.4 16.3
130RU92	130RN92	130RJ92	130RF92	130RT92	130.000 5.1181	230.000 9.0551	79.400 3.1250	2.5 0.10	148 5.8	213 8.4	980 224000	680 153000	0.133	1800	2000	14.7 32.4
130RU03	130RN03	130RJ03	130RF03	130RT03	130.000 5.1181	280.000 11.0236	58.000 2.2835	3.0 0.12	158 6.2	252 9.9	600 134000	550 125000	0.100	1600	1900	18.5 40.8

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

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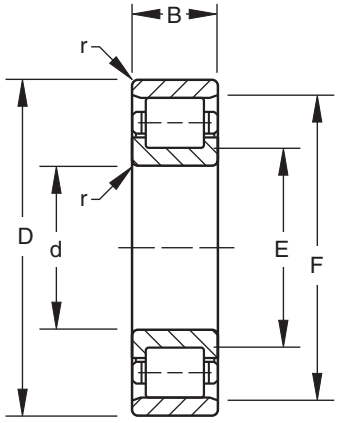
STANDARD STYLES - *continued*



Bearing Number and Style					d	D	B	r[1]	Backing Dia.		Load Ratings		Lubrication Factor	Reference Speed	Thermal Ratings	Wt.
					Bore	O.D.	Width	Fillet Radius (max.)	Shaft E	Housing F	Static Load Rating	Dynamic Load Ratings				
											C_0	C	C_g	Grease	Oil	
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
140RU30	140RN30	140RJ30	140RF30	140RT30	140.000 5.5118	210.000 8.2677	53.000 2.0866	2.0 0.08	152 6.0	198 7.8	540 122000	355 80000	0.120	1900	2200	6.6 14.6
140RU51	140RN51	140RJ51	140RF51	140RT51	140.000 5.5118	220.000 8.6614	36.000 1.4173	2.0 0.08	155 6.1	206 8.1	300 68000	240 54000	0.104	1700	2000	5.3 11.6
140RU91	140RN91	140RJ91	140RF91	140RT91	140.000 5.5118	220.000 8.6614	63.500 2.5000	2.0 0.08	154 6.1	206 8.1	800 180000	520 116000	0.132	1800	2000	9.3 20.5
140RU02	140RN02	140RJ02	140RF02	140RT02	140.000 5.5118	250.000 9.8425	42.000 1.6535	2.5 0.10	159 6.2	231 9.1	465 104000	400 88000	0.114	1600	1900	9.2 20.2
140RU92	140RN92	140RJ92	140RF92	140RT92	140.000 5.5118	250.000 9.8425	82.600 3.2500	2.5 0.10	159 6.2	231 9.1	1200 270000	830 186000	0.143	1600	1800	18.2 40.0
140RU03	140RN03	140RJ03	140RF03	140RT03	140.000 5.5118	300.000 11.8110	62.000 2.4409	3.0 0.12	168 6.6	271 10.7	670 150000	610 137000	0.106	1500	1800	22.8 50.2
140RU93	140RN93	140RJ93	140RF93	140RT93	140.000 5.5118	300.000 11.8110	114.300 4.5000	3.0 0.12	168 6.6	271 10.7	1760 400000	1290 290000	0.109	1400	1500	42.0 92.5
150RU51	150RN51	150RJ51	150RF51	150RT51	150.000 5.9055	235.000 9.2520	38.000 1.4961	2.0 0.08	165 6.5	220 8.7	400 90000	310 69500	0.114	1500	1900	6.3 13.9
150RU91	150RN91	150RJ91	150RF91	150RT91	150.000 5.9055	235.000 9.2520	66.700 2.6250	2.0 0.08	165 6.5	220 8.7	900 204000	585 132000	0.139	1600	1800	11.1 24.5
150RU02	150RN02	150RJ02	150RF02	150RT02	150.000 5.9055	270.000 10.6299	45.000 1.7717	2.5 0.10	171 6.8	248 9.8	520 118000	440 100000	0.099	1400	1700	11.7 25.7
150RU92	150RN92	150RJ92	150RF92	150RT92	150.000 5.9055	270.000 10.6299	88.900 3.5000	2.5 0.10	170 6.7	250 9.8	1400 315000	950 216000	0.126	1400	1600	23.1 50.9
150RU03	150RN03	150RJ03	150RF03	150RT03	150.000 5.9055	320.000 12.5984	65.000 2.5591	3.0 0.12	182 7.2	288 11.3	815 183000	720 163000	0.111	1300	1600	27.3 60.1
150RU93	150RN93	150RJ93	150RF93	150RT93	150.000 5.9055	320.000 12.5984	123.900 4.8750	3.0 0.12	182 7.2	288 11.3	2040 455000	1460 325000	0.137	1300	1400	51.8 114.1
60RIU247	60RIN247	60RIJ247	60RIF247	60RIT247	152.400 6.0000	203.200 8.0000	25.400 1.0000	2.5 0.10	161 6.3	194 7.7	270 61000	173 39000	0.110	1400	1700	2.2 4.9
60RIU248	60RIN248	60RIJ248	60RIF248	60RIT248	152.400 6.0000	266.700 10.5000	39.690 1.5625	4.0 0.16	173 6.8	246 9.7	450 100000	380 86500	0.097	1400	1700	9.7 21.4
60RIU249	60RIN249	60RIJ249	60RIF249	60RIT249	152.400 6.0000	266.700 10.5000	61.910 2.4375	4.0 0.16	174 6.8	245 9.7	865 196000	640 146000	0.114	1400	1700	15.2 33.5
60RIU250	60RIN250	60RIJ250	60RIF250	60RIT250	152.400 6.0000	304.800 12.0000	57.150 2.2500	5.0 0.20	182 7.2	275 10.8	735 166000	640 143000	0.109	1300	1600	20.7 45.6
60RIU251	60RIN251	60RIJ251	60RIF251	60RIT251	152.400 6.0000	304.800 12.0000	88.900 3.5000	5.0 0.20	181 7.1	276 10.9	1340 305000	1020 228000	0.125	1300	1500	32.3 71.3
160RU30	160RN30	160RJ30	160RF30	160RT30	160.000 6.2992	240.000 9.4488	60.000 2.3622	2.0 0.08	175 6.9	225 8.9	765 170000	475 108000	0.138	1600	1800	9.8 21.7
160RU51	160RN51	160RJ51	160RF51	160RT51	160.000 6.2992	250.000 9.8425	40.000 1.5748	2.0 0.08	173 6.8	237 9.3	455 102000	345 78000	0.100	1500	1700	7.5 16.5

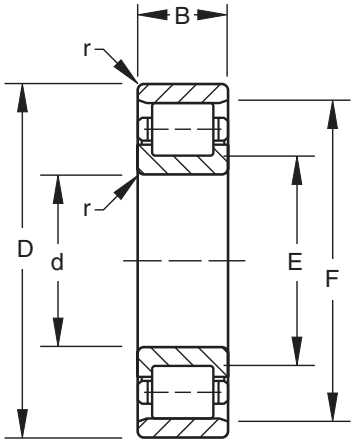
[1] Maximum shaft or housing fillet radius that bearing corners will clear.

Bearing Number and Style					d	D	B	r[1]	Backing Dia.		Load Ratings		Lubri-cation Factor	Reference Speed	Thermal Ratings	Wt.
					Bore	O.D.	Width	Fillet Radius (max.)	Shaft E	Housing F	Static Load Rating C_0	Dynamic Load Ratings C				
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.	C_g	Grease RPM	Oil RPM	kg lbs.
160RU91	160RN91	160RJ91	160RF91	160RT91	160.000 6.2992	250.000 9.8425	73.000 2.8750	2.0 0.08	173 6.8	237 9.3	1060 240000	670 150000	0.124	1500	1700	13.7 30.3
160RU02	160RN02	160RJ02	160RF02	160RT02	160.000 6.2992	290.000 11.4173	48.000 1.8898	2.5 0.10	183 7.2	267 10.5	670 150000	550 122000	0.106	1300	1500	14.4 31.8
160RU92	160RN92	160RJ92	160RF92	160RT92	160.000 6.2992	290.000 11.4173	98.000 3.8750	2.5 0.10	183 7.2	267 10.5	1560 345000	1060 236000	0.134	1300	1500	29.8 65.6
160RU03	160RN03	160RJ03	160RF03	160RT03	160.000 6.2992	340.000 13.3858	68.000 2.6772	3.0 0.12	194 7.6	306 12.1	900 204000	780 176000	0.115	1200	1400	32.2 71.0
160RU93	160RN93	160RJ93	160RF93	160RT93	160.000 6.2992	340.000 13.3858	133.000 5.2500	3.0 0.12	194 7.6	306 12.1	2320 520000	1660 375000	0.147	1200	1300	62.8 138.6
170RU30	170RN30	170RJ30	170RF30	170RT30	170.000 6.6929	260.000 10.2362	67.000 2.6378	2.0 0.08	186 7.3	243 9.6	1020 228000	640 143000	0.125	1400	1600	13.2 29.1
170RU51	170RN51	170RJ51	170RF51	170RT51	170.000 6.6929	265.000 10.4331	42.000 1.6535	2.5 0.10	187 7.4	248 9.8	510 114000	380 86500	0.104	1400	1600	8.8 19.4
170RU91	170RN91	170RJ91	170RF91	170RT91	170.000 6.6929	265.000 10.4331	76.200 3.0000	2.5 0.10	187 7.4	248 9.8	1160 260000	735 166000	0.130	1400	1600	16.1 35.5
170RU02	170RN02	170RJ02	170RF02	170RT02	170.000 6.6929	310.000 12.2047	52.000 2.0472	3.0 0.12	195 7.7	285 11.2	695 156000	585 132000	0.112	1200	1500	18.2 40.0
170RU92	170RN92	170RJ92	170RF92	170RT92	170.000 6.6929	310.000 12.2047	104.800 4.1250	3.0 0.12	196 7.7	284 11.2	1930 430000	1270 290000	0.141	1200	1300	36.5 80.6
170RU03	170RN03	170RJ03	170RF03	170RT03	170.000 6.6929	360.000 14.1732	72.000 2.8346	3.0 0.12	205 8.1	325 12.8	1020 228000	880 200000	0.123	1200	1300	38.2 84.1
170RU93	170RN93	170RJ93	170RF93	170RT93	170.000 6.6929	360.000 14.1732	139.700 5.5000	3.0 0.12	205 8.1	325 12.8	2600 585000	1830 415000	0.153	1100	1200	73.6 162.4
180RU51	180RN51	180RJ51	180RF51	180RT51	180.000 7.0866	280.000 11.0236	44.000 1.7323	2.5 0.10	196 7.7	263 10.3	600 134000	440 100000	0.111	1200	1500	10.3 22.7
180RU30	180RN30	180RJ30	180RF30	180RT30	180.000 7.0866	280.000 11.0236	74.000 2.9134	2.0 0.08	197 7.8	264 10.4	1250 280000	780 176000	0.132	1200	1400	17.4 38.4
180RU91	180RN91	180RJ91	180RF91	180RT91	180.000 7.0866	280.000 11.0236	82.600 3.2500	2.5 0.10	197 7.8	262 10.3	1430 325000	880 196000	0.138	1200	1400	19.4 42.9
180RU02	180RN02	180RJ02	180RF02	180RT02	180.000 7.0866	320.000 12.5984	52.000 2.0472	3.0 0.12	205 8.1	295 11.6	710 160000	585 129000	0.114	1200	1400	18.9 41.6
180RU92	180RN92	180RJ92	180RF92	180RT92	180.000 7.0866	320.000 12.5984	108.000 4.2500	3.0 0.12	206 8.1	294 11.6	1930 440000	1270 285000	0.144	1100	1300	39.3 86.6
180RU03	180RN03	180RJ03	180RF03	180RT03	180.000 7.0866	380.000 14.9606	75.000 2.9528	3.0 0.12	216 8.5	344 13.6	1200 270000	1020 232000	0.127	1000	1200	44.0 97.0
190RU30	190RN30	190RJ30	190RF30	190RT30	190.000 7.4803	290.000 11.4173	75.000 2.9528	2.0 0.08	207 8.2	272 10.7	1270 285000	780 176000	0.138	1200	1400	18.4 40.6
190RU51	190RN51	190RJ51	190RF51	190RT51	190.000 7.4803	300.000 11.8110	46.000 1.8110	2.5 0.10	210 8.2	280 11.0	695 156000	510 114000	0.117	1100	1300	12.7 28.0
190RU91	190RN91	190RJ91	190RF91	190RT91	190.000 7.4803	300.000 11.8110	85.700 3.3750	2.5 0.10	210 8.2	281 11.1	1630 365000	980 220000	0.144	1100	1300	23.8 52.5
190RU02	190RN02	190RJ02	190RF02	190RT02	190.000 7.4803	340.000 13.3858	55.000 2.1654	3.0 0.12	216 8.5	314 12.4	930 208000	735 166000	0.124	1000	1200	22.7 50.0
190RU92	190RN92	190RJ92	190RF92	190RT92	190.000 7.4803	340.000 13.3858	114.300 4.5000	3.0 0.12	217 8.6	312 12.3	2240 500000	1460 325000	0.154	1000	1100	47.3 104.2
190RU03	190RN03	190RJ03	190RF03	190RT03	190.000 7.4803	400.000 15.7480	78.000 3.0709	4.0 0.16	233 9.2	357 14.1	1320 290000	1060 240000	0.136	980	1100	51.5 113.5
200RU30	200RN30	200RJ30	200RF30	200RT30	200.000 7.8740	310.000 12.2047	82.000 3.2283	2.0 0.08	220 8.7	290 11.4	1560 355000	930 212000	0.146	1100	1200	23.8 52.5
200RU51	200RN51	200RJ51	200RF51	200RT51	200.000 7.8740	320.000 12.5984	48.000 1.8898	2.5 0.10	221 8.7	299 11.8	735 166000	550 122000	0.120	1100	1300	15.5 34.1
200RU91	200RN91	200RJ91	200RF91	200RT91	200.000 7.8740	320.000 12.5984	88.900 3.5000	3.0 0.12	221 8.7	299 11.8	1630 365000	1020 228000	0.150	1100	1200	28.8 63.4
200RU02	200RN02	200RJ02	200RF02	200RT02	200.000 7.8740	360.000 14.1732	58.000 2.2835	3.0 0.12	230 9.1	330 13.0	930 208000	735 163000	0.127	1000	1200	27.3 60.2

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

Continued on next page.

STANDARD STYLES - *continued*



Bearing Number and Style					d	D	B	r[1]	Backing Dia.		Load Ratings		Lubrication Factor	Reference Speed	Thermal Ratings	Wt.
					Bore	O.D.	Width	Fillet Radius (max.)	Shaft E	Housing F	Static Load Rating C_0	Dynamic Load Ratings C	C_g	Grease	Oil	
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
200RU92	200RN92	200RJ92	200RF92	200RT92	200.000 7.8740	360.000 14.1732	120.700 4.7500	3.0 0.12	230 9.1	330 13.0	2600 585000	1630 365000	0.164	940	1000	56.8 125.2
200RU03	200RN03	200RJ03	200RF03	200RT03	200.000 7.8740	420.000 16.5354	80.000 3.1496	4.0 0.16	241 9.5	379 14.9	1290 290000	1120 250000	0.135	950	1100	57.6 127.0
210RU51	210RN51	210RJ51	210RF51	210RT51	210.000 8.2677	340.000 13.3858	50.000 1.9685	2.5 0.10	234 9.2	316 12.4	780 176000	600 134000	0.124	1000	1200	18.3 40.3
210RU91	210RN91	210RJ91	210RF91	210RT91	210.000 8.2677	340.000 13.3858	95.300 3.7500	2.5 0.10	233 9.2	318 12.5	1960 440000	1220 275000	0.156	980	1100	35.3 77.7
210RU02	210RN02	210RJ02	210RF02	210RT02	210.000 8.2677	380.000 14.9606	62.000 2.4409	3.0 0.12	242 9.5	348 13.7	1060 236000	850 190000	0.132	940	1100	32.4 71.5
210RU92	210RN92	210RJ92	210RF92	210RT92	210.000 8.2677	380.000 14.9606	127.000 5.0000	3.0 0.12	240 9.4	350 13.8	2700 600000	1760 400000	0.165	900	1000	66.1 145.8
210RU03	210RN03	210RJ03	210RF03	210RT03	210.000 8.2677	440.000 17.3228	84.000 3.3071	4.0 0.16	252 9.9	398 15.7	1430 325000	1220 275000	0.142	890	1000	66.3 146.2
220RU30	220RN30	220RJ30	220RF30	220RT30	220.000 8.6614	340.000 13.3858	90.000 3.5433	2.5 0.10	241 9.5	318 12.5	1960 440000	1160 260000	0.159	930	1000	31.2 68.9
220RU51	220RN51	220RJ51	220RF51	220RT51	220.000 8.6614	350.000 13.7796	51.000 2.0079	2.5 0.10	244 9.6	326 12.8	865 193000	630 143000	0.128	950	1100	19.6 43.2
220RU91	220RN91	220RJ91	220RF91	220RT91	220.000 8.6614	350.000 13.7796	98.400 3.8750	2.5 0.10	241 9.5	329 12.9	2080 475000	1290 290000	0.160	930	1000	37.6 82.9
220RU02	220RN02	220RJ02	220RF02	220RT02	220.000 8.6614	400.000 15.7480	65.000 2.5591	3.0 0.12	256 10.1	365 14.4	1180 260000	915 208000	0.138	880	1000	38.3 84.4
220RU92	220RN92	220RJ92	220RF92	220RT92	220.000 8.6614	400.000 15.7480	133.400 5.2500	3.0 0.12	252 9.9	368 14.5	3250 735000	2000 455000	0.178	800	880	78.4 172.9
220RU03	220RN03	220RJ03	220RF03	220RT03	220.000 8.6614	460.000 18.1102	88.000 3.4646	4.0 0.16	261 10.3	419 16.5	1600 360000	1340 305000	0.149	840	970	75.9 167.2
90RIU395	90RIN395	90RIJ395	90RIF395	90RIT395	228.600 9.0000	304.800 12.0000	38.100 1.5000	4.0 0.16	241 9.5	292 11.5	585 132000	355 80000	0.124	990	1200	7.8 17.3
90RIU396	90RIN396	90RIJ396	90RIF396	90RIT396	228.600 9.0000	368.300 14.5000	50.800 2.0000	5.0 0.20	255 10.0	342 13.5	930 208000	680 153000	0.133	880	1000	21.9 48.4
90RIU399	90RIN399	90RIJ399	90RIF399	90RIT399	228.600 9.0000	431.800 17.0000	117.480 4.6250	5.0 0.20	265 10.4	395 15.6	2600 600000	1860 415000	0.168	810	900	82.7 182.4
230RU51	230RN51	230RJ51	230RF51	230RT51	230.000 9.0551	370.000 14.5669	53.000 2.0866	3.0 0.12	256 10.1	344 13.6	1000 224000	720 163000	0.134	880	1000	23.1 50.8
230RU91	230RN91	230RJ91	230RF91	230RT91	230.000 9.0551	370.000 14.5669	101.600 4.0000	3.0 0.12	256 10.1	344 13.6	2450 550000	1460 325000	0.167	830	920	44.3 97.7
230RU02	230RN02	230RJ02	230RF02	230RT02	230.000 9.0551	420.000 16.5354	69.000 2.7165	3.0 0.12	263 10.4	387 15.2	1370 305000	1080 240000	0.144	820	950	44.5 98.1
230RU92	230RN92	230RJ92	230RF92	230RT92	230.000 9.0551	420.000 16.5354	139.000 5.5000	3.0 0.12	263 10.4	387 15.2	3400 765000	2200 490000	0.178	770	840	90.4 199.2

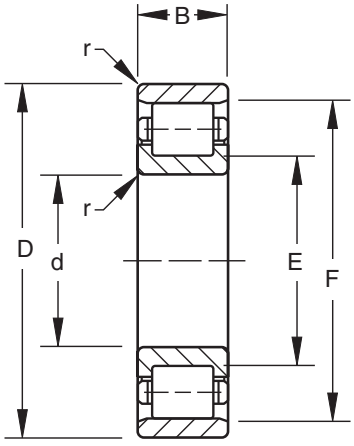
[1] Maximum shaft or housing fillet radius that bearing corners will clear.

Bearing Number and Style					d Bore	D O.D.	B Width	r (1) Fillet Radius (max.)	Backing Dia. Shaft E	Backing Dia. Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt.
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
230RU03	230RN03	230RJ03	230RF03	230RT03	230.000 9.0551	480.000 18.8976	91.000 3.5827	4.0 0.16	279 11.0	431 17.0	1700 380000	1400 315000	0.151	800	920	85.6 188.8
240RU30	240RN30	240RJ30	240RF30	240RT30	240.000 9.4488	360.000 14.1732	92.000 3.6220	2.5 0.10	262 10.3	338 13.3	2200 490000	1220 275000	0.169	840	930	34.4 75.8
240RU51	240RN51	240RJ51	240RF51	240RT51	240.000 9.4488	390.000 15.3543	55.000 2.1654	3.0 0.12	265 10.4	365 14.4	1060 236000	765 173000	0.140	830	970	27.2 59.8
240RU91	240RN91	240RJ91	240RF91	240RT91	240.000 9.4488	390.000 15.3543	108.000 4.2500	3.0 0.12	265 10.4	365 14.4	2700 600000	1600 355000	0.176	790	870	53.4 117.7
240RU02	240RN02	240RJ02	240RF02	240RT02	240.000 9.4488	440.000 17.3228	72.000 2.8346	3.0 0.12	277 10.9	402 15.8	1400 315000	1100 250000	0.146	800	920	51.6 113.7
240RU92	240RN92	240RJ92	240RF92	240RT92	240.000 9.4488	440.000 17.3228	146.000 5.7500	3.0 0.12	277 10.9	402 15.8	3750 850000	2400 540000	0.185	720	790	104.3 230.0
240RU03	240RN03	240RJ03	240RF03	240RT03	240.000 9.4488	500.000 19.6850	95.000 3.7402	4.0 0.16	289 11.4	451 17.8	2000 450000	1600 360000	0.159	730	840	97.5 215.0
95RIU430	95RIN430	95RIJ430	95RIF430	95RIT430	241.300 9.5000	323.850 12.7500	41.270 1.6250	4.0 0.16	255 10.0	310 12.2	695 156000	425 95000	0.133	920	1100	9.8 21.5
250RU51	250RN51	250RJ51	250RF51	250RT51	250.000 9.8425	410.000 16.1417	57.000 2.2441	3.0 0.12	278 10.9	383 15.1	1140 255000	850 190000	0.144	790	920	31.3 69.0
250RU91	250RN91	250RJ91	250RF91	250RT91	250.000 9.8425	410.000 16.1417	111.100 4.3750	3.0 0.12	278 10.9	383 15.1	2750 610000	1700 380000	0.177	760	840	60.9 134.3
250RU02	250RN02	250RJ02	250RF02	250RT02	250.000 9.8425	460.000 18.1102	76.000 2.9921	4.0 0.16	291 11.5	418 16.5	1600 360000	1220 275000	0.154	750	860	59.8 131.8
250RU92	250RN92	250RJ92	250RF92	250RT92	250.000 9.8425	460.000 18.1102	152.400 6.0000	4.0 0.16	291 11.5	418 16.5	4050 915000	2550 570000	0.192	680	740	119.7 263.9
250RU03	250RN03	250RJ03	250RF03	250RT03	250.000 9.8425	520.000 20.4724	98.000 3.8583	5.0 0.20	300 11.8	470 18.5	2120 475000	1660 375000	0.165	700	800	109.0 240.3
100RIU433	100RIN433	100RIJ433	100RIF433	100RIT433	254.000 10.0000	336.550 13.2500	41.270 1.6250	4.0 0.16	269 10.6	322 12.7	735 163000	430 96500	0.136	870	1000	10.2 22.4
260RU30	260RN30	260RJ30	260RF30	260RT30	260.000 10.2362	400.000 15.7480	104.000 4.0945	3.0 0.12	285 11.2	375 14.8	2600 600000	1530 345000	0.180	760	840	49.8 109.8
260RU51	260RN51	260RJ51	260RF51	260RT51	260.000 10.2362	430.000 16.9291	59.000 2.3228	3.0 0.12	291 11.4	399 15.7	1200 270000	900 204000	0.147	750	880	36.1 79.6
260RU91	260RN91	260RJ91	260RF91	260RT91	260.000 10.2362	430.000 16.9291	114.300 4.5000	3.0 0.12	291 11.4	399 15.7	3100 695000	1900 425000	0.182	700	770	70.0 154.3
260RU02	260RN02	260RJ02	260RF02	260RT02	260.000 10.2362	480.000 18.8976	80.000 3.1496	4.0 0.16	300 11.8	440 17.3	1760 400000	1370 305000	0.160	710	820	68.2 150.4
260RU92	260RN92	260RJ92	260RF92	260RT92	260.000 10.2362	480.000 18.8976	158.800 6.2500	4.0 0.16	300 11.8	440 17.3	4400 1000000	2800 630000	0.200	640	700	136.3 300.4
260RU03	260RN03	260RJ03	260RF03	260RT03	260.000 10.2362	540.000 21.2598	102.000 4.0157	5.0 0.20	314 12.4	486 19.1	2320 520000	1860 415000	0.171	660	760	122.0 268.9
110RIU473	110RIN473	110RIJ473	110RIF473	110RIT473	279.400 11.0000	368.300 14.5000	44.450 1.7500	4.0 0.16	295 11.6	352 13.9	930 208000	530 118000	0.150	760	890	13.0 28.7
280RU30	280RN30	280RJ30	280RF30	280RT30	280.000 11.0236	420.000 16.5354	106.000 4.1732	3.0 0.12	303 11.9	397 15.6	3050 680000	1700 380000	0.192	670	740	53.9 118.8
280RU51	280RN51	280RJ51	280RF51	280RT51	280.000 11.0236	460.000 18.1102	63.000 2.4803	3.0 0.12	311 12.2	429 16.9	1430 325000	1000 228000	0.156	680	790	44.5 98.1
280RU91	280RN91	280RJ91	280RF91	280RT91	280.000 11.0236	460.000 18.1102	123.800 4.8750	3.0 0.12	311 12.2	429 16.9	3750 830000	2120 475000	0.201	620	680	87.4 192.8
280RU02	280RN02	280RJ02	280RF02	280RT02	280.000 11.0236	500.000 19.6850	80.000 3.1496	4.0 0.16	319 12.6	461 18.2	2000 450000	1500 335000	0.169	640	730	72.1 159.0
280RU92	280RN92	280RJ92	280RF92	280RT92	280.000 11.0236	500.000 19.6850	165.100 6.5000	4.0 0.16	319 12.6	461 18.2	5200 1180000	3150 710000	0.213	570	610	148.7 327.9
280RU03	280RN03	280RJ03	280RF03	280RT03	280.000 11.0236	580.000 22.8346	108.000 4.2520	5.0 0.20	341 13.4	519 20.4	2750 620000	2160 480000	0.182	590	670	148.6 327.6
300RU30	300RN30	300RJ30	300RF30	300RT30	300.000 11.8110	460.000 18.1102	118.000 4.6457	3.0 0.12	330 13.0	429 16.9	3750 830000	2040 455000	0.205	590	640	75.3 166.0

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

Continued on next page.

STANDARD STYLES - *continued*



Bearing Number and Style					d	D	B	r (1)	Backing Dia.		Load Ratings		Lubri-cation Factor	Reference Speed	Thermal Ratings	Wt.
					Bore	O.D.	Width	Fillet Radius (max.)	Shaft E	Housing F	Static Load Rating	Dynamic Load Ratings				
											C_0	C	C_g			
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		Grease RPM	Oil RPM	kg lbs.
300RU51	300RN51	300RJ51	300RF51	300RT51	300.000 11.8110	480.000 18.8976	67.000 2.6378	3.0 0.12	329 12.9	452 17.8	1660 375000	1160 260000	0.166	630	730	49.1 108.2
300RU91	300RN91	300RJ91	300RF91	300RT91	300.000 11.8110	480.000 18.8976	127.000 5.0000	3.0 0.12	329 12.9	452 17.8	4000 900000	2320 520000	0.204	580	630	93.0 205.1
300RU02	300RN02	300RJ02	300RF02	300RT02	300.000 11.8110	540.000 21.2598	85.000 3.3465	4.0 0.16	343 13.5	497 19.6	2280 510000	1660 375000	0.178	580	660	90.5 199.6
300RU92	300RN92	300RJ92	300RF92	300RT92	300.000 11.8110	540.000 21.2598	177.800 7.0000	4.0 0.16	343 13.5	497 19.6	6200 1400000	3750 830000	0.226	500	540	188.5 415.6
125RIU550	125RIN550	125RIJ550	125RIF550	125RIT550	317.500 12.5000	419.100 16.5000	50.800 2.0000	5.0 0.20	337 13.2	400 15.8	1290 290000	710 160000	0.167	640	740	19.4 42.8
125RIU551	125RIN551	125RIJ551	125RIF551	125RIT551	317.500 12.5000	482.600 19.0000	66.670 2.6250	5.0 0.20	337 13.8	451 17.8	1800 405000	1180 260000	0.174	590	680	46.0 101.3
320RU30	320RN30	320RJ30	320RF30	320RT30	320.000 12.5984	480.000 18.8976	121.000 4.7638	3.0 0.12	347 13.7	453 17.8	4050 900000	2120 480000	0.215	550	600	81.3 179.1
320RU51	320RN51	320RJ51	320RF51	320RT51	320.000 12.5984	500.000 19.6850	71.000 2.7953	3.0 0.12	352 13.9	468 18.4	1900 425000	1270 285000	0.176	590	670	54.7 120.7
320RU91	320RN91	320RJ91	320RF91	320RT91	320.000 12.5984	500.000 19.6850	130.200 5.1250	3.0 0.12	352 13.9	468 18.4	4300 980000	2450 550000	0.214	540	590	100.3 221.2
320RU02	320RN02	320RJ02	320RF02	320RT02	320.000 12.5984	580.000 22.8346	92.000 3.6220	4.0 0.16	368 14.5	532 20.9	2450 550000	1800 405000	0.186	550	630	114.9 253.4
320RU92	320RN92	320RJ92	320RF92	320RT92	320.000 12.5984	580.000 22.8346	190.500 7.5000	4.0 0.16	370 14.6	530 20.9	6700 1530000	4000 900000	0.238	470	510	236.4 521.1
340RU30	340RN30	340RJ30	340RF30	340RT30	340.000 13.3858	520.000 20.4724	133.000 5.2362	4.0 0.16	372 14.7	488 19.2	4650 1040000	2550 570000	0.224	500	550	107.6 237.2
135RIU580	135RIN580	135RIJ580	135RIF580	135RIT580	342.900 13.5000	457.200 18.0000	57.150 2.2500	5.0 0.20	365 14.4	435 17.1	1530 345000	815 183000	0.181	580	680	27.2 60.0
135RIU582	135RIN582	135RIJ582	135RIF582	135RIT582	342.900 13.5000	527.100 20.7500	104.770 4.1250	5.0 0.20	376 14.8	494 19.4	3450 765000	2040 455000	0.208	520	580	88.0 193.9
360RU30	360RN30	360RJ30	360RF30	360RT30	360.000 14.1732	540.000 21.2598	134.000 5.2765	4.0 0.16	392 15.4	508 20.0	4900 1100000	2600 585000	0.232	470	520	113.6 250.4
145RIU610	145RIN610	145RIJ610	145RIF610	145RIT610	368.300 14.5000	495.300 19.5000	63.500 2.5000	5.0 0.20	391 15.4	473 18.6	2040 455000	1100 245000	0.194	510	590	35.8 79.0
380RU30	380RN30	380RJ30	380RF30	380RT30	380.000 14.9606	560.000 22.0472	135.000 5.3150	4.0 0.16	412 16.2	528 20.8	5200 1180000	2750 610000	0.241	440	480	119.5 263.4
150RIU613	150RIN613	150RIJ613	150RIF613	150RIT613	381.000 15.0000	508.000 20.0000	63.500 2.5000	5.0 0.20	404 15.9	485 19.1	2040 455000	1100 245000	0.196	500	570	36.9 81.3
155RIU640	155RIN640	155RIJ640	155RIF640	155RIT640	393.700 15.5000	520.700 20.5000	63.500 2.5000	5.0 0.20	416 16.4	498 19.6	2040 455000	1080 245000	0.200	480	560	38.0 83.8
400RU30	400RN30	400RJ30	400RF30	400RT30	400.000 15.7480	600.000 23.6220	148.000 5.8268	4.0 0.16	438 17.2	562 22.1	6000 1340000	3100 695000	0.252	410	440	155.7 343.2

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

Bearing Number and Style					d Bore	D O.D.	B Width	r (1) Fillet Radius (max.)	Backing Dia. Shaft E	Backing Dia. Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor C_g	Reference Speed Grease	Thermal Ratings Oil	Wt.
RU RIU	RN RIN	RJ RIJ	RF RIF	RT RIT	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
160RIU643	160RIN643	160RIJ643	160RIF643	160RIT643	406.400 16.0000	546.100 21.5000	69.850 2.7500	5.0 0.20	432 17.0	521 20.5	2500 560000	1320 300000	0.212	450	510	48.2 106.2
160RIU644	160RIN644	160RIJ644	160RIF644	160RIT644	406.400 16.0000	603.250 23.7500	82.550 3.2500	5.0 0.20	444 17.5	565 22.2	2800 630000	1700 380000	0.211	440	500	86.4 190.4
160RIU645	160RIN645	160RIJ645	160RIF645	160RIT645	406.400 16.0000	603.250 23.7500	123.820 4.8750	5.0 0.20	442 17.4	568 22.3	5000 1120000	2600 600000	0.243	410	450	129.4 285.4
165RIU662	165RIN662	165RIJ662	165RIF662	165RIT662	419.100 16.5000	622.300 24.5000	127.000 5.0000	5.0 0.20	456 18.0	585 23.0	5400 1200000	2900 655000	0.247	390	420	141.0 310.9
170RIU663	170RIN663	170RIJ663	170RIF663	170RIT663	431.800 17.0000	584.200 23.0000	76.200 3.0000	6.0 0.24	460 18.1	556 21.9	3000 670000	1560 355000	0.223	410	460	61.4 135.4
170RIU664	170RIN664	170RIJ664	170RIF664	170RIT664	431.800 17.0000	635.000 25.0000	88.900 3.5000	6.0 0.24	470 18.5	597 23.5	3450 780000	2040 455000	0.226	400	450	101.2 223.2
440RU30	440RN30	440RJ30	440RF30	440RT30	440.000 17.3228	650.000 25.5906	157.000 6.1811	5.0 0.20	476 18.8	613 24.1	7350 1660000	3650 830000	0.274	350	370	189.4 417.5
180RIU683	180RIN683	180RIJ683	180RIF683	180RIT683	457.200 18.0000	685.800 27.0000	88.900 3.5000	6.0 0.24	500 19.7	643 25.3	3450 780000	2160 480000	0.229	370	420	122.5 270.1
180RIU684	180RIN684	180RIJ684	180RIF684	180RIT684	457.200 18.0000	685.800 27.0000	139.700 5.5000	6.0 0.24	500 19.7	643 25.3	6300 1430000	3400 765000	0.265	350	380	192.2 423.8
460RU30	460RN30	460RJ30	460RF30	460RT30	460.000 18.1102	680.000 26.7717	163.000 6.4173	5.0 0.20	498 19.6	641 25.2	8000 1800000	4000 900000	0.283	330	350	215.6 475.2
185RIU696	185RIN696	185RIJ696	185RIF696	185RIT696	469.900 18.5000	698.500 27.5000	88.900 5.5000	6.0 0.24	513 20.2	656 25.8	6550 1500000	3550 800000	0.266	260	280	125.5 434.6
480RU30	480RN30	480RJ30	480RF30	480RT30	480.000 18.8976	700.000 27.5591	165.000 6.4961	5.0 0.20	518 20.4	660 26.0	8150 1830000	4000 900000	0.294	320	340	225.6 497.4
500RU30	500RN30	500RJ30	500RF30	500RT30	500.000 19.6850	720.000 28.3465	167.000 6.5748	5.0 0.20	540 21.2	680 26.8	8300 1900000	4150 930000	0.296	310	330	235.3 518.7
530RU30	530RN30	530RJ30	530RF30	530RT30	530.000 20.8661	780.000 30.7087	185.000 7.2835	5.0 0.20	578 22.8	730 28.8	10600 2360000	5100 1140000	0.320	260	280	321.7 709.2
210RIU728	210RIN728	210RIJ728	210RIF728	210RIT728	533.400 21.0000	787.400 31.0000	161.920 6.3750	6.0 0.24	579 22.8	742 29.2	8500 1900000	4300 965000	0.302	280	300	288.5 636.0
220RIU744	220RIN744	220RIJ744	220RIF744	220RIT744	558.800 22.0000	711.200 28.0000	111.120 4.3750	5.0 0.20	587 23.1	683 26.9	5700 1290000	2450 550000	0.292	300	330	112.2 247.3
560RU30	560RN30	560RJ30	560RF30	560RT30	560.000 22.0472	820.000 32.2835	195.000 7.6772	5.0 0.20	607 23.9	773 30.4	11400 2550000	5500 1250000	0.324	250	270	369.7 815.0
600RU30	600RN30	600RJ30	600RF30	600RT30	600.000 23.6220	870.000 34.2520	200.000 7.8740	5.0 0.20	650 25.6	820 32.3	12500 2800000	6000 1340000	0.341	230	240	420.3 926.7
260RIU802	260RIN802	260RIJ802	260RIF802	260RIT802	660.400 26.0000	958.850 37.7500	127.000 5.0000	6.0 0.24	716 28.2	903 35.6	7200 1630000	4000 900000		230	260	326.6 720.1
275RIU808	275RIN808	275RIJ808	275RIF808	275RIT808	698.500 27.5000	1016.000 40.0000	133.350 5.2500	6.0 0.24	757 29.8	957 37.7	8300 1860000	4550 1040000	0.325	210	230	385.7 850.3

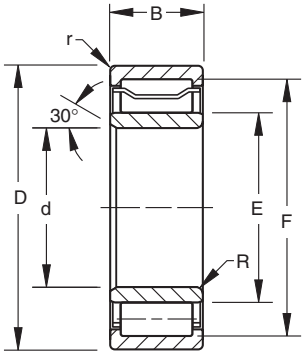
(1) Maximum shaft or housing fillet radius that bearing corners will clear.

5200, A5200 METRIC SERIES

- Ring tolerances are found on page B348.
- Life and load calculations are found in the engineering section of this catalog.
- Shaft and housing fits, tolerances and shaft diameters are found on pages B347 and B348.

IN THE BEARING NUMBER

W = double ribbed outer ring.
S = stamped steel land-riding cage.
M = machined brass land-riding cage.



Outer Ring & Roller Assembly		Inner* Ring		Complete Bearing
	+		=	
52XX-WS		A-52XX		A-52XX-WS

*** Inner ring can be ordered separately**

Bearing Number	d Bore	D O.D.	B Width	Max. Fillet Radius R Shaft	Max. Fillet Radius r Housing	Backing Diameter Shaft E	Backing Diameter Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor Cg	Reference Speed Grease	Thermal Rating Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
A-5220-WS	**100** 3.9370	**180** 7.0866	**60.325** 2.3750	**4.0** 0.16	**2.0** 0.08	**118** 4.6	**167** 6.6	**489** 110000	**387** 87000	**0.112**	**2600**	**3100**	**7.2** 15.9
A-5222-WS	**110** 4.3307	**200** 7.8740	**69.850** 2.7500	**4.0** 0.16	**2.0** 0.08	**130** 5.1	**186** 7.3	**645** 145000	**498** 112000	**0.124**	**2300**	**2700**	**10.4** 22.9
A-5224-WS	**120** 4.7244	**215** 8.4646	**76.200** 3.0000	**4.8** 0.19	**2.0** 0.08	**144** 5.7	**197** 7.8	**774** 174000	**574** 129000	**0.134**	**2100**	**2400**	**13.0** 28.6
A-5226-WS	**130** 5.1181	**230** 9.0551	**79.375** 3.1250	**4.8** 0.19	**2.5** 0.10	**148** 5.8	**213** 8.4	**867** 195000	**645** 145000	**0.140**	**1900**	**2200**	**15.2** 33.6
A-5228-WS	**140** 5.5118	**250** 9.8425	**82.550** 3.2500	**4.8** 0.19	**2.5** 0.10	**165** 6.5	**232** 9.1	**992** 223000	**730** 164000	**0.148**	**1700**	**1900**	**18.9** 41.7
A-5230-WS	**150** 5.9055	**270** 10.6299	**88.900** 3.5000	**6.4** 0.25	**2.5** 0.10	**179** 7.0	**252** 9.9	**1190** 268000	**872** 196000	**0.132**	**1500**	**1700**	**23.9** 52.8
A-5232-WS	**160** 6.2992	**290** 11.4173	**98.425** 3.8750	**6.4** 0.25	**2.5** 0.10	**190** 7.5	**268** 10.6	**1410** 318000	**1020** 229000	**0.141**	**1400**	**1600**	**30.8** 67.8
A-5234-WS	**170** 6.6929	**310** 12.2047	**104.775** 4.1250	**6.4** 0.25	**3.0** 0.12	**202** 7.9	**286** 11.2	**1610** 361000	**1130** 255000	**0.148**	**1300**	**1400**	**37.6** 82.9
A-5236-WS	**180** 7.0866	**320** 12.5984	**107.950** 4.2500	**6.4** 0.25	**3.0** 0.12	**211** 8.3	**298** 11.7	**1740** 392000	**1220** 274000	**0.153**	**1200**	**1300**	**40.4** 89.0
A-5238-WS	**190** 7.4803	**340** 13.3858	**114.300** 4.5000	**7.9** 0.31	**3.0** 0.12	**224** 8.8	**313** 12.3	**1940** 437000	**1350** 304000	**0.160**	**1100**	**1200**	**48.5** 107.0
A-5240-WS	**200** 7.8740	**360** 14.1732	**120.650** 4.7500	**7.9** 0.31	**3.0** 0.12	**235** 9.2	**325** 12.8	**1810** 406000	**1230** 277000	**0.165**	**1100**	**1300**	**57.6** 127.0
A-5244-WM	**220** 8.6614	**400** 15.7480	**133.350** 5.2500	**9.5** 0.38	**3.0** 0.12	**260** 10.2	**367** 14.4	**2740** 615000	**1850** 416000	**0.182**	**880**	**980**	**76.4** 175.0
A-5248-WM	**240** 9.4488	**440** 17.3228	**146.050** 5.7500	**9.5** 0.38	**3.0** 0.12	**285** 11.2	**402** 15.8	**3270** 736000	**2210** 497000	**0.195**	**780**	**860**	**106.1** 234.0

5200, A5200 METRIC SERIES SHAFT AND HOUSING FITS AND TOLERANCES

SHAFT FITS[1]

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing O.D.		Bore Tolerance	Press fit Rotating Inner Ring				Slip Fit Stationary Inner Ring			
			Shaft Diameter		Fit		Shaft Diameter		Fit	
Over	Incl.	+0	min.	max.			min.	max.		
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
80 3.1496	**120** 4.7236	**-20** -8	**+25** +10	**+48** +19	**25T** 10T	**69T** 27T	**-23** -9	**0** 0	**23L** 9L	**20T** 8T
120 4.7236	**140** 5.5108	**-25** -10	**+30** +12	**+56** +22	**30T** 12T	**81T** 32T	**-25** -10	**0** 0	**25L** 10L	**25T** 10T
140 5.5108	**180** 7.0856	**-25** -10	**+46** +18	**+71** +28	**46T** 18T	**97T** 38T	**-25** -10	**10** 0	**25L** 10L	**25T** 10T
180 7.0856	**240** 9.4476	**-30** -12	**+51** +20	**+81** +32	**51T** 20T	**112T** 44T	**-30** -12	**0** 0	**30L** 12L	**30T** 12T

[1] When shaft is used as race surface, hardness to be Rc58 minimum and surface finish to be 15 RMS.

HOUSING FITS

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing O.D.		O.D. Tolerance Inner Ring	Press fit Rotating Inner Ring				Slip Fit Stationary Inner Ring			
			Housing Diameter		Fit		Housing Diameter		Fit	
Over	Incl.	+0	min.	max.			min.	max.		
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
– –	**180** 7.0866	**-25** -10	**-15** -6	**+22** +8	**15T** 6T	**46L** 18L	**-56** -22	**-25** -10	**56T** 22T	**0L** 0L
180 7.0866	**200** 7.8740	**-30** -12	**-18** -7	**+18** +7	**18T** 7T	**48L** 19L	**-66** -26	**-30** -12	**66T** 26T	**0L** 0L
200 7.874	**230** 9.0551	**-30** -12	**-18** -7	**+23** +9	**18T** 7T	**53L** 21L	**-66** -26	**-30** -12	**66T** 26T	**0L** 0L
230 9.0551	**250** 9.8425	**-30** -12	**-18** -7	**+28** +11	**18T** 7T	**58L** 23L	**-66** -12	**-30** -12	**66T** 26T	**0L** 0L
250 9.8425	**270** 10.6299	**-36** -14	**-18** -7	**+28** +11	**18T** 7T	**64L** 25L	**-71** -28	**-30** -12	**71T** 28T	**5L** 2L
270 10.6299	**310** 12.2047	**-36** -14	**-18** -7	**+33** +13	**18T** 7T	**69L** 27L	**-71** -28	**-36** -14	**71T** 28T	**5L** 2L
310 12.2047	**400** 15.7480	**-41** -16	**-18** -7	**+38** +15	**18T** 7T	**79L** 31L	**-76** -30	**-36** -14	**79T** 30T	**5L** 2L
400 15.748	**440** 17.3228	**-46** -18	**-23** -9	**+41** +16	**23T** 9T	**86L** 34L	**-86** -14	**-36** -34	**86T** 34T	**10L** 4L

5200, A5200 METRIC SERIES SHAFT AND HOUSING FITS AND TOLERANCES - *continued*

B

RADIAL INTERNAL CLEARANCE (R6)

Bearing Bore		Radial Internal Clearance	
Over	Incl.	min.	max.
mm in.	mm in.	mm in.	mm in.
– –	100 3.937	0.127 0.005	0.183 0.0072
100 3.937	120 4.7244	0.127 0.005	0.188 0.0074
120 4.7244	140 5.5118	0.142 0.0056	0.208 0.0082
140 5.5118	170 6.6929	0.152 0.006	0.224 0.0088
170 6.6929	180 7.0866	0.152 0.006	0.229 0.009
180 7.0866	220 8.6614	0.173 0.0068	0.254 0.01
220 8.6614	240 9.4488	0.183 0.0072	0.269 0.0106

INNER RING TOLERANCES

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing Bore		Bore & Inner O.D.	Width
Over	Incl.	+0	+0
mm in.	mm in.	mm in.	mm in.
80 3.1496	120 4.7244	-20 -8	-203 -80
120 4.7244	180 7.0866	-25 -10	-254 -100
180 7.0866	250 9.8425	-30 -12	-305 -120

OUTER RING TOLERANCES

All tolerances shown in ten thousandth (.0001") and micrometers (µm).

Bearing O.D.		O.D.	Diameter Under Rollers
Over	Incl.	+0	-0
mm in.	mm in.	mm in.	mm in.
150 5.9055	180 7.0866	-25 -10	+36 +14
180 7.0866	250 9.8425	-30 -12	+41 +16
250 9.8425	315 12.4016	-36 -14	+46 +18
315 12.4016	400 15.748	-41 -16	+51 +20
400 15.748	500 19.685	-46 -18	+56 +22

SHAFT DIMENSIONS - 5200 BEARINGS WITHOUT INNER RING

Bearing Number	Slip Fit Housing*		Press Fit Housing*	
	max.	min.	max.	min.
	mm in.	mm in.	mm in.	mm in.
5220 WS	121.064 4.7663	121.044 4.7655	121.036 4.7652	121.016 4.7644
5222 WS	133.007 5.2365	132.987 5.2357	132.969 5.235	132.949 5.2343
5224 WS	145.194 5.7163	145.174 5.7155	145.156 5.7148	145.136 5.714
5226 WS	155.042 6.104	155.016 6.103	155.004 6.1025	154.978 6.1015
5228 WS	168.529 6.635	168.504 6.634	168.491 6.6335	168.466 6.6325
5230 WS	181.623 7.1505	181.597 7.1495	181.587 7.149	181.559 7.148
5232 WS	193.713 7.6265	193.688 7.6255	193.675 7.625	193.65 7.624
5234 WS	205.562 8.093	205.537 8.092	205.524 8.0915	205.499 8.0905
5236 WS	216.37 8.5185	216.344 8.5175	216.319 8.5165	216.294 8.5155
5238 WS	229.032 9.017	229.001 9.0158	228.994 9.0155	228.963 9.0143
5240 WS	242.296 9.5392	242.265 9.538	242.245 9.5372	242.214 9.536
5244 WM	266.02 10.4725	265.971 10.4713	265.951 10.4705	265.92 10.4693
5248WM	291.292 11.4682	291.262 11.467	291.241 11.4662	291.211 11.465

*All shaft diameters are based on a housing bore to housing O.D. ratio of 0.7.

NCF/NU

- Single-row, full-complement cylindrical roller bearings.
- Features include integral flanges on the inner and outer rings.
- Can manage axial loads in one direction and permit small axial displacements.

Bearing Number	d Bore	D O.D.	B Width	r Fillet Rad. (max.)	Backing Diameter Shaft E	Backing Diameter Housing F	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Ratings C	Lubrication Factor Cg	Reference Speed Grease	Thermal Ratings Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.		RPM	RPM	kg lbs.
NCF												
NCF1840V	**200** 7.8740	**250** 9.8425	**24** 0.9449	**1.5** 0.06	**207** 8.1	**243** 9.6	**343** 77200	**193** 43300	**0.112**	**610**	**740**	**2.5** 5.5
NCF1844V	**220** 8.6614	**270** 10.6299	**24** 0.9449	**1.5** 0.06	**227** 8.9	**263** 10.4	**377** 84800	**202** 45400	**0.119**	**550**	**670**	**2.9** 6.4
NCF2944V	**220** 8.6614	**300** 11.8110	**48** 1.8898	**2.1** 0.08	**230** 9.1	**290** 11.4	**1010** 226000	**575** 129000	**0.144**	**560**	**660**	**10.9** 24.0
NCF1852V	**260** 10.2362	**320** 12.5984	**28** 1.1024	**2.0** 0.08	**269** 10.6	**311** 12.3	**561** 126000	**297** 66700	**0.138**	**480**	**580**	**4.8** 10.6
NCF1864V	**320** 12.5984	**400** 15.7480	**38** 1.4961	**2.1** 0.08	**330** 13.0	**390** 15.3	**912** 205000	**479** 108000	**0.164**	**380**	**460**	**10.6** 23.4
NCF2964V	**320** 12.5984	**440** 17.3228	**72** 2.8346	**2.5** 0.10	**332** 13.1	**428** 16.8	**2380** 536000	**1300** 293000	**0.197**	**340**	**400**	**32.9** 72.5
NCF1876V	**380** 14.9606	**480** 18.8976	**46** 1.8110	**2.1** 0.08	**390** 15.4	**470** 18.5	**1360** 307000	**708** 159000	**0.190**	**310**	**370**	**19.1** 42.1
NCF2976V	**380** 14.9606	**520** 20.4724	**82** 3.2283	**3.0** 0.12	**395** 15.5	**505** 19.9	**3380** 759000	**1800** 405000	**0.226**	**270**	**310**	**52.9** 116.6
NCF1880V	**400** 15.7480	**500** 19.6850	**46** 1.8110	**2.1** 0.08	**410** 16.1	**490** 19.3	**1420** 319000	**722** 162000	**0.195**	**290**	**350**	**20.6** 45.4
NCF1888V	**440** 17.3228	**540** 21.2598	**46** 1.8110	**2.1** 0.08	**450** 17.7	**530** 20.9	**1560** 351000	**756** 170000	**0.208**	**260**	**310**	**22.3** 49.2
NCF1892V	**460** 18.1102	**580** 22.8346	**56** 2.2047	**2.5** 0.10	**472** 18.6	**568** 22.3	**2020** 455000	**1030** 232000	**0.220**	**250**	**290**	**34.2** 75.4
NCF18/530V	**530** 20.8661	**650** 25.5906	**56** 2.2047	**2.5** 0.10	**542** 21.4	**638** 25.1	**2320** 521000	**1100** 248000	**0.242**	**210**	**240**	**37.8** 83.3
NCF18/600V	**600** 23.6220	**730** 28.7402	**60** 2.3622	**2.5** 0.10	**612** 24.1	**718** 28.3	**2610** 587000	**1170** 263000	**0.264**	**180**	**210**	**50.2** 110.7
NCF18/630V	**630** 24.8031	**780** 30.7087	**69** 2.7165	**3.0** 0.12	**645** 25.4	**765** 30.1	**3080** 692000	**1410** 316000	**0.276**	**170**	**200**	**72.2** 159.2
NCF18/710V	**710** 27.9528	**870** 34.2520	**74** 2.9134	**3.0** 0.12	**725** 28.5	**855** 33.7	**3900** 876000	**1740** 390000	**0.304**	**150**	**170**	**91.6** 201.9
NU												
NU1036MA	**180** 7.0866	**280** 11.0236	**46** 1.8110	**2.1** 0.08	**190** 7.5	**270** 10.6	**505** 113000	**391** 88000	**0.111**	**2100**	**2600**	**10.7** 23.6
NU1040MA	**200** 7.8740	**310** 12.2047	**51** 2.0079	**2.1** 0.08	**210** 8.3	**300** 11.8	**602** 135000	**445** 100000	**0.120**	**1900**	**2300**	**14.6** 32.2
NU1052MA	**260** 10.2362	**400** 15.7480	**65** 2.5591	**3.0** 0.12	**275** 10.8	**385** 15.2	**1030** 232000	**737** 166000	**0.148**	**1400**	**1700**	**30.0** 66.1
NU1056MA	**280** 11.0236	**420** 16.5354	**65** 2.5591	**3.0** 0.12	**295** 11.6	**405** 16.0	**1080** 243000	**754** 169000	**0.154**	**1300**	**1600**	**31.9** 70.3
NU1060MA	**300** 11.8110	**460** 18.1102	**74** 2.9134	**3.0** 0.12	**315** 12.4	**445** 17.5	**1420** 319000	**1000** 225000	**0.167**	**1200**	**1400**	**45.7** 100.8
NU1064MA	**320** 12.5984	**480** 18.8976	**74** 2.9134	**3.0** 0.12	**335** 13.2	**465** 18.3	**1490** 335000	**1020** 230000	**0.173**	**1100**	**1300**	**48.1** 106.0
NU1068MA	**340** 13.3858	**520** 20.4724	**82** 3.2283	**4.0** 0.16	**358** 14.1	**502** 19.8	**1800** 404000	**1240** 279000	**0.184**	**1000**	**1200**	**64.2** 141.5
NU1080MA	**400** 15.7480	**600** 23.6220	**90** 3.5433	**4.0** 0.16	**418** 16.5	**582** 22.9	**2340** 525000	**1560** 350000	**0.206**	**830**	**970**	**91.9** 202.6
NU10/600	**600** 23.6220	**870** 34.2520	**118** 4.6457	**5.0** 0.20	**651** 25.6	**807** 31.8	**5030** 1130000	**3080** 692000	**0.283**	**490**	**560**	**239.6** 528.2

NOTES

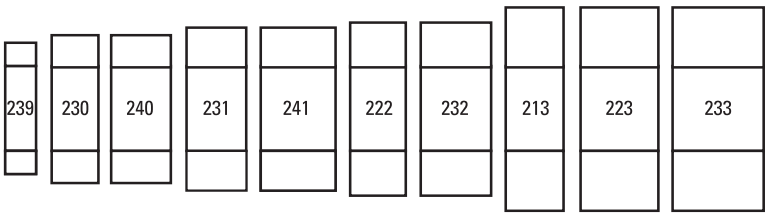
SPHERICAL ROLLER BEARINGS

Overview: Timken spherical roller bearings feature all of the characteristics that have made Timken renowned – superior design, reliable performance and comprehensive technical support. Spherical roller bearings are designed to manage high radial loads and perform consistently, even when misalignment, marginal lubrication, contamination, extreme speeds and critical application stresses are present.

- **Sizes:** Bore sizes of 25 mm and larger.
- **Markets:** Pulp and paper, power generation, oil field, mining and aggregate processing, wind turbines, gear drives and rolling mills.
- **Features:** Large bores for integration into heavy-duty industrial applications.
- **Benefits:** High load capacity under misalignment conditions from shaft deflections or housing misalignment.

Spherical Roller Bearings

Series:



Bore:
(5 x _ _ = bore in millimeters when 2 digits)
5 x 07 = 35 mm
5 x 76 = 380 mm
(/ # # # = bore in millimeters when >2 digits)
/530 = 530 mm
/1060 = 1060 mm

222	**17**	**K CJ W33**	**C3**
223	**26**	**YM W33 W800**	**C4**

Modification and style codes:
K = tapered bore
CJ = 2 piece steel cage - window type
VJ = 2 piece steel cage - finger type
YM = 1 piece brass cage - finger type
YMB = 1 piece brass, finger type, land piloted
YMD = 2 piece brass, finger type, land piloted
W33 = 3 holes and groove in O.D.
W800 = shaker screen modification:
- tighter bore diameter and O.D. tolerances
- brass cage
- RIC in upper 2/3 of clearance specified

W47 = inner ring with oversize bore

Internal Clearance:
C2 less than C0
C0 normal
C3 greater than C0
C4 greater than C3
C5 greater than C4
C6 special clearance

Current Industry Standard:

22326

	2	**23**	**26**
Old ABMA Part Number:	**130**	**SD**	**23**

double-row series SRB

Bore
5 x 26 = Bore in millimeters
130 mm

130SD23

Bore
130 = Bore in millimeters
130 mm

B

Spherical Roller Bearings

Page

Introduction **B354**

Bearing Types **B354**

Modification Codes **B355**

Spherical Roller Bearings **B356**

Shaft Adapter Accessories for Tapered Bore Bearings **B374**

Shaft Adapter Accessories for Cylindrical Bore Bearings . . **B378**

Mounting Procedures **B379**

INTRODUCTION

The Timken self-aligning spherical roller bearing is a combination radial and thrust bearing, designed to operate even if shaft and housing are, or become, misaligned under load. This high-capacity bearing is the favored choice when conditions include heavy loads, plus difficulties in establishing or maintaining housing alignment, or when shaft deflection can be expected.

Shaft deflections and housing distortions caused by shock or heavy loads, which lead to misalignment, are compensated for by the internal self-alignment of the bearing elements during operation. Edge loading of rollers, a condition that limits service life on other types of bearings, does not develop in spherical roller bearings. Optimum bearing capacity can often be realized with up to ±1 ½ degrees of misalignment, depending on the size and series of bearing selected.

The inherent compensation for misalignment provided by the spherical roller bearing offers the designer the opportunity to use weldments for housing frames instead of complex castings, eliminating high-cost machining operations. Even when castings may be preferred, bore alignment is less critical if spherical roller bearings are specified. Unit design and construction also make the spherical roller bearing convenient to handle during installation or maintenance.

Several types of radial spherical roller bearings include CJ, YM, YMB, YMD, and VCSJ types.

Bearings are made to RBEC-1 tolerances. Life calculations, shaft and housing fits, internal clearances, tolerances and other technical data for these bearings are found in the engineering section of this catalog.

BEARING TYPES

CJ

YM

Tapered Bore with Adapter Sleeve

YM

- Higher load ratings for longer life.
- Incorporates advanced features and precision-machined roller-riding one piece brass cage.
- Suited for severe conditions of use.

YMB

- Higher load ratings for longer life.
- Incorporates advanced features and precision-machined, land-riding one piece brass cage.
- Suited for use in severe conditions.

YMD

- Incorporates advanced features and offers higher load ratings for longer life.
- Precision-machined, land-riding and two-pieced brass cages.
- Suited for use in severe conditions.

CJ

- High load ratings for longer life.
- Incorporates stamped steel window type cage for a broad range of applications.
- Utilize advanced features.

VCSJ

- Compact design for general use.
- Stamped steel finger type cage.

TAPERED BORE BEARINGS WITH ADAPTER SLEEVES

- SNW adapter assemblies consist of a sleeve and locknut. Lockwashers are available for shaft mounting of tapered bore "K" bearings.
- Description of shaft mounting techniques for tapered bore bearings with adapter sleeves are found on page B380.

SHAKER SCREEN EQUIPMENT

- Vibrating equipment commonly found in the aggregate industry is one of the most demanding applications for spherical roller bearings.
- Timken manufactures spherical roller bearings suited for high rotational speeds, high radial and impact loads, fluctuating and unbalanced loads, misalignment and extreme centrifugal forces in tough environmental conditions.
- The design allows for static and dynamic misalignment in the application while maintaining the bearing's full dynamic capacity. This achieves maximum expected service life.
- Standards and special modification codes are available for shaft (s4 or m6) and housing (P6 or H7) fits as in the engineering section.

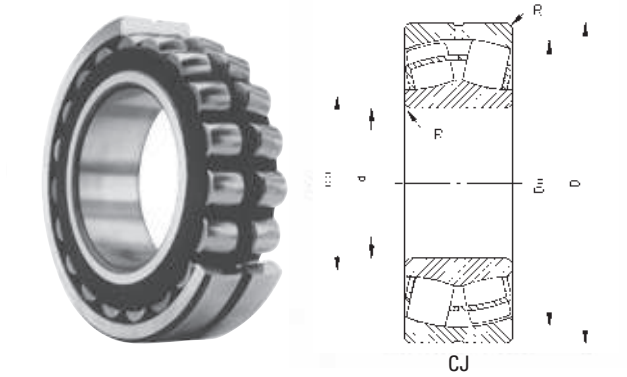
TIMKEN SPHERICAL ROLLER BEARING MODIFICATIONS

TKN	SKF	FAG	TIMKEN GENERAL DEFINITION
Other modifications available, contact your local Timken representative for more information.			
CJ	CJ, CC	J	Spherical with stamped steel cage
YM	M2	M	One-piece roller riding machined brass cage
YMB	MC	MB	One-piece inner ring piloted machined brass cage
CO2	CO2	T52BE	Inner ring with P5 running accuracy, W4 (SKF does not include W4)
CO2 C3	CO23	C3, T52BE	Inner ring with P5 running accuracy, C3 RIC
CO2 C4	CO24	C4, T52BE	Inner ring with P5 running accuracy, C4 RIC
CO4	CO4	T52BN	Outer ring with P5 running accuracy, W4 (SKF does not include W4)
CO4 C3	CO43	C3, T52BN	Outer ring with P5 running accuracy, C3 RIC
CO4 C4	CO44	C4, T52BN	Outer ring with P5 running accuracy, C4 RIC
CO8	C08	T52BW C02	P5 running accuracy (CO2 and CO4)
CO8 C3	CO83	C3, T52BW	P5 running accuracy (CO2 and CO4), C3 RIC
CO8 C4	CO84	C4, T52BW	PS running accuracy (CO2 and CO4), C4 RIC
C6	C6	—	Special RIC non-specific
K	K	K	Tapered bore (1: 12 on diameter 22, 23, 30, 31, 32, 33, 39 series)
K	K30	K30	Tapered bore (1: 30 on diameter 40,41,42 series)
W4	W4	J26A	Mark high and low points of eccentricity on face of rings
W6R	—	—	Engineered coating on rollers to combat low lube or abrasive contamination
W8	—	—	Rings and rollers TDC® coated
W20	W20	SY	Outer ring with standard lubrication holes
W22	W22	700855	Special reduced O.D. tolerance on outer rings
W25	W73	—	Outer ring with counter drilled lubrication hole
W31	W31	—	Bearing inspected to certain quality control requirements
W33	W33	S	Standard lubrication holes and groove in outer ring (FAG drops S from number for sizes larger than 315 mm O.D.)
W33 W4	W503	S + J26A	Timken and FAG drop W33 W4 in conjunction with CO8, W507
W33 W22 W31	W512 (W22 + W31 + W33)	S + 700855	Timken and FAG drop W31 in conjunction with CO2, CO4, and CO8
W33 W94	W513 (W26 + W33)	S + H40A	See other component description
W37			Special finish
W40I	ECB (Prefix)	W209B	Inner ring only made of carburizing grade steel
W40R	—	—	Rollers only made of carburizing grade steel
W45A	W61	—	Tapped lifting holes in face of outer ring to facilitate lifting and handling
W84	W77	H44S (H40)*	Outer ring with standard lubrication holes plugged
W88	—	—	Special reduced bore tolerance on inner ring
W93	—	—	Inner ring with keyway in bore
W94	W26	H40A	Inner ring lubrication holes and retainer face grooves SKF and FAG - no retainer face grooves
W502	W502 (W22 + W33)	S + 700855	W22, W33 and W45A (where feasible)
W507	W507 (W4 + W31 + W33)	S +	W31, W33 and W45A (where feasible)
W509	W509 (W26 + W31 + W33)	S.H40A + …	W31, W33, W94 and W45A (where feasible)
W525	W525 (W31 + W77)	S.H44S (H40)*	W31, W33, W84 and W45A (where feasible)
W534	W534 (CO8 + W507)	—	W507 and CO8
W800	VA405	T41A	W22 + W88 + radial internal clearance in upper two-thirds of range specified range (shaker screen modification)
W906A	—	—	CO2 + CO4 + W31 + W33 + W401 + W40R (offered on tapered bore product, supercedes W507A, W534A)

Data in this chart has been compiled to make the information as complete as possible, Timken cannot assume any responsibility for errors, omissions or accuracy of the published data.

SPHERICAL ROLLER BEARINGS

- Timken inventory systems are designed to provide fast delivery for frequently-ordered sizes and styles.
- Consult your Timken representative for up-to-date information about the availability of the bearings you have selected.
- Life calculations, shaft and housing fits, internal clearances, tolerances and other technical data for these bearings are found in the engineering section of this catalog.
- Bearings are available with a tapered bore for adapter type mounting. To order, add the suffix "K" to bearing number (e.g., 23120K).



CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet[2] (max.)	Backing Diameter d_a Shaft	Backing Diameter D_a Housing	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Rating C	Equivalent Radial load Factors[1] e	Dynamic $\frac{T}{R} \le e$ X = 1 Y	Dynamic $\frac{T}{R} > e$ X = .67 Y	Static In All Cases X_0 = 1 Y_0	Lubrication Life Adjustment Factor[4] C_g	Reference Speed Grease	Thermal Ratings[3] Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
22205CJ	25 0.9843	52 2.0472	18.0 0.7087	1.0 0.04	30 1.2	47 1.9	43.0 9700	44.0 9800	0.34	2.00	2.98	1.96	0.0384	7700	9600	0.2 0.4
21305VCSJ	25 0.9843	62 2.4409	17.0 0.6693	1.0 0.04	33 1.3	54 2.1	38.0 8400	41.0 9200	0.29	2.33	3.47	2.28	0.0403	7000	8700	0.30 0.6
22206CJ	30 1.1811	62 2.4409	20.0 0.7874	1.0 0.04	38 1.5	56 2.2	61.0 13700	58.0 13100	0.31	2.15	3.20	2.10	0.0435	6600	8100	0.3 0.6
21306VCSJ	30 1.1811	72 2.8346	19.0 0.7480	1.0 0.04	39 1.5	63 2.5	51.0 11300	53.0 12000	0.28	2.45	3.64	2.39	0.0444	6200	7600	0.40 0.8
22207CJ	35 1.3780	72 2.8346	23.0 0.9055	1.0 0.04	45 1.8	65 2.6	88.0 19700	78.0 17500	0.31	2.21	3.29	2.16	0.0484	5900	7200	0.5 1.0
21307VCSJ	35 1.3779	80 3.1496	21.0 0.8268	1.5 0.06	44 1.7	71 2.8	66.0 14800	67.0 15000	0.27	2.48	3.69	2.42	0.0484	5600	6900	0.50 1.1
22208CJ	40 1.5748	80 3.1496	23.0 0.9055	1.0 0.04	50 2.0	72 2.9	100 22400	90.0 20100	0.27	2.47	3.67	2.41	0.0494	5100	6300	0.6 1.2
22208YM	40 1.5748	80 3.1496	23.0 0.9055	1.0 0.04	50 2.0	72 2.9	93.5 21000	85.5 19200	0.27	2.47	3.67	2.41	0.0514	5200	6400	0.6 1.2
21308VCSJ	40 1.5748	90 3.5433	23.0 0.9055	1.5 0.06	51 2.0	81 3.2	85.0 19100	81.0 18200	0.26	2.55	3.80	2.50	0.0529	5100	6200	0.70 1.5
22308CJ	40 1.5748	90 3.5433	33.0 1.2992	1.5 0.06	53 2.1	81 3.2	148 33100	133 29800	0.36	1.87	2.79	1.83	0.0541	4900	5800	1.1 2.3
22308YM	40 1.5748	90 3.5433	33.0 1.2992	1.5 0.06	53 2.1	81 3.2	148 33100	133 29800	0.36	1.87	2.79	1.83	0.0541	4900	5800	1.1 2.3
22209CJ	45 1.7717	85 3.3465	23.0 0.9055	1.0 0.04	55 2.2	77 3.0	108 24200	94.0 21100	0.26	2.64	3.93	2.58	0.0547	4700	5700	0.6 1.3
22209YM	45 1.7717	85 3.3465	23.0 0.9055	1.0 0.04	55 2.2	77 3.0	101 22800	90.0 20100	0.26	2.64	3.93	2.58	0.0547	4700	5800	0.6 1.3
21309VCSJ	45 1.7717	100 3.9370	25.0 0.9843	1.5 0.06	57 2.2	91 3.6	106 23900	100 22500	0.26	2.64	3.93	2.58	0.0567	4600	5700	0.90 2
22309CJ	45 1.7717	100 3.9370	36.0 1.4173	1.5 0.06	58 2.3	90 3.5	182 40800	162 36400	0.36	1.90	2.83	1.86	0.0565	4500	5300	1.4 3.1
22309YM	45 1.7717	100 3.9370	36.0 1.4173	1.5 0.06	58 2.3	90 3.5	182 40800	162 36400	0.36	1.90	2.83	1.86	0.0579	4500	5300	1.4 3.1
22210CJ	50 1.9685	90 3.5433	23.0 0.9055	1.0 0.04	59 2.3	82 3.2	118 26000	101 22600	0.24	2.84	4.23	2.78	0.0575	4300	5200	0.6 1.4
22210YM	50 1.9685	90 3.5433	23.0 0.9055	1.0 0.04	59 2.3	82 3.2	112 25100	96.5 21700	0.24	2.84	4.23	2.78	0.0575	4300	5300	0.6 1.4
22310CJ	50 1.9685	110 4.3307	40.0 1.5748	2.0 0.08	64 2.5	98 3.9	226 51000	197 44200	0.36	1.87	2.79	1.83	0.0422	4200	4900	1.9 4.2
22310YM	50 1.9685	110 4.3307	40.0 1.5748	2.0 0.08	64 2.5	98 3.9	226 51000	197 44200	0.36	1.87	2.79	1.83	0.0422	4200	4900	1.9 4.2
22211CJ	55 2.1654	100 3.9370	25.0 0.9843	1.5 0.06	66 2.6	91 3.6	142 32000	120 27000	0.23	2.95	4.40	2.89	0.0604	4000	4800	0.9 1.9

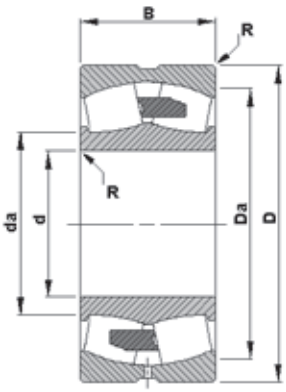
(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.

(2) Maximum shaft or housing fillet radius that bearing corners will clear.

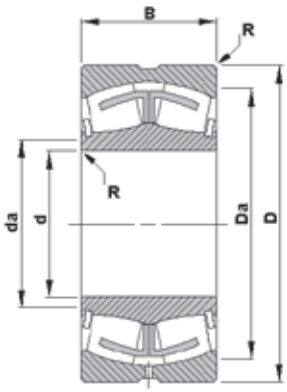
* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).

(3) See thermal speed ratings in the engineering section.

(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



YM



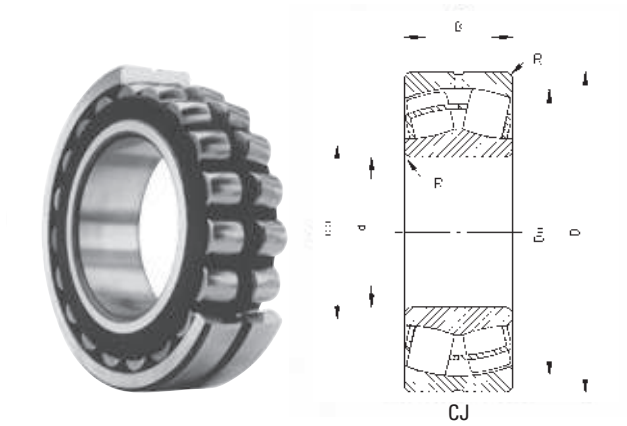
VCSJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4) C_g	Reference Speed	Thermal Ratings(3)	Weight
										Dynamic		Static				
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C	e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
22311CJ	55 2.1654	120 4.7244	43.0 1.6929	2.0 0.08	69 2.7	107 4.2	248 55800	221 49600	0.36	1.87	2.79	1.83	0.0446	3900	4700	2.4 5.3
22311YM	55 2.1654	120 4.7244	43.0 1.6929	2.0 0.08	69 2.7	107 4.2	248 55800	221 49600	0.36	1.87	2.79	1.83	0.0446	3900	4700	2.4 5.3
21311VCSJ	55 2.1654	120 4.7244	29.0 1.1417	2.0 0.08	70 2.8	109 4.3	158 35500	141 31700	0.24	2.82	4.20	2.76	0.0446	4000	4800	1.50 3.3
22212CJ	60 2.3622	110 4.3307	28.0 1.1024	1.5 0.06	72 2.8	100 4.0	174 39100	146 32800	0.24	2.84	4.23	2.78	0.0652	3800	4600	1.2 2.6
22212YM	60 2.3622	110 4.3307	28.0 1.1024	1.5 0.06	72 2.8	100 4.0	164 36900	140 31400	0.24	2.84	4.23	2.78	0.0645	3800	4700	1.2 2.6
22312CJ	60 2.3622	130 5.1181	46.0 1.8110	2.0 0.08	75 3.0	117 4.6	312 70100	269 60400	0.35	1.95	2.90	1.91	0.0463	3600	4300	3.0 6.6
22312YM	60 2.3622	130 5.1181	46.0 1.8110	2.0 0.08	75 3.0	117 4.6	312 70100	269 60400	0.35	1.95	2.90	1.91	0.0471	3600	4300	3.0 6.6
21312VCSJ	60 2.3622	130 5.1181	31.0 1.2205	2.0 0.08	76 3.0	118 4.7	179 40200	158 35500	0.24	2.81	4.19	2.75	0.0467	3700	4600	1.90 4.2
22213CJ	65 2.5591	120 4.7244	31.0 1.2205	1.5 0.06	78 3.1	109 4.3	217 49000	177 39800	0.24	2.79	4.15	2.73	0.0473	3600	4400	1.6 3.4
22213YM	65 2.5591	120 4.7244	31.0 1.2205	1.5 0.06	78 3.1	109 4.3	204 46000	170 38200	0.24	2.79	4.15	2.73	0.0468	3600	4400	1.6 3.4
21313VCSJ	65 2.5591	140 5.5118	33.0 1.2992	2.0 0.08	82 3.2	128 5.0	215 48300	189 42500	0.23	2.91	4.33	2.84	0.0463	3500	4300	2.40 5.3
22313CJ	65 2.5591	140 5.5118	48.0 1.8898	2.0 0.08	82 3.2	126 5.0	333 74900	290 65200	0.33	2.06	3.06	2.01	0.0455	3400	4100	3.6 8.0
22313YM	65 2.5591	140 5.5118	48.0 1.8898	2.0 0.08	82 3.2	126 5.0	333 74900	290 65200	0.33	2.06	3.06	2.01	0.0464	3400	4100	3.6 8.0
22214CJ	70 2.7559	125 4.9213	31.0 1.2205	1.5 0.06	84 3.3	115 4.5	231 52000	184 41400	0.22	3.01	4.48	2.94	0.0464	3400	4100	1.6 3.6
22314CJ	70 2.7559	150 5.9055	51.0 2.0079	2.0 0.08	87 3.4	131 5.2	385 86500	331 74300	0.34	2.00	2.98	1.96	0.0482	3200	3800	4.4 9.7
21314VCSJ	70 2.7559	150 5.9055	35.0 1.3780	2.0 0.08	88 3.5	138 5.4	240 54000	208 46700	0.23	2.90	4.31	2.83	0.0480	3300	4100	2.90 6.4
22314YM	70 2.7559	150 5.9055	51.0 2.0079	2.0 0.08	87 3.4	131 5.2	385 86500	331 74300	0.34	2.00	2.98	1.96	0.0482	3200	3800	4.4 9.7
22215CJ	75 2.9528	130 5.1181	31.0 1.2205	1.5 0.06	88 3.5	120 4.7	241 54100	191 42900	0.22	3.14	4.67	3.07	0.0477	3200	3900	1.7 3.8
22315CJ	75 2.9528	160 6.2992	55.0 2.1654	2.0 0.08	93 3.7	140 5.5	456 102000	387 87100	0.34	2.00	2.98	1.96	0.0505	3100	3600	5.4 11.9
21315VCSJ	75 2.9528	160 6.2992	37.0 1.4567	2.0 0.08	94 3.7	148 5.8	274 61600	237 53200	0.23	2.94	4.37	2.87	0.0502	3200	3800	3.50 7.7
22315YM	75 2.9528	160 6.2992	55.0 2.1654	2.0 0.08	93 3.7	140 5.5	456 102000	387 87100	0.34	2.00	2.98	1.96	0.0505	3100	3600	5.4 11.9

Continued on next page.

SPHERICAL ROLLER BEARINGS - *continued*

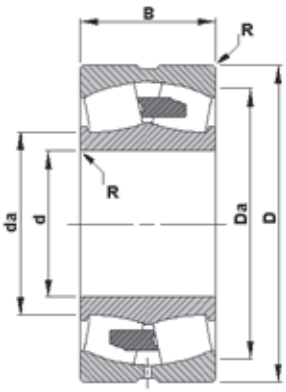
- Timken inventory systems are designed to provide fast delivery for frequently-ordered sizes and styles.
- Consult your Timken representative for up-to-date information about the availability of the bearings you have selected.
- Life calculations, shaft and housing fits, internal clearances, tolerances and other technical data for these bearings are found in the engineering section of this catalog.
- Bearings are available with a tapered bore for adapter type mounting. To order, add the suffix "K" to bearing number (e.g., 23120K).



CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4)	Reference Speed	Thermal Ratings(3)	Weight
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C		Dynamic		Static	C_g			
									e	$\frac{T}{R} \le e$ X = 1	$\frac{T}{R} > e$ X = .67	In All Cases $X_0 = 1$		Grease	Oil	
										Y	Y	Y_0				
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
22216CJ	80 3.1496	140 5.5118	33.0 1.2992	2.0 0.08	95 3.7	129 5.1	278 62500	218 49100	0.22	3.14	4.67	3.07	0.0499	3000	3700	2.2 4.7
22216YM	80 3.1496	140 5.5118	33.0 1.2992	2.0 0.08	95 3.7	129 5.1	263 59200	210 47100	0.22	3.14	4.67	3.07	0.0495	3000	3700	2.2 4.7
21316VCSJ	80 3.1496	170 6.6929	39.0 1.5354	2.0 0.08	100 3.9	158 6.2	305 68500	260 58400	0.23	2.95	4.40	2.89	0.0522	3000	3700	4.10 9
22316CJ	80 3.1496	170 6.6929	58.0 2.2835	2.0 0.08	97 3.8	148 5.8	510 115000	427 96100	0.34	2.00	2.98	1.96	0.0526	2900	3500	6.4 14.2
22316YM	80 3.1496	170 6.6929	58.0 2.2835	2.0 0.08	97 3.8	148 5.8	510 115000	427 96100	0.34	2.00	2.98	1.96	0.0526	2900	3500	6.4 14.2
22217CJ	85 3.3465	150 5.9055	36.0 1.4173	2.0 0.08	101 4.0	139 5.5	320 72000	255 57200	0.22	3.07	4.57	3.00	0.0518	2900	3500	2.7 6.0
22217YM	85 3.3465	150 5.9055	36.0 1.4173	2.0 0.08	101 4.0	139 5.5	302 67900	244 54800	0.22	3.07	4.57	3.00	0.0513	2900	3600	2.7 6.0
21317VCSM	85 3.3465	180 7.0866	41.0 1.6142	3.0 0.12	107 4.2	166 6.5	365 82000	301 67800	0.23	2.99	4.46	2.93	0.0547	2900	3500	5.20 11.5
22317CJ	85 3.3465	180 7.0866	60.0 2.3622	2.5 0.10	106 4.2	158 6.2	591 133000	474 107000	0.32	2.09	3.11	2.04	0.0554	2700	3200	7.5 16.4
22317YM	85 3.3465	180 7.0866	60.0 2.3622	2.5 0.10	106 4.2	158 6.2	591 133000	474 107000	0.32	2.09	3.11	2.04	0.0554	2700	3200	7.5 16.4
22218CJ	90 3.5433	160 6.2992	40.0 1.5748	2.0 0.08	105 4.2	146 5.8	388 87200	303 68100	0.23	2.90	4.31	2.83	0.0536	2800	3400	3.5 7.6
22218YM	90 3.5433	160 6.2992	40.0 1.5748	2.0 0.08	105 4.2	146 5.8	388 87200	303 68100	0.23	2.90	4.31	2.83	0.0536	2800	3400	3.5 7.6
23218CJ	90 3.5433	160 6.2992	52.0 2.0630	2.0 0.08	104 4.1	146 5.8	504 113000	369 83000	0.30	2.25	3.34	2.20	0.0536	2300	2700	4.5 10.0
23218YM	90 3.5433	160 6.2992	52.0 2.0630	2.0 0.08	104 4.1	146 5.8	504 113000	369 83000	0.30	2.25	3.34	2.20	0.0536	2300	2700	4.5 10.0
22318CJ	90 3.5433	190 7.4803	64.0 2.5197	2.5 0.10	110 4.3	167 6.6	642 144000	529 119000	0.35	1.92	2.86	1.88	0.0565	2600	3000	8.8 19.4
22318YM	90 3.5433	190 7.4803	64.0 2.5197	2.5 0.10	110 4.3	167 6.6	642 144000	529 119000	0.33	2.06	3.06	2.01	0.0565	2600	3000	8.8 19.4
21318VCSM	90 3.5433	190 7.4803	43.0 1.6929	3.0 0.12	113 4.5	176 6.9	398 89500	327 73400	0.23	3.00	4.47	2.93	0.0567	2800	3300	6.00 13.5
22319CJ	90 3.5433	190 7.4803	64.0 2.5197	2.5 0.10	110 4.3	167 6.6	642 144000	529 119000	0.33	2.06	3.06	2.01	0.0593	2600	3000	8.8 19.4
23318YM	90 3.5433	190 7.4803	73.0 2.8740	2.5 0.10	110 4.3	167 6.6	664 149000	516 116000	0.40	1.70	2.52	1.66	0.0555	1900	2200	10.1 22.2
22219CJ	95 3.7402	170 6.6929	43.0 1.6929	2.0 0.08	112 4.4	152 6.0	383 86200	289 65000	0.25	2.68	3.99	2.62	0.0556	2800	3400	4.2 9.3
22219YM	95 3.7402	170 6.6929	43.0 1.6929	2.0 0.08	112 4.4	152 6.0	383 86200	289 65000	0.25	2.68	3.99	2.62	0.0558	2800	3400	4.2 9.3

(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.
(2) Maximum shaft or housing fillet radius that bearing corners will clear.
* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).
(3) See thermal speed ratings in the engineering section.
(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4)	Reference Speed	Thermal Ratings(3)	Weight
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C	Dynamic			Static				
									e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0	C_g	Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
22319YM	**95** 3.7402	**200** 7.8740	**67.0** 2.6378	**2.5** 0.10	**119** 4.7	**175** 6.9	**735** 165000	**580** 130000	**0.32**	**2.09**	**3.11**	**2.04**	**0.0593**	**2400**	**2800**	**10.2** 22.5
23120YM	**100** 3.9370	**165** 6.4961	**52.0** 2.0472	**2.0** 0.08	**112** 4.5	**151** 6.0	**575** 129000	**379** 85200	**0.28**	**2.39**	**3.56**	**2.34**	**0.0567**	**2400**	**2800**	**4.4** 9.7
22220CJ	**100** 3.9370	**180** 7.0866	**46.0** 1.8110	**2.0** 0.08	**119** 4.7	**160** 6.3	**484** 109000	**373** 83800	**0.24**	**2.84**	**4.23**	**2.78**	**0.0577**	**2700**	**3200**	**5.1** 11.2
22220YM	**100** 3.9370	**180** 7.0866	**46.0** 1.8110	**2.0** 0.08	**119** 4.7	**160** 6.3	**484** 109000	**373** 83800	**0.24**	**2.84**	**4.23**	**2.78**	**0.0577**	**2700**	**3200**	**5.1** 11.2
23220CJ	**100** 3.9370	**180** 7.0866	**60.3** 2.3740	**2.0** 0.08	**118** 4.7	**165** 6.5	**646** 145000	**463** 104000	**0.31**	**2.18**	**3.24**	**2.13**	**0.0579**	**2100**	**2500**	**6.6** 15.0
23220YM	**100** 3.9370	**180** 7.0866	**60.3** 2.3740	**2.0** 0.08	**118** 4.7	**165** 6.5	**646** 145000	**463** 104000	**0.31**	**2.18**	**3.24**	**2.13**	**0.0579**	**2100**	**2500**	**6.6** 15.0
22320CJ	**100** 3.9370	**215** 8.4646	**73.0** 2.8740	**2.5** 0.10	**125** 4.9	**187** 7.4	**756** 170000	**586** 132000	**0.36**	**1.90**	**2.82**	**1.85**	**0.0618**	**2300**	**2700**	**13.0** 28.7
22320YM	**100** 3.9370	**215** 8.4646	**73.0** 2.8740	**2.5** 0.10	**125** 4.9	**187** 7.4	**756** 170000	**586** 132000	**0.36**	**1.90**	**2.82**	**1.85**	**0.0618**	**2300**	**2700**	**13.0** 28.7
23122CJ	**110** 4.3307	**180** 7.0866	**56.0** 2.2047	**2.0** 0.08	**127** 5.0	**169** 6.7	**615** 138000	**377** 84800	**0.28**	**2.37**	**3.53**	**2.32**	**0.0596**	**2200**	**2600**	**5.6** 12.3
23122YM	**110** 4.3307	**180** 7.0866	**56.0** 2.2047	**2.0** 0.08	**127** 5.0	**169** 6.7	**615** 138000	**377** 84800	**0.28**	**2.37**	**3.53**	**2.32**	**0.0596**	**2200**	**2600**	**5.6** 12.3
24122CJ	**110** 4.3307	**180** 7.0866	**69.0** 2.7165	**2.0** 0.08	**124** 4.9	**164** 6.5	**676** 152000	**448** 101000	**0.36**	**1.85**	**2.76**	**1.81**	**0.0588**	**1800**	**2100**	**6.9** 15.2
22222CJ	**110** 4.3307	**200** 7.8740	**53.0** 2.0866	**2.0** 0.08	**132** 5.2	**179** 7.0	**627** 141000	**475** 107000	**0.25**	**2.69**	**4.00**	**2.63**	**0.0616**	**2500**	**3000**	**7.3** 16.1
22222YM	**110** 4.3307	**200** 7.8740	**53.0** 2.0866	**2.0** 0.08	**132** 5.2	**179** 7.0	**627** 141000	**475** 107000	**0.25**	**2.69**	**4.00**	**2.63**	**0.0616**	**2500**	**3000**	**7.3** 16.1
23222CJ	**110** 4.3307	**200** 7.8740	**69.8** 2.7480	**2.0** 0.08	**130** 5.1	**183** 7.2	**853** 192000	**596** 134000	**0.32**	**2.12**	**3.15**	**2.07**	**0.0618**	**1900**	**2200**	**9.6** 21.1
23222YM	**110** 4.3307	**200** 7.8740	**69.8** 2.7480	**2.0** 0.08	**130** 5.1	**183** 7.2	**853** 192000	**596** 134000	**0.32**	**2.12**	**3.15**	**2.07**	**0.0618**	**1900**	**2200**	**9.6** 21.1
22322CJ	**110** 4.3307	**240** 9.4488	**80.0** 3.1496	**2.5** 0.10	**139** 5.5	**208** 8.2	**962** 216000	**733** 165000	**0.35**	**1.92**	**2.86**	**1.88**	**0.0654**	**2000**	**2300**	**18.0** 39.5
22322YM	**110** 4.3307	**240** 9.4488	**80.0** 3.1496	**2.5** 0.10	**139** 5.5	**208** 8.2	**962** 216000	**733** 165000	**0.35**	**1.92**	**2.86**	**1.88**	**0.0654**	**2000**	**2300**	**18.0** 39.5
23322YM	**110** 4.3307	**240** 9.4488	**92.1** 3.6260	**2.5** 0.10	**137** 5.4	**210** 8.3	**1070** 240000	**808** 182000	**0.40**	**1.67**	**2.49**	**1.63**	**0.0641**	**1500**	**1700**	**20.7** 45.5
23024CJ	**120** 4.7244	**180** 7.0866	**46.0** 1.8110	**2.0** 0.08	**134** 5.3	**169** 6.6	**564** 127000	**352** 79200	**0.22**	**3.14**	**4.67**	**3.07**	**0.0616**	**2300**	**2900**	**4.1** 9.0
24024CJ	**120** 4.7244	**180** 7.0866	**60.0** 2.3622	**2.0** 0.08	**131** 5.2	**164** 6.5	**642** 144000	**393** 88400	**0.30**	**2.25**	**3.34**	**2.20**	**0.0610**	**2000**	**2400**	**5.3** 11.7
23124CJ	**120** 4.7244	**200** 7.8740	**62.0** 2.4409	**2.0** 0.08	**142** 5.6	**189** 7.4	**803** 180000	**524** 118000	**0.30**	**2.28**	**3.39**	**2.23**	**0.0636**	**2000**	**2300**	**7.8** 17.2

Continued on next page.

SPHERICAL ROLLER BEARINGS - *continued*

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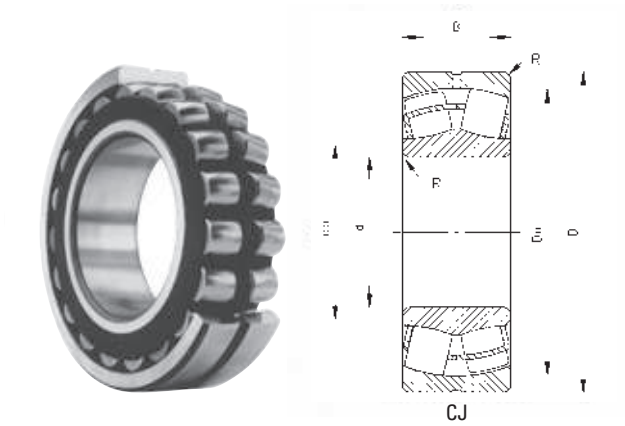
- Bearings are available with a tapered bore for adapter type mounting. To order, add the suffix "K" to bearing number (e.g., 23120K).



CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet[2] (max.)	Backing Diameter d_a Shaft	Backing Diameter D_a Housing	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Rating C	Equivalent Radial load Factors[1] e	Dynamic $\frac{T}{R} \le e$ X = 1 Y	Dynamic $\frac{T}{R} > e$ X = .67 Y	Static In All Cases X_0 = 1 Y_0	Lubrication Life Adjustment Factor[4] C_g	Reference Speed Grease	Thermal Ratings[3] Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
23124YM	**120** 4.7244	**200** 7.8740	**62.0** 2.4409	**2.0** 0.08	**142** 5.6	**189** 7.4	**803** 180000	**524** 118000	**0.30**	**2.28**	**3.39**	**2.23**	**0.0636**	**2000**	**2300**	**7.8** 17.2
24124CJ	**120** 4.7244	**200** 7.8740	**80.0** 3.1496	**2.0** 0.08	**136** 5.4	**181** 7.1	**923** 207000	**590** 133000	**0.39**	**1.74**	**2.59**	**1.70**	**0.0625**	**1600**	**1800**	**10.1** 22.2
22224CJ	**120** 4.7244	**215** 8.4646	**58.0** 2.2835	**2.0** 0.08	**142** 5.6	**192** 7.6	**667** 150000	**475** 107000	**0.27**	**2.51**	**3.74**	**2.46**	**0.0648**	**2400**	**2900**	**9.1** 20.0
22224YM	**120** 4.7244	**215** 8.4646	**58.0** 2.2835	**2.0** 0.08	**142** 5.6	**192** 7.6	**667** 150000	**475** 107000	**0.27**	**2.51**	**3.74**	**2.46**	**0.0648**	**2400**	**2900**	**9.1** 20.0
23224YM	**120** 4.7244	**215** 8.4646	**76.0** 2.9921	**2.0** 0.08	**140** 5.5	**197** 7.8	**977** 220000	**678** 152000	**0.32**	**2.09**	**3.11**	**2.04**	**0.0647**	**1700**	**2000**	**12.0** 26.0
22324CJ	**120** 4.7244	**260** 10.2362	**86.0** 3.3858	**2.5** 0.10	**151** 5.9	**225** 8.9	**1090** 245000	**825** 185000	**0.35**	**1.92**	**2.85**	**1.87**	**0.0680**	**1800**	**2100**	**22.6** 49.6
22324YM	**120** 4.7244	**260** 10.2362	**86.0** 3.3858	**2.5** 0.10	**151** 5.9	**225** 8.9	**1090** 245000	**825** 185000	**0.35**	**1.92**	**2.85**	**1.87**	**0.0704**	**1800**	**2100**	**22.6** 49.6
23324YM	**120** 4.7244	**260** 10.2362	**106.0** 4.1732	**2.5** 0.10	**147** 5.8	**226** 8.9	**1420** 320000	**1030** 232000	**0.43**	**1.57**	**2.34**	**1.54**	**0.0681**	**1300**	**1400**	**27.8** 61.2
23926YM	**130** 5.1181	**180** 7.0866	**37.0** 1.4567	**1.5** 0.06	**142** 5.6	**169** 6.7	**427** 95900	**245** 55000	**0.18**	**3.76**	**5.60**	**3.68**	**0.0880**	**2000**	**2500**	**2.8** 6.2
23026CJ	**130** 5.1181	**200** 7.8740	**52.0** 2.0472	**2.0** 0.08	**146** 5.8	**187** 7.4	**703** 158000	**446** 100000	**0.22**	**3.01**	**4.48**	**2.94**	**0.0654**	**2200**	**2700**	**5.9** 13.0
24026CJ	**130** 5.1181	**200** 7.8740	**69.0** 2.7165	**2.0** 0.08	**144** 5.7	**182** 7.2	**795** 179000	**501** 113000	**0.32**	**2.09**	**3.11**	**2.04**	**0.0642**	**1900**	**2200**	**7.9** 17.3
23126CJ	**130** 5.1181	**210** 8.2677	**64.0** 2.5197	**2.0** 0.08	**149** 5.9	**195** 7.7	**888** 200000	**562** 126000	**0.29**	**2.34**	**3.49**	**2.29**	**0.0663**	**1800**	**2100**	**8.6** 19.0
23126YM	**130** 5.1181	**210** 8.2677	**64.0** 2.5197	**2.0** 0.08	**149** 5.9	**195** 7.7	**888** 200000	**562** 126000	**0.29**	**2.34**	**3.49**	**2.29**	**0.0663**	**1800**	**2100**	**8.6** 19.0
24126CJ	**130** 5.1181	**210** 8.2677	**80.0** 3.1496	**2.0** 0.08	**147** 5.8	**190** 7.5	**967** 217000	**608** 137000	**0.36**	**1.85**	**2.76**	**1.81**	**0.0655**	**1500**	**1700**	**10.7** 23.6
22226CJ	**130** 5.1181	**230** 9.0551	**64.0** 2.5197	**2.5** 0.10	**152** 6.0	**206** 8.1	**805** 181000	**562** 126000	**0.27**	**2.47**	**3.68**	**2.42**	**0.0676**	**2200**	**2600**	**11.4** 25.0
22226YM	**130** 5.1181	**230** 9.0551	**64.0** 2.5197	**2.5** 0.10	**152** 6.0	**206** 8.1	**805** 181000	**562** 126000	**0.27**	**2.47**	**3.68**	**2.42**	**0.0676**	**2200**	**2600**	**11.4** 25.0
23226YM	**130** 5.1181	**230** 9.0551	**80.0** 3.1496	**2.5** 0.10	**151** 5.9	**211** 8.3	**1110** 249000	**759** 171000	**0.32**	**2.12**	**3.15**	**2.07**	**0.0676**	**1600**	**1800**	**14.0** 31.0
22326CJ	**130** 5.1181	**280** 11.0236	**93.0** 3.6614	**3.0** 0.12	**161** 6.4	**242** 9.5	**1270** 286000	**952** 214000	**0.35**	**1.92**	**2.85**	**1.87**	**0.0610**	**1700**	**1900**	**28.2** 62.1
22326YM	**130** 5.1181	**280** 11.0236	**93.0** 3.6614	**3.0** 0.12	**161** 6.4	**242** 9.5	**1270** 286000	**952** 214000	**0.35**	**1.92**	**2.85**	**1.87**	**0.0610**	**1700**	**1900**	**28.2** 62.1
23326YM	**130** 5.1181	**280** 11.0236	**112.0** 4.4094	**3.0** 0.12	**164** 6.5	**244** 9.6	**1550** 348000	**1090** 245000	**0.42**	**1.62**	**2.42**	**1.59**	**0.0600**	**1200**	**1300**	**34.0** 74.7
23928YM	**140** 5.5118	**190** 7.4803	**37.0** 1.4567	**1.5** 0.06	**152** 6.0	**179** 7.1	**456** 102000	**253** 56900	**0.17**	**4.01**	**5.97**	**3.92**	**0.0920**	**1900**	**2300**	**3.0** 6.6

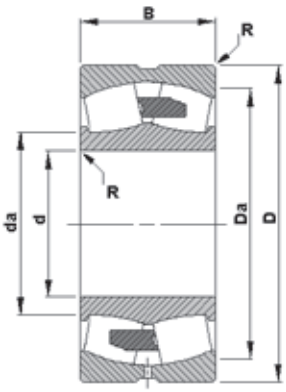
(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.

(2) Maximum shaft or housing fillet radius that bearing corners will clear.

* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).

(3) See thermal speed ratings in the engineering section.

(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4) C_g	Reference Speed	Thermal Ratings(3)	Weight
										Dynamic		Static				
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C	e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
23028CJ	140 5.5118	210 8.2677	53.0 2.0866	2.0 0.08	156 6.1	197 7.8	764 173000	471 106000	0.22	3.14	4.67	3.07	0.0680	2000	2500	6.4 14.0
24028CJ	140 5.5118	210 8.2677	69.0 2.7165	2.0 0.08	154 6.1	192 7.6	899 202000	527 118000	0.31	2.21	3.29	2.16	0.0676	1700	2000	8.3 18.3
23128YM	140 5.5118	225 8.8583	68.0 2.6772	2.0 0.08	159 6.3	209 8.2	1010 228000	636 143000	0.29	2.37	3.52	2.31	0.0670	1700	2000	10.0 23.0
24128CJ	140 5.5118	225 8.8583	85.0 3.3465	2.0 0.08	156 6.2	203 8.0	1120 252000	701 158000	0.36	1.90	2.83	1.86	0.0684	1300	1500	13.0 28.6
26228YM	140 5.5118	240 9.4488	80.0 3.1496	2.5 0.10	161 6.3	217 8.6	1120 251000	726 163000	0.32	2.08	3.10	2.04	0.0693	1200	1400	14.7 32.4
22228CJ	140 5.5118	250 9.8425	68.0 2.6772	2.5 0.10	166 6.5	225 8.9	930 209000	646 145000	0.27	2.51	3.73	2.45	0.0713	2000	2400	14.4 31.7
22228YM	140 5.5118	250 9.8425	68.0 2.6772	2.5 0.10	166 6.5	225 8.9	930 209000	646 145000	0.27	2.51	3.73	2.45	0.0713	2000	2400	14.4 31.7
22328CJ	140 5.5118	300 11.8110	102.0 4.0157	3.0 0.12	174 6.9	262 10.3	1520 341000	1120 252000	0.36	1.88	2.81	1.84	0.0648	1500	1700	35.4 77.9
22328YM	140 5.5118	300 11.8110	102.0 4.0157	3.0 0.12	174 6.9	262 10.3	1520 341000	1120 252000	0.36	1.88	2.81	1.84	0.0648	1500	1700	35.4 77.9
23328YM	140 5.5118	300 11.8110	118.0 4.6457	3.0 0.12	175 6.9	261 10.3	1920 432000	1310 295000	0.41	1.64	2.45	1.61	0.0632	1000	1100	41.0 90.1
23030YM	150 5.9055	225 8.8583	56.0 2.2047	2.0 0.08	169 6.6	211 8.3	872 196000	521 117000	0.21	3.20	4.77	3.13	0.0714	1900	2300	7.8 17.0
24030CJ	150 5.9055	225 8.8583	75.0 2.9528	2.0 0.08	166 6.5	206 8.1	1000 226000	603 136000	0.31	2.18	3.24	2.13	0.0699	1600	1900	10.4 22.9
23130YM	150 5.9055	250 9.8425	80.0 3.1496	2.0 0.08	172 6.8	230 9.1	1320 298000	837 188000	0.31	2.20	3.27	2.15	0.0614	1500	1700	16.0 35.0
24130CJ	150 5.9055	250 9.8425	100.0 3.9370	2.0 0.08	169 6.7	225 8.9	1400 315000	901 203000	0.38	1.78	2.65	1.74	0.0603	1200	1300	19.7 43.4
22230CJ	150 5.9055	270 10.6299	73.0 2.8740	2.5 0.10	179 7.0	242 9.5	1100 247000	752 169000	0.27	2.52	3.75	2.46	0.0626	1800	2200	18.2 39.9
22230YM	150 5.9055	270 10.6299	73.0 2.8740	3.0 0.10	177 7.0	248 9.8	1200 269000	853 192000	0.25	2.74	4.08	2.68	0.0626	1800	2100	18.0 40.0
23230YM	150 5.9055	270 10.6299	96.0 3.7795	2.5 0.10	175 6.9	247 9.7	1590 357000	1060 239000	0.33	2.03	3.02	1.98	0.0625	1300	1500	24.0 53.0
22330CJ	150 5.9055	320 12.5984	108.0 4.2520	3.0 0.12	186 7.3	280 11.0	1720 386000	1260 283000	0.35	1.91	2.84	1.87	0.0667	1400	1600	42.6 93.6
22330YM	150 5.9055	320 12.5984	108.0 4.2520	3.0 0.12	186 7.3	280 11.0	1720 386000	1260 283000	0.35	1.91	2.84	1.87	0.0667	1400	1600	42.6 93.6
23330YM	150 5.9055	320 12.5984	128.0 5.0394	3.0 0.12	185 7.3	280 11.0	2130 478000	1480 332000	0.41	1.64	2.44	1.60	0.0654	960	1100	50.4 111
23932YM	160 6.2992	220 8.6614	45.0 1.7717	2.0 0.08	175 6.9	206 8.1	655 147000	348 78200	0.19	3.60	5.35	3.52	0.0724	1800	2100	5.1 11.1

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SPHERICAL ROLLER BEARINGS - *continued*

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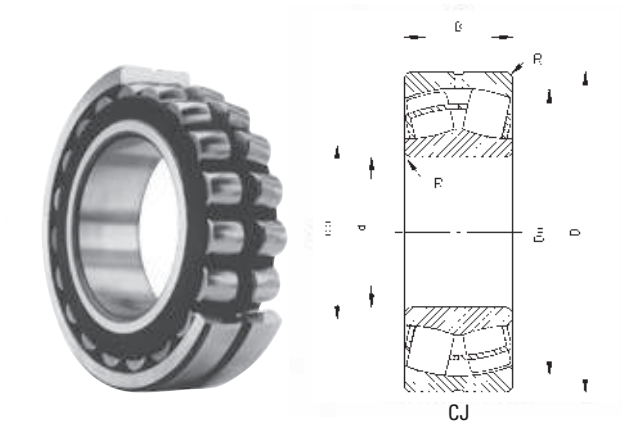


CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet[2] (max.)	Backing Diameter d_a Shaft	Backing Diameter D_a Housing	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Rating C	Equivalent Radial load Factors[1] e	Dynamic $\frac{T}{R} \le e$ X = 1 Y	Dynamic $\frac{T}{R} > e$ X = .67 Y	Static In All Cases X_0 = 1 Y_0	Lubrication Life Adjustment Factor[4] C_g	Reference Speed Grease	Thermal Ratings[3] Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
23032YM	**160** 6.2992	**240** 9.4488	**60.0** 2.3622	**2.0** 0.08	**179** 7.0	**225** 8.9	**979** 220000	**591** 133000	**0.21**	**3.20**	**4.77**	**3.13**	**0.0620**	**1700**	**2100**	**9.4** 21.0
24032CJ	**160** 6.2992	**240** 9.4488	**80.0** 3.1496	**2.0** 0.08	**173** 6.8	**224** 8.8	**1100** 246000	**665** 150000	**0.30**	**2.28**	**3.39**	**2.23**	**0.0611**	**1500**	**1800**	**12.6** 27.8
23132YM	**160** 6.2992	**270** 10.6299	**86.0** 3.3858	**2.0** 0.08	**189** 7.4	**244** 9.6	**1560** 350000	**968** 218000	**0.30**	**2.23**	**3.32**	**2.18**	**0.0633**	**1400**	**1600**	**20.1** 44.1
22232CJ	**160** 6.2992	**290** 11.4173	**80.0** 3.1496	**2.5** 0.10	**192** 7.6	**260** 10.2	**1280** 288000	**864** 194000	**0.27**	**2.47**	**3.67**	**2.41**	**0.0655**	**1700**	**2000**	**23.1** 50.8
23232YM	**160** 6.2992	**290** 11.4173	**104.0** 4.0945	**2.5** 0.10	**187** 7.4	**260** 10.2	**1680** 377000	**1090** 246000	**0.34**	**1.96**	**2.91**	**1.91**	**0.0645**	**1200**	**1400**	**30.0** 66.0
22332CJ	**160** 6.2992	**340** 13.3858	**114.0** 4.4882	**3.0** 0.12	**198** 7.8	**298** 11.7	**1920** 432000	**1400** 314000	**0.35**	**1.92**	**2.86**	**1.88**	**0.0702**	**1300**	**1500**	**50.6** 111
22332YMB	**160** 6.2992	**340** 13.3858	**114.0** 4.4882	**3.0** 0.12	**198** 7.8	**298** 11.7	**1920** 432000	**1400** 314000	**0.35**	**1.92**	**2.86**	**1.88**	**0.0702**	**1300**	**1500**	**50.6** 111
23332YM	**160** 6.2992	**340** 13.3858	**136.0** 5.3543	**3.0** 0.12	**202** 8.0	**297** 11.7	**2540** 572000	**1670** 375000	**0.42**	**1.62**	**2.41**	**1.58**	**0.0686**	**850**	**940**	**60.4** 133
23934YM	**170** 6.6929	**230** 9.0551	**45.0** 1.7717	**2.0** 0.08	**184** 7.3	**217** 8.6	**692** 156000	**371** 83400	**0.18**	**3.79**	**5.65**	**3.71**	**0.0627**	**1600**	**2000**	**5.3** 11.7
23034YM	**170** 6.6929	**260** 10.2362	**67.0** 2.6378	**2.0** 0.08	**192** 7.6	**243** 9.6	**1220** 274000	**724** 163000	**0.22**	**3.07**	**4.57**	**3.00**	**0.0649**	**1600**	**1900**	**12.8** 28.1
24034CJ	**170** 6.6929	**260** 10.2362	**90.0** 3.5433	**2.0** 0.08	**185** 7.3	**242** 9.5	**1430** 322000	**851** 191000	**0.32**	**2.12**	**3.15**	**2.07**	**0.0641**	**1300**	**1600**	**17.2** 38.0
23134YM	**170** 6.6929	**280** 11.0236	**88.0** 3.4646	**2.0** 0.08	**194** 7.7	**255** 10.2	**1670** 375000	**1010** 226000	**0.30**	**2.28**	**3.40**	**2.23**	**0.0654**	**1300**	**1500**	**21.5** 47.3
24134CJ	**170** 6.6929	**280** 11.0236	**109.0** 4.2913	**2.0** 0.08	**191** 7.5	**252** 10.1	**1840** 413000	**1110** 248000	**0.37**	**1.83**	**2.72**	**1.79**	**0.0657**	**980**	**1100**	**26.6** 58.5
22234CJ	**170** 6.6929	**310** 12.2047	**86.0** 3.3858	**3.0** 0.12	**201** 7.9	**278** 10.9	**1450** 326000	**999** 225000	**0.28**	**2.44**	**3.63**	**2.38**	**0.0672**	**1600**	**1900**	**28.5** 62.7
23234YM	**170** 6.6929	**310** 12.2047	**110.0** 4.3307	**3.0** 0.12	**200** 7.9	**276** 10.9	**1960** 441000	**1240** 279000	**0.34**	**1.97**	**2.94**	**1.93**	**0.0676**	**1100**	**1200**	**36.5** 80.2
23036YM	**180** 7.0866	**280** 11.0236	**74.0** 2.9134	**2.0** 0.08	**204** 8.0	**261** 10.3	**1420** 321000	**851** 192000	**0.23**	**2.95**	**4.40**	**2.89**	**0.0677**	**1500**	**1800**	**17.0** 37.0
24036CJ	**180** 7.0866	**280** 11.0236	**100.0** 3.9370	**2.0** 0.08	**198** 7.8	**260** 10.2	**1700** 385000	**992** 223000	**0.33**	**2.03**	**3.02**	**1.98**	**0.0671**	**1200**	**1500**	**23.0** 50.0
23136YM	**180** 7.0866	**300** 11.8110	**96.0** 3.7795	**2.5** 0.10	**205** 8.1	**273** 10.8	**1810** 406000	**1100** 247000	**0.31**	**2.20**	**3.28**	**2.15**	**0.0677**	**1200**	**1400**	**27.0** 60.0
24136CJ	**180** 7.0866	**300** 11.8110	**118.0** 4.6457	**2.5** 0.10	**201** 7.9	**275** 10.8	**2050** 464000	**1250** 280000	**0.38**	**1.78**	**2.65**	**1.74**	**0.0680**	**920**	**1000**	**33.0** 74.0
22236CJ	**180** 7.0866	**320** 12.5984	**86.0** 3.3858	**3.0** 0.12	**213** 8.4	**288** 11.3	**1540** 346000	**1030** 231000	**0.27**	**2.54**	**3.78**	**2.48**	**0.0698**	**1500**	**1700**	**30.0** 65.0
23236YM	**180** 7.0866	**320** 12.5984	**112.0** 4.4094	**3.0** 0.12	**209** 8.2	**288** 11.3	**2110** 473000	**1330** 298000	**0.34**	**2.00**	**2.97**	**1.95**	**0.0694**	**1000**	**1200**	**39.0** 85.0

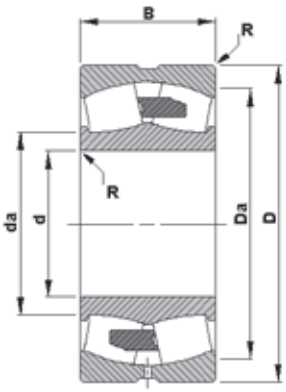
(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.

(2) Maximum shaft or housing fillet radius that bearing corners will clear.

* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).

(3) See thermal speed ratings in the engineering section.

(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4) C_g	Reference Speed	Thermal Ratings(3)	Weight
										Dynamic		Static				
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C	e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
22336YMB	180 7.0866	380 14.9606	126.0 4.9606	3.0 0.12	222 8.8	334 13.1	2460 554000	1760 395000	0.34	1.98	2.94	1.93	0.0730	1100	1200	69.0 153
23938YM	190 7.4803	260 10.2362	52.0 2.0472	2.0 0.08	207 8.2	245 9.6	910 205000	480 108000	0.18	3.84	5.72	3.75	0.0677	1400	1700	8.1 18.0
23038YM	190 7.4803	290 11.4173	75.0 2.9528	2.0 0.08	213 8.4	271 10.7	1540 349000	901 203000	0.22	3.01	4.48	2.94	0.0698	1400	1700	18.0 39.0
24038CJ	190 7.4803	290 11.4173	100.0 3.9370	2.0 0.08	211 8.3	264 10.4	1810 407000	957 215000	0.31	2.16	3.22	2.12	0.0682	1200	1400	24.0 52.0
23138YM	190 7.4803	320 12.5984	104.0 4.0945	2.5 0.10	218 8.6	290 11.4	2090 470000	1250 282000	0.31	2.15	3.21	2.11	0.0716	1100	1300	34.0 75.0
24138CJ	190 7.4803	320 12.5984	128.0 5.0394	2.5 0.10	211 8.3	286 11.3	2310 520000	1350 305000	0.40	1.68	2.50	1.64	0.0710	860	950	42.0 92.0
22238YM	190 7.4803	340 13.3858	92.0 3.6220	3.0 0.12	224 8.8	306 12.0	1810 407000	1200 270000	0.27	2.53	3.77	2.48	0.0725	1400	1600	36.0 79.0
23238YM	190 7.4803	340 13.3858	120.0 4.7244	3.0 0.12	221 8.7	306 12.0	2390 536000	1490 335000	0.34	1.99	2.96	1.95	0.0714	960	1100	47.0 104
22338YMB	190 7.4803	400 15.7480	132.0 5.1969	4.0 0.16	236 9.3	350 13.8	2730 614000	1900 428000	0.34	1.97	2.94	1.93	0.0761	1000	1200	80.0 177
23940YM	200 7.8740	280 11.0236	60.0 2.3622	2.0 0.08	219 8.6	263 10.3	1140 256000	608 137000	0.19	3.65	5.43	3.57	0.0704	1400	1600	11.0 25.0
23040YM	200 7.8740	310 12.2047	82.0 3.2283	2.0 0.08	225 8.9	289 11.4	1760 398000	1040 234000	0.23	2.95	4.40	2.89	0.0723	1300	1600	23.0 50.0
24040CJ	200 7.8740	310 12.2047	109.0 4.2913	2.0 0.08	223 8.8	284 11.2	2080 468000	1120 251000	0.32	2.09	3.11	2.04	0.0710	1100	1300	30.0 66.0
23140YM	200 7.8740	340 13.3858	112.0 4.4094	2.5 0.10	230 9.0	308 12.1	2300 518000	1390 313000	0.31	2.15	3.20	2.10	0.0730	1100	1200	42.0 92.0
23140YMB	200 7.8740	340 13.3858	112.0 4.4094	2.5 0.10	230 9.0	308 12.1	2300 518000	1390 313000	0.31	2.15	3.20	2.10	0.0730	1100	1200	42.0 92.0
24140YMB	200 7.8740	340 13.3858	140.0 5.5118	2.5 0.10	226 8.9	308 12.1	2950 663000	1690 380000	0.39	1.74	2.59	1.70	0.0730	750	830	52.0 115
22240YMB	200 7.8740	360 14.1732	98.0 3.8583	3.0 0.12	236 9.3	323 12.7	2030 456000	1330 300000	0.27	2.50	3.72	2.44	0.0751	1300	1500	43.0 95.0
23240YM	200 7.8740	360 14.1732	128.0 5.0394	3.0 0.12	233 9.2	323 12.7	2720 611000	1670 376000	0.35	1.95	2.90	1.91	0.0746	890	1000	56.0 124
26340YM	200 7.8740	380 14.9606	126.0 4.9606	4.0 0.16	240 9.4	337 13.3	2710 610000	1740 391000	0.33	2.02	3.01	1.98	0.0759	700	780	65.8 145
22340YMB	200 7.8740	420 16.5354	138.0 5.4331	4.0 0.16	247 9.7	369 14.5	2950 663000	2070 465000	0.33	2.02	3.01	1.98	0.0778	970	1100	93.0 204
23340YM	200 7.8740	420 16.5354	165.0 6.4961	4.0 0.16	246 9.7	366 14.4	3750 844000	2450 550000	0.41	1.66	2.47	1.62	0.0784	640	700	111 244
23944YM	220 8.6614	300 11.8110	60.0 2.3622	2.0 0.08	239 9.4	283 11.2	1220 275000	632 142000	0.17	3.94	5.87	3.85	0.0743	1200	1500	12.0 27.0

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SPHERICAL ROLLER BEARINGS - *continued*

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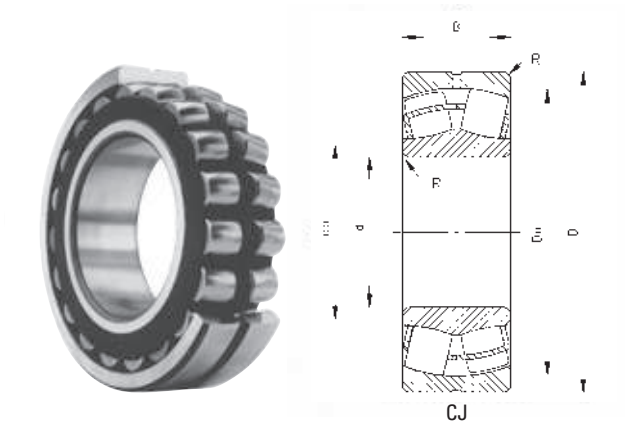
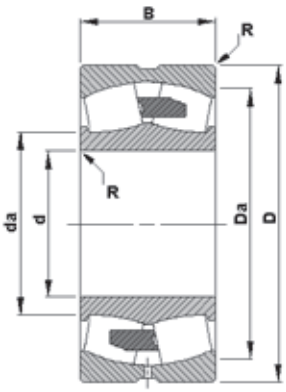
- Bearings are available with a tapered bore for adapter type mounting. To order, add the suffix "K" to bearing number (e.g., 23120K).



CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet[2] (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors[1]				Lubrication Life Adjustment Factor[4]	Reference Speed	Thermal Ratings[3]	Weight
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C		Dynamic		Static	C_g			
									e	$\frac{T}{R} \le e$ X = 1	$\frac{T}{R} > e$ X = .67	In All Cases $X_0 = 1$		Grease	Oil	
										Y	Y	Y_0				
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
23044YM	220 8.6614	340 13.3858	90.0 3.5433	2.5 0.10	247 9.7	313 12.3	1990 447000	1130 254000	0.24	2.77	4.13	2.71	0.0767	1200	1400	30.0 66.0
24044YM	220 8.6614	340 13.3858	118.0 4.6457	2.5 0.10	245 9.6	313 12.3	2740 616000	1450 326000	0.32	2.14	3.18	2.09	0.0762	930	1100	39.0 86.0
23144YM	220 8.6614	370 14.5669	120.0 4.7244	3.0 0.12	252 9.9	336 13.2	2760 621000	1630 366000	0.31	2.17	3.24	2.12	0.0777	940	1100	52.0 115
23144YMB	220 8.6614	370 14.5669	120.0 4.7244	3.0 0.12	252 9.9	336 13.2	2760 621000	1630 366000	0.31	2.17	3.24	2.12	0.0777	940	1100	52.0 115
24144YMB	220 8.6614	370 14.5669	150.0 5.9055	3.0 0.12	248 9.8	337 13.3	3250 730000	1870 421000	0.36	1.86	2.77	1.82	0.0773	690	760	65.0 144
22244YMB	220 8.6614	400 15.7480	108.0 4.2520	3.0 0.12	261 10.3	359 14.1	2330 524000	1550 349000	0.27	2.51	3.73	2.45	0.0810	1200	1400	59.0 131
23244YM	220 8.6614	400 15.7480	144.0 5.6693	3.0 0.12	257 10.1	359 14.1	3380 760000	2080 467000	0.35	1.95	2.90	1.90	0.0790	780	870	79.0 174
26344YM	220 8.6614	420 16.5354	138.0 5.4331	4.0 0.16	265 10.4	372 14.6	3280 738000	2080 468000	0.33	2.04	3.03	1.99	0.0808	610	680	88.2 194
22344YMB	220 8.6614	460 18.1102	145.0 5.7087	4.0 0.16	273 10.7	404 15.9	3490 784000	2400 540000	0.32	2.08	3.10	2.04	0.0834	840	950	116 257
23344YM	220 8.6614	460 18.1102	180.0 7.0866	4.0 0.16	269 10.6	402 15.8	4500 1010000	2900 652000	0.40	1.67	2.48	1.63	0.0832	560	610	145 319
23948YM	240 9.4488	320 12.5984	60.0 2.3622	2.0 0.08	260 10.2	303 11.9	1360 306000	666 150000	0.16	4.19	6.24	4.09	0.0782	1100	1300	13.0 29.0
23048YM	240 9.4488	360 14.1732	92.0 3.6220	2.5 0.10	267 10.5	334 13.1	2150 484000	1180 266000	0.23	2.91	4.34	2.85	0.0797	1100	1300	33.0 72.0
24048YM	240 9.4488	360 14.1732	118.0 4.6457	2.5 0.10	265 10.4	334 13.1	2920 657000	1500 338000	0.29	2.31	3.44	2.26	0.0797	850	980	42.0 92.0
23148YMB	240 9.4488	400 15.7480	128.0 5.0394	3.0 0.12	276 10.9	364 14.3	3200 719000	1850 415000	0.30	2.28	3.40	2.23	0.0817	850	970	65.0 142
24148YMB	240 9.4488	400 15.7480	160.0 6.2992	3.0 0.12	271 10.7	364 14.3	4090 919000	2250 505000	0.37	1.80	2.68	1.76	0.0817	580	640	81.0 178
22248YMB	240 9.4488	440 17.3228	120.0 4.7244	3.0 0.12	284 11.2	395 15.6	2970 668000	1960 441000	0.27	2.46	3.67	2.41	0.0840	1000	1200	80.0 177
23248YM	240 9.4488	440 17.3228	160.0 6.2992	3.0 0.12	281 11.1	394 15.5	4190 942000	2540 571000	0.35	1.92	2.86	1.88	0.0839	680	760	107 236
26348YM	240 9.4488	460 18.1102	147.0 5.7874	4.0 0.16	286 11.3	410 16.2	3720 836000	2430 547000	0.32	2.08	3.10	2.04	0.0852	550	610	113 248
22348YMB	240 9.4488	500 19.6850	155.0 6.1024	4.0 0.16	297 11.7	439 17.3	3990 897000	2740 616000	0.32	2.10	3.13	2.05	0.0880	760	850	147 324
23348YM	240 9.4488	500 19.6850	195.0 7.6772	4.0 0.16	293 11.5	437 17.2	5320 1200000	3380 761000	0.40	1.67	2.49	1.64	0.0878	500	540	185 407
26250YM	250 9.8425	410 16.1417	128.0 5.0394	3.0 0.12	284 11.2	374 14.7	3180 714000	1830 412000	0.30	2.28	3.39	2.23	0.0831	580	650	64.0 141

(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.
(2) Maximum shaft or housing fillet radius that bearing corners will clear.
* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).
(3) See thermal speed ratings in the engineering section.
(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4) C_g	Reference Speed	Thermal Ratings(3)	Weight
										Dynamic		Static				
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C	e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
23952YM	260 10.2362	360 14.1732	75.0 2.9528	2.0 0.08	284 11.2	339 13.3	1880 422000	951 214000	0.18	3.74	5.56	3.65	0.0830	1000	1200	23.0 50.0
23052YM	260 10.2362	400 15.7480	104.0 4.0945	3.0 0.12	291 11.5	369 14.5	2770 622000	1540 345000	0.24	2.85	4.24	2.78	0.0847	990	1200	47.0 104
23052YMB	260 10.2362	400 15.7480	104.0 4.0945	3.0 0.12	291 11.5	369 14.5	2770 622000	1540 345000	0.24	2.85	4.24	2.78	0.0847	990	1200	47.0 104
24052YM	260 10.2362	400 15.7480	140.0 5.5118	3.0 0.12	288 11.3	369 14.5	3870 871000	1990 448000	0.32	2.12	3.15	2.07	0.0846	750	860	64.0 140
23152YMB	260 10.2362	440 17.3228	144.0 5.6693	3.0 0.12	302 11.9	400 15.7	3970 891000	2240 504000	0.30	2.23	3.31	2.18	0.0867	760	860	89.0 197
24152YMB	260 10.2362	440 17.3228	180.0 7.0866	3.0 0.12	296 11.7	398 15.7	4840 1090000	2630 592000	0.37	1.82	2.70	1.78	0.0865	530	570	112 246
22252YMB	260 10.2362	480 18.8976	130.0 5.1181	4.0 0.16	309 12.2	430 16.9	3530 793000	2300 518000	0.27	2.46	3.66	2.41	0.0887	910	1100	104 230
23252YM	260 10.2362	480 18.8976	174.0 6.8504	4.0 0.16	308 12.1	430 16.9	4880 1100000	2930 658000	0.34	1.98	2.95	1.94	0.0893	610	680	139 307
22352YMB	260 10.2362	540 21.2598	165.0 6.4961	5.0 0.20	321 12.6	475 18.7	4590 1030000	3130 703000	0.32	2.13	3.17	2.08	0.0924	680	770	182 401
23352YM	260 10.2362	540 21.2598	206.0 8.1102	5.0 0.20	318 12.5	473 18.6	6040 1360000	3830 861000	0.39	1.71	2.54	1.67	0.0923	450	480	227 501
23956YMB	280 11.0236	380 14.9606	75.0 2.9528	2.0 0.08	304 12.0	360 14.2	2000 450000	1000 225000	0.17	3.95	5.88	3.86	0.0865	920	1100	24.0 54.0
23056YMB	280 11.0236	420 16.5354	106.0 4.1732	3.0 0.12	312 12.3	389 15.3	2830 636000	1540 346000	0.23	2.92	4.35	2.86	0.0879	930	1100	51.0 113
24056YMB	280 11.0236	420 16.5354	140.0 5.5118	3.0 0.12	310 12.2	388 15.3	4130 927000	2030 456000	0.30	2.25	3.35	2.20	0.0883	690	790	68.0 149
23156YMB	280 11.0236	460 18.1102	146.0 5.7480	4.0 0.16	320 12.6	419 16.5	4200 944000	2330 524000	0.30	2.26	3.36	2.21	0.0900	710	800	96.0 211
24156YMB	280 11.0236	460 18.1102	180.0 7.0866	4.0 0.16	319 12.6	419 16.5	5100 1150000	2670 601000	0.36	1.86	2.77	1.82	0.0899	490	530	118 260
22256YMB	280 11.0236	500 19.6850	130.0 5.1181	4.0 0.16	331 13.0	449 17.7	3780 850000	2360 530000	0.26	2.62	3.91	2.57	0.0927	850	990	110 242
23256YMB	280 11.0236	500 19.6850	176.0 6.9291	4.0 0.16	329 13.0	450 17.7	5290 1190000	3070 689000	0.33	2.07	3.08	2.02	0.0921	560	620	149 328
22356YMB	280 11.0236	580 22.8346	175.0 6.8898	5.0 0.20	345 13.6	511 20.1	5320 1200000	3590 806000	0.32	2.13	3.17	2.08	0.0968	620	690	222 490
23356YM	280 11.0236	580 22.8346	224.0 8.8189	5.0 0.20	341 13.4	508 20.0	7100 1600000	4430 997000	0.40	1.69	2.52	1.65	0.0966	400	430	284 627
23960YMB	300 11.8110	420 16.5354	90.0 3.5433	2.5 0.10	328 12.9	394 15.5	2650 596000	1330 300000	0.19	3.59	5.34	3.51	0.0911	840	1000	38.0 84.0
23060YMB	300 11.8110	460 18.1102	118.0 4.6457	3.0 0.12	336 13.2	425 16.8	3600 809000	1970 442000	0.24	2.87	4.27	2.80	0.0926	830	980	71.0 156

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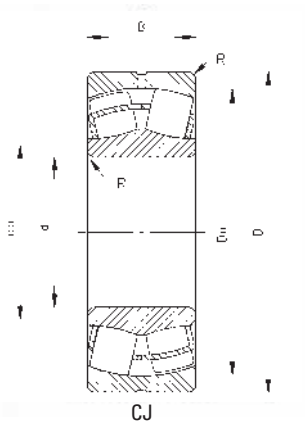


CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter d_a Shaft	Backing Diameter D_a Housing	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Rating C	Equivalent Radial load Factors(1) e	Dynamic $\frac{T}{R} \le e$ X = 1 Y	Dynamic $\frac{T}{R} > e$ X = .67 Y	Static In All Cases X_0 = 1 Y_0	Lubrication Life Adjustment Factor(4) C_g	Reference Speed Grease	Thermal Ratings(3) Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
24060YMB	**300** 11.8110	**460** 18.1102	**160.0** 6.2992	**3.0** 0.12	**334** 13.1	**423** 16.7	**5230** 1180000	**2560** 576000	**0.32**	**2.11**	**3.13**	**2.06**	**0.0928**	**620**	**700**	**96.0** 211
23160YMB	**300** 11.8110	**500** 19.6850	**160.0** 6.2992	**4.0** 0.16	**345** 13.6	**453** 17.8	**5160** 1160000	**2810** 632000	**0.30**	**2.25**	**3.35**	**2.20**	**0.0946**	**630**	**710**	**126** 278
24160YMB	**300** 11.8110	**500** 19.6850	**200.0** 7.8740	**4.0** 0.16	**338** 13.3	**455** 17.9	**6320** 1420000	**3380** 759000	**0.37**	**1.82**	**2.71**	**1.78**	**0.0942**	**430**	**460**	**158** 347
22260YMB	**300** 11.8110	**540** 21.2598	**140.0** 5.5118	**4.0** 0.16	**355** 14.0	**484** 19.1	**4430** 997000	**2760** 621000	**0.26**	**2.59**	**3.86**	**2.53**	**0.0965**	**770**	**890**	**139** 306
23260YMB	**300** 11.8110	**540** 21.2598	**192.0** 7.5591	**4.0** 0.16	**353** 13.9	**482** 19.0	**6210** 1400000	**3510** 788000	**0.34**	**2.00**	**2.98**	**1.96**	**0.0967**	**510**	**560**	**191** 420
23964YMB	**320** 12.5984	**440** 17.3228	**90.0** 3.5433	**2.5** 0.10	**349** 13.8	**414** 16.3	**2800** 629000	**1360** 305000	**0.18**	**3.79**	**5.65**	**3.71**	**0.0946**	**780**	**930**	**40.0** 89.0
23064YMB	**320** 12.5984	**480** 18.8976	**121.0** 4.7638	**3.0** 0.12	**357** 14.1	**444** 17.5	**3910** 880000	**2040** 458000	**0.23**	**2.93**	**4.36**	**2.86**	**0.0962**	**780**	**910**	**76.0** 168
24064YMB	**320** 12.5984	**480** 18.8976	**160.0** 6.2992	**3.0** 0.12	**354** 13.9	**444** 17.5	**5420** 1220000	**2620** 588000	**0.30**	**2.24**	**3.34**	**2.19**	**0.0961**	**580**	**660**	**101** 222
23164YMB	**320** 12.5984	**540** 21.2598	**176.0** 6.9291	**4.0** 0.16	**367** 14.4	**490** 19.3	**6000** 1350000	**3330** 749000	**0.31**	**2.14**	**3.19**	**2.10**	**0.0988**	**580**	**650**	**164** 361
24164YMB	**320** 12.5984	**540** 21.2598	**218.0** 8.5827	**4.0** 0.16	**362** 14.3	**489** 19.3	**7580** 1710000	**3980** 894000	**0.38**	**1.77**	**2.63**	**1.73**	**0.0986**	**380**	**410**	**203** 448
22264YMB	**320** 12.5984	**580** 22.8346	**150.0** 5.9055	**4.0** 0.16	**380** 15.0	**519** 20.4	**5040** 1130000	**3110** 700000	**0.26**	**2.58**	**3.84**	**2.52**	**0.1009**	**710**	**820**	**173** 381
23264YMB	**320** 12.5984	**580** 22.8346	**208.0** 8.1890	**4.0** 0.16	**379** 14.9	**516** 20.3	**7140** 1610000	**3960** 891000	**0.34**	**1.98**	**2.94**	**1.93**	**0.1013**	**460**	**510**	**240** 528
23968YMB	**340** 13.3858	**460** 18.1102	**90.0** 3.5433	**2.5** 0.10	**369** 14.5	**435** 17.1	**3020** 678000	**1420** 320000	**0.17**	**3.98**	**5.93**	**3.89**	**0.0983**	**730**	**860**	**43.0** 94.0
23068YMB	**340** 13.3858	**520** 20.4724	**133.0** 5.2362	**4.0** 0.16	**384** 15.1	**481** 18.9	**4670** 1050000	**2430** 546000	**0.23**	**2.96**	**4.40**	**2.89**	**0.1005**	**710**	**830**	**101** 223
24068YMB	**340** 13.3858	**520** 20.4724	**180.0** 7.0866	**4.0** 0.16	**377** 14.9	**479** 18.9	**6590** 1480000	**3190** 717000	**0.32**	**2.14**	**3.18**	**2.09**	**0.1004**	**530**	**600**	**137** 302
23168YMB	**340** 13.3858	**580** 22.8346	**190.0** 7.4803	**4.0** 0.16	**397** 15.6	**526** 20.7	**6900** 1550000	**3750** 843000	**0.30**	**2.22**	**3.30**	**2.17**	**0.1033**	**530**	**590**	**206** 455
24168YMB	**340** 13.3858	**580** 22.8346	**243.0** 9.5669	**4.0** 0.16	**385** 15.2	**525** 20.7	**8970** 2020000	**4720** 1060000	**0.39**	**1.75**	**2.61**	**1.71**	**0.1033**	**340**	**370**	**264** 582
23268YMB	**340** 13.3858	**620** 24.4094	**224.0** 8.8189	**5.0** 0.20	**399** 15.7	**554** 21.8	**8290** 1860000	**4700** 1060000	**0.35**	**1.91**	**2.84**	**1.86**	**0.1051**	**420**	**460**	**296** 653
23972YMB	**360** 14.1732	**480** 18.8976	**90.0** 3.5433	**2.5** 0.10	**389** 15.3	**455** 17.9	**3170** 712000	**1460** 328000	**0.16**	**4.12**	**6.13**	**4.03**	**0.1013**	**680**	**810**	**45.0** 98.0
23072YMB	**360** 14.1732	**540** 21.2598	**134.0** 5.2756	**4.0** 0.16	**403** 15.9	**499** 19.7	**4640** 1040000	**2390** 538000	**0.23**	**2.94**	**4.38**	**2.88**	**0.1035**	**680**	**800**	**107** 236
24072YMB	**360** 14.1732	**540** 21.2598	**180.0** 7.0866	**4.0** 0.16	**398** 15.7	**500** 19.7	**6900** 1550000	**3270** 736000	**0.30**	**2.24**	**3.33**	**2.19**	**0.1036**	**500**	**560**	**144** 316

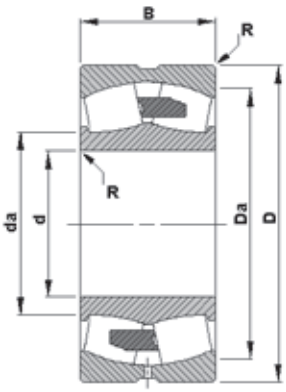
(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.

(2) Maximum shaft or housing fillet radius that bearing corners will clear.

* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).

(3) See thermal speed ratings in the engineering section.

(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



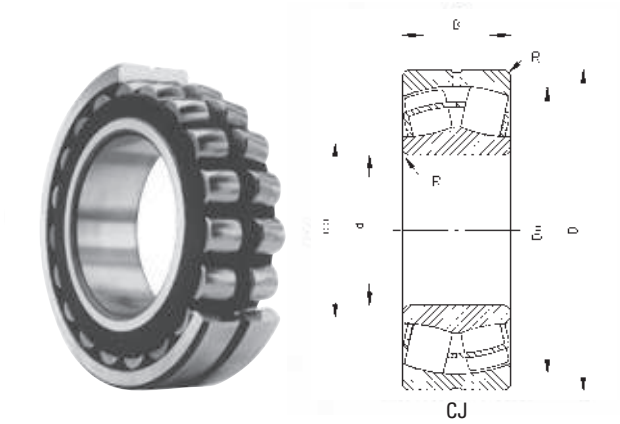
YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4) C_g	Reference Speed	Thermal Ratings(3)	Weight
										Dynamic		Static				
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C	e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases $X_0 = 1$ Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
23172YMB	360 14.1732	600 23.6220	192.0 7.5591	4.0 0.16	419 16.5	546 21.5	7360 1650000	3880 872000	0.29	2.29	3.42	2.24	0.1065	500	560	218 480
24172YMB	360 14.1732	600 23.6220	243.0 9.5669	4.0 0.16	406 16.0	545 21.4	9620 2160000	4890 1100000	0.38	1.79	2.67	1.75	0.1064	320	340	276 608
23272YMB	360 14.1732	650 25.5906	232.0 9.1339	5.0 0.20	420 16.5	583 22.9	8900 2000000	5040 1130000	0.35	1.95	2.91	1.91	0.1086	400	430	334 737
23976YMB	380 14.9606	520 20.4724	106.0 4.1732	3.0 0.12	416 16.4	488 19.2	3970 893000	1810 407000	0.18	3.80	5.66	3.72	0.1057	640	750	66.0 145
23076YMB	380 14.9606	560 22.0472	135.0 5.3150	4.0 0.16	422 16.6	520 20.5	5150 1160000	2590 581000	0.22	3.08	4.58	3.01	0.1068	630	740	112 248
24076YMB	380 14.9606	560 22.0472	180.0 7.0866	4.0 0.16	418 16.4	520 20.5	7150 1610000	3360 755000	0.29	2.32	3.45	2.27	0.1062	470	530	150 330
23176YMB	380 14.9606	620 24.4094	194.0 7.6378	4.0 0.16	431 17.0	566 22.3	7670 1720000	4100 922000	0.30	2.28	3.39	2.23	0.1090	470	530	229 505
24176YMB	380 14.9606	620 24.4094	243.0 9.5669	4.0 0.16	427 16.8	565 22.3	10200 2290000	5080 1140000	0.36	1.87	2.79	1.83	0.1097	300	320	287 633
23276YMB	380 14.9606	680 26.7717	240.0 9.4488	5.0 0.20	442 17.4	611 24.1	9630 2170000	5430 1220000	0.34	1.98	2.95	1.94	0.1119	370	400	376 828
23980YMB	400 15.7480	540 21.2598	106.0 4.1732	3.0 0.12	436 17.2	511 20.1	4050 910000	1850 415000	0.17	3.99	5.94	3.90	0.1086	600	720	69.0 151
23080YMB	400 15.7480	600 23.6220	148.0 5.8268	4.0 0.16	447 17.6	555 21.9	6020 1350000	3050 685000	0.23	2.98	4.44	2.92	0.1109	590	690	146 321
24080YMB	400 15.7480	600 23.6220	200.0 7.8740	4.0 0.16	442 17.4	555 21.9	8550 1920000	3990 898000	0.30	2.24	3.33	2.19	0.1108	430	480	197 434
23180YMB	400 15.7480	650 25.5906	200.0 7.8740	5.0 0.20	454 17.9	594 23.4	8210 1850000	4350 979000	0.29	2.32	3.46	2.27	0.1123	440	500	258 570
24180YMB	400 15.7480	650 25.5906	250.0 9.8425	5.0 0.20	449 17.7	594 23.4	10500 2350000	5280 1190000	0.35	1.91	2.84	1.87	0.1123	290	310	323 712
23280YMB	400 15.7480	720 28.3465	256.0 10.0787	5.0 0.20	466 18.4	646 25.4	11000 2460000	6110 1370000	0.34	1.96	2.93	1.92	0.1159	340	370	452 996
22380YMB	400 15.7480	820 32.2835	243.0 9.5669	6.0 0.24	496 19.5	729 28.7	10200 2290000	6570 1480000	0.30	2.28	3.40	2.23	0.1213	390	430	613 1350
23984YMB	420 16.5354	560 22.0472	106.0 4.1732	3.0 0.12	454 17.9	531 20.9	4270 961000	1930 434000	0.16	4.14	6.17	4.05	0.1117	570	670	72.0 158
23084YMB	420 16.5354	620 24.4094	150.0 5.9055	4.0 0.16	467 18.4	576 22.7	6430 1450000	3170 713000	0.22	3.05	4.54	2.98	0.1139	560	650	154 339
24084YMB	420 16.5354	620 24.4094	200.0 7.8740	4.0 0.16	463 18.2	575 22.7	8710 1960000	4010 901000	0.29	2.37	3.52	2.31	0.1138	410	460	205 451
23184YMB	420 16.5354	700 27.5591	224.0 8.8189	5.0 0.20	480 18.9	637 25.1	9760 2190000	5210 1170000	0.31	2.21	3.28	2.16	0.1166	410	450	346 762
24184YMB	420 16.5354	700 27.5591	280.0 11.0236	5.0 0.20	473 18.6	637 25.1	12500 2810000	6330 1420000	0.37	1.81	2.70	1.77	0.1166	260	280	432 953

Continued on next page.

SPHERICAL ROLLER BEARINGS - *continued*

- Timken inventory systems are designed to provide fast delivery for frequently-ordered sizes and styles.
- Consult your Timken representative for up-to-date information about the availability of the bearings you have selected.
- Life calculations, shaft and housing fits, internal clearances, tolerances and other technical data for these bearings are found in the engineering section of this catalog.
- Bearings are available with a tapered bore for adapter type mounting. To order, add the suffix "K" to bearing number (e.g., 23120K).



CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet[2] (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors[1]				Lubrication Life Adjustment Factor[4]	Reference Speed	Thermal Ratings[3]	Weight
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C		Dynamic		Static	C_g			
									e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
23284YMB	420 16.5354	760 29.9213	272.0 10.7087	6.0 0.24	490 19.3	681 26.8	12000 2690000	6670 1500000	0.35	1.90	2.83	1.86	0.1187	320	350	537 1180
23988YMB	440 17.3228	600 23.6220	118.0 4.6457	3.0 0.12	479 18.9	566 22.3	5080 1140000	2340 525000	0.17	3.93	5.85	3.84	0.1157	530	630	97.0 213
23088YMB	440 17.3228	650 25.5906	157.0 6.1811	5.0 0.20	489 19.3	603 23.8	7050 1590000	3460 777000	0.22	3.04	4.53	2.97	0.1173	520	610	177 390
24088YMB	440 17.3228	650 25.5906	212.0 8.3465	5.0 0.20	485 19.1	603 23.7	9870 2220000	4480 1010000	0.29	2.31	3.44	2.26	0.1173	380	430	239 527
23188YMB	440 17.3228	720 28.3465	226.0 8.8976	5.0 0.20	500 19.7	657 25.9	10400 2340000	5440 1220000	0.30	2.26	3.37	2.21	0.1198	380	430	361 797
24188YMB	440 17.3228	720 28.3465	280.0 11.0236	5.0 0.20	495 19.5	656 25.8	13100 2930000	6450 1450000	0.36	1.88	2.79	1.84	0.1197	250	260	448 987
23288YMB	440 17.3228	790 31.1024	280.0 11.0236	6.0 0.24	512 20.1	710 27.9	13400 3010000	7350 1650000	0.35	1.95	2.91	1.91	0.1231	300	320	593 1310
23992YMB	460 18.1102	620 24.4094	118.0 4.6457	3.0 0.12	504 19.9	582 22.9	4700 1060000	2050 460000	0.16	4.13	6.15	4.04	0.1187	520	620	101 221
23092YMB	460 18.1102	680 26.7717	163.0 6.4173	5.0 0.20	512 20.1	631 24.8	7660 1720000	3740 840000	0.22	3.06	4.56	2.99	0.1207	500	570	202 444
24092YMB	460 18.1102	680 26.7717	218.0 8.5827	5.0 0.20	507 20.0	630 24.8	10400 2350000	4750 1070000	0.28	2.37	3.53	2.32	0.1207	360	410	270 593
23192YMB	460 18.1102	760 29.9213	240.0 9.4488	6.0 0.24	524 20.6	692 27.2	11200 2530000	5920 1330000	0.30	2.24	3.33	2.19	0.1230	370	410	433 953
24192YMB	460 18.1102	760 29.9213	300.0 11.8110	6.0 0.24	517 20.4	692 27.2	15000 3360000	7420 1670000	0.37	1.82	2.71	1.78	0.1239	220	240	542 1190
23292YMB	460 18.1102	830 32.6772	296.0 11.6535	6.0 0.24	535 21.1	746 29.4	14200 3190000	7870 1770000	0.34	1.96	2.93	1.92	0.1259	280	310	697 1530
23996YMB	480 18.8976	650 25.5906	128.0 5.0394	4.0 0.16	522 20.6	614 24.2	5430 1220000	2490 559000	0.17	3.86	5.75	3.78	0.1224	500	590	121 267
23096YMB	480 18.8976	700 27.5591	165.0 6.4961	5.0 0.20	532 21.0	650 25.6	8070 1810000	3840 863000	0.22	3.14	4.67	3.07	0.1236	470	550	211 465
24096YMB	480 18.8976	700 27.5591	218.0 8.5827	5.0 0.20	527 20.7	652 25.7	11000 2470000	4970 1120000	0.28	2.45	3.64	2.39	0.1233	340	380	279 614
23196YMB	480 18.8976	790 31.1024	248.0 9.7638	6.0 0.24	547 21.5	719 28.3	12600 2830000	6480 1460000	0.30	2.26	3.36	2.21	0.1269	340	370	482 1060
24196YMB	480 18.8976	790 31.1024	308.0 12.1260	6.0 0.24	542 21.3	717 28.2	16300 3660000	7840 1760000	0.37	1.85	2.75	1.80	0.1266	210	220	598 1320
23296YMB	480 18.8976	870 34.2520	310.0 12.2047	6.0 0.24	561 22.1	779 30.7	16600 3740000	8940 2010000	0.35	1.92	2.85	1.87	0.1305	250	270	805 1770
239/500YMB	500 19.6850	670 26.3780	128.0 5.0394	4.0 0.16	544 21.4	634 25.0	5730 1290000	2540 571000	0.17	4.02	5.98	3.93	0.1251	470	560	126 276
230/500YMB	500 19.6850	720 28.3465	167.0 6.5748	5.0 0.20	551 21.7	673 26.5	8260 1860000	3950 889000	0.21	3.26	4.85	3.18	0.1263	460	530	221 486

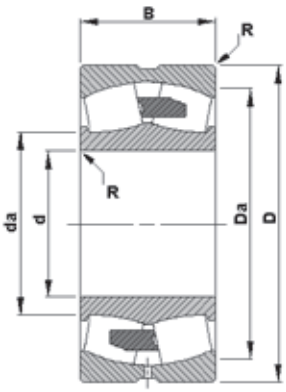
(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.

(2) Maximum shaft or housing fillet radius that bearing corners will clear.

* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).

(3) See thermal speed ratings in the engineering section.

(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4) C_g	Reference Speed	Thermal Ratings(3)	Weight
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C	Dynamic			Static				
									e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
240/500YMB	500 19.6850	720 28.3465	218.0 8.5827	5.0 0.20	547 21.5	672 26.5	11300 2540000	5040 1130000	0.27	2.51	3.74	2.45	0.1263	330	370	289 635
231/500YMB	500 19.6850	830 32.6772	264.0 10.3937	6.0 0.24	573 22.5	753 29.6	14100 3170000	7180 1610000	0.30	2.22	3.30	2.17	0.1307	320	350	572 1260
241/500YMB	500 19.6850	830 32.6772	325.0 12.7953	6.0 0.24	563 22.2	755 29.7	17700 3990000	8720 1960000	0.37	1.81	2.69	1.77	0.1300	200	210	704 1550
232/500YMB	500 19.6850	920 36.2205	336.0 13.2283	6.0 0.24	585 23.0	823 32.4	18100 4070000	9910 2230000	0.36	1.90	2.83	1.86	0.1340	240	260	988 2170
239/530YMB	530 20.8661	710 27.9528	136.0 5.3543	4.0 0.16	575 22.6	672 26.4	6950 1560000	3030 682000	0.16	4.11	6.12	4.02	0.1298	430	500	149 329
230/530YMB	530 20.8661	780 30.7087	185.0 7.2835	5.0 0.20	588 23.2	725 28.5	9840 2210000	4740 1070000	0.21	3.14	4.68	3.07	0.1319	420	480	299 657
240/530YMB	530 20.8661	780 30.7087	250.0 9.8425	5.0 0.20	583 23.0	725 28.5	13900 3110000	6170 1390000	0.28	2.37	3.53	2.32	0.1318	300	330	403 888
231/530YMB	530 20.8661	870 34.2520	272.0 10.7087	6.0 0.24	603 23.7	793 31.2	15300 3440000	7770 1750000	0.30	2.27	3.38	2.22	0.1350	300	320	637 1400
241/530YMB	530 20.8661	870 34.2520	335.0 13.1890	6.0 0.24	596 23.5	792 31.2	19800 4440000	9430 2120000	0.37	1.84	2.74	1.80	0.1352	180	190	785 1730
232/530YMB	530 20.8661	980 38.5827	355.0 13.9764	7.0 0.28	621 24.4	878 34.6	20500 4610000	11200 2520000	0.35	1.91	2.85	1.87	0.1395	220	240	1190 2620
239/560YMB	560 22.0472	750 29.5276	140.0 5.5118	4.0 0.16	607 23.9	710 28.0	7370 1660000	3240 729000	0.16	4.21	6.27	4.12	0.1339	400	470	172 378
230/560YMB	560 22.0472	820 32.2835	195.0 7.6772	5.0 0.20	620 24.4	764 30.1	10900 2460000	5230 1180000	0.22	3.14	4.67	3.07	0.1364	390	450	344 759
240/560YMB	560 22.0472	820 32.2835	258.0 10.1575	5.0 0.20	617 24.3	761 30.0	15000 3360000	6500 1460000	0.28	2.42	3.60	2.37	0.1365	280	310	456 1000
231/560YMB	560 22.0472	920 36.2205	280.0 11.0236	6.0 0.24	638 25.1	838 33.0	16600 3730000	8410 1890000	0.29	2.33	3.47	2.28	0.1399	270	300	734 1620
241/560YMB	560 22.0472	920 36.2205	355.0 13.9764	6.0 0.24	629 24.8	839 33.0	22100 4960000	10600 2370000	0.36	1.87	2.78	1.83	0.1400	160	170	931 2050
232/560YMB	560 22.0472	1030 40.5512	365.0 14.3701	7.0 0.28	661 26.0	918 36.1	22600 5090000	11900 2690000	0.34	1.96	2.91	1.91	0.1449	200	220	1340 2960
239/600YMB	600 23.6220	800 31.4961	150.0 5.9055	4.0 0.16	650 25.6	757 29.8	8690 1950000	3680 827000	0.16	4.20	6.25	4.11	0.1404	370	430	207 456
230/600YMB	600 23.6220	870 34.2520	200.0 7.8740	5.0 0.20	664 26.1	811 31.9	11900 2670000	5530 1240000	0.21	3.27	4.87	3.20	0.1413	360	410	391 861
240/600YMB	600 23.6220	870 34.2520	272.0 10.7087	5.0 0.20	658 25.9	811 31.9	17000 3820000	7320 1650000	0.28	2.44	3.64	2.39	0.1421	260	280	531 1170
231/600YMB	600 23.6220	980 38.5827	300.0 11.8110	6.0 0.24	681 26.8	895 35.2	19100 4290000	9560 2150000	0.29	2.32	3.46	2.27	0.1458	250	270	887 1950
239/630YMB	630 24.8031	850 33.4646	165.0 6.4961	5.0 0.20	684 26.9	804 31.6	10200 2290000	4390 986000	0.17	4.02	5.99	3.93	0.1451	340	400	264 583

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SPHERICAL ROLLER BEARINGS - *continued*

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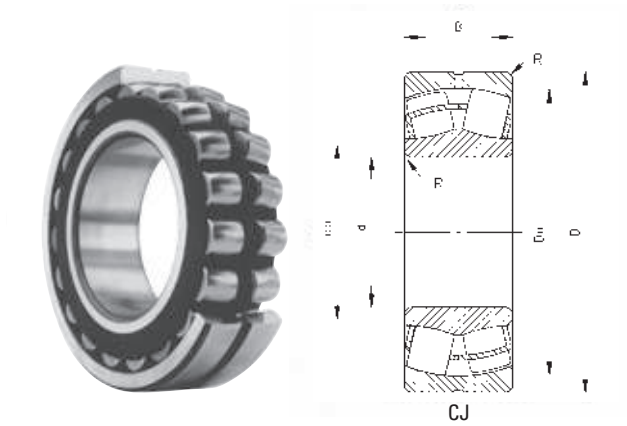
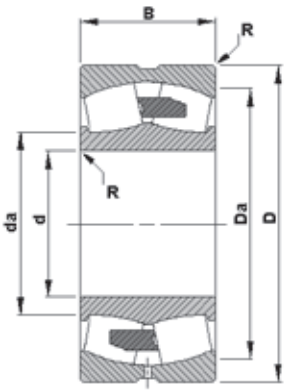


CJ

Bearing Number	d Bore	D O.D.	B Width	R Fillet[2] (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors[1]				Lubrication Life Adjustment Factor[4]	Reference Speed	Thermal Ratings[3]	Weight
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C		Dynamic		Static	C_g			
									e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases X_0 = 1 Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
230/630YMB	630 24.8031	920 36.2205	212.0 8.3465	6.0 0.24	696 27.4	858 33.8	13600 3050000	6370 1430000	0.21	3.18	4.74	3.11	0.1466	330	380	469 1030
240/630YMB	630 24.8031	920 36.2205	290.0 11.4173	6.0 0.24	691 27.2	856 33.7	18900 4240000	8180 1840000	0.28	2.41	3.59	2.36	0.1465	240	260	642 1410
231/630YMB	630 24.8031	1030 40.5512	315.0 12.4016	6.0 0.24	716 28.2	940 37.0	21500 4820000	10600 2390000	0.29	2.30	3.42	2.25	0.1505	230	250	1030 2270
241/630YMB	630 24.8031	1030 40.5512	400.0 15.7480	6.0 0.24	707 27.8	939 37.0	27900 6270000	13000 2920000	0.37	1.84	2.74	1.80	0.1504	140	140	1310 2880
239/670YMB	670 26.3780	900 35.4331	170.0 6.6929	5.0 0.20	727 28.6	851 33.5	11200 2510000	4720 1060000	0.16	4.15	6.18	4.06	0.1509	320	370	302 666
230/670YMB	670 26.3780	980 38.5827	230.0 9.0551	6.0 0.24	744 29.3	911 35.9	16000 3590000	7230 1630000	0.22	3.12	4.65	3.05	0.1531	310	350	579 1280
240/670YMB	670 26.3780	980 38.5827	308.0 12.1260	6.0 0.24	738 29.0	910 35.8	22100 4960000	9280 2090000	0.28	2.39	3.55	2.33	0.1530	220	240	775 1710
231/670YMB	670 26.3780	1090 42.9134	336.0 13.2283	6.0 0.24	760 29.9	995 39.2	23700 5340000	11600 2610000	0.29	2.31	3.44	2.26	0.1560	210	230	1220 2700
241/670YMD	670 26.3780	1090 42.9134	412.0 16.2205	6.0 0.24	751 29.6	996 39.2	30400 6830000	14100 3180000	0.36	1.90	2.82	1.85	0.1560	130	130	1500 3300
232/670YMD	670 26.3780	1220 48.0315	438.0 17.2441	9.0 0.35	779 30.7	1097 43.2	32100 7220000	16900 3800000	0.35	1.95	2.91	1.91	0.1608	160	170	2240 4940
239/710YMB	710 27.9528	950 37.4016	180.0 7.0866	5.0 0.20	771 30.4	898 35.3	12500 2820000	5150 1160000	0.16	4.13	6.15	4.04	0.1565	300	340	353 778
230/710YMB	710 27.9528	1030 40.5512	236.0 9.2913	6.0 0.24	785 30.9	960 37.8	16900 3800000	7680 1730000	0.21	3.26	4.86	3.19	0.1583	290	330	647 1430
240/710YMD	710 27.9528	1030 40.5512	315.0 12.4016	6.0 0.24	779 30.7	960 37.8	23400 5260000	9880 2220000	0.27	2.49	3.71	2.44	0.1582	200	220	863 1900
231/710YMB	710 27.9528	1150 45.2756	345.0 13.5827	7.0 0.28	809 31.8	1048 41.3	26200 5880000	12500 2800000	0.28	2.38	3.54	2.32	0.1622	200	210	1390 3060
241/710YMD	710 27.9528	1150 45.2756	438.0 17.2441	7.0 0.28	795 31.3	1050 41.4	34300 7720000	15700 3520000	0.36	1.87	2.78	1.83	0.1613	120	120	1760 3890
239/750YMB	750 29.5276	1000 39.3701	185.0 7.2835	5.0 0.20	813 32.0	946 37.3	13500 3040000	5550 1250000	0.16	4.23	6.30	4.14	0.1619	280	320	398 878
230/750YMB	750 29.5276	1090 42.9134	250.0 9.8425	6.0 0.24	830 32.7	1015 40.0	19000 4270000	8550 1920000	0.21	3.26	4.85	3.18	0.1641	270	300	770 1700
240/750YMD	750 29.5276	1090 42.9134	335.0 13.1890	6.0 0.24	824 32.4	1014 39.9	26400 5940000	11000 2480000	0.27	2.48	3.69	2.42	0.1640	190	200	1030 2270
241/750YMD	750 29.5276	1220 48.0315	475.0 18.7008	7.0 0.28	840 33.1	1114 43.9	39200 8800000	17800 4000000	0.36	1.86	2.77	1.82	0.1676	110	110	2170 4770
239/800YMB	800 31.4961	1060 41.7323	195.0 7.6772	5.0 0.20	868 34.2	1007 39.6	13800 3100000	5700 1280000	0.16	4.20	6.25	4.10	0.1685	270	310	465 1020
230/800YMB	800 31.4961	1150 45.2756	258.0 10.1575	6.0 0.24	888 35.0	1074 42.3	20300 4570000	8940 2010000	0.19	3.50	5.22	3.43	0.1696	250	280	868 1910

(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.
(2) Maximum shaft or housing fillet radius that bearing corners will clear.
* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).
(3) See thermal speed ratings in the engineering section.
(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."



YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter		Load Ratings		Equivalent Radial load Factors(1)				Lubrication Life Adjustment Factor(4) C_g	Reference Speed	Thermal Ratings(3)	Weight
					d_a Shaft	D_a Housing	Static Load Rating C_0	Dynamic Load Rating C		Dynamic		Static				
									e	$\frac{T}{R} \le e$ X = 1 Y	$\frac{T}{R} > e$ X = .67 Y	In All Cases $X_0 = 1$ Y_0		Grease	Oil	
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
240/800YMD	800 31.4961	1150 45.2756	345.0 13.5827	6.0 0.24	877 34.5	1072 42.2	28900 6500000	11800 2650000	0.26	2.55	3.80	2.50	0.1790	170	190	1160 2560
231/800YMB	800 31.4961	1280 50.3937	365.0 14.3701	7.0 0.28	906 35.7	1171 46.1	31900 7170000	15000 3380000	0.28	2.45	3.65	2.40	0.1741	160	180	1800 3950
241/800YMD	800 31.4961	1280 50.3937	475.0 18.7008	7.0 0.28	896 35.3	1170 46.1	41900 9430000	18500 4170000	0.35	1.95	2.90	1.90	0.1740	97	100	2340 5150
232/800YMD	800 31.4961	1420 55.9055	488.0 19.2126	11.0 0.43	935 36.8	1272 50.1	44000 9900000	21500 4830000	0.33	2.04	3.03	1.99	0.1798	120	130	3310 7290
238/850YMB	850 33.4646	1030 40.5512	136.0 5.3543	4.0 0.16	900 35.4	993 39.1	10500 2350000	3650 822000	0.11	6.23	9.27	6.09	0.1718	130	150	233 513
239/850YMB	850 33.4646	1120 44.0945	200.0 7.8740	5.0 0.20	919 36.2	1050 41.4	14700 3300000	5720 1290000	0.15	4.54	6.76	4.44	0.1747	250	290	525 1150
230/850YMB	850 33.4646	1220 48.0315	272.0 10.7087	6.0 0.24	938 36.9	1138 44.8	23400 5250000	10200 2290000	0.20	3.37	5.02	3.30	0.1771	230	260	1030 2260
240/850YMD	850 33.4646	1220 48.0315	365.0 14.3701	6.0 0.24	931 36.7	1138 44.8	32600 7320000	13200 2960000	0.26	2.56	3.81	2.50	0.1770	160	170	1380 3030
231/850YMB	850 33.4646	1360 53.5433	400.0 15.7480	9.0 0.35	962 37.9	1245 49.0	36200 8140000	16900 3800000	0.28	2.44	3.63	2.39	0.1810	150	160	2220 4890
232/850YMD	850 33.4646	1500 59.0551	515.0 20.2756	11.0 0.43	990 39.0	1347 53.0	48400 10900000	23500 5280000	0.33	2.06	3.06	2.01	0.1864	110	120	3880 8540
239/900YMB	900 35.4331	1180 46.4567	206.0 8.1102	5.0 0.20	965 38.0	1112 43.8	18300 4110000	7120 1600000	0.14	4.69	6.98	4.58	0.1801	220	250	592 1300
230/900YMB	900 35.4331	1280 50.3937	280.0 11.0236	6.0 0.24	990 39.0	1198 47.2	25900 5820000	11100 2500000	0.20	3.41	5.08	3.33	0.1828	210	240	1140 2520
240/900YMD	900 35.4331	1280 50.3937	375.0 14.7638	6.0 0.24	983 38.7	1197 47.1	35600 7990000	14200 3200000	0.26	2.60	3.87	2.54	0.1827	150	160	1530 3370
231/900YMB	900 35.4331	1420 55.9055	412.0 16.2205	9.0 0.35	1018 40.1	1300 51.2	39400 8860000	17800 4010000	0.27	2.49	3.71	2.43	0.1871	140	150	2450 5390
241/900YMD	900 35.4331	1420 55.9055	515.0 20.2756	9.0 0.35	1008 39.7	1298 51.1	51000 11500000	21700 4870000	0.34	2.00	2.98	1.96	0.1869	82	85	3060 6740
232/900YMD	900 35.4331	1580 62.2047	515.0 20.2756	11.0 0.43	1056 41.6	1423 56.0	51400 11600000	24700 5560000	0.32	2.11	3.13	2.06	0.1926	100	110	4280 9420
239/950YMB	950 37.4016	1250 49.2126	224.0 8.8189	6.0 0.24	1025 40.3	1187 46.7	20700 4660000	8160 1830000	0.15	4.39	6.54	4.29	0.1874	210	240	729 1600
230/950YMB	950 37.4016	1360 53.5433	300.0 11.8110	6.0 0.24	1046 41.2	1273 50.1	27600 6190000	12100 2720000	0.19	3.49	5.19	3.41	0.1899	200	230	1400 3080
240/950YMD	950 37.4016	1360 53.5433	412.0 16.2205	6.0 0.24	1039 40.9	1269 50.0	41300 9290000	16400 3680000	0.27	2.53	3.77	2.47	0.1898	130	140	1920 4230
231/950YMB	950 37.4016	1500 59.0551	438.0 17.2441	9.0 0.35	1074 42.3	1373 54.1	44400 9980000	19900 4460000	0.27	2.47	3.68	2.42	0.1937	130	140	2910 6400
241/950YMD	950 37.4016	1500 59.0551	545.0 21.4567	9.0 0.35	1064 41.9	1371 54.0	57100 12800000	24100 5410000	0.34	2.00	2.97	1.95	0.1935	75	77	3620 7970

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SPHERICAL ROLLER BEARINGS - *continued*

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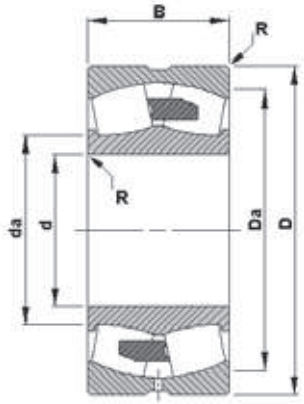


YM

Bearing Number	d Bore	D O.D.	B Width	R Fillet(2) (max.)	Backing Diameter d_a Shaft	Backing Diameter D_a Housing	Load Ratings Static Load Rating C_0	Load Ratings Dynamic Load Rating C	Equivalent Radial load Factors(1) e	Dynamic $\frac{T}{R} \le e$ X = 1 Y	Dynamic $\frac{T}{R} > e$ X = .67 Y	Static Y_0	Lubrication Life Adjustment Factor(4) C_g	Reference Speed Grease	Thermal Ratings(3) Oil	Weight
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.						RPM	RPM	kg lbs.
239/1000YMB	**1000** 39.3701	**1320** 51.9685	**236.0** 9.2913	**6.0** 0.24	**1080** 42.5	**1252** 49.3	**23100** 5190000	**9020** 2030000	**0.15**	**4.39**	**6.54**	**4.29**	**0.1939**	**190**	**220**	**864** 1900
230/1000YMB	**1000** 39.3701	**1420** 55.9055	**308.0** 12.1260	**6.0** 0.24	**1101** 43.4	**1327** 52.2	**32100** 7220000	**13400** 3010000	**0.20**	**3.44**	**5.12**	**3.36**	**0.1960**	**180**	**200**	**1540** 3400
240/1000YMD	**1000** 39.3701	**1420** 55.9055	**412.0** 16.2205	**6.0** 0.24	**1094** 43.1	**1329** 52.3	**41800** 9390000	**16600** 3730000	**0.25**	**2.69**	**4.01**	**2.63**	**0.1952**	**130**	**140**	**2070** 4540
231/1000YMB	**1000** 39.3701	**1580** 62.2047	**462.0** 18.1890	**9.0** 0.35	**1131** 44.5	**1446** 56.9	**49500** 11100000	**22000** 4940000	**0.27**	**2.47**	**3.68**	**2.42**	**0.2002**	**120**	**130**	**3410** 7500
241/1000YMB	**1000** 39.3701	**1580** 62.2047	**580.0** 22.8346	**9.0** 0.35	**1120** 44.1	**1444** 56.9	**64400** 14500000	**26800** 6030000	**0.34**	**1.98**	**2.95**	**1.93**	**0.2000**	**69**	**71**	**4280** 9420
239/1060YMB	**1060** 41.7323	**1400** 55.1181	**250.0** 9.8425	**6.0** 0.24	**1145** 45.1	**1328** 52.3	**26500** 5950000	**10200** 2300000	**0.16**	**4.25**	**6.32**	**4.15**	**0.2004**	**180**	**200**	**1030** 2270
230/1060YMB	**1060** 41.7323	**1500** 59.0551	**325.0** 12.7953	**7.0** 0.28	**1165** 45.9	**1404** 55.3	**35800** 8050000	**14800** 3330000	**0.20**	**3.44**	**5.12**	**3.36**	**0.2031**	**170**	**190**	**1810** 3970
240/1060YMD	**1060** 41.7323	**1500** 59.0551	**438.0** 17.2441	**7.0** 0.28	**1157** 45.6	**1403** 55.2	**49500** 11100000	**19000** 4280000	**0.26**	**2.61**	**3.88**	**2.55**	**0.2030**	**110**	**120**	**2430** 5350
231/1060YMB	**1060** 41.7323	**1660** 65.3543	**475.0** 18.7008	**11.0** 0.43	**1194** 47.0	**1524** 60.0	**53500** 12000000	**23700** 5330000	**0.27**	**2.53**	**3.77**	**2.48**	**0.2070**	**110**	**120**	**3820** 8410
239/1120YMB	**1120** 44.0945	**1460** 57.4803	**250.0** 9.8425	**6.0** 0.24	**1205** 47.4	**1389** 54.7	**27100** 6090000	**10400** 2330000	**0.15**	**4.62**	**6.87**	**4.51**	**0.2077**	**170**	**190**	**1080** 2380
230/1120YMB	**1120** 44.0945	**1580** 62.2047	**345.0** 13.5827	**7.0** 0.28	**1229** 48.4	**1480** 58.3	**40200** 9040000	**16500** 3710000	**0.20**	**3.42**	**5.09**	**3.34**	**0.2101**	**160**	**170**	**2110** 4650
240/1120YMD	**1120** 44.0945	**1580** 62.2047	**462.0** 18.1890	**7.0** 0.28	**1220** 48.1	**1480** 58.3	**55600** 12500000	**21200** 4760000	**0.26**	**2.62**	**3.90**	**2.56**	**0.2100**	**110**	**110**	**2830** 6230
231/1120YMB	**1120** 44.0945	**1750** 68.8976	**475.0** 18.7008	**11.0** 0.43	**1262** 49.7	**1609** 63.3	**56100** 12600000	**25000** 5620000	**0.25**	**2.67**	**3.98**	**2.62**	**0.2142**	**110**	**110**	**4240** 9320
239/1180YMB	**1180** 46.4567	**1540** 60.6299	**272.0** 10.7087	**6.0** 0.24	**1269** 50.0	**1465** 57.7	**31500** 7090000	**11900** 2670000	**0.15**	**4.48**	**6.67**	**4.38**	**0.2148**	**160**	**180**	**1310** 2890
230/1180YMB	**1180** 46.4567	**1660** 65.3543	**355.0** 13.9764	**7.0** 0.28	**1293** 50.9	**1557** 61.3	**43500** 9780000	**17800** 4000000	**0.19**	**3.50**	**5.21**	**3.42**	**0.2170**	**150**	**160**	**2390** 5250
240/1180YMD	**1180** 46.4567	**1660** 65.3543	**475.0** 18.7008	**7.0** 0.28	**1284** 50.6	**1557** 61.3	**59800** 13400000	**22700** 5110000	**0.25**	**2.67**	**3.98**	**2.61**	**0.2169**	**98**	**110**	**3190** 7030
231/1180YMB	**1180** 46.4567	**1850** 72.8346	**500.0** 19.6850	**11.0** 0.43	**1332** 52.5	**1698** 66.9	**62400** 14000000	**27600** 6200000	**0.25**	**2.68**	**4.00**	**2.62**	**0.2217**	**97**	**100**	**5010** 11000
239/1250YMB	**1250** 49.2126	**1630** 64.1732	**280.0** 11.0236	**6.0** 0.24	**1345** 52.9	**1551** 61.1	**34200** 7680000	**12800** 2890000	**0.15**	**4.60**	**6.85**	**4.50**	**0.2227**	**140**	**160**	**1510** 3330
230/1250YMB	**1250** 49.2126	**1750** 68.8976	**375.0** 14.7638	**7.0** 0.28	**1370** 54.0	**1640** 64.6	**48800** 11000000	**19400** 4350000	**0.19**	**3.50**	**5.21**	**3.42**	**0.2250**	**140**	**150**	**2770** 6100
240/1250YMD	**1250** 49.2126	**1750** 68.8976	**500.0** 19.6850	**7.0** 0.28	**1362** 53.6	**1639** 64.5	**66700** 15000000	**24600** 5530000	**0.25**	**2.68**	**3.99**	**2.62**	**0.2249**	**90**	**96**	**3700** 8140
231/1250YMB	**1250** 49.2126	**1950** 76.7717	**530.0** 20.8661	**11.0** 0.43	**1407** 55.4	**1794** 70.6	**70000** 15700000	**30700** 6900000	**0.25**	**2.67**	**3.98**	**2.62**	**0.2296**	**89**	**95**	**5860** 12900

(1) These factors apply for both inch and metric calculations. See engineering section for instructions on use.

(2) Maximum shaft or housing fillet radius that bearing corners will clear.

* Available in standard shaker screen bearing design configuration (example: 223xxYMW33W800C4).

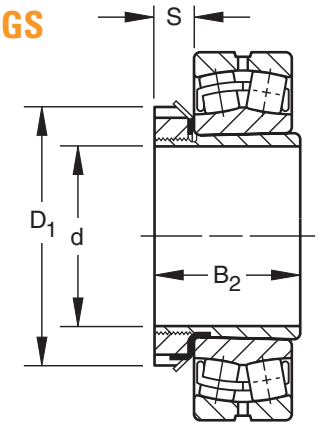
(3) See thermal speed ratings in the engineering section.

(4) Geometry constant for Lubrication Life Adjustment Factor a3l. See "Bearing Load Ratings and Life Calculations."

SHAFT ADAPTER ACCESSORIES FOR TAPERED BORE BEARINGS

SNW/SNP – PULL TYPE SLEEVE, LOCKNUT, LOCKWASHER/LOCKPLATE ASSEMBLIES

- The table below shows dimensions for adapter assemblies and components used in the mounting of tapered bore bearings on shafts.
- SNW assembly consists of a sleeve, locknut and lockwasher.
- SNP assembly consists of a sleeve, locknut and lockplate.



Tapered bore bearing plus SNW

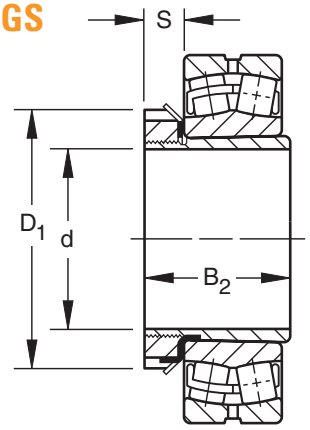
B

Bearing Number SNW/SNP	Accessory Numbers				Shaft Dimensions Inches		Adapter Dimensions Inches			Assembly Weight
	Assembly	Sleeve	Locknut	Lockwasher / Lockplate	Diameter d	Tolerance +.000	B_2	S	D_1	
					in.		in.	in.	in.	lbs.
FOR SERIES 222K										
22209K	SNW-09	S-09	N-09	W-09	1 7/16	-.003	1 37/64	1/2	2 17/32	0.6
22210K	SNW-10	S-10	N-10	W-10	1 11/16	-.003	1 49/64	9/16	2 11/16	0.7
22211K	SNW-11	S-11	N-11	W-11	1 15/16	-.003	1 27/32	9/16	2 31/32	0.8
22212K	SNW-12	S-12	N-12	W-12	2 1/16	-.004	1 63/64	19/32	3 5/32	1.1
22213K	SNW-13	S-13	N-13	W-13	2 3/16	-.004	2 3/32	5/8	3 3/8	1.4
22214K	SNW-14	S-14	N-14	W-14	2 5/16	-.004	2 11/64	5/8	3 5/8	1.8
22215K	SNW-15	S-15	AN-15	W-15	2 7/16	-.004	2 19/64	43/64	3 7/8	2
22216K	SNW-16	S-16	AN-16	W-16	2 11/16	-.004	2 3/8	43/64	4 5/32	2.4
22217K	SNW-17	S-17	AN-17	W-17	2 15/16	-.004	2 31/64	45/64	4 13/32	3
22218K	SNW-18	S-18	AN-18	W-18	3 3/16	-.004	2 41/64	25/32	4 21/32	3
22219K	SNW-19	S-19	AN-19	W-19	3 5/16	-.004	2 49/64	13/16	4 15/16	3.3
22220K	SNW-20	S-20	AN-20	W-20	3 7/16	-.004	2 7/8	27/32	5 3/16	4.4
22222K	SNW-22	S-22	AN-22	W-22	3 15/16	-.004	3 13/64	29/32	5 23/32	5
22224K	SNW-24	S-24	AN-24	W-24	4 3/16	-.005	3 15/32	15/16	6 1/8	6.7
22226K	SNW-26	S-26	AN-26	W-26	4 7/16	-.005	3 49/64	1	6 3/4	8.6
22228K	SNW-28	S-28	AN-28	W-28	4 15/16	-.005	3 63/64	1 1/16	7 3/32	10.3
22230K	SNW-30	S-30	AN-30	W-30	5 3/16	-.005	4 15/64	1 1/8	7 11/16	13.5
22232K	SNW-32	S-32	AN-32	W-32	5 7/16	-.005	4 37/64	1 3/16	8 1/16	15.6
22234K	SNW-34	S-34	AN-34	W-34	5 15/16	-.005	4 27/32	1 7/32	8 21/32	19.4
22236K	SNW-36	S-36	AN-36	W-36	6 7/16	-.005	5 1/32	1 1/4	9 1/16	20.5
22238K	SNW-38	S-38	AN-38	W-38	6 15/16	-.005	5 17/64	1 9/32	9 15/32	23.4
22240K	SNW-40	S-40	AN-40	W-40	7 3/16	-.005	5 31/64	1 11/32	9 27/32	30.5
22244K	SNW-44	S-44	AN-44	W-44	7 15/16	-.005	5 29/32	1 3/8	11	33
FOR SERIES 230K										
23024K	SNW-3024	S-3024	N-024	W-024	4 3/16	-.005	2 61/64	13/16	5 11/16	6.1
23026K	SNW-3026	S-3026	N-026	W-026	4 7/16	-.005	3 15/64	7/8	6 1/8	7.5
23028K	SNW-3028	S-3028	N-028	W-028	4 15/16	-.005	3 11/32	15/16	6 1/2	8.4
23030K	SNW-3030	S-3030	N-030	W-030	5 3/16	-.005	3 31/64	31/32	7 1/8	9.8
23032K	SNW-3032	S-3032	N-032	W-032	5 7/16	-.005	3 23/32	1 1/32	7 1/2	11.8
23034K	SNW-3034	S-3034	N-034	W-034	5 15/16	-.005	4 1/64	1 1/16	7 7/8	13.3
23036K	SNW-3036	S-3036	N-036	W-036	6 7/16	-.005	4 11/32	1 3/32	8 1/4	15.2
23038K	SNW-3038	S-3038	N-038	W-038	6 15/16	-.005	4 13/32	1 1/8	8 11/16	16.7
23040K	SNW-3040	S-3040	N-040	W-040	7 3/16	-.005	4 3/4	1 3/16	9 7/16	19.7
23044K	SNW-3044	S-3044	N-044	W-044	7 15/16	-.005	5 1/8	1 1/4	10 1/4	24.4
23048K	SNP-3048	S-3048	N-048	P-048	8 15/16	-.006	5 7/16	1 11/32	11 7/16	32.2
23052K	SNP-3052	S-3052	N-052	P-052	9 7/16	-.006	6 1/64	1 13/32	12 3/16	41.1
23056K	SNP-3056	S-3056	N-056	P-056	10 7/16	-.007	6 3/16	1 1/2	13	45.4
23060K	SNP-3060	S-3060	N-060	P-060	10 15/16	-.007	6 47/64	1 9/16	14 3/16	58.9
23064K	SNP-3064	S-3064	N-064	P-064	11 15/16	-.007	6 61/64	1 21/32	15	65.7
23068K	SNP-3068	S-3068	N-068	P-068	12 7/16	-.008	7 35/64	1 25/32	15 3/4	77.8
23072K	SNP-3072	S-3072	N-072	P-072	13 7/16	-.008	7 37/64	1 25/32	16 1/2	86.2
23076K	SNP-3076	S-3076	N-076	P-076	13 15/16	-.008	7 3/4	1 57/64	17 3/4	94.3
23080K	SNP-3080	S-3080	N-080	P-080	15	-.008	8 13/32	2 1/16	18 1/2	105

SHAFT ADAPTER ACCESSORIES FOR TAPERED BORE BEARINGS

SNW/SNP – PULL TYPE SLEEVE, LOCKNUT, LOCKWASHER/LOCKPLATE ASSEMBLIES

- The table below shows dimensions for adapter assemblies and components used in the mounting of tapered bore bearings on shafts.
- SNW assembly consists of a sleeve, locknut and lockwasher.
- SNP assembly consists of a sleeve, locknut and lockplate.



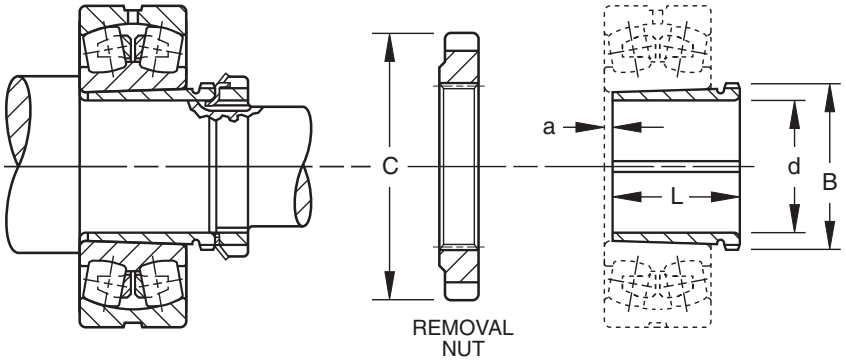
Tapered bore bearing plus SNW

Bearing Number		Accessory Numbers				Shaft Dimensions Inches		Adapter Dimensions Inches			SNW/SNP Assembly Weight
		Assembly	Sleeve	Locknut	Lockwasher / Lockplate	Diameter d	Tolerance +.000	B_2	S	D_1	
						in.		in.	in.	in.	lbs.
FOR SERIES 223K and 232K											
22308K		SNW-108	S-108	N-08	W-08	1 5/16	-.003	2 1/64	1/2	2 1/4	0.8
22309K		SNW-109	S-109	N-09	W-09	1 7/16	-.003	2 9/64	1/2	2 17/32	0.8
22310K		SNW-110	S-110	N-10	W-10	1 11/16	-.003	2 25/64	9/16	2 11/16	0.9
22311K		SNW-111	S-111	N-11	W-11	1 15/16	-.003	2 33/64	9/16	2 31/32	0.9
22312K		SNW-112	S-112	N-12	W-12	2 1/16	-.004	2 21/32	19/32	3 5/32	1.2
22313K		SNW-113	S-113	N-13	W-13	2 3/16	-.004	2 49/64	5/8	3 3/8	1.7
22314K		SNW-114	S-114	N-14	W-14	2 5/16	-.004	2 61/64	5/8	3 5/8	2.3
22315K		SNW-115	S-115	AN-15	W-15	2 7/16	-.004	3 5/64	43/64	3 7/8	3
22316K		SNW-116	S-116	AN-16	W-16	2 11/16	-.004	3 13/64	43/64	4 5/32	3.2
22317K		SNW-117	S-117	AN-17	W-17	2 15/16	-.004	3 5/16	45/64	4 13/32	3.5
22318K		SNW-118	S-118	AN-18	W-18	3 3/16	-.004	3 35/64	25/32	4 21/32	4
22319K		SNW-119	S-119	AN-19	W-19	3 5/16	-.004	3 45/64	13/16	4 15/16	5
22320K	23220K	SNW-120	S-120	AN-20	W-20	3 7/16	-.004	3 31/32	27/32	5 3/16	6.2
22322K	23222K	SNW-122	S-122	AN-22	W-22	3 15/16	-.004	4 11/32	29/32	5 23/32	6.5
22324K	23224K	SNW-124	S-124	AN-24	W-24	4 3/16	-.005	4 41/64	15/16	6 1/8	8
22326K	23226K	SNW-126	S-126	AN-26	W-26	4 7/16	-.005	4 63/64	1	6 3/4	12.4
22328K	23228K	SNW-128	S-128	AN-28	W-28	4 15/16	-.005	5 21/64	1 1/16	7 3/32	13
22330K	23230K	SNW-130	S-130	AN-30	W-30	5 3/16	-.005	5 5/8	1 1/8	7 11/16	17.6
22332K	23232K	SNW-132	S-132	AN-32	W-32	5 7/16	-.005	5 59/64	1 3/16	8 1/16	18.5
22334K	23234K	SNW-134	S-134	AN-34	W-34	5 15/16	-.005	6 3/16	1 7/32	8 21/32	21
22336K	23236K	SNW-136	S-136	AN-36	W-36	6 7/16	-.005	6 29/64	1 1/4	9 1/16	22.5
22338K	23238K	SNW-138	S-138	AN-38	W-38	6 15/16	-.005	6 3/4	1 9/32	9 15/32	28
22340K	23240K	SNW-140	S-140	AN-40	W-40	7 3/16	-.005	7 3/32	1 11/32	9 27/32	36
22344K	23244K	SNW-144	S-144	AN-44	W-44	7 15/16	-.005	7 9/32	1 3/8	11	47
22348K	23248K	SNP-148	S-148	N-048	P-48	8 15/16	-.006	8 7/64	1 11/32	11 7/16	38.3
22352K	23252K	SNP-152	S-152	N-052	P-52	9 7/16	-.006	8 49/64	1 13/32	12 13/16	53.4
22356K	23256K	SNP-3256	S-3256	N-056	P-56	10 7/16	-.007	8 15/16	1 1/2	13	61.3
FOR SERIES 231K											
23122K		SNW-3122	S-22	N-022	W-022	3 15/16	-.004	3 13/64	25/32	5 5/32	4.2
23124K		SNW-3124	S-24	N-024	W-024	4 3/16	-.005	3 15/32	13/16	5 11/16	5.8
23126K		SNW-3126	S-26	N-026	W-026	4 7/16	-.005	3 49/64	7/8	6 1/8	8.3
23128K		SNW-3128	S-28	N-028	W-028	4 15/16	-.005	3 63/64	15/16	6 1/2	8.8
23130K		SNW-3130	S-30	N-030	W-030	5 3/16	-.005	4 15/64	31/32	7 1/8	13.7
23132K		SNW-3132	S-32	N-032	W-032	5 7/16	-.005	4 37/64	1 1/32	7 1/2	13.3
23134K		SNW-3134	S-34	N-034	W-034	5 15/16	-.005	4 27/32	1 1/16	7 7/8	16.1
23136K		SNW-3136	S-36	N-036	W-036	6 7/16	-.005	5 1/32	1 3/32	8 1/4	17.1
23138K		SNW-3138	S-38	N-038	W-038	6 15/16	-.005	5 17/64	1 1/8	8 11/16	19.7
23140K		SNW-3140	S-40	N-040	W-040	7 3/16	-.005	5 31/64	1 3/16	9 7/16	28.4
23144K		SNW-3144	S-44	N-044	W-044	7 15/16	-.005	5 29/32	1 1/4	10 1/4	28.1
23148K		SNP-3148	S-48	N-048	P-48	8 15/16	-.006	6 41/64	1 11/32	11 7/16	36
23152K		SNP-3152	S-52	N-052	P-052	9 7/16	-.006	7 19/32	1 13/32	12 3/16	39
23156K		SNP-3156	S-3156	N-056	P-56	10 7/16	-.007	7 49/64	1 1/2	13	60
23160K		SNP-3160	S-3160	N-060	P-060	10 15/16	-.007	8 3/8	1 9/16	14 3/16	65
23164K		SNP-3164	S-3164	N-064	P-064	11 15/16	-.007	9 7/64	1 21/32	15	70

SHAFT ADAPTER ACCESSORIES FOR TAPERED BORE BEARINGS

PUSH TYPE REMOVABLE SLEEVE LOCKNUT AND LOCKWASHER

- The table below shows dimensions for adapter assemblies and components used in the mounting of tapered bore bearings on shafts.



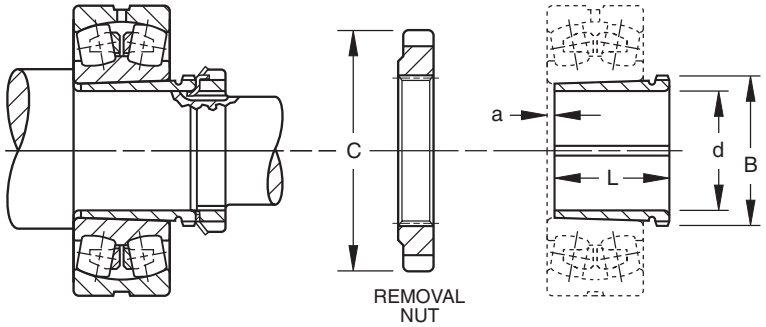
Tapered bore bearing mounted with push type removable sleeve

Bearing Number	Accessory Numbers				Shaft Dimensions		Sleeve Dimensions			C	Sleeve
	Sleeve	Locknut	Lockwasher Lockplate	Removal Nut	Diameter d	Tolerance +.000	B Pitch Dia.	L	a	Removal Nut O.D.	Weight
					mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.
SERIES 222K											
22216K	SK-8022	N-14	W-14	AN-18	70 2.7559	-.10 -.004	88.19 3.472	50 1.969	3.5 0.138	118.39 4.661	0.57 1.25
22217K	SK-8522	AN-15	W-15	AN-19	75 2.9528	-.10 -.004	93.35 3.675	52 2.047	3.5 0.138	125.55 4.943	0.65 1.44
22218K	SK-9022	AN-16	W-16	AN-20	80 3.1496	-.10 -.004	98.12 3.863	53 2.087	3.5 0.138	131.90 5.193	0.69 1.53
22219K	SK-9522	AN-17	W-17	AN-21	85 3.3465	-.10 -.004	103.28 4.066	57 2.244	4.0 0.157	138.25 5.443	0.82 1.81
22220K	SK-10022	AN-18	W-18	AN-22	90 3.5433	-.10 -.004	109.12 4.269	59 2.323	4.0 0.157	145.39 5.724	0.91 2.00
22222K	SK-11022	AN-20	W-20	ARN-22	100 3.9370	-.10 -.004	119.94 4.722	65 2.559	4.0 0.157	158.75 6.250	1.12 2.47
22224K	SK-12022	AN-22	W-22	ARN-24	110 4.3307	-.13 -.005	130.28 5.129	72 2.835	4.0 0.157	174.63 6.875	1.42 3.13
22226K	SK-13022	AN-22	W-22	ARN-26	115 4.5276	-.13 -.005	141.38 5.566	78 3.071	4.0 0.157	184.15 7.250	2.27 5.00
22228K	SK-14022	AN-24	W-24	RN-28	125 4.9213	-.13 -.005	152.73 6.013	82 3.228	5.0 0.197	200.03 7.875	2.67 5.88
22230K	SK-15022	AN-26	W-26	RN-30	135 5.3150	-.13 -.005	163.04 6.419	88 3.465	5.0 0.197	209.55 8.250	3.09 6.81
22232K	SK-16022	AN-28	W-28	RN-32	140 5.5118	-.13 -.005	173.76 6.841	96 3.780	5.0 0.197	225.43 8.875	4.51 9.94
22234K	SK-17022	AN-30	W-30	RN-34	150 5.9055	-.13 -.005	184.07 7.247	104 4.095	5.0 0.197	234.95 9.250	5.22 11.50
22236K	SK-18022	AN-32	W-32	RN-36	160 6.2992	-.13 -.005	194.79 7.669	104 4.095	5.0 0.197	247.65 9.750	5.67 12.50
22238K	SK-19022	AN-34	W-34	RN-38	170 6.6929	-.13 -.005	205.92 8.107	112 4.409	5.0 0.197	269.88 10.625	6.58 14.50
22240K	SK-20022	AN-36	W-36	N-44	180 7.0866	-.13 -.005	217.02 8.544	118 4.646	5.0 0.197	279.53 11.005	7.43 16.37
22244K	SK-22022	AN-40	W-40	N-048	200 7.8740	-.13 -.005	236.98 9.330	130 5.118	6.0 0.236	290.65 11.443	8.89 19.60
22248K	SK-24022	N-44	W-44	N-052	220 8.6614	-.15 -.006	256.03 10.080	144 5.669	6.0 0.236	309.70 12.193	11.02 24.30
22252K	SK-26022	N-048	P-48	N-056	240 9.4488	-.15 -.006	276.66 10.892	155 6.102	6.0 0.236	330.33 13.005	14.02 30.90
22256K	SK-28022	N-052	P-52	RN-56	260 10.2362	-.15 -.006	301.27 11.861	155 6.102	8.0 0.315	425.45 16.75	15.01 33.10
22260K	SK-30022	N-056	P-56	RN-60	280 11.0236	-.15 -.006	325.88 12.830	170 6.693	8.0 0.315	416.10 16.382	17.78 39.20
22264K	SK-32022	N-060	P-60	RN-64	300 11.8110	-.15 -.006	345.72 13.611	180 7.087	10.0 0.394	431.80 17.000	21.00 46.30

SHAFT ADAPTER ACCESSORIES FOR TAPERED BORE BEARINGS

PUSH TYPE REMOVABLE SLEEVE, LOCKNUT AND LOCKWASHER

- The table below shows dimensions for adapter assemblies and components used in the mounting of tapered bore bearings on shafts.



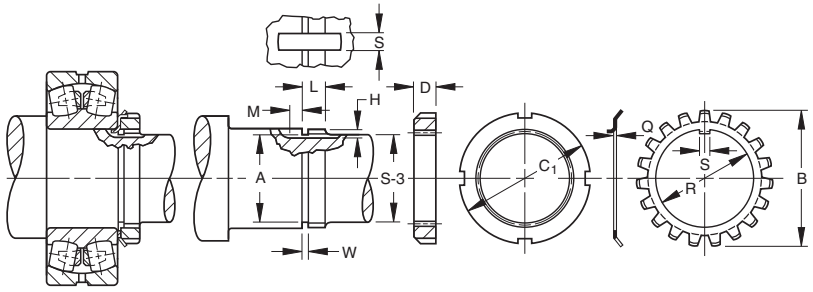
Tapered bore bearing mounted with push type removable sleeve

Bearing Number	Accessory Numbers				Dimensions Shaft		Sleeve Dimensions			C	Sleeve Weight
	Sleeve	Locknut	Lockwasher Lockplate	Removal Nut	Diameter d	Tolerance +.000	B Pitch Dia.	L	a	Removal Nut O.D.	
					mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.
SERIES 223K											
22308K	SK-4023	N-07	W-07	N-09	35 1.3780	-.08 -.003	43.94 1.730	40 1.575	3.0 0.118	64.41 2.536	0.11 0.25
22309K	SK-4523	N-08	W-08	N-10	40 1.5748	-.08 -.003	49.02 1.930	44 1.732	3.0 0.118	68.40 2.693	0.14 0.31
22310K	SK-5023	N-09	W-09	RN-10	45 1.7717	-.08 -.003	55.04 2.167	50 1.969	3.0 0.118	76.20 3.000	0.21 0.47
22311K	SK-5523	N-10	W-10	RN-11	50 1.9685	-.08 -.003	60.20 2.370	54 2.126	3.0 0.118	81.76 3.219	0.25 0.56
22312K	SK-6023	N-11	W-11	RN-12	55 2.1654	-.10 -.004	65.76 2.589	57 2.244	3.5 0.138	87.33 3.438	0.31 0.69
22313K	SK-6523	N-12	W-12	AN-15	60 2.3622	-.10 -.004	73.10 2.878	61 2.402	3.5 0.138	98.55 3.880	0.38 0.84
22314K	SK-7023	N-12	W-12	AN-16	60 2.3622	-.10 -.004	78.28 3.082	65 2.559	3.5 0.138	105.69 4.161	0.69 1.53
22315K	SK-7523	N-13	W-13	AN-17	65 2.5591	-.10 -.004	83.44 3.285	69 2.717	3.5 0.138	112.04 4.411	0.81 1.78
22316K	SK-8023	N-14	W-14	AN-18	70 2.7559	-.10 -.004	88.19 3.472	72 2.835	3.5 0.138	118.39 4.661	0.91 2.00
22317K	SK-8523	AN-15	W-15	AN-19	75 2.9528	-.10 -.004	93.35 3.675	75 2.953	3.5 0.138	125.55 4.943	1.02 2.25
22318K	SK-9023	AN-16	W-16	AN-20	80 3.1496	-.10 -.004	98.12 3.863	80 3.150	3.5 0.138	131.90 5.193	1.16 2.56
22319K	SK-9523	AN-17	W-17	AN-21	85 3.3465	-.10 -.004	103.28 4.066	85 3.346	4.0 0.157	138.25 5.443	1.33 2.94
22320K	SK-10023	AN-18	W-18	AN-22	90 3.5433	-.10 -.004	109.12 4.269	90 3.543	4.0 0.157	145.39 5.724	1.53 3.38
22322K	SK-11023	AN-20	W-20	ARN-22	100 3.9370	-.10 -.004	119.94 4.722	98 3.858	4.0 0.157	158.75 6.250	1.93 4.25
22324K	SK-12023	AN-22	W-22	ARN-24	110 4.3307	-.13 -.005	130.28 5.129	105 4.134	4.0 0.157	174.63 6.875	2.27 5.00
22326K	SK-13023	AN-22	W-22	ARN-26	115 4.5276	-.13 -.005	141.38 5.566	115 4.528	4.0 0.157	184.15 7.250	3.63 8.00
22328K	SK-14023	AN-24	W-24	RN-28	125 4.9213	-.13 -.005	152.73 6.013	125 4.921	5.0 0.197	200.03 7.875	4.31 9.50
22330K	SK-15023	AN-26	W-26	RN-30	135 5.3150	-.13 -.005	163.04 6.419	135 5.315	5.0 0.197	209.55 8.250	5.18 11.43
22332K	SK-16023	AN-28	W-28	RN-32	140 5.5118	-.13 -.005	173.76 6.841	140 5.512	6.0 0.236	225.43 8.875	7.03 15.50
22334K	SK-17023	AN-30	W-30	RN-34	150 5.9055	-.13 -.005	184.07 7.247	146 5.748	6.0 0.236	234.95 9.250	7.82 17.25
22336K	SK-18023	AN-32	W-32	RN-36	160 6.2992	-.13 -.005	194.79 7.669	154 6.063	6.0 0.236	247.65 9.750	9.19 20.25
22338K	SK-19023	AN-34	W-34	RN-38	170 6.6929	-.13 -.005	205.92 8.107	160 6.299	7.0 0.276	269.88 10.625	10.03 22.12
22340K	SK-20023	AN-36	W-36	N-44	180 7.0866	-.13 -.005	217.02 8.544	170 6.693	7.0 0.276	279.53 11.005	11.45 25.25
22344K	SK-22023	AN-40	W-40	N-048	200 7.8740	-.13 -.005	236.98 9.330	181 7.126	8.0 0.315	290.65 11.443	13.38 29.50
22348K	SK-24023	N-44	W-44	N-052	220 8.6614	-.15 -.006	256.03 10.080	189 7.441	8.0 0.315	309.70 12.193	15.51 34.20
22352K	SK-26023	N-048	P-48	N-056	240 9.4488	-.15 -.006	276.66 10.892	200 7.874	8.0 0.315	330.33 13.005	18.26 40.25
22356K	SK-28023	N-052	P-52	RN-56	260 10.2362	-.15 -.006	301.27 11.861	210 8.268	10.0 0.394	425.45 16.75	22.00 48.50

SHAFT ADAPTER ACCESSORIES FOR CYLINDRICAL BORE BEARINGS

LOCKNUT AND LOCKWASHER

- The table below shows dimensions for locknuts and lockwashers used in the mounting of cylindrical bore bearings on shafts.
- Other dimensions and tolerances related to shaft configurations also are shown.
- Dimensions are presented according to bearing bore size and are applicable to bearings in the various series (e.g., 222, 223, etc.).



B

Bearing Bore	Locknut	Lockwasher	Thds. Per Inch	Threads						Shaft						Locknut		Lockwasher			
				Major Dia.		Pitch Dia.		Minor Dia. A	Relief Dia.	S-3(1)	W +1/64 -0	L +1/64 -0	H +1/64 -0	S +1/64 -0	M +1/64 -0	C_1	D	Q	R	B	S
mm				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.	mm in.	mm in.
35	N 07	W 07	18	34.95 1.376	34.74 1.3678	34.03 1.3399	33.93 1.3359	33.22 1.3078	32.82 1.2922	31.75 1 1/4	2.4 3/32	12.7 1/2	2.4 3/32	4.8 3/16	3.2 1/8	52.39 2 1/16	11.4 0.448	1.3 0.050	36.0 1.416	57.2 2 1/4	4.5 0.176
40	N 08	W 08	18	39.7 1.563	39.49 1.5548	38.78 1.5269	38.67 1.5224	37.97 1.4948	37.57 1.4792	36.51 1 7/16	3.2 1/8	13.5 17/32	2.4 3/32	7.9 5/16	3.2 1/8	57.15 2 1/4	11.4 0.448	1.5 0.058	40.7 1.603	62.7 2 15/32	7.4 0.290
45	N 09	W 09	18	44.88 1.767	44.67 1.7588	43.96 1.7309	43.85 1.7264	43.15 1.6988	42.75 1.6832	42.86 1 11/16	3.2 1/8	13.5 17/32	2.4 3/32	7.9 5/16	4.0 5/32	64.3 2 17/32	11.4 0.448	1.5 0.058	46.2 1.817	69.5 2 47/64	7.4 0.290
50	N 10	W 10	18	49.96 1.967	49.75 1.9588	49.05 1.9309	48.93 1.9264	48.23 1.8988	47.83 1.8832	47.63 1 7/8	3.2 1/8	15.1 19/32	2.4 3/32	7.9 5/16	4.0 5/32	68.3 2 11/16	13.0 0.510	1.5 0.058	51.2 2.017	74.2 2 59/64	7.4 0.290
55	N 11	W 11	18	54.79 2.157	54.58 2.1488	53.87 2.1209	53.74 2.1158	53.06 2.0888	52.66 2.0732	52.39 2 1/16	3.2 1/8	15.1 19/32	3.2 1/8	7.9 5/16	4.0 5/32	75.4 2 31/32	13.0 0.510	1.6 0.063	56.1 2.207	79.0 3 7/64	7.4 0.290
60	N 12	W 12	18	59.94 2.360	59.74 2.3518	59.03 2.3239	58.90 2.3188	58.21 2.2918	57.82 2.2762	57.15 2 1/4	3.2 1/8	15.9 5/8	3.2 1/8	7.9 5/16	4.0 5/32	80.2 3 5/32	13.7 0.541	1.6 0.063	61.6 2.425	85.0 3 11/32	7.4 0.290
65	N 13	W 13	18	64.72 2.548	64.51 2.5398	63.80 2.5119	63.67 2.5068	62.99 2.4798	62.59 2.4642	61.91 2 7/16	3.2 1/8	16.7 21/32	3.2 1/8	7.9 5/16	4.0 5/32	85.7 3 3/8	14.6 0.573	1.6 0.063	66.4 2.613	90.9 3 37/64	7.4 0.290
70	N 14	W 14	18	69.88 2.751	69.67 2.7428	68.96 2.7149	68.83 2.7098	68.14 2.6828	67.75 2.6672	66.68 2 5/8	3.2 1/8	16.7 21/32	3.2 1/8	7.9 5/16	6.4 1/4	92.1 3 5/8	14.6 0.573	1.6 0.063	71.5 2.816	97.2 3 53/64	7.4 0.290
75	AN 15	W 15	12	74.50 2.933	74.21 2.9218	73.12 2.8789	72.99 2.8735	71.90 2.8308	71.11 2.7995	71.44 2 13/16	4.0 5/32	17.5 11/16	3.2 1/8	7.9 5/16	6.4 1/4	98.4 3 7/8	15.3 0.604	1.6 0.072	76.3 3.003	104.4 4 7/64	7.4 0.290
80	AN 16	W 16	12	79.68 3.137	79.40 3.1258	78.31 3.0829	78.16 3.0770	77.08 3.0348	76.29 3.0035	76.20 3	4.0 5/32	17.5 11/16	3.2 1/8	9.5 3/8	6.4 1/4	105.6 4 5/32	15.3 0.604	1.8 0.063	81.5 3.207	111.1 4 3/8	9.0 0.353
85	AN 17	W 17	12	84.84 3.340	84.55 3.3288	83.46 3.2859	83.31 3.2800	82.24 3.2378	81.45 3.2065	80.96 3 3/16	4.0 5/32	16.7 21/32	3.2 1/8	9.5 3/8	6.4 1/4	111.9 4 13/32	16.1 0.635	1.8 0.072	87.0 3.425	117.5 4 5/8	9.0 0.353
90	AN 18	W 18	12	89.59 3.527	89.30 3.5158	88.21 3.4729	88.02 3.4655	86.99 3.4248	86.20 3.3935	85.73 3 3/8	4.0 5/32	20.6 13/16	4.0 5/32	9.5 3/8	6.4 1/4	118.3 4 21/32	17.7 0.698	2.4 0.094	91.7 3.612	125.4 4 15/16	9.0 0.353
95	AN 19	W 19	12	94.74 3.730	94.46 3.7188	93.37 3.6759	93.18 3.6685	92.15 3.6278	91.35 3.5965	90.49 3 9/16	4.0 5/32	21.4 27/32	4.0 5/32	9.5 3/8	6.4 1/4	125.4 4 15/16	18.5 0.729	2.4 0.094	97.3 3.830	132.6 5 7/32	9.0 0.353
100	AN 20	W 20	12	99.52 3.918	99.23 3.9068	98.14 3.8639	97.96 3.8565	96.92 3.8158	96.13 3.7845	96.84 3 13/16	4.0 5/32	22.2 7/8	4.0 5/32	9.5 3/8	7.9 5/16	131.8 5 3/16	19.3 0.760	2.4 0.094	102.1 4.018	139.7 5 1/2	9.0 0.353
105	AN 21	W 21	12	104.70 4.122	104.41 4.1108	103.32 4.0679	103.11 4.0596	102.10 4.0198	101.31 3.9885	100.01 3 15/16	4.0 5/32	22.2 7/8	4.0 5/32	9.5 3/8	7.9 5/16	138.1 5 7/16	19.3 0.760	2.4 0.094	107.2 4.222	144.9 5 45/64	9.0 0.353
110	AN 22	W 22	12	109.86 4.325	109.57 4.3138	108.48 4.2709	108.27 4.2626	107.26 4.2228	106.46 4.1915	106.36 4 3/16	4.0 5/32	23.0 29/32	4.8 3/16	9.5 3/8	7.9 5/16	145.3 5 23/32	20.1 0.791	3.2 0.125	112.4 4.425	154.0 6 1/16	9.0 0.353
120	AN 24	W 24	12	119.79 4.716	119.50 4.7048	118.41 4.6619	118.20 4.6536	117.19 4.6138	116.40 4.5825	115.89 4 9/16	4.0 5/32	23.8 15/16	4.8 3/16	9.5 3/8	7.9 5/16	155.6 6 1/8	20.9 0.823	3.2 0.125	122.7 4.831	164.3 6 15/32	9.0 0.353
130	AN 26	W 26	12	129.69 5.106	129.41 5.0948	128.32 5.0519	128.11 5.0436	127.10 5.0038	126.30 4.9725	125.41 4 15/16	4.0 5/32	25.4 1	4.8 3/16	12.7 1/2	7.9 5/16	171.5 6 3/4	22.5 0.885	3.2 0.125	132.7 5.226	178.6 7 1/32	11.1 0.435
140	AN 28	W 28	12	139.62 5.497	139.34 5.4858	138.25 5.4429	138.04 5.4346	137.03 5.3948	136.23 5.3635	134.94 5 5/16	4.0 5/32	27.0 1 1/16	4.8 3/16	15.9 5/8	7.9 5/16	180.2 7 3/32	24.1 0.948	3.2 0.125	142.7 5.617	188.9 7 7/16	15.0 0.590
150	AN 30	W 30	12	149.56 5.888	149.27 5.8768	148.18 5.8339	147.97 5.8256	146.96 5.7858	146.16 5.7545	146.05 5 3/4	4.0 5/32	28.6 1 1/8	5.6 7/32	15.9 5/8	9.5 3/8	195.3 7 11/16	24.9 0.979	4.0 0.156	152.9 6.018	204.8 8 1/16	15.0 0.590
160	AN 32	W 32	8	159.61 6.284	159.23 6.2688	157.55 6.2028	157.32 6.1937	155.72 6.1306	154.92 6.0993	153.99 6 1/16	6.4 1/4	30.2 1 3/16	6.0 15/64	15.9 5/8	9.5 3/8	204.8 8 1/16	26.4 1.041	4.0 0.156	163.2 6.424	214.3 8 7/16	15.0 0.590
170	AN 34	W 34	8	169.14 6.659	168.75 6.6438	167.08 6.5778	166.85 6.5687	165.24 6.5056	164.45 6.4743	163.51 6 7/16	6.4 1/4	31.0 1 7/32	6.0 15/64	19.1 3/4	9.5 3/8	219.9 8 21/32	27.3 1.073	4.0 0.156	172.7 6.799	230.2 9 1/16	18.2 0.715
180	AN 36	W 36	8	179.48 7.066	179.09 7.0508	177.41 6.9848	177.18 6.9757	175.58 6.9126	174.79 6.8813	174.63 6 7/8	6.4 1/4	31.8 1 1/4	6.0 15/64	19.1 3/4	9.5 3/8	230.2 9 1/16	28.0 1.104	4.0 0.156	183.0 7.206	239.7 9 7/16	18.2 0.715
190	AN 38	W 38	8	189.79 7.472	189.40 7.4568	187.73 7.3908	187.50 7.3817	185.89 7.3186	185.10 7.2873	184.15 7 1/4	6.4 1/4	32.5 1 9/32	6.0 15/64	19.1 3/4	9.5 3/8	240.5 9 15/32	28.8 1.135	4.0 0.156	193.3 7.612	250.8 9 7/8	18.2 0.715
200	AN 40	W 40	8	199.31 7.847	198.93 7.8318	197.25 7.7658	196.96 7.7544	195.42 7.6936	194.62 7.6623	193.68 7 5/8	6.4 1/4	34.1 1 11/32	6.0 15/64	22.2 7/8	9.5 3/8	250.0 9 27/32	30.4 1.198	4.0 0.156	203.6 8.017	261.9 10 5/16	21.3 0.840
220	N 44	W 44	8	219.15 8.628	218.77 8.6128	217.09 8.5468	216.78 8.5347	215.25 8.4746	214.46 8.4433	211.14 8 5/16	6.4 1/4	34.9 1 3/8	9.5 3/8	27.0 1 1/16	9.5 3/8	279.4 11	31.8 1.250	3.2 0.125	221.1 8.703	290.5 11 7/16	23.9 0.940

(1) See page B383 for suggested S-3 shaft tolerances.

SHAFT ADAPTER ACCESSORIES FOR CYLINDRICAL BORE BEARINGS

LOCKNUT AND LOCKPLATE

- The table below shows dimensions for locknuts and lockwashers used in the mounting of cylindrical bore bearings on shafts.
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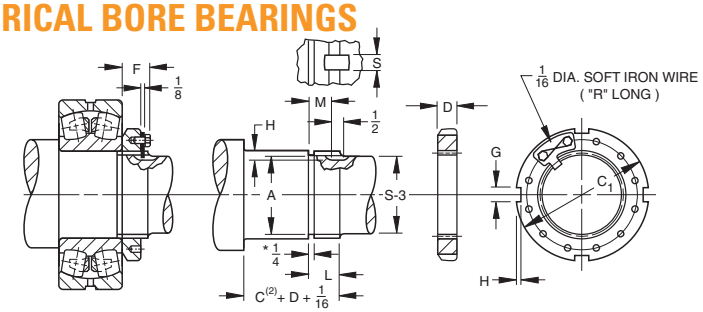


* Sizes N670 and above : 3/8

Bearing Bore	Lock-nut	Lock-washer	Thds. Per Inch	Threads						Shaft					Locknut/Lockplate					
				Major Dia. Max.	Major Dia. Min.	Pitch Dia. Max.	Pitch Dia. Min.	Minor Dia.	Relief Dia. A	S-3(1)	L +1/64 -0	H +1/64 -0	S +1/64 -0	M +1/64 -0	C_1	D	G	H ±.010"	R	F
mm				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.	mm in.
240	N 048	P 48	6	239.83 9.442	239.31 9.4218	237.08 9.3337	236.76 9.3213	234.63 9.2374	233.44 9.1905	233.36 9 3/16	42.86 1 11/16	11.1 7/16	28.6 1 1/8	34.9 1 3/8	290.5 11 7/16	34.1 1 11/32	22.48 0.885	9.5 3/8	203.2 8	43.26 1 45/64
260	N 052	P 52	6	258.88 10.192	258.36 10.1718	256.13 10.0837	255.8 10.0707	253.68 9.9874	252.49 9.9405	252.41 9 15/16	45.24 1 25/32	11.1 7/16	30.2 1 3/16	37.3 1 15/32	309.6 12 3/16	35.7 1 13/32	22.48 0.885	9.5 3/8	228.6 9	44.85 1 49/64
280	N 056	P 56	6	279.50 11.004	278.99 10.9838	276.75 10.8957	276.42 10.8827	274.31 10.7994	273.11 10.7525	273.05 10 3/4	47.63 1 7/8	11.1 7/16	31.8 1 1/4	39.7 1 9/16	330.2 13	38.1 1 1/2	25.65 1.010	9.5 3/8	228.6 9	47.23 1 55/64
300	N 060	P 60	6	299.34 11.785	298.83 11.7648	296.59 11.6767	296.26 11.6637	294.14 11.5804	292.95 11.5335	292.1 11 1/2	49.21 1 15/16	11.1 7/16	34.9 1 3/8	41.3 1 5/8	360.4 14 3/16	39.7 1 9/16	25.65 1.010	12.7 1/2	254.0 10	50.01 1 31/32
320	N 064	P 64	6	319.08 12.562	318.56 12.5418	316.32 12.4537	315.98 12.4402	313.88 12.3574	312.69 12.3105	312.74 12 5/16	51.59 2 1/32	11.1 7/16	36.5 1 7/16	43.7 1 23/32	381.0 15	42.1 1 21/32	25.65 1.010	12.7 1/2	254.0 10	52.39 2 1/16
340	N 068	P 68	5	337.90 13.303	337.49 13.287	335.36 13.203	334.95 13.187	332.31 13.083	331.11 13.036	331.79 13 1/16	56.36 2 7/32	11.1 7/16	38.1 1 1/2	48.4 1 29/32	400.1 15 3/4	45.2 1 25/32	25.65 1.010	12.7 1/2	279.4 11	55.56 2 3/16
360	N 072	P 72	5	359.00 14.134	358.60 14.118	356.46 14.034	356.06 14.018	353.42 13.914	352.22 13.867	350.84 13 13/16	56.36 2 7/32	12.7 1/2	38.1 1 1/2	48.4 1 29/32	419.1 16 1/2	45.2 1 25/32	32.00 1.260	12.7 1/2	279.4 11	55.56 2 3/16
380	N 076	P 76	5	378.99 14.921	378.59 14.905	376.45 14.821	376.05 14.805	373.41 14.701	372.21 14.654	371.48 14 5/8	59.53 2 11/32	12.7 1/2	38.1 1 1/2	51.59 2 1/32	450.9 17 3/4	48.4 1 29/32	32.00 1.260	15.1 19/32	304.8 12	61.12 2 13/32
400	N 080	P 80	5	399.01 15.709	398.60 15.693	396.47 15.609	396.06 15.593	393.42 15.489	392.23 15.442	390.53 15 3/8	63.50 2 1/2	12.7 1/2	41.3 1 5/8	55.6 2 3/16	469.9 18 1/2	52.4 2 1/16	32.00 1.260	15.1 19/32	330.2 13	65.09 2 9/16
420	N 084	P 84	5	419.00 16.496	418.59 16.480	416.46 16.396	416.05 16.380	413.41 16.276	412.22 16.229	411.16 16 3/16	63.50 2 1/2	12.7 1/2	41.3 1 5/8	55.6 2 3/16	490.5 19 5/16	52.4 2 1/16	35.18 1.385	15.1 19/32	330.2 13	65.09 2 9/16
440	N 088	P 88	5	438.99 17.283	438.58 17.267	436.45 17.183	436.05 17.167	433.40 17.063	432.21 17.016	431.80 17	71.44 2 13/16	12.7 1/2	46.0 1 13/16	63.50 2 1/2	520.7 20 1/2	60.3 2 3/8	35.18 1.385	15.1 19/32	355.6 14	75.41 2 31/32
460	N 092	P 92	5	459.00 18.071	458.60 18.055	456.46 17.971	456.06 17.955	453.42 17.851	452.22 17.804	450.85 17 3/4	71.44 2 13/16	12.7 1/2	46.0 1 13/16	63.50 2 1/2	539.8 21 1/4	60.3 2 3/8	35.18 1.385	15.1 19/32	406.4 16	75.41 2 31/32
480	N 096	P 96	5	478.99 18.858	478.59 18.842	476.45 18.758	476.05 18.742	473.41 18.638	472.21 18.591	469.9 18 1/2	71.44 2 13/16	12.7 1/2	46.0 1 13/16	63.50 2 1/2	560.4 22 1/16	60.3 2 3/8	38.35 1.510	15.1 19/32	406.4 16	75.41 2 31/32
500	N 500	P 500	5	499.01 19.646	498.60 19.630	496.47 19.546	496.06 19.530	493.42 19.426	492.23 19.379	489.0 19 1/4	79.4 3 1/8	12.7 1/2	46.0 1 13/16	71.4 2 13/16	579.4 22 13/16	68.3 2 11/16	38.35 1.510	15.1 19/32	406.4 16	83.3 3 9/32
530	N 530	P 530	4	529.01 20.827	528.50 20.807	525.83 20.702	525.32 20.682	522.15 20.557	520.55 20.494	517.5 20 3/8	79.4 3 1/8	12.7 1/2	46.0 1 13/16	71.4 2 13/16	630.2 24 13/16	68.3 2 11/16	41.53 1.635	20.6 13/16	425.5 16 3/4	83.3 3 9/32
560	N 560	P 560	4	559.00 22.008	558.50 21.988	555.83 21.883	555.32 21.863	552.15 21.738	550.55 21.675	549.3 21 5/8	85.7 3 3/8	12.7 1/2	46.0 1 13/16	77.8 3 1/16	649.3 25 9/16	71.4 2 15/16	41.53 1.635	20.6 13/16	476.3 18 3/4	89.7 3 17/32
600	N 600	P 600	4	599.01 23.583	598.50 23.563	595.83 23.458	595.33 23.438	592.15 23.313	590.55 23.250	587.4 23 1/8	85.7 3 3/8	12.7 1/2	46.0 1 13/16	77.8 3 1/16	700.1 27 9/16	74.6 2 15/16	41.53 1.635	20.6 13/16	508.0 20	89.7 3 17/32
630	N 630	P 630	4	629.01 24.764	628.50 24.744	625.83 24.639	625.32 24.619	622.15 24.494	520.55 24.431	619.1 24 3/8	85.7 3 3/8	12.7 1/2	50.8 2	77.8 3 1/16	730.3 28 3/4	74.6 2 15/16	47.88 1.885	20.6 13/16	520.7 20 1/2	92.1 3 5/8
670	N 670	P 670	4	669.01 26.339	668.50 26.319	665.84 26.214	665.33 26.194	662.15 26.069	660.55 26.006	657.2 25 7/8	90.5 3 9/16	12.7 1/2	50.8 2	82.6 3 1/4	779.5 30 11/16	79.4 3 1/8	47.88 1.885	20.6 13/16	546.1 21 1/2	96.8 3 13/16
710	N 710	P 710	3	709.02 27.914	708.33 27.887	704.77 27.747	704.09 27.720	700.02 27.56	698.42 27.497	695.3 27 3/8	101.6 4	15.9 5/8	50.8 2	93.7 3 11/16	830.3 32 11/16	90.5 3 9/16	51.30 2.020	25.4 1	571.5 22 1/2	108.0 4 1/4
750	N 750	P 750	3	749.02 29.489	748.34 29.462	744.78 29.322	744.09 29.295	740.03 29.135	738.43 29.072	736.6 29	101.6 4	15.9 5/8	50.8 2	93.7 3 11/16	870.0 34 1/4	90.5 3 9/16	57.66 2.270	25.4 1	584.2 23	108.0 4 1/4
800	N 800	P 800	3	799.01 31.457	798.32 31.430	794.77 31.290	794.08 31.263	790.02 31.103	788.42 31.040	787.4 31	101.6 4	15.9 5/8	50.8 2	93.7 3 11/16	920.8 36 1/4	90.5 3 9/16	57.66 2.270	25.4 1	616.0 24 1/4	108.0 4 1/4
850	N 850	P 850	3	849.02 33.426	848.34 33.399	844.78 33.259	844.09 33.232	840.03 33.072	838.43 33.009	835.0 32 7/8	101.6 4	15.9 5/8	50.8 2	93.7 3 11/16	979.5 38 9/16	90.5 3 9/16	64.01 2.520	25.4 1	647.7 25 1/2	108.0 4 1/4
900	N 900	P 900	3	899.01 35.394	898.32 35.367	894.77 35.227	894.08 35.200	890.02 35.040	888.42 34.977	885.8 34 7/8	111.1 4 3/8	15.9 5/8	50.8 2	103.2 4 1/16	1030.3 40 9/16	100.0 3 15/16	64.01 2.520	25.4 1	666.8 26 1/4	117.5 4 5/8
950	N 950	P 950	3	949.02 37.363	948.33 37.336	944.78 37.196	944.09 37.169	940.03 37.009	938.43 36.946	933.5 36 3/4	114.3 4 1/2	19.1 3/4	50.8 2	108 4 1/4	1092.2 43	100.0 3 15/16	64.01 2.520	25.4 1	692.2 27 1/4	117.5 4 5/8

(1) See page B395 for suggested S-3 shaft tolerances.

(2) C is outer ring width which may be obtained from bearing dimension tables.

MOUNTING PROCEDURES

Depending on the size of the bearing and the application, there are different methods for mounting roller bearings. In all methods, certain basic rules must be followed.

CLEANLINESS

- Choose a clean environment, free from dust or moisture.
- The installer should make every effort to ensure cleanliness by use of protective screens and clean cloths.

PLAN THE WORK

- Know in advance your plans and have the necessary tools at hand. This reduces the amount of time for the job and decreases the chance for dirt to get into the bearing.

INSPECTION AND PREPARATION

- All component parts of the machine should be on hand and thoroughly cleaned before proceeding.
- Housings should be cleaned, including blowing out the oil holes.
- Do not use air hose on bearings.
- If blind holes are used, insert a magnetic rod to remove metal chips that might be lodged there during fabrication.
- Shaft shoulders and spacer rings contacting the bearing should be square with the shaft axis.
- The shaft fillet must be small enough to clear the radius of the bearing.
- On original installations, all component parts should be checked against the detail specification prints for dimensional accuracy. Shaft and housing should be carefully checked for size and form (roundness, etc.).

SHAFT AND HOUSING FINISH

- Shaft surfaces on which the bearing will be mounted must be clean and free from nicks and burrs.
- For applications with stationary housing and rotating shaft, it is suggested that the bearing seat on the shaft be ground to 63 RMS (micro-inches) maximum.
- If it is impractical to use a ground finish, a machined finish of 125 RMS is acceptable in many cases, but the amount of interference fit should be slightly increased.
- For a stationary outer ring, which is required to float (e.g., slide axially in the housing), a housing finish of 63 RMS maximum is suggested.
- Where the outer ring is not required to float, a surface finish of 125 RMS maximum is generally satisfactory.

DO NOT REMOVE THE BEARING FROM ITS WRAPPING UNTIL YOU ARE READY TO MOUNT IT.

MOUNTING CYLINDRICAL BORE BEARINGS

HEAT EXPANSION METHOD

- Most applications require a tight interference fit on the shaft.
- Mounting is simplified by heating the bearing to expand it sufficiently to slide easily onto the shaft.
- Two methods of heating are commonly used:
  - Tank of heated oil.
  - Induction heating.
- The first is accomplished by heating the bearing in a tank of oil that has a high flash point.
- The oil temperature should not be allowed to exceed 121° C (250° F). A temperature of 93° C (200° F) is sufficient for most applications.
- The bearing should be heated for 20 or 30 minutes, until it is expanded sufficiently to slide onto the shaft easily.
- Induction heating method is used for mounting small bearings in production line assembly.
- Induction heating is rapid. Care must be taken to prevent bearing temperature from exceeding 93° C (200° F).
- Trial runs with the unit and bearing are usually necessary to obtain proper timing.
- Thermal crayons melted at predetermined temperatures can be used to check the bearing temperature.
- While bearing is hot, it should be positioned squarely against the shoulder.
- Lockwashers and locknuts or clamping plates are then installed to hold the bearing against he shoulder of the shaft.
- As the bearing cools, the locknut or clamping plate should be tightened.
- In cases of outer ring rotation, where the outer ring is a tight fit in the housing, the housing member can be expanded by heating.
- The oil bath is shown in Figure 1. The bearing should not be in direct contact with the heat source.
- The usual arrangement is to have a screen several inches from the bottom of the tank. Small support blocks separate the bearing from the screen.
- It is important to keep the bearing away from any localized high-heat source that may raise its temperature excessively, resulting in race hardness reduction.

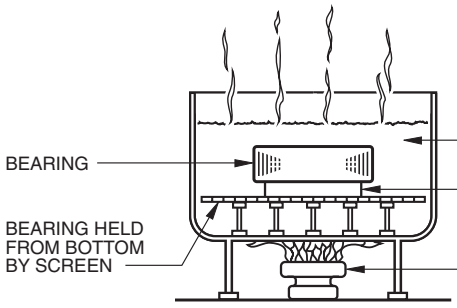


Figure 1: Heat Expansion Method

- Flame-type burners are commonly used. An automatic device for temperature control is desirable.
- If safety regulations prevent the use of an open heated oil bath, a mixture of 15 percent soluble-oil water may be used. This mixture may be heated to a maximum of 93° C (200° F) without being flammable.

ARBOR PRESS METHOD

- The alternate method of mounting, generally used only on smaller sizes, is to press the bearing onto the shaft or into the housing. This can be done by using an arbor press and a mounting tube as shown in Figure 2.
- The tube can be made from soft steel with an inside diameter slightly larger than the shaft.
- The O.D. of the tube should not exceed the maximum shoulder height given in the table of dimensions.
- The tube should be faced square at both ends. It should be thoroughly clean inside and out, and long enough to clear the end of the shaft after the bearing is mounted.

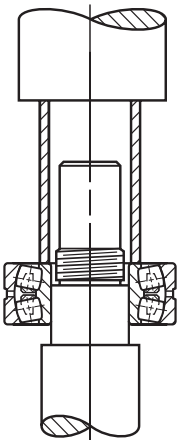
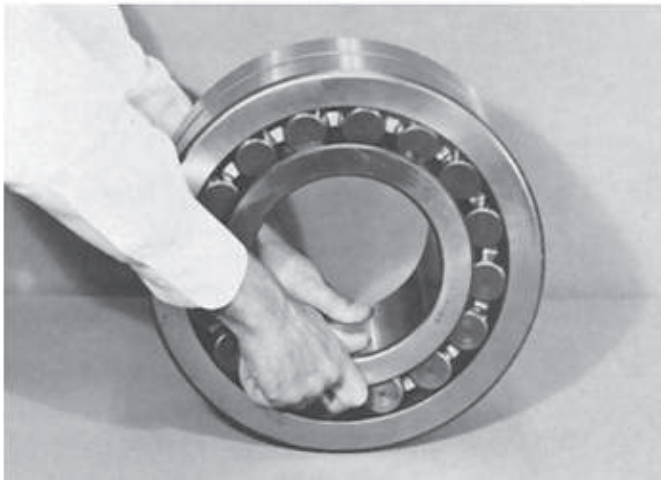


Figure 2:
Arbor Press Method

- If outer ring is being pressed into housing, the O.D. of the mounting tube should be slightly smaller than the housing bore. The I.D. should not be less than the suggested housing basking diameter in the tables of dimensions.
- Coat the shaft with a light machine oil to reduce the force needed for a press fit.
- Carefully place the bearing on the shaft, making sure it is square with the shaft axis.
- Apply steady pressure from the arbor ram to drive the bearing firmly against the shoulder.
- Never attempt a press fit on a shaft by applying pressure to the outer ring, or a press fit in a housing by applying pressure to the inner ring.

SHAFT MOUNTING TAPERED BORE SPHERICAL ROLLER BEARINGS

- Use a feeler gage with the thinnest blade of .0015 in.
- Place the bearing in an upright position with the inner and outer ring faces parallel.
- Place the thumbs on the inner ring bore and oscillate the inner ring two or three elements.
- Position the individual roller assemblies so that a roller is at the top of the inner ring on both sides of the bearing.
- With the roller in the correct position, insert a thin blade of the feeler gage between the roller and the outer ring.
- Move it carefully along the top roller, between the roller and outer ring raceway. Repeat this procedure, using thicker feeler gage blades, until one is found that will not go through.
- The blade thickness that preceded the “no-go” blade is a measure of RIC before installation.



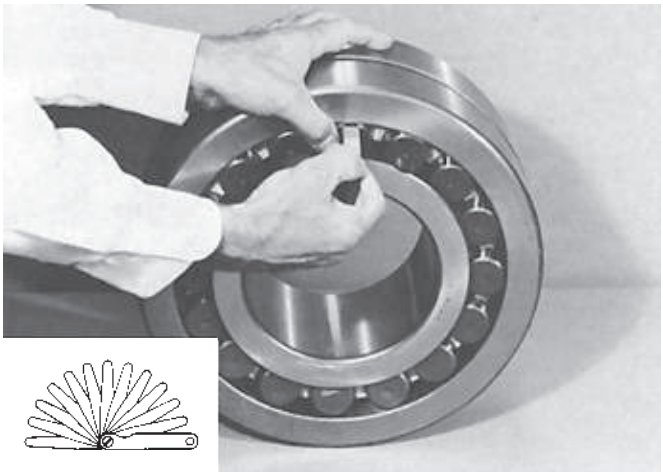
- Start the mounting procedure by lubricating the tapered shaft with a light coat of machine oil.
- Slide bearing onto the shaft as far as it will go.
- As the locknut is tightened, the interference fit builds up resulting in expansion of the inner ring.
- Periodically measure to keep track of the reduction in RIC.
- Continue the procedure until the proper amount of reduction is obtained. Do not exceed suggested amount of reduction.
- As a final check, make sure that the remaining RIC equals or exceeds the minimum mounted clearance shown in the table to the right.

MOUNTING TIMKEN® TAPERED BORE SPHERICAL ROLLER BEARINGS

Nominal bearing bore (mm)		Radial Internal Clearance prior to mounting (mm)						Suggested reduction of RIC (mm)		Axial displacement tapered shaft installation (mm)				Minimum permissible RIC after installation		
		Normal		C3		C4				1:12 Taper**		1:30 Taper**		Normal	C3	C4
over	incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.			
30	40	0.035	0.050	0.050	0.065	0.065	0.085	0.020	0.025	0.300	0.380	-	-	0.015	0.025	0.040
40	50	0.045	0.060	0.060	0.080	0.080	0.100	0.025	0.030	0.380	0.460	-	-	0.020	0.030	0.050
50	65	0.055	0.075	0.075	0.095	0.095	0.120	0.030	0.040	0.460	0.560	-	-	0.025	0.040	0.060
65	80	0.070	0.095	0.095	0.120	0.120	0.150	0.040	0.050	0.560	0.760	-	-	0.025	0.045	0.075
80	100	0.080	0.110	0.100	0.140	0.140	0.180	0.045	0.065	0.680	0.970	-	-	0.035	0.050	0.075
100	120	0.100	0.135	0.135	0.170	0.170	0.220	0.050	0.070	0.760	1.070	1.900	2.540	0.050	0.060	0.100
120	140	0.120	0.160	0.160	0.200	0.200	0.260	0.065	0.090	0.890	1.270	2.290	3.050	0.055	0.075	0.115
140	160	0.130	0.180	0.180	0.230	0.230	0.300	0.075	0.100	1.140	1.520	2.670	3.430	0.055	0.075	0.125
160	180	0.140	0.200	0.200	0.260	0.260	0.340	0.075	0.115	1.140	1.650	2.670	4.060	0.060	0.090	0.150
180	200	0.160	0.220	0.220	0.290	0.290	0.370	0.090	0.125	1.400	1.900	3.050	4.450	0.070	0.100	0.165
200	225	0.180	0.250	0.250	0.320	0.320	0.410	0.100	0.140	1.520	2.030	3.560	4.830	0.075	0.115	0.180
225	250	0.200	0.270	0.270	0.350	0.350	0.450	0.115	0.150	1.780	2.290	4.060	5.330	0.090	0.115	0.200
250	280	0.220	0.300	0.300	0.390	0.390	0.490	0.115	0.165	1.780	2.540	4.060	5.840	0.100	0.140	0.230
280	315	0.240	0.330	0.330	0.430	0.430	0.540	0.125	0.180	1.900	2.670	4.450	6.220	0.100	0.150	0.250
315	355	0.270	0.360	0.360	0.470	0.470	0.590	0.140	0.190	2.030	2.790	4.830	6.600	0.115	0.165	0.280
355	400	0.300	0.400	0.400	0.520	0.520	0.650	0.150	0.200	2.290	3.050	5.330	7.110	0.130	0.190	0.330
400	450	0.330	0.440	0.440	0.570	0.570	0.720	0.165	0.215	2.540	3.300	5.840	7.620	0.150	0.230	0.360
450	500	0.370	0.490	0.490	0.630	0.630	0.790	0.180	0.230	2.670	3.430	6.220	8.000	0.165	0.270	0.410
500	560	0.410	0.540	0.540	0.680	0.680	0.870	0.200	0.250	3.050	3.810	7.110	8.890	0.180	0.290	0.440
560	630	0.460	0.600	0.600	0.760	0.760	0.980	0.230	0.280	3.430	4.190	8.000	9.780	0.200	0.320	0.510
630	710	0.510	0.670	0.670	0.850	0.850	1.090	0.250	0.300	3.810	4.570	8.890	10.670	0.200	0.370	0.550
710	800	0.570	0.750	0.750	0.960	0.960	1.220	0.280	0.350	4.190	5.330	9.780	12.450	0.230	0.390	0.610
800	900	0.640	0.840	0.840	1.070	1.070	1.370	0.300	0.380	4.570	5.720	10.670	13.330	0.250	0.460	0.690
900	1000	0.710	0.930	0.930	1.190	1.190	1.520	.0350	0.430	5.334	6.480	12.450	15.110	0.280	0.490	0.750
1000	1120	0.770	1.030	1.030	1.300	1.300	1.670	0.400	0.480	6.100	7.240	14.220	16.890	0.280	0.550	0.810
1120	1250	0.830	1.120	1.120	1.420	1.420	1.830	0.430	0.500	6.480	7.620	15.110	17.780	0.330	0.610	0.910

* Axial displacement values apply to solid steel shafts or to hollow steel shafts with bore diameter less than half the shaft diameter. For shaft materials other than steel or for thin-wall shafts, please consult your Timken representative.

** 1:12 Taper used for 222, 223, 230, 231, 232, 233, 239 series. 1: 30 Taper used for 240, 241, 242 series. For sleeve mounting, multiply axial displacement values by 1.1 for 1:12 taper or by 1.05 for 1:30 taper. Questions on tapered shaft data, consult your Timken representative.



- During mounting, the RIC should be checked at the unloaded roller. If this is at the bottom, make sure that the roller is raised to seat firmly at the inboard position of the inner race.
- When the suggested amount of reduction of RIC has been accomplished, the bearing is properly fitted.
- Complete the procedure by peening the lockwasher tang into the locknut slot or securing the lockplate.

Example: Bearing 22328K C3 (140 mm bore with a C3 clearance pattern) is being mounted on a tapered shaft.

a. By measuring with feeler gage, initial RIC is established to be .007 in.

b. Reference to chart above indicates proper fit is obtained when RIC is reduced by .0025 in. to .0035 in., or approximately .003in.

Initial clearance	.007"
Reduction of RIC	**-.003"**
	.004"

c. Locknut is tightened until RIC reaches .004 in.. Final check against minimum RIC after mounting shows this value to be safe.

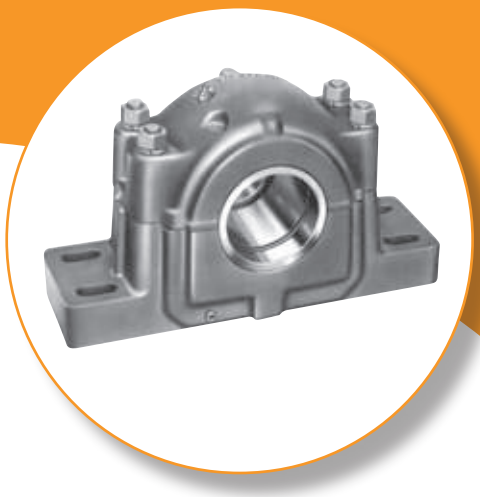
Note: Tapered bore bearings must have the proper amount of radial internal clearance before installation to provide for the required reduction of RIC during mounting and to compensate for any further internal reduction from abnormal temperature conditions. For special applications, send complete operating data to your Timken representative for suggestions on radial internal clearance.

NOTES

SPHERICAL ROLLER BEARING PILLOW BLOCKS

Overview: Spherical roller bearing pillow blocks combine rugged cast iron or steel housings with high-capacity bearings to meet the toughest demands of industry. Each pillow block contains an advanced-design spherical roller bearing with improved geometry and raceway finish for maximum load capacity and service life. Integrated housing and bearing features enhance unit lubrication characteristics. Multiple sealing options protect against contamination.

- **Sizes:** 35 mm - 300 mm shafts (1.37795 in. - 11.811 in.). Special shaft sizes up to 1000 mm (39.37 in.) and beyond.
- **Markets:** Conveyors, mining, rolling mills and pulp and paper mills.
- **Features:** Split construction for convenient assembly and disassembly. These units include pry tool slots and the exclusive Pry-Lug fulcrum, which simplify bearing inspection, service and replacement.
- **Benefits:** Caps can be removed easily and quickly without damage to the bearing or housing.



Pillow Blocks

SAF	two- or four-bolt pillow block, cast iron
SDAF	four-bolt heavy duty type pillow block, cast iron
SAFS	two- or four-bolt pillow block, cast steel
FSAF	four-bolt pillow block, cast iron (only when an option)
FSAFS	four-bolt pillow block, cast steel (only when an option)
SDAFS	four-bolt heavy-duty pillow block, cast steel

To indicate shaft size and used only for pillow block units of $8\,^{7}/_{16}$ in. shaft size or larger.

SDAF **23152** **K** **–** **9 1/2** **FXOP**

Number indicates basic spherical bearing series. See product data charts for spherical bearing number.

K	indicated on adapter type mounting arrangement (for 230, 231, 232 Series, SDAF231K and SDAF232K Series)
DV	DUSTAC seals - both sides
DC	DUSTAC seals - one side

Indicate construction:

FXOP	fixed open
FXCL	fixed closed
FLOP	float open
FLCL	float closed

Spherical Roller Bearing Pillow Blocks

B

	Page
Introduction	B386
Design and Construction	B368
Mounting	B387
Adapter vs. Straight Bore	
Fixed and Float Pillow Blocks	
Closed End Installations	
Lubrication	B387
Seals	B387
Load Ratings and Life	B387

	Page
DIMENSIONS – PILLOW BLOCK UNITS	
SAF225, SAF226 Series Adapter Mounting	B388
SDAF225, SDAF226 Series Adapter Mounting	B389
SAF230, SDAF230 Series Adapter Mounting	B390
SDAF231K, SDAF232K Series Adapter Mounting	B391
SAF222, SAF223 Series, Straight Bore Mounting	B392
SDAF222, SDAF223 Series, Straight Bore Mounting	B393
SDAF231, SDAF232 Series, Straight Bore Mounting	B394
Shaft Diameters	B395
TAKE-UP UNITS	
TU Series Adapter Mounting	B396
TTU Series Adapter Mounting	B397
Shaft Seals	B398
Sine Bar Gages	B400
Hydraulic Nuts	B401
Hydraulic Nuts – Metric	B402
Hydraulic Nuts – English	B403
Shaft Adapter Accessories for Tapered Bore Bearings	B404
Shaft Adapter Accessories for Straight Bore Bearings	B405
Metric Adapter Accessories	B412

INTRODUCTION

Timken capabilities in the engineering and manufacture of heavy-duty pillow blocks provide important benefits to users.

Another very important benefit is Timken's worldwide sales organization, staffed with experienced bearing engineers who are available for consultation on any pillow block or bearing application. Expert engineering assistance is available for applications involving shaft sizes 40 inches and larger such as BOF trunnions, bridge blocks and ball mills. If your design calls for shaft sizes or loads not listed in this catalog, contact your Timken representative for information about availability of special units.

DESIGN AND CONSTRUCTION

Timken supplies pillow blocks equipped with either tapered bore bearings plus adapters for mounting on straight shafts or cylindrical bore bearings for assembly on shouldered shafts.

Timken spherical roller bearing pillow blocks are made of split construction for convenient assembly and disassembly. These units include pry tool slots and the exclusive Pry-Lug fulcrum that simplify bearing inspection, service, and replacement. Caps can be removed easily and quickly without damage to the bearing or housing.

Precision fit is assured by the Timken system of doweling caps and bases together at an early stage of manufacturing so that they remain a single unit during machining. They are not interchangeable as separate parts and become precisely mated components.

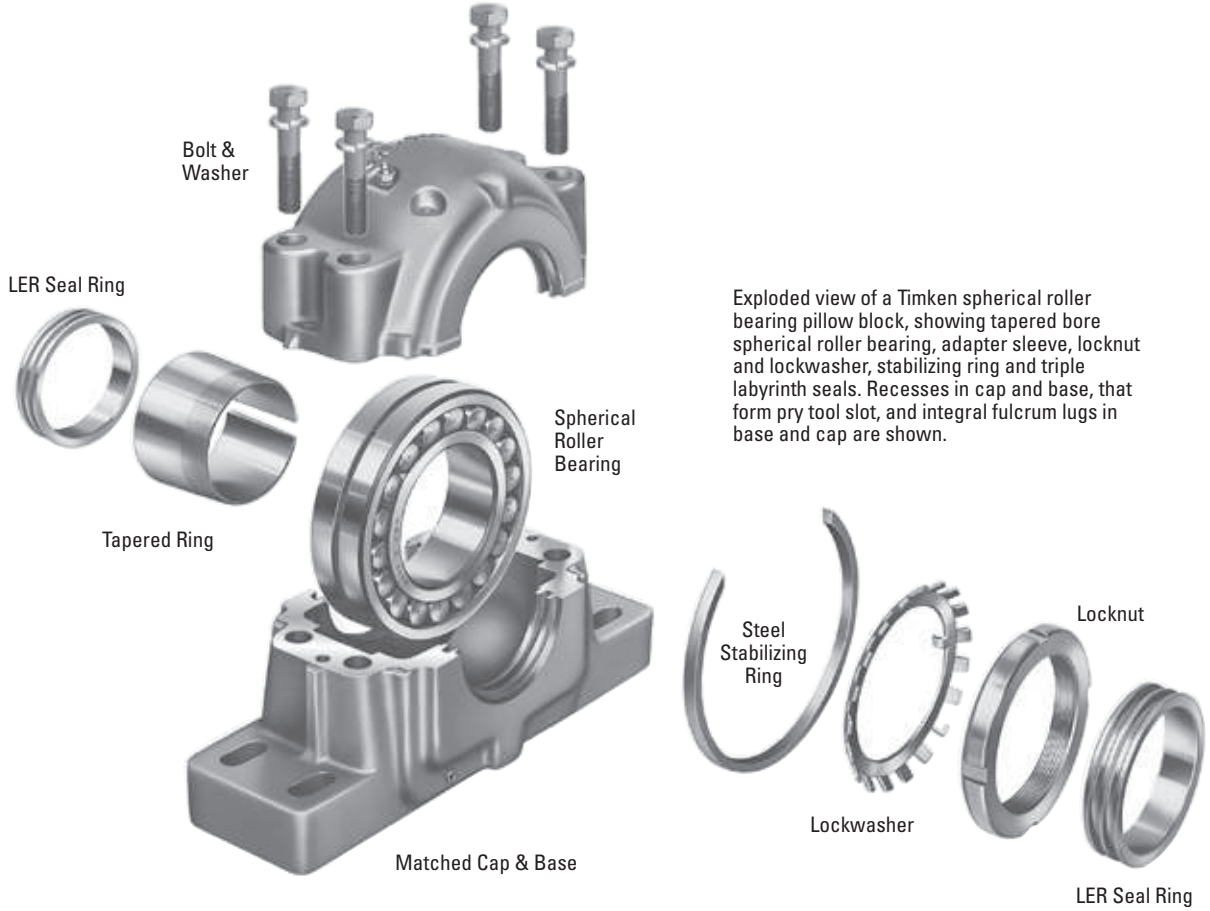
Timken manufactures pillow blocks in two styles: SAF and SDAF. The larger SDAF block is suggested for extreme duty applications.

Caps and bases are made from high-grade stress-relieved cast iron as standard. They also are available in cast steel.

All Timken pillow blocks are designed for four-bolt mounting. Certain smaller sizes are normally furnished for two-bolt mounting. These assemblies are indicated in the tables and can be ordered with optional four-bolt base.

Four cap bolts are used in most Timken pillow blocks in order to equalize the pressure between cap and base, preventing loss of lubricant.

The illustration below shows all parts of a pillow block assembly that are described throughout this section.



Exploded view of a Timken spherical roller bearing pillow block, showing tapered bore spherical roller bearing, adapter sleeve, locknut and lockwasher, stabilizing ring and triple labyrinth seals. Recesses in cap and base, that form pry tool slot, and integral fulcrum lugs in base and cap are shown.

MOUNTING

ADAPTER VS. STRAIGHT BORE

Usually a spherical roller bearing pillow block assembly is mounted on a straight shaft using a tapered bore bearing and adapter assembly. Standard commercial shafting can be used without additional machining. (Suggested shaft diameters are shown on page B395). Adapter mount also permits maximum flexibility in the axial positioning of the bearing on the shaft and will accommodate light locational thrust loads. Timken pillow blocks for tapered bore and adapter mounted bearings are available in Series 225, 226, 230, 231K and 232K.

Adapter mounted spherical roller bearings require the correct removal of diametral clearance from the bearing to prevent relative rotation between inner race and sleeve or shaft. Failure to employ proper mounting procedures can cause heating and reduced bearing performance. For proper shaft mounting of adapter type spherical roller bearings, see B380 of the spherical roller bearing section.

When application conditions produce heavy thrust loads, or a need exists for exact axial location or a positive shaft interference fit, a direct straight bore mounting may be the best option. This requires a shouldered shaft, machined for proper fit, and a straight bore bearing. Timken pillow block assemblies for straight bore applications are available in Series 222, 223, 231 and 232.

Suggested fits for shafts in cylindrical bore spherical roller bearings are shown in the engineering section. For applications involving heavy shock, vibration, unbalanced rotating loads or other abnormal conditions, consult your Timken representative.

FIXED AND FLOAT PILLOW BLOCKS

Any style of Timken pillow blocks can be easily installed either at the float or fixed position on the shaft. For the fixed position, a stabilizing ring is added between the bearing outer face ring and the housing shoulder to positively locate the shaft and prevent axial movement.

Some applications require centering of the bearing in its housing. To accomplish this, two special width stabilizing rings can be ordered.

In the float position, the ring is not used, allowing the bearing to move axially (a maximum of $^{3}/_{8}$ in.) to compensate for thermal expansion or contraction of the shaft.

Pillow blocks ordered by the numbers in the dimension tables are fixed units. To order float units, specify by adding suffix "Float" or "FL" to the pillow block number.

CLOSED END INSTALLATIONS

In some applications, the shaft end is designed to terminate inside the pillow block. For this design, positive fitting end-closure inserts are available to seal out contaminants and retain lubricant. Timken heavy-duty end plugs include O-rings for positive sealing.

Designers and installers need to make sure the shaft end does not contact the closure. A minimum of $^{1}/_{8}$ in. clearance at maximum thermal expansion is suggested between the end of the shaft and the closure. Dimension "Y" in the tables defines the maximum permissible length of shaft from centerline of the pillow block housing. If end closure is desired, specify by adding "CL" (one end closed) to the pillow block assembly number.

LUBRICATION

Timken pillow block housings have been designed for grease and oil bath lubrication. They also can be modified easily to accommodate circulating oil or oil/air mist systems. Grease fittings or sight gages are available upon request.

A lubrication groove and oil holes are provided in the bearing outer ring. This feature, designated by adding suffix "W33" to the bearing number, should be specified whenever re-ordering bearings for pillow blocks. In most cases, the fresh lubricant is fed directly to the center of the bearing between the rows of rollers and distributed to the rest of the bearing. This assures the used lubricant is purged from the bearing.

B

SEALS

Precision triple ring labyrinth seals are supplied with all Timken pillow blocks to exclude foreign matter and retain lubricants. The pillow block base includes extra large oil return holes at the bottom of the seal grooves to prevent leakage past the seals.

For extremely contaminated or abrasive environments, Timken has developed the exclusive DUSTAC™ seal. This patented seal offers protection against concentrations of dust or abrasive material that a labyrinth seal cannot keep out. See page B398 for further information on DUSTAC.

LOAD RATINGS AND LIFE

Load ratings for the spherical roller bearings that are used in pillow blocks are found in the dimension tables on pages B356 through B372.

Life calculation formulas are found in the engineering section.

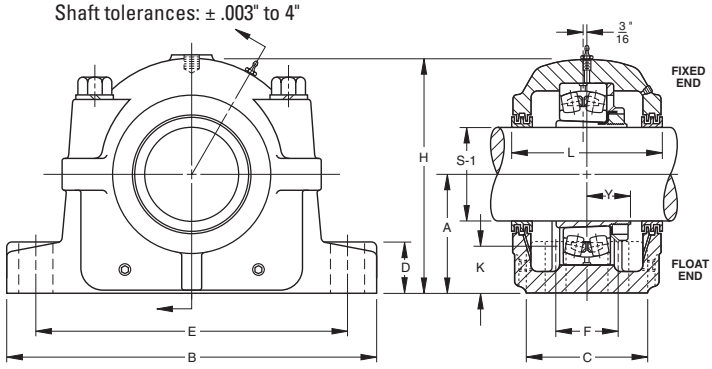
In addition to individual bearing selection, the ability of the pillow block to carry the operating load should be considered.

It should be noted that the load rating figures supplied in this catalog are applicable only when the load direction is generally toward the base of the pillow block. If the pillow block must be mounted so that the load could be applied in any other direction, consult your Timken representative.

TAPERED BORE MOUNTING
SAF225 AND SAF226 SERIES

- The basic number for ordering complete pillow block assemblies is listed in the table below.
- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and washer, stabilizing ring, and triple ring seals.
- If only the pillow block housing is desired, use the numbers listed in column headed "Housing Only". These units include: cap, base, cap bolts, triple ring seals and stabilizing ring.
- Assembly and pillow blocks as described on this page constitute a fixed unit. To order float units, specify part number plus suffix "Float" or "FL".

Shaft tolerances: ± .003" to 4"



- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter "S" to the alpha prefix (e.g., SAFS 22515).
- Four-bolt bases are standard on all assemblies except as noted.

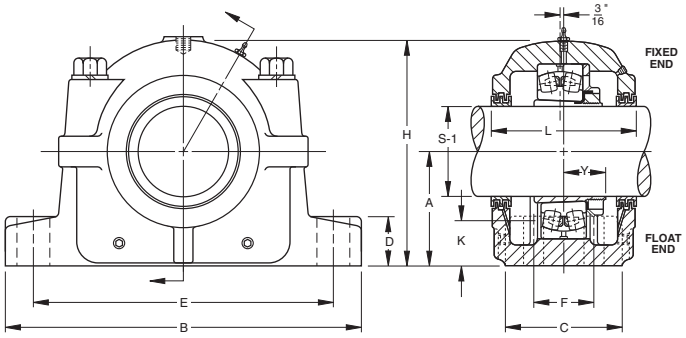
Pillow Block Assembly	Standard Shaft[1] Diam S-1	A	B	C	D	E (Max.)	E (Min.)	F	H	K Oil Level	L	Y	Base Bolts Required No.	Base Bolts Required Size	Bearing Number	Adapter[4] Assembly Number	Housing[2] Only	Stabilizing[3] Ring 1 Req'd	Triple Seal 2 Req'd	Ass'y Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.		in.						lbs.
SERIES SAF225																				
SAF22509	1 7/16	2 1/4	8 1/4	2 3/8	13/16	7	6 1/4	—	4 3/8	31/32	3 5/8	1 3/32	2	1/2	22209K	SNW-9	SAF509	SR-9-9	LER 17	12
SAF22510	1 11/16	2 1/2	8 1/4	2 3/8	15/16	7	6 1/2	—	4 3/4	1 3/32	3 5/8	1 5/32	2	1/2	22210K	SNW-10	SAF510	SR-10-0	LER 20	13
SAF22511	1 15/16	2 3/4	9 5/8	2 3/4	15/16	7 7/8	7 3/8	—	5 11/32	1 3/16	3 3/4	1 3/16	2	1/2	22211K	SNW-11	SAF 511	SR-11-0	LER-24	16
SAF22513	2 3/16	3	11	3 1/8	1	9 1/2	8 1/8	—	5 25/32	1 1/8	4 5/16	1 7/32	2	1/2	22213K	SNW-13	SAF 513	SR-13-0	LER-29	19.5
SAF22515	2 7/16	3 1/4	11 1/4	3 1/8	1 1/8	9 5/8	8 5/8	—	6 3/8	1 1/4	4 3/4	1 9/32	2	5/8	22215K	SNW-15	SAF515	SR-15-0	LER37	30
FSAF22515	2 7/16	3 1/4	11 1/4	3 1/8	1 1/8	9 5/8	8 5/8	1 7/8	6 3/8	1 1/4	4 3/4	1 9/32	4	1/2	22215K	SNW-15	FSAF515	SR-15-0	LER37	30
SAF22516	2 11/16	3 1/2	13	3 1/2	1 3/16	11	9 5/8	—	6 7/8	1 11/32	4 7/8	1 21/64	2	3/4	22216K	SNW-16	SAF516	SR-16-13	LER44	37
FSAF22516	2 11/16	3 1/2	13	3 1/2	1 3/16	11	9 5/8	2 1/8	6 7/8	1 11/32	4 7/8	1 21/64	4	5/8	22216K	SNW-16	FSAF516	SR-16-13	LER44	37
SAF22517	2 15/16	3 3/4	13	3 1/2	1 1/4	11	9 7/8	—	7 1/4	1 7/16	4 15/16	1 27/64	2	3/4	22217K	SNW-17	SAF517	SR-17-14	LER53	40
FSAF22517	2 15/16	3 3/4	13	3 1/2	1 1/4	11	9 7/8	2 1/8	7 1/4	1 7/16	4 15/16	1 27/64	4	5/8	22217K	SNW-17	FSAF517	SR-17-14	LER53	40
SAF22518	3 3/16	4	13 3/4	3 7/8	1 1/2	11 5/8	10 3/8	—	7 3/4	1 17/32	6 1/4	1 37/64	2	3/4	22218K	SNW-18	SAF518	SR-18-15	LER69	49
FSAF22518	3 3/16	4	13 3/4	3 7/8	1 1/2	11 5/8	10 3/8	2 1/8	7 3/4	1 17/32	6 1/4	1 37/64	4	5/8	22218K	SNW-18	FSAF518	SR-18-15	LER69	49
SAF22520	3 7/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	—	8 11/16	1 3/4	6	1 49/64	2	7/8	22220K	SNW-20	SAF520	SR-20-17	LER102	65
FSAF22520	3 7/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	2 3/8	8 11/16	1 3/4	6	1 49/64	4	3/4	22220K	SNW-20	FSAF520	SR-20-17	LER102	65
SAF22522	3 15/16	4 15/16	16 1/2	4 3/4	2	14 1/2	12 5/8	2 3/4	9 9/16	1 7/8	6 3/8	1 61/64	4	3/4	22222K	SNW-22	SAF522	SR-22-19	LER109	81
SAF22524	4 3/16	5 1/4	16 1/2	4 3/4	2 1/8	14 1/2	13 1/4	2 3/4	10 1/4	1 15/16	7 3/8	2 3/32	4	3/4	22224K	SNW-24	SAF524	SR-24-20	LER113	94
SAF22526	4 7/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 7/16	8	2 17/64	4	7/8	22226K	SNW-26	SAF526	SR-26-0	LER117	137
SAF22528	4 15/16	6	20 1/8	5 7/8	2 3/8	17 1/8	16	3 3/8	11 3/4	2 1/8	7 3/4	2 13/32	4	1	22228K	SNW-28	SAF528	SR-28-0	LER122	159
SAF22530	5 3/16	6 5/16	21 1/4	6 1/4	2 1/2	18 1/4	17	3 3/4	12 1/2	2 3/16	8 3/8	2 37/64	4	1	22230K	SNW-30	SAF530	SR-30-0	LER125	189
SAF22532	5 7/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 5/16	2 3/16	8 3/4	2 49/64	4	1	22232K	SNW-32	SAF532	SR-32-0	LER130	225
SAF22534	5 15/16	7 1/16	24 3/4	6 3/4	2 3/4	21 5/8	19 3/8	4 1/4	14 9/16	2 5/16	9 3/8	2 59/64	4	1	22234K	SNW-34	SAF534	SR-34-0	LER140	300
SAF22536	6 7/16	7 1/2	26 3/4	7 1/8	3	23 5/8	20 7/8	4 5/8	15 1/2	2 9/16	9 11/16	2 61/64	4	1	22236K	SNW-36	SAF536	SR-36-30	LER148	330
SAF22538	6 15/16	7 7/8	28	7 1/2	3 1/8	24 3/8	21 5/8	4 1/2	15 11/16	2 5/8	10 3/4	3 7/64	4	1 1/4	22238K	SNW-38	SAF538	SR-38-32	LER155	375
SAF22540	7 3/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 11/16	10 13/16	3 9/32	4	1 1/4	22240K	SNW-40	SAF540	SR-40-34	LER159	445
SAF22544	7 15/16	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 5/8	3 3/8	11 1/2	3 17/32	4	1 1/2	22244K	SNW-44	SAF544	SR-44-38	LER167	615
SERIES SAF226																				
SAF22615	2 7/16	4	13 3/4	3 7/8	1 5/8	11 5/8	10 3/8	2 1/8	7 9/16	1 19/32	5 7/8	1 7/8	2,4	3/4, 5/8	22315K	SNW-115	SAF 615	SR-18-15	LOR 37	52
SAF22616	2 11/16	4 1/4	14 1/4	3 7/8	1 3/4	12 5/8	10 5/8	2 1/8	8 1/4	1 11/16	6 1/2	1 15/16	2,4	3/4, 5/8	22316K	SNW-116	SAF 616	SR-19-16	LOR 44	71
SAF22617	2 15/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	—	8 11/16	1 13/16	6 5/8	1 57/64	2	7/8	22317K	SNW-117	SAF617	SR-20-17	LER184	81
FSAF22617	2 15/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	2 3/8	8 11/16	1 13/16	6 5/8	1 57/64	4	3/4	22317K	SNW-117	FSAF617	SR-20-17	LER184	81
SAF22618	3 3/16	4 3/4	15 1/2	4 3/8	2	13 1/2	12	2 1/4	9 3/16	2	7	2 3/64	4	3/4	22318K	SNW-118	SAF618	SR-21-18	LER188	90
SAF22620	3 7/16	5 1/4	16 1/2	4 3/4	2 1/8	14 1/2	13 1/4	2 3/4	10 1/4	2 1/8	7 3/8	2 19/64	4	3/4	22320K	SNW-120	SAF620	SR-24-20	LER102	113
SAF22622	3 15/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 1/2	8	2 31/64	4	7/8	22322K	SNW-122	SAF622	SR-0-22	LER109	151
SAF22624	4 3/16	6 5/16	21 1/4	6 1/4	2 1/2	18 1/4	17	3 3/4	12 1/2	2 9/16	8 3/8	2 41/64	4	1	22324K	SNW-124	SAF624	SR-0-24	LER113	201
SAF22626	4 7/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 5/16	2 5/8	8 3/4	2 27/32	4	1	22326K	SNW-126	SAF626	SR-0-26	LER117	245
SAF22628	4 15/16	7 1/16	24 3/4	6 3/4	2 3/4	21 5/8	19 3/8	4 1/4	14 9/16	2 11/16	9 3/8	3 5/64	4	1	22328K	SNW-128	SAF628	SR-0-28	LER122	310
SAF22630	5 3/16	7 1/2	26 3/4	7 1/8	3	23 5/8	20 7/8	4 5/8	15 1/2	2 7/8	9 11/16	3 17/64	4	1	22330K	SNW-130	SAF630	SR-36-30	LER125	350
SAF22632	5 7/16	7 7/8	28	7 1/2	3 1/8	24 3/8	21 5/8	4 1/2	15 11/16	2 15/16	10 3/4	3 7/16	4	1 1/4	22332K	SNW-132	SAF632	SR-38-32	LER130	420
SAF22634	5 15/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	3 1/16	10 13/16	3 19/32	4	1 1/4	22334K	SNW-134	SAF634	SR-40-34	LER140	485
SAF22636	6 7/16	8 7/8	31 1/4	8 1/4	3 1/2	26 5/8	24	5 1/4	18 1/2	3 3/8	11 1/4	3 47/64	4	1 1/4	22336K	SNW-136	SAF636	SR-0-36	LER148	545
SAF22638	6 15/16	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 5/8	3 11/16	11 1/2	3 57/64	4	1 1/2	22338K	SNW-138	SAF638	SR-44-38	LER155	655
SAF22640	7 3/16	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	3 3/4	12 1/4	4 5/64	4	1 1/2	22340K	SNW-140	SAF640	SR-0-40	LER159	725

[1] See page B395 for suggested shaft diameter S-1 tolerances.
[2] "Housing Only" includes: cap, base, cap bolts, triple ring seals and stabilizing rings as required.
[3] Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.
[4] Includes sleeve, locknut and lockwasher. Add shaft size to order.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

TAPERED BORE MOUNTING
SDAF225 AND SDAF226 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and washer, stabilizing ring and triple ring seals.
- To order pillow block housing only, use the number listed in the "Housing Only" column. These units include: cap, base, cap bolts, triple ring seals and stabilizing ring.
- Assembly and pillow blocks as described on this page constitute fixed units.
- To order float units, specify part number plus suffix "Float" or "FL".
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter "S" to the alpha prefix (e.g., SAFS 22515).



B

Pillow Block Assembly	Standard Shaft[1] Diam. S-1	A	B	C	D	E (Max.)	E (Min.)	F	H	K Oil Level	L	Y	Base Bolts Required No.	Base Bolts Required Size	Bearing Number	Adapter[4] Assembly Number	Housing[2] Only	Stabilizing[3] Ring 1 Req'd	Triple Seal 2 Req'd	Ass'y Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.		in.						lbs.
SERIES SDAF225																				
SDAF22520	3 7/16	4 1/2	15 1/4	6	1 7/8	13 1/8	11 5/8	3 3/8	8 15/16	1 3/4	6 3/4	1 49/64	4	3/4	22220K	SNW-20	SDAF520	SR-20-17	LER75	81
SDAF22522	3 15/16	4 15/16	16 1/2	6 3/4	2 1/8	14 1/2	12 5/8	4	9 7/8	1 7/8	7 1/4	1 61/64	4	7/8	22222K	SNW-22	SDAF522	SR-22-19	LER93	94
SDAF22524	4 3/16	5 1/4	16 1/2	6 7/8	2 1/4	14 1/2	13 1/4	4 1/8	10 1/2	1 15/16	7 3/8	2 3/32	4	7/8	22224K	SNW-24	SDAF524	SR-24-20	LER113	137
SDAF22526	4 7/16	6	18 3/8	7 1/2	2 3/8	16	14 5/8	4 1/2	11 7/8	2 7/16	8	2 17/64	4	1	22226K	SNW-26	SDAF526	SR-26-0	LER117	159
SDAF22528	4 15/16	6	20 1/8	7 1/2	2 3/8	17 1/8	16	4 1/2	12 1/16	2 1/8	7 13/16	2 13/32	4	1 1/8	22228K	SNW-28	SDAF528	SR-28-0	LER122	189
SDAF22530	5 3/16	6 5/16	21 1/4	7 7/8	2 1/2	18 1/4	17	4 3/4	12 13/16	2 3/16	8 3/8	2 37/64	4	1 1/8	22230K	SNW-30	SDAF530	SR-30-0	LER125	225
SDAF22532	5 7/16	6 11/16	22	8 1/4	2 1/2	19 1/4	17 3/8	5	13 11/16	2 3/16	8 3/4	2 49/64	4	1 1/8	22232K	SNW-32	SDAF532	SR-32-0	LER130	300
SDAF22534	5 15/16	7 1/16	24 3/4	9	2 1/2	21 5/8	19 3/8	5 1/2	14 1/4	2 5/16	9 5/8	2 59/64	4	1 1/4	22234K	SNW-34	SDAF534	SR-34-0	LER140	310
SDAF22536	6 7/16	7 1/2	26 3/4	9 3/8	2 3/4	23 5/8	20 7/8	5 7/8	15 3/16	2 9/16	10	2 61/64	4	1 1/4	22236K	SNW-36	SDAF536	SR-36-30	LER148	350
SDAF22538	6 15/16	7 7/8	27 5/8	10	3	23 1/2	21 1/2	6 1/4	16 1/4	2 5/8	10 5/8	3 7/64	4	1 3/8	22238K	SNW-38	SDAF538	SR-38-32	LER224	420
SDAF22540	7 3/16	8 1/4	28 3/4	10 1/2	3 1/4	25	23	6 3/4	17 1/8	2 11/16	11 1/8	3 9/32	4	1 3/8	22240K	SNW-40	SDAF540	SR-40-34	LER228	545
SDAF22544	7 15/16	9 1/2	32	11 1/4	3 1/2	27 7/8	25 5/8	7 1/4	19 1/4	3 3/8	11 7/8	3 17/32	4	1 1/2	22244K	SNW-44	SDAF544	SR-44-36	LER236	665
SERIES SDAF226																				
SDAF22617	2 15/16	4 1/2	15 1/4	6	1 7/8	13 1/8	11 5/8	3 3/8	8 15/16	1 13/16	6 3/4	1 57/64	4	3/4	22317K	SNW-117	SDAF617	SR-20-17	LER59	94
SDAF22618	3 3/16	4 3/4	15 1/2	6 1/8	2	13 1/2	12	3 5/8	9 7/16	2	6 7/8	2 3/64	4	3/4	22318K	SNW-118	SDAF618	SR-21-18	LER69	137
SDAF22620	3 7/16	5 1/4	16 1/2	6 7/8	2 1/4	14 1/2	13 1/4	4 1/8	10 1/2	2 1/8	7 3/8	2 19/64	4	7/8	22320K	SNW-120	SDAF620	SR-24-20	LER75	159
SDAF22622	3 15/16	6	18 3/8	7 1/2	2 3/8	16	14 5/8	4 1/2	11 7/8	2 1/2	8	2 31/64	4	1	22322K	SNW-122	SDAF622	SR-0-22	LER93	189
SDAF22624	4 3/16	6 5/16	21 1/4	7 7/8	2 1/2	18 1/4	17	4 3/4	12 13/16	2 9/16	8 3/8	2 41/64	4	1 1/8	22324K	SNW-124	SDAF624	SR-0-24	LER113	225
SDAF22626	4 7/16	6 11/16	22	8 1/4	2 1/2	19 1/4	17 3/8	5	13 11/16	2 5/8	8 3/4	2 27/64	4	1 1/8	22326K	SNW-126	SDAF626	SR-0-26	LER117	300
SDAF22628	4 15/16	7 1/16	24 3/4	9	2 1/2	21 5/8	19 3/8	5 1/2	14 1/4	2 11/16	9 5/8	3 5/64	4	1 1/8	22328K	SNW-128	SDAF628	SR-0-28	LER122	310
SDAF22630	5 3/16	7 1/2	26 3/4	9 3/8	2 3/4	23 5/8	20 7/8	5 7/8	15 3/16	2 7/8	9 3/4	3 17/64	4	1 1/4	22330K	SNW-130	SDAF630	SR-36-30	LER125	395
SDAF22632	5 7/16	7 7/8	27 5/8	10	3	23 1/2	21 1/2	6 1/4	16 1/4	2 15/16	10 5/8	3 7/16	4	1 3/8	22332K	SNW-132	SDAF632	SR-38-32	LER211	420
SDAF22634	5 15/16	8 1/4	28 3/4	10 1/2	3 1/4	25	23	6 3/4	17 1/8	3 1/16	11 1/8	3 19/32	4	1 3/8	22334K	SNW-134	SDAF634	SR-40-34	LER215	525
SDAF22636	6 7/16	8 7/8	30 1/2	10 3/4	3 1/4	26 3/8	24 1/8	6 7/8	17 15/16	3 7/8	11 3/8	3 47/64	4	1 1/2	22336K	SNW-136	SDAF636	SR-0-36	LER220	645
SDAF22638	6 15/16	9 1/2	32	11 1/4	3 1/2	27 7/8	25 5/8	7 1/4	19 1/4	3 11/16	11 13/16	4 57/64	4	1 1/2	22338K	SNW-138	SDAF638	SR-44-38	LER224	705
SDAF22640	7 3/16	9 7/8	33 1/2	11 3/4	3 1/2	29 1/4	26 5/8	7 5/8	19 15/16	3 3/4	12 1/4	4 5/64	4	1 5/8	22340K	SNW-140	SDAF640	SR-0-40	LER228	825

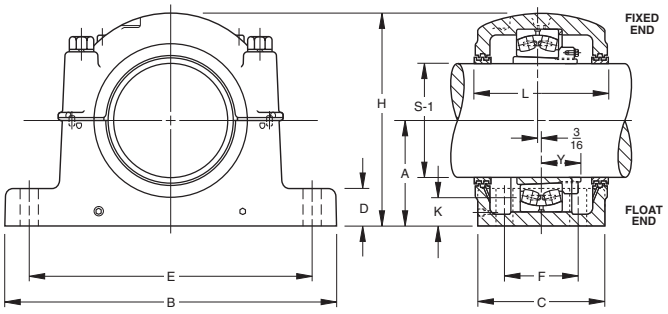
[1] See page B395 for suggested shaft diameter S-1 tolerances.
[2] "Housing Only" includes: cap, base, cap bolts, triple ring seals and stabilizing rings as required.
[3] Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.
[4] Includes sleeve, locknut and lockwasher. Add shaft size to order.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

B

TAPERED BORE MOUNTING
SAF230K, SDAF230K SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and washer, stabilizing ring and triple ring seals.
- If only the pillow block is desired, use the numbers listed in column "Housing Only" column. These units include: cap, base, cap bolts, triple ring seals and stabilizing ring.
- Assembly and pillow blocks as described on this page constitute fixed units.
- To order float units, specify part number plus suffix "Float" or "FL".
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter "S" to the alpha prefix (e.g., SAFS 23024).
- Please note that for applications SAF23048 and larger, the shaft size must be included in the part description when ordering (e.g., SAF23048-8 15/16).



Two stabilizing rings are supplied with housings SAF048 through SAF056 and SDAF060K through SDAF076K. For fixed applications ***both rings must be used. Do not use stabilizing rings for float mounting.***

Pillow Block Assembly	Standard Shaft[1] Dia. S-1	A	B	C	D	E (Max.)	E (Min.)	F	H	K Oil Level	L	Y	4 Base Bolts Req'd. Size	Bearing Number	Adapter[4] Assembly Number	Housing[2] Only	Stabilizing[3] Ring	Triple Seal 2 Req'd	Ass'y Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.						lbs.
SERIES SAF230K																			
SAF23024K	4 3/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	2 3/8	8 11/16	1 9/16	6	1 55/64	3/4	23024K	SNW-3024	SAF024K	SR-20-17	LER113	60
SAF23026K	4 7/16	4 15/16	16 1/2	4 3/4	2	14 1/2	12 5/8	2 3/4	9 9/16	1 11/16	6 3/8	2 1/32	3/4	23026K	SNW-3026	SAF026K	SR-22-19	LER117	76
SAF23028K	4 15/16	5 1/4	16 1/2	4 3/4	2 1/8	14 1/2	13 1/4	2 3/4	10 1/4	1 13/16	7 3/8	2 1/8	3/4	23028K	SNW-3028	SAF028K	SR- 0-20	LER122	90
SAF23030K	5 3/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 5/16	8	2 13/64	7/8	23030K	SNW-3030	SAF030K	SR- 0-21	LER125	125
SAF23032K	5 7/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 1/16	8	2 11/32	7/8	23032K	SNW-3032	SAF032K	SR- 0-22	LER130	132
SAF23034K	5 15/16	6	20 1/8	5 7/8	2 3/8	17 1/8	16	3 3/8	11 3/4	1 3/4	7 3/4	2 33/64	1	23034K	SNW-3034	SAF034K	SR- 0-24	LER140	154
SAF23036K	6 7/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 5/16	2 3/16	8 3/4	2 11/16	1	23036K	SNW-3036	SAF036K	SR- 0-26	LER148	212
SAF23038K	6 15/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 5/16	1 15/16	8 3/4	2 47/64	1	23038K	SNW-3038	SAF038K	SR-32- 0	LER155	220
SAF23040K	7 3/16	7 1/16	24 3/4	6 3/4	2 3/4	21 5/8	19 3/8	4 1/4	14 9/16	2 13/16	9 3/8	2 15/16	1	23040K	SNW-3040	SAF040K	SR-34- 0	LER159	295
SAF23044K	7 15/16	7 7/8	28	7 1/2	3 1/8	24 3/8	21 5/8	4 1/2	15 11/16	2 3/8	10 3/4	3 5/32	1 1/4	23044K	SNW-3044	SAF044K	SR-38-32	LER167	370
SAF23048K-8 7/16	8 7/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4	11 1/8	3 17/32	1 1/4	23048K	SNP-3048-8 7/16	SAF048K-8 7/16	A8897	LER526	430
SAF23048K-8 1/2	8 1/2	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4	11 1/8	3 17/32	1 1/4	23048K	SNP-3048-8 1/2	SAF048K-8 1/2	A8897	LER527	428
SAF23048K-8 15/16	8 15/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4	11 1/8	3 17/32	1 1/4	23048K	SNP-3048-8 15/16	SAF048K-8 15/16	A8897	LER529	422
SAF23048K-9	9	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4	11 1/8	3 17/32	1 1/4	23048K	SNP-3048-9	SAF048K-9	A8897	LER530	420
SAF23052K-9 7/16	9 7/16	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 7/16	2 15/16	11 7/8	3 53/64	1 1/2	23052K	SNP-3052-9 7/16	SAF052K-9 7/16	A8898	LER178-1	587
SAF23052K-9 1/2	9 1/2	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 7/16	2 15/16	11 7/8	3 53/64	1 1/2	23052K	SNP-3052-9 1/2	SAF052K-9 1/2	A8898	LER178	585
SAF23056K-9 15/16	9 15/16	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16	12 1/16	3 61/64	1 1/2	23056K	SNP-3056-9 15/16	SAF056K-9 15/16	A8819	ER751	640
SAF23056K-10	10	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16	12 1/16	3 61/64	1 1/2	23056K	SNP-3056-10	SAF056K-10	A8819	ER705	635
SAF23056K-10 7/16	10 7/16	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16	12 1/16	3 61/64	1 1/2	23056K	SNP-3056-10 7/16	SAF056K-10 7/16	A8819	ER745	625
SAF23056K-10 1/2	10 1/2	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16	12 1/16	3 61/64	1 1/2	23056K	SNP-3056-10 1/2	SAF056K-10 1/2	A8819	ER710	620
SERIES SDAF230K																			
SDAF23060K-10 15/16	10 15/16	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 7/16	15 1/2	4 9/32	1 5/8	23060K	SNP-3060-10 15/16	SDAF060K-10 15/16	A8967	ER858	1175
SDAF23060K-11	11	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 7/16	15 1/2	4 9/32	1 5/8	23060K	SNP-3060-11	SDAF060K-11	A8967	ER825	1174
SDAF23064K-11 7/16	11 7/16	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16	15 1/2	4 7/16	1 5/8	23064K	SNP-3064-11 7/16	SDAF064K-11 7/16	A8968	ER861	1275
SDAF23064K-11 1/2	11 1/2	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16	15 1/2	4 7/16	1 5/8	23064K	SNP-3064-11 1/2	SDAF064K-11 1/2	A8968	ER832	1274
SDAF23064K-11 15/16	11 15/16	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16	15 1/2	4 7/16	1 5/8	23064K	SNP-3064-11 15/16	SDAF064K-11 15/16	A8968	ER859	1269
SDAF23064K-12	12	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16	15 1/2	4 7/16	1 5/8	23064K	SNP-3064-12	SDAF064K-12	A8968	ER818	1268
SDAF23068K-12 7/16	12 7/16	12	39	15 1/4	4 3/16	33 1/2	32	10	24	3 7/16	15 3/4	4 13/16	1 7/8	23068K	SNP-3068-12 7/16	SDAF068K-12 7/16	A8969	ER865	1553
SDAF23068K-12 1/2	12 1/2	12	39	15 1/4	4 3/16	33 1/2	32	10	24	3 7/16	15 3/4	4 13/16	1 7/8	23068K	SNP-3068-12 1/2	SDAF068K-12 1/2	A8969	ER866	1552
SDAF23072K-12 15/16	12 15/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8	16 1/4	4 53/64	1 7/8	23072K	SNP-3072-12 15/16	SDAF072K-12 15/16	A8970	ER869	1632
SDAF23072K-13	13	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8	16 1/4	4 53/64	1 7/8	23072K	SNP-3072-13	SDAF072K-13	A8970	ER846	1630
SDAF23072K-13 7/16	13 7/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8	16 1/4	4 53/64	1 7/8	23072K	SNP-3072-13 7/16	SDAF072K-13 7/16	A8970	ER872	1614
SDAF23072K-13 1/2	13 1/2	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8	16 1/4	4 53/64	1 7/8	23072K	SNP-3072-13 1/2	SDAF072K-13 1/2	A8970	ER823	1610
SDAF23076K-13 15/16	13 15/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/16	16 1/4	5 1/16	1 7/8	23076K	SNP-3076-13 15/16	SDAF076K-13 15/16	A8971	ER875	1687
SDAF23076K-14	14	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/16	16 1/4	5 1/16	1 7/8	23076K	SNP-3076-14	SDAF076K-14	A8971	ER876	1685
SDAF23080K-15	15	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	29	4 7/16	17 5/8	5 17/32	4,2	23080K	SNP-3080-15	SDAF080K-15	1A8974	ER847	2300
SDAF23084K-15 3/4	15 3/4	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	29	4 1/16	17 5/8	5 9/16	4,2	23087K	SNP-3084-15 3/4	SDAF084K-15 3/4	1A8978	ER885	2300
SDAF23088K-16 1/2	16 1/2	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	4 1/2	19 1/4	5 3/4	4,2 1/4	23088AK	SNP-3088-16 1/2	SDAF3088K-16 1/2	2A8979	ER958	2550
SDAF23092K-17	17	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	4	19 1/4	5 7/8	4,2 1/4	23082K	SNP-3092-17	SDAF3092K-17	2A8980	ER838	2850
SDAF23096K-18	18	17	53	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	5 1/8	21 3/4	5 29/32	4,2 1/4	23096K	SNP-3096-18	SDAF3096K-18	2A8984	ER888	4250
SDAF230/530K-18 1/2	18 1/2	17	53	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	4 3/4	21 3/4	6 1/2	4,2 1/4	230/500K	SNP-30-500-18 1/2	SDAF30-500K-18 1/2	2A8976	ER978	4350
SDAF230/530K-19 1/2	19 1/2	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	4 13/16	22 1/4	6 27/32	4,2 1/2	230/530/K	SNP-30-530-19 1/2	SDAF 30-530K-19 1/2		ER926	5200

[1] See page B395 for suggested shaft diameter S-1 tolerances.

[2] "Housing Only" includes: cap, base, cap bolts, triple ring seals and stabilizing rings as required.

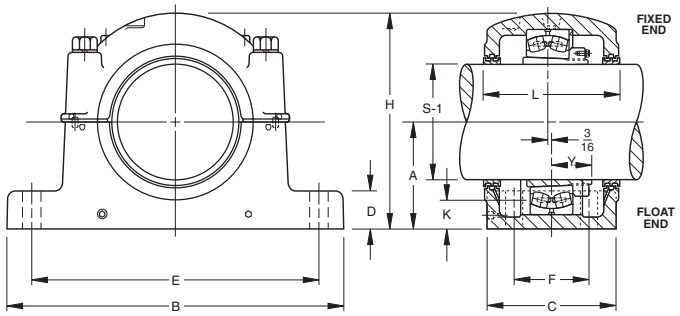
[3] Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.

[4] Includes sleeve, locknut, lockwasher or lockplate. Add shaft size to order.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

TAPERED BORE MOUNTING
SDAF231K AND SDAF232K SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and washer, stabilizing ring and triple ring seals.
- To order pillow block housing only, use the numbers listed in the "Housing Only" column. These units include: cap, base, cap bolts, triple ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix "Float" or "FL".
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter "S" to the alpha prefix (e.g., SDAFS 23152K).



B

Pillow Block Assembly	Standard Shaft[1] Dia. S-1	A	B	C	D	E (Max.)	E (Min.)	F	H	K Oil Level	L	4 Base Bolts Req'd. Size	Bearing Number	Adapter[4] Assembly Number	Housing[2] Only	Stabilizing[3] 2 Req'd	Triple Seal Ring 2 Req'd	Ass'y Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.						lbs.
SERIES SDAF231K																		
SDAF23152K	9 7/16	10 1/4	35	13 1/8	3 3/4	30 1/2	29	8 3/4	20 7/8	3 3/8	13 3/4	1 5/8	23152K	SNP-3152	SDAF3152K	A5679	ER891	1050
SDAF23156K	10 7/16	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/4	15 3/8	1 5/8	23156K	SNP-3156	SDAF3156K	A8967	ER973	1300
SDAF23160K	10 15/16	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 1/8	15 3/8	1 5/8	23160K	SNP-3160	SDAF3160K	A8975	ER858	1350
SDAF23164K	11 15/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	25 3/4	4 3/8	16 1/4	1 7/8	23164K	SNP-3164	SDAF3164K	A8970	ER942	1900
SDAF23168K	12 7/16	14	43 3/4	17 3/4	5	38 1/4	36 3/4	10 3/4	27 7/8	4 15/16	18 1/4	2	23168K	SNP-3168	SDAF3168K	A8977	ER975	2550
SDAF23172K	13 7/16	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	5	17 3/4	2	23172K	SNP-3172	SDAF3172K	A8974	ER872	2600
SDAF23176K	13 15/16	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	4 5/8	17 3/4	2	23176K	SNP-3176	SDAF3176K	A8978	ER875	2600
SDAF23180K	15	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	5 1/8	19 1/4	2 1/4	23180K	SNP-3180	SDAF3180K	A8979	ER847	3000
SDAF23184K	15 3/4	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	6	21 3/4	2 1/4	23184K	SNP-3184	SDAF3184K	A8984	ER914	4400
SDAF23188K	16 1/2	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	5 9/16	21 3/4	2 1/4	23188K	SNP-3188	SDAF3188K	A8976	ER947	4600
SDAF23192K	17	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	6	22 1/4	2 1/2	23192K	SNP-3192	SDAF3192K	A8990	ER838	5100
SDAF23196K	18	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	5 1/2	22 1/4	2 1/2	23196K	SNP-3196	SDAF3196K	A8998	ER954	5200
SERIES SDAF232K																		
SDAF23248K	8 15/16	10 1/4	35	13 1/8	3 3/4	30 1/2	29	8 3/4	20 7/8	3 9/16	13 3/4	1 5/8	23248K	SNP-148	SDAF3248K	A5679	ER939	1100
SDAF23252K	9 7/16	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/4	15 3/8	1 5/8	23252K	SNP-152	SDAF3252K	A8968	ER891	1400
SDAF23256K	10 7/16	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/8	15 3/8	1 5/8	23256K	SNP-3256	SDAF3256K	A8975	ER973	1400
SDAF23260K	10 15/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	25 3/4	4 1/2	16 1/4	1 7/8	23260K	SNP-3260	SDAF3260K	A8970	ER941	1900
SDAF23264K	11 15/16	14	43 3/4	17 3/4	5	38 1/4	36 3/4	10 3/4	27 7/8	5 1/8	18 1/4	2	23264K	SNP-3264	SDAF3264K	A8977	ER942	2600
SDAF23268K	12 7/16	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	5	17 3/4	2	23268K	SNP-3268	SDAF3268K	A8978	ER944	2700
SDAF23272K	13 7/16	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	5 1/2	19 1/4	2 1/4	23272K	SNP-3272	SDAF3272K	A8979	ER872	3050
SDAF23276K	13 15/16	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	4 3/8	19 1/4	2 1/4	23276K	SNP-3276	SDAF3276K	A8980	ER875	3000
SDAF23280K	14 15/16	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	6	21 3/4	2 1/4	23280K	SNP-3280	SDAF3280K	A8976	ER976	4650
SDAF23284K	15 3/4	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	6 3/8	22 1/4	2 1/2	23284K	SNP-3284	SDAF3284K	A8990	ER951	4900
SDAF23288K	16 1/2	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	5 7/8	22 1/4	2 1/2	23288K	SNP-3288	SDAF3288K	A8988	ER952	5200

[1] See page B395 for suggested shaft diameter S-1 tolerances.

[2] "Housing Only" includes: cap, base, cap bolts, triple ring seals and stabilizing rings as required. Add shaft size to order.

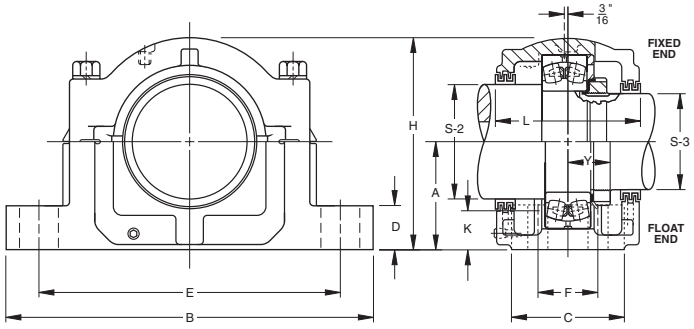
[3] Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.

[4] Includes sleeve, locknut and lockwasher. Add shaft size to order.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

STRAIGHT BORE MOUNTING
SAF222 AND SAF223 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, locknut and washer, stabilizing ring and triple ring seals.
- To order pillow block housing only, use the numbers listed in "Housing Only" column. These units include: cap, base, cap bolts, triple ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix "Float" or "FL".
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter "S" to the alpha prefix (e.g., SAFS 22217).
- Four-bolt bases are standard on all assemblies, except as noted.



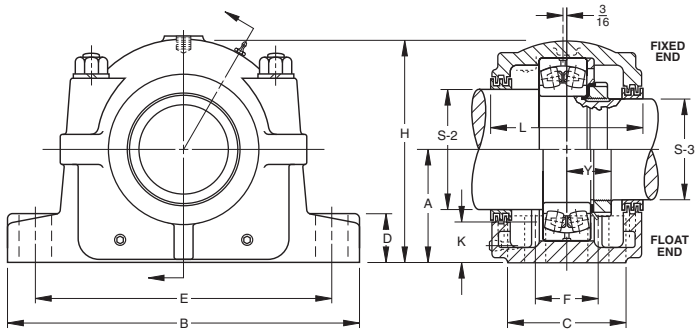
Pillow Block Assembly	Standard Shaft[1] Dia. S-2	Standard Shaft[1] Dia. S-3	A	B	C	D	E (Max.)	E (Min.)	F	H Level	K Oil	L	Y	Base Bolts Required No.	Base Bolts Required Size	Bearing Number	Lock Nut	Lock Washer	Housing[2] Only Ring	Stabilizing[3] 1 Req'd	Triple Seal 1 Req'd S-2	Triple Seal S-3	Ass'y Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.		in.								lbs.
SERIES SAF222																							
SAF22217	3 15/16	3 3/16	3 3/4	13	3 1/2	1 1/4	11	9 7/8	—	7 1/4	1 7/16	4 15/16	1 27/64	2	3/4	22217	AN17	W17	SAF217	SR-17-14	LER89	LER63	43
FSAF22217	3 15/16	3 3/16	3 3/4	13	3 1/2	1 1/4	11	9 7/8	2 1/8	7 1/4	1 7/16	4 15/16	1 27/64	4	5/8	22217	AN17	W17	FSAF217	SR-17-14	LER89	LER63	43
SAF22218	4 1/8	3 3/8	4	13 3/4	3 7/8	1 1/2	11 5/8	10 3/8	—	7 3/4	1 17/32	6 1/4	1 37/64	2	3/4	22218	AN18	W18	SAF218	SR-18-15	LER96	LER72	50
FSAF22218	4 1/8	3 3/8	4	13 3/4	3 7/8	1 1/2	11 5/8	10 3/8	2 1/8	7 3/4	1 17/32	6 1/4	1 37/64	4	5/8	22218	AN18	W18	FSAF218	SR-18-15	LER96	LER72	50
SAF22220	4 1/2	3 13/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	—	8 11/16	1 3/4	6	1 49/64	2	7/8	22220	AN20	W20	SAF220	SR-20-17	LER118	LER106	71
FSAF22220	4 1/2	3 13/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	2 3/8	8 11/16	1 3/4	6	1 49/64	4	3/4	22220	AN20	W20	FSAF220	SR-20-17	LER118	LER106	71
SAF22222	4 7/8	4 3/16	4 15/16	16 1/2	4 3/4	2	14 1/2	12 5/8	2 3/4	9 9/16	1 7/8	6 3/8	1 61/64	4	3/4	22222	AN22	W22	SAF222	SR-22-19	LER121	LER113	81
SAF22224	5 5/16	4 9/16	5 1/4	16 1/2	4 3/4	2 1/8	14 1/2	13 1/4	2 3/4	10 1/4	1 15/16	7 3/8	2 3/32	4	3/4	22224	AN24	W24	SAF224	SR-24-20	LER127	LER119	90
SAF22226	5 7/8	4 15/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 7/16	8	2 17/64	4	7/8	22226	AN26	W26	SAF226	SR-26-0	LER136	LER122	127
SAF22228	6 1/4	5 5/16	6	20 1/8	5 7/8	2 3/8	17 1/8	16	3 3/8	11 3/4	2 1/8	7 3/4	2 13/32	4	1	22228	AN28	W28	SAF228	SR-28-0	LER144	LER127	149
SAF22230	6 5/8	5 3/4	6 5/16	21 1/4	6 1/4	2 1/2	18 1/4	17	3 3/4	12 1/2	2 3/16	8 3/8	2 37/64	4	1	22230	AN30	W30	SAF230	SR-30-0	LER151	LER134	175
SAF22232	7	6 1/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 5/16	2 3/16	8 3/4	2 49/64	4	1	22232	AN32	W32	SAF232	SR-32-0	LER156	LER142	210
SAF22234	7 7/16	6 7/16	7 1/16	24 3/4	6 3/4	2 3/4	21 5/8	19 3/8	4 1/4	14 9/16	2 5/16	9 3/8	2 59/64	4	1	22234	AN34	W34	SAF234	SR-34-0	LER161	LER148	280
SAF22236	7 13/16	6 7/8	7 1/2	26 3/4	7 1/8	3	23 5/8	20 7/8	4 5/8	15 1/2	2 9/16	9 11/16	2 61/64	4	1	22236	AN36	W36	SAF236	SR-36-0	LER165	LER154	305
SAF22238	8 3/8	7 1/4	7 7/8	28	7 1/2	3 1/8	24 3/8	21 5/8	4 1/2	15 11/16	2 5/8	10 3/4	3 7/64	4	1 1/4	22238	AN38	W38	SAF238	SR-38-32	LER171	LER160	350
SAF22240	8 3/4	7 5/8	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 11/16	10 13/16	3 3/32	4	1 1/4	22240	AN40	W40	SAF240	SR-40-34	LER175	LER164	420
SAF22244	9 9/16	8 5/16	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 5/8	3 3/8	11 1/2	3 17/32	4	1 1/2	22244	N44	W44	SAF244	SR-44-38	LER179	LER170	590
SERIES SAF223																							
SAF22317	3 15/16	3 3/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	–	8 11/16	1 13/16	6	1 57/64	2	7/8	22317	AN17	W17	SAF317	SR-20-17	LER109	LER188	80
FSAF22317	3 15/16	3 3/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	2 3/8	8 11/16	1 13/16	6	1 57/64	4	3/4	22317	AN17	W17	FSAF317	SR-20-17	LER109	LER188	80
SAF22318	4 1/8	3 3/8	4 3/4	15 1/2	4 3/8	2	13 1/2	12	2 1/4	9 3/16	2	7	2 3/64	4	3/4	22318	AN18	W18	FSAF318	SR-21-18	LER112	LER191	92
SAF22320	4 1/2	3 13/16	5 1/4	16 1/2	4 3/4	2 1/8	14 1/2	13 1/4	2 3/4	10 1/4	2 1/8	7 3/8	2 19/64	4	3/4	22320	AN20	W20	SAF320	SR-24-20	LER118	LER106	109
SAF22322	4 7/8	4 3/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 1/2	8	2 31/64	4	7/8	22322	AN22	W22	SAF322	SR-0-22	LER121	LER113	145
SAF22324	5 5/16	4 9/16	6 5/16	21 1/4	6 1/4	2 1/2	18 1/4	17	3 3/4	12 1/2	2 9/16	8 3/8	2 41/64	4	1	22324	AN24	W24	SAF324	SR-0-24	LER127	LER119	195
SAF22326	5 7/8	4 15/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 15/16	2 5/8	8 3/4	2 27/32	4	1	22326	AN26	W26	SAF326	SR-0-26	LER136	LER122	235
SAF22328	6 1/4	5 5/16	7 1/16	24 3/4	6 3/4	2 3/4	21 5/8	19 3/8	4 1/4	14 9/16	2 11/16	9 3/8	3 5/64	4	1	22328	AN28	W28	SAF328	SR-0-28	LER144	LER127	300
SAF22330	6 5/8	5 3/4	7 1/2	26 3/4	7 1/8	3	23 5/8	20 7/8	4 5/8	15 1/2	2 7/8	9 11/16	3 17/64	4	1	22330	AN30	W30	SAF330	SR-36-30	LER151	LER134	335
SAF22332	7	6 1/16	7 7/8	28	7 1/2	3 1/8	24 3/8	21 5/8	4 1/2	15 11/16	2 15/16	10 3/4	3 7/16	4	1 1/4	22332	AN32	W32	SAF332	SR-38-32	LER156	LER142	405
SAF22334	7 7/16	6 7/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	3 1/16	10 13/16	3 19/32	4	1 1/4	22334	AN34	W34	SAF334	SR-40-34	LER161	LER148	465
SAF22336	7 13/16	6 7/8	8 7/8	31 1/4	8 1/4	3 1/2	26 5/8	24	5 1/4	18 1/2	3 3/8	11 1/4	3 47/64	4	1 1/4	22336	AN36	W36	SAF336	SR-0-36	LER165	LER154	525
SAF22338	8 3/8	7 1/4	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 5/8	3 11/16	11 1/2	3 57/64	4	1 1/2	22338	AN38	W38	SAF338	SR-44-38	LER171	LER160	635
SAF22340	8 3/4	7 5/8	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	3 3/4	12 1/4	4 5/64	4	1 1/2	22340	AN40	W40	SAF340	SR-0-40	LER175	LER164	700

(1) See page B395 for suggested shaft diameter S-2, S-3 tolerances.
(2) "Housing Only" includes: cap, base, cap bolts, triple ring seals and stabilizing rings as required.
(3) Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

STRAIGHT BORE MOUNTING
SDAF222 AND SDAF223 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, locknut and washer, stabilizing ring, and triple ring seals.
- To order pillow block housing only, use the numbers listed in the "Housing Only" column. These units include: cap, base, cap bolts, triple ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix "float" or "FL".
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter "S" to the alpha prefix (e.g., SDAS 22220).



B

Pillow Block Assembly	Standard Shaft[1] Dia. S-2	S-3	A	B	C	D	E (Max.)	E (Min.)	F	H Level	K Oil	L	Y	Base Bolts Required No.	Size	Bearing Number	Lock Nut	Lock Washer	Housing[2] Only Ring	Stabilizing[3] 1 Req'd	Triple Seal 1 Req'd S-2	Triple Seal S-3	Ass'y Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.		in.								lbs.
SERIES SDAF222																							
SDAF22220	4 1/2	3 13/16	4 1/2	15 1/4	6	1 7/8	13 1/8	11 5/8	3 3/8	8 15/16	1 3/4	6 3/4	1 49/64	4	3/4	22220	AN20	W20	SDAF220	SR-20-17	LER118	LER106	81
SDAF22222	4 7/8	4 3/16	4 15/16	16 1/2	6 3/4	2 1/8	14 1/2	12 5/8	4	9 7/8	1 7/8	7 1/4	1 61/64	4	7/8	22222	AN22	W22	SDAF222	SR-22-19	LER121	LER113	109
SDAF22224	5 5/16	4 9/16	5 1/4	16 1/2	6 7/8	2 1/4	14 1/2	13 1/4	4 1/8	10 1/2	1 15/16	7 3/8	2 3/32	4	7/8	22224	AN24	W24	SDAF224	SR-24-20	LER127	LER119	113
SDAF22226	5 7/8	4 15/16	6	18 3/8	7 1/2	2 3/8	16	14 5/8	4 1/2	11 7/8	2 7/16	8	2 17/64	4	1	22226	AN26	W26	SDAF226	SR-26-0	LER136	LER122	151
SDAF22228	6 1/4	5 5/16	6	20 1/8	7 1/2	2 3/8	17 1/8	16	4 1/2	12 1/16	2 1/8	7 13/16	2 13/32	4	1	22228	AN28	W28	SDAF228	SR-28-0	LER144	LER127	175
SDAF22230	6 5/8	5 3/4	6 5/16	21 1/4	7 7/8	2 1/2	18 1/4	17	4 3/4	12 13/16	2 3/16	8 3/8	2 37/64	4	1 1/8	22230	AN30	W30	SDAF230	SR-30-0	LER151	LER134	201
SDAF22232	7	6 1/16	6 11/16	22	8 1/4	2 1/2	19 1/4	17 3/8	5	13 11/16	2 3/16	8 3/4	2 49/64	4	1 1/8	22232	AN32	W32	SDAF232	SR-32-0	LER156	LER142	245
SDAF22234	7 7/16	6 7/16	7 1/16	24 3/4	9	2 1/2	21 5/8	19 3/8	5 1/2	14 1/4	2 5/16	9 5/8	2 59/64	4	1 1/4	22234	AN34	W34	SDAF234	SR-34-0	LER161	LER148	300
SDAF22236	7 13/16	6 7/8	7 1/2	26 3/4	9 3/8	2 3/4	23 5/8	20 7/8	5 7/8	15 3/16	2 9/16	10	2 61/64	4	1 1/4	22236	AN36	W36	SDAF236	SR-36-30	LER165	LER154	335
SDAF22238	8 3/8	7 1/4	7 7/8	27 5/8	10	3	23 1/2	21 1/2	6 1/4	16 1/4	2 5/8	10 5/8	3 7/64	4	1 3/8	22238	AN38	W38	SDAF238	SR-38-32	LER240	LER229	405
SDAF22240	8 3/4	7 5/8	8 1/4	28 3/4	10 1/2	3 1/4	25	23	6 3/4	17 1/8	2 11/16	11 1/8	3 9/32	4	1 3/8	22240	AN40	W40	SDAF240	SR-40-34	LER244	LER233	465
SDAF22244	9 9/16	8 5/16	9 1/2	32	11 1/4	3 1/2	27 7/8	25 5/8	7 1/4	19 1/4	3 3/8	11 7/8	3 17/32	4	1 1/2	22244	N44	W44	SDAF240	SR-44-38	LER248	LER239	650
SERIES SDAF223																							
SDAF22317	3 15/16	3 3/16	4 1/2	15 1/4	6	1 7/8	13 1/8	11 5/8	3 3/8	8 15/16	1 3/16	6 3/4	1 57/64	4	3/4	22317	AN17	W17	SDAF317	SR-20-17	LER109	LER188	80
SDAF22318	4 1/8	3 3/8	4 3/4	15 1/2	6 1/8	2	13 1/2	12	3 5/8	9 7/16	2	6 7/8	2 3/64	4	3/4	22318	AN18	W18	SDAF318	SR-21-18	LER112	LER191	92
SDAF22320	4 1/2	3 13/16	5 1/4	16 1/2	6 7/8	2 1/4	14 1/2	13 1/4	4 1/8	10 1/2	2 1/8	7 3/8	2 19/64	4	7/8	22320	AN20	W20	SDAF320	SR-24-20	LER118	LER106	109
SDAF22322	4 7/8	4 3/16	6	18 3/8	7 1/2	2 3/8	16	14 5/8	4 1/2	11 7/8	2 1/2	8	2 31/64	4	1	22322	AN22	W22	SDAF322	SR-0-22	LER121	LER113	145
SDAF22324	5 5/16	4 9/16	6 5/16	21 1/4	7 7/8	2 1/2	18 1/4	17	4 3/4	12 13/16	2 9/16	8 3/8	2 41/64	4	1 1/8	22324	AN24	W24	SDAF324	SR-0-24	LER127	LER119	195
SDAF22326	5 7/8	4 15/16	6 11/16	22	8 1/4	2 1/2	19 1/4	17 3/8	5	13 11/16	2 5/8	8 3/4	2 27/64	4	1 1/8	22326	AN26	W26	SDAF326	SR-0-26	LER136	LER122	280
SDAF22328	6 1/4	5 5/16	7 1/16	24 3/4	9	2 1/2	21 5/8	19 3/8	5 1/2	14 1/4	2 11/16	9 5/8	3 5/64	4	1 1/4	22328	AN28	W28	SDAF328	SR-0-28	LER144	LER127	305
SDAF22330	6 5/8	5 3/4	7 1/2	26 3/4	9 3/8	2 3/4	23 5/8	20 7/8	5 7/8	15 3/16	2 7/8	9 3/4	3 17/64	4	1 1/4	22330	AN30	W30	SDAF330	SR-36-30	LER151	LER134	375
SDAF22332	7	6 1/16	7 7/8	27 5/8	10	3	23 1/2	21 1/2	6 1/4	16 1/4	2 15/16	10 5/8	3 7/16	4	1 3/8	22332	AN32	W32	SDAF332	SR-38-32	LER225	LER217	445
SDAF22334	7 7/16	6 7/16	8 1/4	28 3/4	10 1/2	3 1/4	25	23	6 3/4	17 1/8	3 1/16	11 1/8	3 19/32	4	1 3/8	22334	AN34	W34	SDAF334	SR-40-34	LER230	LER220	525
SDAF22336	7 13/16	6 7/8	8 7/8	30 1/2	10 3/4	3 1/4	26 3/8	24 1/8	6 7/8	17 15/16	3 3/8	11 3/8	3 47/64	4	1 1/2	22336	AN36	W36	SDAF336	SR-0-36	LER234	LER223	635
SDAF22338	8 3/8	7 1/4	9 1/2	32	11 1/4	3 1/2	27 7/8	25 5/8	7 1/4	19 1/4	3 11/16	11 13/16	3 57/64	4	1 1/2	22338	AN38	W38	SDAF338	SR-44-38	LER240	LER229	700
SDAF22340	8 3/4	7 5/8	9 7/8	33 1/2	11 3/4	3 1/2	29 1/4	26 5/8	7 5/8	19 15/16	3 3/4	12 1/4	4 5/64	4	1 5/8	22340	AN40	W40	SDAF340	SR-0-40	LER244	LER233	725

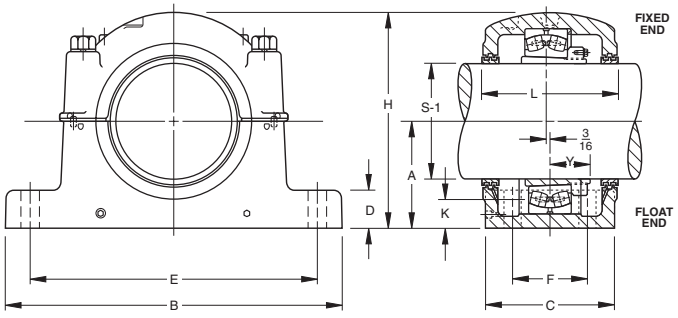
[1] See page B395 for suggested shaft diameter S-2, S-3 tolerances.
[2] "Housing Only" includes: cap, base, cap bolts, triple ring seals and stabilizing rings as required.
[3] Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

B

STRAIGHT BORE MOUNTING
SDAF231 AND SDAF232 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, locknut and washer, stabilizing ring and triple ring seals.
- To order pillow block housing only, use the numbers listed in the "Housing Only" column. These units include: cap, base, cap bolts, triple ring seals, and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix "Float" or "FL".
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter "S" to the alpha prefix (e.g., SDAFS 23152).
- For fixed applications, both stabilizing rings must be used. Do not use stabilizing rings for "float" mounting.



Pillow Block Assembly	Standard Shaft[1] Dia. S-2	Standard Shaft[1] Dia. S-3	A	B	C	D	E (Max.)	E (Min.)	F	H	K Oil Level	L	4 Base Bolts Req'd	Bearing Number	Lock Nut	Lock Washer	Housing[2] Only	Stabilizing[3] Ring 2 Req'd	Triple Seal 1 Req'd S-2	Triple Seal 1 Req'd S-3	Ass'y Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.								lbs.
SERIES SDAF231																					
SDAF23152	11 1/2	9 15/16	10 1/4	35	13 1/8	3 3/4	30 1/2	29	8 3/4	20 7/8	3 3/8	14 1/4	1 5/8	23152	NO52	P52	SDAF3152	A5679	ER832	ER845	1050
SDAF23156	12 1/2	10 3/4	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/4	15 7/8	1 5/8	23156	NO56	P56	SDAF3156	A8967	ER866	ER826	1250
SDAF23160	13	11 1/2	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 1/8	15 7/8	1 5/8	23160	NO60	P60	SDAF3160	A8975	ER824	ER832	1350
SDAF23164	14	12 1/4	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	25 3/4	4 3/8	16 3/4	1 7/8	23164	NO64	P64	SDAF3164	A8970	ER876	ER983	1850
SDAF23168	15	13	14	43 3/4	17 3/4	5	38 1/4	36 3/4	10 3/4	27 7/8	4 15/16	18 3/4	2	23168	NO68	P68	SDAF3168	A8977	ER847	ER846	2450
SDAF23172	16	13 13/16	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	5	18	2	23172	NO72	P72	SDAF3172	A8974	ER809	ER874	2500
SDAF23176	17	14 5/8	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	4 5/8	18	2	23176	NO76	P76	SDAF3176	A8978	ER811	ER946	2500
SDAF23180	17 1/2	15 1/4	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	5 1/8	19 3/4	2 1/4	23180	NO80	P80	SDAF3180	A8979	ER948	ER895	2800
SDAF23184	18 1/2	16 3/16	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	6	22 1/4	2 1/4	23184	NO84	P84	SDAF3184	A8984	ER949	ER914	4300
SDAF23188	19 1/2	17	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	5 9/16	22 1/4	2 1/4	23188	NO88	P88	SDAF3188	A8976	ER950	ER811	4300
SDAF23192	20	17 3/4	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	6	22 3/4	2 1/2	23192	NO92	P92	SDAF3192	A8990	ER808	ER953	5000
SERIES SDAF232																					
SDAF23248	10 1/2	9 3/16	10 1/4	35	13 1/8	3 3/4	30 1/2	29	8 3/4	20 7/8	3 9/16	14 1/4	1 5/8	23248	NO48	P48	SDAF3248	A5679	ER840	ER945	1100
SDAF23252	11 1/2	9 15/16	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/4	15 7/8	1 5/8	23252	NO52	P52	SDAF3252	A8968	ER832	ER845	1350
SDAF23256	12 1/2	10 3/4	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/8	15 7/8	1 5/8	23256	NO56	P56	SDAF3256	A8975	ER866	ER826	1400
SDAF23260	13	11 1/2	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	25 3/4	4 1/2	16 3/4	1 7/8	23260	NO60	P60	SDAF3260	A8970	ER846	ER856	1900
SDAF23264	14	12 1/4	14	43 3/4	17 3/4	5	38 1/4	36 3/4	10 3/4	27 7/8	5 1/8	18 3/4	2	23264	NO64	P64	SDAF3264	A8977	ER876	ER983	2500
SDAF23268	15	13	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	5	18	2	23268	NO68	P68	SDAF3268	A8978	ER847	ER846	2650
SDAF23272	16	13 13/16	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	5 1/2	19 3/4	2 1/4	23272	NO72	P72	SDAF3272	A8979	ER809	ER874	2950
SDAF23276	17	14 5/8	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	4 3/8	19 3/4	2 1/4	23276	NO76	P76	SDAF3276	A8980	ER811	ER946	3050
SDAF23280	17 1/2	15 1/4	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	6	22 1/4	2 1/4	23280	NO80	P80	SDAF3280	A8976	ER948	ER895	4500
SDAF23284	18 1/2	16 3/16	18	54 1/2	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	6 3/8	22 3/4	2 1/2	23284	NO84	P84	SDAF3284	A8990	ER955	ER951	5000
SDAF23288	19 1/2	17	18	54 1/2	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	5 7/8	22 3/4	2 1/2	23288	NO88	P88	SDAF3288	A8988	ER956	ER838	5050

[1] See page B395 for suggested shaft diameter S-2, S-3 tolerances.
[2] "Housing Only" includes: cap, base, cap bolts, triple ring seals and stabilizing rings as required.
[3] Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

SHAFT DIAMETERS

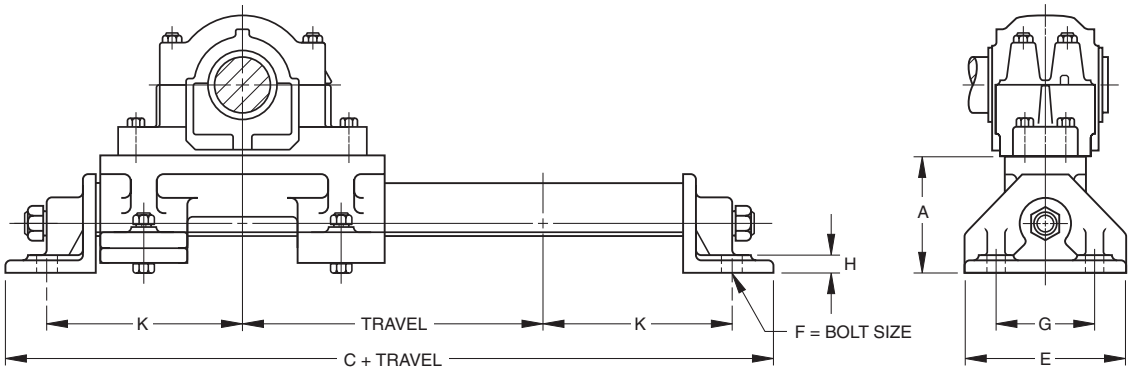
SUGGESTED S-1, S-2, S-3 SHAFT DIAMETERS (INCHES)

	max.	min.
1 7/16	1.4375	1.4345
1 11/16	1.6875	1.6845
1 7/8	1.8750	1.8720
1 15/16	1.9375	1.9345
2 1/16	2.0625	2.0585
2 1/8	2.1250	2.1210
2 3/16	2.1875	2.1835
2 1/4	2.2500	2.2460
2 3/8	2.3750	2.3710
2 7/16	2.4375	2.4335
2 9/16	2.5625	2.5585
2 5/8	2.6250	2.6210
2 11/16	2.6875	2.6835
2 13/16	2.8125	2.8085
2 7/8	2.8750	2.8710
2 15/16	2.9375	2.9335
3	3.0000	2.9960
3 1/16	3.0625	3.0585
3 3/16	3.1875	3.1835
3 1/4	3.2500	3.2460
3 3/8	3.3750	3.3710
3 7/16	3.4375	3.4335
3 5/8	3.6250	3.6210
3 15/16	3.9375	3.9335
4 1/8	4.1250	4.1200
4 3/16	4.1875	4.1825
4 7/16	4.4375	4.4325
4 1/2	4.5000	4.4950
4 9/16	4.5625	4.5575
4 7/8	4.8750	4.8700
4 15/16	4.9375	4.9325
5 3/16	5.1875	5.1825
5 5/16	5.3125	5.3075
5 7/16	5.4375	5.4325
5 3/4	5.7500	5.7450
5 7/8	5.8750	5.8700
5 15/16	5.9375	5.9325
6 1/16	6.0625	6.0575
6 1/4	6.2500	6.2450
6 7/16	6.4375	6.4325
6 5/8	6.6250	6.6200
6 7/8	6.8750	6.8700
6 15/16	6.9375	6.9325
7	7.0000	6.9950
7 3/16	7.1875	7.1825
7 1/4	7.2500	7.2450
7 7/16	7.4375	7.4325
7 5/8	7.6250	7.6200
7 13/16	7.8125	7.8075
7 15/16	7.9375	7.9325
8 5/16	8.3125	8.3065
8 3/8	8.3750	8.3690
8 7/16	8.4375	8.4315
8 1/2	8.5000	8.4940
8 3/4	8.7500	8.7440
8 15/16	8.9375	8.9315
9	9.0000	8.9940
9 7/16	9.4375	9.4315
9 1/2	9.5000	9.4940
9 9/16	9.5625	9.5565
9 15/16	9.9375	9.9315
10	10.0000	9.9940
10 7/16	10.4375	10.4305
10 1/2	10.5000	10.4930
10 15/16	10.9375	10.9305
11	11.0000	10.9930
11 7/16	11.4375	11.4305
11 1/2	11.5000	11.4930
11 15/16	11.9375	11.9305
12	12.0000	11.9930
12 7/16	12.4375	12.4295
12 1/2	12.5000	12.4920
12 15/16	12.9375	12.9295
13	13.0000	12.9920
13 7/16	13.4375	13.4295
13 1/2	13.5000	13.4920
13 15/16	13.9375	13.9295
14	14.0000	13.9920
15	15.0000	14.9920
16	16.0000	15.9920
17	17.0000	16.9920
17 1/2	17.5000	17.4920
18 1/2	18.5000	18.4920
19 1/2	19.5000	19.4920
20	20.0000	19.9920

Triple lip seals for other shaft diameters are available upon special order.

TU TAKE-UP UNITS

- The same care taken in the selection of stationary pillow blocks must be applied to selecting the proper take-up unit.
- Load requirements should be carefully evaluated before specifying a particular Timken take-up assembly.
- The pedestal is made of stress-relieved cast iron. End bases are made of ductile iron. The guide rail and screw are steel.
- Units are available with travel lengths from 12 to 36 inches, in 6-inch increments.
- Catalog numbers shown here are for the TU take-up unit only; pillow block assemblies must be ordered separately.
- Both two- and four-bolt pedestals are available and must be specified.

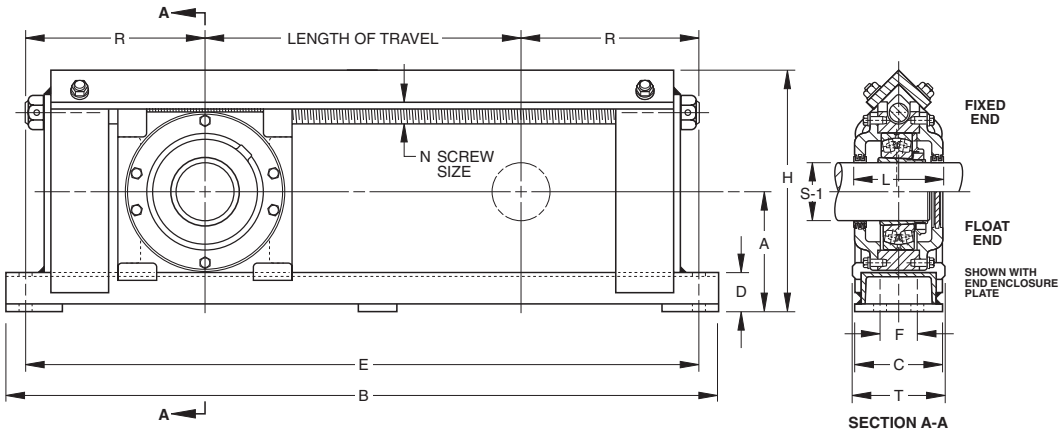


TU Take-Up Unit Catalog Number	Pillow Block Housing Number (SAF or SDAF)			A	C	E	F Bolt Size	G	H	K
				in.	in.	in.	in.	in	in.	in.
TU-3x*	515L	—	—	4 7/8	20	6 1/2	5/8	4	3/4	8 1/4
TU-4x*	516L	—	517L	5	21 3/4	6 1/2	3/4	4	3/4	9 1/8
TU-5x*	518L	—	615L	5 1/4	23	7 1/2	3/4	5	3/4	9 3/4
TU-6x*	520L	—	617L	5 1/2	24 3/4	7 1/2	3/4	5	7/8	10 3/4
TU-7x*	522L	524L	620L	6	26	9	3/4	6 1/2	1	11 1/2
TU-8x*	526L	—	622L	6	28	9	3/4	6 1/2	1	12 1/2
TU-8-1x*	528L	—	—	6	29 1/2	9	3/4	6 1/2	1	13 1/4

* Enter 12, 18, 24, 30 or 36 to indicate travel in inches.

TTU TAKE-UP UNITS

- The same care taken in the selection of stationary pillow blocks must be applied to selecting the proper take-up unit.
- Load requirements should be carefully evaluated before specifying a particular take-up assembly.
- Frame assembly and adjusting screw of TTU units are made of steel.
- The bearing housing is cast iron. Steel or ductile iron housings are additional options.
- Units include housing for adapter mounted bearings only, for either fixed or float position (be sure to specify).
- One stabilizing ring is included for fixed position assemblies.
- Sealing is triple ring labyrinth or end closures.
- For extremely contaminated environments, the DUSTAC seal is suggested. (See the next page for more information on DUSTAC.)



Take-Up Unit and Frame Number (Travel in Bold)	Standard Shaft[1] Dia. S-1	A	B	C	D	E	F	G Bolt Size	H	L	N	R	T	Bearing Number	Adapter[3] Assembly Number	Stabilizing[2] Ring 1 Req'd	Triple Seal 2 Req'd	Approx. Wt.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.						lbs.
TTU-55-**12**	1 15/16	4 5/8	28 1/2	3 1/2	1 3/4	26 1/2	-	5/8	9	4	3/4	7 1/4	4	22211K	SNW-11	SR-11-0	LER24	55
TTU-55-**18**		4 5/8	34 1/2	3 1/2	1 3/4	32 1/2	-	5/8	9	4	3/4	7 1/4	4	22211K	SNW-11	SR-11-0	LER24	60
TTU-55-**24**		4 5/8	40 1/2	3 1/2	1 3/4	38 1/2	-	5/8	9	4	3/4	7 1/4	4	22211K	SNW-11	SR-11-0	LER24	65
TTU-65-**12**	2 3/16	5	29 1/2	3 1/2	1 3/4	27 1/2	-	5/8	10	4 1/2	3/4	7 3/4	4	22213K	SNW-13	SR-13-0	LER29	60
TTU-65-**18**		5	35 1/2	3 1/2	1 3/4	33 1/2	-	5/8	10	4 1/2	3/4	7 3/4	4	22213K	SNW-13	SR-13-0	LER29	65
TTU-65-**24**		5	41 1/2	3 1/2	1 3/4	39 1/2	-	5/8	10	4 1/2	3/4	7 3/4	4	22213K	SNW-13	SR-13-0	LER29	70
TTU-75-**6**	2 7/16	5 3/16	24 1/2	3 1/2	1 3/4	22 1/2	-	3/4	10 1/2	4 1/2	7/8	8 1/4	4	22215K	SNW-15	SR-15-0	LER37	65
TTU-75-**12**		5 3/16	30 1/2	3 1/2	1 3/4	28 1/2	-	3/4	10 1/2	4 1/2	7/8	8 1/4	4	22215K	SNW-15	SR-15-0	LER37	70
TTU-75-**18**		5 3/16	36 1/2	3 1/2	1 3/4	34 1/2	-	3/4	10 1/2	4 1/2	7/8	8 1/4	4	22215K	SNW-15	SR-15-0	LER37	75
TTU-75-**24**		5 3/16	42 1/2	3 1/2	1 3/4	40 1/2	-	3/4	10 1/2	4 1/2	7/8	8 1/4	4	22215K	SNW-15	SR-15-0	LER37	80
TTU-75-**30**		5 3/16	48 1/2	3 1/2	1 3/4	46 1/2	-	3/4	10 1/2	4 1/2	7/8	8 1/4	4	22215K	SNW-15	SR-15-0	LER37	85
TTU-85-**6**	2 15/16	6	26 1/2	4 5/8	2	24 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5	22217K	SNW-17	SR-17-14	LER53	95
TTU-85-**12**		6	32 1/2	4 5/8	2	30 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5	22217K	SNW-17	SR-17-14	LER53	100
TTU-85-**18**		6	38 1/2	4 5/8	2	36 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5	22217K	SNW-17	SR-17-14	LER53	105
TTU-85-**24**		6	44 1/2	4 5/8	2	42 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5	22217K	SNW-17	SR-17-14	LER53	110
TTU-85-**30**		6	50 1/2	4 5/8	2	48 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5	22217K	SNW-17	SR-17-14	LER53	115
TTU-100-**12**	3 7/16	6 5/8	34 1/4	4 5/8	2	32	2	3/4	13 7/8	6	1 1/8	10	5 1/2	22220K	SNW-20	SR-20-17	LER102	140
TTU-100-**18**		6 5/8	40 1/4	4 5/8	2	38	2	3/4	13 7/8	6	1 1/8	10	5 1/2	22220K	SNW-20	SR-20-17	LER102	145
TTU-100-**24**		6 5/8	46 1/4	4 5/8	2	44	2	3/4	13 7/8	6	1 1/8	10	5 1/2	22220K	SNW-20	SR-20-17	LER102	150
TTU-100-**30**		6 5/8	52 1/4	4 5/8	2	50	2	3/4	13 7/8	6	1 1/8	10	5 1/2	22220K	SNW-20	SR-20-17	LER102	155
TTU-110-**12**	3 15/16	7 3/4	38 1/2	5 5/8	2 1/4	36	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7	22222K	SNW-22	SR-22-19	LER109	200
TTU-110-**18**		7 3/4	44 1/2	5 5/8	2 1/4	42	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7	22222K	SNW-22	SR-22-19	LER109	210
TTU-110-**24**		7 3/4	50 1/2	5 5/8	2 1/4	48	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7	22222K	SNW-22	SR-22-19	LER109	220
TTU-110-**30**		7 3/4	56 1/2	5 5/8	2 1/4	54	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7	22222K	SNW-22	SR-22-19	LER109	230
TTU-110-**36**		7 3/4	62 1/2	5 5/8	2 1/4	60	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7	22222K	SNW-22	SR-22-19	LER109	240
TTU-130-**12**	4 7/16	8 5/8	45 3/4	8 3/4	2 3/4	40 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10	22226K	SNW-26	SR-26-0	LER117	360
TTU-130-**18**		8 5/8	51 3/4	8 3/4	2 3/4	46 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10	22226K	SNW-26	SR-26-0	LER117	380
TTU-130-**24**		8 5/8	57 3/4	8 3/4	2 3/4	52 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10	22226K	SNW-26	SR-26-0	LER117	400
TTU-130-**30**		8 5/8	63 3/4	8 3/4	2 3/4	58 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10	22226K	SNW-26	SR-26-0	LER117	420
TTU-140-**12**	4 15/16	9 1/2	49 1/2	9 3/4	3	44 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11	22228K	SNW-28	SR-28-0	LER122	460
TTU-140-**18**		9 1/2	55 1/2	9 3/4	3	50 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11	22228K	SNW-28	SR-28-0	LER122	480
TTU-140-**24**		9 1/2	61 1/2	9 3/4	3	56 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11	22228K	SNW-28	SR-28-0	LER122	510
TTU-140-**30**		9 1/2	67 1/2	9 3/4	3	62 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11	22228K	SNW-28	SR-28-0	LER122	530

[1] See page B395 for suggested shaft diameter S-1 tolerances.

Note: Limiting speeds are found in dimension tables in the spherical roller bearing section.

[2] Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.

[3] Includes sleeve, locknut and lockwasher. Add shaft size to order.

DUSTAC™ SHAFT SEAL

- Suggested for pillow blocks used in extremely contaminated environments, such as taconite mines.
- Provides protection against residual and airborne contaminants that exceeds the triple labyrinth shaft seal.
- Contributes significantly to extending bearing life; reduces costs by helping prevent premature bearing damage.
- Because of its unique design, no special finish is required on the shaft. DUSTAC is a patented device utilizing a V-shaped nitrile ring, which rotates with the shaft and applies pressure to the cartridge face to exclude contaminates.

B

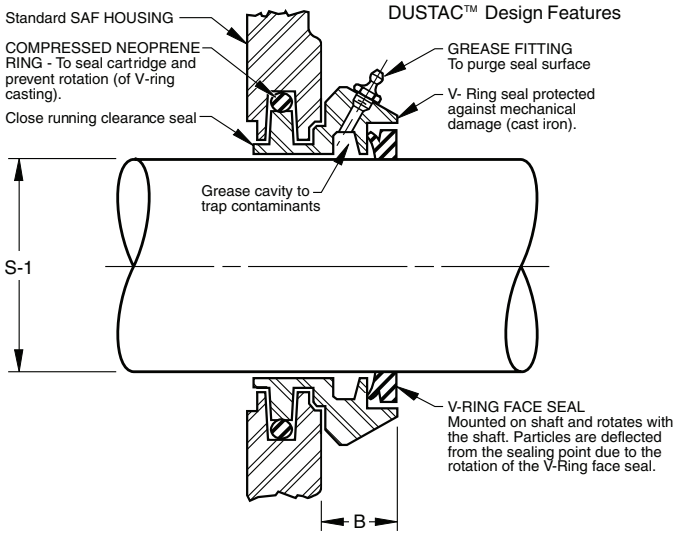
Pillow Block Housing Number		Shaft Diameter	Assembly Standout	DUSTAC™ Seal Assembly	V-Ring Seal	O-Ring	End Plug
500	600	S-1	B				
515	615	2 7/16	59/64	DV-37	V-60-A	2-228	EPS-4
516	616	2 11/16	59/64	DV-44	V-65-A	2-231	EPS-5
517	—	2 15/16	1	DV-53	V-75-A	2-230	EPS-6
518	—	3 3/16	1	DV-69	V-80-A	2-235	EPS-9
520	620	3 7/16	1	DV-102	V-85-A	2-234	EPS-11
522	622	3 15/16	1	DV-109	V-100-A	2-239	EPS-13
524	624	4 3/16	1 1/16	DV-113	V-110-A	2-238	EPS-14
526	626	4 7/16	1 1/16	DV-117	V-110-A	2-242	EPS-15
528	628	4 15/16	1 1/16	DV-122	V-130-A	2-244	EPS-16
530	630	5 3/16	1 1/16	DV-125	V-130-A	2-247	EPS-17
532	632	5 7/16	1 1/16	DV-130	V-140-A	2-249	EPS-18
534	634	5 15/16	1 1/16	DV-140	V-150-A	2-253	EPS-20
536	636	6 7/16	1 9/64	DV-148	V-160-A	2-259	EPS-21
538	638	6 15/16	1 9/64	DV-155	V-180-A	2-259	EPS-22
540	640	7 3/16	1 9/64	DV-159	V-180-A	2-259	EPS-23
544	—	7 15/16	1 15/32	DV-167	V-200-A	2-262	EPS-25

ORDER INSTRUCTIONS

- Shaft seal may be ordered in place of the standard LER triple ring seals supplied with the pillow blocks listed. They also are available to retrofit existing installations.
- To order any pillow block housings with DUSTAC shaft seal on both sides, add the suffix “DV” to the number (e.g., SAF2522DV).
- To order pillow block housings with DUSTAC shaft seal and one end closed, add the suffix “DC” to the number (e.g., SAF22522DC).
- Standard sizes of DUSTAC shaft seals are shown in the table. Other sizes are available upon request.

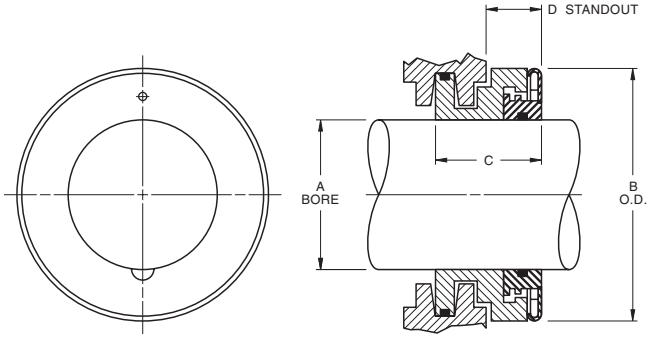
INSTALLATION PROCEDURE

1. Check shaft diameters to print specification. Remove any burrs or sharp edges. Be sure shaft surface is clean and dry beyond the area of seal location.
2. Expand the V-ring seal over the shaft to the approximate inboard position (reference dimension “B” in the tables). *Make sure the lip of the seal faces the bearing.*
3. Slide the seal cartridge onto the shaft until the V-ring fits into its cavity.
4. Mount the bearing, sleeve, lockwasher and locknut in normal manner and adjust for internal clearance.
5. If both ends have seals, repeat steps 2 and 3 with the V-ring going on last with its lip facing the bearing.
6. Thoroughly clean the housing base and remove any paint or burrs from the mating surfaces of the housing cap.
7. Lower shaft, bearing and seals into the housing base, taking care to guide the seals into the seal grooves.
8. On each shaft there must be only one fixed bearing. If bearing is to be fixed, the stabilizing ring can be inserted between the bearing outer ring and the housing shoulder on the locknut side of the bearing. All other bearings on this shaft should be centered in the housing.
9. The upper half of the housing or cap should be thoroughly cleaned and checked for burrs. Place it over the bearing and seals. The dowel pins will align the cap to the base. NOTE: housing caps and bases are not interchangeable.
10. After cap bolts are tightened, it is most important to position the V-ring seal to its proper fitted width. This is accomplished by moving the seal until it is flush with the outside face of the cavity. This provides proper compression of the lip against the cartridge face.



TORR-GARD SEALS

- Using the TORR-GARD greatly increases the operating time between maintenance intervals of rotating equipment.
- Used in split pillow blocks.
- Endures extreme environments such as pulp and paper, chemical and mining because of its exceptional design.
- Two-piece labyrinth seal of Teflon® PTFE fluoropolmer resin. The assembly inhibits the passage of contaminants or lubricants and prevents the components from coming apart during installation and service.
- Installation is simple compared to many other lip-contact type seals and is more effective in reducing lubricant loss, improving plant safety. It is also environmentally friendly.



OTHER BENEFITS INCLUDE:

- Drop-in style eliminates machining or modification to housing.
- Interchangeable with LER or Taconite seals.
- Available for standard SAF and SNH pillow blocks (1 3/4 in. to 8 in. shaft diameter).
- Minimizes lubricant leakage.
- Accommodates greater shaft misalignment or eccentricity.
- Reduced number of components over conventional seals.

TACONITE SEALS

FTV SERIES

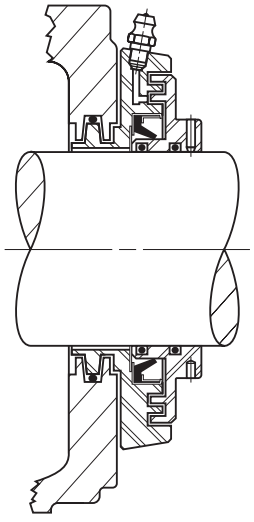
FLINGER TACONITE SEAL WITH V RING

- Combines the qualities of the face labyrinth seal and the DUSTAC seal to improve the sealing efficiency for extremely contaminated environments.
- The rotating flinger, added to the basic design, incorporates face labyrinth grooves and compressing the O-ring in the bore. This protects against incursion of foreign matters and ensures regular pressure of the V-ring to the cartridge face.

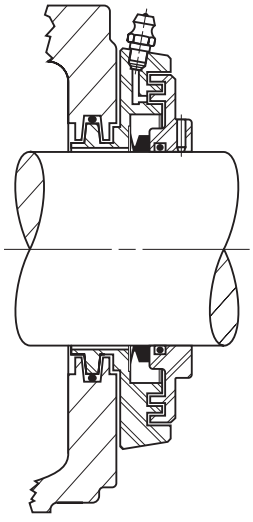
FTL SERIES

FLINGER TACONITE SEAL WITH LIP SEAL

- The FTL seal has the same property as the FTV Series, but above the V-ring is substituted to a lip seal working directly on the Flinger Lip to prevent the shaft of any grooving.
- The FTV and FTL Taconite seals can be substituted in either ER or LER ring SAF pillow block series and do not require modifications to the standard housings.
- **NOTE:** Flinger Taconite seals can be substituted to "ER" or "LER" seal. Add the suffix "L" to the number when it is for a housing using LER Seals (e.g., TFV-515L for SAF-515L pillow block).



FTL

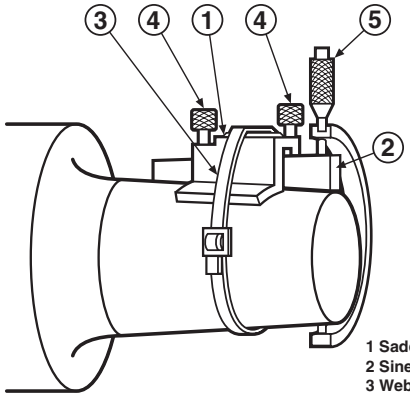


FTV

B

SINE BAR GAGES

- Tapered bore, anti-friction bearings are mounted either on adapter sleeves or on tapered shaft seats.
- In cases where tapered bore bearings are mounted directly on the shaft, the shaft must conform to the tapered bore of the bearing to assure proper fit. If proper fit is not achieved, the results could be:
  1. Turning of the bearing inner race on the shaft.
  2. Uneven loading of the bearing.
  3. Severe inner race hoop stress.
  4. Insufficient support (back-up) of the inner race on the shaft.
- All of these conditions could lead to premature bearing damage. Therefore, the manufacture, maintenance and measurement of accurate shaft tapers is important.
- There are two accepted ways of measuring tapered shafts: ring gages and sine bar gages.
- Precision measurement of tapered shafts is difficult with ring gages and may be impossible in the case of large shafts, where gages are large, cumbersome and heavy.
- Sine bar gages provide an accurate and easy method of measurement.
- Lightweight and easy to handle and learn, sine bar gages achieve precise gaging of the shaft size and taper.



1 Saddle
2 Sine Bar
3 Web Clamp
4 Locking Screws
5 Micrometer (not included)

- A complete set for measurement of 1:12 shaft tapers consists of 3 in., 4 in., 5 1/2 in., 7 in., 10 in. and 14 in. sine bar gages, sine bar saddle no. T-5491-C, web clamp no. T-5489-A and a wooden box no. T-5224-C. A complete set for 1:30 shaft tapers consists of 4 in., 6 in., 8 in. and 12 in. sine bar gages.
- Sine bars can be purchased individually, or in any combination of sizes to meet your individual needs.
- All sine bars require a sine bar saddle and web clamp. A wooden box is optional.
- For information on the use of sine bars, prices and delivery, consult your Timken representative.

PART NUMBER	SIZE INCH	FOR BEARINGS
T-3071-C	3.0000	22232K to 22240K
T-3071-C	3.0000	22322K to 22328K
T-3071-C	3.0000	23040K to 23048K
T-3071-C	3.0000	23130K to 23136K
T-3071-C	3.0000	23226K to 23230K
		23960K to 23972K
T-3072-C	4.0000	22248K to 22256K
T-3072-C	4.0000	22330K to 22340K
T-3072-C	4.0000	23052K to 23076K
T-3072-C	4.0000	23138K to 23148K
T-3072-C	4.0000	23232K to 23240K
		23976K to 239/560K
T-3073-C	5.5000	22260K to 22264K
T-3073-C	5.5000	22344K to 22356K
T-3073-C	5.5000	23080K to 230/500K
T-3073-C	5.5000	23152K to 23164K
T-3073-C	5.5000	23244K to 23256K
		239/600K to 239/710K

Note: All sine bars require a sine bar saddle, T-5491-C and a web clamp T-5489-A.

PART NUMBER	SIZE INCH	FOR BEARINGS
T-3074-C	7.0000	230/530K to 230/750K
T-3074-C	7.0000	23168K to 23196K
T-3074-C	7.0000	23260K to 23276K
		239/750K to 239/1120K
T-3075-C	10.0000	230/800K to 230/1180
T-3075-C	10.0000	231/500K to 231/710K
T-3075-C	10.0000	23280K to 232/530K
		230/1250 and up
T-3076-C	14.0000	231/750K and up
T-3076-C	14.0000	232/560K and up
		239/118K and up
T-5476-C	4.0000	24040K to 24056K
T-5476-C	4.0000	24132K to 24144K
T-5477-C	6.0000	24060K to 24084K
T-5477-C	6.0000	24148K to 24160K
T-5478-C	8.0000	24089K to 240/630K
T-5478-C	8.0000	24164K to 24192K
T-5479-C	12.0000	240/670K and up
T-5479-C	12.0000	24196K and up

The table above represents the sine bar sizes developed for a full range of tapered bore bearings with 1:12 and a 1:30 taper. Additional sizes are available to fit a variety of width and taper combinations. Consult your local Timken representative for availability.

HYDRAULIC NUTS

INTRODUCTION

- Designed to install and remove tapered bore bearings with minimal effort.
- Allow better control of the bearing internal clearance reduction without damaging the bearing or other components.
- Substantially reduces downtime during installation or removal of tapered bore bearings.

DESCRIPTION

- Consist of a female threaded ring and a male ring with two O-ring seals.
- All hydraulic nuts are supplied with:
  - Quick connection fittings (male ¼ in. B.S.P. and female 3/8 in. N.P.T.).
  - Two pipe plugs ¼" B.S.P.
  - One set of spare O-rings.

ORDERING COMPONENTS:

- To order spare components for the hydraulic nuts, order part numbers as listed below:
  - O-ring Seal Kits:
    Use the hydraulic nut part number plus the number 132.
    Example: **HMVC 40/132**
  - Pipe Plug ¼ in. B.S.P.:
    Use the hydraulic nut part number plus the number 647.
    Example: **HMVC 40/647**
  - Quick Connection Fittings (male ¼ in. B.S.P. and female $^3/_8$ in. N.P.T.):
    Use the hydraulic nut part number plus the number 849.
    Example: **HMVC 40/849**

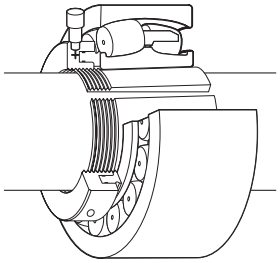
ENGINEERING SERVICES

- Special applications should be referred to a Timken representative for review.

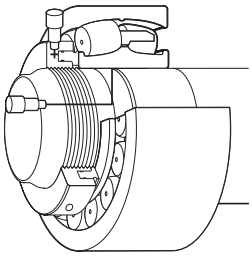
INSTRUCTIONS

- When the hydraulic nut is used, the piston must be in the innermost position.
- For this operation, please ensure that the valve of the hydraulic hose is disconnected from the nut so that the nut is not under pressure.
- To contract the piston inside the female threaded ring, insert a rod or bar in one of the four drilled holes located on the outside diameter of the female threaded ring.
- Screw the hydraulic nut on the thread with the piston in contact with the surface, until the groove machined on the outside diameter of the piston near the outboard face is level with the face of the female threaded ring.
- One of the two threaded holes must be plugged with the ¼" B.S.P. pipe plug before the hydraulic nut is pressurized.
- The maximum pressure permissible in the hydraulic nut is 14,000 psi (110 Kpa).
- The oil viscosity suggested is 1400 SUS (300cst) at operating temperature (SAE 90 oil).
- To avoid overextension of the piston, a second groove has been machined on the outside diameter of the piston inboard of the one used to judge contraction.
- When this second groove is level with the face of the female threaded ring, the piston has reached its length of travel as shown in the illustration. If the second groove of the piston travels past the face of the female threaded ring the hydraulic nut can be damaged.
- Should the oil start to leak from the piston area, it is certain that the O-ring seals are damaged or worn and need to be replaced.
- When the hydraulic nut is not in use, ensure that the threaded holes are plugged to prevent entry of contaminants in the piston cavity.
- To help prevent against corrosion during storage, apply a coat of light oil on the hydraulic nut surfaces.
- Contact your Timken representative to receive special warnings against reasonably unforeseen dangers.

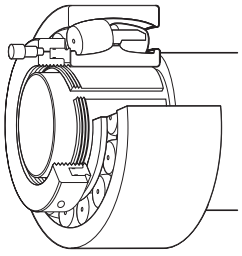
INSTALLATION



Hydraulic nut used to mount the bearing on a pull type sleeve.

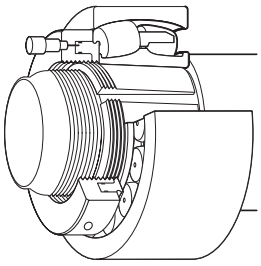


Hydraulic nut used to mount the bearing on tapered journal.



Hydraulic nut used to mount the bearing on a push type adapter sleeve.

REMOVAL



Hydraulic nut used to withdraw a push type adapter sleeve.

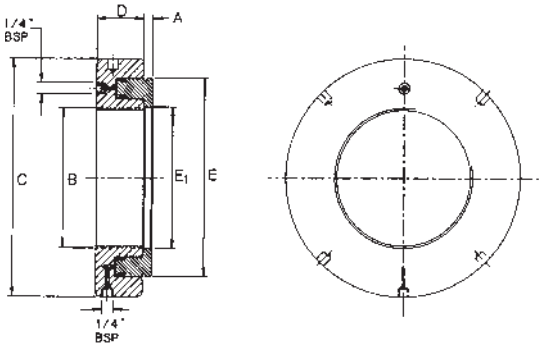
B

HYDRAULIC NUTS – METRIC

Part Number	Threads			Dimensions			Piston Length	Piston	Assembly
	B	C	D	E	E_1	A	of Travel	Area	weight
	mm	mm	mm	mm	mm	mm	mm	mm^2	kg.
HMV - 10	M 50X1.5	114	38	86	51	4	5	2900	2.5
HMV - 12	M 60X2	125	38	94	61	5	5	3200	2.8
HMV - 13	M 65X2	135	38	101	66	5	5	3500	3.0
HMV - 14	M 70X2	140	38	107	71	5	5	3900	3.3
HMV - 15	M 75X2	145	38	112	76	5	5	4100	3.5
HMV - 16	M 80X2	150	38	117	81	5	5	4200	3.8
HMV - 17	M 85X2	155	38	122	86	5	5	4400	3.9
HMV - 18	M 90X2	160	38	127	91	5	5	4800	4.1
HMV - 19	M 95X2	165	38	133	96	5	5	5000	4.4
HMV - 20	M 100X2	170	38	138	101	6	5	5200	4.5
HMV - 21	M 105X2	175	38	143	106	6	5	5400	5.4
HMV - 22	M 110X2	180	38	149	111	6	5	5700	5.7
HMV - 23	M 115X2	185	38	154	116	6	5	5900	5.1
HMV - 24	M 120X2	190	38	159	121	6	5	6100	5.3
HMV - 25	M 125X2	195	38	164	126	6	5	6300	5.4
HMV - 26	M 130X2	200	38	170	131	6	5	6500	5.7
HMV - 27	M 135X2	205	38	175	136	6	5	6700	5.9
HMV - 28	M 140X2	210	38	180	141	7	5	6900	6.1
HMV - 29	M 145X2	215	39	186	146	7	5	7300	6.5
HMV - 30	M 150X2	220	39	190	151	7	5	7500	6.6
HMV - 31	M 155X3	225	39	198	156	7	5	8100	6.9
HMV - 32	M 160X3	235	40	206	161	7	6	8600	7.7
HMV - 33	M 165X3	240	40	209	166	7	6	9000	8.0
HMV - 34	M 170X3	245	41	215	171	7	6	9500	8.4
HMV - 36	M 180X3	255	41	227	181	7	6	10300	9.1
HMV - 38	M 190X3	270	42	239	191	8	7	11500	10.8
HMV - 40	M 200X3	280	43	251	201	8	8	12500	11.4
HMV - 41	Tr 205X4	290	43	256	207	8	8	12900	12.2
HMV - 42	Tr 210X4	295	44	262	212	8	9	13500	12.5
HMV - 43	Tr 215X4	300	44	267	217	8	9	13800	13.0
HMV - 44	Tr 220X4	305	44	273	222	8	9	14400	13.4
HMV - 45	Tr 225X4	315	45	280	227	8	9	15200	14.6
HMV - 46	Tr 230X4	320	45	285	232	8	9	15600	14.8
HMV - 47	Tr 235X4	325	46	291	237	8	10	16200	16.0
HMV - 48	Tr 240X4	330	46	296	242	9	10	16500	16.3
HMV - 50	Tr 250X4	345	46	307	252	9	10	17800	17.6
HMV - 52	Tr 260X4	355	47	319	262	9	11	18800	19.0
HMV - 54	Tr 270X4	370	48	330	272	9	12	19700	20.4
HMV - 56	Tr 280X4	380	49	341	282	9	12	21100	22.0
HMV - 58	Tr 290X4	390	49	353	292	9	13	22600	22.5
HMV - 60	Tr 300X4	405	51	364	302	10	14	23600	25.6
HMV - 62	Tr 310X5	415	52	375	312	10	14	24900	27.0
HMV - 64	Tr 320X5	430	53	387	322	10	14	26300	29.6
HMV - 66	Tr 330X5	440	53	397	332	10	14	27000	31.0
HMV - 68	Tr 340X5	450	53	408	342	10	14	28400	32.5
HMV - 69	Tr 345X5	455	54	414	347	10	14	29400	33.6
HMV - 70	Tr 350X5	465	56	420	352	10	14	30000	35.0
HMV - 72	Tr 360X5	475	56	431	362	10	15	31300	37.0
HMV - 73	Tr 365X5	482	57	436	367	11	15	31700	38.5
HMV - 74	Tr 370X5	490	57	442	372	11	16	32800	39.2
HMV - 76	Tr 380X5	500	58	452	382	11	16	33600	41.0
HMV - 77	Tr 385X5	505	58	459	387	11	16	34700	42.0
HMV - 80	Tr 400X5	525	60	475	402	11	17	36700	46.0
HMV - 82	Tr 410X5	535	61	486	412	11	17	38300	48.2
HMV - 84	Tr 420X5	545	61	498	422	11	17	40000	50.4
HMV - 86	Tr 430X5	555	62	508	432	11	17	40800	53.0
HMV - 88	Tr 440X5	565	62	519	442	12	17	42500	55.0
HMV - 90	Tr 450X5	580	64	530	452	12	17	44100	58.2
HMV - 92	Tr 460X5	590	64	541	462	12	17	45000	61.0
HMV - 94	Tr 470X5	600	65	552	472	12	18	46900	63.7
HMV - 96	Tr 480X5	612	65	563	482	12	19	48500	65.0
HMV - 98	Tr 490X5	625	66	573	492	12	19	49800	69.0
HMV - 100	Tr 500X5	635	67	585	502	12	19	52000	71.5
HMV - 102	Tr 510X6	645	68	596	512	12	20	53300	75.0
HMV - 104	Tr 520X6	657	68	606	522	13	20	54200	77.0
HMV - 106	Tr 530X6	670	69	617	532	13	21	56200	80.0
HMV - 108	Tr 540X6	680	69	629	542	13	21	58200	83.0
HMV - 110	Tr 550X6	692	70	639	552	13	21	59200	86.0
HMV - 112	Tr 560X6	705	71	650	562	13	22	61200	90.0
HMV - 114	Tr 570X6	715	72	661	572	13	23	63200	93.0
HMV - 116	Tr 580X6	725	72	671	582	13	23	64200	96.0
HMV - 120	Tr 600X6	750	73	693	602	13	23	67400	100.0
HMV - 126	Tr 630X6	780	74	726	632	14	23	72900	110.0
HMV - 130	Tr 650X6	805	75	747	652	14	23	76200	116.0
HMV - 134	Tr 670X6	825	76	768	672	14	24	79500	123.0
HMV - 138	Tr 690X6	850	77	791	692	14	25	84200	130.0
HMV - 142	Tr 710X7	870	78	812	712	15	25	87700	137.0
HMV - 150	Tr 750X7	915	79	855	752	15	25	97000	150.0
HMV - 160	Tr 800X7	970	80	908	802	16	25	104000	173.0
HMV - 170	Tr 850X7	1020	83	962	852	16	26	114600	190.0
HMV - 180	Tr 900X7	1070	86	1015	902	17	30	124000	210.0
HMV - 190	Tr 950X8	1125	86	1069	952	17	30	135600	238.0
HMV - 200	Tr 1000X8	1180	88	1122	1002	17	34	145600	263.0
HMV - 212	Tr 1060X8	1255	95	1184	1063	18	34	161200	325.0
HMV - 216	Tr 1080X8	1280	100	1206	1083	18	34	167400	345.0
HMV - 224	Tr 1120X8	1340	106	1250	1123	19	36	178200	410.0
HMV - 236	Tr 1180X8	1420	115	1320	1183	22	40	189200	530.0

HMV - 10 through HMV - 40 have a Metric ISO fine thread profile.
HMV - 41 through HMV-236 have a Metric ISO trapezoidal thread.

HYDRAULIC NUTS – ENGLISH



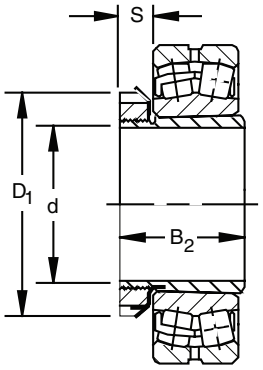
Part Number	B Maj. Dia.	Threads no. per inch	C	D	Dimensions E	E_1	A	Piston Length of Travel	Piston Area	Assembly weight
			inch	inch	inch	inch	inch	inch	inch	lbs.
HMVC - 10	1.967	18	4.488	1.496	3.386	2.008	0.157	0.197	4.5	5.5
HMVC - 12	2.360	18	4.921	1.496	3.701	2.402	0.197	0.197	5.0	6.2
HMVC - 13	2.548	18	5.315	1.496	3.976	2.598	0.197	0.197	5.4	6.6
HMVC - 14	2.751	18	5.512	1.496	4.213	2.795	0.197	0.197	6.0	7.3
HMVC - 15	2.933	12	5.709	1.496	4.409	2.992	0.197	0.197	6.3	7.7
HMVC - 16	3.137	12	5.906	1.496	4.606	3.189	0.197	0.197	6.5	8.4
HMVC - 17	3.340	12	6.102	1.496	4.803	3.386	0.197	0.197	6.8	8.6
HMVC - 18	3.527	12	6.299	1.496	5.000	3.583	0.197	0.197	7.4	9.0
HMVC - 19	3.730	12	6.496	1.496	5.236	3.780	0.197	0.197	7.7	9.7
HMVC - 20	3.918	12	6.693	1.496	5.433	3.976	0.236	0.197	8.1	10.0
HMVC - 22	4.325	12	7.087	1.496	5.866	4.370	0.236	0.197	8.8	12.5
HMVC - 24	4.716	12	7.480	1.496	6.260	4.764	0.236	0.197	9.5	11.7
HMVC - 26	5.106	12	7.874	1.496	6.693	5.157	0.236	0.197	10.1	12.5
HMVC - 28	5.497	12	8.268	1.496	7.087	5.551	0.276	0.197	10.7	13.4
HMVC - 30	5.888	12	8.661	1.535	7.480	5.945	0.276	0.197	11.6	14.5
HMVC - 32	6.284	8	9.252	1.575	8.110	6.339	0.276	0.236	13.3	17.0
HMVC - 34	6.659	8	9.645	1.614	8.465	6.732	0.276	0.236	14.7	18.5
HMVC - 36	7.066	8	10.039	1.615	8.858	7.126	0.276	0.236	16.0	20.0
HMVC - 38	7.472	8	10.630	1.653	9.409	7.520	0.315	0.276	17.8	23.1
HMVC - 40	7.847	8	11.024	1.693	9.882	7.913	0.315	0.276	19.4	25.1
HMVC - 44	8.628	8	12.008	1.732	10.748	8.740	0.315	0.354	22.3	29.5
HMVC - 48	9.442	6	12.992	1.811	11.654	9.528	0.354	0.394	25.6	35.9
HMVC - 52	10.192	6	13.976	1.850	12.559	10.315	0.354	0.433	29.1	41.8
HMVC - 56	11.004	6	14.961	1.929	13.425	11.102	0.354	0.472	32.7	48.4
HMVC - 60	11.785	6	15.945	2.008	14.331	11.890	0.394	0.551	36.6	56.3
HMVC - 64	12.562	6	16.929	2.087	15.236	12.677	0.394	0.551	40.8	65.1
HMVC - 68	13.334	5	17.717	2.087	16.063	13.465	0.394	0.551	44.0	71.5
HMVC - 72	14.170	5	18.701	2.205	16.969	14.252	0.394	0.590	48.5	81.4
HMVC - 76	14.957	5	19.685	2.283	17.795	15.039	0.433	0.630	52.1	90.2
HMVC - 80	15.745	5	20.669	2.362	18.701	15.827	0.433	0.669	56.9	101.2
HMVC - 84	16.532	5	21.457	2.401	19.606	16.614	0.433	0.669	62.0	110.9
HMVC - 88	17.319	5	22.244	2.441	20.433	17.402	0.472	0.669	65.9	121.0
HMVC - 92	18.107	5	23.228	2.520	21.299	18.189	0.472	0.669	69.8	134.2
HMVC - 96	18.894	5	24.094	2.559	22.165	18.976	0.472	0.748	75.2	143.0
HMVC - 100	19.682	5	25.000	2.598	23.031	19.764	0.472	0.748	80.6	157.3
HMVC - 106	20.867	4	26.378	2.716	24.291	20.945	0.512	0.827	87.1	176.0
HMVC - 112	21.923	4	27.756	2.795	25.591	22.126	0.512	0.866	94.9	198.0
HMVC - 120	23.623	4	29.528	2.874	27.283	23.701	0.512	0.905	104.5	220.0
HMVC - 126	24.804	4	30.709	2.913	28.583	24.882	0.551	0.905	113.0	242.0
HMVC - 134	26.379	4	32.480	2.992	30.236	26.457	0.551	0.945	123.2	270.6
HMVC - 142	27.961	3	34.252	3.071	31.969	28.031	0.590	0.984	135.9	301.4
HMVC - 150	29.536	3	36.024	3.110	33.661	29.606	0.590	0.984	150.4	330.0
HMVC - 160	31.504	3	38.189	3.150	35.748	31.575	0.630	0.984	161.2	380.6
HMVC - 170	33.473	3	40.157	3.268	37.874	33.543	0.630	1.024	177.6	418.0
HMVC - 180	35.441	3	42.126	3.386	39.960	35.511	0.669	1.181	192.2	462.0
HMVC - 190	37.410	3	44.291	3.386	42.087	37.480	0.669	1.181	210.2	523.6

HMVC - 10 through HMVC - 64 have American National Threads Class 3.
HMVC -68 through HMVC-190 have Acme General Purpose Threads Class 3G.

SHAFT ADAPTER ACCESSORIES FOR TAPERED BORE BEARINGS

SNW/SNP - PULL TYPE SLEEVE, LOCKNUT, LOCKWASHER/LOCKPLATE ASSEMBLIES

- The table below shows dimensions for adapter assemblies and components used in the mounting of tapered bore bearings on shafts.
- SNW assembly consists of a sleeve, locknut and lockwasher.
- SNP assembly consists of a sleeve, locknut and lockplate.



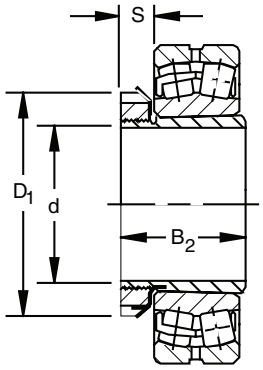
Tapered bore bearing plus SNW.

Bearing Number	Accessory Numbers				Shaft Dimensions		Adapter Dimensions			SNW/SNP Assembly Weight
	Assembly	Sleeve	Locknut	Lockwasher Lockplate	d Diameter	Tolerance +.000" 0	B_2	S	D_1	
					in.	in.	in.	in.	in.	lbs.
SERIES 222K										
22209K	SNW-09	S-09	N-09	W-09	1 7/16	-.003	1 37/64	1/2	2 17/32	0.6
22210K	SNW-10	S-10	N-10	W-10	1 11/16	-.003	1 49/64	9/16	2 11/16	0.7
22211K	SNW-11	S-11	N-11	W-11	1 15/16	-.003	1 27/32	9/16	2 31/32	0.8
22212K	SNW-12	S-12	N-12	W-12	2 1/16	-.004	1 63/64	19/32	3 5/32	1.1
22213K	SNW-13	S-13	N-13	W-13	2 3/16	-.004	2 3/32	5/8	3 3/8	1.4
22214K	SNW-14	S-14	N-14	W-14	2 5/16	-.004	2 11/64	5/8	3 5/8	1.8
22215K	SNW-15	S-15	AN-15	W-15	2 7/16	-.004	2 19/64	43/64	3 7/8	2.0
22216K	SNW-16	S-16	AN-16	W-16	2 11/16	-.004	2 3/8	43/64	4 5/32	2.4
22217K	SNW-17	S-17	AN-17	W-17	2 15/16	-.004	2 31/64	45/64	4 13/32	3.0
22218K	SNW-18	S-18	AN-18	W-18	3 3/16	-.004	2 41/64	25/32	4 21/32	3.0
22219K	SNW-19	S-19	AN-19	W-19	3 5/16	-.004	2 49/64	13/16	4 15/16	3.3
22220K	SNW-20	S-20	AN-20	W-20	3 7/16	-.004	2 7/8	27/32	5 3/16	4.4
22222K	SNW-22	S-22	AN-22	W-22	3 15/16	-.004	3 13/64	29/32	5 23/32	5.0
22224K	SNW-24	S-24	AN-24	W-24	4 3/16	-.005	3 15/32	15/16	6 1/8	6.7
22226K	SNW-26	S-26	AN-26	W-26	4 7/16	-.005	3 49/64	1	6 3/4	8.6
22228K	SNW-28	S-28	AN-28	W-28	4 15/16	-.005	3 63/64	1 1/16	7 3/32	10.3
22230K	SNW-30	S-30	AN-30	W-30	5 3/16	-.005	4 15/64	1 1/8	7 11/16	13.5
22232K	SNW-32	S-32	AN-32	W-32	5 7/16	-.005	4 37/64	1 3/16	8 1/16	15.6
22234K	SNW-34	S-34	AN-34	W-34	5 15/16	-.005	4 27/32	1 7/32	8 21/32	19.4
22236K	SNW-36	S-36	AN-36	W-36	6 7/16	-.005	5 1/32	1 1/4	9 1/16	20.5
22238K	SNW-38	S-38	AN-38	W-38	6 15/16	-.005	5 17/64	1 9/32	9 15/32	23.4
22240K	SNW-40	S-40	AN-40	W-40	7 3/16	-.005	5 31/64	1 11/32	9 27/32	30.5
22244K	SNW-44	S-44	N-044	W-44	7 15/16	-.005	5 29/32	1 3/8	11	33.0
SERIES 230K										
23024K	SNW-3024	S-3024	N-024	W-024	4 3/16	-.005	2 61/64	13/16	5 11/16	6.1
23026K	SNW-3026	S-3026	N-026	W-026	4 7/16	-.005	3 15/64	7/8	6 1/8	7.5
23028K	SNW-3028	S-3028	N-028	W-028	4 15/16	-.005	3 11/32	15/16	6 1/2	8.4
23030K	SNW-3030	S-3030	N-030	W-030	5 3/16	-.005	3 31/64	31/32	7 1/8	9.8
23032K	SNW-3032	S-3032	N-032	W-032	5 7/16	-.005	3 23/32	1 1/32	7 1/2	11.8
23034K	SNW-3034	S-3034	N-034	W-034	5 15/16	-.005	4 1/64	1 1/16	7 7/8	13.3
23036K	SNW-3036	S-3036	N-036	W-036	6 7/16	-.005	4 11/32	1 3/32	8 1/4	15.2
23038K	SNW-3038	S-3038	N-038	W-038	6 15/16	-.005	4 13/32	1 1/8	8 11/16	16.7
23040K	SNW-3040	S-3040	N-040	W-040	7 3/16	-.005	4 3/4	1 3/16	9 7/16	19.7
23044K	SNW-3044	S-3044	N-044	W-044	7 15/16	-.005	5 1/8	1 1/4	10 1/4	24.4
23048K	SNP-3048	S-3048	N-048	P-48	8 15/16	-.006	5 7/16	1 11/32	11 7/16	32.2
23052K	SNP-3052	S-3052	N-052	P-52	9 7/16	-.006	6 1/64	1 13/32	12 3/16	41.1
23056K	SNP-3056	S-3056	N-056	P-56	10 7/16	-.007	6 3/16	1 1/2	13	45.4
23060K	SNP-3060	S-3060	N-060	P-60	10 15/16	-.007	6 47/64	1 9/16	14 3/16	58.9
23064K	SNP-3064	S-3064	N-064	P-64	11 15/16	-.007	6 61/64	1 21/32	15	65.7
23068K	SNP-3068	S-3068	N-068	P-68	12 7/16	-.008	7 35/64	1 25/32	15 3/4	77.8
23072K	SNP-3072	S-3072	N-072	P-72	13 7/16	-.008	7 37/64	1 25/32	16 1/2	86.2
23076K	SNP-3076	S-3076	N-076	P-76	13 15/16	-.008	7 3/4	1 57/64	17 3/4	94.3
23080K	SNP-3080	S-3080	N-080	P-80	15	-.008	8 13/32	2 1/16	18 1/2	100.0

SHAFT ADAPTER ACCESSORIES FOR TAPERED BORE BEARINGS

SNW/SNP - PULL TYPE SLEEVE, LOCKNUT, LOCKWASHER/LOCKPLATE ASSEMBLIES

- The table below shows dimensions for adapter assemblies and components used in the mounting of tapered bore bearings on shafts.
- SNW assembly consists of a sleeve, locknut and lockwasher.
- SNP assembly consists of a sleeve, locknut and lockplate.



Tapered bore bearing plus SNW.

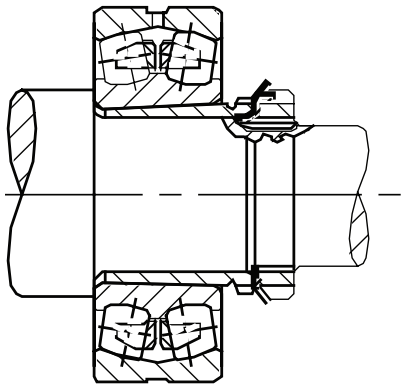
B

Bearing Number		Accessory Numbers				Shaft Dimensions		Adapter Dimensions			SNW/SNP Assembly Weight
		Assembly	Sleeve	Locknut	Lockwasher Lockplate	d Diameter	Tolerance +.000" 0	B_2	S	D_1	
						in.	in.	in.	in.	in.	lbs.
SERIES 223K AND 232K											
22308K		SNW-108	S-108	N-08	W-08	1 5/16	-.003	2 1/64	1/2	2 1/4	0.8
22309K		SNW-109	S-109	N-09	W-09	1 7/16	-.003	2 3/64	1/2	2 17/32	0.8
22310K		SNW-110	S-110	N-10	W-10	1 11/16	-.003	2 25/64	9/16	2 11/16	0.9
22311K		SNW-111	S-111	N-11	W-11	1 15/16	-.003	2 33/64	9/16	2 31/32	0.9
22312K		SNW-112	S-112	N-12	W-12	2 1/16	-.004	2 21/32	19/32	3 5/32	1.2
22313K		SNW-113	S-113	N-13	W-13	2 3/16	-.004	2 49/64	5/8	3 3/8	1.7
22314K		SNW-114	S-114	N-14	W-14	2 5/16	-.004	2 61/64	5/8	3 5/8	2.3
22315K		SNW-115	S-115	AN-15	W-15	2 7/16	-.004	3 5/64	43/64	3 7/8	3.0
22316K		SNW-116	S-116	AN-16	W-16	2 11/16	-.004	3 13/64	43/64	4 5/32	3.2
22317K		SNW-117	S-117	AN-17	W-17	2 15/16	-.004	3 5/16	45/64	4 13/32	3.5
22318K		SNW-118	S-118	AN-18	W-18	3 3/16	-.004	3 35/64	25/32	4 21/32	4.0
22319K		SNW-119	S-119	AN-19	W-19	3 5/16	-.004	3 45/64	13/16	4 15/16	5.0
22320K	23220K	SNW-120	S-120	AN-20	W-20	3 7/16	-.004	3 31/32	27/32	5 3/16	6.2
22322K	23222K	SNW-122	S-122	AN-22	W-22	3 15/16	-.004	4 11/32	29/32	5 23/32	6.5
22324K	23224K	SNW-124	S-124	AN-24	W-24	4 3/16	-.005	4 41/64	15/16	6 1/8	8.0
22326K	23226K	SNW-126	S-126	AN-26	W-26	4 7/16	-.005	4 63/64	1	6 3/4	12.4
22328K	23228K	SNW-128	S-128	AN-28	W-28	4 15/16	-.005	5 21/64	1 1/16	7 3/32	13.0
22330K	23230K	SNW-130	S-130	AN-30	W-30	5 3/16	-.005	5 5/8	1 1/8	7 11/16	17.6
22332K	23232K	SNW-132	S-132	AN-32	W-32	5 7/16	-.005	5 59/64	1 3/16	8 1/16	18.5
22334K	23234K	SNW-134	S-134	AN-34	W-34	5 15/16	-.005	6 3/16	1 7/32	8 21/32	21.0
22336K	23236K	SNW-136	S-136	AN-36	W-36	6 7/16	-.005	6 29/64	1 1/4	9 1/16	22.5
22338K	23238K	SNW-138	S-138	AN-38	W-38	6 15/16	-.005	6 3/4	1 9/32	9 15/32	28.0
22340K	23240K	SNW-140	S-140	AN-40	W-40	7 3/16	-.005	7 3/32	1 11/32	9 27/32	36.0
22344K	23244K	SNW-144	S-144	N-044	W-44	7 15/16	-.005	7 9/32	1 3/8	11	47.0
22348K	23248K	SNP-148	S-148	N-048	P-48	8 15/16	-.006	8 7/64	1 11/32	11 7/16	38.3
22352K	23252K	SNP-152	S-152	N-052	P-52	9 7/16	-.006	8 49/64	1 13/32	12 13/16	53.4
22356K	23256K	SNP-3256	S-3256	N-056	P-56	10 7/16	-.007	8 15/16	1 1/2	13	61.3
SERIES 231K											
23122K		SNW-3122	S-22	N-022	W-022	3 15/16	-.004	3 13/64	25/32	5 5/32	4.2
23124K		SNW-3124	S-24	N-024	W-024	4 3/16	-.005	3 15/32	13/16	5 11/16	5.8
23126K		SNW-3126	S-26	N-026	W-026	4 7/16	-.005	3 49/64	7/8	6 1/8	8.3
23128K		SNW-3128	S-28	N-028	W-028	4 15/16	-.005	3 63/64	15/16	6 1/2	8.8
23130K		SNW-3130	S-30	N-030	W-030	5 3/16	-.005	4 15/64	31/32	7 1/8	13.7
23132K		SNW-3132	S-32	N-032	W-032	5 7/16	-.005	4 37/64	1 1/32	7 1/2	13.3
23134K		SNW-3134	S-34	N-034	W-034	5 15/16	-.005	4 27/32	1 1/16	7 7/8	16.1
23136K		SNW-3136	S-36	N-036	W-036	6 7/16	-.005	5 1/32	1 3/32	8 1/4	17.1
23138K		SNW-3138	S-38	N-038	W-038	6 15/16	-.005	5 17/64	1 1/8	8 11/16	19.7
23140K		SNW-3140	S-40	N-040	W-040	7 3/16	-.005	5 31/64	1 3/16	9 7/16	28.4
23144K		SNW-3144	S-44	N-044	W-044	7 15/16	-.005	5 29/32	1 1/4	10 1/4	28.1
23148K		SNP-3148	S-48	N-048	P-48	8 15/16	-.006	6 41/64	1 11/32	11 7/16	36.0
23152K		SNP-3152	S-52	N-052	P-52	9 7/16	-.006	7 19/32	1 13/32	12 3/16	39.0
23156K		SNP-3156	S-3156	N-056	P-56	10 7/16	-.007	7 49/64	1 1/2	13	60.0
23160K		SNP-3160	S-3160	N-060	P-60	10 15/16	-.007	8 3/8	1 9/16	14 3/16	65.0
23164K		SNP-3164	S-3164	N-064	P-64	11 15/16	-.007	9 7/64	1 21/32	15	70.0

SHAFT ADAPTER ACCESSORIES FOR TAPERED BORE BEARINGS

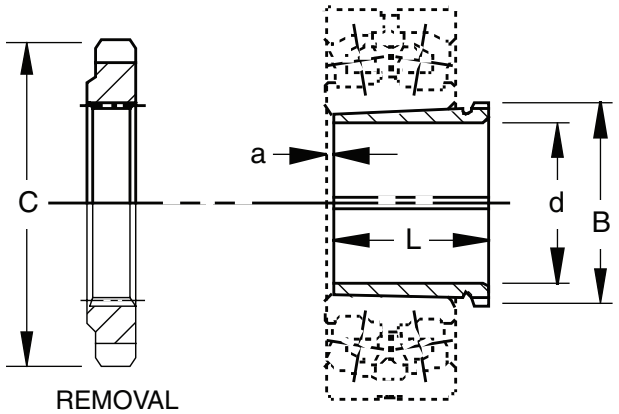
PUSH TYPE REMOVABLE SLEEVE, LOCKNUT AND LOCKWASHER

- The chart below shows dimensions for adapter assemblies and components used in the tapered bore bearings on shafts.



B

Bearing Number	Accessory Numbers				Shaft Dimensions		Adapter Dimensions				Sleeve Weight
	Sleeve	Locknut	Lockwasher Lockplate	Removal Nut	d Diameter	Tolerance +.000" 0	B Pitch Diameter	L	a	C Removal Nut O.D.	
					mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.
SERIES 222K											
22216K	SK-8022	N-14	W-14	AN-18	70 2.7559	–.10 –.004	88.19 3.472	50 1.969	3.50 0.138	118.39 4.661	0.5 1.2
22217K	SK-8522	AN-15	W-15	AN-19	75 2.9528	–.10 –.004	93.35 3.675	52 2.047	3.50 0.138	125.55 4.943	0.6 1.4
22218K	SK-9022	AN-16	W-16	AN-20	80 3.1496	–.10 –.004	98.12 3.863	53 2.087	3.50 0.138	131.90 5.193	0.6 1.5
22219K	SK-9522	AN-17	W-17	AN-21	85 3.3465	–.10 –.004	103.28 4.066	57 2.244	4.00 0.157	138.25 5.443	0.8 1.8
22220K	SK-10022	AN-18	W-18	AN-22	90 3.5433	–.10 –.004	109.12 4.269	59 2.323	4.00 0.157	145.39 5.724	0.9 2.0
22222K	SK-11022	AN-20	W-20	ARN-22	100 3.9370	–.10 –.004	119.94 4.722	65 2.559	4.00 0.157	158.75 6.250	1.1 2.4
22224K	SK-12022	AN-22	W-22	ARN-24	110 4.3307	–.13 –.005	130.28 5.129	72 2.835	4.00 0.157	174.63 6.875	1.4 3.1
22226K	SK-13022	AN-22	W-22	ARN-26	115 4.5276	–.13 –.005	141.38 5.566	78 3.071	4.00 0.15.7	184.15 7.250	2.2 5.0
22228K	SK-14022	AN-24	W-24	RN-28	125 4.9213	–.13 –.005	152.73 6.013	82 3.228	5.00 0.197	200.03 7.875	2.6 5.8
22230K	SK-15022	AN-26	W-26	RN-30	135 5.3150	–.13 –.005	163.04 6.419	88 3.465	5.00 0.197	209.55 8.250	3.0 6.8
22232K	SK-16022	AN-28	W-28	RN-32	140 5.5118	–.13 –.005	173.76 6.841	96 3.780	5.00 0.197	225.43 8.875	4.5 9.9
22234K	SK-17022	AN-30	W-30	RN-34	150 5.9055	–.13 –.005	184.07 7.247	104 4.095	5.00 0.197	234.95 9.250	5.2 11.5
22236K	SK-18022	AN-32	W-32	RN-36	160 6.2992	–.13 –.005	194.79 7.669	104 4.095	5.00 0.197	247.65 9.750	5.6 12.5
22238K	SK-19022	AN-34	W-34	RN-38	170 6.6929	–.13 –.005	205.92 8.107	112 4.409	5.00 0.197	269.88 10.625	6.5 14.5
22240K	SK-20022	AN-36	W-36	N-044	180 7.0866	–.13 –.005	217.02 8.544	118 4.646	5.00 0.197	279.53 11.005	7.4 16.3
22244K	SK-22022	AN-40	W-40	N-048	200 7.8740	–.13 –.005	236.98 9.330	130 5.118	6.00 0.236	290.65 11.443	8.8 19.6
22248K	SK-24022	N-44	W-44	N-052	220 8.6614	–.15 –.006	256.03 10.080	144 5.669	6.00 0.236	309.70 12.193	11.0 24.3
22252K	SK-26022	N-048	P-48	N-056	240 9.4488	–.15 –.006	276.66 10.892	155 6.102	6.00 0.236	330.33 13.005	14.0 30.9
22256K	SK-28022	N-052	P-52	RN-56	260 10.2362	–.15 –.006	301.27 11.861	155 6.102	8.00 0.315	425.45 16.750	15.0 33.1
22260K	SK-30022	N-056	P-56	RN-60	280 11.0236	–.15 –.006	325.88 12.830	170 6.693	8.00 0.315	416.10 16.382	17.7 39.2
22264K	SK-32022	N-060	P-60	RN-64	300 11.8110	–.15 –.006	345.72 13.611	180 7.087	10.00 0.394	431.8 17.000	21.0 46.3



Tapered bore bearing mounted with push type removable sleeve.

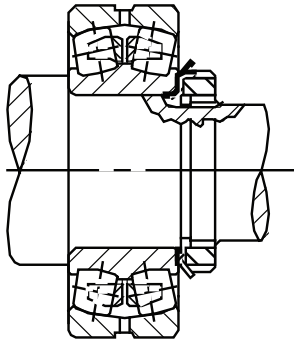
B

Bearing Number	Accessory Numbers				Shaft Dimensions		Adapter Dimensions				Sleeve Weight
	Sleeve	Locknut	Lockwasher Lockplate	Removal Nut	d Diameter	Tolerance +.000" 0	B Pitch Diameter	L	a	C Removal Nut O.D.	
					mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.
SERIES 223K											
22308K	SK-4023	N-07	W-07	N-09	35 1.3780	–.08 –.003	43.94 1.730	40 1.575	3.00 0.118	64.41 2.536	0.1 0.2
22309K	SK-4523	N-08	W-08	N-10	40 1.5748	–.08 –.003	49.02 1.930	44 1.732	3.00 0.118	68.40 2.693	0.1 0.3
22310K	SK-5023	N-09	W-09	RN-10	45 1.7717	–.08 –.003	55.04 2.167	50 1.969	3.00 0.118	76.20 3.000	0.2 0.4
22311K	SK-5523	N-10	W-10	RN-11	50 1.9685	–.08 –.003	60.20 2.370	54 2.126	3.00 0.118	81.76 3.219	0.2 0.5
22312K	SK-6023	N-11	W-11	RN-12	55 2.1654	–.10 –.004	65.76 2.589	57 2.244	3.50 0.138	87.33 3.438	0.3 0.6
22313K	SK-6523	N-12	W-12	AN-15	60 2.3622	–.10 –.004	73.10 2.878	61 2.402	3.50 0.138	98.55 3.880	0.3 0.8
22314K	SK-7023	N-12	W-12	AN-16	60 2.3622	–.10 –.004	78.28 3.082	65 2.559	3.50 0.138	105.69 4.161	0.6 1.5
22315K	SK-7523	N-13	W-13	AN-17	65 2.5591	–.10 –.004	83.44 3.285	69 2.717	3.50 0.138	112.04 4.411	0.8 1.7
22316K	SK-8023	N-14	W-14	AN-18	70 2.7559	–.10 –.004	88.19 3.472	72 2.835	3.50 0.138	118.39 4.661	0.9 2.0
22317K	SK-8523	AN-15	W-15	AN-19	75 2.9528	–.10 –.004	93.35 3.675	75 2.953	3.50 0.138	125.55 4.943	1.0 2.2
22318K	SK-9023	AN-16	W-16	AN-20	80 3.1496	–.10 –.004	98.12 3.863	80 3.150	3.50 0.138	131.90 5.193	1.1 2.5
22319K	SK-9523	AN-17	W-17	AN-21	85 3.3465	–.10 –.004	103.28 4.066	85 3.346	4.00 0.157	138.25 5.443	1.3 2.9
22320K	SK-10023	AN-18	W-18	AN-22	90 3.5433	–.10 –.004	109.12 4.269	90 3.543	4.00 0.157	145.39 5.724	1.5 3.3
22322K	SK-11023	AN-20	W-20	ARN-22	100 3.9370	–.10 –.004	119.94 4.722	98 3.858	4.00 0.157	158.75 6.250	1.9 4.2
22324K	SK-12023	AN-22	W-22	ARN-24	110 4.3307	–.13 –.005	130.28 5.129	105 4.134	4.00 0.157	174.63 6.875	2.2 5.0
22326K	SK-13023	AN-22	W-22	ARN-26	115 4.5276	–.13 –.005	141.38 5.566	115 4.528	4.00 0.157	184.15 7.250	3.6 8.0
22328K	SK-14023	AN-24	W-24	RN-28	125 4.9213	–.13 –.005	152.73 6.013	125 4.921	5.00 0.197	200.03 7.875	4.3 9.5
22330K	SK-15023	AN-26	W-26	RN-30	135 5.3150	–.13 –.005	163.04 6.419	135 5.315	5.00 0.197	209.55 8.250	5.1 11.4
22332K	SK-16023	AN-28	W-28	RN-32	140 5.5118	–.13 –.005	173.76 6.841	140 5.512	6.00 0.236	225.43 8.875	7.0 15.5
22334K	SK-17023	AN-30	W-30	RN-34	150 5.9055	–.13 –.005	184.07 7.247	146 5.748	6.00 0.236	234.95 9.250	7.8 17.2
22336K	SK-18023	AN-32	W-32	RN-36	160 6.2992	–.13 –.005	194.79 7.669	154 6.063	6.00 0.236	247.65 9.750	9.1 20.2
22338K	SK-19023	AN-34	W-34	RN-38	170 6.6929	–.13 –.005	205.92 8.107	160 6.299	7.00 0.276	269.88 10.625	10.0 22.1
22340K	SK-20023	AN-36	W-36	N-044	180 7.0866	–.13 –.005	217.02 8.544	170 6.693	7.00 0.276	279.53 11.005	11.4 25.2
22344K	SK-22023	AN-40	W-40	N-048	200 7.8740	–.13 –.005	236.98 9.330	181 7.126	8.00 0.315	290.65 11.443	13.3 29.5
22348K	SK-24023	N-44	W-44	N-052	220 8.6614	–.15 –.006	256.03 10.080	189 7.441	8.00 0.315	309.70 12.193	15.5 34.2
22352K	SK-26023	N-048	P-48	N-056	240 9.4488	–.15 –.006	276.66 10.892	200 7.874	8.00 0.315	330.33 13.005	18.2 40.2
22356K	SK-28023	N-052	P-52	RN-56	260 10.2362	–.15 –.006	301.27 11.861	210 8.268	10.00 0.394	425.45 16.75	22.0 48.5

SHAFT ADAPTER ACCESSORIES FOR STRAIGHT BORE BEARINGS

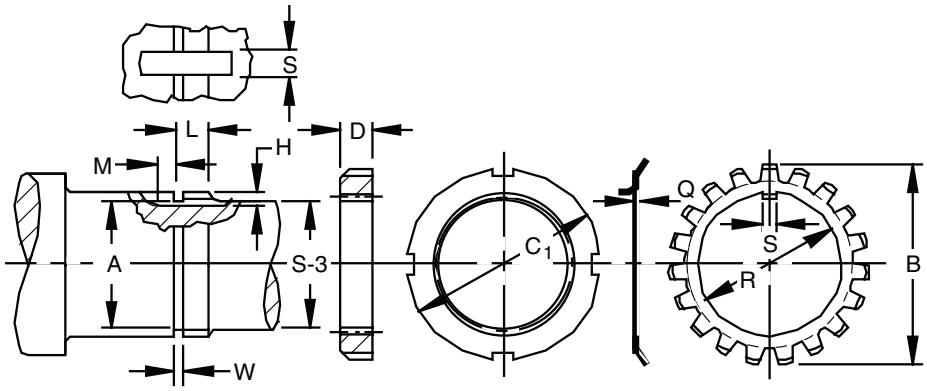
LOCKNUT AND LOCKWASHER

- The chart below shows dimensions for locknuts and lockwashers used in the mounting of straight bore bearings on shafts.
- Other dimensions and tolerances related to shaft configurations are also shown.
- Dimensions are presented according to bearing bore size and are applicable to bearings in the various series (e.g., 222 and 223 etc.).



Bearing Bore	Locknut	Lockwasher	Threads Per Inch	Threads					
				Major Diameter Min.	Major Diameter Max.	Pitch Diameter Min.	Pitch Diameter Max.	Minor Dia.	A Relief Dia.
mm				mm inch	mm inch	mm inch	mm inch	mm inch	mm inch
35	N 07	W 07	18	34.740 1.3678	34.950 1.3760	33.930 1.3359	34.030 1.3399	33.220 1.3078	32.820 1.2922
40	N 08	W 08	18	39.490 1.5548	39.700 1.5630	38.670 1.5224	38.780 1.5269	37.970 1.4948	37.570 1.4792
45	N 09	W 09	18	44.670 1.7588	44.880 1.7670	43.850 1.7264	43.960 1.7309	43.150 1.6988	42.750 1.6832
50	N 10	W 10	18	49.750 1.9588	49.960 1.9670	48.930 1.9264	49.050 1.9309	48.230 1.8988	47.830 1.8832
55	N 11	W 11	18	54.580 2.1488	54.790 2.1570	53.740 2.1158	53.870 2.1209	53.060 2.0888	52.660 2.0732
60	N 12	W 12	18	59.740 2.3518	59.940 2.3600	58.900 2.3188	59.030 2.3239	58.210 2.2918	57.820 2.2762
65	N 13	W 13	18	64.510 2.5398	64.720 2.5480	63.670 2.5068	63.800 2.5119	62.990 2.4798	62.590 2.4642
70	N 14	W 14	18	69.670 2.7428	69.880 2.7510	68.830 2.7098	68.960 2.7149	68.140 2.6828	67.750 2.6672
75	AN 15	W 15	12	74.210 2.9218	74.500 2.9330	72.990 2.8735	73.120 2.8789	71.900 2.8308	71.110 2.7995
80	AN 16	W 16	12	79.400 3.1258	79.680 3.1370	78.160 3.0770	78.310 3.0829	77.080 3.0348	76.290 3.0035
85	AN 17	W 17	12	84.550 3.3288	84.840 3.3400	83.310 3.2800	83.460 3.2859	82.240 3.2378	81.450 3.2065
90	AN 18	W 18	12	89.300 3.5158	89.590 3.5270	88.020 3.4655	88.210 3.4729	86.990 3.4248	86.200 3.3935
95	AN 19	W 19	12	94.460 3.7188	94.740 3.7300	93.180 3.6685	93.370 3.6759	92.150 3.6278	91.350 3.5965
100	AN 20	W 20	12	99.230 3.9068	99.520 3.9180	97.960 3.8565	98.140 3.8639	96.920 3.8158	96.130 3.7845
105	AN 21	W 21	12	104.410 4.1108	104.700 4.1220	103.110 4.0596	103.320 4.0679	102.100 4.0198	101.310 3.9885
110	AN 22	W 22	12	109.570 4.3138	109.860 4.3250	108.270 4.2626	108.480 4.2709	107.260 4.2228	106.460 4.1915
120	AN 24	W 24	12	119.500 4.7048	119.790 4.7160	118.200 4.6536	118.410 4.6619	117.190 4.6138	116.400 4.5825
130	AN 26	W 26	12	129.410 5.0948	129.690 5.1060	128.110 5.0436	128.320 5.0519	127.100 5.0038	126.300 4.9725
140	AN 28	W 28	12	139.340 5.4858	139.620 5.4970	138.040 5.4346	138.250 5.4429	137.030 5.3948	136.230 5.3635
150	AN 30	W 30	12	149.270 5.8768	149.560 5.8880	147.970 5.8256	148.180 5.8339	146.960 5.7858	146.160 5.7545
160	AN 32	W 32	8	159.230 6.2688	159.610 6.2840	157.320 6.1937	157.550 6.2028	155.720 6.1306	154.920 6.0993
170	AN 34	W 34	8	168.750 6.6438	169.140 6.6590	166.850 6.5687	167.080 6.5778	165.240 6.5056	164.450 6.4743
180	AN 36	W 36	8	179.090 7.0508	179.480 7.0660	177.180 6.9757	177.410 6.9848	175.580 6.9126	174.790 6.8813
190	AN 38	W 38	8	189.400 7.4568	189.790 7.4720	187.500 7.3817	187.730 7.3908	185.890 7.3186	185.100 7.2873
200	AN 40	W 40	8	198.930 7.8318	199.310 7.8470	196.960 7.7544	197.250 7.7658	195.420 7.6936	194.620 7.6623
220	N 044	W 44	8	218.770 8.6128	219.150 8.6280	216.780 8.5347	217.090 8.5468	215.250 8.4746	214.460 8.4433

(1) See page B395 for suggested S-3 shaft limits.



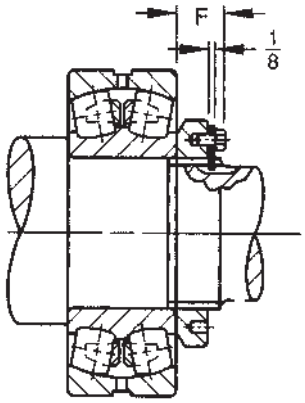
Shaft						Locknut		Lockwasher			
S-3[1]	W +1/64 0	L +1/64 0	H +1/64 0	S +1/64 0	M +1/64 0	C_1	D	Q	R	B	S
mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch
31.750 1 1/4	2.4 3/32	12.7 1/2	2.4 3/32	4.8 3/16	3.2 1/8	52.39 2 1/16	11.40 0.448	1.30 0.050	36.00 1.416	57.20 2 1/4	4.50 0.176
36.510 1 7/16	3.2 1/8	13.5 17/32	2.4 3/32	7.9 5/16	3.2 1/8	57.15 2 1/4	11.40 0.448	1.50 0.058	40.70 1.603	62.70 2 15/32	7.40 0.290
42.860 1 11/16	3.2 1/8	13.5 17/32	2.4 3/32	7.9 5/16	4.0 5/32	64.30 2 17/32	11.40 0.448	1.50 0.058	46.20 1.817	69.50 2 47/64	7.40 0.290
47.630 1 7/8	3.2 1/8	15.1 19/32	2.4 3/32	7.9 5/16	4.0 5/32	68.30 2 11/16	13.00 0.510	1.50 0.058	51.20 2.017	74.20 2 59/64	7.40 0.290
52.390 2 1/16	3.2 1/8	15.1 19/32	3.2 1/8	7.9 5/16	4.0 5/32	75.40 2 31/32	13.00 0.510	1.60 0.063	56.10 2.207	79.00 3 7/64	7.40 0.290
57.150 2 1/4	3.2 1/8	15.9 5/8	3.2 1/8	7.9 5/16	4.0 5/32	80.20 3 5/32	13.70 0.541	1.60 0.063	61.60 2.425	85.00 3 11/32	7.40 0.290
61.910 2 7/16	3.2 1/8	16.7 21/32	3.2 1/8	7.9 5/16	4.0 5/32	85.70 3 3/8	14.60 0.573	1.60 0.063	66.40 2.613	90.90 3 37/64	7.40 0.290
66.680 2 5/8	3.2 1/8	16.7 21/32	3.2 1/8	7.9 5/16	6.4 1/4	92.10 3 5/8	14.60 0.573	1.60 0.063	71.50 2.816	97.20 3 53/64	7.40 0.290
71.440 2 13/16	4.0 5/32	17.5 11/16	3.2 1/8	7.9 5/16	6.4 1/4	98.40 3 7/8	15.30 0.604	1.60 0.072	76.30 3.003	104.40 4 7/64	7.40 0.290
76.200 3	4.0 5/32	17.5 11/16	3.2 1/8	9.5 3/8	6.4 1/4	105.60 4 5/32	15.30 0.604	1.80 0.072	81.50 3.207	111.10 4 3/8	9.00 0.353
80.960 3 3/16	4.0 5/32	16.7 21/32	3.2 1/8	9.5 3/8	6.4 1/4	111.90 4 13/32	16.10 0.635	1.80 0.072	87.00 3.425	117.50 4 5/8	9.00 0.353
85.730 3 3/8	4.0 5/32	20.6 13/16	4.0 5/32	9.5 3/8	6.4 1/4	118.30 4 21/32	17.70 0.698	2.40 0.094	91.70 3.612	125.40 4 15/16	9.00 0.353
90.490 3 9/16	4.0 5/32	21.4 27/32	4.0 5/32	9.5 3/8	6.4 1/4	125.40 4 15/16	18.50 0.729	2.40 0.094	97.30 3.830	132.60 5 7/32	9.00 0.353
96.840 3 13/16	4.0 5/32	22.2 7/8	4.0 5/32	9.5 3/8	7.9 5/16	131.80 5 3/16	19.30 0.760	2.40 0.094	102.10 4.018	139.70 5 1/2	9.00 0.353
100.010 3 15/16	4.0 5/32	22.2 7/8	4.0 5/32	9.5 3/8	7.9 5/16	138.10 5 7/16	19.30 0.760	2.40 0.094	107.20 4.222	144.90 5 45/64	9.00 0.353
106.360 4 3/16	4.0 5/32	23 29/32	4.8 3/16	9.5 3/8	7.9 5/16	145.30 5 23/32	20.10 0.791	3.20 0.125	112.40 4.425	154.00 6 1/16	9.00 0.353
115.890 4 9/16	4.0 5/32	23.8 15/16	4.8 3/16	9.5 3/8	7.9 5/16	155.60 6 1/8	20.90 0.823	3.20 0.125	122.70 4.831	164.30 6 15/32	9.00 0.353
125.410 4 15/16	4.0 5/32	25.4 1	4.8 3/16	12.7 1/2	7.9 5/16	171.50 6 3/4	22.50 0.885	3.20 0.125	132.70 5.226	178.60 7 1/32	11.10 0.435
134.940 5 5/16	4.0 5/32	27 1 1/16	4.8 3/16	15.9 5/8	7.9 5/16	180.20 7 3/32	24.10 0.948	3.20 0.125	142.70 5.617	188.90 7 7/16	15.00 0.590
146.050 5 3/4	4.0 5/32	28.6 1 1/8	5.6 7/32	15.9 5/8	9.5 3/8	195.30 7 11/16	24.90 0.979	4.00 0.156	152.90 6.018	204.80 8 1/16	15.00 0.590
153.990 6 1/16	6.4 1/4	30.2 1 3/16	6.0 15/64	15.9 5/8	9.5 3/8	204.80 8 1/16	26.40 1.041	4.00 0.156	163.20 6.424	214.30 8 7/16	15.00 0.590
163.510 6 7/16	6.4 1/4	31 1 7/32	6.0 15/64	19.1 3/4	9.5 3/8	219.90 8 21/32	27.30 1.073	4.00 0.156	172.70 6.799	230.20 9 1/16	18.20 0.715
174.630 6 7/8	6.4 1/4	31.8 1 1/4	6.0 15/64	19.1 3/4	9.5 3/8	230.20 9 1/16	28.00 1.104	4.00 0.156	183.00 7.206	239.70 9 7/16	18.20 0.715
184.150 7 1/4	6.4 1/4	32.5 1 9/32	6.0 15/64	19.1 3/4	9.5 3/8	240.50 9 15/32	28.80 1.135	4.00 0.156	193.30 7.612	250.80 9 7/8	18.20 0.715
193.680 7 5/8	6.4 1/4	34.1 1 11/32	6.0 15/64	22.2 7/8	9.5 3/8	250.00 9 27/32	30.40 1.198	4.00 0.156	203.60 8.017	261.90 10 5/16	21.30 0.840
211.140 8 5/16	6.4 1/4	34.9 1 3/8	9.5 3/8	27.0 1 1/16	9.5 3/8	279.40 11	31.80 1.250	3.20 0.125	221.10 8.703	290.50 11 7/16	23.90 0.940

[1] See page B395 for suggested S-3 shaft limits.

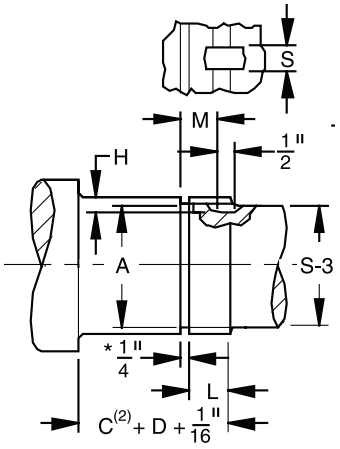
SHAFT ADAPTER ACCESSORIES FOR STRAIGHT BORE BEARINGS

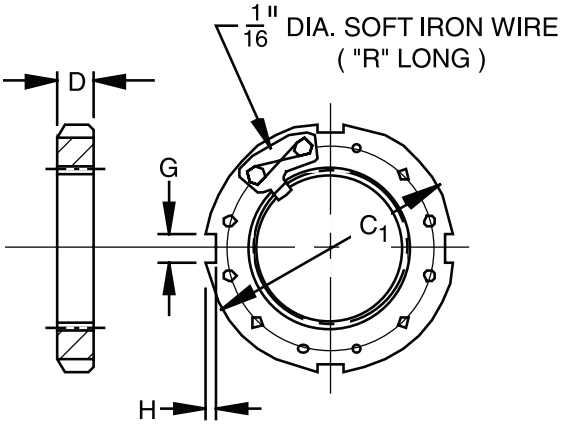
LOCKNUT AND LOCKPLATE

- The chart below shows dimensions for locknuts and lockplates used in the mounting of straight bore bearings on shafts.
- Other dimensions and tolerances related to shaft configurations are also shown.
- Dimensions are presented according to bearing bore size and are applicable to bearings in the various series (e.g., 222,223 etc.).



Bearing Bore	Locknut	Lockplate	Threads Per Inch	Threads					
				Major Diameter Min.	Major Diameter Max.	Pitch Diameter Min.	Pitch Diameter Max.	Minor Dia.	A Relief Dia.
mm				mm inch	mm inch	mm inch	mm inch	mm inch	mm inch
240	N 048	P 48	6	239.31 9.4218	239.83 9.442	236.76 9.3213	237.08 9.3337	234.63 9.2374	233.44 9.1905
260	N 052	P 52	6	258.36 10.1718	258.88 10.192	255.8 10.0707	256.13 10.0837	253.68 9.9874	252.49 9.9405
280	N 056	P 56	6	278.99 10.9838	279.50 11.004	276.42 10.8827	276.75 10.8957	274.31 10.7994	273.11 10.7525
300	N 060	P 60	6	298.83 11.7648	299.34 11.785	296.26 11.6637	296.59 11.6767	294.14 11.5804	292.95 11.5335
320	N 064	P 64	6	318.56 12.5418	319.08 12.562	315.98 12.4402	316.32 12.4537	313.88 12.3574	312.69 12.3105
340	N 068	P 68	5	337.49 13.287	337.90 13.303	334.95 13.187	335.36 13.203	332.31 13.083	331.11 13.036
360	N 072	P 72	5	358.60 14.118	359.00 14.134	356.06 14.018	356.46 14.034	353.42 13.914	352.22 13.867
380	N 076	P 76	5	378.59 14.905	378.99 14.921	376.05 14.805	376.45 14.821	373.41 14.701	372.21 14.654
400	N 080	P 80	5	398.60 15.693	399.01 15.709	396.06 15.593	396.47 15.609	393.42 15.489	392.23 15.442
420	N 084	P 84	5	418.59 16.480	419.00 16.496	416.05 16.380	416.46 16.396	413.41 16.276	412.22 16.229
440	N 088	P 88	5	438.58 17.267	438.99 17.283	436.05 17.167	436.45 17.183	433.40 17.063	432.21 17.016
460	N 092	P 92	5	458.60 18.055	459.00 18.071	456.06 17.955	456.46 17.971	453.42 17.851	452.22 17.804
480	N 096	P 96	5	478.59 18.842	478.99 18.858	476.05 18.742	476.45 18.758	473.41 18.638	472.21 18.591
500	N 500	P 500	5	498.60 19.630	499.01 19.646	496.06 19.530	496.47 19.546	493.42 19.426	492.23 19.379
530	N 530	P 530	4	528.50 20.807	529.01 20.827	525.32 20.682	525.83 20.702	522.15 20.557	520.55 20.494
560	N 560	P 560	4	558.50 21.988	559.00 22.008	555.32 21.863	555.83 21.883	552.15 21.738	550.55 21.675
600	N 600	P 600	4	598.50 23.563	599.01 23.583	595.33 23.438	595.83 23.458	592.15 23.313	590.55 23.250
630	N 630	P 630	4	628.50 24.744	629.01 24.764	625.32 24.619	625.83 24.639	622.15 24.494	520.55 24.431
670	N 670	P 670	4	668.50 26.319	669.01 26.339	665.33 26.194	665.84 26.214	662.15 26.069	660.55 26.006
710	N 710	P 710	3	708.33 27.887	709.02 27.914	704.09 27.720	704.77 27.747	700.02 27.56	698.42 27.497
750	N 750	P 750	3	748.34 29.462	749.02 29.489	744.09 29.295	744.78 29.322	740.03 29.135	738.43 29.072
800	N 800	P 800	3	798.32 31.430	799.01 31.457	794.08 31.263	794.77 31.290	790.02 31.103	788.42 31.040
850	N 850	P 850	3	848.34 33.399	849.02 33.426	844.09 33.232	844.78 33.259	840.03 33.072	838.43 33.009
900	N 900	P 900	3	898.32 35.367	899.01 35.394	894.08 35.200	894.77 35.227	890.02 35.040	888.42 34.977
950	N 950	P 950	3	948.33 37.336	949.02 37.363	944.09 37.169	944.78 37.196	940.03 37.009	938.43 36.946





* Sizes N670 and above : $\frac{3}{8}$ "

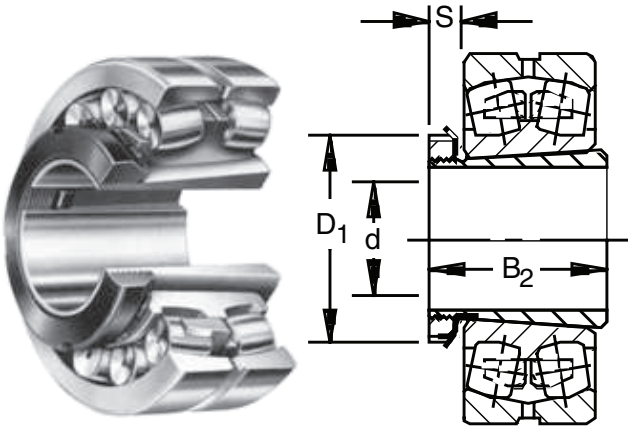
Shaft					Locknut / Lockplate					
S-3(1)	L + 1/64 0	H + 1/64 0	S + 1/64 0	M + 1/64 0	C_1	D	G	H ±.010"	R	F
mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch	mm inch
233.36 9 3/16	**42.86** 1 11/16	**11.1** 7/16	**28.6** 1 1/8	**34.9** 1 3/8	**290.5** 11 7/16	**34.1** 1 11/32	**22.48** 0.885	**9.5** 3/8	**203.2** 8	**43.26** 1 45/64
252.41 9 15/16	**45.24** 1 25/32	**11.1** 7/16	**30.2** 1 3/16	**37.3** 1 15/32	**309.6** 12 3/16	**35.7** 1 13/32	**22.48** 0.885	**9.5** 3/8	**228.6** 9	**44.85** 1 49/64
273.05 10 3/4	**47.63** 1 7/8	**11.1** 7/16	**31.8** 1 1/4	**39.7** 1 9/16	**330.2** 13	**38.1** 1 1/2	**25.65** 1.010	**9.5** 3/8	**228.6** 9	**47.23** 1 55/64
292.1 11 1/2	**49.21** 1 15/16	**11.1** 7/16	**34.9** 1 3/8	**41.3** 1 5/8	**360.4** 14 3/16	**39.7** 1 9/16	**25.65** 1.010	**12.7** 1/2	**254.0** 10	**50.01** 1 31/32
312.74 12 5/16	**51.59** 2 1/32	**11.1** 7/16	**36.5** 1 7/16	**43.7** 1 23/32	**381.0** 15	**42.1** 1 21/32	**25.65** 1.010	**12.7** 1/2	**254.0** 10	**52.39** 2 1/16
331.79 13 1/16	**56.36** 2 7/32	**11.1** 7/16	**38.1** 1 1/2	**48.4** 1 29/32	**400.1** 15 3/4	**45.2** 1 25/32	**25.65** 1.010	**12.7** 1/2	**279.4** 11	**55.56** 2 3/16
350.84 13 13/16	**56.36** 2 7/32	**12.7** 1/2	**38.1** 1 1/2	**48.4** 1 29/32	**419.1** 16 1/2	**45.2** 1 25/32	**32.00** 1.260	**12.7** 1/2	**279.4** 11	**55.56** 2 3/16
371.48 14 5/8	**59.53** 2 11/32	**12.7** 1/2	**38.1** 1 1/2	**51.59** 2 1/32	**450.9** 17 3/4	**48.4** 1 29/32	**32.00** 1.260	**15.1** 19/32	**304.8** 12	**61.12** 2 13/32
390.53 15 3/8	**63.50** 2 1/2	**12.7** 1/2	**41.3** 1 5/8	**55.6** 2 3/16	**469.9** 18 1/2	**52.4** 2 1/16	**32.00** 1.260	**15.1** 19/32	**330.2** 13	**65.09** 2 9/16
411.16 16 3/16	**63.50** 2 1/2	**12.7** 1/2	**41.3** 1 5/8	**55.6** 2 3/16	**490.5** 19 5/16	**52.4** 2 1/16	**35.18** 1.385	**15.1** 19/32	**330.2** 13	**65.09** 2 9/16
431.80 17	**71.44** 2 13/16	**12.7** 1/2	**46.0** 1 13/16	**63.50** 2 1/2	**520.7** 20 1/2	**60.3** 2 3/8	**35.18** 1.385	**15.1** 19/32	**355.6** 14	**75.41** 2 31/32
450.85 17 3/4	**71.44** 2 13/16	**12.7** 1/2	**46.0** 1 13/16	**63.50** 2 1/2	**539.8** 21 1/4	**60.3** 2 3/8	**35.18** 1.385	**15.1** 19/32	**406.4** 16	**75.41** 2 31/32
469.9 18 1/2	**71.44** 2 13/16	**12.7** 1/2	**46.0** 1 13/16	**63.50** 2 1/2	**560.4** 22 1/16	**60.3** 2 3/8	**38.35** 1.510	**15.1** 19/32	**406.4** 16	**75.41** 2 31/32
489.0 19 1/4	**79.4** 3 1/8	**12.7** 1/2	**46.0** 1 13/16	**71.4** 2 13/16	**579.4** 22 13/16	**68.3** 2 11/16	**38.35** 1.510	**15.1** 19/32	**406.4** 16	**83.3** 3 9/32
517.5 20 3/8	**79.4** 3 1/8	**12.7** 1/2	**46.0** 1 13/16	**71.4** 2 13/16	**630.2** 24 13/16	**68.3** 2 11/16	**41.53** 1.635	**20.6** 13/16	**425.5** 16 3/4	**83.3** 3 9/32
549.3 21 5/8	**85.7** 3 3/8	**12.7** 1/2	**46.0** 1 13/16	**77.8** 3 1/16	**649.3** 25 9/16	**74.6** 2 15/16	**41.53** 1.635	**20.6** 13/16	**476.3** 18 3/4	**89.7** 3 17/32
587.4 23 1/8	**85.7** 3 3/8	**12.7** 1/2	**46.0** 1 13/16	**77.8** 3 1/16	**700.1** 27 9/16	**74.6** 2 15/16	**41.53** 1.635	**20.6** 13/16	**508.0** 20	**89.7** 3 17/32
619.1 24 3/8	**85.7** 3 3/8	**12.7** 1/2	**50.8** 2	**77.8** 3 1/16	**730.3** 28 3/4	**74.6** 2 15/16	**47.88** 1.885	**20.6** 13/16	**520.7** 20 1/2	**92.1** 3 5/8
657.2 25 7/8	**90.5** 3 9/16	**12.7** 1/2	**50.8** 2	**82.6** 3 1/4	**779.5** 30 11/16	**79.4** 3 1/8	**47.88** 1.885	**20.6** 13/16	**546.1** 21 1/2	**96.8** 3 13/16
695.3 27 3/8	**101.6** 4	**15.9** 5/8	**50.8** 2	**93.7** 3 11/16	**830.3** 32 11/16	**90.5** 3 9/16	**51.30** 2.020	**25.4** 1	**571.5** 22 1/2	**108.0** 4 1/4
736.6 29	**101.6** 4	**15.9** 5/8	**50.8** 2	**93.7** 3 11/16	**870.0** 34 1/4	**90.5** 3 9/16	**57.66** 2.270	**25.4** 1	**584.2** 23	**108.0** 4 1/4
787.4 31	**101.6** 4	**15.9** 5/8	**50.8** 2	**93.7** 3 11/16	**920.8** 36 1/4	**90.5** 3 9/16	**57.66** 2.270	**25.4** 1	**616.0** 24 1/4	**108.0** 4 1/4
835.0 32 7/8	**101.6** 4	**15.9** 5/8	**50.8** 2	**93.7** 3 11/16	**979.5** 38 9/16	**90.5** 3 9/16	**64.01** 2.520	**25.4** 1	**647.7** 25 1/2	**108.0** 4 1/4
885.8 34 7/8	**111.1** 4 3/8	**15.9** 5/8	**50.8** 2	**103.2** 4 1/16	**1030.3** 40 9/16	**100.0** 3 15/16	**64.01** 2.520	**25.4** 1	**666.8** 26 1/4	**117.5** 4 5/8
933.5 36 3/4	**114.3** 4 1/2	**19.1** 3/4	**50.8** 2	**108** 4 1/4	**1092.2** 43	**100.0** 3 15/16	**64.01** 2.520	**25.4** 1	**692.2** 27 1/4	**117.5** 4 5/8

(1) See page B395 for suggested S-3 shaft limits.
(2) C is outer ring width that may be obtained from bearing dimension tables.

METRIC ADAPTER ACCESSORIES

PULL TYPE SLEEVES, LOCKNUTS AND WASHERS TO METRIC STANDARDS

- Sleeve numbers with the prefix "H" are listed in the chart below and are for metric standard shafts. Use metric standard locknuts, indicated by the prefix "KM" on nut number and metric standard washer, indicated by prefix "MB" on washer number.
- Metric standard sleeves are also available with bores to English standard shafts by changing letter prefix designation to "HE".
- Sleeves with bores for American standard shafts are available by using the prefix "HA".



EXAMPLES:

H 316	complete assembly of sleeve with 70 mm bore, locknut and lockwasher
HE 316	complete assembly of sleeve with 2 3/4 in. bore, locknut and lockwasher
HA 316	complete assembly of sleeve with 2 11/16 in. bore, locknut and lockwasher

Note: Sleeves are not sold as separate units.

Bearing		Catalog Numbers			Adapter Dimensions							
			Assembly Includes		d Standard Shaft Diameter							
Series 222	Series 231	Sleeve Assembly Number	Nut Number	Lockwasher Number	H	HE	HA	Tol. +0.000	B_2	S	D_1	Assembly Weight
					mm	inch	inch	inch	mm	mm	mm	lbs.
22211K	—	H 311	KM11	MB11	50	2	1 15/16	-0.004	45	12	75	0.7
22213K	—	H 313	KM13	MB13	60	2 1/4	2 3/16	-0.004	50	14	85	1.0
22215K	—	H 315	KM15	MB15	65	2 1/2	2 7/16	-0.004	55	15	98	1.8
22216K	—	H 316	KM16	MB16	70	2 3/4	2 11/16	-0.004	59	17	105	2.2
22217K	—	H 317	KM17	MB17	75	3	2 15/16	-0.004	63	18	110	2.6
22218K	—	H 318	KM18	MB18	80	3 1/4	3 3/16	-0.004	65	18	120	3.0
22219K	—	H 319	KM19	MB19	85	3 1/4	3 5/16	-0.004	68	19	125	3.4
22220K	—	H 320	KM20	MB20	90	3 1/2	3 7/16	-0.004	71	20	130	3.7
22222K	23122K	H 322	KM22	MB22	100	4	3 15/16	-0.004	77	21	145	4.8
22224K	23124K	H 3124	KM24	MB24	110	4 1/4	4 3/16	-0.005	88	22	155	5.8
22226K	23126K	H 3126	KM26	MB26	115	4 1/2	4 7/16	-0.005	92	23	165	8.0
22228K	23128K	H 3128	KM28	MB28	125	5	4 15/16	-0.005	97	24	180	9.5
22230K	23130K	H 3130	KM30	MB30	135	5 1/4	5 3/16	-0.005	111	26	195	12.2
22232K	23132K	H 3132	KM32	MB32	140	5 1/2	5 7/16	-0.005	119	28	210	16.9
22234K	23134K	H 3134	KM34	MB34	150	6	5 15/16	-0.005	122	29	220	18.5
22236K	23136K	H 3136	KM36	MB36	160	6 1/2	6 7/16	-0.005	131	30	230	20.9
22238K	23138K	H 3138	KM38	MB38	170	6 3/4	6 15/16	-0.005	141	31	240	23.8
22240K	23140K	H 3140	KM40	MB40	180	7	7 3/16	-0.005	150	32	250	26.7
22244K	23144K	H 3144A	HMS3144	MS44	200	—	7 15/16	-0.005	158	32	280	33.5

Bearing		Catalog Numbers			Adapter Dimensions							
			Assembly Includes		d Standard Shaft Diameter							
Series 223	Series 232	Sleeve Assembly Number	Nut Number	Lockwasher Number	H	HE	HA	Tol. +0.000	B_2	S	D_1	Assembly Weight
					mm	inch	inch	inch	mm	mm	mm	lbs.
22308K	23208K	H 2308	KM8	MB8	35	1 1/4	1 5/16	-.003	46	10	58	0.4
22309K	23209K	H 2309	KM9	MB9	40	1 1/2	1 7/16	-.003	50	11	65	0.6
22310K	23210K	H 2310	KM10	MB10	45	1 3/4	1 11/16	-.003	55	12	70	0.8
22311K	23211K	H 2311	KM11	MB11	50	2	1 15/16	-.003	59	12	75	0.9
22313K	23213K	H 2313	KM13	MB13	60	2 1/4	2 3/16	-.004	65	14	85	1.2
22315K	23215K	H 2315	KM15	MB15	65	2 1/2	2 7/16	-.004	73	15	98	2.3
22316K	23216K	H 2316	KM16	MB16	70	2 3/4	2 11/16	-.004	78	17	105	2.8
22317K	23217K	H 2317	KM17	MB17	75	3	2 15/16	-.004	82	18	110	3.2
22318K	23218K	H 2318	KM18	MB18	80	—	3 3/16	-.004	86	18	120	3.7
22320K	23220K	H 2320	KM20	MB20	90	3 1/2	3 7/16	-.004	97	20	130	4.7
22322K	23222K	H 2322	KM22	MB22	100	4	3 15/16	-.004	105	21	145	6.0
22324K	23224K	H 2324	KM24	MB24	110	4 1/4	4 3/16	-.004	112	22	155	7.0
22326K	23226K	H 2326	KM26	MB26	115	4 1/2	4 7/16	-.005	121	23	165	10.1
22328K	23228K	H 2328	KM28	MB28	125	5	4 15/16	-.005	131	24	180	12.2
22330K	23230K	H 2330	KM30	MB30	135	5 1/4	5 3/16	-.005	139	26	195	14.6
22332K	23232K	H 2332	KM32	MB32	140	5 1/2	5 7/16	-.005	147	28	210	20.2
22334K	23234K	H 2334	KM34	MB34	150	6	5 15/16	-.005	154	29	220	22.5
22336K	23236K	H 2336	KM36	MB36	160	6 1/2	6 7/16	-.005	161	30	230	24.9
22338K	23238K	H 2338	KM38	MB38	170	6 3/4	6 15/16	-.005	169	31	240	27.8
22340K	23240K	H 2340	KM40	MB40	180	7	7 3/16	-.005	176	32	250	30.6
—	23244K	H 2344A	HM44T	MB44	200	—	—	-.005	186	35	280	37.9
—	23248K	H 2348A	HM48T	MB48	220	—	—	-.006	199	37	300	44.5
—	23252K	H 2352A	HM52T	MB52	240	—	—	-.006	211	39	330	54.9
—	23256K	H 2356A	HM56T	MB56	260	—	—	-.007	224	41	350	63.1
—	23260K	H 3260	HM3160	MS3160	280	—	—	-.007	240	40	380	75.2
—	23264K	H 3264	HM3164	MS3164	300	—	—	-.007	258	42	400	86.7

NOTES

SPHERICAL PLAIN

Overview: Timken's spherical plain bearings consist of a spherically ground inner ring housed in a mating outer ring without any rolling elements.

- **Sizes:** 12.7 mm - 600 mm bore (0.5 in. - 23.622 in.).
- **Markets:** Construction, mining, metals, power generation, oils and gas, aggregate, paper and forest products.
- **Applications:** Articulation joints, A-frames, cylinders (steering, lift, tilt, dump), struts, traction bars.
- **Features:** Lubrication grooves and holes, seals to retain lubricant and prevent contamination, special materials available.
- **Benefits:** Can carry radial and axial loads in a small envelope and can accommodate moderate misalignment.

Spherical Plain Bearings

One, two, or three digit "Series" number.

For inch series, the number indicates the nominal bore size (e.g., 10 is 1.00 in.) or an approximate bore size (e.g., 17 is 1.75 in.).

For metric series, the number indicates the exact bore size (e.g., 40 is 40 mm).

Seal Designator:

TT reinforced rubber seals

SS synthetic resin seals

7 **SF** **12** – **SS**

SF spherical plain type (radial inch); single fractured outer ring

SFH spherical plain type (radial inch); single fractured outer ring, wide inner ring

SBB spherical plain type (radial inch); double fractured outer ring

SBT spherical plain angular contact type (radial inch)

FS spherical plain type (radial metric); single fractured outer ring

FSH spherical plain type (radial metric); single fractured outer ring, wide inner ring

One, two, or three digit number.

For inch series, the number indicates the exact bore size in $^{1}/_{16}$ths of an inch (e.g., 12 refers to $^{12}/_{16}$ in. which is a $^{3}/_{4}$ in. bore).

For metric series, the number indicates the exact outside diameter size (e.g., 62 is 62 mm).

B

Spherical Plain Bearings

Page

Introduction B418

General Features B418

BEARING TYPES

SF & FS B418

SF...TT, SF...SS, FS...TT, FS...SS B418

SBT & SBDT B418

Internal Clearances B419

Load Ratings B419

Misalignment B420

Housing Design B421

Shaft Design B421

Lubrication (SF, FS, SBT) B421

Temperature B422

Shaft Fits B422

Tolerances B423

Radial Bearings, Type SF B424

Radial Bearings, Type FS B426

Radial Bearings, FSH B428

Radial Bearings, Type SFH B430

Angular Contact Bearings, Type SBT B432

INTRODUCTION

The spherical plain bearing has a spherically shaped inner ring with a ground cylindrical bore for shaft mounting. The cylindrical outer surface of the outer ring permits convenient mounting in a housing.

Spherical plain bearings offer the following advantages:

- High capacity
- Ability to accommodate misalignment
- Superior performance in low frequency oscillating applications
- Simplified housing and shaft design
- Easy installation
- Radial types available with seals

For all types of spherical plain bearings, both the inner and outer rings are manufactured from through-hardened steel and are precision ground.

The dimensional data lists spherical plain bearings successively by larger bore sizes.

Timken also supplies spherical plain bearings made to special designs. These include standard design bearings made with special materials, clearances, and finishes or bearings with special configurations, such as extended inner rings.

GENERAL FEATURES

METAL ON METAL BEARINGS

Rings are phosphate treated and coated with molybdenum disulfide (MoS_2) to minimize friction of contacting surfaces.

These bearings are available as radial types (SF Series and FS Series) and angular contact thrust (SBT Series).

SF and FS Series include lubrication holes and grooves in both inner and the outer rings to permit relubrication through either the shaft or housing.

SBT angular contact bearings have lubricating holes and grooves in the outer ring for relubrication through the housing.

SF and FS Series are available with integral seals as SF…TT, SF…SS, FS…TT and FS…SS, and incorporate lip seals designed to retain lubricant and protect the spherical surfaces from external contamination.

BEARING TYPES

SF & FS

These bearings are designed primarily to carry radial loads and handle moderate misalignment. The outer ring is usually fractured axially in one place, parallel to its axis, to permit assembly of the bearing rings, which do not have loading slots.

These types can also be supplied with double-fractured outer rings (designation SBB) when this feature is desired for easier assembly in an application.

SF and FS

SF…TT, SF…SS, FS…TT, FS…SS

These bearings are dimensionally interchangeable with the SF and FS Series, and have the same general characteristics. However, they also incorporate lip seals.

The seals are securely retained in the outer ring and will withstand high grease pressures during relubrication. Positive retention of the seals assures full distribution of the lubricant to all bearing surfaces. SF…TT and FS…TT incorporate two reinforced nitrile rubber seals. SF…SS and FS…SS are assembled with synthetic resin seals; Operating temperatures of the seals should not exceed 212° F (100° C).

SF and FS

SBT & SBDT

These bearings are designed for single direction thrust loading and some misalignment. Inner and outer rings are separable. The raceways are essentially hemispherical, and the rings are designed to provide maximum spherical raceway contact in the axial direction.

The SBDT style is designed for single direction thrust loading while the SBDT style is designed for thrust loading in two directions

SBT

SBDT

INTERNAL CLEARANCES

Radial internal clearance is defined as the total possible movement of the inner ring relative to the outer ring in a radial direction. Axial internal clearance is the total possible movement of the inner relative to the outer ring in an axial direction.

Radial internal clearances listed for the SF and FS Series are for finish ground, unmounted bearings prior to fracture of the outer ring. The molybdenum disulfide coating reduces this clearance by a maximum of .05 mm (.002 in.). The maximum interference fits using suggested housing and shaft dimensions will maintain a satisfactory minimum internal clearance in the mounted condition, accommodating coating thickness, outer ring compression, and inner ring expansion.

LOAD RATINGS

DYNAMIC LOAD RATINGS

SF & FS

The dynamic load rating listed in the tables of dimensions is based on a maximum stress level of 85 megapascals (approximately 12,300 psi) between the sliding contact surfaces. It is the maximum load suggested for bearings subjected to intermittent operation with periodic lubrication.

The dynamic load rating is based on the radially projected area of the inner ring bore under the condition where, with the suggested fitting practice and periodic lubrication, rotation normally takes place.

For intermittent loading and operation, the applied radial load should not exceed the dynamic load rating. For constant loading and continuous operation, the applied radial load should not exceed 75 percent of the dynamic load rating. For dynamic or static thrust loading, use 25 percent of the respective radial load rating value should be used. For combined radial and thrust ratings, consult your Timken representative.

SBT

The dynamic load rating is based on the same stress levels as SF shown above and is the maximum thrust load suggested for extended life with periodic lubrication. It is based on the axially projected area of the spherical surfaces in contact. Where the shaft shoulder supports high thrust loads, it is suggested that hardened shafts be employed.

EQUIVALENT THRUST LOAD

SBT

For combined radial and thrust loading under intermittent dynamic conditions, the equivalent thrust load (T_e) must not exceed the dynamic load rating. For constant loading and continuous operation, the equivalent load (T_e), or the axial load (T) when the radial load (R) is zero, must not exceed 70 percent of the dynamic load rating:

$T_e = T + 1.4R$

T_e = Equivalent thrust load per bearing

T = Applied thrust load and/or preload

R = Applied radial load per bearing

The limit load rating of all spherical plain bearings listed is the maximum static load that can be applied to the bearing. This load should not be exceeded. The ultimate, or static fracture rating of the bearing is at least 1.5 times the limit load rating.

Shaft and housing stresses should be checked when the applied load approaches the limit load rating since the shaft or housing may then become the critical factor.

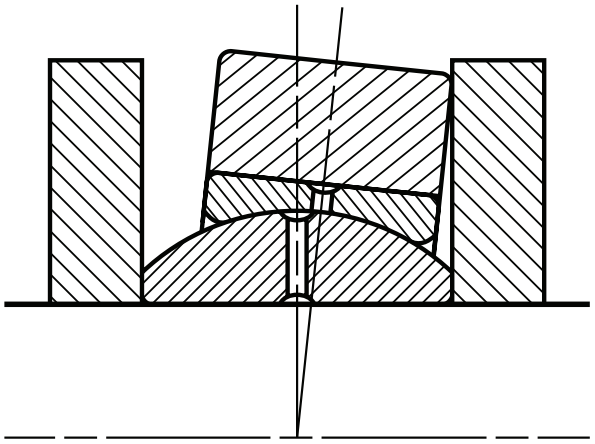
MISALIGNMENT

In many applications, the degree of misalignment of the radial types of spherical plain bearings is determined by the side clearance between the yoke and the bearing housing as illustrated.

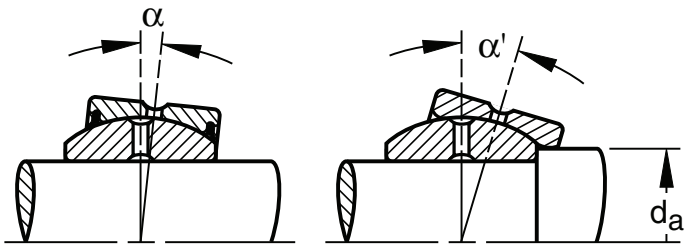
When the bearing is mounted without such restrictions, a larger misalignment can be accommodated: α is the maximum angle of misalignment for sealed bearings as illustrated. If α is exceeded, the seal lips will slide off the spherical surface. Seal effectiveness is then lost and damage to the seal lip will occur if contact is made between the seal lip and shaft shoulder.

Greater misalignment under light to medium loads is possible with unsealed plain radial bearings as shown by angle α'. This requires limiting the shaft shoulder diameter to the suggested dimension (d_a) and also requires sufficient side clearance for the outer ring and housing.

Misalignment greater than α' reduces the load carrying ability of the radial plain spherical bearings. When extreme misalignment is present, the strength of the shaft in shear and bending should be carefully checked, since the shaft support may be some distance away from the bearing.



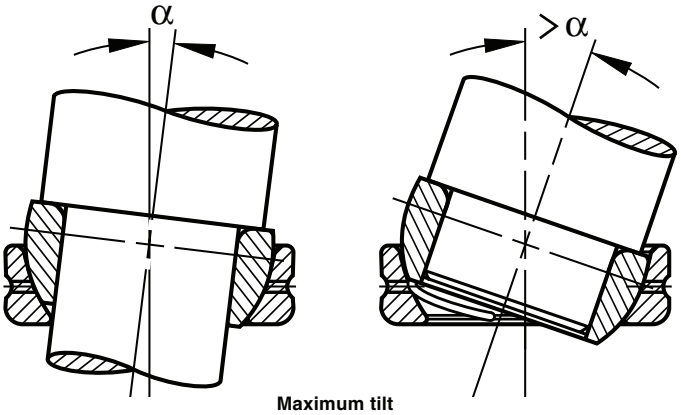
Side clearance between yoke and bearing housing



Maximum tilt
sealed bearing

Maximum tilt
unsealed bearing

Type SBT angular contact bearing permits a tilting angle α provided the housing shoulder clears the shaft. Such misalignment is limited by the bore of the outer ring touching the through shaft, as shown. A larger angle of misalignment is possible where a stub shaft is used. If the tilting angle exceeds α, your Timken representative should be consulted for suggestions.



Maximum tilt
(provided housing shoulder clears shaft)

HOUSING DESIGN

The housing should be strong enough to support the loads applied to the bearings without distortion or risk of fatigue damage.

When using a housing of the type illustrated, with a load applied in directions "X" or "Y", the compressive yield strength of the housing material should be greater than the applied load divided by (B_a • D).

When the load is applied in direction "Y", the yield strength of the housing in tension should be greater than the applied load times $K/B_a(D_a\text{-}D)$, where K is a stress concentration factor from Table 1.

The suggested housing bore tolerances closely approximate N7 tolerances. This produces an interference fit that ensures proper rounding of the outer ring. Light metal housings or housings with thin cross sections may require a tighter fit. An interference fit in the housing is also necessary to prevent creeping by the outer ring with resultant wear of the housing bore and shoulder. Split housings should be avoided.

To resist thrust loads, the bearing should be mounted as shown in the mounting details above the table dimensions.

When plain angular contact bearings (SBT) are axially loaded, the housing expands. For proper and safe bearing function, it is vital to provide a substantial section for the housing. If the thrust limit load ratings are applied for these bearings, not only should the section of the housing be generous, but the housing bore diameter (d_b) must not be exceeded. This not only supports the thrust load, but strengthens the housing in the radial direction as well.

The suggested housing bore for the Type SBT angular contact bearing produces a tight transition fit.

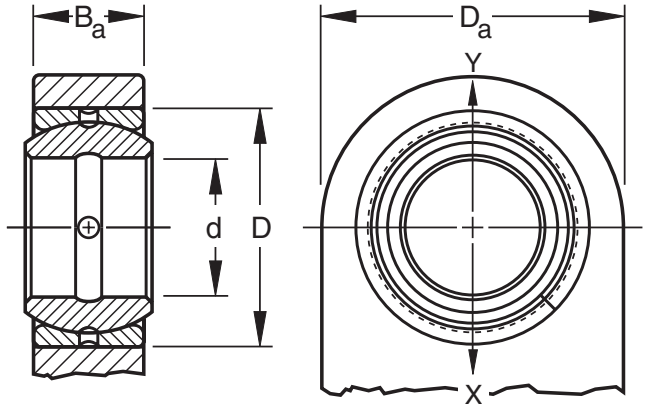
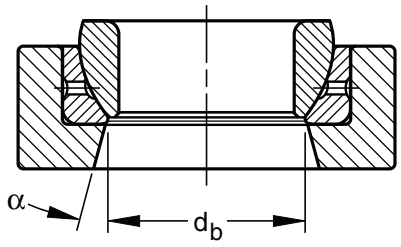


TABLE 1 – STRESS CONCENTRATION FACTOR

D_a/D	K	D_a/D	K	D_a/D	K
1.2	1.8	1.8	2.4	3	3.7
1.4	2	2	2.7	4	4.7
1.6	2.2	2.5	3.2	5	5.5



Housing section - angular contact bearing

SHAFT DESIGN

In applications with heavy radial loads, although alignment takes place at the spherical bearing surface, rotation or oscillation normally occurs between the bore of the inner ring and the shaft even though an interference fit may have been used. For this reason, and to facilitate assembly, the shaft dimensions listed in the tables should be used.

To obtain satisfactory performance with heavy loads or under abrasive conditions, the shaft should be hardened to 655 VPN or 58 HRC minimum. Additionally, the shaft should have sufficient strength to withstand the applied loads in both shear and bending. The surface finish of the bearing seat should not exceed 0.8 micrometers or 32 microinches (on the Ra scale). The shaft should always be supported as close to the inner ring as possible to minimize bending.

When the loads are light, it is possible to prevent rotation between the inner ring and shaft by using an ISO m6 shaft tolerance or by clamping across the inner ring. Under these conditions, a fully hardened shaft is not necessary.

When the bearing is loaded axially, the load is transmitted between the end face of the inner ring and the adjacent shaft shoulder. The shoulder surface must be of sufficient strength and hardness not to deform permanently under load. If the inner ring is to rotate, the finish of this surface should not exceed 0.8 micrometers or 32 microinches (on the Ra scale).

LUBRICATION (SF, FS, SBT)

The dry film lubricant (MoS_2) is sufficient for static applications and for relatively short periods of dynamic operation.

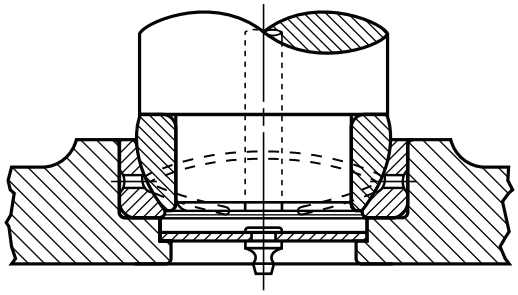
The bonds between the rings and MoS_2 coating may be destroyed by any fluid including oils, greases and water. Any abrasive material present on the dynamic bearing surfaces will ruin the MoS_2 coating. If the bearing is subjected to such operating or environmental conditions, it is necessary to relubricate frequently.

The radial bearings, both with and without seals, have lubricating holes and grooves in both the inner and outer rings, permitting relubrication through either the shaft or the housing.

The angular contact bearings have lubricating holes and grooves in the outer ring for relubrication through the bearing housing. The lubrication grooves in the spherical bore of the outer ring traverse a pattern designed to provide effective lubrication. These grooves extend into the small bore of the ring, permitting relubrication through the end of the housing as illustrated.

The relubrication cycle will depend on the magnitude of the load, frequency and amplitude of oscillation, environmental conditions and the effectiveness of the sealing used to exclude foreign materials from the bearing surfaces.

If bearings are relubricated, the dynamic load rating depends on the film strength of the added lubricant. High quality EP greases are suggested for best results.



SBT – Relubricatable mounting

TEMPERATURE

Spherical plain bearings without seals will operate satisfactorily up to temperatures of 392° F (200° C). For operation at greater temperatures, special materials and lubricants will be required. Operating temperatures for sealed bearings should not exceed 212° F (100° C).

SHAFT FITS

- The shaft diameters listed in the dimension tables show the suggested fits for normal service.
- The table below is to be used only for applications where a shaft interference fit is required. Consult your Timken representative for suggestions.

(SF, SFH, FS, FSH, SBT) BEARINGS,
Shaft Diameter Tolerance for Interference Fit for Inch and Metric Series

Bore Diameter, d				Shaft Tolerance m6			
mm		inch		mm		inch	
over	incl.	over	incl.	high	low	high	low
10	18	0.3937	0.7087	+0.018	+0.007	+0.0007	+0.0003
18	30	0.7087	1.1811	+0.021	+0.008	+0.0008	+0.0003
30	50	1.1811	1.9685	+0.025	+0.009	+0.0010	+0.0004
50	80	1.9685	3.1496	+0.030	+0.011	+0.0012	+0.0005
80	120	3.1496	4.7244	+0.035	+0.013	+0.0014	+0.0005
120	180	4.7244	7.0866	+0.040	+0.015	+0.0016	+0.0006
180	250	7.0866	9.8425	+0.046	+0.017	+0.0018	+0.0007

TOLERANCES

- Tolerances on pages B412-B420 list the nominal bearing dimensions.
- Tolerances for these dimensions are listed in Tables 1 through 4. They are expressed as variances from nominal.
- Metric-inch conversions are shown in the following tables.

TABLE 1 INNER RING (FS, FSH) BEARINGS, METRIC SERIES

Bore Diameter, d				Single Mean Bore Diameter, d_{mp}(1)				Width, B1			
mm		inch		mm		inch		mm		in.	
over	incl.	over	incl.	high	low	high	low	high	low	high	low
10	18	0.3937	0.7087	+0	-0.008	+0	-0.0003	+0	-0.12	+0	-0.005
18	30	0.7087	1.1811	+0	-0.010	+0	-0.0004	+0	-0.12	+0	-0.005
30	50	1.1811	1.9685	+0	-0.012	+0	-0.0005	+0	-0.12	+0	-0.005
50	80	1.9685	3.1496	+0	-0.015	+0	-0.0006	+0	-0.15	+0	-0.006
80	120	3.1496	4.7244	+0	-0.020	+0	-0.0008	+0	-0.20	+0	-0.008
120	180	4.7244	7.0866	+0	-0.025	+0	-0.0010	+0	-0.25	+0	-0.010
180	250	7.0866	9.8425	+0	-0.030	+0	-0.0012	+0	-0.30	+0	-0.012
250	315	9.8425	12.4015	+0	-0.035	+0	-0.0014	+0	-0.35	+0	-0.014

(1) "Single Mean Diameter" is defined as the mean diameter in a single radial plane.

TABLE 2 OUTER RING (FS, FSH) BEARINGS, METRIC SERIES

Outside Diameter, D				Single Mean Outside Diameter, D_{mp}(2)				Width, B			
mm		inch		mm		inch		mm		in.	
over	incl.	over	incl.	high	low	high	low	high	low	high	low
18	30	0.7087	1.1811	+0	-0.009	+0	-0.0004	+0	-0.24	+0	-0.009
30	50	1.1811	1.9685	+0	-0.011	+0	-0.0004	+0	-0.24	+0	-0.009
50	80	1.9685	3.1496	+0	-0.013	+0	-0.0005	+0	-0.30	+0	-0.012
80	120	3.1496	4.7244	+0	-0.015	+0	-0.0006	+0	-0.40	+0	-0.016
120	150	4.7244	5.9055	+0	-0.018	+0	-0.0007	+0	-0.50	+0	-0.020
150	180	5.9055	7.0866	+0	-0.025	+0	-0.0010	+0	-0.50	+0	-0.020
180	250	7.0866	9.8425	+0	-0.030	+0	-0.0012	+0	-0.60	+0	-0.024
250	315	9.8425	12.4015	+0	-0.035	+0	-0.0014	+0	-0.70	+0	-0.028
315	400	12.4015	15.7480	+0	-0.040	+0	-0.0016	+0	-0.80	+0	-0.031
400	500	15.7480	19.6850	+0	-0.045	+0	-0.0018	+0	-0.90	+0	-0.035

(2) Tolerances apply before coating with MoS_2 and fracturing outer ring.
"Single Mean Diameter" is defined as the mean diameter in a single radial plane.

TABLE 3 INNER RING (SF, SFH, SBT, SBDT) BEARINGS, INCH SERIES

Bore Diameter, d				Single Mean Bore Diameter, d_{mp}(1)				Width, B1			
mm		inch		mm		inch		mm		in.	
over	incl.	over	incl.	high	low	high	low	high	low	high	low
11.112	50.800	0.4375	2.0000	+0	-0.013	+0	-0.0005	+0	-0.13	+0	-0.005
50.800	76.200	2.0000	3.0000	+0	-0.015	+0	-0.0006	+0	-0.13	+0	-0.005
76.200	120.650	3.0000	4.7500	+0	-0.020	+0	-0.0008	+0	-0.13	+0	-0.005
120.6500	152.400	4.7500	6.0000	+0	-0.025	+0	-0.0010	+0	-0.13	+0	-0.005

(1) "Single Mean Diameter" is defined as the mean diameter in a single radial plane.

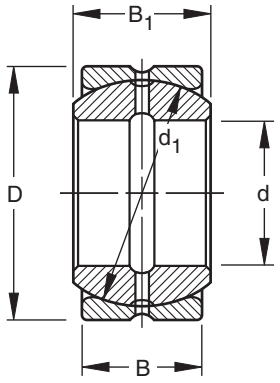
TABLE 4 OUTER RING (SF, SFH, SBT, SBDT) BEARINGS, INCH SERIES

Outside Diameter, D				Single Mean Outside Diameter, D_{mp}(2)				Width, B			
mm		inch		mm		inch		mm		in.	
over	incl.	over	incl.	high	low	high	low	high	low	high	low
20.638	50.800	0.8125	2.0000	+0	-0.013	+0	-0.0005	+0	-0.13	0	-0.005
50.800	80.962	2.0000	3.1875	+0	-0.015	+0	-0.0006	+0	-0.13	0	-0.005
80.962	120.650	3.1875	4.7500	+0	-0.020	+0	-0.0008	+0	-0.13	0	-0.005
120.650	177.800	4.7500	7.0000	+0	-0.025	+0	-0.0010	+0	-0.13	0	-0.005
177.800	222.250	7.0000	8.7500	+0	-0.030	+0	-0.0012	+0	-0.13	0	-0.005

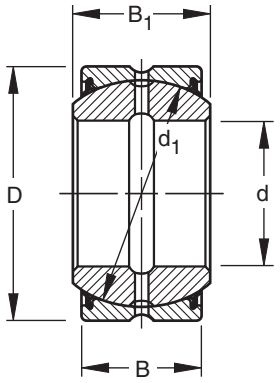
(2) Tolerances apply before coating with MoS_2 and fracturing outer ring.
"Single Mean Diameter" is defined as the mean diameter in a single radial plane.

RADIAL BEARINGS TYPE SF

- Unit assembly consisting of a solid, spherical O.D. inner ring and a spherical I.D. outer ring.
- Outer ring has a single fracture to permit assembly.
- Both inner and outer rings are phosphate treated and then coated with molybdenum disulphide (MoS_2).
- Bearings 7SF12 through 50SBB80 are available with reinforced rubber seals. To order, add suffix "-TT" to bearing designation – Example: 25SF40-TT.
- Bearings 27SF44 through 608BB96 are available with synthetic resin seals. To order, add suffix "-SS" to bearing designation – Example: 27SF44-SS.
- Before ordering any bearing, check for availability.
- Metric-inch conversions have been included. The controlling dimensions are in inches.
- For tolerances, see Tables 3 and 4. Dimensions listed are after the bearing has been coated with molybdenum disulphide.
- The axial internal clearance is approximately three times the radial internal clearance.
- α is the maximum tilting angle for sealed radial bearings. To utilize the maximum tilting angle α for unsealed radial bearings, the suggested shaft shoulder diameter, d_a, shown in the drawing on the facing page, must not be exceeded.
- Dimensions and locations of lubrication holes and grooves may be obtained from your Timken representative.



Type SF



Types SF-TT, SF-SS

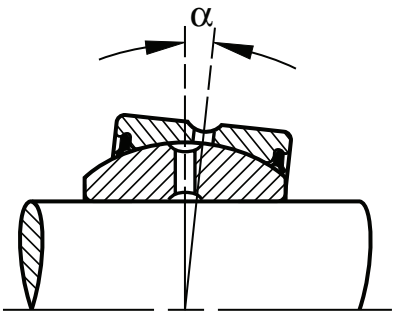
DIMENSIONS - LOAD RATINGS

Bearing Number	Bore d		Outside Diameter D		Inner Ring Width B_1		Outer ring Width B		Spherical Diameter d_1 (Ref.)		Radial Clearance* (unmounted) mm		Radial Clearance* (unmounted) in.		Load Ratings Radial Limit Load Rating	Load Ratings Dynamic Radial Load Rating
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	min.	max.	min.	max.	lbf.	lbf.
5SF8	12.700	0.5000	22.225	0.8750	11.10	0.437	9.52	0.375	18.26	0.719	0.004	0.008	0.10	0.20	8330	2690
6SF10	15.875	0.6250	26.988	1.0625	13.89	0.547	11.91	0.469	22.83	0.899	0.004	0.008	0.10	0.20	13000	4200
7SF12	19.050	0.7500	31.750	1.2500	16.66	0.656	14.27	0.562	27.43	1.080	0.005	0.009	0.13	0.23	18700	6070
8SF14	22.225	0.8750	36.512	1.4375	19.43	0.765	16.66	0.656	31.95	1.258	0.005	0.009	0.13	0.23	25500	8250
10SF16	25.400	1.0000	41.275	1.6250	22.22	0.875	19.05	0.750	36.50	1.437	0.005	0.009	0.13	0.23	33300	10800
12SF20	31.750	1.2500	50.800	2.0000	27.76	1.093	23.80	0.937	45.59	1.795	0.005	0.009	0.13	0.23	52000	16800
13SF22	34.925	1.3750	55.562	2.1875	30.15	1.187	26.19	1.031	49.20	1.937	0.005	0.009	0.13	0.23	61300	20100
15SF24	38.100	1.5000	61.912	2.4375	33.32	1.312	28.58	1.125	54.74	2.155	0.005	0.009	0.13	0.23	75000	24300
17SF28	44.450	1.7500	71.438	2.8125	38.89	1.531	33.32	1.312	63.88	2.515	0.005	0.009	0.13	0.23	102000	33000
20SF32	50.800	2.0000	80.962	3.1875	44.45	1.750	38.10	1.500	73.02	2.875	0.005	0.009	0.13	0.23	133000	43200
22SF36	57.150	2.2500	90.488	3.5625	50.01	1.969	42.85	1.687	82.17	3.235	0.006	0.010	0.15	0.25	169000	54600
25SF40	63.500	2.5000	100.012	3.9375	55.55	2.187	47.62	1.875	91.19	3.590	0.006	0.010	0.15	0.25	208000	67400
27SF44	69.850	2.7500	111.125	4.3750	61.11	2.406	52.37	2.062	100.33	3.950	0.006	0.010	0.15	0.25	252000	81600
30SF48	76.200	3.0000	120.650	4.7500	66.68	2.625	57.15	2.250	109.52	4.312	0.006	0.010	0.15	0.25	300000	97100
32SF52	82.550	3.2500	130.175	5.1250	72.24	2.844	61.90	2.437	118.74	4.675	0.007	0.011	0.18	0.28	353000	114000
35SF56	88.900	3.5000	139.700	5.5000	77.77	3.062	66.68	2.625	128.02	5.040	0.007	0.011	0.18	0.28	410000	132000
37SF60	95.250	3.7500	149.225	5.8750	83.34	3.281	71.42	2.812	136.91	5.390	0.007	0.011	0.18	0.28	467000	152000
40SF64	101.600	4.0000	158.750	6.2500	88.90	3.500	76.20	3.000	146.05	5.750	0.007	0.011	0.18	0.28	533000	173000
45SBB72	114.300	4.5000	177.800	7.0000	100.00	3.937	85.72	3.375	164.46	6.475	0.007	0.011	0.18	0.28	673000	218000
50SBB80	127.000	5.0000	196.850	7.7500	111.13	4.375	95.25	3.750	182.63	7.190	0.007	0.011	0.18	0.28	833000	270000
60SBB96	152.400	6.0000	222.250	8.7500	120.65	4.750	104.78	4.125	207.16	8.156	0.007	0.011	0.18	0.28	1050000	351000

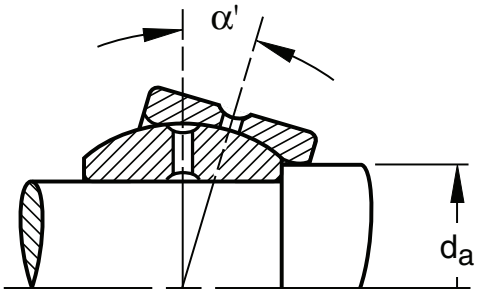
* Prior to coating with MoS_2 and fracturing outer ring.

MOUNTING

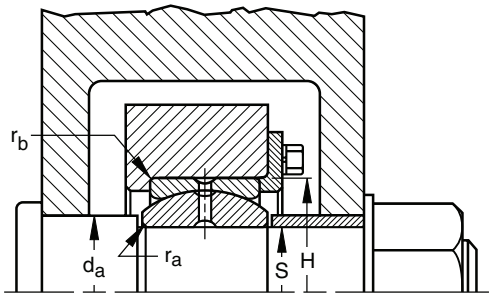
- Housing bore dimensions listed below are applicable to bearings mounted in steel.
- Because of fracturing, the outer ring may be slightly out-of-round.
- Roundness will be restored when the bearing is mounted in a housing of sufficient cross section.
- Preferred shaft and housing bore dimensions are listed below.
- Refer to the m6 tolerance limits per ANSI B4.1 in the Shaft Diameter Tolerance table on page B410 for a shaft interference fit.



Maximum tilt
for sealed bearing



Maximum tilt
for bearing without seals



Mounting detail

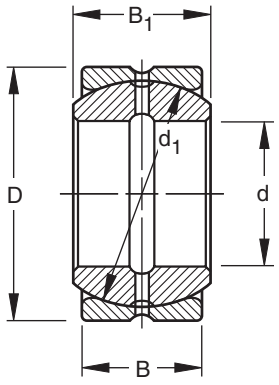
MOUNTING DIMENSIONS

Weight (Approx.)		Tilting Angle		Shaft Shoulder Diameter d_a		Shaft Fillet Radius* r_a† (Max.)		Housing Fillet Radius r_b‡ (Max.)		Shaft Diameter S				Housing Bore H			
		α	α'							mm		in.		mm		in.	
kg	lbs.	deg.	deg.	mm	in.	mm	in.	mm	in.	max.	min.	max.	min.	max.	min.	min.	max.
0.020	0.044	5.5	14	14.3	0.56	*	*	0.6	0.022	12.695	12.685	0.4998	0.4994	22.197	22.217	0.8739	0.8747
0.036	0.079	6	14	17.8	0.70	*	*	0.8	0.032	15.870	15.860	0.6248	0.6244	26.960	26.980	1.0614	1.0622
0.057	0.126	6	14.5	21.4	0.84	*	*	0.8	0.032	19.042	19.029	0.7497	0.7492	31.717	31.742	1.2487	1.2497
0.087	0.193	6	14.5	25.0	0.98	*	*	0.8	0.032	22.217	22.204	0.8747	0.8742	36.479	36.504	1.4362	1.4372
0.125	0.276	6	14.5	28.6	1.12	*	*	0.8	0.032	25.392	25.379	0.9997	0.9992	41.242	41.267	1.6237	1.6247
0.234	0.516	6	14.5	35.7	1.41	*	*	0.8	0.032	31.740	31.725	1.2496	1.2490	50.762	50.792	1.9985	1.9997
0.349	0.770	5.5	14	38.9	1.53	*	*	0.8	0.032	34.915	34.900	1.3746	1.3740	55.524	55.554	2.1860	2.1872
0.424	0.934	6	14.5	43.3	1.70	*	*	0.8	0.032	38.090	38.075	1.4996	1.4990	61.874	61.904	2.4360	2.4372
0.649	1.430	6	15.5	50.0	1.97	*	*	0.8	0.032	44.440	44.425	1.7496	1.7490	71.399	71.429	2.8110	2.8122
0.939	2.070	6	15.5	57.2	2.25	*	*	0.8	0.032	50.790	50.772	1.9996	1.9989	80.914	80.950	3.1856	3.1870
1.324	2.920	6	14	65.1	2.56	*	*	0.8	0.032	57.140	57.122	2.2496	2.2489	90.439	90.475	3.5606	3.5620
1.855	4.090	6	14	72.2	2.84	*	*	0.8	0.032	63.490	63.472	2.4996	2.4989	99.964	100.000	3.9356	3.9370
2.440	5.380	6	12	79.4	3.12	0.6	0.022	0.8	0.032	69.840	69.822	2.7496	2.7489	111.077	111.113	4.3731	4.3745
3.116	6.870	6	12	86.5	3.41	0.6	0.022	0.8	0.032	76.190	76.172	2.9996	2.9989	120.594	120.635	4.7478	4.7494
3.914	8.630	6	12	94.1	3.70	0.6	0.022	0.8	0.032	82.537	82.514	3.2495	3.2486	130.119	130.160	5.1228	5.1244
4.853	10.700	6	12	101.0	3.97	0.6	0.022	0.8	0.032	88.887	88.864	3.4995	3.4986	139.644	139.685	5.4978	5.4994
5.897	13.000	6	12	108.0	4.25	0.6	0.022	0.8	0.032	95.237	95.214	3.7495	3.7486	149.169	149.210	5.8728	5.8744
7.076	15.600	6	11.5	116.0	4.56	0.6	0.022	0.8	0.032	101.587	101.564	3.9995	3.9986	158.694	158.735	6.2478	6.2494
9.934	21.900	6	12	130.0	5.12	0.8	0.032	1.1	0.044	114.287	114.264	4.4995	4.4986	177.744	177.785	6.9978	6.9994
13.472	29.700	6	12	144.0	5.69	0.8	0.032	1.1	0.044	126.985	126.960	4.9994	4.9984	196.784	196.830	7.7474	7.7492
17.600	38.800	5	10.5	168.0	6.59	0.8	0.032	1.1	0.044	152.385	152.360	5.9994	5.9984	222.184	222.230	8.7474	8.7492

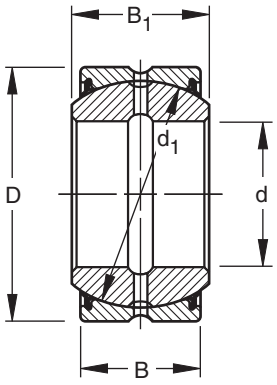
* For bearing sizes 5SF8 through 25SF40, shaft and shoulder should be undercut to eliminate fillet.
† Equal to minimum inner ring bore chamfer.
‡ Equal to minimum outer ring O.D. chamfer.

RADIAL BEARINGS TYPE FS

- Type FS spherical plain radial bearing is a unit assembly consisting of a solid, spherical O.D. inner ring and a spherical I.D. outer ring.
- The outer ring has a single fracture to permit assembly. Both inner and outer rings are phosphate treated and then coated with molybdenum disulphide (MoS2).
- Bearings 16FS30 through 60FS90 are available with reinforced rubber seals. To order, add suffix "TT" to bearing designation - Example: 16FS30-TT.
- Bearings 70FS105 through 300FS430 are available with synthetic resin seals. To order, add suffix "SS" to bearing designation - Example: 70FS105-SS.
- Before ordering any bearing, check for availability.
- Type FS bearings are a metric series which follows proposed International Standards Organization (ISO) standards. Metric-Inch conversions given are for the convenience of the user. The controlling dimensions are in millimeters.
- For tolerances of nominal dimensions see the tables 1 and 2 on page B411. Dimensions listed are before coating with molybdenum disulphide. The axial internal clearance is approximately three times the radial internal clearance.
- α is the maximum tilting angle for sealed radial bearings. To utilize the maximum tilting angle for unsealed radial bearings the suggested shaft shoulder diameter da1 shown in the drawing on facing page must not be exceeded.
- Dimensions and locations of lubrication holes and grooves may be obtained from your Timken representative.



Type FS



Type FS-TT, FS-SS

DIMENSIONS - LOAD RATINGS

Bearing Number	Bore d		Outside Diameter D		Inner Ring Width B_1		Outer ring Width B		Spherical Diameter d_1 (Ref.)		Radial Clearance* (unmounted) mm		Radial Clearance* (unmounted) in.		Load Ratings Radial Limit Load Rating	Load Ratings Dynamic Radial Load Rating
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	min.	max.	min.	max.	lbf.	lbf.
12FS22	12	.4724	22	0.8661	10	.394	7	.276	19	.748	0.10	0.22	.004	.009	8630	2290
14FS26	14	.5512	26	1.0236	12	.472	9	.354	22	.866	0.10	0.22	.004	.009	11600	3210
16FS30	16	.6300	30	1.1811	14	.551	10	.394	25	.984	0.10	0.22	.004	.009	14400	4280
20FS35	20	.7874	35	1.3780	16	.630	12	.472	30	1.181	0.12	0.24	.005	.010	21500	6110
24FS42	24	.9449	42	1.6142	20	.787	16	.630	36	1.417	0.12	0.24	.005	.010	31000	9170
30FS47	30	1.1811	47	1.8504	22	.866	18	.709	41	1.614	0.12	0.24	.005	.010	40200	12600
35FS55	35	1.3780	55	2.1654	25	.984	20	.787	48	1.890	0.12	0.24	.005	.010	55100	16700
40FS62	40	1.5748	62	2.4409	28	1.102	22	.866	55	2.165	0.12	0.24	.005	.010	72300	21400
45FS68	45	1.7717	68	2.6772	32	1.260	25	.984	60	2.362	0.12	0.24	.005	.010	86100	27500
50FS75	50	1.9685	79	2.9528	35	1.378	28	1.102	67	2.638	0.12	0.24	.005	.010	107000	33400
60FS90	60	2.3622	90	3.5433	44	1.732	36	1.417	81	3.150	0.14	0.26	.006	.011	157000	50400
70FS105	70	2.7559	105	4.1339	49	1.929	40	1.575	94	3.701	0.14	0.26	.006	.011	211000	65500
80FS120	80	3.1496	120	4.7244	55	2.165	45	1.772	107	4.213	0.14	0.26	.006	.011	274000	84100
90FS130	90	3.5433	130	5.1181	60	2.362	50	1.968	117	4.606	0.14	0.26	.006	.011	327000	103000
100FS150	100	3.9370	150	5.9055	70	2.756	55	2.165	134	5.276	0.14	0.26	.006	.011	429000	134000
110FS160	110	4.3307	160	6.2992	70	2.756	55	2.165	143	5.630	0.14	0.26	.006	.011	489000	147000
120FS180	120	4.7244	180	7.0866	85	3.346	70	2.756	160	6.299	0.14	0.26	.006	.011	612000	195000
140FS210	140	5.5118	210	8.2677	90	3.543	70	2.756	187	7.362	0.16	0.28	.006	.011	836000	241000
160FS230	160	6.2992	230	9.0551	105	4.134	80	3.150	206	8.110	0.16	0.28	.006	.011	1020000	321000
180FS260	180	7.0866	260	10.2362	105	4.134	80	3.150	234	9.213	0.16	0.28	.006	.011	1300000	361000
200FS290	200	7.8740	290	11.4173	130	5.118	100	3.937	265	10.433	0.18	0.30	.007	.012	1680000	497000
220FS320	220	8.6614	320	12.5984	135	5.315	100	3.937	286	11.260	0.18	0.30	.007	.012	1960000	568000
240FS340	240	9.4488	340	13.3858	140	5.512	100	3.937	306	12.047	0.18	0.30	.007	.012	2240000	642000
260FS370	260	10.2362	370	14.5669	150	5.906	110	4.331	333	13.110	0.20	0.32	.008	.013	2650000	745000
280FS400	280	11.0236	400	15.7480	155	6.102	120	4.724	360	14.173	0.20	0.32	.008	.013	3100000	829000
300FS430	300	11.8110	430	16.9291	165	6.496	120	4.724	386	15.197	0.20	0.32	.008	.013	3560000	946000

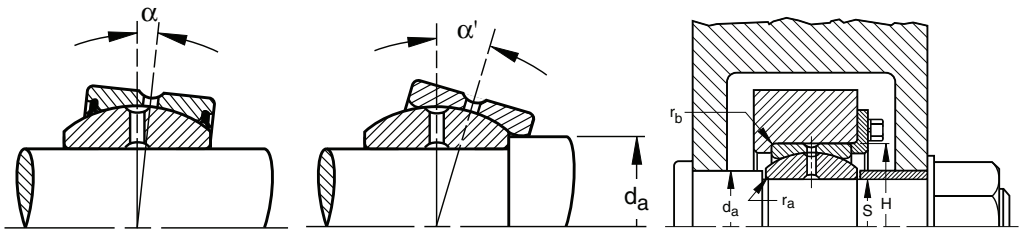
* Prior to fracturing outer ring.

MOUNTING

- Due to fracturing, the outer ring may be slightly out-of-round. Roundness will be restored, however, when the bearing is mounted in a housing of sufficient cross section.
- The preferred shaft tolerance is f6 as listed below per ANSI B4.2. To obtain a shaft interference fit, refer to the m6 tolerance limits listed in the Shaft Diameter Tolerance table on page B410.

LOAD RATING

- The "dynamic load rating" is the maximum load suggested for extended life with periodic lubrication. It is based upon the radially projected area of the inner ring bore and an allowable stress level of 85 megapascals (approximately 12,300 psi).
- For intermittent loading and intermittent operation, the applied radial load should not exceed the dynamic load rating. For constant loading and continuous operation, the applied radial load should not exceed 75 percent of the dynamic load rating. For dynamic or static thrust loading, use 25 percent of respective radial load values. For combined radial and thrust loading, consult your Timken representative.
- The "limit load rating" is the maximum static load that can be applied to a Timken spherical plain bearing. Shaft and housing stresses should be checked when the load approaches the limit load rating since the shaft or housing may then become the critical member. The ultimate, or static fracture, rating of the bearing is at least 1.5 times the limit load rating.
- Load ratings are given in pounds-force:
  1 lbf = 0.454kgf = 4.448 N.



Maximum tilt for sealed bearing

Maximum tilt for bearing without seals

Mounting detail

MOUNTING DIMENSIONS

Weight (Approx.)		Tilting Angle		Shaft Shoulder Diameter d_a		Shaft Fillet Radius* r_a† (Max.)		Housing Fillet Radius r_b‡ (Max.)		Shaft Diameter S				Housing Bore H			
		α	α'							mm		in.		mm		in.	
kg	lbs.	deg.	deg.	mm	in.	mm	in.	mm	in.	max.	min.	max.	min.	max.	min.	min.	max.
	.038	10.0	11.5	16	.63	0.5	.02	0.5	.02	11.984	11.973	.4718	.4714	21.977	21.995	.8650	.8658
	.065	8.5	14.5	18	.71	0.5	.02	0.5	.02	13.984	13.973	.5506	.5502	25.972	25.993	1.0225	1.0233
	.115	10.0	16.0	20	.79	0.5	.02	0.5	.02	15.984	15.973	.6293	.6289	29.972	29.993	1.1800	1.1808
	.149	8.5	14.0	25	.98	0.5	.02	0.6	.02	19.980	19.967	.7866	.7861	34.967	34.992	1.3767	1.3777
	.257	7.0	12.5	29	1.14	0.5	.02	0.6	.02	23.980	23.967	.9441	.9436	41.967	41.992	1.6522	1.6532
	.337	6.0	10.5	34	1.38	0.5	.02	0.6	.02	29.980	29.967	1.1803	1.1798	46.967	46.992	1.8491	1.8501
	.523	6.5	10.5	40	1.61	0.6	.02	0.8	.03	34.975	34.959	1.3770	1.3764	54.961	54.991	2.1638	2.1650
	.729	7.0	10.5	47	1.85	0.6	.02	0.8	.03	39.975	39.959	1.5738	1.5732	61.961	61.991	2.4394	2.4406
	.948	7.5	10.5	50	2.01	0.6	.02	0.8	.03	44.975	44.959	1.7707	1.7701	67.961	67.991	2.6756	2.6768
	1.27	6.5	10.0	56	2.24	0.6	.02	0.8	.03	49.975	49.959	1.9675	1.9669	74.961	74.991	2.9512	2.9524
	2.32	6.5	11.0	66	2.64	0.8	.03	1.0	.04	59.970	59.951	2.3610	2.3603	89.955	89.990	3.5415	3.5429
	3.53	6.0	9.5	80	3.15	0.8	.03	1.0	.04	69.970	69.951	2.7547	2.7540	104.955	104.990	4.1321	4.1335
	5.20	6.0	7.5	92	3.62	0.8	.03	1.0	.04	79.970	79.951	3.1484	3.1477	119.955	119.990	4.7226	4.7240
	6.28	5.5	7.5	100	3.94	1.0	.04	1.0	.04	89.964	89.942	3.5419	3.5410	129.948	129.988	5.1161	5.1177
	10.1	7.0	8.5	114	4.49	1.0	.04	1.0	.04	99.964	99.942	3.9356	3.9347	149.948	149.988	5.9035	5.9051
	10.9	6.0	7.5	125	4.92	1.0	.04	1.0	.04	109.964	109.942	4.3293	4.3284	159.948	159.988	6.2972	6.2988
	18.1	6.0	7.5	136	5.35	1.0	.04	1.0	.04	119.964	119.942	4.7230	4.7221	179.948	179.988	7.0846	7.0862
	25.6	6.5	7.0	164	6.46	1.0	.04	1.0	.04	139.957	139.932	5.5101	5.5091	209.940	209.986	8.2654	8.2674
	32.3	7.5	9.0	177	6.97	1.0	.04	1.0	.04	159.957	159.932	6.2975	6.2965	229.940	229.986	9.0528	9.0548
	42.8	6.5	7.0	209	8.23	1.0	.04	1.0	.04	179.957	179.932	7.0849	7.0839	259.934	259.986	10.2336	10.2356
	66.5	7.0	7.5	231	9.09	1.0	.04	1.0	.04	199.950	199.921	7.8720	7.8709	289.934	289.986	11.4147	11.4167
	82.3	7.5	8.0	252	9.92	1.0	.04	1.0	.04	219.950	219.921	8.6594	8.6583	319.927	319.984	12.5956	12.5978
	90.1	8.0	9.0	272	10.70	1.0	.04	1.0	.04	239.950	239.921	9.4468	9.4457	339.927	339.984	13.3830	13.3852
	17	7.0	8.5	297	11.69	1.0	.04	1.0	.04	259.944	259.912	10.2340	10.2327	369.927	369.984	14.5641	14.5663
	47	6.0	7.0	325	12.80	1.0	.04	1.0	.04	279.944	279.912	11.0214	11.0201	399.927	399.984	15.7452	15.7474
	77	7.0	9.0	349	13.74	1.0	.04	1.0	.04	299.944	299.912	11.8088	11.8075	429.920	429.983	16.9260	16.9285

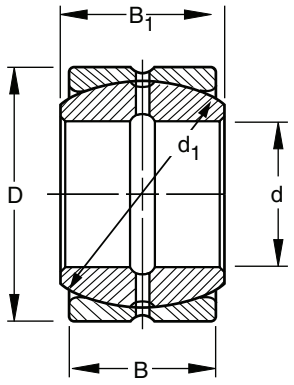
* For bearing sizes 5SF8 through 25SF40, shaft and shoulder should be undercut to eliminate fillet.
† Equal to minimum inner ring bore chamfer.
‡ Equal to minimum outer ring O.D. chamfer.

RADIAL BEARINGS TYPE FSH

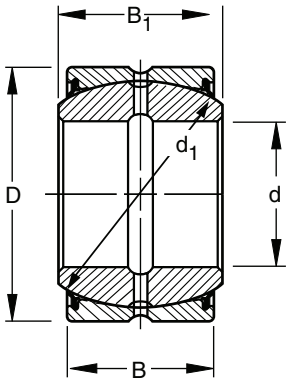
- The FSH spherical plain radial bearing is a unit assembly consisting of a solid spherical O.D. inner ring and a spherical I.D. outer ring.
- The outer ring has a single fracture to permit assembly. Both inner and outer rings are phosphate treated and then coated with molybdenum disulphide (MoS2). The type FSH bearing is similar to type FS, but the inner ring bore diameter has been reduced and the width made greater to increase the spherical surface. This permits greater misalignment while maintaining full bearing contact.
- Bearings 14FSH30 through 50FSH90 are available with reinforced rubber seals. To order, add suffix "TT" to bearing designation - Example: 14FSH30-TT.
- Bearings 60FSH105 through 280FSH430 are available with synthetic resin seals. To order, add suffix "SS" to bearing designation - Example: 60FSH105-SS.
- Before ordering any bearing, check for availability.

DIMENSIONS

- Type FSH bearings are a metric series which follows proposed International Standards Organization (ISO) standards. Metric Inch conversions given are for the convenience of the user. The controlling dimensions are in millimeters.
- For tolerances of nominal dimensions, see Tables 1 and 2 on page B411. Dimensions listed are before coating with molybdenum disulphide. The axial internal clearance is approximately three times the radial internal clearance.
- α is the maximum tilting angle for sealed radial bearings. To utilize the maximum tilting angle for unsealed radial bearings, the suggested shaft shoulder diameter da1 shown in the drawing on facing page must not be exceeded.
- Dimensions and locations of lubrication holes and grooves may be obtained from your Timken representative.



Type FSH



Type SFH TT, SFH SS

DIMENSIONS - LOAD RATINGS

Bearing Number	Bore d		Outside Diameter D		Inner Ring Width B_1		Outer ring Width B		Spherical Diameter d_1 (Ref.)		Radial Clearance* (unmounted) mm		Radial Clearance* (unmounted) in.		Load Ratings Radial Limit Load Rating	Load Ratings Dynamic Radial Load Rating
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	min.	max.	min.	max.	lbf.	lbf.
12FSH26	12	.4724	26	1.0236	15	.591	9	.354	22	.866	0.10	0.22	.004	.009	11600	3440
14FSH30	14	.5512	30	1.1811	16	.630	10	.394	25	.984	0.10	0.22	.004	.009	14400	4280
16FSH35	16	.6300	35	1.3780	20	.787	12	.472	30	1.181	0.12	0.24	.005	.010	21500	6110
20FSH42	20	.7874	42	1.6142	25	.984	16	.630	36	1.417	0.12	0.24	.005	.010	31000	9550
24FSH47	24	.9449	47	1.8504	28	1.102	18	.709	41	1.614	0.12	0.24	.005	.010	40200	12800
30FSH55	30	1.1811	55	2.1654	32	1.260	20	.787	48	1.890	0.12	0.24	.005	.010	55100	18300
35FSH62	35	1.3780	62	2.4409	35	1.378	22	.866	55	2.165	0.12	0.24	.005	.010	72300	23400
40FSH68	40	1.5748	68	2.6772	40	1.575	25	.984	60	2.362	0.12	0.24	.005	.010	86100	30600
45FSH75	45	1.7717	75	2.9528	43	1.693	28	1.102	67	2.638	0.12	0.24	.005	.010	107000	37000
50FSH90	50	1.9685	90	3.5433	56	2.205	36	1.417	81	3.150	0.14	0.26	.006	.011	157000	53500
60FSH105	60	2.3622	105	4.1339	63	2.480	40	1.575	94	3.701	0.14	0.26	.006	.011	211000	72200
70FSH120	70	2.7559	120	4.7244	70	2.756	45	1.772	107	4.213	0.14	0.26	.006	.011	274000	93600
80FSH130	80	3.1496	130	5.1181	75	2.953	50	1.968	117	4.606	0.14	0.26	.006	.011	327000	115000
90FSH150	90	3.5433	150	5.9055	85	3.346	55	2.165	134	5.276	0.14	0.26	.006	.011	429000	146000
100FSH160	100	3.9370	160	6.2992	85	3.346	55	2.165	143	5.630	0.14	0.26	.006	.011	489000	162000
110FSH180	110	4.3307	180	7.0866	100	3.937	70	2.756	160	6.299	0.14	0.26	.006	.011	612000	210000
120FSH210	120	4.7244	210	8.2677	115	4.528	70	2.756	187	7.362	0.16	0.28	.006	.011	836000	264000
140FSH230	140	5.5118	230	9.0551	130	5.118	80	3.150	206	8.110	0.16	0.28	.006	.011	1020000	348000
160FSH260	160	6.2992	260	10.2362	135	5.315	80	3.150	234	9.213	0.16	0.28	.006	.011	1300000	413000
180FSH290	180	7.0866	290	11.4173	155	6.102	100	3.937	265	10.433	0.18	0.30	.007	.012	1680000	533000
200FSH320	200	7.8740	320	12.5984	165	6.496	100	3.937	286	11.260	0.18	0.30	.007	.012	1960000	631000
220FSH340	220	8.6614	340	13.3858	175	6.890	100	3.937	306	12.047	0.18	0.30	.007	.012	2240000	736000
240FSH370	240	9.4488	370	14.5669	190	7.480	110	4.331	333	13.110	0.20	0.32	.008	.013	2650000	871000
260FSH400	260	10.2362	400	15.7480	205	8.071	120	4.724	360	14.173	0.20	0.32	.008	.013	3100000	1020000
280FSH430	280	11.0236	430	16.9291	210	8.268	120	4.724	386	15.197	0.20	0.32	.008	.013	3560000	1120000

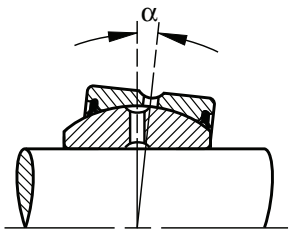
* Prior to fracturing outer ring.

MOUNTING

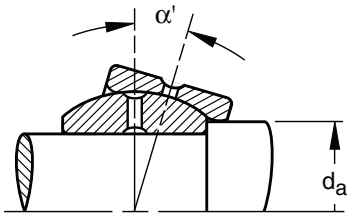
- The housing bore dimensions given below are applicable to bearings mounted in steel.
- Due to fracturing, the outer ring may be slightly out-of-round. Roundness will be restored, however, when the bearing is mounted in a housing of sufficient cross section.
- The preferred shaft tolerance is f6 as listed below per ANSI B4.2. To obtain a shaft interference fit, refer to the m6 tolerance limits listed in the Shaft Diameter Tolerance table on page B410.

LOAD RATING

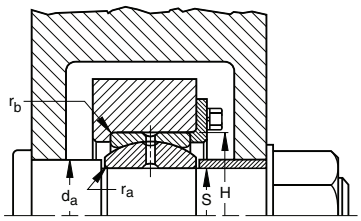
- The "dynamic load rating" is the maximum load suggested for extended life with periodic lubrication. It is based upon the radially projected area of the inner ring bore and allowable stress level of 85 megapascals (approximately 12,300 psi).
- For intermittent loading and intermittent operation, the applied radial load should not exceed the dynamic load rating for constant loading and continuous operation, the applied radial load should not exceed 75 percent of the dynamic load rating. For dynamic or static thrust loading, use 25 percent of respective radial load rating values. For combined radial and thrust loading, consult your Timken representative.
- The "limit load rating" is the maximum static load that can be applied to a Timken spherical plain bearing. Shaft and housing stresses should be checked when the load approaches the limit load rating since the shaft or housing may then become the critical member. The ultimate or static fracture rating of the bearing is at least 1.5 times the limit load rating.
- Load ratings are given in pounds force:
  1 lbf = 0.454 kgf = 4.448N.



Maximum tilt
for sealed bearing



Maximum tilt
for bearing without seals



Mounting detail

MOUNTING DIMENSIONS

Weight (Approx.)	Tilting Angle		Shaft Shoulder Diameter d_a		Shaft Fillet Radius* r_a† (Max.)		Housing Fillet Radius r_b‡ (Max.)		Shaft Diameter S				Housing Bore H			
	α	α'							mm		in.		mm		in.	
lbs.	deg.	deg.	mm	in.	mm	in.	mm	in.	max.	min.	max.	min.	max.	min.	min.	max.
.069	18.5	25.0	16	.63	0.5	.02	0.5	.02	11.984	11.973	.4718	.4714	25.972	25.993	1.0225	1.0233
.130	16.0	22.0	19	.75	0.5	.02	0.5	.02	13.984	13.973	.5506	.5502	29.972	29.993	1.1800	1.1808
.171	18.0	27.0	21	.83	0.5	.02	0.6	.02	15.984	15.973	.6293	.6289	34.967	34.992	1.3767	1.3777
.298	17.5	26.5	24	.94	0.5	.02	0.6	.02	19.980	19.967	.7866	.7861	41.967	41.992	1.6522	1.6532
.397	17.0	23.0	29	1.14	0.5	.02	0.6	.02	23.980	23.963	.9441	.9436	46.967	46.992	1.8491	1.8501
.574	17.0	24.0	34	1.34	0.5	.02	0.8	.03	29.980	29.967	1.1803	1.1798	54.961	54.991	2.1638	2.1650
.794	15.5	24.5	39	1.54	0.6	.02	0.8	.03	34.975	34.959	1.3770	1.3764	61.961	61.991	2.4394	2.4406
.982	17.0	21.0	44	1.73	0.6	.02	0.8	.03	39.975	39.959	1.5738	1.5732	67.961	67.991	2.6756	2.6768
1.31	15.0	20.0	50	1.97	0.6	.02	0.8	.03	44.975	44.959	1.7707	1.7701	74.961	74.991	2.9512	2.9524
2.63	17.0	23.5	57	2.24	0.6	.02	1.0	.04.	49.975	49.959	1.9675	1.9669	89.955	89.990	3.5415	3.5429
3.91	16.5	22.5	67	2.64	0.8	.03	1.0	.04	59.970	59.951	2.3610	2.3603	104.955	104.990	4.1321	4.1335
5.62	15.5	20.5	77	3.03	0.8	.03	1.0	.04	69.970	69.951	2.7547	2.7540	119.955	119.990	4.7226	4.7240
6.66	14.5	18.5	87	3.43	0.8	.03	1.0	.04	79.970	79.951	3.1484	3.1477	129.948	129.988	5.1161	5.1177
10.4	15.0	19.5	98	3.86	1.0	.04	1.0	.04	89.964	89.942	3.5419	3.5410	149.948	149.988	5.9035	5.9051
11.5	13.5	18.0	110	4.33	1.0	.04	1.0	.04	99.964	99.942	3.9356	3.9347	159.948	159.988	6.2972	6.2988
17.9	12.5	15.5	122	4.80	1.0	.04	1.0	.04	109.964	109.942	4.3293	4.3284	179.948	179.988	7.0846	7.0862
29.7	15.5	23.5	132	5.20	1.0	.04	1.0	.04	119.964	119.942	4.7230	4.7221	209.940	209.986	8.2654	8.2674
35.8	16.0	20.5	152	5.98	1.0	.04	1.0	.04	139.957	139.932	5.5101	5.5091	229.940	229.986	9.0528	9.0548
48.9	15.0	21.0	176	6.93	1.0	.04	1.0	.04	159.957	159.932	6.2975	6.2965	259.934	259.986	10.2336	10.2356
71.5	13.0	20.5	196	7.72	1.0	.04	1.0	.04	179.957	179.932	7.0849	7.0839	289.934	289.986	11.4147	11.4167
88.2	14.5	19.5	220	8.66	1.0	.04	1.0	.04	199.950	199.921	7.8720	7.8709	319.927	319.984	12.5956	12.5978
96.4	15.5	19.0	243	9.57	1.0	.04	1.0	.04	219.950	219.921	8.6594	8.6583	339.927	339.984	13.3830	13.3852
124	15.5	19.5	263	10.35	1.0	.04	1.0	.04	239.950	239.921	9.4468	9.4457	369.927	369.984	14.5641	14.5663
157	15.0	19.5	283	11.14	1.0	.04	1.0	.04	259.944	259.912	10.2340	10.2327	399.927	399.984	15.7452	15.7474
188	14.5	20.0	310	12.20	1.0	.04	1.0	.04	279.944	279.912	11.0214	11.0201	429.920	429.983	16.9260	16.9285

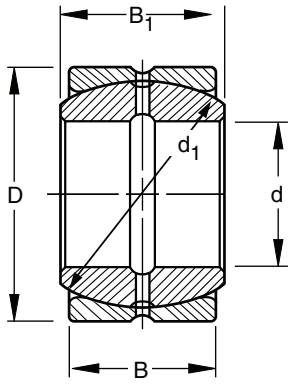
* For bearing sizes 5SF8 through 25SF40, shaft and shoulder should be undercut to eliminate fillet.
† Equal to minimum inner ring bore chamfer.
‡ Equal to minimum outer ring O.D. chamfer.

RADIAL BEARINGS TYPE SFH

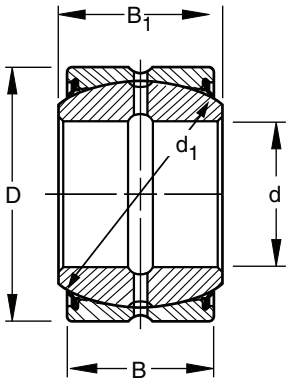
- The SFH spherical plain radial bearing is a unit assembly consisting of a solid spherical O.D. inner ring and a spherical I.D. outer ring. The outer ring has a single fracture to permit assembly. Both inner and outer rings are phosphate treated and then coated with molybdenum disulphide (MoS_2).
- The type SFH bearing is similar to type SF, but the inner ring bore diameter has been reduced and the width made greater to increase the spherical surface. This permits greater misalignment yet maintains full bearing contact.
- Bearings 12SFH24 through 22SFH40 are available with reinforced rubber seals. To order, add suffix "TT" to bearing designation - Example: 22SFH40-TT.
- Bearings 25SFH44 through 55SFH96 are available with synthetic resin seals. To order, add suffix "SS" to bearing designation - Example: 25SFH44-SS.
- Before ordering any bearing, check for availability.

DIMENSIONS

- Inch-metric conversions given are for the convenience of the user. The controlling dimensions are in inches.
- For tolerances of nominal dimensions, see Tables 2 and 2A on page B411. Dimensions listed are after coating with MoS_2 except outer ring O.D. and internal clearance are before coating and fracturing. The axial internal clearance is approximately three times the radial internal clearance.
- α is the maximum tilting angle for sealed radial bearings. To utilize the maximum tilting angle for unsealed radial bearings, the suggested shaft shoulder diameter d_a, shown in the drawing on facing page must not be exceeded.
- Dimensions and locations of lubrication holes and grooves may be obtained from your Timken representative.



Type SFH



Type SFH TT, SFH SS

DIMENSIONS - LOAD RATINGS

Bearing Number	Bore d		Outside Diameter D		Inner Ring Width B_1		Outer ring Width B		Spherical Diameter d_1 (Ref.)		Radial Clearance* (unmounted) mm		Radial Clearance* (unmounted) in.		Load Ratings Radial Limit Load Rating	Load Ratings Dynamic Radial Load Rating
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	min.	max.	min.	max.	lbf.	lbf.
12SFH24	31.750	1.2500	61.912	2.4375	35.31	1.390	28.58	1.125	54.74	2.155	0.13	0.23	.005	.009	75000	21400
15SFH28	38.100	1.5000	71.438	2.8125	40.13	1.580	33.32	1.312	63.88	2.515	0.13	0.23	.005	.009	102000	29200
17SFH32	44.450	1.7500	80.962	3.1875	46.23	1.820	38.10	1.500	73.02	2.875	0.13	0.23	.005	.009	133000	39300
20SFH36	50.800	2.0000	90.488	3.5625	52.58	2.070	42.85	1.687	82.17	3.235	0.15	0.25	.006	.010	169000	51000
22SFH40	57.150	2.2500	100.012	3.9375	58.88	2.318	47.62	1.875	91.19	3.590	0.15	0.25	.006	.010	208000	64000
25SFH44	63.500	2.5000	111.125	4.3750	64.64	2.545	52.37	2.062	100.33	3.950	0.15	0.25	.006	.010	252000	78400
27SFH48	69.850	2.7500	120.650	4.7500	70.87	2.790	57.15	2.250	109.52	4.312	0.15	0.25	.006	.010	300000	94600
30SFH52	76.200	3.0000	130.175	5.1250	76.76	3.022	61.90	2.437	118.74	4.675	0.18	0.28	.007	.011	353000	112000
32SFH56	82.550	3.2500	139.700	5.5000	82.93	3.265	66.68	2.625	128.02	5.040	0.18	0.28	.007	.011	410000	131000
35SFH60	88.900	3.5000	149.225	5.8750	90.42	3.560	71.42	2.812	136.91	5.390	0.18	0.28	.007	.011	467000	154000
37SFH64	95.250	3.7500	158.750	6.2500	94.95	3.738	76.20	3.000	146.05	5.750	0.18	0.28	.007	.011	533000	173000
40SFH72	101.600	4.0000	177.800	7.0000	107.32	4.225	85.72	3.375	164.46	6.475	0.18	0.28	.007	.011	673000	208000
45SFH80	114.300	4.5000	196.850	7.7500	119.13	4.690	95.25	3.750	182.63	7.190	0.18	0.28	.007	.011	833000	260000
55SFH96	139.700	5.5000	222.250	8.7500	125.73	4.950	104.78	4.125	207.16	8.156	0.18	0.28	.007	.011	1050000	336000

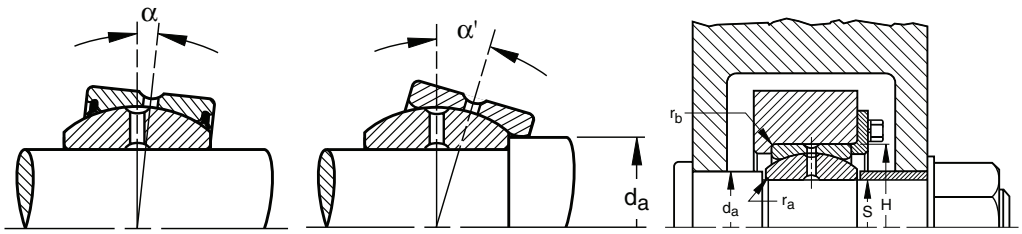
* Prior to fracturing outer ring.

MOUNTING

- The housing bore dimensions given below are applicable to bearings mounted in steel.
- Due to fracturing, the outer ring may be slightly out-of-round. Roundness will be restored, however, when the bearing is mounted in a housing of sufficient cross section.
- The preferred shaft tolerance is g6 as listed below per ANSI B4.1. To obtain a shaft interference fit, refer to the m6 tolerance limits listed in the Shaft Diameter Tolerance table on page B410.

LOAD RATING

- The "dynamic load rating" is the maximum load suggested for extended life with periodic lubrication. It is based upon the radially projected area of the inner ring bore and an allowable stress level of 85 megapascals (approximately 12,300 psi).
- For intermittent loading and intermittent operation, the applied radial load should not exceed the dynamic load rating. For constant loading and continuous operation, the applied radial load should not exceed 75 percent of the dynamic load rating. For dynamic or static thrust loading, use 25 percent of respective radial load rating values. For combined radial and thrust loading, consult your Timken representative.
- The "limit load rating" is the maximum static load that can be applied to a Timken spherical plain bearing. Shaft and housing stresses should be checked when the load approaches the limit load rating since the shaft or housing may then become the critical member. The ultimate, or static fracture, rating of the bearing is at least 1.5 times the limit load rating.
- Load ratings are given in pounds force:
  1lbf = 0.454 kgf = 4.448N.



Maximum tilt for sealed bearing

Maximum tilt for bearing without seals

Mounting detail

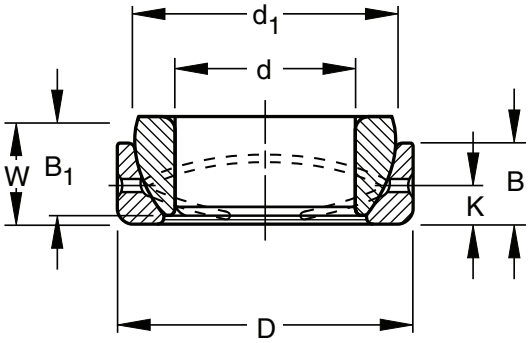
MOUNTING DIMENSIONS

Weight (Approx.)	Tilting Angle α	Tilting Angle α'	Shaft Shoulder Diameter d_a		Shaft Fillet Radius* r_a† (Max.)		Housing Fillet Radius r_b‡ (Max.)		Shaft Diameter S mm		Shaft Diameter S in.		Housing Bore H mm		Housing Bore H in.	
lbs.	deg.	deg.	mm	in.	mm	in.	mm	in.	max.	min.	max.	min.	max.	min.	min.	max.
1.00	8.5	16.5	41.9	1.64	1.0	.040	0.8	.032	31.740	31.725	1.2496	1.2490	61.874	61.904	2.4360	2.4372
1.60	7.0	15.5	49.8	1.95	1.0	.040	0.8	.032	38.090	38.075	1.4996	1.4990	71.399	71.429	2.8110	2.8122
2.50	7.5	16.0	56.6	2.22	1.5	.060	0.8	.032	44.440	44.425	1.7496	1.7490	80.914	80.950	3.1856	3.1870
3.70	8.0	16.0	63.2	2.48	1.5	.060	0.8	.032	50.790	50.772	1.9996	1.9989	90.439	90.475	3.5606	3.5620
4.40	8.5	16.5	69.6	2.74	1.5	.060	0.8	.032	57.140	57.122	2.2496	2.2489	99.964	100.000	3.9356	3.9370
6.50	8.5	14.0	76.7	3.02	2.0	.080	0.8	.032	63.490	63.472	2.4996	2.4989	111.077	111.113	4.3731	4.3745
8.00	8.5	14.0	83.6	3.28	2.0	.080	0.8	.032	69.840	69.822	2.7496	2.7489	120.594	120.635	4.7478	4.7494
9.60	8.5	14.0	90.7	3.56	2.0	.080	0.8	.032	76.190	76.172	2.9996	2.9989	130.119	130.160	5.1228	5.1244
11.7	8.5	14.0	97.5	3.83	2.0	.080	0.8	.032	82.537	82.514	3.2495	3.2486	139.544	139.685	5.4978	5.4994
15.0	9.5	15.0	103	4.04	2.0	.080	0.8	.032	88.887	88.864	3.4995	3.4986	149.169	149.210	5.8728	5.8744
19.5	9.0	14.5	111	4.36	2.0	.080	0.8	.032	95.237	95.214	3.7495	3.7486	158.694	158.735	6.2478	6.2494
22.5	9.0	14.5	125	4.90	2.0	.080	1.1	.044	101.587	101.564	3.9995	3.9986	177.744	177.785	6.9978	6.9994
30.0	9.0	14.5	138	5.44	2.0	.080	1.1	.044	114.287	114.264	4.4995	4.4986	196.784	196.830	7.7474	7.7492
45.0	6.5	12.0	165	6.48	2.0	.080	1.1	.044	139.685	139.660	5.4994	5.4984	222.184	222.230	8.7474	8.7492

* For bearing sizes 5SF8 through 25SF40, shaft and shoulder should be undercut to eliminate fillet.
† Equal to minimum inner ring bore chamfer.
‡ Equal to minimum outer ring O.D. chamfer.

ANGULAR CONTACT BEARINGS TYPE SBT

- Separable assembly consisting of an inner and outer ring with hemispherically shaped surfaces that mate with each other.
- Both inner and outer rings are phosphate-treated and coated with molybdenum disulphide (MoS_2).
- If a Timken ring is assembled with a ring of another make, consult your Timken representative.
- To order inner and outer rings separately, specify by adding suffix "-OR" for outer ring or "-IR" for inner ring.
- Metric-inch conversions are provided for the convenience of the user. The controlling dimensions are in inches.
- See Table 2 and 3 for tolerances. Dimensions listed are after the bearing has been coated with molybdenum disulphide.
- α is the maximum tilting angle through the shaft. A stub shaft can be used to obtain a larger angle.
- Dimensions and locations of lubrication holes and grooves may be obtained from your Timken representative.

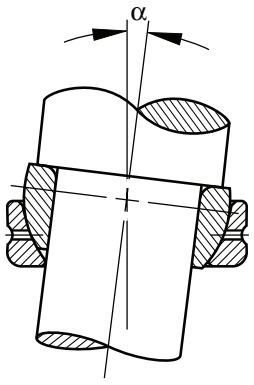


DIMENSIONS - LOAD RATINGS

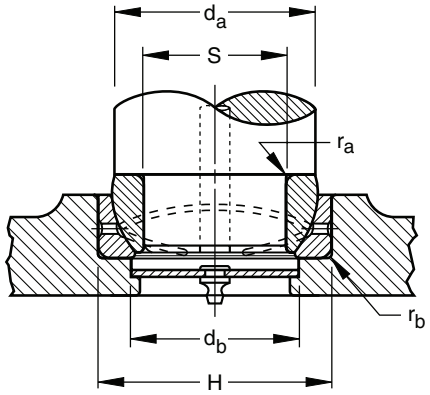
Bearing Number	Bore d		Outside Diameter D		Inner Ring Width B_1		Outer ring Width B		Spherical Diameter d_1 (Ref.)		Radial Clearance* (unmounted) mm		Radial Clearance* (unmounted) in.		Load Ratings Radial Limit Load Rating	Load Ratings Dynamic Radial Load Rating
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	min.	max.	min.	max.	lbf.	lbf.
5SBT80	0.5000	12.700	0.8750	22.225	0.270	6.86	0.190	4.83	0.300	7.62	0.094	2.39	0.719	18.26	4600	1860
6SBT10	0.6250	15.875	1.0625	26.988	0.340	8.64	0.250	6.35	0.370	9.40	0.109	2.77	0.899	22.83	7600	3080
7SBT12	0.7500	19.050	1.2500	31.750	0.410	10.41	0.310	7.87	0.440	11.18	0.125	3.18	1.080	27.43	11100	4500
8SBT14	0.8750	22.225	1.4375	36.512	0.480	12.19	0.380	9.65	0.520	13.21	0.172	4.37	1.258	31.95	15400	6210
10SBT16	1.0000	25.400	1.6250	41.275	0.550	13.97	0.440	11.18	0.600	15.24	0.203	5.16	1.437	36.50	19400	7860
12SBT20	1.2500	31.750	2.0000	50.800	0.700	17.78	0.550	13.97	0.740	18.80	0.234	5.94	1.795	45.59	31000	12500
13SBT22	1.3750	34.925	2.1875	55.562	0.770	19.56	0.600	15.24	0.840	21.34	0.281	7.14	1.937	49.20	37000	15100
15SBT24	1.5000	38.100	2.4375	61.912	0.840	21.34	0.660	16.76	0.910	23.11	0.312	7.92	2.155	54.74	44500	18300
17SBT28	1.7500	44.450	2.8125	71.438	0.980	24.89	0.790	20.07	1.070	27.18	0.328	8.33	2.515	63.88	60000	24400
20SBT32	2.0000	50.800	3.1875	80.962	1.130	28.70	0.920	23.37	1.230	31.24	0.375	9.52	2.875	73.02	79000	32300
22SBT36	2.2500	57.150	3.5625	90.488	1.270	32.26	1.050	26.67	1.390	35.31	0.453	11.51	3.235	82.17	100000	40800
25SBT40	2.5000	63.500	3.9375	100.012	1.420	36.07	1.180	29.97	1.540	39.12	0.500	12.70	3.590	91.19	126000	51500
27SBT44	2.7500	69.850	4.3750	111.125	1.560	39.62	1.275	32.38	1.700	43.18	0.515	13.08	3.950	100.33	154000	62150
30SBT48	3.0000	76.200	4.7500	120.650	1.710	43.43	1.405	35.69	1.860	47.24	0.578	14.68	4.312	109.52	186000	75000
32SBT52	3.2500	82.550	5.1250	130.175	1.860	47.24	1.545	39.24	2.030	51.56	0.656	16.66	4.675	118.74	218000	87500
35SBT56	3.5000	88.900	5.5000	139.700	2.000	50.80	1.675	42.54	2.180	55.37	0.703	17.86	5.040	128.02	257000	102400
37SBT60	3.7500	95.250	5.8750	149.225	2.150	54.61	1.805	45.85	2.340	59.44	0.765	19.43	5.390	136.91	295000	118500
40SBT64	4.0000	101.600	6.2500	158.750	2.300	58.42	1.935	49.15	2.500	63.50	0.781	19.84	5.750	146.05	336000	135000
45SBT72	4.5000	114.300	7.0000	177.800	2.590	65.79	2.195	55.75	2.800	71.12	0.875	22.22	6.475	164.46	432000	173500
50SBT80	5.0000	127.000	7.7500	196.850	2.880	73.15	2.455	62.36	3.130	79.50	1.000	25.40	7.190	182.63	524000	211000
60SBT96	6.0000	152.400	8.7500	222.250	3.100	78.74	2.615	66.42	3.375	85.72	1.370	34.80	8.156	207.16	585000	235000

MOUNTING

- Housing bore dimensions listed are appropriate for bearings mounted in steel.
- Suggested diameters of shoulder supports should be used to assure proper function of the bearing.
- Preferred shaft and housing bore dimensions are listed below per ANSI B4.1.
- Refer to the m6 tolerance limits listed in the Shaft Diameter Tolerance table on page B410 for shaft interference fit.
- Bearings are to be mounted with sufficient axial preload to ensure contact of the spherical surfaces under all load conditions.



Maximum tilt for bearing



Mounting detail

MOUNTING DIMENSIONS

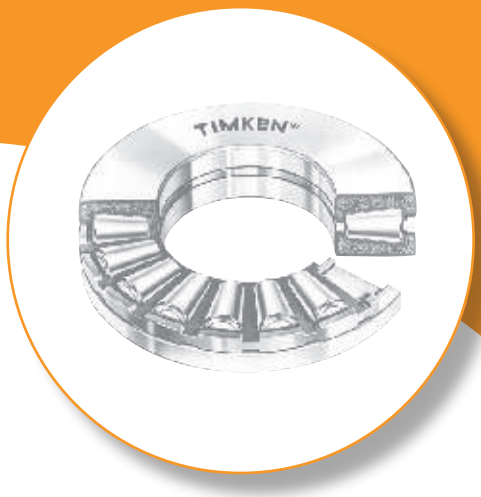
Weight (Approx.)		Tilting Angle (Max.)	Shaft Shoulder Diameter d_a		Shaft Fillet Radius r_a† (Max.)		Housing Shoulder Diameter d_b		Housing Filet Radius r_b‡ (Max.)		Shaft Diameter S				Housing Bore H			
											mm		in.		mm		in.	
kg	lbs.	deg.	mm	in.	mm	in.	mm	in.	mm	in.	max.	min.	max.	min.	min.	max.	min.	max.
0.013	0.029	7	0.67	17.0	0.020	0.5	0.57	14.5	0.020	0.5	0.4998	0.4994	12.695	12.685	0.8739	0.8747	22.197	22.217
0.025	0.056	6	0.84	21.3	0.030	0.8	0.70	17.8	0.030	0.8	0.6248	0.6244	15.870	15.860	1.0614	1.0622	26.960	26.980
0.038	0.083	6	1.02	25.9	0.040	1.0	0.84	21.3	0.040	1.0	0.7497	0.7492	19.042	19.029	1.2487	1.2497	31.717	31.742
0.050	0.110	5.5	1.23	31.2	0.080	2.0	0.97	24.6	0.080	2.0	0.8747	0.8742	22.217	22.204	1.4362	1.4372	36.479	36.504
0.085	0.188	6	1.40	35.6	0.080	2.0	1.12	28.4	0.080	2.0	0.9997	0.9992	25.392	25.379	1.6237	1.6247	41.242	41.267
0.159	0.351	6	1.71	43.4	0.080	2.0	1.39	35.3	0.080	2.0	1.2496	1.2490	31.740	31.725	1.9985	1.9997	50.762	50.792
0.213	0.470	4	1.89	48.0	0.100	2.5	1.48	37.6	0.100	2.5	1.3746	1.3740	34.915	34.900	2.1860	2.1872	55.524	55.554
0.300	0.662	5.5	2.05	52.1	0.100	2.5	1.66	42.2	0.100	2.5	1.4996	1.4990	38.090	38.075	2.4360	2.4372	61.874	61.904
0.458	1.010	6	2.36	59.9	0.100	2.5	1.95	49.5	0.100	2.5	1.7496	1.7490	44.440	44.425	2.8110	2.8122	71.399	71.429
0.671	1.480	5.5	2.75	69.8	0.140	3.6	2.22	56.4	0.140	3.6	1.9996	1.9989	50.790	50.772	3.1856	3.1870	80.914	80.950
0.948	2.090	5.5	3.06	77.7	0.140	3.6	2.50	63.5	0.140	3.6	2.2496	2.2489	57.140	57.122	3.5606	3.5620	90.439	90.475
1.129	2.490	5	3.37	85.6	0.140	3.6	2.75	69.9	0.140	3.6	2.4996	2.4989	63.490	63.472	3.9356	3.9370	99.964	100.000
1.751	3.860	5	3.71	94.2	0.180	4.6	3.03	77.0	0.180	4.6	2.7496	2.7489	69.840	69.822	4.3731	4.3745	111.077	111.113
2.277	5.020	5	4.07	103.0	0.180	4.6	3.30	83.8	0.180	4.6	2.9996	2.9989	76.190	76.172	4.7478	4.7494	120.594	120.635
2.885	6.360	5	4.42	112.0	0.180	4.6	3.58	90.9	0.180	4.6	3.2495	3.2486	82.537	82.514	5.1228	5.1244	130.119	130.160
3.570	7.870	5	4.77	121.0	0.180	4.6	3.85	97.8	0.180	4.6	3.4995	3.4986	88.887	88.864	5.4978	5.4994	139.644	139.685
4.350	9.590	4.5	5.11	130.0	0.180	4.6	4.10	104.0	0.180	4.6	3.7495	3.7486	95.237	95.214	5.8728	5.8744	149.169	149.210
5.262	11.600	4.5	5.43	138.0	0.180	4.6	4.37	111.0	0.180	4.6	3.9995	3.9986	101.587	101.564	6.2478	6.2494	158.694	158.735
7.756	17.100	4.5	6.14	156.0	0.180	4.6	4.90	125.0	0.180	4.6	4.4995	4.4986	114.287	114.264	6.9978	6.9994	177.744	177.785
11.068	24.400	4.5	6.83	174.0	0.180	4.6	5.47	139.0	0.180	4.6	4.9994	4.9984	126.984	126.959	7.7474	7.7492	196.784	196.830
17.373	38.300	4.5	7.75	197.0	0.180	4.6	6.50	165.0	0.180	4.6	5.9994	5.9984	152.385	152.360	8.7474	8.7492	222.184	222.230

† Equal to minimum inner ring bore chamfer.
‡ Equal to minimum outer ring O.D. chamfer.

THRUST BEARINGS

Overview: Timken thrust bearings are designed specifically to manage thrust loads and provide high-shock-load resistance in industrial and automotive applications. We manufacture seven basic designs of thrust bearings that include ball, crossed roller, cylindrical, machined tapered (TTHD, V-Flat, screwdown), stamped tapered, spherical and needle.

- **Sizes:** 35 mm - 2940 mm (1375 in. - 115.75 in.).
- **Markets:** Aggregate, Machine Tool, Metals, Oil, Power Generation.
- **Applications:** Cone crushers, crane hooks, oil well swivels, extruders, pulverizer drives, rolling mills, machine tool spindles & tables, drilling rig hydraulic heads, gear boxes, pre-heater fans.
- **Benefits:** High performance and application flexibility. Large range of product offering.



Ball and Roller Thrust Bearings

From the three-digit "Series" number, it is known this is an inch size bearing. "50" is read as "5.0" and represents approximate or actual bore.

The series number (always three numerals) represents a specific size cage assembly.

50	TVB	190	A	A	XXX

TVB	thrust ball bearings
TVL	angular contact thrust ball bearings
DTVL	angular contact thrust ball bearings – upper and lower complement of balls
TSR	thrust spherical roller bearings
TTVF	thrust tapered roller bearings
TTVS	thrust tapered roller bearings – with aligning washer
TTSV, TTSX	thrust tapered roller bearings – full complement
TP	thrust cylindrical roller bearings
TPS	thrust cylindrical roller bearings – with aligning washer
TTHD	thrust tapered roller bearings

modification to inner ring

modification to outer ring

descriptive of modification code

B

Ball and Roller Thrust Bearings

Page

Introduction B438

Ball and Roller Thrust Bearing Types B438

DIMENSIONS – LOAD RATINGS

Ball Thrust Bearing Type TVB B442

Angular Contact Ball Thrust Bearing Type TVL B443

Angular Contact Ball Thrust Bearing Type DTVL B444

Spherical Roller Thrust Bearing Type TSR B445

Cylindrical Roller Thrust Bearing Type TP. B447

Cylindrical Roller Thrust Bearing Type TPS B449

Crossed Roller Thrust Bearing Type XR and JXR. B451

Tapered Roller Thrust Bearing Type TTHD B452

Tapered Roller Thrust Bearing Type TTVF B457

Tapered Roller Thrust Bearing Type TTVS B458

Tapered Roller Thrust Bearing Type TTSX B459

Tapered Roller Thrust Bearing Type TTSV B460

Stamped Roller Thrust Bearing Type TTSP B461

Stamped Tapered Roller Thrust Bearing Type TTC, TTCS. . B463

INTRODUCTION

Six basic designs of ball and roller thrust bearings are available: ball, cross roller, cylindrical, machine tapered (TTHD, V-Flat, Screwdown), stamped tapered and spherical tapered roller. Dimensional data for all styles are presented in order by bore size.

Engineering data such as tolerances, shaft and housing fits, and life and load rating calculations are found in the engineering section of this catalog.

BEARING TYPES

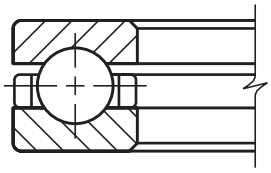
BALL THRUST BEARINGS

Ball thrust bearings provide optimum performance in high-speed installations, particularly where loads are generally lighter. Two types including axial (TVB), and angular contact (TVL) are available. The DTVL Type is offered with both an upper and lower complement of angular contact balls and three race elements. The standard tolerances for ball thrust bearings (both types) are equivalent to ABEC 1 where applicable. Higher precision tolerances are available. Consult your Timken representative for information on such installations.

TVB

TVB Types are separable, consisting of two hardened and ground steel washers. Precision ground and lapped balls run in a grooved raceway separated by a bronze cage. Other materials may be specified for the cage, depending on the application.

Most TVB bearings include washers of the same bore and outside diameter. Housings should be designed to clear the O.D. of rotating races, with shafts stepped to clear the bore of stationary washers. Provides axial rigidity, but are not suggested if radial load is expected. The TVB is exceptionally easy to mount with the rotating washer usually shaft mounted. The stationary washer should be housed with an outside diameter clearance that allows the bearing to assume a normal operating position.



TVB

TVL

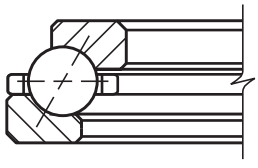
TVL Types provide exceptionally low friction, are cool running and have quiet operation when operated at high speeds. They are also less sensitive to misalignment. Consult your Timken representative for assistance in determining limits of such loading for specific applications.

Although ball thrust bearings have been designed exclusively for thrust loads, the TVL bearing will accommodate some radial loading. Consult your Timken representative for assistance in determining the limits of such loading for specific applications.

Hardened and ground steel races of TVL bearings enclose a complement of precision ground and lapped steel balls, separated by a bronze cage. Other material may be specified as required.

Not strictly an annular ball bearing, the larger ring is identified as the outer ring; the smaller as the inner. Inner ring is usually the rotating element and is shaft mounted. Outer ring is normally stationary and should be mounted with an outside diameter clearance that allows the bearing to assume a normal operating position. If combined loads are expected, the outer ring must be radially located in the housing.

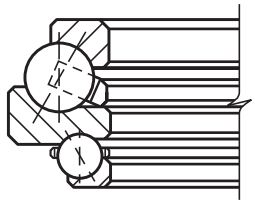
TVL bearings should always be operated under thrust loading. If a constant thrust load is not normally present, it should be imposed by springs or other devices.



TVL

DTVL

The DTVL has an upper and lower complement of angular contact balls and three race elements. It is capable of carrying thrust in one direction, comparable to the TVL Series and lighter thrust in the opposite direction.



DTVL

SPHERICAL ROLLER THRUST BEARINGS

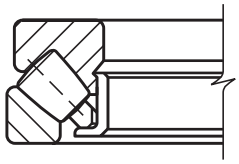
TSR

A combination radial and thrust bearing designed to operate even if shaft and housing are, or become, misaligned under load. A favored bearing when conditions include heavy loads, difficulties in establishing or maintaining housing alignment or when shaft deflection can be expected.

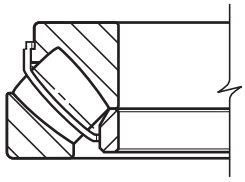
Shaft deflections and housing distortions caused by shock or heavy loads (which lead to misalignment) are compensated for by the internal self-alignment of the bearing elements during operation. Corner loading of rollers, a condition that limits service life on other types of bearings, cannot develop in spherical roller thrust bearings.

The TSR achieves high thrust capacity and allows axial misalignment between the inner ring and the outer ring of up to ±2.5°. Spherically contoured rollers, arranged in a steep angular position, not only accept high axial loads, but also moderate radial loads. "E" styles, (EM-machined bronze cage, EJ- stamped steel cage) have increased capacity. Should extreme conditions of loading and/or speed under misalignment be anticipated, contact your Timken representative before ordering.

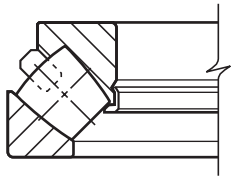
The inherent compensation for misalignment, provided by the spherical roller bearings, offers the designer the opportunity to use weldments for housing frames instead of complex castings. This eliminates high-cost machining operations. When castings are preferred, bore alignment is less critical if spherical roller bearings are specified.



TSR



TSR-EJ



TSR-EM

CYLINDRICAL ROLLER THRUST BEARINGS

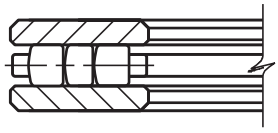
Timken's cylindrical roller thrust bearings are designed to operate under heavy loads at moderate speeds. Standard versions can be operated at peripheral speeds (bearing O.D.) of up to 3000 feet per minute. Special design features are available for both the bearing and mounting permitting even higher rotational speeds for this type of bearing. Two types of cylindrical roller thrust bearings, TP and TPS, are available.

TP

Type TP bearings include two flat hardened and ground steel washers with a cage retainer holding one or more controlled contour rollers in each pocket. If specifications call for two or more rollers per pocket, they are manufactured to different lengths. The longer rollers are placed in alternate positions in adjacent pockets. Overlapping roller paths prevent "grooving" of the races and prolong bearing life. Due to the simplicity of design, standard TP thrust bearings are among the most economical to buy and install.

Minor radial displacement of the races does not affect the operation of the TP bearing, resulting in manufacturing economies and simplified installation.

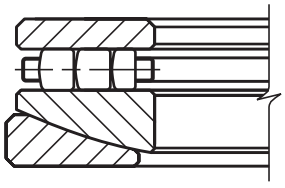
Shaft and housing seats must be square to the axis of rotation to prevent initial misalignment problems.



TP

TPS

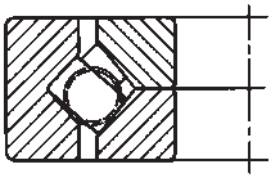
The TPS design is similar to the TP style, except the bottom washer assembly is comprised of two races, with the contacting faces spherically ground. The TPS bearing is self-adjusting to initial misalignment. It is not suggested for installations where alignment may be continuously changing (dynamic misalignment).



TPS

TXR

The crossed roller bearing is ideal for machine tool applications such as vertical boring mills, vertical grinding machines and other similar applications. A crossed roller bearing is comprised of two sets of bearing races and rollers brought together at right angles to each other – with alternate rollers facing in opposite directions – and within a section height not much greater than that of a single bearing housing.



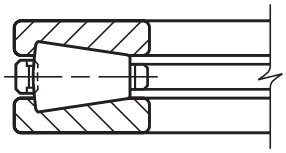
TXR

TAPERED ROLLER THRUST BEARINGS

Timken true rolling tapered roller thrust bearings include rollers that have conical sections. These bearings have been engineered so that the rollers and raceways form a cone in which the vertex is on the center line of the bearing. This bearing geometry assures a true rolling motion. In addition, the large end of each tapered roller is spherically ground so that its curvature conforms with the concave face of the washer rib. Pressure between the rib and roller, under load, guides the rollers accurately. Timken manufactures five types of tapered roller thrust bearings: standard (TTHD), V-Flat (TTVF) self-aligning V-Flat (TTVS), concave washer (TTSV), and convex washer (TTSX).

TTHD

The TTHD design has an identical pair of hardened and ground steel washers with tapered raceways. Both washers have the same bore and O.D., therefore housings should be designed to clear the O.D. of rotating washers and shafts stepped to clear the bore of stationary washers. Controlled contour tapered rollers are equally spaced by a cage. The TTHD bearing is well-suited for applications where extremely high thrust loads and heavy shock may be encountered as in crane hooks. For very low speed applications with unusually high loading, TTHD bearings can be supplied with a full complement of rollers. These bearings are identified in the tables by suffix 00278 following the bearing number. Applications for full-complement bearings should be reviewed by your Timken representative to ensure selection of the proper bearing.



TTHD

TTVF, TTVS, TTSV, TTSX

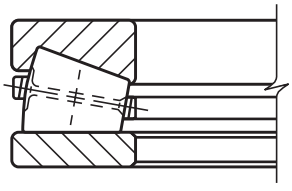
V-Flat Tapered Roller thrust bearings (TTVF and TTVS) combine the outstanding features of tapered thrust and cylindrical roller bearings, offering the highest possible capacity of any thrust bearing of its size. The V-Flat design includes one flat washer and one with a tapered raceway matching the rollers. The design was originally developed for screwdown applications in metal rolling mills where thrust loads exceeding one million pounds are common. The V-Flat bearings have exceptional dynamic capacity within a given envelope and provides static capacity. They have been highly successful in heavily loaded extruders, in cone crushers and other applications where a wide range of operating conditions are found. Most sizes utilize 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.

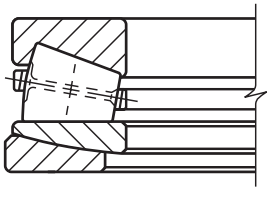
Both the pin type and brass cage are designed to permit a full flow of lubricant to all critical surfaces, providing cooler operation.

Self-aligning V-Flat bearings (TTVS) employ the same basic roller and raceway design, except the lower washer is in two pieces, with the contacting faces spherically ground permitting self-alignment under conditions of initial misalignment. TTVS bearings should not used if dynamic misalignment (changing under load) is expected.

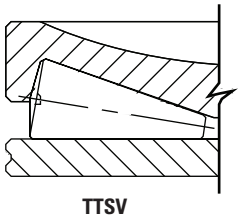
- The contact surface of each roller of the V-Flat bearings has a controlled contour wherein the ends are slightly relieved. This optimizes stress distribution by avoiding concentration of stress in the raceways at the ends of the rollers.
- Conformity between roller end and the rib is controlled to enhance the flow of lubricant between these surfaces, allowing the development of a hydrodynamic oil film between the end of the roller and the guiding surface of the rib.
- Full roller complement designs (TTSV and TTSX) do not have conventional bores, but are provided with center inserts for attachment purposes as well as for lifting.
- The TTSV and TTSX designs offer the highest capacity but at a somewhat reduced speed capability as compared with other V-Flat types.
- The TTSV and TTSX bearings encompass tapered rollers between two raceways. One raceway is flat and the other raceway forms the surface of a cone. The conical raceway has a washer with a rib to resist the radial component of the thrust force caused by the inclined plane and to guide the rollers.



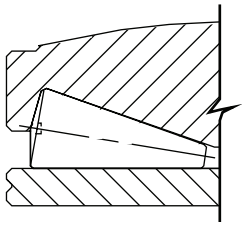
TTVF



TTVS



TTSV



TTSX

- Lines extended from the TTSV and TTSX roller-to-raceway contact surfaces converge to form a cone. The vertex of this cone is common with the centerline of the bearing and the plane of the raceway surface of the flat washer.
- The TTSV and TTSX design achieves true rolling motion between the tapered rollers and both raceways with no sliding or skidding at any point on the rolling surfaces. The flat raceway permits radial displacement without affecting the operation of the bearing.

TTSP

The types TTSP and TTSPS (not shown) thrust bearings are made up of two tapered thrust races, rollers, cage and outside retainer which holds the components together during shipping and installation. The types TTSP and TTSPS thrust bearings are exployed extensively in the steering pivot positions of automotive and industrial applications.

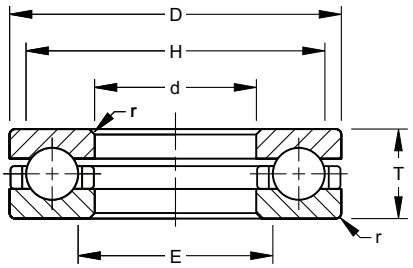
TTC, TTCS

The types TTC, TTCS and TTCL (not shown) thrust bearings consist of two tapered thrust races, rollers and an outside retainer and are cageless. 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 These types are identical with the exception of the retainer construction.

BALL THRUST BEARINGS

TYPE TVB

- Designed for optimum performance in high speed installations.
- Provide axial rigidity, but are not suggested if radial loading is expected.
- Exceptionally easy to mount, with the rotating washer usually shaft-mounted.



DIMENSIONS – LOAD RATINGS

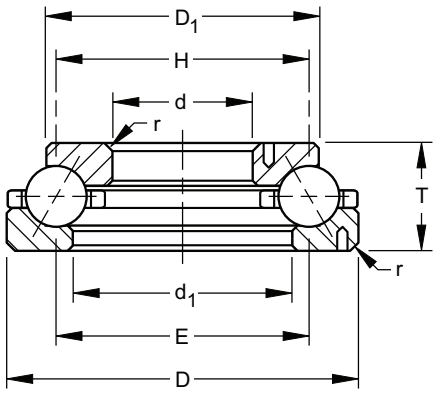
Bearing Number	Bore d	O.D. D	Height T (min.)	Shoulder Diameter		Fillet Radius(1) r (max.)	Wt.	Load Rating	
				Shaft H (min.)	Housing E (max.)			Static Load Rating C_{oa}	Dynamic Load Rating C_t
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	kN lbs.	kN lbs.
50TVB190	**127.000** 5.0000	**184.150** 7.2500	**41.275** 1.6250	**170.7** 6.72	**140.5** 5.53	**2.4** 0.09	**3.4** 7.2	**583.0** 131000	**169.0** 38000
52TVB253	**133.350** 5.2500	**203.200** 8.0000	**50.800** 2.0000	**185.7** 7.31	**150.8** 5.94	**2.4** 0.09	**5.5** 12.2	**756.0** 170000	**223.0** 50200
55TVB245	**139.700** 5.5000	**209.550** 8.2500	**47.625** 1.8750	**192.1** 7.56	**157.2** 6.19	**2.4** 0.09	**5.1** 11.3	**770.0** 173000	**231.0** 52000
57TVB248	**146.050** 5.7500	**215.900** 8.5000	**47.625** 1.8750	**198.4** 7.81	**163.5** 6.44	**2.4** 0.09	**5.3** 11.7	**810.0** 182000	**239.0** 53800
60TVB252	**152.400** 6.0000	**222.250** 8.7500	**47.625** 1.8750	**204.8** 8.06	**169.9** 6.69	**2.4** 0.09	**5.6** 12.4	**832.0** 187000	**238.0** 53500
62TVB291	**158.750** 6.2500	**228.600** 9.0000	**47.625** 1.8750	**215.1** 8.47	**172.2** 6.78	**2.4** 0.09	**5.8** 12.8	**867.0** 195000	**245.0** 55100
65TVB293	**165.100** 6.5000	**241.300** 9.5000	**57.150** 2.2500	**224.6** 8.84	**181.8** 7.16	**3.2** 0.12	**7.7** 17.0	**1060.0** 238000	**317.0** 71300
67TVB296	**171.450** 6.7500	**247.650** 9.7500	**57.150** 2.2500	**229.4** 9.03	**189.7** 7.47	**3.2** 0.12	**7.9** 17.5	**1110.0** 251000	**328.0** 73800
70TVB298	**177.800** 7.0000	**254.000** 10.0000	**57.150** 2.2500	**235.7** 9.28	**196.1** 7.72	**3.2** 0.12	**8.2** 18.1	**1170.0** 263000	**339.0** 76300
75TVB343	**190.500** 7.5000	**266.700** 10.5000	**57.150** 2.2500	**250** 9.84	**207.2** 8.16	**3.2** 0.12	**9.1** 20.0	**1140.0** 255000	**321.0** 72300
75TVB344	**190.500** 7.5000	**276.225** 10.8750	**69.850** 2.7500	**258.8** 10.19	**208** 8.19	**3.2** 0.12	**12.7** 27.9	**1390.0** 313000	**407.0** 91400
80TVB346	**203.200** 8.0000	**279.400** 11.0000	**57.150** 2.2500	**262.7** 10.34	**219.9** 8.66	**3.2** 0.12	**8.8** 19.3	**1370.0** 309000	**395.0** 88900
80TVB347	**203.200** 8.0000	**295.275** 11.6250	**76.200** 3.0000	**273.1** 10.75	**222.2** 8.75	**6.4** 0.25	**15.6** 34.5	**1700.0** 382000	**504.0** 113000
85TVB391	**215.900** 8.5000	**292.100** 11.5000	**57.150** 2.2500	**275.4** 10.84	**232.6** 9.16	**3.2** 0.12	**10.1** 22.2	**1280.0** 289000	**349.0** 78400
90TVB393	**228.600** 9.0000	**304.800** 12.0000	**57.150** 2.2500	**288.1** 11.34	**245.3** 9.66	**3.2** 0.12	**9.7** 21.3	**1620.0** 365000	**442.0** 99400
95TVB431	**241.300** 9.5000	**317.500** 12.5000	**57.150** 2.2500	**300.8** 11.84	**258** 10.16	**3.2** 0.12	**11.1** 24.4	**1380.0** 311000	**366.0** 82400
100TVB433	**254.000** 10.0000	**342.900** 13.5000	**57.150** 2.2500	**324.6** 12.78	**272.3** 10.72	**6.4** 0.25	**13.4** 29.5	**1560.0** 351000	**431.0** 96800
105TVB471	**266.700** 10.5000	**355.600** 14.0000	**57.150** 2.2500	**337.3** 13.28	**285.0** 11.22	**6.4** 0.25	**13.9** 30.7	**1810.0** 407000	**476.0** 107000
110TVB472	**279.400** 11.0000	**368.300** 14.5000	**57.150** 2.2500	**350** 13.78	**297.7** 11.72	**6.4** 0.25	**14.5** 31.9	**1870.0** 421000	**486.0** 109000
120TVB511	**304.800** 12.0000	**393.700** 15.5000	**57.150** 2.2500	**375.4** 14.78	**323.1** 12.72	**6.4** 0.25	**15.6** 34.5	**2000.0** 450000	**507.0** 114000
130TVB551	**330.200** 13.0000	**419.100** 16.5000	**63.500** 2.5000	**400.8** 15.78	**348.5** 13.72	**6.4** 0.25	**18** 39.6	**2470.0** 555000	**627.0** 141000
140TVB581	**355.600** 14.0000	**444.500** 17.5000	**63.500** 2.5000	**426.2** 16.78	**373.9** 14.72	**6.4** 0.25	**19.2** 42.3	**2620.0** 590000	**649.0** 146000
150TVB610	**381.000** 15.0000	**482.600** 19.0000	**63.500** 2.5000	**460.4** 18.12	**403.6** 15.89	**6.4** 0.25	**24.8** 54.7	**2620.0** 590000	**649.0** 146000
160TVB640	**406.400** 16.0000	**508.000** 20.0000	**63.500** 2.5000	**482.6** 19.00	**431.8** 17.00	**6.4** 0.25	**26.3** 57.9	**2780.0** 624000	**677.0** 152000

(1) Maximum shaft or housing fillet radius that bearing corners will clear.

ANGULAR CONTACT BALL THRUST BEARINGS

TYPE TVL

- Provides exceptionally low friction, cool running and quiet operation when run at high speeds.
- Although designed exclusively for thrust loads, will accommodate some radial loading.



B

DIMENSIONS – LOAD RATINGS[2]

Bearing Number	Bore d	O.D. D	Height T	Washers: Small Diameter O.D. D_1	Washers: Large Bore I.D. d_1	Shoulder Diam.: Shaft H (Min.)	Shoulder Diam.: Housing E (Max.)	Dowel Pin (one per Washer): Pin Diameter	Dowel Pin: Hole Location from Centerline: Small Bore Washer	Dowel Pin: Hole Location from Centerline: Large Bore Washer	Fillet[1] Radius r (Max.)	Weight	Load Rating: Static Load Rating C_{oa}	Load Rating: Dynamic Load Rating C_t
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.	kN lbs.	kN lbs.
90TVL710	228.600 9.0000	295.275 11.6250	38.100 1.5000	277.81 10.938	246.06 9.688	261.9 10.31	261.9 10.31	— —	— —	— —	3.2 0.12	6.2 13.6	636.0 143000	164.0 36900
120TVL700	304.800 12.0000	406.400 16.0000	57.150 2.2500	368.30 14.500	342.90 13.500	355.6 14.00	355.6 14.00	9.52 0.375	165.1 6.50	190.5 7.50	3.2 0.12	18.5 40.8	1600.0 359000	429.0 96400
150TVL701	381.000 15.0000	520.700 20.5000	84.125 3.3120	482.60 19.000	419.10 16.500	450.8 17.75	450.8 17.75	12.70 0.500	206.4 8.12	244.5 9.62	4.8 0.19	50.2 110.7	2700.0 606000	721.0 162000
170TVL500	431.800 17.0000	635.000 25.0000	88.900 3.5000	565.15 22.250	488.95 19.250	533.4 21.00	533.4 21.00	12.70 0.500	235 9.25	298.4 11.75	7.9 0.31	89.6 197.5	4390.0 986000	1130.0 254000
180TVL605	457.200 18.0000	625.475 24.6250	92.075 3.6250	549.28 21.625	508 20.000	541.3 21.31	541.3 21.31	15.88 0.625	247.6 9.75	285.8 11.25	3.2 0.12	78.4 172.9	4790.0 1076000	1280.0 288000
195TVL470	495.300 19.5000	584.200 23.0000	57.150 2.2500	571.50 22.500	508 20.000	539.8 21.25	539.8 21.25	9.52 0.375	258.8 10.19	281 11.06	3.2 0.12	28.4 62.7	2600.0 585000	596.0 134000
200TVL850	508.000 20.0000	704.850 27.7500	117.475 4.6250	628.68 24.750	565.15 22.250	606.4 23.88	606.4 23.88	15.88 0.625	276.2 10.88	330.2 13.00	6.4 0.25	127.3 280.7	5160.0 1160000	1350.0 303000
201TVL615	511.175 20.1250	628.650 24.7500	66.675 2.6250	590.55 23.250	549.28 21.625	569.9 22.44	569.9 22.44	12.70 0.500	268.3 10.56	300 11.81	3.2 0.12	41.9 92.3	3320.0 746000	787.0 177000
202TVL620	514.350 20.5000	704.850 27.750	114.300 4.5000	622.30 24.500	571.50 22.500	609.6 24.00	609.6 24.00	20.64 0.812	279.4 11.00	327 12.88	6.4 0.25	122.3 269.7	5910.0 1330000	1560.0 351000
227TVL302	577.850 22.7500	774.700 30.5000	117.475 4.6250	704.85 27.750	622.30 24.500	676.3 26.62	676.3 26.62	20.64 0.812	311.2 12.25	365.1 14.38	6.4 0.25	149.8 330.2	6620.0 1490000	1690.0 379000
233TVL303	593.725 23.3750	790.575 31.1250	117.475 4.6250	720.72 28.375	650.88 25.625	692.2 27.25	692.2 27.25	22.22 0.875	320.7 12.62	369.9 14.56	6.4 0.25	150.7 332.2	6850.0 1540000	1730.0 388000
238TVL304	606.425 23.8750	847.725 35.3950	133.350 5.2500	739.78 29.125	688.98 27.125	727.1 28.62	727.1 28.62	22.22 0.875	327 12.88	396.9 15.62	6.4 0.25	212.6 468.7	8510.0 1910000	2200.0 494000
245TVL716	622.300 24.5000	768.350 30.2500	82.550 3.2500	733.42 28.875	680.47 26.790	695.3 27.38	695.3 27.38	12.70 0.500	323.8 12.75	371.5 14.62	3.2 0.12	76.2 168.0	3830.0 861000	863.0 194000
245TVL612	622.300 24.5000	831.850 32.7500	117.475 4.6250	742.95 29.250	679.45 26.750	727.1 28.62	727.1 28.62	15.88 0.625	330.2 13.00	396.9 15.62	6.4 0.25	164.5 362.7	7070.0 1590000	1770.0 397000
252TVL505	341.350 25.2500	793.750 31.2500	88.900 3.5000	746.12 29.375	708.02 27.875	717.6 28.25	717.6 28.25	12.70 0.500	342.9 13.50	376.2 14.81	6.4 0.25	89.3 197.0	5430.0 1220000	1300.0 293000
260TVL635	660.400 26.0000	893.350 35.2500	133.350 5.2500	790.58 31.125	727.08 28.625	777.9 30.62	777.9 30.62	20.64 0.812	355.6 14.00	422.3 16.62	6.4 0.25	226.9 500.4	9520.0 2140000	2370.0 533000
302TVL510	768.350 30.2500	920.750 36.2500	88.900 3.5000	873.12 34.375	835.02 32.875	844.6 33.25	844.6 33.25	12.70 0.500	408 16.06	439.7 17.31	6.4 0.25	105.2 231.9	6360.0 1430000	1450.0 325000
302TVL624	768.350 30.2500	1006.475 39.6250	139.700 5.5000	901.7 35.500	838.2 33.000	887.4 34.94	887.4 34.94	22.22 0.875	409.6 16.12	476.2 18.75	6.4 0.25	271.1 597.8	10600.0 2370000	2540.0 570000
303TVL706	771.525 30.3750	898.525 35.3750	63.500 2.5000	860.42 33.875	809.62 31.875	835 32.88	835 32.88	12.70 0.500	403.2 15.88	431.8 17.00	6.4 0.25	58 128.0	3900.0 877000	7788.0 175000
309TVL707	785.812 30.9375	952.500 37.5000	95.250 3.7500	882.65 34.750	857.25 33.750	870 34.25	870 34.25	15.88 0.625	415.9 16.38	454 17.88	6.4 0.25	117.9 260.0	4230.0 952000	1100.0 248000
310TVL625	787.400 31.0000	1025.525 40.3750	139.700 5.5000	917.58 36.125	893.76 35.188	906.5 35.69	906.5 35.69	22.22 0.875	422.3 16.62	485.8 19.12	6.4 0.25	263.5 581.0	10900.0 2450000	2590.0 582000
317TVL307	806.450 31.7500	1025.525 40.3750	127.000 5.0000	933.45 36.750	873.12 34.375	914.4 36.00	914.4 36.00	22.22 0.875	427 16.81	476.2 18.75	6.4 0.25	240.6 530.6	10900.0 2450000	2590.0 582000
402TVL717	1022.350 40.2500	1181.100 46.5000	88.900 3.5000	1133.48 44.625	1069.98 42.125	1101.7 43.38	1101.7 43.38	19.05 0.750	530.2 20.88	571.5 22.50	6.4 0.25	147.8 326.0	8180.0 1840000	1710.0 384000
410TVL718	1041.400 41.0000	1260.475 49.6250	127.000 5.0000	1189.04 46.812	1112.84 43.812	1150.9 45.31	1150.9 45.31	19.05 0.750	544.5 21.44	606.4 23.88	6.4 0.25	308.8 681.0	14000.0 3140000	3060.0 687000
420TVL721	1066.800 42.0000	1285.875 50.6250	127.000 5.0000	1214.44 47.812	1138.24 44.812	1176.3 46.31	1176.3 46.31	22.22 0.875	560.4 22.06	616 24.25	6.4 0.25	315.2 695.0	14000.0 3140000	3060.0 687000
530TVL719	1346.200 53.0000	1517.650 59.7500	104.775 4.1250	1457.32 57.375	1406.52 55.375	1431.9 56.38	1431.9 56.38	22.22 0.875	695.3 27.38	733.4 28.88	6.4 0.25	229.99 507.0	9080.0 2040000	1830.0 412000
540TVL720	1371.600 54.0000	1619.250 63.7500	139.700 5.5000	1533.52 60.375	1457.32 57.375	1495.4 58.88	1495.4 58.88	22.22 0.875	714.4 28.12	781 30.75	6.4 0.25	480.3 1059.0	18000.0 4060000	3630.0 815000

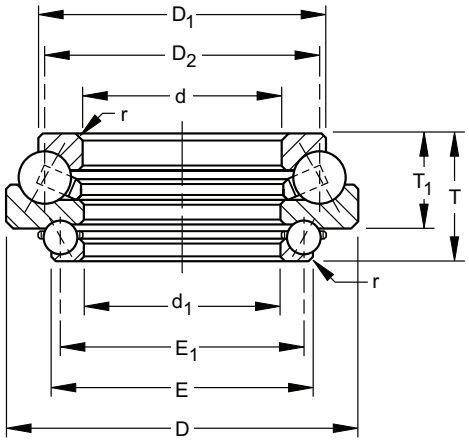
[1] Maximum shaft or housing fillet radius that bearing corners will clear.

[2] See engineering section for application of Equivalent Thrust Load Factors: X = 0.76, Y = 1.00, $\frac{T}{R}(\text{min}) = 1.56$. $\left[\frac{T}{R}\right]$ is Thrust Load ÷ Radial Load

ANGULAR CONTACT BALL THRUST BEARINGS

TYPE DTVL

- Capable of carrying thrust in one direction, plus a lighter thrust in the opposite direction.
- Designed with an upper and lower complement of angular contact balls and three race elements.



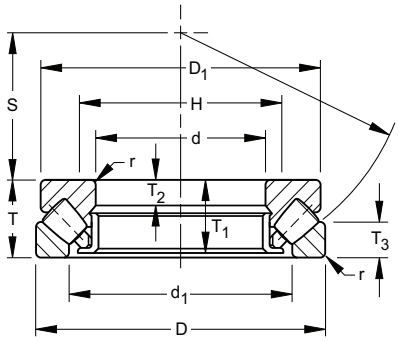
DIMENSIONS – LOAD RATINGS[2]

Bearing Number	Bore		O.D.	Height	Upper Race		Lower Race		T_1	Fillet[1] Radius r (Max.)	Weight	Load Rating		
												Upper		Lower
	Upper d	Lower d_1	O.D. D	Height T	O.D. D_1	Shoulder D_2	O.D. E	Shoulder E_1				Static Load Rating C_{oa}	Dynamic Load Rating C_t	Static Load Rating C_{oa}
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.	kN lbs.	kN lbs.	kN lbs.
200DTVL722	**508.000** 20.0000	**508.000** 20.0000	**742.95** 29.2500	**171.45** 6.7500	**679.45** 26.750	**616** 24.250	**587.38** 23.125	**558.8** 22.00	**127.000** 5.000	**6.4** 0.25	**177.3** 391.0	**5340** 1200000	**1560** 351000	**2310** 519000
202DTVL723	**514.350** 20.2500	**511.175** 20.1250	**704.85** 27.7500	**158.75** 6.2500	**622.30** 24.500	**609.60** 24.000	**590.55** 23.250	**569.9** 22.44	**114.3** 4.50	**6.4** 0.25	**133.3** 294.0	**5430** 1220000	**1480** 332000	**3750** 844000
235DTVL724	**596.900** 23.5000	**590.550** 23.2500	**838.2** 33.0000	**184.15** 7.2500	**774.70** 30.500	**711.20** 28.000	**676.28** 26.625	**647.7** 25.50	**139.7** 5.50	**6.4** 0.25	**246.2** 543.0	**7560** 1700000	**1970** 443000	**3660** 822000
245DTVL725	**622.300** 24.5000	**619.125** 24.3750	**815.975** 32.1250	**158.75** 6.2500	**730.25** 28.750	**717.60** 28.250	**698.50** 27.500	**677.9** 26.68	**114.3** 4.50	**6.4** 0.25	**157.4** 347.0	**6410** 1440000	**1640** 369000	**4430** 995000
266DTVL726	**676.275** 26.6250	**673.100** 26.5000	**914.4** 36.0000	**193.675** 7.6250	**876.30** 34.500	**787.40** 31.000	**787.4** 31.00	**743** 29.25	**142.88** 5.625	**6.4** 0.25	**296.6** 654.0	**8510** 1910000	**2480** 558000	**6320** 1420000
305DTVL727	**774.700** 30.5000	**768.35** 30.2500	**971.55** 38.2500	**158.75** 6.2500	**885.82** 34.875	**873.10** 34.380	**847.72** 33.38	**827.1** 32.56	**114.3** 4.50	**6.4** 0.25	**194.6** 429.0	**7780** 1750000	**1880** 423000	**5390** 1210000
312DTVL728	**793.750** 31.2500	**787.400** 31.0000	**1006.475** 39.6250	**200.025** 7.8750	**1000.12** 39.375	**895.40** 35.250	**901.7** 35.50	**863.6** 34.00	**139.7** 5.50	**6.4** 0.25	**325.2** 717.0	**10200** 2300000	**2480** 557000	**7200** 1620000
405DTVL729	**1028.700** 40.5000	**1025.525** 40.3750	**1231.9** 48.5000	**158.75** 6.2500	**1143** 45.000	**1130.30** 44.500	**1104.9** 43.50	**1084.3** 42.69	**114.3** 4.50	**6.4** 0.25	**254.4** 561.0	**10200** 2280000	**2240** 504000	**6540** 1470000
412DTVL730	**1047.750** 41.2500	**1041.400** 41.0000	**1260.475** 49.6250	**200.025** 7.8750	**1254.12** 49.375	**1149.40** 45.250	**1155.7** 45.50	**1117.6** 44.00	**139.7** 5.50	**6.4** 0.25	**417.2** 920.0	**12300** 2760000	**2780** 625000	**8230** 1850000
541DTVL731	**1374.775** 54.1250	**1371.600** 54.0000	**1597.025** 62.8750	**247.65** 9.7500	**1536.70** 60.500	**1481.10** 58.310	**1489.08** 58.625	**1447.8** 57.00	**168.28** 6.625	**6.4** 0.25	**654.4** 1443.0	**17700** 3980000	**3580** 804000	**11100** 2500000

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

[2] See engineering section for application of Equivalent Thrust Load Factors: X = 0.76, Y = 1.00, $\frac{T}{R}$ (min) = 1.56. $\left[\frac{T}{R}\right]$ is Thrust Load ÷ Radial Load

SPHERICAL ROLLER THRUST BEARINGS



TYPE TSR

- Design achieves a high thrust capacity with low friction and continuous roller alignment.
- Spherically contoured rollers, arranged in steep angular position, not only accommodates high thrust loads, but supports moderate radial loads as well.
- Low friction of the bearing results from a combination of bearing geometry and manufacturing technology.

TYPE TSR-EM

- Utilize bronze retainers and enhanced internal geometry allowing for higher dynamic load ratings and improved lubrication characteristics.
- Utilizes spherically contoured rollers arranged in a steep angular configuration to accommodate high thrust load alone or in combination with moderate radial loads.
- Possesses inherent dynamic misalignment capabilities.

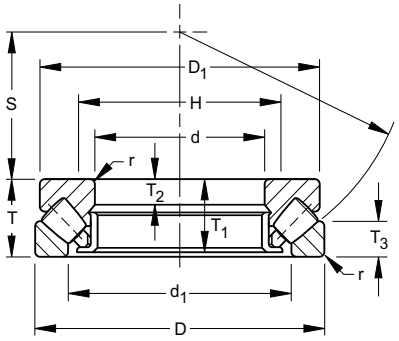
DIMENSIONS – LOAD RATINGS

Bearing Number	Bore d	O.D. D	Height T	Shoulder Diameter		Inner Ring			Outer Ring Height T_3	S	Fillet [1] Radius r (Max.)	Wt.	Load Rating		Approx. Limiting Speed (for Oil Bath Only)	k[2]
				d_1 Housing (Min.)	H Shaft (Max.)	O.D. D_1	Assembly Height T_1	Pilot Height T_2					Static Load Rating C_{oa}	Dynamic Load Rating C_t		
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.	kN lbs.	kN lbs.	RPM	
29422	**110** 4.3307	**230** 9.0551	**73** 2.8740	**162** 6.378	**165** 6.496	**220** 8.661	**69** 2.717	**26** 1.024	**35** 1.378	**69** 2.717	**2.5** 0.10	**33.4** 33.4	**1150** 260000	**800** 176000	**1500**	**30**
29424	**120** 4.7244	**250** 9.8425	**78** 3.0709	**174** 6.850	**180** 7.087	**236** 9.291	**74** 2.913	**29** 1.142	**37** 1.476	**74** 2.933	**3.0** 0.12	**18.5** 40.7	**1180** 256000	**965** 216000	**1350**	**40**
29326	**130** 5.1181	**225** 8.8583	**58** 2.2835	**171** 6.744	**177** 6.963	**215** 8.465	**55** 2.165	**19** 0.748	**29** 1.130	**75** 2.972	**2.0** 0.08	**9.8** 21.6	**880** 197000	**600** 132000	**1700**	**22**
29426	**130** 5.1181	**270** 10.6299	**85** 3.3464	**187** 7.375	**195** 7.677	**255** 10.039	**81** 3.189	**31** 1.22	**42** 1.669	**81** 3.189	**3.0** 0.12	**23.9** 52.6	**1730** 388000	**1120** 253000	**1250**	**60**
29330	**150** 5.9055	**250** 9.8425	**60** 2.3622	**194** 7.638	**195** 7.677	**240** 9.449	**57** 2.244	**20** 0.787	**29** 1.142	**87** 3.425	**2.0** 0.08	**12.5** 27.5	**1140** 255000	**670** 150000	**1550**	**30**
29430	**150** 5.9055	**300** 11.8110	**90** 3.5433	**213** 8.405	**220** 8.661	**285** 11.220	**86** 3.386	**32** 1.260	**44** 1.732	**92** 3.622	**3.0** 0.12	**29.3** 64.5	**1930** 440000	**1220** 275000	**1100**	**80**
29334	**170** 6.6929	**280** 11.0236	**67** 2.6378	**216** 8.504	**220** 8.661	**270** 10.630	**64** 2.520	**23** 0.906	**32** 1.280	**96** 3.780	**2.5** 0.10	**16.5** 36.3	**1500** 340000	**880** 196000	**1350**	**50**
29434	**170** 6.6929	**340** 13.3858	**103** 4.0551	**243** 9.567	**245** 9.646	**324** 12.756	**99** 3.898	**37** 1.457	**50** 1.968	**104** 4.094	**4.0** 0.16	**42.4** 93.5	**2650** 600000	**1630** 365000	**950**	**140**
29338EJ	**190** 7.4803	**320** 12.5984	**78** 3.0709	**246** 9.685	**250** 9.843	**308** 12.126	**74** 2.913	**27** 1.063	**38** 1.496	**110** 4.331	**3.0** 0.12	**25.6** 56.5	**2442** 549000	**1481** 333000	**1150**	**80**
29438EJ	**190** 7.4803	**380** 14.9606	**115** 4.5276	**271** 10.669	**275** 10.827	**360** 14.173	**111** 4.370	**41** 1.614	**55** 2.185	**117** 4.606	**4.0** 0.16	**60.3** 133.0	**4168** 937000	**2482** 558000	**850**	**210**
29340	**200** 7.8740	**340** 13.3858	**85** 3.3465	**264** 10.3937	**265** 10.4331	**325** 12.7953	**81** 3.4252	**29** 1.1417	**40** 1.5748	**114** 4.4882	**3.0** 0.12	**29** 63	**2157** 485000	**1236** 278000	**950**	**100**
29440	**200** 7.8740	**400** 15.7480	**122** 4.8031	**286** 11.254	**290** 11.417	**380** 14.961	**117** 4.606	**43** 1.693	**59** 2.323	**122** 4.803	**4.0** 0.16	**69.8** 154.0	**3625** 815000	**2135** 480000	**800**	**260**
29344	**220** 8.6614	**360** 14.1732	**85** 3.3464	**280** 11.024	**285** 11.220	**345** 13.583	**81** 3.189	**29** 1.142	**41** 1.614	**125** 4.921	**3.0** 0.12	**33.9** 74.8	**2500** 550000	**1340** 300000	**1000**	**120**
29444	**220** 8.6614	**420** 16.5354	**122** 4.8031	**307** 12.106	**310** 12.205	**400** 15.748	**117** 4.606	**43** 1.693	**59** 2.323	**133** 5.236	**5.1** 0.20	**73.9** 163.0	**3800** 865000	**2200** 500000	**750**	**300**
29348	**240** 9.4488	**380** 14.9606	**85** 3.3464	**300** 11.811	**300** 11.811	**365** 14.370	**81** 3.189	**29** 1.142	**41** 1.614	**135** 5.315	**3.0** 0.12	**41.9** 92.4	**2650** 600000	**1400** 315000	**950**	**140**
29448EM	**240** 9.4488	**440** 17.3228	**122** 4.8031	**315** 12.4016	**322** 12.6772	**385** 15.1575	**87** 3.4252	**46** 1.8110	**61** 2.4016	**142** 5.5906	**6.1** 0.24	**78** 171	**4884** 1098000	**2736** 615000	**750**	**350**

[1] Maximum shaft or housing fillet radius that bearing corners will clear.
[2] Centrifugal force constant. See engineering section for calculations using this factor.

SPHERICAL ROLLER THRUST BEARINGS

TYPE TSR, TSR-EM – *continued*



DIMENSIONS – LOAD RATINGS - *continued*

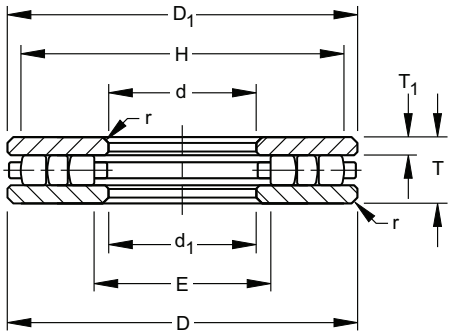
Bearing Number	Bore d	O.D. D	Height T	Shoulder Diameter		Inner Ring			Outer Ring Height T_3	S	Fillet[1] Radius r (Max.)	Wt.	Load Rating		Approx. Limiting Speed (for Oil Bath Only)	k[2]
				d_1 Housing (Min.)	H Shaft (Max.)	O.D. D_1	Assembly Height T_1	Pilot Height T_2					Static Load Rating C_{oa}	Dynamic Load Rating C_t		
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg. lbs.	kN lbs.	kN lbs.	RPM	
29352	260 10.2362	420 16.5354	95 3.7402	329 12.953	330 12.992	405 15.945	91 3.583	32 1.260	45 1.791	148 5.827	4.0 0.16	51.2 113.0	3350 750000	1800 400000	850	230
29452	260 10.2362	480 18.8976	132 5.1968	357 14.055	360 14.173	460 18.110	127 5.000	48 1.890	64 2.520	154 6.063	5.1 0.20	103 227.0	4900 1120000	1800 620000	650	500
29360	300 11.8110	480 18.8976	109 4.2913	379 14.921	380 14.961	460 18.110	105 4.134	37 1.457	50 1.988	168 6.614	4.0 0.16	76.6 169.0	4150 930000	2160 490000	700	350
29460	300 11.8110	540 21.2598	145 5.7086	402 15.827	410 16.142	515 20.276	140 5.512	52 2.047	70 2.776	175 6.890	5.1 0.20	136 301.0	6400 1430000	3450 3450	550	780
29364	320 12.5984	500 19.6850	109 4.2913	399 15.709	400 15.748	482 18.976	105 4.134	37 1.457	53 2.087	180 7.087	4.0 0.16	79.8 176.0	4300 980000	2240 500000	650	380
29468	340 13.3858	620 24.4094	170 6.6929	462 18.189	465 18.307	590 23.228	164 6.457	61 2.402	82 3.248	201 7.913	6.1 0.24	220 486.0	8500 1900000	4500 1020000	450	1350
29372	360 14.1732	560 22.0472	122 4.8031	448 17.638	450 17.717	540 21.260	117 4.606	41 1.614	59 2.343	202 7.953	4.0 0.16	113 249.0	5600 1250000	2800 620000	550	640
29476	380 14.9606	670 26.3780	175 6.8898	504 19.842	510 20.079	640 25.197	168 6.614	63 2.480	85 3.331	220 8.740	6.1 0.24	261 575.0	9000 2040000	4750 1060000	410	1700
29576	380 14.9606	820 32.2835	265 10.4330	570 22.441	578 22.756	780 30.709	226 10.078	100 3.927	128 5.062	241 9.488	9.1 0.36	824 1816.0	17300 3900000	9500 2120000	280	5550
29380	400 15.748	620 24.4094	132 5.1968	494 19.449	500 19.685	596 23.465	127 5.000	44 1.732	64 2.520	225 8.858	5.1 0.20	165 363.0	7100 1600000	3450 780000	500	970
29284EM	420 16.5354	580 22.8346	95 3.7402	479 18.8583	500 19.685	542 21.339	70 2.7559	41 1.6142	50 1.9685	228 8.9764	5.1 0.20	70 154.0	5329 1198000	2624 590000	630	300
29388	440 17.3228	680 26.7717	145 5.7089	548 21.5748	563 22.1654	657 25.866	140 5.5118	49 1.9291	69 2.7165	246 9.6850	5.1 0.20	180 397.0	7588 1706000	3647 820000	480	1400
29488	440 17.3228	780 30.7087	206 8.1102	588 23.150	595 23.425	745 29.331	199 7.835	74 2.913	99 3.917	257 10.118	7.1 0.28	411 906.0	13200 2900000	6700 1500000	320	3400
29392	460 18.1102	710 27.9528	150 5.9055	566 22.293	575 22.638	685 26.969	144 5.669	51 2.008	72 2.857	257 10.118	5.1 0.20	220 486.0	9300 2100000	4400 1000000	400	1700
29496EM	480 18.8976	850 33.4646	224 8.8189	626 24.6457	658 25.9055	770 30.315	159 6.2598	93 3.6614	110 4.3307	279 10.9843	9.7 0.38	550 1212.0	22458 5049000	11342 2550000	290	4700
294/500	500 19.6850	870 34.2520	224 8.8189	661 26.024	670 26.378	830 32.677	216 8.504	81 3.189	107 4.213	290 11.417	7.1 0.28	560 1235.0	16000 3600000	8000 1800000	270	4800
293/530	530 20.8661	800 31.4961	160 6.2992	648 25.512	650 25.591	772 30.394	154 6.063	54 2.126	76 2.992	295 11.614	6.1 0.24	288 634.0	11000 2450000	5100 1140000	350	2500
293/600	600 23.6220	900 35.4331	180 7.0866	727 28.6220	730 28.7402	868 34.173	173 6.8110	61 2.4016	87 3.4252	333 13.1102	5.1 0.20	635 1400.0	16770 3770000	7619 1713000	320	4200
294/630	630 24.8031	1090 42.9134	280 11.0236	831 32.707	850 33.465	1044 41.102	271 10.669	101 3.976	133 5.236	365 14.393	9.1 0.36	1170 2580.0	23000 5200000	11400 2550000	250	12200

[1] Maximum shaft or housing fillet radius that bearing corners will clear.
[2] Centrifugal force constant. See engineering section for calculations using this factor.

CYLINDRICAL ROLLER THRUST BEARINGS

TYPE TP

- Most economical to buy and install because of design simplicity.
- Minor radial displacement of the races does not affect its operation, resulting in manufacturing economies and simplified installation.



DIMENSIONS – LOAD RATINGS

Bearing Number	Bore d	O.D. D	Height T	Washers			Shoulder Diameter		Fillet[1] Radius r (Max.)	Wt.	Load Rating	
				Thickness T_1	Small Diameter O.D. D_1	Large Bore I.D. d_1	Shaft H (Min.)	Housing E (Max.)			Static Load Rating C_{oa}	Dynamic Load Rating C_t
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	kN lbs.	kN lbs.
20TP103	**50.800** 2.0000	**152.400** 6.0000	**34.925** 1.3750	**9.52** 0.375	**150.81** 5.938	**52.39** 2.062	**141.3** 5.56	**61.9** 2.44	**1.6** 0.06	**3.7** 8.1	**814** 183000	**331** 74500
20TP104	**50.800** 2.0000	**177.800** 7.0000	**34.925** 1.3750	**9.52** 0.375	**176.21** 6.938	**52.39** 2.062	**163.5** 6.44	**65.1** 2.56	**1.6** 0.06	**5.1** 11.3	**1010** 227000	**398** 89500
30TP106	**76.200** 3.0000	**152.400** 6.0000	**34.925** 1.3750	**9.52** 0.375	**150.81** 5.938	**77.79** 3.062	**142.9** 5.62	**85.7** 3.38	**1.6** 0.06	**3.2** 7.0	**747** 168000	**340** 76500
30TP107	**76.200** 3.0000	**177.800** 7.0000	**34.925** 1.3750	**9.52** 0.375	**176.21** 6.938	**77.79** 3.062	**166.7** 6.56	**87.3** 3.44	**1.6** 0.06	**4.6** 10.2	**1040** 234000	**414** 93200
30TP108	**76.200** 3.0000	**203.200** 8.0000	**34.925** 1.3750	**9.52** 0.375	**201.61** 7.938	**77.79** 3.062	**188.9** 7.44	**90.5** 3.56	**1.6** 0.06	**6.3** 13.9	**1380** 311000	**520** 117000
30TP109	**76.200** 3.0000	**228.600** 9.0000	**34.925** 1.3750	**9.52** 0.375	**227.01** 8.938	**77.79** 3.062	**212.7** 8.38	**92.1** 3.62	**1.6** 0.06	**8.2** 18.1	**1800** 405000	**636** 143000
35TP113	**88.900** 3.5000	**132.558** 5.2188	**25.400** 1.0000	**7.14** 0.281	**130.97** 5.156	**90.49** 3.562	**123.8** 4.88	**97.6** 3.84	**1.6** 0.06	**1.4** 3.0	**381** 85600	**180** 40400
40TP114	**101.600** 4.0000	**177.800** 7.0000	**44.450** 1.7500	**12.7** 0.500	**176.21** 6.938	**103.19** 4.062	**168.3** 6.62	**111.1** 4.38	**1.6** 0.06	**5** 11.0	**1030** 231000	**503** 113000
40TP115	**101.600** 4.0000	**203.200** 8.0000	**44.450** 1.7500	**12.7** 0.500	**201.61** 7.938	**103.19** 4.062	**190.5** 7.50	**114.3** 4.50	**1.6** 0.06	**7.1** 15.6	**1370** 308000	**589** 132000
40TP116	**101.600** 4.0000	**228.600** 9.0000	**44.450** 1.7500	**12.7** 0.500	**227.01** 8.938	**103.19** 4.062	**214.3** 8.44	**115.9** 4.56	**1.6** 0.06	**9.5** 21.0	**1770** 397000	**676** 152000
40TP117	**101.600** 4.0000	**254** 10.0000	**44.450** 1.7500	**12.7** 0.500	**252.41** 9.938	**103.19** 4.062	**238.1** 9.38	**117.5** 4.62	**1.6** 0.06	**11.6** 25.6	**2220** 498000	**896** 202000
50TP119	**127** 5.0000	**203.200** 8.0000	**44.450** 1.7500	**12.7** 0.500	**201.61** 7.938	**128.59** 5.062	**190.5** 7.50	**139.7** 5.50	**1.6** 0.06	**5.9** 13.1	**1280** 288000	**593** 133000
50TP120	**127** 5.0000	**228.600** 9.0000	**44.450** 1.7500	**12.7** 0.500	**227.01** 8.938	**128.59** 5.062	**215.9** 8.50	**139.7** 5.50	**1.6** 0.06	**8.3** 18.4	**1710** 385000	**716** 161000
50TP121	**127** 5.0000	**254** 10.0000	**50.800** 2.0000	**14.29** 0.562	**252.41** 9.938	**128.59** 5.062	**239.7** 9.44	**141.3** 5.56	**3.2** 0.12	**12.4** 27.4	**2180** 491000	**841** 189000
50TP122	**127** 5.0000	**279.400** 11.0000	**50.800** 2.0000	**14.29** 0.562	**277.81** 10.938	**128.59** 5.062	**261.9** 10.31	**144.5** 5.69	**3.2** 0.12	**15.8** 34.8	**2760** 620000	**996** 224000
50TP123	**127** 5.0000	**304.800** 12.0000	**50.800** 2.0000	**14.29** 0.562	**303.21** 11.938	**128.59** 5.062	**288.9** 11.38	**146** 5.75	**3.2** 0.12	**19.4** 42.8	**3290** 789000	**1170** 262000
60TP124	**152.400** 6.0000	**228.600** 9.0000	**50.800** 2.0000	**14.29** 0.562	**227.01** 8.938	**153.99** 6.062	**217.5** 8.56	**163.5** 6.44	**3.2** 0.12	**7.6** 16.8	**1410** 317000	**600** 135000
60TP125	**152.400** 6.0000	**254** 10.0000	**50.800** 2.0000	**14.29** 0.562	**252.41** 9.938	**153.99** 6.062	**241.3** 9.50	**165.1** 6.50	**3.2** 0.12	**10.7** 23.7	**2000** 449000	**845** 190000
60TP126	**152.400** 6.0000	**279.400** 11.0000	**50.800** 2.0000	**14.29** 0.562	**277.81** 10.938	**153.99** 6.062	**265.1** 10.44	**166.7** 6.56	**3.2** 0.12	**14.2** 31.4	**2700** 608000	**1000** 226000
60TP127	**152.400** 6.0000	**304.800** 12.0000	**50.800** 2.0000	**14.29** 0.562	**303.31** 11.938	**153.99** 6.062	**287.3** 11.31	**169.9** 6.69	**3.2** 0.12	**17.7** 39.4	**3220** 725000	**1110** 250000
70TP129	**177.800** 7.0000	**254** 10.0000	**50.800** 2.0000	**14.29** 0.562	**251.62** 9.906	**180.18** 7.094	**242.9** 9.56	**188.9** 7.44	**3.2** 0.12	**9.2** 20.2	**1620** 365000	**663** 149000
70TP130	**177.800** 7.0000	**279.400** 11.0000	**50.800** 2.0000	**14.29** 0.562	**277.02** 10.906	**180.18** 7.094	**266.7** 10.50	**190.5** 7.50	**3.2** 0.12	**12.8** 28.3	**2400** 540000	**930** 209000
70TP131	**177.800** 7.0000	**304.800** 12.0000	**50.800** 2.0000	**14.29** 0.562	**302.42** 11.906	**180.18** 7.094	**288.9** 11.38	**193.7** 7.62	**3.2** 0.12	**16.8** 37.0	**3090** 695000	**1080** 242000
70TP132	**177.800** 7.0000	**355.600** 14.0000	**76.200** 3.0000	**20.64** 0.812	**353.22** 13.906	**180.18** 7.094	**335** 13.19	**198.4** 7.81	**6.4** 0.25	**36.3** 80.1	**4490** 1010000	**1750** 394000

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

CYLINDRICAL ROLLER THRUST BEARINGS

TYPE TP – *continued*

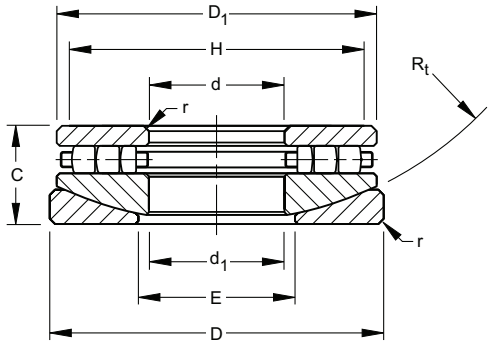
Bearing Number	Bore d	O.D. D	Height T	Washers			Shoulder Diameter		Fillet[1] Radius r (Max.)	Wt.	Load Rating	
				Thickness T_1	Small Diameter O.D. D_1	Large Bore I.D. d_1	Shaft H (Min.)	Housing E (Max.)			Static Load Rating C_{oa}	Dynamic Load Rating C_t
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	kN lbs.	kN lbs.
80TP134	**203.2** 8.0000	**304.8** 12.0000	**76.2** 3.0000	**20.64** 0.812	**302.42** 11.906	**205.58** 8.094	**292.1** 11.50	**215.9** 8.50	**6.4** 0.25	**20.5** 45.1	**2660** 599000	**1150** 258000
80TP135	**203.2** 8.0000	**355.6** 14.0000	**76.2** 3.0000	**20.64** 0.812	**353.22** 13.906	**205.58** 8.094	**336.6** 13.25	**222.2** 8.75	**6.4** 0.25	**33** 72.8	**4230** 950000	**1730** 389000
80TP136	**203.2** 8.0000	**406.4** 16.0000	**76.2** 3.0000	**20.64** 0.812	**404.02** 15.906	**205.58** 8.094	**382.6** 15.06	**227.0** 8.94	**6.4** 0.25	**44.5** 98.1	**5740** 1290000	**2310** 520000
90TP139	**228.6** 9.0000	**355.6** 14.0000	**76.2** 3.0000	**20.64** 0.812	**353.22** 13.906	**230.98** 9.094	**339.7** 13.38	**244.5** 9.62	**6.4** 0.25	**29.3** 64.5	**3910** 879000	**1460** 328000
90TP140	**228.6** 9.0000	**406.4** 16.0000	**76.2** 3.0000	**20.64** 0.812	**404.02** 15.906	**230.98** 9.094	**385.8** 15.19	**249.2** 9.81	**6.4** 0.25	**43.6** 96.2	**5560** 1250000	**2140** 482000
100TP143	**254** 10.0000	**406.4** 16.0000	**76.2** 3.0000	**20.64** 0.812	**404.02** 15.906	**256.38** 10.094	**387.4** 15.25	**273.0** 10.75	**6.4** 0.25	**39.5** 86.6	**5160** 1160000	**1750** 394000
100TP144	**254** 10.0000	**457.2** 18.0000	**95.25** 3.7500	**26.19** 1.031	**454.82** 17.906	**256.38** 10.094	**435.0** 17.12	**276.2** 10.88	**6.4** 0.25	**68.8** 151.8	**7210** 1620000	**2690** 604000
100TP145	**254** 10.0000	**508** 20.0000	**95.25** 3.7500	**26.19** 1.031	**505.62** 19.906	**256.38** 10.094	**481.0** 18.94	**281.0** 11.06	**6.4** 0.25	**91.7** 202.2	**9560** 2150000	**3670** 825000
120TP151	**304.8** 12.0000	**457.2** 18.0000	**95.25** 3.7500	**26.19** 1.031	**454.82** 17.906	**307.18** 12.094	**438.2** 17.25	**323.8** 12.75	**6.4** 0.25	**56.7** 125.1	**6340** 1420000	**2300** 518000
120TP152	**304.8** 12.0000	**508** 20.0000	**114.3** 4.5000	**31.75** 1.250	**505.62** 19.906	**307.18** 12.094	**484.2** 19.06	**328.6** 12.94	**6.4** 0.25	**104.5** 230.5	**7900** 1780000	**3300** 743000
120TP153	**304.8** 12.0000	**609.6** 24.0000	**114.3** 4.5000	**31.75** 1.250	**607.22** 23.906	**307.18** 12.094	**584.2** 23.00	**330.2** 13.00	**6.4** 0.25	**168.5** 371.5	**12900** 2900000	**4680** 1050000
140TP158	**355.6** 14.0000	**508** 20.0000	**95.25** 3.7500	**26.19** 1.031	**504.82** 19.875	**358.78** 14.125	**489.0** 19.25	**374.6** 14.75	**6.4** 0.25	**62.6** 138.1	**7200** 1620000	**2610** 588000
140TP159	**355.6** 14.0000	**558.8** 22.0000	**95.25** 3.7500	**26.19** 1.031	**555.62** 21.875	**358.78** 14.125	**535.0** 21.06	**379.4** 14.94	**6.4** 0.25	**89.6** 197.5	**10000** 2250000	**3750** 802000
140TP160	**355.6** 14.0000	**609.6** 24.0000	**95.25** 3.7500	**26.19** 1.031	**606.4** 23.875	**358.78** 14.125	**581.0** 22.88	**384.2** 15.12	**6.4** 0.25	**125.3** 276.2	**12600** 2840000	**4040** 908000
160TP164	**406.4** 16.0000	**558.8** 22.0000	**114.3** 4.5000	**31.75** 1.250	**555.6** 21.875	**409.6** 16.125	**539.8** 21.25	**425.4** 16.75	**6.4** 0.25	**85.9** 189.4	**7860** 1770000	**3090** 695000
160TP165	**406.4** 16.0000	**609.6** 24.0000	**114.3** 4.5000	**31.75** 1.250	**606.4** 23.875	**409.6** 16.125	**585.8** 23.06	**430.2** 16.94	**6.4** 0.25	**121.4** 267.7	**11200** 2510000	**4170** 937000
160TP166	**406.4** 16.0000	**660.4** 26.0000	**114.3** 4.5000	**31.75** 1.250	**657.2** 25.875	**409.6** 16.125	**633.4** 24.94	**433.4** 17.06	**6.4** 0.25	**168.8** 372.1	**13800** 3090000	**4710** 1060000
180TP168	**457.2** 18.0000	**660.4** 26.0000	**127** 5.0000	**34.92** 1.375	**657.2** 25.875	**460.4** 18.125	**635** 25.00	**482.6** 19.00	**6.4** 0.25	**148.8** 328.1	**11800** 2650000	**4090** 919000
180TP169	**457.2** 18.0000	**711.2** 28.0000	**127** 5.0000	**34.92** 1.375	**708.0** 27.875	**460.4** 18.125	**684.2** 26.94	**484.2** 19.06	**6.4** 0.25	**195.3** 430.7	**15500** 3480000	**5480** 1230000
180TP170	**457.2** 18.0000	**762** 30.0000	**139.7** 5.5000	**38.10** 1.500	**758.8** 29.875	**460.4** 18.125	**735.0** 28.94	**484.2** 19.06	**6.4** 0.25	**280.7** 618.9	**19700** 4430000	**6840** 1540000
200TP171	**508** 20.0000	**711.2** 28.0000	**139.7** 5.5000	**38.10** 1.500	**708.0** 27.875	**511.2** 20.125	**685.8** 27.00	**533.4** 21.00	**6.4** 0.25	**178** 392.5	**13100** 2940000	**4710** 1060000
200TP172	**508** 20.0000	**762** 30.0000	**139.7** 5.5000	**38.10** 1.500	**758.8** 29.875	**511.2** 20.125	**736.6** 29.00	**533.4** 21.00	**6.4** 0.25	**232.2** 512.0	**17500** 3930000	**6370** 1430000
200TP173	**508** 20.0000	**812.8** 32.0000	**152.4** 6.0000	**42.07** 1.656	**809.6** 31.875	**511.2** 20.125	**787.4** 31.00	**533.4** 21.00	**6.4** 0.25	**317** 698.9	**22400** 5050000	**7610** 1700000
220TP174	**558.8** 22.0000	**762** 30.0000	**139.7** 5.5000	**38.10** 1.500	**758.8** 29.875	**562** 22.125	**736.6** 29.00	**584.2** 23.00	**6.4** 0.25	**192.7** 425.0	**14200** 3200000	**5070** 1140000
220TP175	**558.8** 22.0000	**812.8** 32.0000	**139.7** 5.5000	**38.10** 1.500	**809.6** 31.875	**562.0** 22.125	**782.6** 30.81	**589.0** 23.19	**6.4** 0.25	**250.6** 552.6	**19000** 4270000	**6570** 1480000
220TP176	**558.8** 22.0000	**863.6** 34.0000	**152.4** 6.0000	**42.07** 1.656	**860.4** 33.875	**562.0** 22.125	**838.2** 33.00	**584.2** 23.00	**6.4** 0.25	**340.9** 751.6	**24500** 5500000	**8200** 1840000
240TP177	**609.6** 24.0000	**812.8** 32.0000	**139.7** 5.5000	**38.10** 1.500	**809.6** 31.875	**612.8** 24.125	**790.6** 31.12	**631.8** 24.88	**9.5** 0.38	**206.5** 455.4	**16000** 3600000	**5650** 1270000
240TP178	**609.6** 24.0000	**863.6** 34.0000	**139.7** 5.5000	**38.10** 1.500	**860.4** 33.875	**612.8** 24.125	**838.2** 33.00	**635.0** 25.00	**9.5** 0.38	**269** 593.2	**20500** 4610000	**6880** 1550000
240TP179	**609.6** 24.0000	**914.4** 36.0000	**152.4** 6.0000	**42.07** 1.656	**911.2** 35.875	**612.8** 24.125	**889.0** 35.00	**635.0** 25.00	**9.5** 0.38	**364.7** 804.2	**25200** 5670000	**8450** 1900000

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

CYLINDRICAL ROLLER THRUST BEARINGS

TYPE TPS

- Similar to Type TP except one washer is spherically ground to seat against an aligning washer. This makes it adaptable to initial misalignment.
- Not suggested for operating conditions where alignment is constantly changing.



B

DIMENSIONS – LOAD RATINGS

Bearing Number	Bore d	O.D. D	Height C	Aligning Washer radius R_t	Washers		Shoulder Diameter		Fillet[1] Radius r (Max.)	Wt.	Load Rating	
					Small Diameter O.D. D_1	Large Bore I.D. d_1	Shaft H (Min.)	Housing E (Max.)			Static Load Rating C_{oa}	Dynamic Load Rating C_t
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	kN lbs.	kN lbs.
20TPS103	50.800 2.0000	160.325 6.3120	46.038 1.8125	190.50 7.500	150.81 5.938	52.39 2.062	141.3 5.56	85.7 3.38	1.6 0.06	5.2 11.4	814 183000	331 74500
20TPS104	50.800 2.0000	185.725 7.3120	46.038 1.8125	241.30 9.500	176.21 6.938	52.39 2.062	163.5 6.44	108.0 4.25	1.6 0.06	7.12 15.7	1010 227000	398 89500
30TPS106	76.200 3.0000	160.325 6.3120	46.038 1.8125	152.40 6.000	150.81 5.938	77.79 3.062	142.9 5.62	101.6 4.00	1.6 0.06	4.5 9.9	747 168000	340 76500
30TPS107	76.200 3.0000	185.725 7.3120	46.038 1.8125	241.30 9.500	176.21 6.938	77.79 3.062	166.7 6.56	111.1 4.38	1.6 0.06	6.4 14.2	1040 234000	414 93200
30TPS108	76.200 3.0000	211.125 8.3120	46.038 1.8125	304.80 12.000	201.61 7.938	77.79 3.062	188.9 7.44	133.4 5.25	1.6 0.06	8.7 19.2	1380 311000	520 117000
35TPS113	88.900 3.5000	138.908 5.4688	33.338 1.3125	127.00 5.000	130.97 5.156	91.28 3.594	123.8 4.88	103.2 4.06	1.6 0.06	1.9 4.1	381 85600	180 40400
40TPS114	101.600 4.0000	187.327 7.3750	58.738 2.3125	161.93 6.375	176.21 6.938	103.98 4.094	168.3 6.62	127 5.00	1.6 0.06	7.0 15.4	1030 231000	503 113000
40TPS115	101.600 4.0000	212.725 8.3750	58.738 2.3125	215.90 8.500	201.61 7.938	103.98 4.094	190.5 7.50	133.4 5.25	1.6 0.06	10.0 22.1	1370 308000	589 132000
40TPS116	101.600 4.0000	238.125 9.3750	58.738 2.3125	254.00 10.000	227.01 8.938	103.98 4.094	214.3 8.44	149.2 5.88	1.6 0.06	13.4 29.5	1770 397000	676 152000
40TPS117	101.600 4.0000	266.7 10.5000	58.738 2.3125	355.60 14.000	252.41 9.938	103.98 4.094	238.1 9.38	165.1 6.50	1.6 0.06	17.1 37.7	2220 498000	896 202000
50TPS119	127 5.0000	215.9 8.5000	58.738 2.3125	187.33 7.375	201.61 7.938	130.18 5.125	190.5 7.50	152.4 6.00	1.6 0.06	8.4 18.5	1280 288000	592 133000
50TPS120	127 5.0000	241.3 9.5000	58.738 2.3125	266.70 10.500	227.01 8.938	130.18 5.125	215.9 8.50	155.6 6.12	1.6 0.06	11.8 26.1	1710 385000	716 161000
50TPS121	127 5.0000	266.7 10.5000	66.675 2.6250	323.85 12.750	252.41 9.938	130.18 5.125	239.7 9.44	158.8 6.25	3.2 0.12	17.6 38.7	2180 491000	841 189000
50TPS122	127 5.0000	292.1 11.5000	66.675 2.6250	406.40 16.000	277.81 10.938	130.18 5.125	261.9 10.31	177.8 7.00	3.2 0.12	22.1 48.8	2760 620000	996 224000
50TPS123	127.000 5.0000	317.5 12.5000	66.675 2.6250	501.65 19.750	303.21 11.938	130.18 5.125	288.9 11.38	184.1 7.25	3.2 0.12	27.2 60.0	3290 739000	1170 262000
60TPS124	152.400 6.0000	241.3 9.5000	66.675 2.6250	171.45 6.750	227.01 8.938	155.58 6.125	217.5 8.56	184.1 7.25	3.2 0.12	10.8 23.8	1410 317000	600 135000
60TPS125	152.400 6.0000	266.7 10.5000	66.675 2.6250	241.30 9.500	252.46 9.938	155.58 6.125	241.3 9.50	187.3 7.38	3.2 0.12	15.2 33.5	2000 449000	845 190000
60TPS126	152.400 6.0000	292.1 11.5000	66.675 2.6250	342.90 13.500	277.81 10.938	155.58 6.125	265.1 10.44	187.3 7.38	3.2 0.12	20.1 44.3	2700 607000	1000 225000
60TPS127	152.400 6.0000	317.5 12.5000	66.675 2.6250	431.80 17.000	303.21 11.938	155.58 6.125	287.3 11.31	190.5 7.50	3.2 0.12	25.2 55.6	3220 725000	1110 250000
70TPS129	177.800 7.0000	266.7 10.5000	66.675 2.6250	206.38 8.125	251.62 9.906	180.8 7.125	242.9 9.56	206.4 8.12	3.2 0.12	12.7 27.9	1620 365000	663 149000
70TPS130	177.800 7.0000	292.100 11.5000	66.675 2.6250	292.10 11.500	277.02 10.906	180.98 7.125	266.7 10.50	209.6 8.25	3.2 0.12	17.7 39.1	2400 540000	930 209000
70TPS131	177.800 7.0000	317.500 12.5000	66.675 2.6250	390.53 15.375	302.42 11.906	180.98 7.125	288.9 11.38	209.6 8.25	3.2 0.12	23.3 51.3	3090 695000	1080 242000

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

CYLINDRICAL ROLLER THRUST BEARINGS

TYPE TPS – *continued*

B

DIMENSIONS – LOAD RATINGS - *continued*

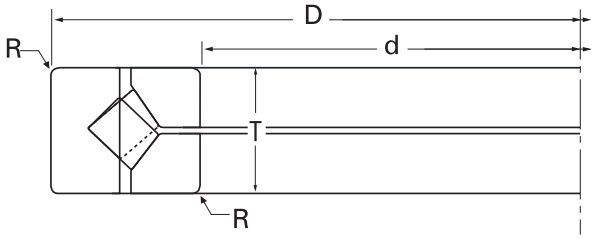
Bearing Number	Bore d	O.D. D	Height C	Aligning Washer radius R_t	Washers		Shoulder Diameter		Fillet[1] Radius r (Max.)	Wt.	Load Rating	
					Small Diameter O.D. D_1	Large Bore I.D. d_1	Shaft H (Min.)	Housing E (Max.)			Static Load Rating C_{oa}	Dynamic Load Rating C_t
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	kN lbs.	kN lbs.
70TPS132	**177.800** 7.0000	**374.650** 14.7500	**101.600** 4.0000	**390.53** 15.375	**353.22** 13.906	**180.98** 7.125	**335.0** 13.19	**228.6** 9.00	**6.4** 0.25	**52.6** 115.9	**4490** 1010000	**1750** 394000
80TPS134	**203.200** 8.0000	**323.850** 12.7500	**101.600** 4.0000	**215.90** 8.500	**302.42** 11.906	**207.96** 8.188	**292.1** 11.50	**238.1** 9.38	**6.4** 0.25	**29.8** 65.8	**2660** 599000	**1150** 258000
80TPS135	**203.200** 8.0000	**374.650** 14.7500	**101.600** 4.0000	**304.80** 12.000	**353.22** 13.906	**207.96** 8.188	**336.6** 13.25	**263.5** 10.38	**6.4** 0.25	**47.7** 105.2	**4230** 950000	**1730** 389000
80TPS136	**203.200** 8.0000	**428.625** 16.8750	**101.600** 4.0000	**495.30** 19.500	**404.02** 15.906	**209.55** 8.250	**382.6** 15.06	**266.7** 10.50	**6.4** 0.25	**68.2** 150.4	**5740** 1290000	**2310** 520000
90TPS139	**228.600** 9.0000	**374.650** 14.7500	**101.600** 4.0000	**304.80** 12.000	**353.22** 13.906	**234.95** 9.250	**339.7** 13.38	**263.5** 10.38	**6.4** 0.25	**42.2** 93.1	**3910** 879000	**1460** 328000
90TPS140	**228.600** 9.0000	**428.625** 16.8750	**101.600** 4.0000	**495.30** 19.500	**404.02** 15.906	**234.95** 9.250	**385.8** 15.19	**266.7** 10.50	**6.4** 0.25	**63.3** 139.5	**5560** 1250000	**2140** 482000
100TPS143	**254.000** 10.0000	**428.625** 16.8750	**101.600** 4.0000	**425.45** 16.750	**404.02** 15.906	**260.36** 10.250	**387.4** 15.25	**292.1** 11.50	**6.4** 0.25	**56.2** 124.0	**5160** 1160000	**1750** 394000
100TPS144	**254.000** 10.0000	**479.425** 18.8750	**127.000** 5.0000	**508.00** 20.000	**454.82** 17.906	**260.36** 10.250	**435.0** 17.12	**304.8** 12.00	**6.4** 0.25	**99.5** 219.5	**7210** 1620000	**2690** 604000
100TPS145	**254.000** 10.0000	**530.225** 20.8750	**127.000** 5.0000	**609.6** 24.000	**505.62** 19.906	**260.36** 10.250	**481.0** 18.94	**336.6** 13.25	**6.4** 0.25	**131.8** 290.6	**9560** 2150000	**3670** 825000
120TPS151	**304.800** 12.0000	**479.425** 18.8750	**127.000** 5.0000	**390.53** 15.375	**454.82** 17.906	**311.15** 12.250	**438.2** 17.25	**346.1** 13.62	**6.4** 0.25	**82.1** 181.0	**6340** 1420000	**2300** 518000
120TPS152	**304.800** 12.0000	**530.225** 20.8750	**152.400** 6.0000	**619.13** 24.375	**505.62** 19.906	**311.15** 12.250	**484.2** 19.06	**352.4** 13.88	**6.4** 0.25	**139.4** 307.4	**7900** 1780000	**3300** 743000
120TPS153	**304.800** 12.0000	**631.825** 24.8750	**152.400** 6.0000	**723.90** 28.500	**607.22** 23.906	**311.15** 12.250	**584.2** 23.00	**406.4** 16.00	**6.4** 0.25	**236.9** 522.4	**12900** 2900000	**4680** 1050000
140TPS158	**355.600** 14.0000	**530.225** 20.8750	**123.825** 4.8750	**495.30** 19.500	**504.82** 19.875	**361.95** 14.250	**489.0** 19.25	**393.7** 15.50	**6.4** 0.25	**89.2** 196.6	**7200** 1620000	**2610** 588000
140TPS159	**355.600** 14.0000	**581.025** 22.8750	**123.825** 4.8750	**723.90** 28.500	**555.62** 21.875	**361.95** 14.250	**535.0** 21.06	**393.7** 15.50	**6.4** 0.25	**125.0** 275.6	**10000** 2250000	**3570** 802000
140TPS160	**355.600** 14.0000	**631.825** 24.8750	**123.825** 4.8750	**917.58** 36.125	**606.62** 23.875	**361.95** 14.250	**581.0** 22.88	**415.9** 16.38	**6.4** 0.25	**170.9** 376.9	**12600** 2840000	**4040** 908000
160TPS164	**406.400** 16.0000	**581.025** 22.8750	**152.400** 6.0000	**444.50** 17.500	**555.62** 21.875	**412.75** 16.250	**539.8** 21.25	**444.5** 17.50	**6.4** 0.25	**123.9** 273.2	**7860** 1770000	**3090** 695000
160TPS165	**406.400** 16.0000	**635.000** 25.0000	**152.400** 6.0000	**596.90** 23.500	**606.42** 23.875	**412.75** 16.250	**585.8** 23.06	**457.2** 18.00	**6.4** 0.25	**174.4** 384.6	**11200** 2510000	**4170** 937000
160TPS166	**406.400** 16.0000	**685.800** 27.0000	**152.400** 6.0000	**752.48** 29.625	**657.22** 25.875	**412.75** 16.250	**633.4** 24.94	**469.9** 18.50	**6.4** 0.25	**229.8** 506.7	**13800** 3090000	**4710** 1060000

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

CROSSED ROLLER THRUST BEARINGS

TYPE XR AND JXR

- Withstands high overturning moments.
- Applications include machine tool table bearing for vertical boring and grinding machines. Other applications include various pivot and pedestal applications.
- Dimensions given in the following table relate to bearing type TXRDO, which is the most common form of crossed roller bearing.
- TXRDO bearing has a double outer race and two inner races with rollers spaced by separators.
- Other mounting configurations and sizes of crossed roller bearing can be supplied to meet particular assembly or setting requirements.
- Contact your Timken representative for more information.



B

DIMENSIONS – LOAD RATINGS

Bearing Number	Dimensions				Load Ratings		Factor
	Bore d	O.D. D	Height T	Radius(1) R	Two-Row radial	Thrust	k(2)
	mm in.	mm in.	mm in.	mm in.	kN lbs.	kN lbs.	
XR496051	203.200 8.0000	279.400 11.0000	31.750 1.2500	1.5 0.06	51300 11500	61600 13800	0.48
JXR637050	300.000 11.8110	400.000 15.7480	37.000 1.4567	1.5 0.06	63000 14200	80100 18000	0.45
JXR652050	310.000 12.2047	425.000 16.7323	45.000 1.7717	2.5 0.10	82200 18500	102000 23000	0.46
XR678052	330.200 13.0000	457.200 18.0000	63.500 2.50000	3.3 0.13	100000 22500	123000 27600	0.47
JXR699050	370.000 14.5669	495.000 19.4882	50.000 1.9685	3.0 0.12	93600 21000	119000 26700	0.45
XR766051	457.200 18.0000	609.600 24.0000	63.500 2.5000	3.3 0.13	141000 31600	178000 40100	0.45
XR820060	580.000 22.8346	760.000 29.9213	80.000 3.1496	6.4 0.25	240000 53900	299000 67200	0.46
XR855053	685.800 27.0000	914.400 36.0000	79.375 3.1250	3.3 0.13	270000 60700	344000 77200	0.45
XR882055	901.700 35.50000	1117.600 44.0000	82.550 3.2500	3.3 0.13	300000 67400	396000 88900	0.44
XR889058	1028.700 40.5000	1327.150 52.2500	114.300 4.5000	3.3 0.13	405000 91000	534000 120000	0.44
XR897051	1549.400 61.0000	1828.800 72.0000	101.600 4.0000	3.3 0.13	518000 116000	699000 157000	0.43

(1) Maximum shaft or housing fillet radius that bearing corners will clear.
(2) Centrifugal force constant. See engineering section for calculations using this factor.

TAPERED ROLLER THRUST BEARINGS

TYPE TTHD

- Consists of two tapered thrust races, rollers and cage.
- All components are separable.
- Generally a heavy-duty bearing and can operate at a relatively high speed.
- Extensively used in numerous applications including oil well swivels, pulp refiners, extruders and piercing mill thrust blocks.

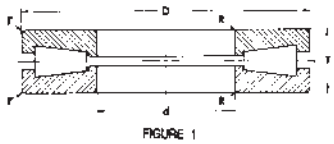


FIGURE 1

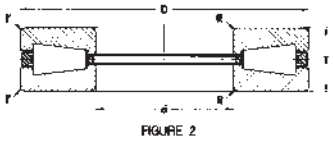


FIGURE 2

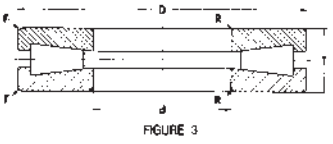


FIGURE 3

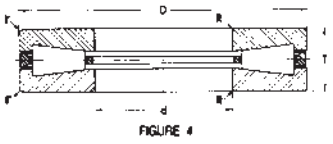
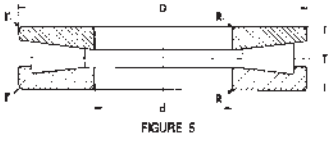


FIGURE 4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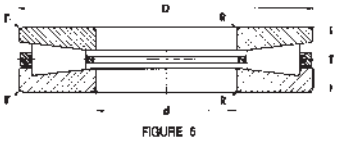
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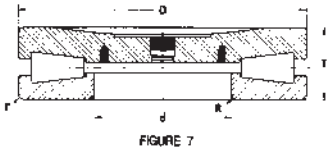
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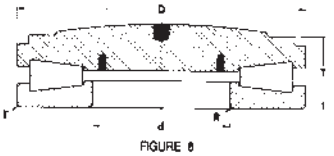
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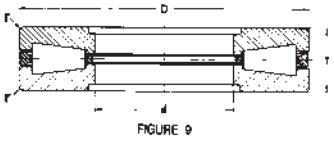
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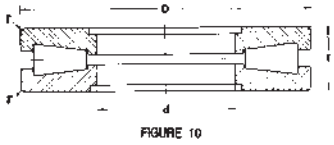
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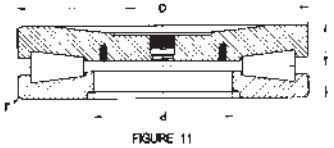
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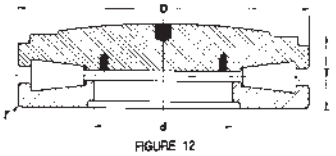
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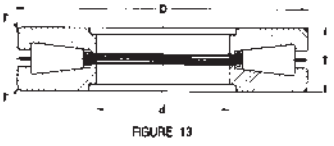


FIGURE 13

Bearing Number	Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Housing Fillet Radius r	Mass	Remarks
		mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	
T135	**2** 2	**34.925** 1.3750	**76.200** 3.0000	**15.875** 0.6250	**1.5** 0.06	**1.5** 0.06	**0.4** 0.88	
T135F	**1** 1	**34.925** 1.3750	**76.200** 3.0000	**15.875** 0.6250	**1.5** 0.06	**1.5** 0.06	**0.4** 0.88	
T200A	**2** 2	**50.800** 2.0000	**109.538** 4.3125	**22.225** 0.8750	**2.3** 0.09	**2.3** 0.09	**1.1** 2.40	
T311	**2** 2	**76.200** 3.0000	**161.925** 6.3750	**33.338** 1.3215	**3.3** 0.13	**3.3** 0.13	**3.6** 8.02	
T311F	**1** 1	**76.200** 3.0000	**161.925** 6.3750	**33.338** 1.3215	**3.3** 0.13	**3.3** 0.13	**3.6** 8.02	
***T311FS - T311S**	**8** 8	**76.200** 3.0000	**161.925** 6.3750	**49.212** 1.9375	**3.3** 0.13	**3.3** 0.13	– –	**T311FS - T311S, SPHERICAL RADIUS =** 457.200 mm (18")
T411	**2** 2	**101.600** 4.0000	**215.900** 8.5000	**46.038** 1.8125	**3.3** 0.13	**3.3** 0.13	**8.9** 19.60	

Bearing Number	Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Housing Fillet Radius r	Mass	Remarks
		mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	
T411F	**1** 1	**101.600** 4.0000	**215.900** 8.5000	**46.038** 1.8125	**3.3** 0.13	**3.3** 0.13	**8.9** 19.60	
***T411FAS - T411S**	**8** 8	**76.200** 3.0000	**215.900** 8.5000	**65.088** 2.5625	**3.3** 0.13	**3.3** 0.13	– –	**T411FAS - T411S, SPHERICAL RADIUS =** 508.000 mm (20″)
T441	**2** 2	**111.760** 4.4000	**223.520** 8.8000	**55.880** 2.2000	**3.3** 0.13	**3.3** 0.13	**11.4** 25.13	
T441F	**1** 1	**111.760** 4.4000	**223.520** 8.8000	**55.880** 2.2000	**3.3** 0.13	**3.3** 0.13	**11.4** 25.13	
T451	**2** 2	**114.300** 4.5000	**250.825** 9.8750	**53.975** 2.1250	**4.0** 0.16	**4.0** 0.16	**15.0** 33.07	
T511	**2** 2	**127.000** 5.0000	**266.700** 10.5000	**58.738** 2.3125	**4.8** 0.19	**4.8** 0.19	**17.8** 39.24	
T511A	**2** 2	**128.588** 5.0625	**266.700** 10.5000	**58.738** 2.3125	**4.8** 0.19	**4.8** 0.19	**17.8** 39.24	
T511F	**1** 1	**127.000** 5.0000	**266.700** 10.5000	**58.738** 2.3125	**4.8** 0.19	**4.8** 0.19	**17.8** 39.24	
***T511FS - T511S**	**8** 8	**127.000** 5.0000	**266.700** 10.5000	**79.375** 3.1250	**4.8** 0.19	**4.8** 0.19	– –	**T511FS - T511S, SPHERICAL RADIUS =** 609.600 mm (24″)
***T511FSA - T511S**	**8** 8	**101.600** 4.0000	**266.700** 10.5000	**79.375** 3.1250	**4.8** 0.19	**4.8** 0.19	– –	**T511FSA - T511S, SPHERICAL RADIUS =** 609.600 mm (24″)
***T511FSA - T511SA**	**7** 7	**101.600** 4.0000	**266.700** 10.5000	**79.375** 3.1250	**4.8** 0.19	**4.8** 0.19	– –	**T511FSA - T511SA, SPHERICAL RADIUS =** 609.600 mm (24″)
T520	**2** 2	**127.000** 5.0000	**250.825** 9.8750	**55.563** 2.1875	**4.8** 0.19	**4.8** 0.19	**13.9** 30.64	
T611	**2** 2	**152.400** 6.0000	**317.500** 12.5000	**69.850** 2.7500	**6.4** 0.25	**6.4** 0.25	**29.3** 64.60	
T611F	**1** 1	**152.400** 6.0000	**317.500** 12.5000	**69.850** 2.7500	**6.4** 0.25	**6.4** 0.25	**29.3** 64.60	
***T611FS - T611S**	**8** 8	**152.400** 6.0000	**317.500** 12.5000	**87.313** 3.4375	**6.4** 0.25	**6.4** 0.25	– –	**T611FS - T611S, SPHERICAL RADIUS =** 711.200 mm (28″)
***T611FS - T611SA**	**8** 8	**152.400** 6.0000	**317.500** 12.5000	**87.313** 3.4375	**6.4** 0.25	**6.4** 0.25	– –	**T611FS - T611SA, SPHERICAL RADIUS =** 762.000 mm (30″)
***T611FSA - T611SA**	**7** 7	**SOLID**	**317.500** 12.5000	**87.313** 3.4375	**N/A** N/A	**6.4** 0.25	– –	**T611FSA - T611SA, SPHERICAL RADIUS =** 762.000 mm (30″)
***T611FS - T611SB**	**8** 8	**152.400** 6.0000	**317.500** 12.5000	**87.313** 3.4375	**6.4** 0.25	**6.4** 0.25	– –	**T611FS - T611SB, SPHERICAL RADIUS =** 755.700 mm (29.75″)
T651	**2** 2	**165.100** 6.5000	**311.150** 12.2500	**88.900** 3.5000	**6.4** 0.25	**6.4** 0.25	**38.3** 84.44	
T661	**2** 2	**168.275** 6.6250	**304.800** 12.0000	**69.850** 2.7500	**6.4** 0.25	**6.4** 0.25	**27.8** 61.29	
T691	**2** 2	**174.625** 6.8750	**358.775** 14.1250	**82.550** 3.2500	**6.4** 0.25	**6.4** 0.25	**45.3** 99.87	
T709	**4** 4	**177.800** 7.0000	**431.800** 17.0000	**101.600** 4.0000	**6.4** 0.25	**6.4** 0.25	**86.3** 190.26	
T711	**2** 2	**177.800** 7.0000	**368.300** 14.5000	**82.550** 3.2500	**8.0** 0.31	**8.0** 0.31	**48.4** 106.70	
T711F	**1** 1	**177.800** 7.0000	**368.300** 14.5000	**82.550** 3.2500	**8.0** 0.31	**8.0** 0.31	**48.4** 106.70	
T711FS - T711S	**7** 7	**177.800** 7.0000	**368.300** 14.5000	**104.775** 4.1250	**8.0** 0.31	**8.0** 0.31	– –	
***T711FS - T711SA**	**8** 8	**177.800** 7.0000	**368.300** 14.5000	**101.600** 4.0000	**8.0** 0.31	**8.0** 0.31	– –	**T711FS - T711SA, SPHERICAL RADIUS =** 762.000 mm (30″)
***T711FSS - T711S**	**7** 7	**SOLID**	**368.300** 14.5000	**104.775** 4.1250	**N/A** N/A	**8.0** 0.31	– –	**T711FSS - T711S, SPHERICAL RADIUS =** 622.300 mm (24.5″)
T811	**2** 2	**203.200** 8.0000	**419.100** 16.5000	**92.075** 3.6250	**9.7** 0.38	**9.7** 0.38	**69.3** 152.78	
T811F	**1** 1	**203.200** 8.0000	**419.100** 16.5000	**92.075** 3.6250	**9.7** 0.38	**9.7** 0.38	**69.3** 152.78	
***T811FS - T811S**	**7** 7	**203.200** 8.0000	**419.100** 16.5000	**123.825** 4.8750	**9.7** 0.38	**9.7** 0.38	– –	**T811FS - T811S, SPHERICAL RADIUS =** 508.000 mm (20″)
***T811FS - T811SA**	**8** 8	**203.200** 8.0000	**422.275** 16.6250	**115.880** 4.5625	**9.7** 0.38	**9.7** 0.38	– –	**T811FS - T811SA, SPHERICAL RADIUS =** 838.200 mm (33″), LOWER RACE OD = 419.100 mm (16.5000″)

THRUST BEARINGS

TYPE TTHD - *continued*

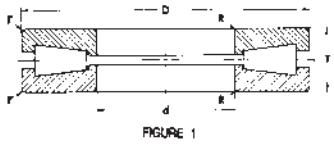
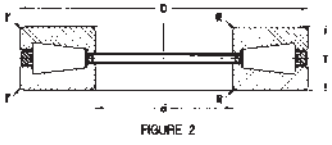


FIGURE 1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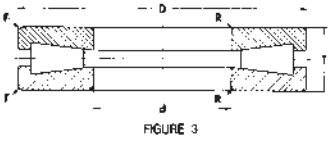
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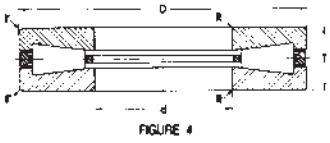
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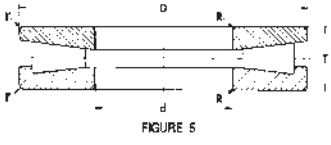
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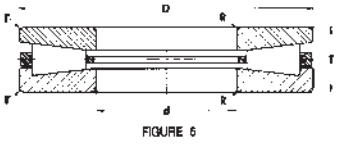
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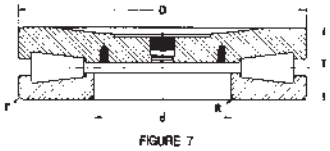
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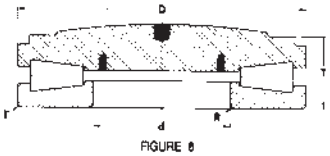
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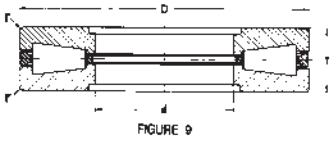
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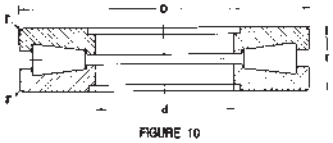
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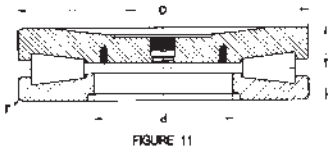
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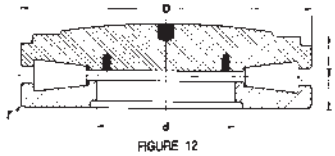
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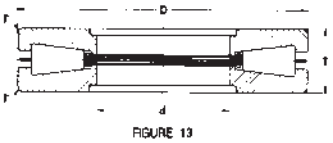


FIGURE 13

Bearing Number	Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Housing Fillet Radius r	Mass	Remarks
		mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	
***T811FSA - T811SB**	**7** 7	**SOLID**	**422.275** 16.6250	**120.650** 4.7500	**N/A** N/A	**9.7** 0.38	– –	**T811FSA - T811SB, SPHERICAL RADIUS =** 506.000 mm (20″), LOWER RACE OD = 419.100 mm (16.5000″)
T811X	**2** 2	**203.200** 8.0000	**419.100** 16.5000	**120.650** 4.7500	**9.7** 0.38	**9.7** 0.38	**92.7** 204.37	
***T811 - T811XA**	**2** 2	**203.200** 8.0000	**419.100** 16.5000	**106.363** 4.1875	**9.7** 0.38	**9.7** 0.38	– –	**T811 - T811XA, 2 BORES, OTHER BORE =** 201.613 mm (7.9375″)
T911	**9** 9	**228.600** 9.0000	**482.600** 19.0000	**104.775** 4.1250	**N/A** N/A	**11.2** 0.44	**105.0** 231.49	
T911A	**9** 9	**234.950** 9.2500	**482.600** 19.0000	**104.775** 4.1250	**N/A** N/A	**11.2** 0.44	**103.0** 227.08	
T911F	**10** 10	**228.600** 9.0000	**482.600** 19.0000	**104.775** 4.1250	**N/A** N/A	**11.2** 0.44	– –	
***T911 -T911A**	**9** 9	**228.600** 9.0000	**482.600** 19.0000	**104.775** 4.1250	**N/A** N/A	**11.2** 0.44	– –	**T911 - T911A, 2 BORES, OTHER BORE =** 234.950 mm (9.2500″)
***T911FS -T911S**	**11** 11	**228.600** 9.0000	**482.600** 19.0000	**146.050** 5.7500	**N/A** N/A	**11.2** 0.44	– –	**T911FS - T911S, SPHERICAL RADIUS =** 635.000 mm (25″)
***T911FS -T911SA**	**12** 12	**228.600** 9.0000	**482.600** 19.0000	**131.763** 5.1875	**N/A** N/A	**11.2** 0.44	– –	**T911FS - T911SA, SPHERICAL RADIUS =** 1295.400 mm (51″)
***T911FS -T911SB**	**12** 12	**228.600** 9.0000	**482.600** 19.0000	**114.300** 4.5000	**N/A** N/A	**11.2** 0.44	– –	**T911FS - T911SB, SPHERICAL RADIUS =** 895.350 mm (35.25″)
T921	**9** 9	**234.950** 9.2500	**546.100** 21.5000	**127.000** 5.0000	**N/A** N/A	**16.0** 0.63	**171.0** 376.99	

Bearing Number	Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Housing Fillet Radius r	Mass	Remarks
		mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	
T921F	**10** 10	**234.950** 9.2500	**546.100** 21.5000	**127.000** 5.0000	**N/A** N/A	**16.0** 0.63	**171.0** 376.99	
T1011	**9** 9	**254.000** 10.0000	**539.750** 21.2500	**117.475** 4.6250	**N/A** N/A	**11.2** 0.44	**147.0** 324.08	
***T1011FS - T1011S**	**12** 12	**254.000** 10.0000	**539.750** 21.2500	**149.225** 5.8750	**N/A** N/A	**11.2** 0.44	– –	**T1011FS - T1011S, SPHERICAL RADIUS =** 1066.8 mm (42″)
***T1011FS - T1011SA**	**11** 11	**254.000** 10.0000	**539.750** 21.2500	**158.750** 6.2500	**N/A** N/A	**11.2** 0.44	– –	**T1011FS - T1011SA, SPHERICAL RADIUS =** 635.000 mm (25″)
***T1011FS - T1011SC**	**11** 11	**254.000** 10.0000	**539.750** 21.2500	**158.750** 6.2500	**N/A** N/A	**11.2** 0.44	– –	**T1011FS - T1011SC, SPHERICAL RADIUS =** 635.000 mm (25″)
T1115	**9** 9	**279.400** 11.0000	**495.300** 19.5000	**133.350** 5.2500	**N/A** N/A	**6.4** 0.25	**125.0** 275.58	
T1120	**9** 9	**279.400** 11.0000	**603.250** 23.7500	**136.525** 5.3750	**N/A** N/A	**11.2** 0.44	**212.0** 467.38	
T1120F	**10** 10	**279.400** 11.0000	**603.250** 23.7500	**136.525** 5.3750	**N/A** N/A	**11.2** 0.44	**212.0** 467.38	
***T1120FS - T1120S**	**12** 12	**279.400** 11.0000	**603.250** 23.7500	**136.525** 5.3750	**N/A** N/A	**11.2** 0.44	– –	**T1120FS - T1120S, SPHERICAL RADIUS =** 1308.1 mm (51.5″)
T1421	**9** 9	**355.600** 14.0000	**533.400** 21.0000	**101.600** 4.0000	**N/A** N/A	**6.4** 0.25	**84.1** 185.41	
T1421F	**10** 10	**355.600** 14.0000	**533.400** 21.0000	**101.600** 4.0000	**N/A** N/A	**6.4** 0.25	**84.1** 185.41	
T1750	**2** 2	**44.450** 1.7500	**84.734** 3.3360	**18.258** 0.7188	**2.3** 0.09	**2.3** 0.09	**0.5** 1.08	
T2520	**2** 2	**63.500** 2.5000	**117.475** 4.6250	**25.400** 1.0000	**2.3** 0.09	**2.3** 0.09	**1.3** 2.95	
***T3004W**	**1** 1	**76.454** 3.0100	**167.081** 6.5780	**44.450** 1.7500	**3.3** 0.13	**N/A** N/A	– –	**T3004W, RETAINER ON OD**
T7519	**2** 2	**190.000** 7.4803	**355.600** 14.0000	**74.219** 2.9220	**6.4** 0.25	**6.4** 0.25	**35.9** 79.15	
***T8920FA - T8920FB**	**11** 11	**168.275** 6.6250	**638.175** 25.1250	**152.400** 6.0000	**N/A** N/A	**11.0** 0.43	– –	**NO SPHERICAL RADIUS**
T9020	**9** 9	**228.600** 9.0000	**431.800** 17.0000	**88.773** 3.4950	**N/A** N/A	**9.7** 0.38	**65.7** 144.84	
***T9030FS - T9030S**	**7** 7	**SOLID**	**482.600** 19.0000	**165.000** 6.5354	**N/A** N/A	**11.2** 0.44	– –	**T9030FS - T9030S, SPHERICAL RADIUS =** 635.000 mm (25″)
***T9030FS - T9030SA**	**8** 8	**SOLID**	**482.600** 19.0000	**150.622** 5.9300	**N/A** N/A	**11.2** 0.44	– –	**T9030FS - T9030SA, SPHERICAL RADIUS =** 1295.400 mm (51″)
***T9030FSA - T9030SA**	**12** 12	**168.275** 6.6250	**482.600** 19.0000	**131.763** 5.1875	**N/A** N/A	**11.2** 0.44	– –	**T9030FSA - T9030SA, SPHERICAL RADIUS =** 1295.400 mm (51″)
***T9030FSA - T9030SB**	**12** 12	**168.275** 6.6250	**482.600** 19.0000	**131.763** 5.1875	**N/A** N/A	**11.2** 0.44	– –	**T9030FSA - T9030SB, SPHERICAL RADIUS =** 1066.800 mm (42″)
T9250F	**10** 10	**234.950** 9.2500	**546.100** 21.5000	**127.000** 5.0000	**N/A** N/A	**16.0** 0.63	– –	
T9250FA	**10** 10	**139.700** 5.5000	**546.100** 21.5000	**127.000** 5.0000	**N/A** N/A	**16.0** 0.63	– –	
***T9250FAS - T9250SA**	**12** 12	**139.700** 5.5000	**549.275** 21.6250	**155.575** 6.1250	**N/A** N/A	**16.0** 0.63	– –	**T9250FAS - T9250SA, SPHERICAL RADIUS =** 1295.400 mm (51″)
***T9250FAS - T9250SC**	**12** 12	**139.700** 5.5000	**549.275** 21.6250	**155.575** 6.1250	**N/A** N/A	**16.0** 0.63	– –	**T9250FAS - T9250SC, SPHERICAL RADIUS =** 1295.400 mm (51″)
***T9250FS - T9250S**	**11** 11	**234.950** 9.2500	**546.100** 21.5000	**168.275** 6.6250	**N/A** N/A	**16.0** 0.63	– –	**T9250FS - T9250S, SPHERICAL RADIUS =** 641.350 mm (25.25″)
***T9250FS - T9250SA**	**12** 12	**234.950** 9.2500	**549.275** 21.6250	**155.575** 6.1250	**N/A** N/A	**16.0** 0.63	– –	**T9250FS - T9250SA, SPHERICAL RADIUS =** 1295.400 mm (51″)
***T9250FS - T9250SB**	**11** 11	**234.950** 9.2500	**546.100** 21.5000	**171.450** 6.7500	**N/A** N/A	**16.0** 0.63	– –	**T9250FS - T9250SB, SPHERICAL RADIUS =** 558.800 mm (22″)
***T12040FS - T12040S**	**12** 12	**304.800** 12.0000	**1146.175** 45.1250	**317.500** 12.5000	**N/A** N/A	**19.0** 0.75	– –	**T12040FS - T12040S, SPHERICAL RADIUS =** 2000.250 mm (78.75″), LOWER RACE OD = 1143.000 mm (45.0000″)
***T14214**	**13** 13	**355.600** 14.0000	**533.400** 21.0000	**101.600** 4.0000	**N/A** N/A	**6.4** 0.25	– –	**T14214, 2 BORES, OTHER BORE =** 355.961 mm (14.0150″)
T14520	**9** 9	**368.300** 14.5000	**603.300** 23.7500	**120.650** 4.7500	**N/A** N/A	**9.7** 0.38	**144.0** 317.47	

THRUST BEARINGS

TYPE TTHD - *continued*

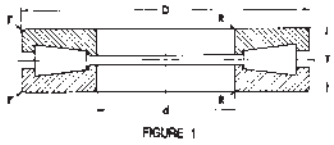


FIGURE 1

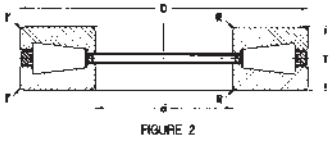
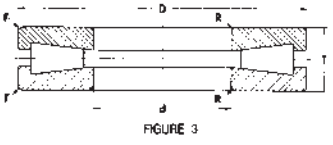


FIGURE 2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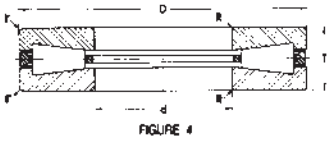
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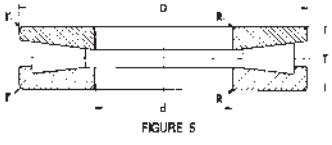
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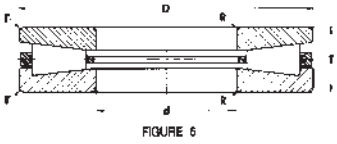
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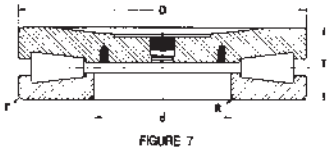
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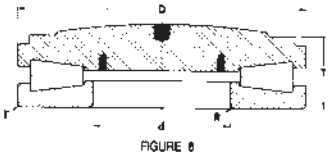
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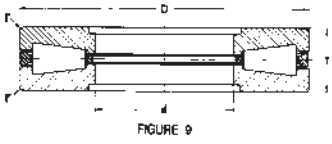
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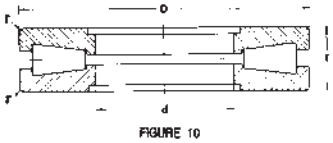
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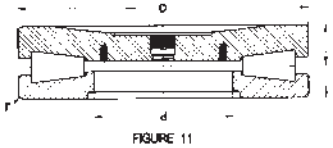
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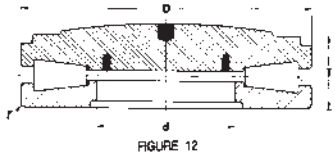


FIGURE 12

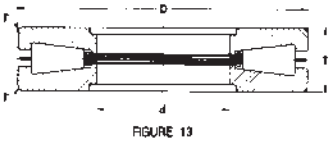


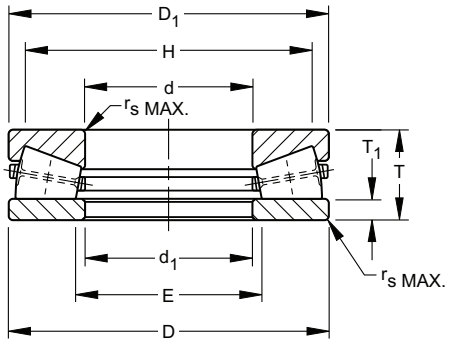
FIGURE 13

Bearing Number	Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Housing Fillet Radius r	Mass	Remarks
		mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	
T16021	**9** 9	**406.400** 16.0000	**711.200** 28.0000	**146.050** 5.7500	**N/A** N/A	**9.7** 0.38	**264.0** 582.02	
T16021F	**10** 10	**406.400** 16.0000	**711.200** 28.0000	**146.050** 5.7500	**N/A** N/A	**9.7** 0.38	**264.0** 582.02	
T16050	**9** 9	**406.400** 16.0000	**838.200** 33.0000	**177.800** 7.0000	**N/A** N/A	**12.7** 0.5	**517.0** 1139.79	
T17010FS - T17020S	**12** 12	**431.800** 17.0000	**942.975** 37.1250	**260.350** 10.2500	**N/A** N/A	**12.7** 0.5	– –	
T48000	**9** 9	**1219.200** 48.0000	**1524.000** 60.0000	**136.525** 5.3750	**N/A** N/A	**9.7** 0.38	**596.0** 1313.95	

TAPERED ROLLER THRUST BEARINGS

TYPE TTVF

- Combines the outstanding features of tapered thrust and cylindrical roller bearings to offer the highest possible capacity of any thrust bearing of its size.
- One washer is perfectly flat, while the second includes a tapered raceway matching the rollers.
- Originally developed for screwdown applications in metal rolling mills where thrust loads exceeding one million pounds are common.



B

DIMENSIONS – LOAD RATINGS

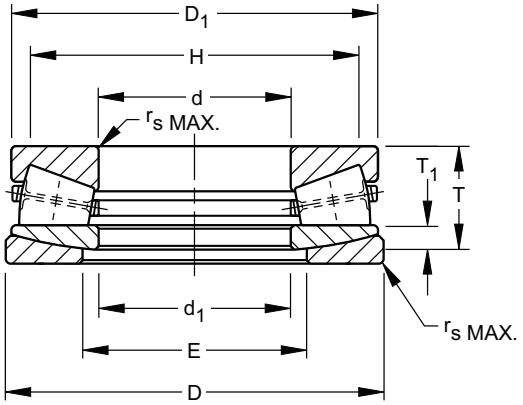
Bearing Number	Bore d	O.D. D	Height T	Washers: Thickness T_1	Washers: Small Diameter O.D. D_1	Washers: Large Bore I.D. d_1	Shoulder Diameter: Shaft H (Min.)	Shoulder Diameter: Housing E (Max.)	Fillet[1] Radius r (Max.)	Wt.	Load Rating: Static Load Rating C_{oa}	Load Rating: Dynamic Load Rating C_t	Approx. Limiting Speed (for Oil Bath Only)
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	kN lbs.	kN lbs.	RPM
F-3167-B	101.575 3.9990	215.875 8.4990	46.038 1.8125	9.53 0.375	215.14 8.470	102.59 4.039	193.7 7.62	108 4.25	2.5 0.10	9.3 20.5	1570.0 353000	880.0 198000	1350
W-3217-B	127.000 5.0000	266.700 10.5000	58.738 2.3125	12.70 0.500	265.94 10.470	127.51 5.020	238.1 9.38	149.2 5.88	3.6 0.14	18.6 41.0	2570.0 578000	1350.0 304000	1090
S-4055-C	149.974 5.9045	299.720 11.8000	89.692 3.5312	25.40 1.000	298.45 11.750	154 6.063	267.5 10.53	174.6 6.88	3 0.12	35.8 79.0	3350.0 754000	1850.0 416000	970
G-3304-B	168.275 6.6250	304.800 12.0000	69.850 2.7500	14.29 0.562	303.21 11.938	171.45 6.750	277.8 10.94	188.9 7.44	6.4 0.25	25.9 57.0	3730.0 839000	1910.0 429000	950
W-3218-B	177.800 7.0000	368.300 14.5000	82.550 3.2500	17.46 0.688	366.71 14.438	180.98 7.125	336.6 13.25	203.2 8.00	6.1 0.24	49.4 109.0	6270.0 1410000	2940.0 660000	790
F-3094-C	228.575 8.9990	431.749 16.9980	88.900 3.5000	15.88 0.625	430.99 16.968	231.78 9.125	396.9 15.62	257.2 10.12	5.1 0.20	71.7 158.0	7120.0 1600000	3420.0 769000	670
I-2077-C	253.975 9.9990	508.000 20.0000	95.250 3.7500	19.05 0.750	507.19 19.968	256.38 10.094	468.3 18.44	282.6 11.12	6.4 0.25	110.2 243.0	10000.0 2260000	4530.0 1020000	570
R-2927-C	254.000 10.0000	508.000 20.0000	107.950 4.2500	21.43 0.844	506.41 19.938	257.18 10.125	466.7 18.38	285.8 11.25	4.8 0.19	123.4 272.0	12100.0 2720000	5550.0 1250000	570
G-3224-C	256.540 10.1000	546.100 21.5000	165.100 6.5000	34.92 1.375	542.92 21.375	258.76 10.188	515.9 20.31	301.6 11.88	6.1 0.24	227.2 501.0	14900.0 3350000	7900.0 1780000	530
S-4077-C	259.999 10.2362	479.948 18.8956	132.080 5.2000	26.99 1.062	478.36 18.833	263.17 10.361	427 16.81	300 11.81	4.8 0.19	126.5 279.0	8980.0 2020000	4720.0 1060000	610
C-8091-C	279.400 11.0000	603.250 23.7500	136.525 5.3750	30.16 1.188	601.66 23.688	282.58 11.125	552.4 21.75	317.5 12.50	4.8 0.19	230.4 508.0	1770.0 3980000	7890.0 1770000	480
G-3272-C	304.775 11.9990	609.600 24.0000	114.300 4.5000	28.58 1.125	606.81 23.890	307.18 12.094	565.2 22.25	342.9 13.50	6.4 0.25	190.9 421.0	17800.0 3990000	7380.0 1660000	480
E-1994-C	304.800 12.0000	673.100 26.5000	171.450 6.7500	37.31 1.469	671.51 26.438	307.98 12.125	608 23.94	352.4 13.88	7.6 0.30	347.8 767.0	22700.0 5100000	11000.0 2470000	430
F-3090-A	304.800 12.0000	736.600 29.0000	279.400 11.0000	44.45 1.750	735.01 28.938	307.98 12.125	614.4 24.19	385.8 15.19	9.1 0.36	732 1614.0	28000.0 6300000	17100.0 3850000	400
I-2060-C	368.541 14.5095	609.156 23.9825	120.650 4.7500	25.40 1.000	604.84 23.812	371.48 14.625	565.2 22.25	401.6 15.81	9.7 0.38	176 388.0	11800.0 2640000	5840.0 1310000	480
B-8350-C	406.400 16.0000	711.200 28.0000	167.084 6.5781	36.91 1.453	709.61 27.938	409.58 16.125	654 25.75	450.8 17.75	9.1 0.36	356.5 786.0	19900.0 4480000	10300.0 2310000	410
F-3163-C	406.400 16.0000	712.394 28.0470	146.050 5.7500	30.96 1.219	711.28 28.003	409.58 16.125	650.9 25.62	455.6 17.94	7.6 0.30	303.4 669.0	19300.0 4350000	9190.0 2070000	410
F-3131-G	431.800 17.0000	863.600 34.0000	228.600 9.0000	44.45 1.750	862.01 33.938	434.98 17.125	787.4 31.00	489 19.25	10.2 0.40	774.6 1708.0	37700.0 8480000	18800.0 4230000	340
A-6096-C	508.000 20.0000	990.600 39.0000	196.850 7.7500	67.47 2.656	990.60 39.000	508.58 20.062	927.1 36.50	563.6 22.19	12.7 0.50	882.5 1946.0	41500.0 9320000	16700.0 3760000	290
F-3093-A	558.800 22.0000	1066.800 42.0000	285.750 11.2500	57.15 2.250	1065.21 41.938	561.98 22.125	952.5 37.50	639.8 25.19	10.2 0.40	1401.4 3090.0	49400.0 11100000	28000.0 6300000	270
F-3172-C	711.200 28.0000	965.200 38.0000	127.000 5.0000	30.16 1.188	963.61 37.938	714.38 28.125	917.6 36.12	762 30.00	4.8 0.19	354.2 781.0	19600.0 4400000	8670.0 1950000	300
H-2054-G	711.200 28.0000	990.600 39.0000	190.500 7.5000	44.45 1.750	989.01 38.938	712.79 28.062	936.6 36.88	755.6 29.75	10.2 0.40	572.3 1262.0	28000.0 6300000	14200.0 3200000	290
D-2864-C	825.424 32.4970	1168.400 46.0000	127.000 5.0000	31.75 1.250	1168.40 46.000	825.50 32.500	1130.3 44.50	860.4 33.88	14.2 0.56	549.7 1212.0	44100.0 9920000	15600.0 3500000	250
F-3067-C	1219.998 48.0314	1574.869 62.0027	177.800 7.0000	44.45 1.750	1575 62.008	1219.99 48.031	1498.6 59.00	1266.8 49.88	6.4 0.25	1173.2 2587.0	49900.0 11200000	21900.0 4930000	180

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

TAPERED ROLLER THRUST BEARINGS

TYPE TTVS

- Same basic roller and raceway design as the TTVF except that the lower washer is two pieces to permit self-alignment under conditions of initial misalignment.



DIMENSIONS – LOAD RATINGS

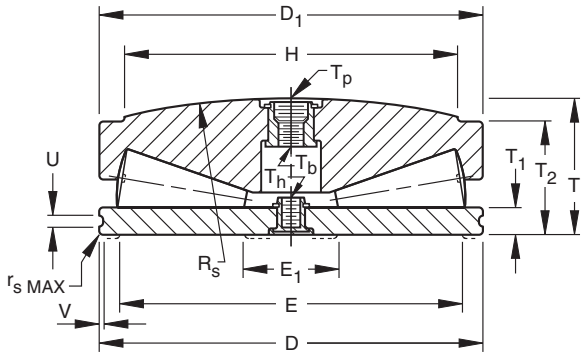
Bearing Number	Bore d	O.D. D	Height T	Washers: Thickness T_1	Washers: Small Diameter O.D. D_1	Washers: Large Bore I.D. d_1	Shoulder Diameter: Shaft H (Min.)	Shoulder Diameter: Housing E (Max.)	Fillet[1] Radius r_s (Max.)	Wt.	Load Rating: Static Load Rating C_{oa}	Load Rating: Dynamic Load Rating C_t	Approx. Limiting Speed (for Oil Bath Only)
	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	kg lbs.	kN lbs.	kN lbs.	RPM
B-7976-C	184.15 7.2500	406.4 16.0000	203.2 8.0000	66.68 2.625	404.81 15.938	187.32 7.375	346.1 13.62	228.6 9.00	6.1 0.24	157.4 347.0	7650.0 1720000	4540.0 1020000	720
B-8824-C	199.374 7.8730	399.948 15.7460	121.841 4.7969	36.4 1.433	396.88 15.625	203.2 8.000	358.8 14.12	240.5 9.47	4.1 0.16	86.2 190.0	7020.0 1580000	3590.0 807000	730
E-2004-C	228.6 9.0000	482.549 18.9980	158.75 6.2500	44.91 1.768	479.55 18.880	231.78 9.125	419.1 16.50	282.6 11.12	4.8 0.19	170.1 375.0	10900.0 2440000	5870.0 1320000	600
H-1685-C	241.3 9.5000	488.899 19.2480	152.4 6.0000	57.15 2.250	482.6 19.000	242.09 9.531	431.8 17.00	279.4 11.00	6.1 0.24	162.8 359.0	9940.0 2240000	4980.0 1120000	600
W-3120-C	253.975 9.9990	508 20.0000	215.9 8.5000	61.91 2.437	504.82 19.875	285.75 11.250	425.4 16.75	317.5 12.50	10.2 0.40	250.8 553.0	9770.0 2200000	6020.0 1350000	580
P-1739-C	304.8 12.0000	609.6 24.0000	215.9 8.5000	61.91 2.437	608.01 23.938	307.98 12.125	536.6 21.12	349.2 13.75	7.6 0.30	359.6 793.0	17800.0 4010000	10000.0 2260000	480
N-2827-G	355.6 14.0000	660.4 26.0000	254 10.0000	76.2 3.000	657.22 25.875	358.78 14.125	577.8 22.75	412.8 16.25	10.2 0.40	483 1065.0	18600.0 4180000	11100.0 2490000	440
B-8424-C	406.4 16.0000	869.95 34.2500	241.3 9.5000	82.55 3.250	887.41 34.938	438.15 17.250	803.3 31.62	463.6 18.25	16.5 0.65	858 1892.0	39000.0 8770000	17700.0 3980000	330

[1] Maximum shaft or housing fillet radius that bearing corners will clear.

TAPERED ROLLER THRUST BEARINGS

TYPE TTSX

- A full roller complement design without a conventional bore.
- Supplied with center inserts for attachment purposes as well as for lifting.
- Offers the highest capacity but at a somewhat reduced speed capability, as compared with other V-Flat types.

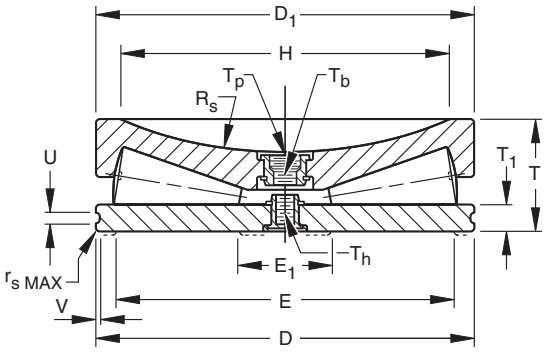


Bearing Number	Screw Extension Dia. min. H	O.D. D	Overall Height T	Height T2	Spherical Radius Rs	Washer Thickness T1	max. rs	Top Washer O.D. D1	Hsg. Shldr. Dia. E	Hsg. Shldr. Dia. E1	Groove Width U	Groove Depth V	Eyebolt Threads Tb	Eyebolt Threads Th	Tp Taper Pipe Plug Thread	Basic Static Thrust Capacity BSTC
	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs.
58 TTSX 908	5.000	5.875	2.164	1.875	18.000	0.500	1/16	5.782	5 3/8	2	0.187	0.046	1/2-13	3/8-16	3/8	299000
68 TTSX 910	6.000	6.875	2.417	2.062	18.000	0.500	1/16	6.782	6 3/8	2 7/8	0.187	0.046	1/2-13	3/8-16	3/8	400000
80 TTSX 914	7.000	8.000	2.977	2.562	20.000	0.625	1/16	7.907	7 3/8	2 7/8	0.250	0.046	1/2-13	3/8-16	3/8	565000
105 TTSX 918	9.000	10.500	3.717	3.187	24.000	0.750	1/16	10.407	9 3/8	3 1/8	0.312	0.078	3/4-10	1/2-13	3/4	985000
126 TTSX 922	11.000	12.625	4.369	3.750	30.000	0.875	1/16	12.532	11 1/2	3 5/8	0.406	0.094	3/4-10	1/2-13	3/4	1515000
148 TTSX 926	13.000	14.875	5.079	4.375	36.000	1.000	1/16	14.782	13 5/8	4 5/8	0.406	0.094	1 1/4-7	1/2-13	1 1/4	2050000
172 TTSX 934 OG778	13.500	17.252	6.495	5.500	33.000	1.250	5/32	17.152	15 5/8	4 9/16	0.531	0.125	1 1/4-7	1 - 8	1 1/4	2815000
161 TTSX 930	14.000	16.125	5.542	4.812	40.000	1.125	1/8	16.032	14 5/8	4 9/16	0.406	0.094	1 1/4-7	1/2-13	1 1/4	2430000
161 TTSX 930 AA678	14.000	16.125	6.730	5.616	54.000	1.750	1/16	16.032	14 5/8	4 9/16	–	–	1 1/4-7	1 - 8	1 1/4	2430000
172 TTSX 934	15.000	17.250	5.932	5.125	40.000	1.250	1/8	17.157	15 5/8	4 9/16	0.531	0.125	1 1/4-7	1 - 8	1 1/4	2800000
202 TTSX 942 EE2000	15.875	20.250	7.430	6.125	25.000	1.375	1/16	20.532	19	5	–	–	1 1/4-7	1 - 8	1 1/4	4190000
190 TTSX 940	16.500	19.000	5.730	5.125	75.000	1.500	1/16	18.906	18 1/4	7 3/16	0.531	0.125	1 1/4-7	1 - 8	1 1/4	3460000
190 TTSX 940 OA617	16.500	19.000	6.015	5.125	42.000	1.500	1/16	18.905	18 1/4	5 3/16	0.531	0.125	1 1/4-7	1 - 8	1 1/4	3620000
190 TTSX 938 BO563	17.000	19.250	6.717	5.750	42.000	1.375	1/8	19.407	17 5/8	4 5/8	–	–	1 1/4-7	1 - 8	1 1/4	3680000
195 TTSX 938 OD452	17.000	19.500	6.635	5.750	46.500	1.375	1/8	12.407	17 5/8	4 5/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	3680000
195 TTSX 938	17.000	19.500	6.717	5.750	42.000	1.375	1/8	19.407	17 5/8	4 5/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	3680000
195 TTSX 938 DO574	17.000	19.560	6.717	5.750	42.000	1.375	1/8	19.407	17 5/8	4 5/8	–	–	1 1/4-7	1 - 8	1 1/4	3680000
206TTSX 942	18.000	20.625	6.920	6.000	50.000	1.375	1/8	20.532	19	5 1/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	4190000
206 TTSX 942 AB551	18.000	20.625	7.937	6.878	42.000	2.238	1/8	20.532	19	5	0.531	0.125	1 1/4-7	1 - 8	1 1/4	4190000
210 TTSX 944 AO574	18.000	21.000	7.000	6.375	78.000	1.250	–	20.906	19 1/2	5	–	–	1 1/4-7	1 - 8	1 1/4	4232000
210 TTSX 944	18.000	21.000	7.000	6.375	78.000	1.250	1/16	20.906	19 1/2	5	0.375	0.375	1 1/4-7	1 - 8	1 1/4	4232000
210 TTSX 944 BA1479	18.000	21.000	7.023	–	78.000	1.250	–	21.000	19 1/2	5	–	–	1 1/4-7	1 - 8	1 1/4	4232000
218 TTSX 946	19.000	21.875	7.514	6.500	50.000	1.500	1/8	21.782	19 7/8	6	0.531	0.125	1 1/4-7	1 - 8	1 1/4	4550000
228 TTSX 950	20.000	22.875	7.629	6.625	56.000	1.500	1/8	22.782	20 3/4	5 1/4	0.531	0.125	1 1/4-7	1 - 8	1 1/4	5130000
228 TTSX 950 AO2017	20.000	22.875	7.629	6.625	56.000	1.500	1/8	22.782	20 3/4	5 1/4	0.531	0.125	1 1/4-7	1 - 8	1 1/4	5130000
228 TTSX 950 OA452	20.000	22.875	7.708	6.625	51.500	1.500	1/8	22.782	20 3/4	5 1/4	0.531	0.125	1 1/4-7	1 - 8	1 1/4	5130000
240 TTSX 954 OC1185	21.000	24.000	8.032	7.000	60.000	1.500	1/8	23.907	22	4 5/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	5700000
240 TTSX 954	21.000	24.000	8.032	7.000	60.000	1.500	1/8	23.907	22	5 5/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	5700000
252 TTSX 958 00149	22.000	25.250	8.373	7.250	60.000	1.500	1/8	25.157	23 1/8	5 3/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	6290000
252 TTSX 958	22.000	25.250	8.373	7.250	60.000	1.500	1/8	25.157	23 1/8	5 3/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	6290000

TAPERED ROLLER THRUST BEARINGS

TYPE TTSV

- Designed with a full complement of controlled contour rollers without a conventional bore.
- Supplied with center inserts for attachment purposes as well as for lifting.
- Offers the highest capacity but at a somewhat reduced speed capability, as compared with other V-Flat types.



Bearing Number	Screw Extension Dia. min. H	O.D. D	Height T	Spherical Radius Rs	Washer Thickness T1	max. rs	Top Washer O.D. D1	Hsg. Shldr. Dia. E	Hsg. Shldr. Dia. E1	Groove Width U	Groove Depth V	Eyebolt Threads Tb	Eyebolt Threads Th	Tp Taper Pipe Plug Thread	Basic Static Thrust Capacity BSTC
	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs.
58 TTSV 908	5.000	5.875	1.875	9.000	0.500	1/16	5.782	5 3/8	2	0.187	0.046	5/8-11	3/8-16	–	299000
80 TTSV 914 AA508	5.500	8.000	2.563	24.000	0.625	–	7.907	7 3/8	2 7/8	–	–	5/8-11	3/8-16	–	565000
68 TTSV 910	6.000	6.875	2.062	9.000	0.500	1/16	6.782	6 3/8	2 7/8	0.187	0.046	5/8-11	3/8-16	–	400000
80 TTSV 914	7.000	8.000	2.562	10.000	0.625	1/16	7.907	7 3/8	2 7/8	0.250	0.046	5/8-11	3/8-16	–	565000
105 TTSV 918	9.000	10.500	3.187	12.000	0.750	1/16	10.407	9 3/8	3 3/8	0.312	0.078	3/4-10	1/2-13	–	985000
105 TTSV 918 OC1150	9.000	10.500	3.187	14.000	0.750	1/16	10.407	9 3/8	3 1/8	0.312	0.078	3/4-10	1/2-13	–	985000
126 TTSV 922	11.000	12.625	3.750	15.000	0.875	1/16	12.532	11 1/2	3 5/8	0.406	0.094	3/4-10	1/2-13	–	1515000
148 TTSV 926	13.000	14.875	4.375	18.000	1.000	1/16	14.782	13 5/8	4 5/8	0.406	0.094	3/4-10	1/2-13	3/4	2050000
148 TTSV 926 AO529	13.000	14.875	4.375	18.000	1.000	1/16	14.782	13 5/8	4 5/8	0.406	0.094	3/4-10	1/2-13	–	2050000
161 TTSV 930 OA534	13.000	16.125	5.500	20.000	1.125	1/8	16.032	14 5/8	4 9/16	0.406	0.094	3/4-10	1/2-13	3/4	2430000
161 TTSV 930	14.000	16.125	4.812	20.000	1.125	1/8	16.032	14 5/8	4 9/16	0.406	0.094	3/4-10	1/2-13	3/4	2430000
172 TTSV 934	15.000	17.250	5.125	20.000	1.250	1/8	17.157	15 5/8	4 9/16	0.531	0.125	1 1/4-7	1 - 8	1 1/4	2800000
172 TTSV 934 BA528	15.000	17.250	5.875	50.000	2.000	–	17.157	15 5/8	4 9/16	–	–	1 1/4-7	1 - 8	1 1/4	2800000
195 TTSV 938 OA452	17.000	19.500	5.750	25.000	1.375	1/8	19.407	17 5/8	4 5/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	3680000
195 TTSV 938	17.000	19.500	5.750	22.000	1.375	1/8	19.407	17 5/8	4 5/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	3680000
195 TTSV 938 OC902	17.000	19.500	5.750	25.000	1.375	1/8	19.250	17 5/8	4 5/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	3610000
195 TTSV 938 LE1722	17.000	19.500	5.750	36.000	1.375	1/4	19.407	17 5/8	4 5/8	0.953	0.130	1 1/4-7	1 - 8	1 1/4	3680000
195 TTSV 938 DB508	17.000	19.500	5.750	50.000	1.383	–	19.407	17 5/8	4 5/8	–	–	1 1/4-7	1 - 8	1 1/4	3680000
206 TTSV 942	18.000	20.625	6.000	25.000	1.375	1/8	20.532	19	5 1/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	4190000
210 TTSV 944 CA1481	18.000	21.000	7.000	50.000	1.125	–	21.000	19 1/2	5	–	–	1 1/4-7	1 - 8	1 1/4	4232000
210 TTSV 944 DA 1708	18.000	21.000	7.500	50.000	1.750	–	21.000	19 1/2	5	–	–	1 1/4-7	1 - 8	1 1/4	4232000
212 TTSV 942 EA1740	18.000	21.250	6.250	25.000	1.625	7/16	21.250	19	5	0.531	0.125	1 1/4-7	1 - 8	1 1/4	4190000
218 TTSV 946	19.000	21.875	6.500	25.000	1.500	1/8	21.782	19 7/8	6	0.531	0.125	1 1/4-7	1 - 8	1 1/4	4550000
228 TTSV 950	20.000	22.875	6.625	28.000	1.500	1/8	22.782	20 3/4	5 1/4	0.531	0.125	1 1/4-7	1 - 8	1 1/4	5130000
240 TTSV 954	21.000	24.000	7.000	30.000	1.500	1/8	23.907	22	5 3/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	5700000
252 TTSV 958	22.000	25.250	7.250	30.000	1.500	1/8	25.157	23 1/8	5 3/8	0.531	0.125	1 1/4-7	1 - 8	1 1/4	6290000

TAPERED ROLLER THRUST BEARINGS

TYPE TTSP

- The types TTSP and TTSPS (not shown) thrust bearings are made up of two tapered thrust races, rollers, cage and outside retainer which holds the components together during shipping and installation.
- These bearings are employed extensively in the steering pivot positions of automotive and industrial applications.

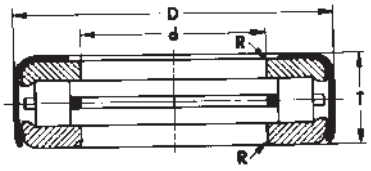


FIGURE 1

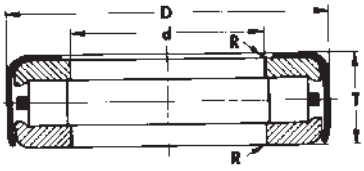


FIGURE 2

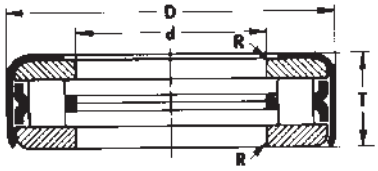


FIGURE 3

Bearing Number		Fig No.	Bore	Outside Diameter	Width	Shaft Fillet Radius	Mass	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer		d	D	T	R		
			mm in.	mm in.	mm in.	mm in.	kg lbs.	
T63	**T63W**	**1** 1	**16.129** 0.6350	**41.275** 1.6250	**12.700** 0.5000	**0.8** 0.03	**0.08** 0.18	
T76	**T76W**	**1** 1	**19.304** 0.7600	**41.275** 1.6250	**13.487** 0.5310	**0.8** 0.03	**0.08** 0.18	
T77	**T77W**	**1** 1	**19.304** 0.7600	**41.275** 1.6250	**12.700** 0.5000	**0.8** 0.03	**0.07** 0.15	
T82	**T82W**	**1** 1	**20.879** 0.8220	**41.275** 1.6250	**13.487** 0.5310	**0.8** 0.03	**0.07** 0.15	
T86		**1** 1	**20.257** 0.7975	**39.688** 1.5625	**14.288** 0.5625	**1.3** 0.05	**0.07** 0.15	
T88	**T88W**	**1** 1	**22.479** 0.8850	**48.021** 1.8906	**15.088** 0.5940	**0.8** 0.03	**0.11** 0.24	
T89		**1** 1	**22.479** 0.8850	**48.021** 1.8906	**15.875** 0.6250	**0.8** 0.03	**0.12** 0.26	
***T92**		**2** 2	**23.825** 0.9380	**44.958** 1.7700	**13.487** 0.5310	**0.8** 0.03	– –	**T92 HAS 2 BORES, OTHER BORE =24.054 mm** (.9470"), R = .08 mm (.03").
T93		**2** 2	**24.054** 0.9470	**44.958** 1.7700	**13.487** 0.5310	**0.8** 0.03	**0.09** 0.20	
T94	**T94W**	**1** 1	**24.054** 0.9470	**48.021** 1.8906	**15.088** 0.5940	**0.8** 0.03	**0.11** 0.24	
T95	**T95W**	**1** 1	**24.130** 0.9500	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**0.13** 0.29	
T101	**T101W**	**1** 1	**25.654** 1.0100	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**0.13** 0.29	
***T101X**		**1** 1	**25.146** 0.9900	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	– –	**T101X HAS 2 BORES, OTHER BORE =24.654 mm** (1.0100").
***T102**		**1** 1	**25.654** 1.0100	**50.800** 2.0000	**16.916** 0.6660	**0.8** 0.03	– –	**T102 HAS EXTENDED RETAINER, RETAINER "C"** DIMENSION - 20.384 mm (.8025"). EXTENSION INSIDE DIAMETER = 35.052 mm (1.3800")
T104	**T104W**	**1** 1	**26.289** 1.0350	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**0.13** 0.29	
***T105**		**1** 1	**25.654** 1.0100	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	– –	**T105 HAS 2 BORES, OTHER BORE = 27.299 mm** (1.0720").
T107	**T107W**	**1** 1	**27.299** 1.0720	**50.800** 2.0000	**15.875** 0.6250	**0.8** 0.03	**0.12** 0.26	
T110	**T110W**	**1** 1	**28.829** 1.1350	**53.188** 2.0940	**15.875** 0.6250	**0.8** 0.03	**0.14** 0.31	
T113	**T113W**	**1** 1	**28.829** 1.1350	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**0.15** 0.33	

* See remarks column.

TAPERED ROLLER THRUST BEARINGS

TYPE TTSP – *continued*

Bearing Number		Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Mass	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer							
			mm in.	mm in.	mm in.	mm in.	kg lbs.	
*T114	*T114W	1 1	25.654 1.0100	55.562 2.1875	15.875 0.6250	0.8 0.03	– –	T114 AND T114W HAVE 2 BORES, OTHER BORE = 28.829 mm (1.1350").
*T114X		2 2	28.829 1.1350	50.800 2.0000	15.875 0.6250	0.8 0.03	– –	T114X HAS 2 CAGES AND 2 BORES, OTHER BORE = 29.261 mm (1.1520").
T119	T119W	1 1	30.416 1.1975	55.562 2.1875	15.875 0.6250	0.8 0.03	0.15 0.33	
T120		2 2	30.416 1.1975	54.745 2.1553	11.430 0.4500	0.8 0.03	0.11 0.24	
T121		1 1	30.716 1.2093	55.562 2.1875	15.875 0.6250	0.8 0.03	0.16 0.35	
T126	T126W	1 1	32.004 1.2600	55.562 2.1875	15.875 0.6250	0.8 0.03	0.14 0.31	
*T126A	T126AW	1 1	32.004 1.2600	55.562 2.1875	15.875 0.6250	0.8 0.03	0.14 0.31	T126A - 2 CAGES
T139	T139W	1 1	35.179 1.3850	58.738 2.3125	15.875 0.6250	0.8 0.03	0.15 0.33	
*T139KP		1 1	35.179 1.3850	58.738 2.3125	15.875 0.6250	0.8 0.03	0.15 0.33	RACES ARE CADMIUM PLATED.
T142	T142W	1 1	35.179 1.3850	62.708 2.4688	19.431 0.7650	0.8 0.03	0.23 0.51	
T149	T149W	1 1	38.303 1.5080	65.883 2.5938	19.431 0.7650	0.8 0.03	0.24 0.53	
T158		1 1	40.234 1.5840	65.883 2.5938	19.431 0.7650	0.8 0.03	0.23 0.51	
T199	T199W	1 1	51.054 2.0100	74.612 2.9375	15.875 0.6250	0.8 0.03	0.20 0.44	
T309	T309W	1 1	78.583 3.0938	102.395 4.0313	15.875 0.6250	0.8 0.03	0.29 0.64	
T387	T387W	1 1	96.425 3.8750	127.000 5.0000	17.463 0.7650	0.8 0.03	0.50 1.10	
T484		1 1	123.012 4.8430	152.400 6.0000	17.463 0.6875	0.8 0.03	0.63 1.39	
T581		1 1	147.638 5.8125	177.800 7.0000	17.463 0.6875	0.8 0.03	0.89 1.96	
T1760		3 3	44.623 1.7568	76.200 3.0000	10.922 0.4300	0.8 0.03	0.18 0.4	

* See remarks column.

TAPERED ROLLER THRUST BEARINGS

TYPE TTC-TTCS

- The types TTC, TTCS and TTCL (not shown) thrust bearings consist of two tapered thrust races, rollers and an outside retainer and are cageless.
- The outside retainer holds the assembly together for shipping and installation.
- These thrust bearings are specifically designed for oscillating applications.
- These types are identical with the exception of the retainer construction.

TTC

TTCS

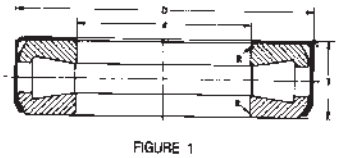


FIGURE 1

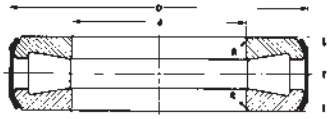


FIGURE 2

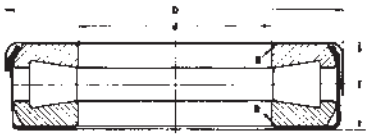


FIGURE 3

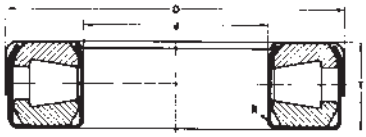


FIGURE 4

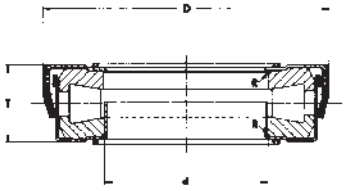


FIGURE 5

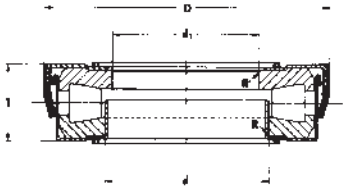


FIGURE 6

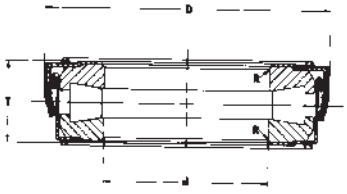


FIGURE 7

Bearing Number		Fig No.	Bore	Outside Diameter	Width	Shaft Fillet Radius	Mass	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer		d	D	T	R		
			mm in.	mm in.	mm in.	mm in.	kg lbs.	
T127	T127W	1 1	32.004 1.2600	66.675 2.6250	19.446 0.7656	0.8 0.03	0.31 0.68	
T128		2 2	32.004 1.2600	66.675 2.6250	18.654 0.7344	0.8 0.03	0.29 0.64	
T130		1 1	27.102 1.0670	66.675 2.6250	19.446 0.7656	0.8 0.03	0.34 0.75	
T136		2 2	35.179 1.3850	66.675 2.6250	18.654 0.7344	0.8 0.03	0.28 0.62	
T138	T138W	1 1	35.179 1.3850	66.675 2.6250	19.446 0.7656	0.8 0.03	0.30 0.66	
*T138XS		SPCL	35.179 1.3850	66.675 2.6250	19.446 0.7656	0.8 0.03	– –	T138XS HAS 2 BORES, OTHER BORE = 35.387 mm (1.3972")
T144	T144W	1 1	36.754 1.4470	66.675 2.6250	19.446 0.7656	1.5 0.06	0.29 0.64	
*T144XA		SPCL	36.754 1.4470	66.675 2.6250	19.446 0.7656	1.5 0.06	– –	T144XA HAS 2 BORES, OTHER BORE = 37.137 mm (1.4621")
T151	T151W	1 1	38.354 1.5100	72.619 2.8590	21.433 0.8438	0.8 0.03	0.37 0.82	
T151X		1 1	38.354 1.5100	69.444 2.7340	20.726 0.8160	0.8 0.03	0.37 0.82	

* See remarks column.

TAPERED ROLLER THRUST BEARINGS

TYPE TTC-TTCS – *continued*

FIGURE 1

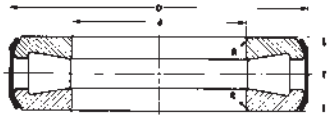


FIGURE 2

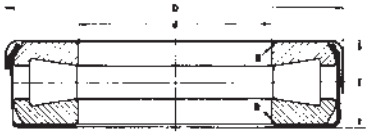


FIGURE 3

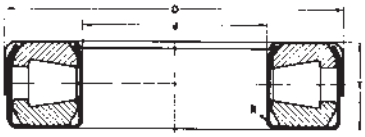


FIGURE 4

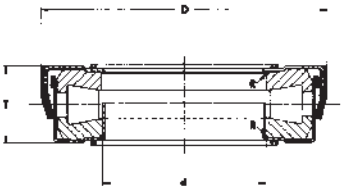


FIGURE 5

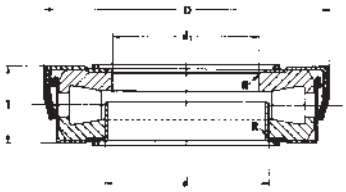


FIGURE 6

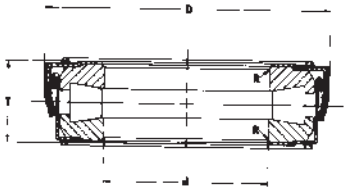


FIGURE 7

Bearing Number		Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Mass	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer							
			mm in.	mm in.	mm in.	mm in.	kg lbs.	
T152		2 2	38.354 1.5100	72.619 2.8590	20.638 0.8125	0.8 0.03	0.35 0.77	
T157	T157W	1 1	39.954 1.5730	72.619 2.8590	21.433 0.8438	0.8 0.03	0.37 0.82	
T163	T163W	1 1	41.529 1.6350	72.619 2.8590	21.433 0.8438	0.8 0.03	0.35 0.77	
T163X	T163XW	1 1	41.529 1.6350	72.619 2.8590	21.433 0.8438	2.0 0.80	0.35 0.77	
T169	T169W	1 1	43.104 1.6970	82.956 3.2660	23.812 0.9375	0.8 0.03	0.55 1.21	
T176	T176W	1 1	44.704 1.7600	82.956 3.2660	23.812 0.9375	0.8 0.03	0.54 1.19	
T177		1 1	45.000 1.7717	73.000 2.8740	20.000 0.7874	0.8 0.03	0.32 0.71	
T177A		1 1	45.484 1.7907	73.000 2.8740	20.000 0.7874	0.8 0.03	0.33 0.73	
*T177XA		SPCL	45.000 1.7717	73.127 2.8790	20.000 0.7874	0.8 0.03	– –	T177XA HAS 2 BORES, OTHER BORE = 45.484mm (1.7907")
T177S		5 5	45.000 1.7717	74.500 2.9331	20.221 0.7961	0.8 0.03	0.35 0.77	
T178		1 1	40.401 1.5906	73.000 2.8740	19.000 0.7480	0.8 0.03	– –	
T182	T182W	1 1	46.279 1.8220	82.956 3.2660	23.812 0.9375	0.8 0.03	0.52 1.15	
T188	T188W	1 1	47.879 1.8850	82.956 3.2660	23.812 0.9375	0.8 0.03	0.52 1.15	
T188X		4 4	47.879 1.8850	83.774 3.2970	24.130 0.9500	2.3 0.09	– –	
T189	T189W	2 2	47.879 1.8850	82.956 3.2660	23.020 0.9063	0.8 0.03	0.50 1.10	

* See remarks column.

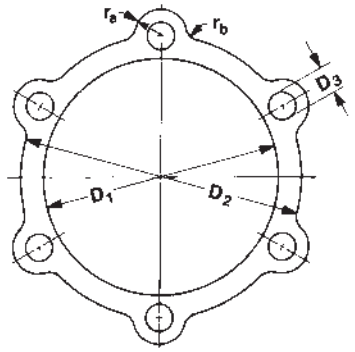
Bearing Number		Fig No.	Bore d	Outside Diameter D	Width T	Shaft Fillet Radius R	Mass	Remarks
No Oil Holes In Retainer	Oil Holes In Retainer							
			mm in.	mm in.	mm in.	mm in.	kg lbs.	
T193	**T193W**	**2** 2	**49.454** 1.9470	**93.269** 3.6720	**26.187** 1.0310	**0.8** 0.03	**0.80** 1.76	
T194	**T194W**	**1** 1	**49.454** 1.9470	**93.269** 3.6720	**26.975** 1.0620	**0.8** 0.03	**0.81** 1.79	
T201	**T201W**	**2** 2	**51.054** 2.0100	**93.269** 3.6720	**26.187** 1.0310	**3.3** 0.13	**0.77** 1.70	
T202	**T202W**	**1** 1	**51.054** 2.0100	**93.269** 3.6720	**26.975** 1.0620	**3.3** 0.13	**0.80** 1.76	
T208	**T208W**	**1** 1	**52.629** 2.0720	**93.269** 3.6720	**26.975** 1.0620	**0.8** 0.03	**0.79** 1.74	
T209	**T209W**	**2** 2	**52.629** 2.0720	**93.269** 3.6720	**26.187** 1.0310	**0.8** 0.03	**0.75** 1.65	
T251	**T251W**	**1** 1	**63.754** 2.5100	**111.125** 4.3750	**26.988** 1.0625	**0.8** 0.03	**1.07** 2.36	
T252	**T252W**	**2** 2	**63.754** 2.5100	**111.125** 4.3750	**25.796** 1.0156	**0.8** 0.03	**1.07** 2.23	
T301	**T301W**	**2** 2	**76.454** 3.0100	**133.350** 5.2500	**33.338** 1.3125	**2.3** 0.09	**1.87** 4.12	
	T301X	**2** 2	**76.454** 3.0100	**133.350** 5.2500	**33.338** 1.3125	**2.3** 0.09	– –	
T302	**T302W**	**1** 1	**76.454** 3.0100	**133.350** 5.2500	**34.925** 1.3750	**2.3** 0.09	**1.99** 4.39	
T350		**2** 2	**88.900** 3.5000	**133.350** 5.2500	**33.335** 1.3124	**2.8** 0.11	**1.41** 3.11	
T402	**T402W**	**2** 2	**102.108** 4.0200	**179.619** 7.0716	**44.450** 1.7500	**1.5** 0.06	**4.84** 10.67	
T600	**T600W**	**1** 1	**152.400** 8.0000	**241.300** 9.5000	**76.200** 3.0000	**3.3** 0.13	**14.10** 31.09	
T1260	**T1260W**	**1** 1	**32.004** 1.2600	**55.562** 2.1875	**15.875** 0.6250	**0.8** 0.03	**0.17** 0.37	
***T1380**		**SPCL** SPCL	**35.179** 1.3850	**59.400** 2.3386	**15.875** 0.6250	**0.8** 0.03	**0.35** 0.77	**2 PIECE SEAL**
T1921		**1** 1	**46.279** 1.8220	**80.010** 3.1500	**15.977** 0.6290	**0.8** 0.03	**0.34** 0.75	
T4020		**2** 2	**102.108** 4.0200	**179.619** 7.0716	**31.750** 1.2500	**1.5** 0.06	**3.7** 8.16	

* See remarks column.

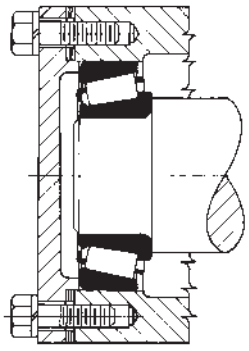
NOTES

CUP SHIMS

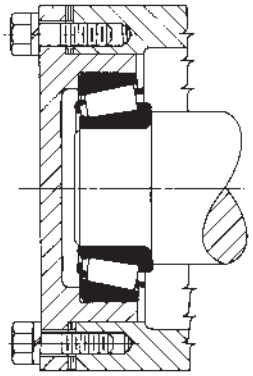
STANDARD METAL SHIMS FOR CUP ADJUSTMENT BEARINGS



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.

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.

Cup Shims
part number identifies the following:

	Shim		size	thickness(inches)
	K2		00	00
			example	
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	

DIMENSIONS ARE IN MILLIMETERS / INCHES

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
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

DIMENSIONS ARE IN MILLIMETERS / INCHES

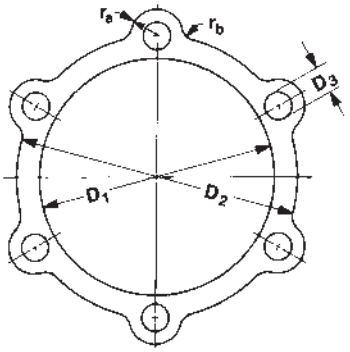
Shim Part Numbers			Cap Screws						
0.13 0.005 Thick	0.18 0.007 Thick	0.51 0.020 Thick	No.	Size	D_1	D_2	D_3	r_a	r_b
K21505	K21507	K21520	4	9.7 0.38	96.0 3.78	114.3 4.50	10.4 0.41	9.7 0.38	4.8 0.19
K21605	K21607	K21620	4	12.7 0.50	102.4 4.03	127.0 5.00	13.5 0.53	12.7 0.50	6.4 0.25
K21705	K21707	K21720	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	12.7 0.50	153.2 6.03	177.8 7.00	13.5 0.53	12.7 0.50	6.4 0.25

THESE PARTS HAVE BEEN DESIGNED AND DEVELOPED FOR USE WITH TIMKEN BEARINGS ONLY.

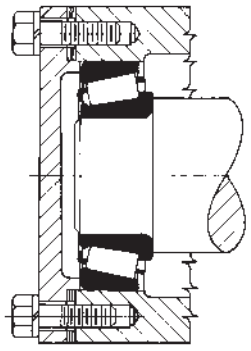
B

CUP SHIMS

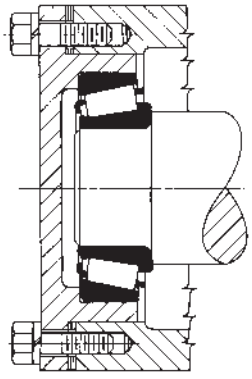
STANDARD METAL SHIMS FOR CUP ADJUSTMENT BEARINGS



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.

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.

Cup Shims part number identifies the following:

Shim			size	thickness(inches)
K2			00	00
			example	
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	

DIMENSIONS ARE IN MILLIMETERS / INCHES

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
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
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

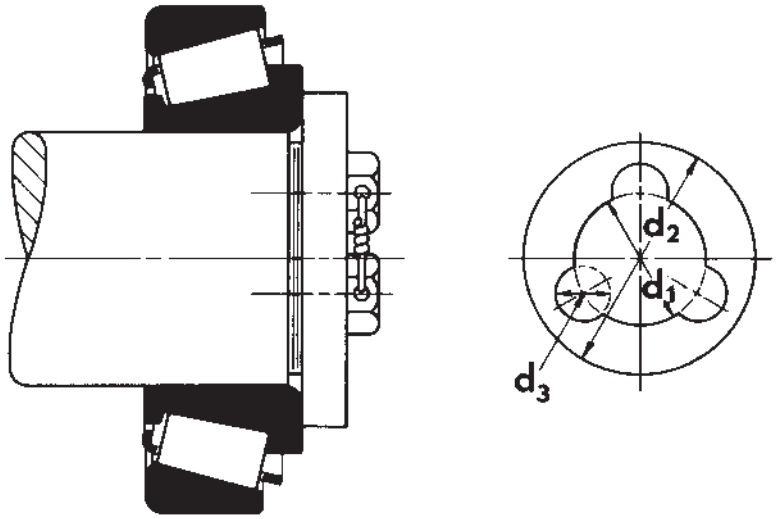
DIMENSIONS ARE IN MILLIMETERS / INCHES

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
K23805	K23807	K23820	8	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	8	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.

Shims		Shaft	Cap Screws		d_1	d_2	d_3
Part Number	Thickness	Size	No.	Size			
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			
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						

THESE PARTS HAVE BEEN DESIGNED AND DEVELOPED FOR USE WITH TIMKEN BEARINGS ONLY.

LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS

STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHER ASSEMBLIES

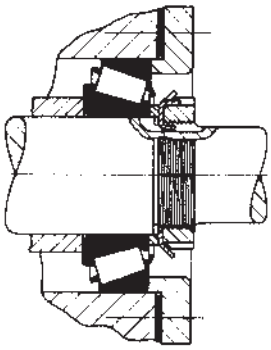


Figure 1

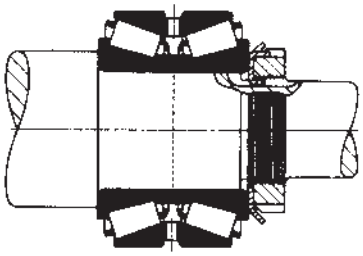


Figure 2

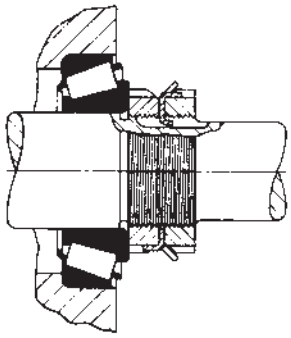


Figure 3

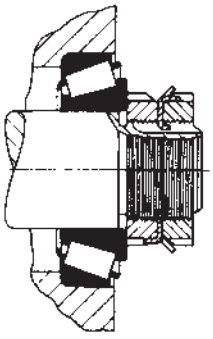


Figure 4

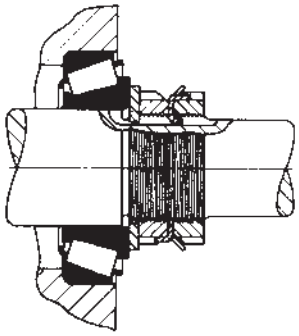


Figure 5

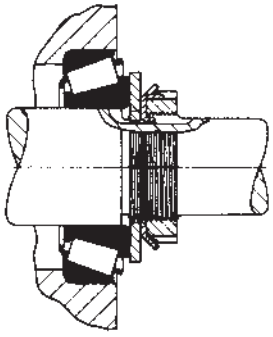


Figure 6

The designs shown in figures 1 to 6 show various methods of using standard locknuts, lockwashers, and tongued washers. A single locknut and lockwasher can be used to clamp the cone against a sleeve, shown in figure 1, or directly against a shaft shoulder. A narrow spacer is applied between the front face of the cone 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 cone backing diameter. Figure 2 shows another clamped design using a single locknut and lockwasher with a two-row bearing of either type TDO with cone spacer or type TNA. Since no cage clearance problem is present, the narrow spacer shown in figure 1 is unnecessary.

Figures 3, 4, and 5 indicate an adjustable bearing arrangement using two locknuts and a lockwasher. These may be used with either single or two-row bearing of the types permitting a cone adjusted arrangement. The design in figure 3 allows the maximum shaft extension diameter that can be used with a shaft thread outside diameter, which will be less than the cone bore. Figure 4 shows an alternate design with smaller thread diameter and corresponding smaller locknuts and lockwasher. The locknut outside diameter, minus 2 times "r", must not be less than the suggested cone backing diameter. Figure 5 indicates the use of a tongued washer located between the inner locknut and cone. This is intended for applications where the cones 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 is used, then a tongued washer must be placed between the cone and lockwasher as illustrated in figure 6. This is necessary to provide adequate backing for the cone, in most cases, and to prevent damage to the lockwasher if the cone should creep on the shaft. The tongued washers are available from The Timken Company.

LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS - METRIC

STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS FOR TAPERED ROLLER BEARINGS

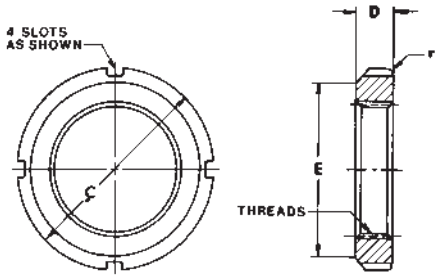


Figure 1 - LOCKNUTS

Threads are ISO 965/1, Class 5H

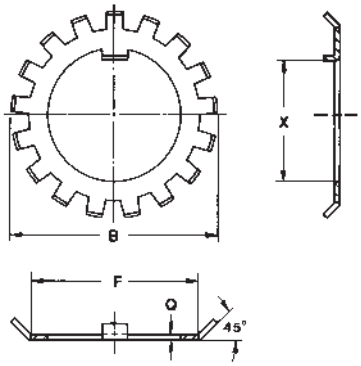


Figure 2 - LOCKWASHERS

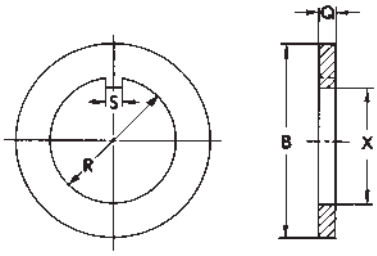


Figure 3 - TONGUED WASHERS

DIMENSIONS ARE IN MILLIMETERS

Locknut Dimensions							Lockwasher Dimensions					Tongued Washer Dimensions						
	Threads												Bore R				Key	
ABMA Locknut Number	Minimum Value of Major Diameter	Thread Series	Outside Diameter C	Thickness D	Face Outside Diameter E	r	ABMA Lockwasher Number	Maximum Diameter Over Tangs B	Face Diameter F	Thickness Q	Number of Tangs	Tongued Washer Number	Min.	Max.	Outside Diameter B	Thickness Q	S Max.	X Min.
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

FOR AVAILABILITY OF METRIC LOCKNUTS, LOCKWASHERS, AND TONGUED WASHERS, CONSULT YOUR TIMKEN COMPANY REPRESENTATIVE.

B

LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS - INCHES

STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS FOR TAPERED ROLLER BEARINGS

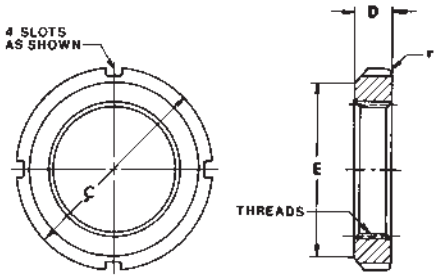


Figure 1 - LOCKNUTS

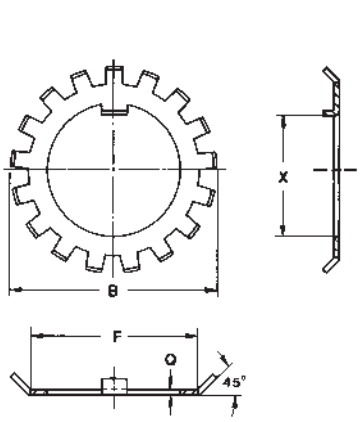


Figure 2 - LOCKWASHERS

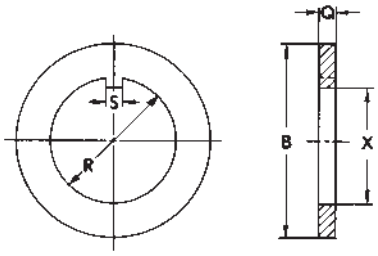


Figure 3 - TONGUED WASHERS

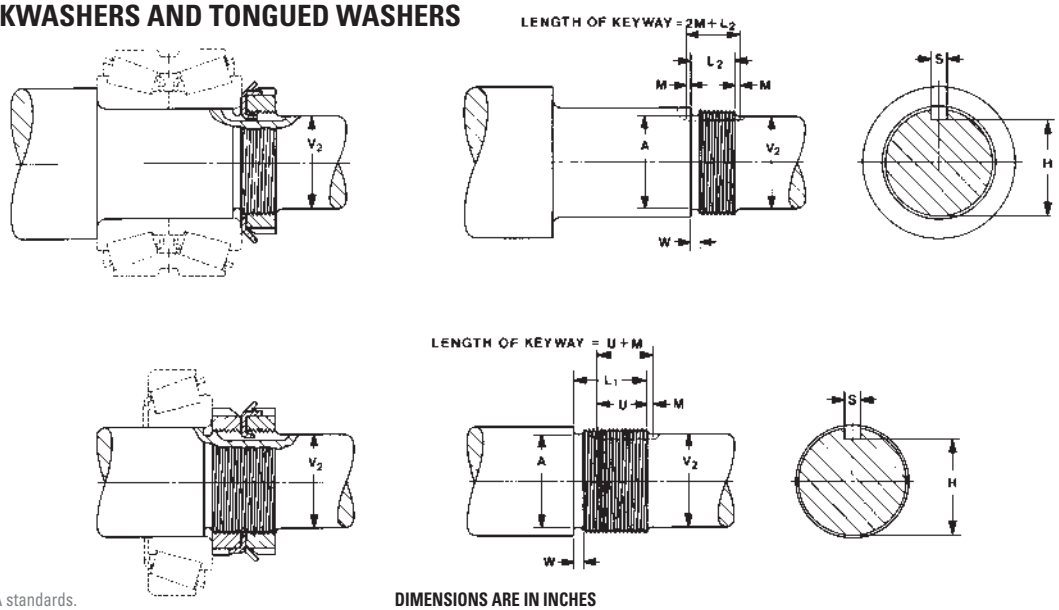
Threads are American National, Form NS, Class 3, with thread length based on 45° chamfer.

DIMENSIONS ARE IN INCHES

Locknut Dimensions							Lockwasher Dimensions					Tongued Washer Dimensions						
	Threads												Bore R				Key	
ABMA Locknut Number	Minimum Value of Major Diameter	Thread Series	Outside Diameter C	Thickness D	Face Outside Diameter E	r	ABMA Lockwasher Number	Maximum Diameter Over Tangs B	Face Diameter F	Thickness Q	Number of Tangs	Tongued Washer Number	Min.	Max.	Outside Diameter B	Thickness Q	S Max.	X Min.
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

LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS

SHAFT THREAD AND KEYWAY DIMENSIONS FOR STANDARD LOCKNUTS, LOCKWASHERS AND TONGUED WASHERS



These dimensions are ABMA standards.

DIMENSIONS ARE IN INCHES

ABMA Locknut Number	Number Per Inch	threads						Minor Dia.	Relief Diameter A	Relief Width W +0.016 0.000	Shaft Ext. Dia. V2	Thread Length		Keyway			
		Major Diameter			Pitch Diameter (1)							L1 +0.016 -0.000	L2 +0.016 -0.000	Depth H	Width S +0.016 -0.000	M +0.016 0.000	U +0.016 -0.000
		Max.	Tol.	Min.	Max.	Tol.	Min.	Max.			Max.			Max.			
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
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

NOTES