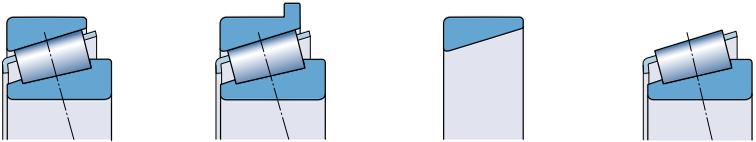




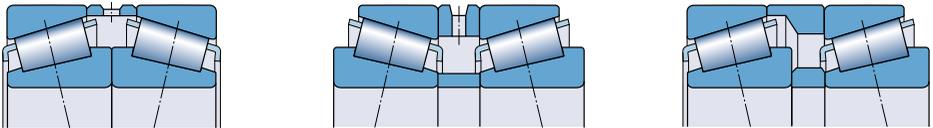
# Tapered roller bearings



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## Tapered roller bearings

Tapered roller bearings are produced by SKF in many designs and sizes to match their many uses. The most prevalent are listed in this catalogue, i.e.

- single row tapered roller bearings (→ **fig. 1**)
- paired single row tapered roller bearings (→ **fig. 2**).

The double row and four-row tapered roller bearings (→ **fig. 3**), which are mainly used for rolling mill bearing arrangements, round off the comprehensive SKF standard range. Details of these bearings can be found in the “SKF Interactive Engineering Catalogue” available online at [www.skf.com](http://www.skf.com).

SKF also manufactures sealed, greased and preadjusted units based on tapered roller bearings, such as

- hub bearing units for passenger cars (→ **fig. 4**)
- hub bearing units for trucks (→ **fig. 5**)
- tapered bearing units for railbound vehicles (→ **fig. 6**).

Details of these bearings can be found in the special publications, which can be furnished on request.

Fig. 1

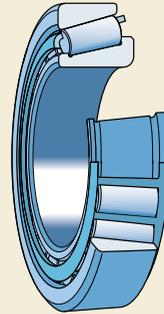


Fig. 2

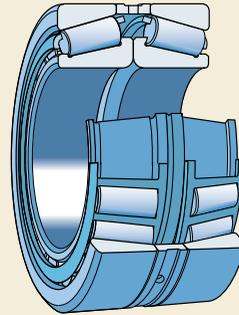


Fig. 3

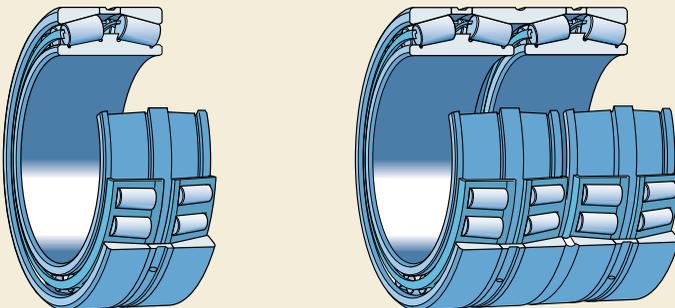


Fig. 4



Fig. 5



Fig. 6



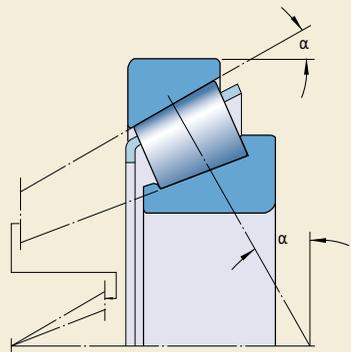
## Design features

Tapered roller bearings have tapered inner and outer ring raceways between which tapered rollers are arranged. The projection lines of all the tapered surfaces meet at a common point on the bearing axis. Their design makes tapered roller bearings particularly suitable for the accommodation of combined (radial and axial) loads. The axial load carrying capacity of the bearings is largely determined by the contact angle  $\alpha$  ( $\rightarrow$  fig. 7); the larger  $\alpha$ , the higher the axial load carrying capacity. An indication of the angle size is given by the calculation factor  $e$ ; the larger the value of  $e$ , the larger the contact angle and the greater the suitability of the bearing for carrying axial loads.

Tapered roller bearings are generally separable, i.e. the cone, consisting of the inner ring with roller and cage assembly, can be mounted separately from the cup (outer ring).

SKF tapered roller bearings have the logarithmic contact profile that provides optimum stress distribution over the roller/raceway contacts. The special design of the sliding surfaces of the guide flange and large roller ends considerably promote lubricant film formation in the roller end/flange contacts. The resulting benefits include increased operational reliability and reduced sensitivity to misalignment.

Fig. 7





# Single row tapered roller bearings

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### Designs

The SKF standard range of single row tapered roller bearings (→ **fig. 1**) covers the popular sizes of metric bearings manufactured to ISO 355:1977 and inch bearings which follow the ANSI/ABMA standard 19.2-1994. The range can be divided into

- bearings for general use
- high-performance bearings manufactured to the CL7C specifications
- bearings with a flanged outer ring

as well as “Paired single row tapered roller bearings” shown from **page 671** onwards.

For bearing arrangements operating in particularly difficult environments, for example, where the lubricating oil may be highly contaminated, where high operating temperatures prevail or where heavy deforming loads can be expected, SKF can supply particularly wear-resistant tapered roller bearings. Details are available on request.

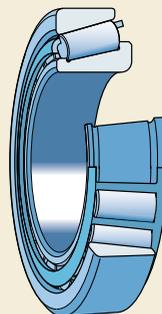
#### Standard design

SKF tapered roller bearings for general use, including SKF bearings to Q specifications, have been optimized with regard to

- sliding contact surfaces of the guide flange of the inner ring
- roller end faces
- raceway contact profile.

In addition, highly accurate manufacturing processes make adjustment of the bearings against each other more reliable, which dramatically improves performance especially during the very first hours of operation.

Fig. 1



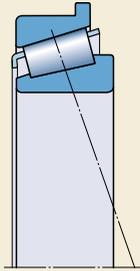
#### CL7C specification bearings

SKF tapered roller bearings produced to the CL7C specifications are intended for bearing arrangements supporting heavy axial loads, for example, gearbox pinion bearing arrangements. These bearings, which are mounted with preload, have special friction characteristics, higher running accuracy and higher axial load carrying capacity to provide a constant, accurate mesh.

In contrast to the bearings for general use, CL7C specification bearings can be adjusted to within narrow limits using the frictional torque method, which considerably simplifies the adjustment process.

With CL7C specification bearings there is practically no running-in wear. As a hydrodynamic lubricant film in the roller end/flange contacts is established from the outset, there is virtually no loss of preload and the preload can be maintained at a constant high level throughout operation.

Fig. 2



### Bearings with flanged outer ring

Certain sizes of SKF single row tapered roller bearings are also available with a flange on the outer ring (→ **fig. 2**). Bearings having this external flange can be axially located in the housing to provide a simplified, more compact bearing arrangement. The housing bore is simpler to produce, as no shoulders are required.

## SKF Explorer class bearings

High performance SKF Explorer tapered roller bearings are shown with an asterisk in the product tables. SKF Explorer bearings retain the designation of the earlier standard bearings, e.g. 30310 J2/Q. However, each bearing and its box are marked with the name “EXPLORER”.

Upon request other standard tapered roller bearings can be manufactured in the SKF Explorer performance class. Moreover, the range of SKF Explorer tapered roller bearings is being continuously extended. Therefore SKF recommends checking the actual assortment by contacting the local SKF representative.

## Bearing designations

### Metric bearings

The designations of metric tapered roller bearings with standardized dimensions according to ISO follow one of the following principles:

- The series designations established in ISO 355:1977 comprising three symbols, a figure representing the contact angle and two letters representing the diameter and width series followed by a three figure bore diameter identification (d in mm). The SKF designations are prefixed by the letter T, e.g. T2ED 045.
- Designations established prior to 1977 based on the system shown in **diagram 3**, **page 149**, in the section “Designations”, e.g. 32206.

Metric bearings with a J in the prefix follow the ABMA designation system, which is similar to the system used for inch bearings, see ANSI/ABMA Standard 19.2-1994.

## Single row tapered roller bearings

### Inch bearings

Inch tapered roller bearings are designated according to the ANSI/ABMA standard.

Metric bearings that belong to the same series maintain the same relative cross section regardless of their size. This is not the case with inch bearings. All inch bearings within a series use the same cage and roller assembly but the inner and outer rings can have different sizes and designs.

Any cone (the inner ring with cage and roller assembly) can be assembled with any cup (the outer ring) belonging to the same bearing series. For this reason the cone and cup have individual designations and can be supplied separately or as complete bearings (→ **fig. 3**). The designations of the cones and cups as well as the series consist of a three to six-figure number which may be prefixed by one of the following letters or combination of letters: EL, LL, L, LM, M, HM, H, HH and EH. The prefixes characterize a bearing series from extra light to extra heavy. The basic principles of this system are described in ANSI/ABMA Standard 19.2-1994.

The complete bearing designation consists of the cone designation followed by that of the cup, the two designations being separated by an oblique stroke (→ **table 1**).

To shorten the complete bearing designations, abbreviations are used (→ **table 1**).



Fig. 3

Table 1

Designations of inch tapered roller bearings			
Designations (Examples)			
Cone	Cup	Complete bearing	Series
<b>Complete bearing designation not abbreviated</b> (old ABMA designations)			
4580/2/Q 9285/CL7C	4535/2/Q 9220/CL7C	4580/2/4535/2/Q 9285/9220/CL7C	4500 9200
<b>Abbreviated complete bearing designations</b> (new ABMA designations)			
LM 11749/QVC027 JL 69349 A/Q HM 89449/2/QCL7C H 913842/CL7C	LM 11710/QVC027 JL 69310/Q HM 89410/2/QCL7C H 913810/CL7C	LM 11749/710/QVC027 JL 69349 A/310/Q HM 89449/2/410/2/QCL7C H 913842/810/CL7C	LM 11700 L 69300 HM 89400 H 913800

# Bearing data – general

## Dimensions

### Metric bearings

The boundary dimensions of metric single row tapered roller bearings listed in the product tables conform to ISO 355-1977 except for those bearings having a J in the designation prefix. These conform to the ANSI/ABMA Standard 19.1-1987.

### Inch bearings

The boundary dimensions of inch bearings conform to AFBMA Standard 19-1974 (ANSI B3.19-1975). ANSI/ABMA Standard 19.2-1994 has subsequently replaced this standard, but this later standard no longer includes dimensions.

## Tolerances

The inner rings with roller and cage assembly and outer rings of SKF tapered roller bearings having the same designation are interchangeable. The tolerance for the total abutment width T of the bearing will not be exceeded if the cones and cups are interchanged.

### Metric bearings

SKF single row metric tapered roller bearings are manufactured to Normal tolerances as standard. Some bearings are also available with reduced width tolerance to tolerance class CLN specifications. Bearings having a J in the prefix are produced as standard to tolerance class CLN specifications.

All bearings having an outside diameter above 420 mm have dimensional accuracy to tolerance class Normal specifications but the running accuracy is better than Normal, being to P6 specifications.

The values for Normal and CLN tolerances correspond to ISO 492:2002 (classes Normal and 6X) and are shown in **tables 6** and **7** on **pages 128** and **129**. The values for P6 running accuracy are in accordance with DIN 620-3:1964, which was withdrawn in 1988.

### Inch bearings

SKF single row inch tapered roller bearings are produced to Normal tolerances as standard. On request, they may be supplied with higher accuracy to CL3 or CL0 tolerance class specifications and/or reduced width tolerances. Cones and cups having a width tolerance that differs from the Normal tolerance are identified by a designation suffix according to **table 2** where the actual tolerance values are provided.

The values for CL3, CL0 and Normal tolerances conform to ANSI/ABMA Standard 19.2-1994 and are listed in **table 9** on **page 131**. The ISO standard 578:1987, which also covered these tolerance classes, was withdrawn in 1997.

### CL7C specification bearings

The tolerances for CL7C specification bearings correspond to Normal tolerances except for the running accuracy which has been tightened considerably. The appropriate values are provided together with the Normal tolerances in **table 6** on **page 128**.

Table 2

#### Modified width tolerances of cups and cones of inch bearings

Designation suffix	Width tolerance <sup>1)</sup>	
	max	min
–	mm	
/1	+0,025	0
/1A	+0,038	+0,013
/-1	0	-0,025
/11	+0,025	-0,025
/15	+0,038	-0,038
/2	+0,051	0
/2B	+0,076	+0,025
/2C	+0,102	+0,051
/-2	0	-0,051
/22	+0,051	-0,051
/3	+0,076	0
/-3	0	-0,076
/4	+0,102	0

<sup>1)</sup>The total width tolerance for a complete bearing is equal to the sum of the tolerances for the cone and cup, e.g. for bearing K-47686/2/K-47620/3 the tolerance is +0,127/0 mm

## Single row tapered roller bearings

### Internal clearance and preload

The internal clearance of single row tapered roller bearings can only be obtained after mounting and is determined by adjustment of the bearing against a second bearing, which provides location in the opposite direction. Further details can be found in the section "Bearing preload", starting on **page 206**.

### Adjustment and running in

When adjusting tapered roller bearings against each other, the bearings must be rotated, so that the rollers assume their correct position, i.e. the large end face of the rollers must be in contact with the guide flange.

Conventional tapered roller bearings normally have a relatively high frictional moment during the first hours of operation, which drops to a lower level after the running-in period. During this running-in period, bearing temperature increases rapidly because of the high initial friction and falls off to an equilibrium level as the running-in phase is completed.

This running-in phase is considerably reduced with bearings made to the SKF "Q" specification. In these bearings, the initial friction is also much lower, so that temperature increase is almost negligible. This also applies to the high-performance CL7C specification bearings, which are designed for easy adjustment.

### Misalignment

The ability of a conventional single row tapered roller bearing to accommodate angular misalignment of the inner ring with respect to the outer ring is limited to a few minutes of arc. SKF bearings have the logarithmic contact profile and can tolerate misalignments of approximately 2 to 4 minutes of arc.

These guideline values apply provided the position of the shaft and housing axes are constant. Larger misalignment is possible, depending on the load and requisite service life. For additional information, please contact the SKF application engineering service.

### Cages

SKF single row tapered roller bearings are fitted with one of the following cages (→ **fig. 4**)

- a pressed window-type steel cage, roller centred, no designation suffix or suffix J1, J2 or J3 (**a**)
- an injection moulded window-type cage of glass fibre reinforced polyamide 6,6, roller centred, designation suffix TN9 (**b**).

### Note

Tapered roller bearings with a polyamide 6,6 cage can be operated at temperatures up to +120 °C. The lubricants generally used for rolling bearings do not have a detrimental effect on polyamide cage properties, with the exception of a few synthetic oils and greases with a synthetic oil base, and lubricants containing a high proportion of EP additives when used at high temperatures.

For bearing arrangements, which are to be operated at continuously high temperatures or under arduous conditions, SKF recommends using bearings with a pressed steel or high-temperature polymer cage.

For detailed information about the temperature resistance and the applicability of cages, please refer to the section "Cage materials", starting on **page 140**.

## Minimum load

In order to provide satisfactory operation, tapered roller bearings, like all ball and roller bearings, must always be subjected to a given minimum load, particularly if they are to operate at high speeds or are subjected to high accelerations or rapid changes in the direction of load. Under such conditions, the inertia forces of the rollers and cage, and the friction in the lubricant, can have a detrimental influence on the rolling conditions in the bearing arrangement and may cause damaging sliding movements to occur between the rollers and raceways.

The requisite minimum radial load to be applied to SKF standard tapered roller bearings can be estimated from

$$F_{rm} = 0,02 C$$

and for SKF Explorer bearings from

$$F_{rm} = 0,017 C$$

where

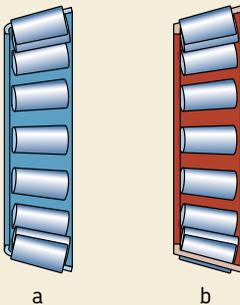
$F_{rm}$  = minimum radial load, kN

$C$  = basic dynamic load rating, kN  
(→ product tables)

When starting up at low temperatures or when the lubricant is highly viscous, even greater minimum loads may be required. The weight of the components supported by the bearing, together with external forces, generally exceeds the requisite minimum load. If this is not the case, the single row tapered roller bearing must

be subjected to an additional radial load, which can be achieved easily by applying preload. For additional information, please refer to the section "Bearing preload", starting on **page 206**.

Fig. 4



## Single row tapered roller bearings

### Equivalent dynamic bearing load

$$P = F_r \quad \text{when } F_a/F_r \leq e$$

$$P = 0,4 F_r + Y F_a \quad \text{when } F_a/F_r > e$$

The values of the calculation factors  $e$  and  $Y$  can be found in the product tables.

### Equivalent static bearing load

$$P_0 = 0,5 F_r + Y_0 F_a$$

When  $P_0 < F_r$ ,  $P_0 = F_r$  should be used. The value of the calculation factor  $Y_0$  can be found in the product tables.

### Determining axial force for bearings mounted singly or paired in tandem

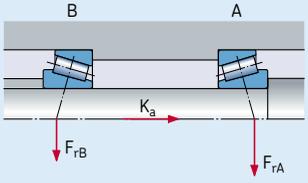
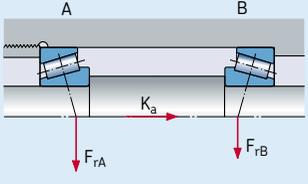
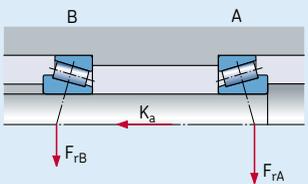
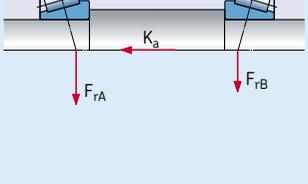
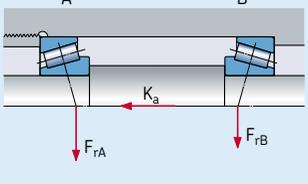
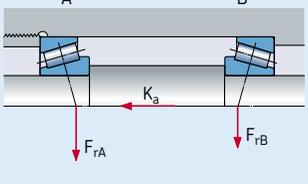
When a radial load is applied to a single row tapered roller bearing, the load is transmitted from one raceway to the other at an angle to the bearing axis and an internal axial force will be induced in the bearing. This must be considered when calculating the equivalent bearing loads for bearing arrangements consisting of two single bearings and/or bearing pairs arranged in tandem.

The necessary equations are provided in **table 3** for the various bearing arrangements and load cases. The equations are only valid if the bearings are adjusted against each other to practically zero clearance, but without any preload. In the arrangements shown, bearing A is subjected to a radial load  $F_{rA}$  and bearing B to radial load  $F_{rB}$ . Values of the loads  $F_{rA}$  and  $F_{rB}$  are always considered positive even when they act in the direction opposite to that shown in the figures. The radial loads act at the pressure centres of the bearings (dimension  $a$  in the product tables).

In addition an external force  $K_a$  acts on the shaft (or on the housing). Cases 1c and 2c are also valid when  $K_a = 0$ . Values of the factor  $Y$  can be found in the product tables.

Table 3

**Axial loading of bearing arrangements incorporating two single row tapered roller bearings and/or bearing pairs in tandem**

Arrangement	Load case	Axial forces	
<p>Back-to-back</p> 	<p>1a) <math>\frac{F_{rA}}{Y_A} \geq \frac{F_{rB}}{Y_B}</math> <math>K_a \geq 0</math></p>	$F_{aA} = \frac{0,5 F_{rA}}{Y_A}$	$F_{aB} = F_{aA} + K_a$
<p>Face-to-face</p> 	<p>1b) <math>\frac{F_{rA}}{Y_A} &lt; \frac{F_{rB}}{Y_B}</math> <math>K_a \geq 0,5 \left( \frac{F_{rB}}{Y_B} - \frac{F_{rA}}{Y_A} \right)</math></p>	$F_{aA} = \frac{0,5 F_{rA}}{Y_A}$	$F_{aB} = F_{aA} + K_a$
<p>Back-to-back</p> 	<p>1c) <math>\frac{F_{rA}}{Y_A} &lt; \frac{F_{rB}}{Y_B}</math> <math>K_a &lt; 0,5 \left( \frac{F_{rB}}{Y_B} - \frac{F_{rA}}{Y_A} \right)</math></p>	$F_{aA} = F_{aB} - K_a$	$F_{aB} = \frac{0,5 F_{rB}}{Y_B}$
<p>Back-to-back</p> 	<p>2a) <math>\frac{F_{rA}}{Y_A} \leq \frac{F_{rB}}{Y_B}</math> <math>K_a \geq 0</math></p>	$F_{aA} = F_{aB} + K_a$	$F_{aB} = \frac{0,5 F_{rB}}{Y_B}$
<p>Face-to-face</p> 	<p>2b) <math>\frac{F_{rA}}{Y_A} &gt; \frac{F_{rB}}{Y_B}</math> <math>K_a \geq 0,5 \left( \frac{F_{rA}}{Y_A} - \frac{F_{rB}}{Y_B} \right)</math></p>	$F_{aA} = F_{aB} + K_a$	$F_{aB} = \frac{0,5 F_{rB}}{Y_B}$
<p>Face-to-face</p> 	<p>2c) <math>\frac{F_{rA}}{Y_A} &gt; \frac{F_{rB}}{Y_B}</math> <math>K_a &lt; 0,5 \left( \frac{F_{rA}}{Y_A} - \frac{F_{rB}}{Y_B} \right)</math></p>	$F_{aA} = \frac{0,5 F_{rA}}{Y_A}$	$F_{aB} = F_{aA} - K_a$

## Single row tapered roller bearings

### Supplementary designations

The designation suffixes used to identify certain features of SKF single row tapered roller bearings are explained in the following.

- B** Steeper contact angle than standard design
- CLN** Reduced tolerances for ring widths and total (abutment) width; corresponds to ISO tolerance class 6X
- CL0** Accuracy to ABMA tolerance class 0 for inch bearings
- CL00** Accuracy to ABMA tolerance class 00 for inch bearings
- CL7A** High-performance design for pinion bearing arrangements (superseded by CL7C)
- CL7C** High-performance design for pinion bearing arrangements
- HA1** Case-hardened inner and outer rings
- HA3** Case-hardened inner ring
- HN1** Outer and inner rings with special surface heat treatment
- HN3** Inner ring with special surface heat treatment
- J** Pressed window-type steel cage, roller centred. A figure following the J indicates a different cage design
- P6** Dimensional and running accuracy to old ISO tolerance class 6, better than Normal
- Q** Optimized contact geometry and surface finish
- R** Flanged outer ring
- TN9** Injection moulded window-type cage of glass fibre reinforced polyamide 6,6, roller centred
- U.** U combined with a one-figure number identifies reduced total width tolerance. Examples:
  - U2 Total width tolerance +0,05/0 mm
  - U4 Total width tolerance +0,10/0 mm
- VA321** Optimized internal design
- VA606** Crowned raceway on bearing rings and special heat treatment
- VA607** Crowned raceway on bearing rings and special heat treatment
- VB022** Chamfer dimension at large outer ring side face 0,3 mm
- VB026** Chamfer dimension at large inner ring side face 3 mm
- VB061** Chamfer dimension at large inner ring side face 8 mm
- VB134** Chamfer dimension at large inner ring side face 1 mm
- VB406** Chamfer dimension at large inner ring side face 3 mm and at large outer ring side face 2 mm
- VB481** Chamfer dimension at large inner ring side face 8,5 mm
- VC027** Modified internal geometry for increased permissible misalignment
- VC068** Increased running accuracy and special heat treatment
- VE174** One locating slot in outer ring at large outer ring side face, increased running accuracy
- VQ051** Modified internal geometry for increased permissible misalignment
- VQ267** Reduced inner ring width tolerance,  $\pm 0,025$  mm
- VQ495** As CL7C but with reduced or displaced tolerance for the outside diameter
- VQ506** Reduced inner ring width tolerance
- VQ507** As CL7C but with reduced or displaced tolerance for the outside diameter
- VQ523** As CL7C but with reduced inner ring width tolerance and reduced or displaced tolerance for the outside diameter
- VQ601** Accuracy to ABMA tolerance class 0 for inch bearings
- W** Modified ring width tolerance, +0,05/0 mm
- X** Boundary dimensions changed to conform to ISO

## Design of bearing arrangements

When designing bearing arrangements incorporating single row tapered roller bearings it is necessary to consider the special characteristics of these bearings. Because of their internal design, they cannot be used singly and a second bearing is required (→ **fig. 5**); alternatively a paired set (→ **fig. 6**) may be used. When the arrangement comprises two single row bearings they must be adjusted against each other as described under “Internal clearance and preload” (→ **page 610**).

A correctly dimensioned operational clearance or preload is vital to the correct performance of single row tapered roller bearings and also to the operational reliability of the arrangement. If the operational clearance is too large, the full load carrying capacity of the bearing will not be exploited. If the preload is too great then frictional losses will increase, as will operating temperature. In both cases the bearing service life could be substantially reduced.

### Fits for inch bearings

Suitable fits for inch tapered roller bearings can be obtained based on the recommended fits for metric bearings. However, since inch bearings, in contrast to metric bearings, are machined to plus tolerances, the deviations for shaft and housing cannot be applied directly and must be modified to take account of the plus tolerances. Reference should therefore be made to the tables below, which provide the same degree of interference or clearance as the recommended metric tolerances:

- **Table 4:** Modified shaft diameter deviations g6, h6, j5, j6, js6, k5, k6, m5, m6, n6, p6.
- **Table 5:** Modified housing bore diameter deviations H7, J7, J6, K6, K7, M6, M7, N7, P7.

Fig. 5

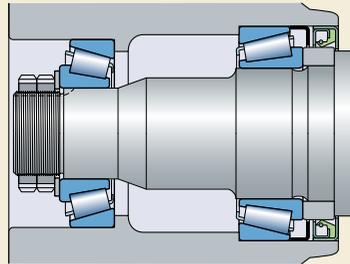
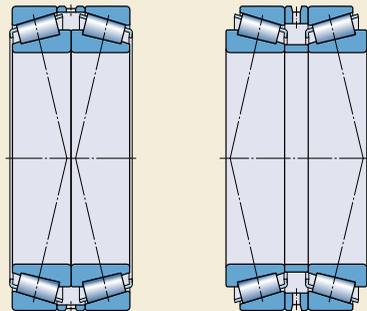


Fig. 6



# Single row tapered roller bearings

Table 4

Modified shaft diameter deviations for use with inch bearings													
Nominal diameter Shaft seat Bearing bore over incl.		Modified deviations for fits with clearance /interference according to											
		g6		h6		j5		j6		js6		k5	
		high	low	high	low	high	low	high	low	high	low	high	low
mm		µm											
<b>10</b>	<b>18</b>	+2	-4	+8	+2	+13	+10	+16	+10	+14	+7	+17	+14
<b>18</b>	<b>30</b>	+3	-7	+10	0	+15	+9	+19	+9	+17	+6	+21	+15
<b>30</b>	<b>50</b>	+3	-12	+12	-3	+18	+8	+23	+8	+20	+5	+25	+15
<b>50</b>	<b>76,2</b>	+5	-16	+15	-6	+21	+6	+27	+6	+25	+3	+30	+15
<b>76,2</b>	<b>80</b>	+5	-4	+15	+6	+21	+18	+27	+18	+25	+15	+30	+27
<b>80</b>	<b>120</b>	+8	-9	+20	+3	+26	+16	+33	+16	+31	+14	+38	+28
<b>120</b>	<b>180</b>	+11	-14	+25	0	+32	+14	+39	+14	+38	+12	+46	+28
<b>180</b>	<b>250</b>	+15	-19	+30	-4	+37	+12	+46	+12	+45	+10	+54	+29
<b>250</b>	<b>304,8</b>	+18	-24	+35	-7	+42	+9	+51	+9	+51	+9	+62	+29
<b>304,8</b>	<b>315</b>	+18	+2	+35	+19	+42	+35	+51	+35	+51	+35	+62	+55
<b>315</b>	<b>400</b>	+22	-3	+40	+15	+47	+33	+58	+33	+58	+33	+69	+55
<b>400</b>	<b>500</b>	+25	-9	+45	+11	+52	+31	+65	+31	+65	+31	+77	+56
<b>500</b>	<b>609,6</b>	+28	-15	+50	+7	-	-	+72	+29	+72	+29	+78	+51
<b>609,6</b>	<b>630</b>	+28	+10	+50	+32	-	-	+72	+54	+72	+54	+78	+76
<b>630</b>	<b>800</b>	+51	+2	+75	+26	-	-	+100	+51	+100	+51	+107	+76
<b>800</b>	<b>914,4</b>	+74	-6	+100	+20	-	-	+128	+48	+128	+48	+136	+76

Modified shaft diameter deviations for use with inch bearings													
Nominal diameter Shaft seat Bearing bore over incl.		Modified deviations for fits with clearance /interference according to											
		k6		m5		m6		n6		p6			
		high	low	high	low	high	low	high	low	high	low	high	low
mm		µm											
<b>10</b>	<b>18</b>	+20	+14	+23	+20	+26	+20	+31	+25	+37	+31		
<b>18</b>	<b>30</b>	+25	+15	+27	+21	+31	+21	+38	+28	+45	+35		
<b>30</b>	<b>50</b>	+30	+15	+32	+22	+37	+22	+45	+30	+54	+39		
<b>50</b>	<b>76,2</b>	+36	+15	+39	+24	+45	+24	+54	+33	+66	+45		
<b>76,2</b>	<b>80</b>	+36	+27	+39	+36	+45	+36	+54	+45	+66	+57		
<b>80</b>	<b>120</b>	+45	+28	+48	+38	+55	+38	+65	+48	+79	+62		
<b>120</b>	<b>180</b>	+53	+28	+58	+40	+65	+40	+77	+52	+93	+68		
<b>180</b>	<b>250</b>	+63	+29	+67	+42	+76	+42	+90	+56	+109	+75		
<b>250</b>	<b>304,8</b>	+71	+29	+78	+45	+87	+45	+101	+59	+123	+81		
<b>304,8</b>	<b>315</b>	+71	+55	+78	+71	+87	+71	+101	+85	+123	+107		
<b>315</b>	<b>400</b>	+80	+55	+86	+72	+97	+72	+113	+88	+138	+113		
<b>400</b>	<b>500</b>	+90	+56	+95	+74	+108	+74	+125	+91	+153	+119		
<b>500</b>	<b>609,6</b>	+94	+51	+104	+77	+120	+77	+138	+95	+172	+129		
<b>609,6</b>	<b>630</b>	+94	+76	+104	+102	+120	+102	+138	+120	+172	+154		
<b>630</b>	<b>800</b>	+125	+76	+137	+106	+155	+106	+175	+126	+213	+164		
<b>800</b>	<b>914,4</b>	+156	+76	+170	+110	+190	+110	+212	+132	+256	+176		

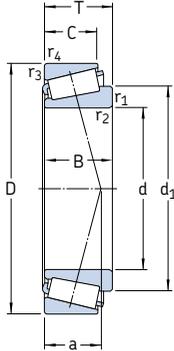
Table 5

Modified housing bore diameter deviations for use with inch bearings											
Nominal diameter Housing bore seat Bearing outside diameter over incl.		Modified deviations for fits with clearance/interference according to									
		H7		J7		J6		K6		K7	
		high	low	high	low	high	low	high	low	high	low
mm		µm									
30	50	+36	+25	+25	+14	+21	+19	+14	+12	+18	+7
50	80	+43	+25	+31	+13	+26	+19	+17	+10	+22	+4
80	120	+50	+25	+37	+12	+31	+19	+19	+7	+25	0
120	150	+58	+25	+44	+11	+36	+18	+22	+4	+30	-3
150	180	+65	+25	+51	+11	+43	+18	+29	+4	+37	-3
180	250	+76	+25	+60	+9	+52	+18	+35	+1	+43	-8
250	304,8	+87	+25	+71	+9	+60	+18	+40	-2	+51	-11
304,8	315	+87	+51	+71	+35	+60	+44	+40	+24	+51	+15
315	400	+97	+51	+79	+33	+69	+44	+47	+22	+57	+11
400	500	+108	+51	+88	+31	+78	+44	+53	+19	+63	+6
500	609,6	+120	+51	-	-	-	-	+50	+7	+50	-19
609,6	630	+120	+76	-	-	-	-	+50	+32	+50	+6
630	800	+155	+76	-	-	-	-	+75	+26	+75	-4
800	914,4	+190	+76	-	-	-	-	+100	+20	+100	-14
914,4	1 000	+190	+102	-	-	-	-	+100	+46	+100	+12
1 000	1 219,2	+230	+102	-	-	-	-	+125	+36	+125	-3

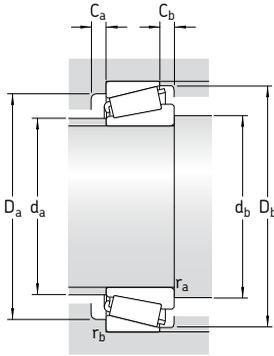
  

Modified housing bore diameter deviations for use with inch bearings											
Nominal diameter Housing bore seat Bearing outside diameter over incl.		Modified deviations for fits with clearance/interference according to									
		M6		M7		N7		P7			
		high	low	high	low	high	low	high	low		
mm		µm									
30	50	+7	+5	+11	0	+3	-8	-6	-17		
50	80	+8	+1	+13	-5	+4	-14	-8	-26		
80	120	+9	-3	+15	-10	+5	-20	-9	-34		
120	150	+10	-8	+18	-15	+6	-27	-10	-43		
150	180	+17	-8	+25	-15	+13	-27	-3	-43		
180	250	+22	-12	+30	-21	+16	-35	-3	-54		
250	304,8	+26	-16	+35	-27	+21	-41	-1	-63		
304,8	315	+26	+10	+35	-1	+21	-15	-1	-37		
315	400	+30	+5	+40	-6	+24	-22	-1	-47		
400	500	+35	+1	+45	-12	+28	-29	0	-57		
500	609,6	+24	-19	+24	-45	+6	-63	-28	-97		
609,6	630	+24	+6	+24	-20	+6	-38	-28	-72		
630	800	+45	-4	+45	-34	+25	-54	-13	-92		
800	914,4	+66	-14	+66	-48	+44	-70	0	-114		
914,4	1 000	+66	+12	+66	-22	+44	-44	0	-88		
1 000	1 219,2	+85	-4	+85	-43	+59	-69	+5	-123		

**Metric single row tapered roller bearings**  
**d 15 – 32 mm**



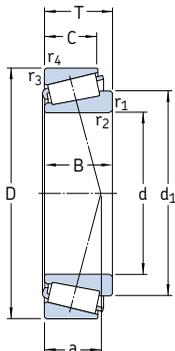
Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)
d	D	T	dynamic	static		Reference speed	Limiting speed			
mm			kN	$C_0$	kN	r/min		kg	–	–
<b>15</b>	42	14,25	22,4	20	2,08	13 000	18 000	0,095	<b>30302 J2</b>	2FB
<b>17</b>	40	13,25	19	18,6	1,83	13 000	18 000	0,075	<b>30203 J2</b>	2DB
	47	15,25	28,1	25	2,75	12 000	16 000	0,13	<b>30303 J2</b>	2FB
	47	20,25	34,7	33,5	3,65	11 000	16 000	0,17	<b>32303 J2/Q</b>	2FD
<b>20</b>	42	15	24,2	27	2,7	12 000	16 000	0,097	<b>32004 X/Q</b>	3CC
	47	15,25	27,5	28	3	11 000	15 000	0,12	<b>30204 J2/Q</b>	2DB
	52	16,25	34,1	32,5	3,6	11 000	14 000	0,17	<b>30304 J2/Q</b>	2FB
	52	22,25	44	45,5	5	10 000	14 000	0,23	<b>32304 J2/Q</b>	2FD
<b>22</b>	44	15	25,1	29	2,85	11 000	15 000	0,10	<b>320/22 X</b>	3CC
<b>25</b>	47	15	27	32,5	3,25	11 000	14 000	0,11	<b>32005 X/Q</b>	4CC
	52	16,25	30,8	33,5	3,45	10 000	13 000	0,15	<b>30205 J2/Q</b>	3CC
	52	19,25	35,8	44	4,65	9 500	13 000	0,19	<b>32205 BJ2/Q</b>	5CD
	52	22	47,3	56	6	10 000	13 000	0,23	<b>33205/Q</b>	2DE
	62	18,25	44,6	43	4,75	9 000	12 000	0,26	<b>30305 J2</b>	2FB
62	18,25	38	40	4,4	7 500	11 000	0,26	<b>31305 J2</b>	7FB	
	25,25	60,5	63	7,1	8 000	12 000	0,36	<b>32305 J2</b>	2FD	
	52	16	31,9	38	4	10 000	13 000	0,15	<b>320/28 X/Q</b>	4CC
<b>28</b>	58	17,25	38	41,5	4,4	9 000	12 000	0,25	<b>302/28 J2</b>	–
	58	20,25	41,8	50	5,5	8 500	12 000	0,25	<b>322/28 BJ2/Q</b>	5DD
	55	17	35,8	44	4,55	9 000	12 000	0,17	<b>32006 X/Q</b>	4CC
<b>30</b>	62	17,25	40,2	44	4,8	8 500	11 000	0,23	<b>30206 J2/Q</b>	3DB
	62	21,25	50,1	57	6,3	8 500	11 000	0,28	<b>32206 J2/Q</b>	3DC
	62	21,25	49,5	58,5	6,55	8 000	11 000	0,30	<b>32206 BJ2/QCL7CVA606</b>	5DC
	62	25	64,4	76,5	8,5	7 500	11 000	0,37	<b>33206/Q</b>	2DE
	72	20,75	56,1	56	6,4	7 500	10 000	0,39	<b>30306 J2/Q</b>	2FB
	72	20,75	47,3	50	5,7	6 700	9 500	0,39	<b>31306 J2/Q</b>	7FB
	72	28,75	76,5	85	9,65	7 000	10 000	0,55	<b>32306 J2/Q</b>	2FD
<b>32</b>	53	14,5	27	35,5	3,65	9 000	12 000	0,11	<b>JL 26749 F/710</b>	(L 26700)
	58	17	36,9	46,5	4,8	8 500	11 000	0,19	<b>320/32 X/Q</b>	4CC



Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm							mm								-			
<b>15</b>	27,7	13	11	1	1	9	22	21	36	36	38	2	3	1	1	0,28	2,1	1,1
<b>17</b>	28	12	11	1	1	10	23	23	34	34	37	2	2	1	1	0,35	1,7	0,9
	30,4	14	12	1	1	10	25	23	40	41	42	2	3	1	1	0,28	2,1	1,1
	30,7	19	16	1	1	12	24	23	39	41	43	3	4	1	1	0,28	2,1	1,1
<b>20</b>	31,1	15	12	0,6	0,6	10	25	25	36	37	39	2	3	0,6	0,6	0,37	1,6	0,9
	33,2	14	12	1	1	11	27	26	40	41	43	2	3	1	1	0,35	1,7	0,9
	34,3	15	13	1,5	1,5	11	28	27	44	45	47	2	3	1,5	1,5	0,3	2	1,1
	34,5	21	18	1,5	1,5	14	27	27	43	45	47	3	4	1,5	1,5	0,3	2	1,1
<b>22</b>	33,3	15	11,5	0,6	0,6	11	27	27	38	39	41	3	3,5	0,6	0,6	0,40	1,5	0,8
<b>25</b>	36,5	15	11,5	0,6	0,6	11	30	30	40	42	44	3	3,5	0,6	0,6	0,43	1,4	0,8
	37,4	15	13	1	1	12	31	31	44	46	48	2	3	1	1	0,37	1,6	0,9
	40,2	18	15	1	1	16	30	31	41	46	50	3	4	1	1	0,57	1,05	0,6
	38,6	22	18	1	1	14	30	31	43	46	49	4	4	1	1	0,35	1,7	0,9
<b>28</b>	41,5	17	15	1,5	1,5	13	34	32	54	55	57	2	3	1,5	1,5	0,3	2	1,1
	45,8	17	13	1,5	1,5	20	34	32	47	55	59	3	5	1,5	1,5	0,83	0,72	0,4
	41,7	24	20	1,5	1,5	15	33	32	52	55	57	3	5	1,5	1,5	0,3	2	1,1
<b>30</b>	40,3	16	12	1	1	12	34	34	45	46	49	3	4	1	1	0,43	1,4	0,8
	41,8	16	14	1	1	13	35	34	50	52	54	2	3	1	1	0,37	1,6	0,9
	43,9	19	16	1	1	17	33	34	46	52	55	3	4	1	1	0,57	1,05	0,6
<b>32</b>	43	17	13	1	1	13	35	36	48	49	52	3	4	1	1	0,43	1,4	0,8
	44,6	16	14	1	1	14	38	36	53	56	57	2	3	1	1	0,37	1,6	0,9
	45,2	20	17	1	1	15	37	36	52	56	58	3	4	1	1	0,37	1,6	0,9
	47,3	20	17	1	1	18	36	36	50	56	60	3	4	1	1	0,57	1,05	0,6
	45,8	25	19,5	1	1	16	36	36	53	56	59	5	5,5	1	1	0,35	1,7	0,9
	48,4	19	16	1,5	1,5	15	41	37	62	65	66	3	4,5	1,5	1,5	0,31	1,9	1,1
	52,7	19	14	1,5	1,5	22	40	37	55	65	68	3	6,5	1,5	1,5	0,83	0,72	0,4
	48,7	27	23	1,5	1,5	18	39	37	59	65	66	3	5,5	1,5	1,5	0,31	1,9	1,1
<b>32</b>	43,6	15	11,5	3,5	1,3	11	38	43	47	47	50	2	3	3	1	0,33	1,8	1
	45,6	17	13	1	1	14	38	38	50	52	55	3	4	1	1	0,46	1,3	0,7

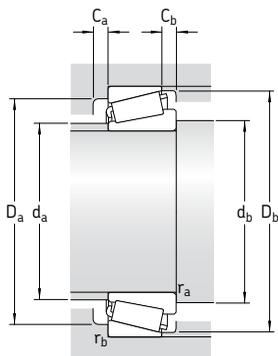
# Metric single row tapered roller bearings

## d 35 – 40 mm



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)
d	D	T	dynamic	static		Refer-ence speed	Limiting speed			
mm			kN	kN	kN	r/min		kg	–	–
35	62	18	42,9	54	5,85	8 500	11 000	0,22	32007 X/Q	4CC
	62	18	37,4	49	5,2	8 000	11 000	0,22	32007 J2/Q	–
	72	18,25	51,2	56	6,1	7 000	9 500	0,32	30207 J2/Q	3DB
	72	24,25	66	78	8,5	7 000	9 500	0,43	32207 J2/Q	3DC
	72	28	84,2	106	11,8	6 300	9 500	0,56	33207/Q	2DE
	80	22,75	72,1	73,5	8,3	6 700	9 000	0,52	30307 J2/Q	2FB
	80	22,75	61,6	67	7,8	6 000	8 500	0,52	31307 J2/Q	7FB
	80	32,75	95,2	106	12,2	6 300	9 000	0,73	32307 J2/Q	2FE
	80	32,75	93,5	114	13,2	6 000	8 500	0,80	32307 BJ2/Q	5FE
	37	80	32,75	93,5	114	13,2	6 000	8 500	0,85	32307/37 BJ2/Q
38	63	17	36,9	52	5,4	7 500	11 000	0,20	JL 69349 A/310/Q	(L 69300)
	63	17	36,9	52	5,4	7 500	11 000	0,20	JL 69349 X/310/Q	(L 69300)
	63	17	36,9	52	5,4	7 500	11 000	0,19	JL 69349/310/Q	(L 69300)
	63	17	36,9	52	5,4	7 500	11 000	0,19	JL 69345 F/310/Q	(L 69300)
	68	19	52,8	71	7,65	7 000	9 500	0,28	32008/38 X/Q	–
40	68	19	52,8	71	7,65	7 000	9 500	0,27	32008 X/Q	3CD
	68	19	52,8	71	7,65	7 000	9 500	0,27	32008 XTN9/Q	3CD
	75	26	79,2	104	11,4	6 700	9 000	0,51	33108/Q	2CE
	80	19,75	61,6	68	7,65	6 300	8 500	0,42	30208 J2/Q	3DB
	80	24,75	74,8	86,5	9,8	6 300	8 500	0,53	32208 J2/Q	3DC
	80	32	105	132	15	5 600	8 500	0,77	33208/QCL7C	2DE
	85	33	121	150	17,3	6 000	9 000	0,90	T2EE 040/QVB134	2EE
	90	25,25	85,8	95	10,8	6 000	8 000	0,72	30308 J2/Q	2FB
	90	25,25	85	81,5	9,5	5 600	7 500	0,72	* 31308 J2/QCL7C	7FB
	90	35,25	117	140	16	5 300	8 000	1,00	32308 J2/Q	2FD

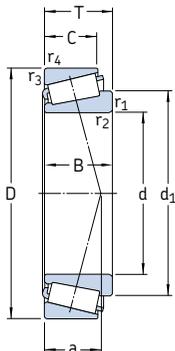
\* SKF Explorer bearing



Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm							mm								-			
<b>35</b>	49,2	18	14	1	1	15	41	41	54	56	59	4	4	1	1	0,46	1,3	0,7
	49,5	18	15	1	1	16	41	41	53	56	59	2	3	1	1	0,44	1,35	0,8
	51,8	17	15	1,5	1,5	15	44	42	62	65	67	3	3	1,5	1,5	0,37	1,6	0,9
	52,4	23	19	1,5	1,5	17	43	42	61	65	67	3	5	1,5	1,5	0,37	1,6	0,9
	53,4	28	22	1,5	1,5	18	42	42	61	65	68	5	6	1,5	1,5	0,35	1,7	0,9
	54,5	21	18	2	1,5	16	46	44	70	71	74	3	4,5	2	1,5	0,31	1,9	1,1
	59,6	21	15	2	1,5	25	45	44	62	71	76	3	7,5	2	1,5	0,83	0,72	0,4
	54,8	31	25	2	1,5	20	44	44	66	71	74	4	7,5	2	1,5	0,31	1,9	1,1
	59,3	31	25	2	1,5	24	42	44	61	71	76	4	7,5	2	1,5	0,54	1,1	0,6
	<b>37</b>	54,8	31	25	2	1,5	20	44	44	66	71	4	7,5	2	1,5	0,54	1,1	0,6
<b>38</b>	52,2	17	13,5	1,3	1,3	14	44	44	55	56,5	60	3	3,5	1	1	0,43	1,4	0,8
	52,2	17	13,5	2,3	1,3	14	44	47	55	56,5	60	3	3,5	2	1	0,43	1,4	0,8
	52,2	17	13,5	3,6	1,3	14	44	50	55	56,5	60	3	3,5	3,5	1	0,43	1,4	0,8
	52,2	19	13,5	3,6	1,3	14	44	50	55	56,5	60	3	3,5	3,5	1	0,43	1,4	0,8
	54,2	19	14,5	1	1	15	46	44	60	62	65	4	4,5	1	1	0,37	1,6	0,9
<b>40</b>	54,2	19	14,5	1	1	15	46	46	60	62	65	4	4,5	1	1	0,37	1,6	0,9
	54,2	19	14,5	1	1	15	46	46	60	62	65	4	4,5	1	1	0,37	1,6	0,9
	57,5	26	20,5	1,5	1,5	18	47	47	65	68	71	4	5,5	1,5	1,5	0,35	1,7	0,9
	57,5	18	16	1,5	1,5	16	49	47	69	73	74	3	3,5	1,5	1,5	0,37	1,6	0,9
	58,4	23	19	1,5	1,5	19	49	47	68	73	75	3	5,5	1,5	1,5	0,37	1,6	0,9
	59,7	32	25	1,5	1,5	21	47	47	67	73	76	5	7	1,5	1,5	0,35	1,7	0,9
	61,2	32,5	28	2,5	2	22	48	50	70	75	80	5	5	2	2	0,35	1,7	0,9
	62,5	23	20	2	1,5	19	53	49	77	81	82	3	5	2	1,5	0,35	1,7	0,9
	67,1	23	17	2	1,5	28	51	49	71	81	86	3	8	2	1,5	0,83	0,72	0,4
	62,9	33	27	2	1,5	23	51	49	73	81	82	3	8	2	1,5	0,35	1,7	0,9

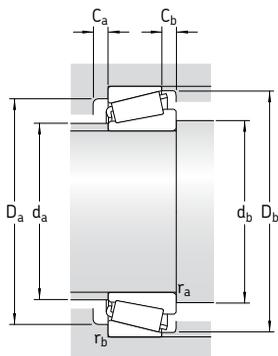
# Metric single row tapered roller bearings

## d 45 – 50 mm



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)	
d	D	T	C	$C_0$		Reference speed	Limiting speed				
mm			kN		kN	r/min		kg	–	–	
45	75	20	58,3	80	8,8	6 300	8 500	0,34	32009 X/Q	3CC	
	80	26	96,5	114	12,9	6 700	8 000	0,56	* 33109/Q	3CE	
	85	20,638	70,4	81,5	9,3	6 000	8 500	0,50	358 X/354 X/Q	(355)	
	85	20,75	66	76,5	8,65	6 000	8 000	0,48	30209 J2/Q	3DB	
	85	24,75	91,5	98	11	6 300	8 000	0,58	* 32209 J2/Q	3DC	
	85	32	108	143	16,3	5 300	7 500	0,82	33209/Q	3DE	
	90	24,75	82,5	104	12,2	5 300	8 000	0,65	32210/45 BJ2/QVB022	–	
	95	29	89,7	112	12,7	4 800	7 000	0,92	T7FC 045/HN3QCL7C	7FC	
	95	36	147	186	20,8	5 300	8 000	1,20	T2ED 045	2ED	
	100	27,25	108	120	14,3	5 300	7 000	0,97	30309 J2/Q	2FB	
	100	27,25	106	102	12,5	5 000	6 700	0,95	* 31309 J2/QCL7C	7FB	
	100	38,25	140	170	20,4	4 800	7 000	1,35	32309 J2/Q	2FD	
	100	38,25	134	176	20	4 800	6 700	1,45	32309 BJ2/QCL7C	5FD	
	46	75	18	50,1	71	7,65	6 300	9 500	0,30	LM 503349/310/QCL7C	(LM 503300)
	50	80	20	60,5	88	9,65	6 000	8 000	0,37	32010 X/Q	3CC
80		20	60,5	88	9,65	6 000	8 000	0,37	32010 X/QCL7CVB026	3CC	
80		24	69,3	102	11,4	6 000	8 000	0,45	33010/Q	2CE	
82		21,5	72,1	100	11	6 000	8 500	0,43	JLM 104948 AA/910 AA/Q	(LM 104900)	
85		26	85,8	122	13,4	5 600	7 500	0,59	33110/Q	3CE	
90		21,75	76,5	91,5	10,4	5 600	7 500	0,54	30210 J2/Q	3DB	
90		24,75	82,5	100	11,4	5 600	7 500	0,61	32210 J2/Q	3DC	
90		28	106	140	16	5 300	8 000	0,75	JM 205149/110/Q	(M 205100)	
90		28	106	140	16	5 300	8 000	0,75	JM 205149/110 A/Q	(M 205100)	
90		32	114	160	18,3	5 000	7 000	0,90	33210/Q	3DE	
100		36	154	200	22,4	5 000	7 500	1,30	T2ED 050/Q	2ED	
105		32	108	137	16	4 300	6 300	1,20	T7FC 050/QCL7C	7FC	
110		29,25	143	140	16,6	5 300	6 300	1,25	* 30310 J2/Q	2FB	
110		29,25	122	120	14,3	4 500	6 000	1,20	* 31310 J2/QCL7C	7FB	
110		42,25	172	212	24	4 300	6 300	1,80	32310 J2/Q	2FD	
110	42,25	172	212	24	4 300	6 300	1,80	32310 TN9	2FD		
110	42,25	183	216	24,5	4 500	6 000	1,85	* 32310 BJ2/QCL7C	5FD		

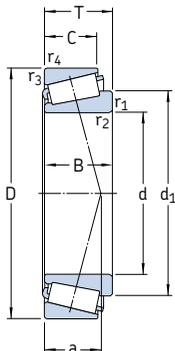
\* SKF Explorer bearing



Dimensions				Abutment and fillet dimensions										Calculation factors					
d	d <sub>1</sub>	B	C	r <sub>1,2 min</sub>	r <sub>3,4 min</sub>	a	d <sub>a max</sub>	d <sub>b min</sub>	D <sub>a min</sub>	D <sub>a max</sub>	D <sub>b min</sub>	C <sub>a min</sub>	C <sub>b min</sub>	r <sub>a max</sub>	r <sub>b max</sub>	e	Y	Y <sub>0</sub>	
mm							mm										-		
45	60,4	20	15,5	1	1	16	52	51	67	69	72	4	4,5	1	1	0,4	1,5	0,8	
	62,7	26	20,5	1,5	1,5	19	52	52	69	73	77	4	5,5	1,5	1,5	0,37	1,6	0,9	
	62,4	21,692	17,462	2	1,5	16	55	53	76	77	80	3	3	2	1,5	0,31	1,9	1,1	
	63	19	16	1,5	1,5	18	54	52	74	78	80	3	4,5	1,5	1,5	0,4	1,5	0,8	
	64	23	19	1,5	1,5	20	54	52	73	78	80	3	5,5	1,5	1,5	0,4	1,5	0,8	
	65,2	32	25	1,5	1,5	22	52	52	72	78	81	5	7	1,5	1,5	0,4	1,5	0,8	
	68,5	23	19	1,5	0,3	21	58	52	78	87	85	3	5,5	1,5	0,3	0,6	1	0,6	
	74	26,5	20	2,5	2,5	32	54	56	71	83	91	3	9	2	2	0,88	0,68	0,4	
	68,5	35	30	2,5	2,5	23	55	56	80	83	89	6	6	2	2	0,33	1,8	1	
	70,1	25	22	2	1,5	21	59	53	86	91	92	3	5	2	1,5	0,35	1,7	0,9	
	74,7	25	18	2	1,5	31	57	53	79	91	95	4	9	2	1,5	0,83	0,72	0,4	
	70,4	36	30	2	1,5	25	57	53	82	91	93	4	8	2	1,5	0,35	1,7	0,9	
74,8	36	30	2	1,5	30	55	53	76	91	94	5	8	2	1,5	0,54	1,1	0,6		
46	60,4	18	14	2,3	1,5	16	53	55	67	67,5	71	2	4	2	1,5	0,4	1,5	0,8	
	65,6	20	15,5	1	1	18	57	56	72	74	77	4	4,5	1	1	0,43	1,4	0,8	
50	65,6	20	15,5	3	1	18	57	62	72	74	77	4	4,5	2,5	1	0,43	1,4	0,8	
	64,9	24	19	1	1	17	56	56	72	74	76	4	5	1	1	0,31	1,9	1,1	
	65,1	21,5	17	3,6	1,2	16	57	62	74	76	78	4	4,5	3,4	1,2	0,3	2	1,1	
	67,9	26	20	1,5	1,5	20	57	57	74	78	82	4	6	1,5	1,5	0,4	1,5	0,8	
	67,9	20	17	1,5	1,5	19	58	57	79	83	85	3	4,5	1,5	1,5	0,43	1,4	0,8	
	68,5	23	19	1,5	1,5	21	58	57	78	83	85	3	5,5	1,5	1,5	0,43	1,4	0,8	
	68,7	28	23	3	2,5	20	58	64	78	78	85	5	5	2,5	2	0,33	1,8	1	
	68,7	28	23	3	0,8	20	58	64	78	85	85	5	5	2,5	0,6	0,33	1,8	1	
	70,7	32	24,5	1,5	1,5	23	57	57	77	83	87	5	7,5	1,5	1,5	0,4	1,5	0,8	
	73,5	35	30	2,5	2,5	25	59	60	84	88	94	6	6	2	2	0,35	1,7	0,9	
	81	29	22	3	3	36	60	62	78	91	100	4	10	2,5	2,5	0,88	0,68	0,4	
	77,2	27	23	2,5	2	23	65	60	95	100	102	4	6	2	2	0,35	1,7	0,9	
81,5	27	19	2,5	2	34	62	60	87	100	104	4	10	2	2	0,83	0,72	0,4		
77,7	40	33	2,5	2	27	63	60	90	100	102	5	9	2	2	0,35	1,7	0,9		
77,7	40	33	2,5	2	27	63	60	90	100	102	5	9	2	2	0,35	1,7	0,9		
82,9	40	33	2,5	2	34	62	60	83	100	103	5	9	2	2	0,54	1,1	0,6		

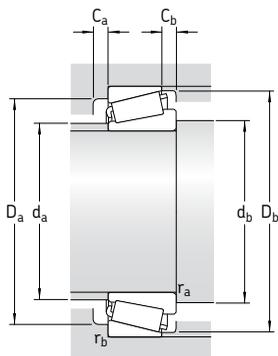
# Metric single row tapered roller bearings

## d 55 – 60 mm



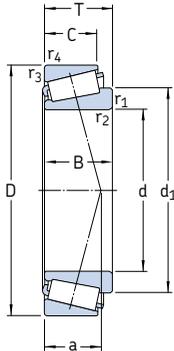
Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355	
d	D	T	dynamic	static		Reference speed	Limiting speed				
mm			kN	kN	kN	r/min		kg	–	–	
55	90	23	80,9	116	12,9	5 300	7 000	0,55	<b>32011 X/Q</b>	3CC	
	90	27	104	137	15,3	5 600	7 000	0,67	* <b>33011/Q</b>	2CE	
	95	30	110	156	17,6	5 000	6 700	0,86	<b>33111/Q</b>	3CE	
	100	22,75	104	106	12	5 300	6 700	0,70	* <b>30211 J2/Q</b>	3DB	
	100	26,75	106	129	15	5 000	6 700	0,83	<b>32211 J2/Q</b>	3DC	
	100	35	138	190	21,6	4 500	6 300	1,20	<b>33211/Q</b>	3DE	
	110	39	179	232	26	4 500	6 700	1,70	<b>T2ED 055/QCLN</b>	2ED	
	115	34	125	163	19,3	4 000	5 600	1,60	<b>T7FC 055/QCL7C</b>	7FC	
	120	31,5	166	163	19,3	4 800	5 600	1,55	* <b>30311 J2/Q</b>	2FB	
	120	31,5	121	137	16,6	3 800	5 600	1,55	<b>31311 J2/QCL7C</b>	7FB	
	120	45,5	198	250	28,5	4 000	5 600	2,30	<b>32311 J2</b>	2FD	
	120	45,5	216	260	30	4 300	5 600	2,50	* <b>32311 BJ2/QCL7C</b>	5FD	
	60	95	23	95	122	13,4	5 300	6 700	0,59	* <b>32012 X/QCL7C</b>	4CC
		95	24	84,2	132	15	4 800	7 000	0,63	<b>JLM 508748/710/Q</b>	2CE
95		27	106	143	16	5 300	6 700	0,71	* <b>33012/Q</b>	2CE	
100		30	117	170	19,6	4 800	6 300	0,92	<b>33112/Q</b>	3CE	
110		23,75	112	114	13,2	5 000	6 000	0,88	* <b>30212 J2/Q</b>	3EB	
110		29,75	125	160	18,6	4 500	6 000	1,15	<b>32212 J2/Q</b>	3EC	
110		38	168	236	26,5	4 000	6 000	1,60	<b>33212/Q</b>	3EE	
115		40	194	260	30	4 300	6 300	1,85	<b>T2EE 060/Q</b>	2EE	
125		37	154	204	24,5	3 600	5 300	2,05	<b>T7FC 060/QCL7C</b>	7FC	
130		33,5	168	196	23,6	4 000	5 300	1,95	<b>30312 J2/Q</b>	2FB	
130		33,5	145	166	20,4	3 600	5 300	1,90	<b>31312 J2/QCL7C</b>	7FB	
130		48,5	229	290	34	3 600	5 300	2,85	<b>32312 J2/Q</b>	2FD	
130		48,5	220	305	35,5	3 600	5 000	2,80	* <b>32312 BJ2/QCL7C</b>	5FD	

\* SKF Explorer bearing



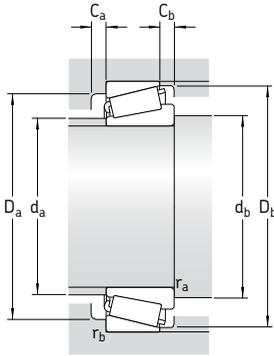
Dimensions								Abutment and fillet dimensions								Calculation factors		
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm							mm							-				
55	73,2	23	17,5	1,5	1,5	20	63	62	81	83	86	4	5,5	1,5	1,5	0,4	1,5	0,8
	72,9	27	21	1,5	1,5	19	63	62	81	83	86	5	6	1,5	1,5	0,31	1,9	1,1
	75,1	30	23	1,5	1,5	22	63	62	83	88	91	5	7	1,5	1,5	0,37	1,6	0,9
	74,6	21	18	2	1,5	20	64	64	88	93	94	4	4,5	2	1,5	0,4	1,5	0,8
	75,2	25	21	2	1,5	22	64	64	87	93	95	4	5,5	2	1,5	0,4	1,5	0,8
	77,6	35	27	2	1,5	25	63	64	85	93	96	6	8	2	1,5	0,4	1,5	0,8
	81	39	32	2,5	2,5	27	66	65	93	99	104	7	7	2	2	0,35	1,7	0,9
	90	31	23,5	3	3	39	66	67	86	103	109	4	10,5	2,5	2,5	0,88	0,68	0,4
	84	29	25	2,5	2	24	71	65	104	112	111	4	6,5	2	2	0,35	1,7	0,9
	88,4	29	21	2,5	2	37	68	65	94	112	113	4	10,5	2	2	0,83	0,72	0,4
	84,6	43	35	2,5	2	29	68	65	99	112	111	5	10,5	2	2	0,35	1,7	0,9
	90,5	43	35	2,5	2	36	67	65	91	112	112	5	10,5	2	2	0,54	1,1	0,6
60	77,8	23	17,5	1,5	1,5	21	67	67	85	88	91	4	5	1,5	1,5	0,43	1,4	0,8
	78,4	24	19	5	2,5	21	68	76	84	85	91	4	5	4	2	0,4	1,5	0,8
	77,1	27	21	1,5	1,5	20	67	67	85	88	90	5	6	1,5	1,5	0,33	1,8	1
	80,4	30	23	1,5	1,5	23	67	67	88	93	96	5	7	1,5	1,5	0,4	1,5	0,8
	81,5	22	19	2	1,5	22	70	68	96	103	103	4	4,5	2	1,5	0,4	1,5	0,8
	81,9	28	24	2	1,5	24	69	68	95	103	104	4	5,5	2	1,5	0,4	1,5	0,8
	85,3	38	29	2	1,5	27	69	68	93	103	105	6	9	2	1,5	0,4	1,5	0,8
	85	39	33	2,5	2,5	28	70	71	98	104	109	6	7	2	2	0,33	1,8	1
	97	33,5	26	3	3	41	72	72	94	111	119	4	11	2,5	2,5	0,83	0,72	0,4
	91,9	31	26	3	2,5	26	77	72	112	118	120	5	7,5	2,5	2	0,35	1,7	0,9
	95,9	31	22	3	2,5	39	74	72	103	118	123	5	11,5	2,5	2	0,83	0,72	0,4
	91,7	46	37	3	2,5	31	74	72	107	118	120	6	11,5	2,5	2	0,35	1,7	0,9
98,1	46	37	3	2,5	38	73	72	99	118	122	6	11,5	2,5	2	0,54	1,1	0,6	

# Metric single row tapered roller bearings d 65 – 70 mm



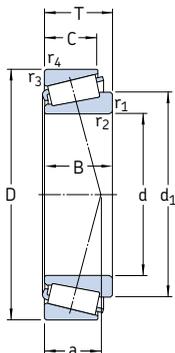
Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)
d	D	T	C	$C_0$		Reference speed	Limiting speed			
mm			kN		kN	r/min		kg	-	-
65	100	23	96,5	127	14	5 000	6 000	0,63	* 32013 X/Q	4CC
	100	27	110	153	17,3	5 000	6 300	0,78	* 33013/Q	2CE
	110	28	123	183	21,2	4 300	6 300	1,05	JM 511946/910/Q	(M 511900)
	110	31	138	193	22,4	4 300	6 300	1,15	T2DD 065/Q	2DD
	110	34	142	208	24	4 300	5 600	1,30	33113/Q	3DE
	120	24,75	132	134	16,3	4 500	5 600	1,15	* 30213 J2/Q	3EB
	120	32,75	151	193	22,8	4 000	5 600	1,50	32213 J2/Q	3EC
	120	41	194	270	30,5	3 800	5 300	2,05	33213/Q	3EE
	120	41	194	270	30,5	3 800	5 300	2,05	33213 TN9/Q	3EE
	130	37	157	216	25,5	3 400	5 000	2,20	T7FC 065/QCL7C	7FC
	140	36	194	228	27,5	3 600	4 800	2,40	30313 J2/Q	2GB
	140	36	165	193	23,6	3 200	4 800	2,35	31313 J2/QCL7C	7GB
	140	51	264	335	40	3 400	4 800	3,45	32313 J2/Q	2GD
	140	51	246	345	40,5	3 200	4 800	3,35	32313 BJ2/QU4CL7CVQ267	5GD
70	110	25	101	153	17,3	4 300	5 600	0,84	32014 X/Q	4CC
	110	31	130	196	22,8	4 300	5 600	1,10	33014	2CE
	120	37	172	250	30	4 000	5 300	1,70	33114/Q	3DE
	125	26,25	125	156	18	4 000	5 300	1,25	30214 J2/Q	3EB
	125	33,25	157	208	24,5	3 800	5 300	1,60	32214 J2/Q	3EC
	125	41	201	285	32,5	3 600	5 000	2,10	33214/Q	3EE
	130	43	233	325	38	3 800	5 600	2,45	T2ED 070/QCLNVB061	2ED
	140	39	176	240	27,5	3 200	4 500	2,65	T7FC 070/QCL7C	7FC
	150	38	220	260	31	3 400	4 500	2,90	30314 J2/Q	2GB
	150	38	187	220	27	3 000	4 500	2,95	31314 J2/QCL7C	7GB
	150	54	297	380	45	3 200	4 500	4,30	32314 J2/Q	2GD
	150	54	281	400	46,5	3 000	4 300	4,25	32314 BJ2/QCL7C	5GD

\* SKF Explorer bearing

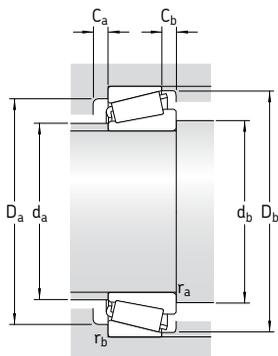


Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm							mm								-			
65	83,3	23	17,5	1,5	1,5	22	72	72	90	93	97	4	5,5	1,5	1,5	0,46	1,3	0,7
	82,5	27	21	1,5	1,5	21	72	72	89	93	96	5	6	1,5	1,5	0,35	1,7	0,9
	87,8	28	22,5	3	2,5	24	75	77	96	98	104	5	5,5	2,5	2	0,4	1,5	0,8
	85,6	31	25	2	2	23	74	75	97	100	105	5	6	2	2	0,35	1,7	0,9
	87,9	34	26,5	1,5	1,5	26	74	72	96	103	106	6	7,5	1,5	1,5	0,4	1,5	0,8
	89	23	20	2	1,5	23	78	74	106	113	113	4	4,5	2	1,5	0,4	1,5	0,8
	90,3	31	27	2	1,5	27	76	74	104	113	115	4	5,5	2	1,5	0,4	1,5	0,8
	92,1	41	32	2	1,5	29	75	74	102	113	115	6	9	2	1,5	0,4	1,5	0,8
	92,1	41	32	2	1,5	29	75	74	102	113	115	6	9	2	1,5	0,4	1,5	0,8
	102	33,5	26	3	3	44	77	77	98	116	124	4	11	2,5	2,5	0,88	0,68	0,4
	98,6	33	28	3	2,5	28	84	77	122	128	130	5	8	2,5	2	0,35	1,7	0,9
	103	33	23	3	2,5	42	80	77	111	128	132	5	13	2,5	2	0,83	0,72	0,4
99,2	48	39	3	2,5	33	80	77	117	128	130	6	12	2,5	2	0,35	1,7	0,9	
105	48	39	3	2,5	41	79	77	107	128	131	6	12	2,5	2	0,54	1,1	0,6	
70	89,8	25	19	1,5	1,5	23	78	77	98	103	105	5	6	1,5	1,5	0,43	1,4	0,8
	88,8	31	25,5	1,5	1,5	23	78	77	99	103	105	5	5,5	1,5	1,5	0,28	2,1	1,1
	94,8	37	29	2	1,5	28	80	79	104	112	115	6	8	2	1,5	0,37	1,6	0,9
	93,9	24	21	2	1,5	25	82	78	110	115	118	4	5	2	1,5	0,43	1,4	0,8
	95	31	27	2	1,5	28	80	78	108	115	119	4	6	2	1,5	0,43	1,4	0,8
	97,2	41	32	2	1,5	30	79	78	107	115	120	6	9	2	1,5	0,4	1,5	0,8
	98	42	35	8	2,5	30	81	98	111	118	123	7	8	7	2	0,33	1,8	1
	110	35,5	27	3	3	47	82	82	106	126	133	5	12	2,5	2,5	0,88	0,68	0,4
	105	35	30	3	2,5	29	90	82	130	138	140	5	8	2,5	2	0,35	1,7	0,9
	110	35	25	3	2,5	45	85	82	118	138	141	5	13	2,5	2	0,83	0,72	0,4
	106	51	42	3	2,5	36	86	82	125	138	140	6	12	2,5	2	0,35	1,7	0,9
	113	51	42	3	2,5	44	85	82	115	138	141	7	12	2,5	2	0,54	1,1	0,6

**Metric single row tapered roller bearings**  
**d 75 – 80 mm**

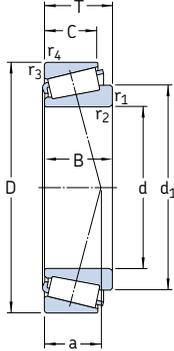


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)	
d	D	T	dynamic	static		Reference speed	Limiting speed				
mm			kN		kN	r/min		kg	–	–	
<b>75</b>	105	20	70,4	116	13,2	4 300	6 300	0,52	<b>32915 TN9/QVG900</b>	2BC	
	115	25	106	163	18,6	4 000	5 300	0,90	<b>32015 X/Q</b>	4CC	
	115	31	134	228	26	4 000	5 300	1,15	<b>33015/Q</b>	2CE	
	120	31	138	216	25	3 800	5 600	1,30	<b>JM 714249/210/Q</b>	(M 714200)	
	125	37	176	265	31,5	3 800	5 000	1,80	<b>33115/Q</b>	3DE	
	130	27,25	140	176	20,4	3 800	5 000	1,40	<b>30215 J2/Q</b>	4DB	
	130	33,25	161	212	24,5	3 600	5 000	1,70	<b>32215 J2/Q</b>	4DC	
	130	41	209	300	34	3 400	4 800	2,25	<b>33215/Q</b>	3EE	
	145	52	297	450	51	3 400	4 800	3,95	<b>T3FE 075/QVB481</b>	3FE	
	150	42	201	280	31	3 000	4 300	3,25	<b>T7FC 075/QCL7C</b>	7FC	
	160	40	246	290	34	3 200	4 300	3,45	<b>30315 J2/Q</b>	2GB	
	160	40	209	245	29	2 800	4 300	3,50	<b>31315 J2/QCL7C</b>	7GB	
	160	58	336	440	51	3 000	4 300	5,20	<b>32315 J2</b>	2GD	
	160	58	336	475	55	2 800	4 000	5,55	<b>32315 BJ2/QCL7C</b>	5GD	
	<b>80</b>	125	29	138	216	24,5	3 600	5 000	1,30	<b>32016 X/Q</b>	3CC
		125	36	168	285	32	3 600	5 000	1,65	<b>33016/Q</b>	2CE
130		35	176	275	32,5	3 600	5 300	1,70	<b>JM 515649/610/Q</b>	(M515600)	
130		37	179	280	32,5	3 600	4 800	1,90	<b>33116/Q</b>	3DE	
130		37	179	280	32,5	3 600	4 800	1,90	<b>33116 TN9/Q</b>	3DE	
140		28,25	151	183	21,2	3 400	4 800	1,60	<b>30216 J2/Q</b>	3EB	
140		35,25	187	245	28,5	3 400	4 500	2,05	<b>32216 J2/Q</b>	3EC	
140		46	251	375	41,5	3 200	4 500	2,90	<b>33216/Q</b>	3EE	
160		45	229	315	35,5	2 800	4 000	3,95	<b>T7FC 080/QCL7C</b>	7FC	
170		42,5	270	320	38	3 000	4 300	4,10	<b>30316 J2</b>	2GB	
170		42,5	224	265	32	2 800	4 000	4,05	<b>31316 J1/QCL7C</b>	7GB	
170		61,5	380	500	57	3 000	4 300	6,20	<b>32316 J2</b>	2GD	

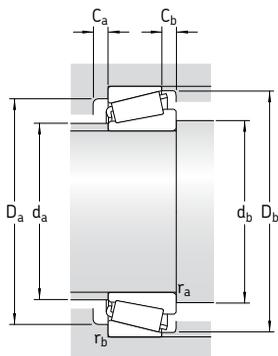


Dimensions							Abutment and fillet dimensions								Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm							mm								-				
<b>75</b>	89,2	20	16	1	1	19	81	82	98	98	101	4	4	1	1	0,33	1,8	1	
	95,1	25	19	1,5	1,5	25	83	82	103	108	110	5	6	1,5	1,5	0,46	1,3	0,7	
	95	31	25,5	1,5	1,5	23	84	82	104	108	110	6	5,5	1,5	1,5	0,3	2	1,1	
	98,1	29,5	25	3	2,5	28	84	87	104	110	115	5	6	2,5	2	0,44	1,35	0,8	
	100	37	29	2	1,5	29	84	84	109	117	120	6	8	2	1,5	0,4	1,5	0,8	
	99,2	25	22	2	1,5	27	86	84	115	122	124	4	5	2	1,5	0,43	1,4	0,8	
	100	31	27	2	1,5	29	85	84	114	122	125	4	6	2	1,5	0,43	1,4	0,8	
	102	41	31	2	1,5	32	84	84	111	122	125	6	10	2	1,5	0,43	1,4	0,8	
	111	51	43	5	3	39	88	95	117	131	138	7	9	4	2,5	0,43	1,4	0,8	
	118	38	29	3	3	50	88	87	114	136	143	5	13	2,5	2,5	0,88	0,68	0,4	
	112	37	31	3	2,5	31	96	87	139	148	149	5	9	2,5	2	0,35	1,7	0,9	
	116	37	26	3	2,5	48	91	87	127	148	151	6	14	2,5	2	0,83	0,72	0,4	
	113	55	45	3	2,5	38	92	87	133	148	149	7	13	2,5	2	0,35	1,7	0,9	
	120	55	45	3	2,5	46	90	87	124	148	151	7	13	2,5	2	0,54	1,1	0,6	
	<b>80</b>	103	29	22	1,5	1,5	27	90	87	112	117	120	6	7	1,5	1,5	0,43	1,4	0,8
		102	36	29,5	1,5	1,5	26	90	87	112	117	119	6	6,5	1,5	1,5	0,28	2,1	1,1
105		38	28,5	3	2,5	29	90	91	114	120	124	5	6,5	2,5	2	0,4	1,5	0,8	
105		37	29	2	1,5	30	89	89	114	122	126	6	8	2	1,5	0,43	1,4	0,8	
105		37	29	2	1,5	30	89	89	114	122	126	6	8	2	1,5	0,43	1,4	0,8	
105		26	22	2,5	2	28	92	90	124	130	132	4	6	2	2	0,43	1,4	0,8	
106		33	28	2,5	2	30	91	90	122	130	134	5	7	2	2	0,43	1,4	0,8	
110		46	35	2,5	2	35	89	90	119	130	135	7	11	2	2	0,43	1,4	0,8	
125		41	31	3	3	53	94	92	121	146	152	5	14	2,5	2,5	0,88	0,68	0,4	
120		39	33	3	2,5	33	102	92	148	158	159	5	9,5	2,5	2	0,35	1,7	0,9	
124		39	27	3	2,5	52	97	92	134	158	159	6	15,5	2,5	2	0,83	0,72	0,4	
120		58	48	3	2,5	41	98	92	142	158	159	7	13,5	2,5	2	0,35	1,7	0,9	

**Metric single row tapered roller bearings**  
**d 85 – 95 mm**

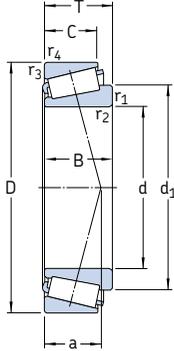


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)	
d	D	T	dynamic	static		Reference speed	Limiting speed				
mm			kN		kN	r/min		kg	–	–	
<b>85</b>	130	29	140	224	25,5	3 400	4 800	1,35	<b>32017 X/Q</b>	4CC	
	130	36	183	310	34,5	3 600	4 800	1,75	<b>33017/Q</b>	2CE	
	140	41	220	340	38	3 400	4 500	2,45	<b>33117/Q</b>	3DE	
	150	30,5	176	220	25,5	3 200	4 300	2,05	<b>30217 J2/Q</b>	3EB	
	150	38,5	212	285	33,5	3 200	4 300	2,60	<b>32217 J2/Q</b>	3EC	
	150	49	286	430	48	3 000	4 300	3,70	<b>33217/Q</b>	3EE	
	180	44,5	303	365	40,5	2 800	4 000	4,85	<b>30317 J2</b>	2GB	
	180	44,5	242	285	33,5	2 600	3 800	4,60	<b>31317 J2</b>	7GB	
	180	63,5	402	530	60	2 800	4 000	6,85	<b>32317 J2</b>	2GD	
	180	63,5	391	560	62	2 800	4 000	7,50	<b>32317 BJ2</b>	5GD	
	<b>90</b>	140	32	168	270	31	3 200	4 300	1,75	<b>32018 X/Q</b>	3CC
		140	39	216	355	39	3 200	4 500	2,20	<b>33018/Q</b>	2CE
145		35	201	305	35,5	3 200	4 800	2,10	<b>JM 718149 A/110/Q</b>	(M 718100)	
150		45	251	390	43	3 000	4 300	3,10	<b>33118/Q</b>	3DE	
150		45	251	390	43	3 000	4 300	3,10	<b>33118 TN9/Q</b>	3DE	
160		32,5	194	245	28,5	3 000	4 000	2,55	<b>30218 J2</b>	3FB	
160		42,5	251	340	38	3 000	4 000	3,35	<b>32218 J2/Q</b>	3FC	
190		46,5	330	400	44	2 600	4 000	5,65	<b>30318 J2</b>	2GB	
190		46,5	264	315	36,5	2 400	3 400	5,90	<b>31318 J2</b>	7GB	
190		67,5	457	610	67	2 600	4 000	8,40	<b>32318 J2</b>	2GD	
<b>95</b>		145	32	168	270	30,5	3 200	4 300	1,80	<b>32019 X/Q</b>	4CC
		145	39	220	375	40,5	3 200	4 300	2,30	<b>33019/Q</b>	2CE
	170	34,5	216	275	31,5	2 800	3 800	3,00	<b>30219 J2</b>	3FB	
	170	45,5	281	390	43	2 800	3 800	4,05	<b>32219 J2</b>	3FC	
	180	49	275	400	44	2 400	3 400	5,25	<b>T7FC 095/CL7CVQ051</b>	7FC	
	200	49,5	330	390	42,5	2 600	3 400	6,70	<b>30319</b>	2GB	
	200	49,5	292	355	39	2 400	3 400	6,95	<b>31319 J2</b>	7GB	
	200	71,5	501	670	72	2 400	3 400	11,0	<b>32319 J2</b>	2GD	

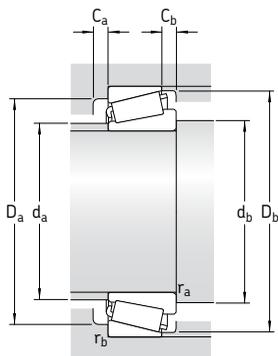


Dimensions							Abutment and fillet dimensions								Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm							mm								-				
85	108	29	22	1,5	1,5	28	94	92	117	122	125	6	7	1,5	1,5	0,44	1,35	0,8	
	107	36	29,5	1,5	1,5	26	94	92	118	122	125	6	6,5	1,5	1,5	0,3	2	1,1	
	112	41	32	2,5	2	32	95	95	122	130	135	7	9	2	2	0,4	1,5	0,8	
	112	28	24	2,5	2	30	97	95	132	140	141	5	6,5	2	2	0,43	1,4	0,8	
	113	36	30	2,5	2	33	97	95	130	140	142	5	8,5	2	2	0,43	1,4	0,8	
	117	49	37	2,5	2	37	96	95	128	140	144	7	12	2	2	0,43	1,4	0,8	
	126	41	34	4	3	35	107	99	156	166	167	6	10,5	3	2,5	0,35	1,7	0,9	
	131	41	28	4	3	55	103	99	143	166	169	6	16,5	3	2,5	0,83	0,72	0,4	
	126	60	49	4	3	42	103	99	150	166	167	7	14,5	3	2,5	0,35	1,7	0,9	
	135	60	49	4	3	52	102	99	138	166	169	7	14,5	3	2,5	0,54	1,1	0,6	
	90	115	32	24	2	1,5	30	100	98	125	132	134	6	8	2	1,5	0,43	1,4	0,8
		113	39	32,5	2	1,5	27	100	98	127	132	135	7	6,5	2	1,5	0,27	2,2	1,3
117		34	27	6	2,5	33	100	108	127	135	139	6	8	5	2	0,44	1,35	0,8	
120		45	35	2,5	2	35	101	101	130	140	144	7	10	2	2	0,4	1,5	0,8	
120		45	35	2,5	2	35	101	101	130	140	144	7	10	2	2	0,4	1,5	0,8	
118		30	26	2,5	2	31	104	101	140	150	150	5	6,5	2	2	0,43	1,4	0,8	
121		40	34	2,5	2	36	102	101	138	150	152	5	8,5	2	2	0,43	1,4	0,8	
132		43	36	4	3	36	113	105	165	176	176	6	10,5	3	2,5	0,35	1,7	0,9	
138		43	30	4	3	57	109	105	151	176	179	5	16,5	3	2,5	0,83	0,72	0,4	
133		64	53	4	3	44	109	105	157	176	177	7	14,5	3	2,5	0,35	1,7	0,9	
95		120	32	24	2	1,5	31	105	104	130	138	139	6	8	2	1,5	0,44	1,35	0,8
		118	39	32,5	2	1,5	28	104	104	131	138	139	7	6,5	2	1,5	0,28	2,1	1,1
	126	32	27	3	2,5	33	110	107	149	158	159	5	7,5	2,5	2	0,43	1,4	0,8	
	128	43	37	3	2,5	39	109	107	145	158	161	5	8,5	2,5	2	0,43	1,4	0,8	
	143	45	33	4	4	60	109	110	138	164	172	6	16	3	3	0,88	0,68	0,4	
	139	45	38	4	3	39	118	110	172	186	184	6	11,5	3	2,5	0,35	1,7	0,9	
	145	45	32	4	3	60	114	110	157	186	187	5	17,5	3	2,5	0,83	0,72	0,4	
	141	67	55	4	3	47	115	110	166	186	186	8	16,5	3	2,5	0,35	1,7	0,9	

**Metric single row tapered roller bearings**  
**d 100 – 110 mm**

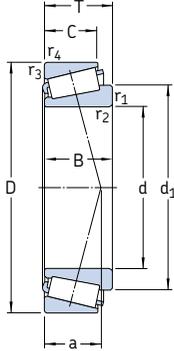


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)
d	D	T	dynamic	static		Reference speed	Limiting speed			
mm			kN	$C_0$	kN	r/min		kg	–	–
<b>100</b>	140	25	119	204	22,4	3 200	4 800	1,15	<b>32920/Q</b>	2CC
	145	24	125	190	20,8	3 200	4 500	1,15	<b>T4CB 100/Q</b>	4CB
	150	32	172	280	31	3 000	4 000	1,90	<b>32020 X/Q</b>	4CC
	150	39	224	390	41,5	3 000	4 000	2,40	<b>33020/Q</b>	2CE
	157	42	246	400	42,5	3 000	4 300	2,90	<b>HM 220149/110/Q</b>	(HM 220100)
	160	41	246	390	41,5	2 800	4 300	3,00	<b>JHM 720249/210/Q</b>	(HM 720200)
	165	47	314	480	53	2 800	4 300	3,90	<b>T2EE 100</b>	2EE
	180	37	246	320	36	2 800	3 600	3,65	<b>30220 J2</b>	3FB
	180	49	319	440	48	2 600	3 600	4,90	<b>32220 J2</b>	3FC
	180	63	429	655	71	2 400	3 600	6,95	<b>33220</b>	3FE
	215	51,5	402	490	53	2 400	3 200	8,05	<b>30320 J2</b>	2GB
	215	56,5	374	465	51	2 200	3 000	8,60	<b>31320 XJ2/CL7CVQ051</b>	7GB
215	77,5	572	780	83	2 200	3 000	12,5	<b>32320 J2</b>	2GD	
<b>105</b>	160	35	201	335	37,5	2 800	3 800	2,40	<b>32021 X/Q</b>	4DC
	160	43	246	430	45,5	2 800	3 800	3,05	<b>33021/Q</b>	2DE
	190	39	270	355	40	2 600	3 400	4,25	<b>30221 J2</b>	3FB
	190	53	358	510	55	2 600	3 400	6,00	<b>32221 J2</b>	3FC
225	81,5	605	815	85	2 000	3 000	14,5	<b>32321 J2</b>	2GD	
<b>110</b>	150	25	125	224	24	3 000	4 300	1,25	<b>32922 X/Q</b>	2CC
	170	38	233	390	42,5	2 600	3 600	3,05	<b>32022 X/Q</b>	4DC
	170	47	281	500	53	2 600	3 600	3,85	<b>33022</b>	2DE
	180	56	369	630	67	2 600	3 400	5,55	<b>33122</b>	3EE
	200	41	308	405	45	2 400	3 200	5,10	<b>30222 J2</b>	3FB
	200	56	402	570	61	2 400	3 200	7,10	<b>32222 J2</b>	3FC
	240	54,5	473	585	62	2 200	2 800	11,0	<b>30322 J2</b>	2GB
	240	63	457	585	62	1 900	2 800	12,0	<b>31322 XJ2</b>	7GB
	240	84,5	627	830	86,5	1 900	2 800	17,0	<b>32322</b>	2GD

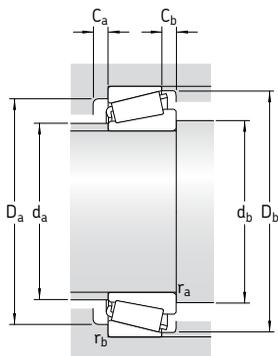


Dimensions				Abutment and fillet dimensions										Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm																		
<b>100</b>	119	25	20	1,5	1,5	24	109	107	131	132	135	5	5	1,5	1,5	0,33	1,8	1
	121	22,5	17,5	3	3	30	109	112	133	131	140	4	6,5	2,5	2,5	0,48	1,25	0,7
	125	32	24	2	1,5	32	110	108	134	142	144	6	8	2	1,5	0,46	1,3	0,7
	122	39	32,5	2	1,5	29	109	108	135	142	143	7	6,5	2	1,5	0,3	2	1,1
	128	42	34	8	3,5	32	111	124	140	145	151	7	8	7	3	0,33	1,8	1
	130	40	32	3	2,5	38	110	112	139	148	154	7	9	2,5	2	0,48	1,27	0,7
	130	46	39	3	3	35	111	112	145	151	157	7	8	2,5	2,5	0,31	1,9	1,1
	133	34	29	3	2,5	35	116	112	157	168	168	5	8	2,5	2	0,43	1,4	0,8
	135	46	39	3	2,5	41	115	112	154	168	171	5	10	2,5	2	0,43	1,4	0,8
	139	63	48	3	2,5	43	112	112	151	168	172	10	15	2,5	2	0,4	1,5	0,8
	148	47	39	4	3	40	127	115	184	201	197	6	12,5	3	2,5	0,35	1,7	0,9
	158	51	35	4	3	65	121	115	168	201	202	7	21,5	3	2,5	0,83	0,72	0,4
151	73	60	4	3	51	123	115	177	201	200	8	17,5	3	2,5	0,35	1,7	0,9	
<b>105</b>	132	35	26	2,5	2	34	116	116	143	150	154	6	9	2	2	0,44	1,35	0,8
	131	43	34	2,5	2	31	117	116	145	150	153	7	9	2	2	0,28	2,1	1,1
	141	36	30	3	2,5	37	123	117	165	178	177	6	9	2,5	2	0,43	1,4	0,8
	143	50	43	3	2,5	44	120	117	161	178	180	6	10	2,5	2	0,43	1,4	0,8
	158	77	63	4	3	53	129	120	185	211	209	9	18,5	3	2,5	0,35	1,7	0,9
<b>110</b>	129	25	20	1,5	1,5	26	118	117	140	142	145	5	5	1,5	1,5	0,35	1,7	0,9
	140	38	29	2,5	2	36	123	121	152	160	163	7	9	2	2	0,43	1,4	0,8
	139	47	37	2,5	2	34	123	121	152	160	161	7	10	2	2	0,28	2,1	1,1
	146	56	43	2,5	2	44	121	121	155	170	174	9	13	2	2	0,43	1,4	0,8
	148	38	32	3	2,5	39	129	122	174	188	187	6	9	2,5	2	0,43	1,4	0,8
	151	53	46	3	2,5	46	127	122	170	188	190	6	10	2,5	2	0,43	1,4	0,8
	165	50	42	4	3	43	142	125	206	226	220	8	12,5	3	2,5	0,35	1,7	0,9
	176	57	38	4	3	72	135	125	188	226	224	7	25	3	2,5	0,83	0,72	0,4
	168	80	65	4	3	55	137	125	198	226	222	9	19,5	3	2,5	0,35	1,7	0,9

**Metric single row tapered roller bearings**  
**d 120 – 150 mm**

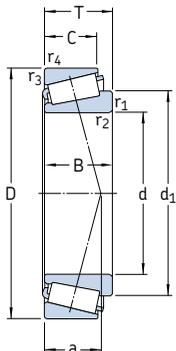


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355
d	D	T	dynamic	static		Refer-ence speed	Limiting speed			
mm			kN		kN	r/min		kg	–	–
<b>120</b>	165	29	165	305	32	2 600	3 800	1,80	<b>32924</b>	2CC
	170	27	157	250	26,5	2 600	3 800	1,70	<b>T4CB 120</b>	4CB
	180	38	242	415	44	2 400	3 400	3,25	<b>32024 X</b>	4DC
	180	48	292	540	56	2 600	3 400	4,20	<b>33024</b>	2DE
	215	43,5	341	465	49	2 200	3 000	6,15	<b>30224 J2</b>	4FB
	215	61,5	468	695	72	2 200	3 000	9,15	<b>32224 J2</b>	4FD
	260	59,5	561	710	73,5	2 000	2 600	14,0	<b>30324 J2</b>	2GB
	260	68	539	695	73,5	1 700	2 400	15,5	<b>31324 XJ2</b>	7GB
	260	90,5	792	1 120	110	1 800	2 600	21,5	<b>32324 J2</b>	2GD
	<b>130</b>	180	32	198	365	38	2 400	3 600	2,40	<b>32926</b>
200		45	314	540	55	2 200	3 000	4,95	<b>32026 X</b>	4EC
230		43,75	369	490	53	2 000	2 800	7,60	<b>30226 J2</b>	4FB
230		67,75	550	830	85	2 000	2 800	11,5	<b>32226 J2</b>	4FD
280		63,75	627	800	83	1 800	2 400	17,0	<b>30326 J2</b>	2GB
280		72	605	780	81,5	1 600	2 400	18,5	<b>31326 XJ2</b>	7GB
<b>140</b>	190	32	205	390	40	2 200	3 400	2,55	<b>32928</b>	2CC
	195	29	194	325	33,5	2 200	3 200	2,40	<b>T4CB 140</b>	4CB
	210	45	330	585	58,5	2 200	2 800	5,25	<b>32028 X</b>	4DC
	250	45,75	418	570	58,5	1 900	2 600	8,65	<b>30228 J2</b>	4FB
	250	71,75	644	1 000	100	1 900	2 600	14,5	<b>32228 J2</b>	4FD
	300	77	693	900	88	1 500	2 200	24,5	<b>31328 XJ2</b>	7GB
<b>150</b>	210	32	233	390	40	2 000	3 000	3,05	<b>T4DB 150</b>	4DB
	225	48	369	655	65,5	2 000	2 600	6,35	<b>32030 X</b>	4EC
	225	59	457	865	86,5	2 000	2 600	8,15	<b>33030</b>	2EE
	270	49	429	560	57	1 800	2 400	11,0	<b>30230</b>	4GB
	270	77	737	1 140	112	1 700	2 400	17,5	<b>32230 J2</b>	4GD
	320	82	781	1 020	100	1 400	2 000	29,5	<b>31330 XJ2</b>	7GB

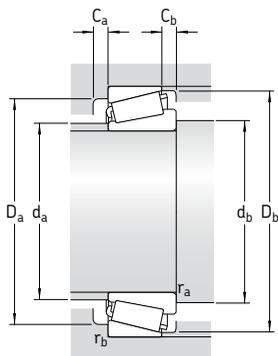


Dimensions							Abutment and fillet dimensions								Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm							mm								-				
<b>120</b>	141	29	23	1,5	1,5	29	130	127	154	157	160	5	6	1,5	1,5	0,35	1,7	0,9	
	142	25	19,5	3	3	34	130	132	157	157	164	4	7,5	2,5	2,5	0,48	1,25	0,7	
	150	38	29	2,5	2	39	132	131	161	170	173	7	9	2	2	0,46	1,3	0,7	
	149	48	38	2,5	2	36	132	131	160	170	171	6	10	2	2	0,3	2	1,1	
	161	40	34	3	2,5	43	141	132	187	203	201	6	9,5	2,5	2	0,43	1,4	0,8	
	163	58	50	3	2,5	51	137	132	181	203	204	7	11,5	2,5	2	0,43	1,4	0,8	
	178	55	46	4	3	47	153	135	221	245	237	7	13,5	3	2,5	0,35	1,7	0,9	
	190	62	42	4	3	78	145	135	203	245	244	9	26	3	2,5	0,83	0,72	0,4	
	181	86	69	4	3	60	148	135	213	245	239	9	21,5	3	2,5	0,35	1,7	0,9	
	<b>130</b>	153	32	25	2	1,5	31	141	140	167	172	173	6	7	2	1,5	0,33	1,8	1
		165	45	34	2,5	2	42	144	142	178	190	192	7	11	2	2	0,43	1,4	0,8
		173	40	34	4	3	45	152	146	203	216	217	7	9,5	3	2,5	0,43	1,4	0,8
176		64	54	4	3	56	146	146	193	216	219	7	13,5	3	2,5	0,43	1,4	0,8	
196		58	49	5	4	51	164	150	239	263	255	8	14,5	4	3	0,35	1,7	0,9	
204		66	44	5	4	84	157	150	218	263	261	8	28	4	3	0,83	0,72	0,4	
<b>140</b>	163	32	25	2	1,5	33	150	150	177	182	184	6	7	2	1,5	0,35	1,7	0,9	
	165	27	21	3	3	40	151	154	180	181	189	5	8	2,5	2,5	0,5	1,2	0,7	
	175	45	34	2,5	2	46	153	152	187	200	202	7	11	2	2	0,46	1,3	0,7	
	186	42	36	4	3	47	164	156	219	236	234	7	9,5	3	2,5	0,43	1,4	0,8	
	191	68	58	4	3	60	159	156	210	236	238	8	13,5	3	2,5	0,43	1,4	0,8	
	219	70	47	5	4	90	169	160	235	283	280	9	30	4	3	0,83	0,72	0,4	
<b>150</b>	177	30	23	3	3	41	162	162	194	196	203	5	9	2,5	2,5	0,46	1,3	0,7	
	187	48	36	3	2,5	49	164	164	200	213	216	8	12	2,5	2	0,46	1,3	0,7	
	188	59	46	3	2,5	48	164	162	200	213	217	8	13	2,5	2	0,37	1,6	0,9	
	200	45	38	4	3	50	175	166	234	256	250	9	11	3	2,5	0,43	1,4	0,8	
	205	73	60	4	3	64	171	166	226	256	254	8	17	3	2,5	0,43	1,4	0,8	
	234	75	50	5	4	96	181	170	251	303	300	9	32	4	3	0,83	0,72	0,4	

**Metric single row tapered roller bearings**  
**d 160 – 220 mm**

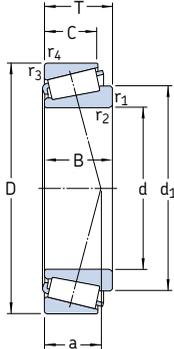


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355 (ABMA)
d	D	T	dynamic	static $C_0$		Refer- ence speed	Limiting speed			
mm			kN		kN	r/min	kg	-		
<b>160</b>	220	32	242	415	41,5	2 000	2 800	3,25	<b>T4DB 160</b>	4DB
	240	51	429	780	78	1 800	2 400	7,75	<b>32032 X</b>	4EC
	245	61	528	980	95	1 800	2 600	10,5	<b>T4EE 160/VB406</b>	4EE
	290	52	528	735	72	1 600	2 200	13,0	<b>30232 J2</b>	4GB
	290	84	880	1 400	132	1 600	2 200	25,5	<b>32232 J2</b>	4GD
	340	75	913	1 180	114	1 500	2 000	29,0	<b>30332 J2</b>	2GB
<b>170</b>	230	32	251	440	43	1 900	2 800	3,45	<b>T4DB 170</b>	4DB
	230	38	286	585	55	1 900	2 800	4,50	<b>32934</b>	3DC
	260	57	512	915	90	1 700	2 200	10,5	<b>32034 X</b>	4EC
	310	57	616	865	83	1 500	2 000	19,0	<b>30234 J2</b>	4GB
	310	91	1 010	1 630	150	1 500	2 000	28,5	<b>32234 J2</b>	4GD
	<b>180</b>	240	32	251	450	44	1 800	2 600	3,60	<b>T4DB 180</b>
250		45	352	735	68	1 700	2 600	6,65	<b>32936</b>	4DC
280		64	644	1 160	110	1 600	2 200	14,5	<b>32036 X</b>	3FD
320		57	583	815	80	1 500	2 000	20,0	<b>30236 J2</b>	4GB
320		91	1 010	1 630	150	1 400	1 900	29,5	<b>32236 J2</b>	4GD
<b>190</b>		260	45	358	765	72	1 600	2 400	7,00	<b>32938</b>
	260	46	380	800	75	1 600	2 400	6,70	<b>JM 738249/210</b>	(M 738200)
	290	64	660	1 200	112	1 500	2 000	15,0	<b>32038 X</b>	4FD
	340	60	721	1 000	95	1 400	1 800	24,0	<b>30238 J2</b>	4GB
	<b>200</b>	270	37	330	600	57	1 600	2 400	5,45	<b>T4DB 200</b>
280		51	473	950	88	1 500	2 200	9,50	<b>32940</b>	3EC
310		70	748	1 370	127	1 400	1 900	19,5	<b>32040 X</b>	4FD
360		64	792	1 120	106	1 300	1 700	25,0	<b>30240 J2</b>	4GB
360		104	1 210	2 000	180	1 300	1 700	42,5	<b>32240 J2</b>	3GD
<b>220</b>		285	41	396	830	75	1 500	2 200	6,45	<b>T2DC 220</b>
	300	51	484	1 000	91,5	1 400	2 000	10,0	<b>32944</b>	3EC
	340	76	897	1 660	150	1 300	1 700	25,5	<b>32044 X</b>	4FD
	400	72	990	1 400	129	1 200	1 600	40,0	<b>30244 J2</b>	-
	400	114	1 610	2 700	232	1 100	1 500	60,0	<b>32244 J2</b>	-

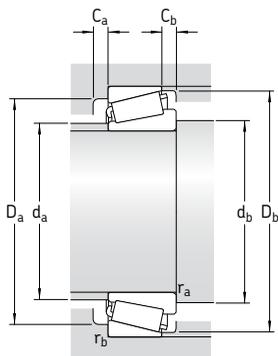


Dimensions							Abutment and fillet dimensions							Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm							mm							-				
<b>160</b>	187	30	23	3	3	44	172	174	204	206	213	5	9	2,5	2,5	0,48	1,25	0,7
	200	51	38	3	2,5	52	175	174	213	228	231	8	13	2,5	2	0,46	1,3	0,7
	203	59	50	3	2	57	174	174	229	233	236	9	11	2,5	2	0,44	1,35	0,8
	214	48	40	4	3	54	189	176	252	275	269	8	12	3	2,5	0,43	1,4	0,8
	221	80	67	4	3	70	183	176	242	275	274	10	17	3	2,5	0,43	1,4	0,8
	233	68	58	5	4	61	201	180	290	323	310	9	17	4	3	0,35	1,7	0,9
<b>170</b>	197	30	23	3	3	44	182	184	215	216	223	6	9	2,5	2,5	0,46	1,3	0,7
	200	38	30	2,5	2	42	183	182	213	220	222	7	8	2	2	0,37	1,6	0,9
	214	57	43	3	2,5	56	188	184	230	246	249	10	14	2,5	2	0,44	1,35	0,8
	230	52	43	5	4	58	203	190	268	293	288	8	14	4	3	0,43	1,4	0,8
	237	86	71	5	4	75	196	190	259	293	294	10	20	4	3	0,43	1,4	0,8
<b>180</b>	207	30	23	3	3	48	191	194	224	226	233	6	9	2,5	2,5	0,48	1,25	0,7
	216	45	34	2,5	2	53	194	192	225	240	241	8	11	2	2	0,48	1,25	0,7
	229	64	48	3	2,5	59	199	194	247	266	267	10	16	2,5	2	0,43	1,4	0,8
	239	52	43	5	4	61	211	200	278	303	297	9	14	4	3	0,44	1,35	0,8
	247	86	71	5	4	78	204	200	267	303	303	10	20	4	3	0,44	1,35	0,8
<b>190</b>	227	45	34	2,5	2	55	204	202	235	248	251	8	11	2	2	0,48	1,25	0,7
	227	44	36,5	3	2,5	55	205	204	235	256	252	8	9,5	2,5	2	0,48	1,25	0,7
	240	64	48	3	2,5	62	210	204	257	276	279	10	16	2,5	2	0,44	1,35	0,8
	254	55	46	5	4	63	224	210	298	323	318	9	14	4	3	0,43	1,4	0,8
<b>200</b>	232	34	27	3	3	53	214	214	251	255	262	6	10	2,5	2,5	0,48	1,25	0,7
	239	51	39	3	2,5	53	217	214	257	266	271	9	12	2,5	2	0,4	1,5	0,8
	254	70	53	3	2,5	66	222	214	273	296	297	11	17	2,5	2	0,43	1,4	0,8
	268	58	48	5	4	68	237	220	315	343	336	9	16	4	3	0,43	1,4	0,8
	274	98	82	5	4	83	231	220	302	343	340	11	22	4	3	0,4	1,5	0,8
<b>220</b>	249	40	33	4	3	45	233	236	270	270	277	7	8	3	2,5	0,31	1,9	1,1
	259	51	39	3	2,5	58	234	234	275	286	290	9	12	2,5	2	0,43	1,4	0,8
	279	76	57	4	3	72	244	236	300	325	326	12	19	3	2,5	0,43	1,4	0,8
	294	65	54	5	4	74	259	242	348	383	371	10	18	4	3	0,43	1,4	0,8
	306	108	90	5	4	95	253	242	334	383	379	13	24	4	3	0,43	1,4	0,8

**Metric single row tapered roller bearings**  
**d 240 – 360 mm**



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Dimension Series to ISO 355
d	D	T	dynamic	static		Reference speed	Limiting speed			
mm			kN		kN	r/min		kg	–	–
<b>240</b>	320	42	429	815	73,5	1 300	1 900	8,45	<b>T4EB 240/VE174</b>	4EB
	320	51	512	1 080	96,5	1 300	1 900	11,0	<b>32948</b>	4EC
	320	57	616	1 320	120	1 300	1 900	12,5	<b>T2EE 240/VB406</b>	2EE
	360	76	935	1 800	160	1 200	1 600	27,5	<b>32048 X</b>	4FD
	440	127	1 790	3 350	275	1 000	1 400	83,5	<b>32248 J3</b>	–
<b>260</b>	400	87	1 170	2 200	190	1 100	1 400	40,0	<b>32052 X</b>	4FC
	480	137	2 200	3 650	300	900	1 200	105	<b>32252 J2/HA1</b>	–
	540	113	2 120	3 050	250	850	1 200	110	<b>30352 J2</b>	–
<b>280</b>	380	63,5	765	1 660	143	1 100	1 600	20,0	<b>32956/C02</b>	4EC
	420	87	1 210	2 360	200	1 000	1 300	40,5	<b>32056 X</b>	4FC
<b>300</b>	420	76	1 050	2 240	190	950	1 400	32,0	<b>32960</b>	3FD
	460	100	1 540	3 000	250	900	1 200	58,0	<b>32060 X</b>	4GD
	540	149	2 750	4 750	365	800	1 100	140	<b>32260 J2/HA1</b>	–
<b>320</b>	440	76	1 080	2 360	196	900	1 300	33,5	<b>32964</b>	3FD
	480	100	1 540	3 100	255	850	1 100	64,0	<b>32064 X</b>	4GD
<b>340</b>	460	76	1 080	2 400	200	850	1 300	35,0	<b>32968</b>	4FD
<b>360</b>	480	76	1 120	2 550	204	800	1 200	37,0	<b>32972</b>	4FD

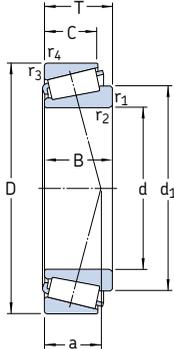


Dimensions							Abutment and fillet dimensions										Calculation factors		
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm							mm										-		
<b>240</b>	276	39	30	3	3	60	256	254	299	305	310	7	12	2,5	2,5	0,46	1,3	0,7	
	279	51	39	3	2,5	64	255	254	294	306	311	9	12	2,5	2	0,46	1,3	0,7	
	277	56	46	3	2	58	254	254	296	308	311	9	11	2,5	2	0,35	1,7	0,9	
	299	76	57	4	3	78	262	256	318	345	346	12	19	3	2,5	0,46	1,3	0,7	
	346	120	100	5	4	105	290	262	365	420	415	13	27	4	3	0,43	1,4	0,8	
<b>260</b>	328	87	65	5	4	84	287	282	352	383	383	13	22	4	3	0,43	1,4	0,8	
	366	130	106	6	5	112	303	286	401	458	454	16	31	5	4	0,43	1,4	0,8	
	376	102	85	6	6	97	325	286	461	514	493	15	28	5	5	0,35	1,7	0,9	
<b>280</b>	329	63,5	48	3	2,5	74	298	295	348	366	368	11	15,5	2,5	2	0,43	1,4	0,8	
	348	87	65	5	4	89	305	302	370	400	402	14	22	4	3	0,46	1,3	0,7	
<b>300</b>	358	76	57	4	3	79	324	317	383	404	405	12	19	3	2,5	0,4	1,5	0,8	
	377	100	74	5	4	97	330	322	404	440	439	15	26	4	3	0,43	1,4	0,8	
	413	140	115	6	5	126	343	326	453	518	511	17	34	5	4	0,43	1,4	0,8	
<b>320</b>	379	76	57	4	3	84	343	337	402	424	426	13	19	3	2,5	0,43	1,4	0,8	
	399	100	74	5	4	103	350	342	424	460	461	15	26	4	3	0,46	1,3	0,7	
<b>340</b>	399	76	57	4	3	90	361	357	421	444	446	14	19	3	2,5	0,44	1,35	0,8	
<b>360</b>	419	76	57	4	3	96	380	377	439	464	466	14	19	3	2,5	0,46	1,3	0,7	

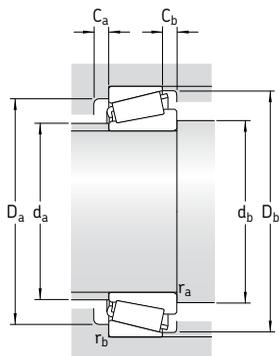
# Inch single row tapered roller bearings

d **14,989 – 22,225** mm

0,5906 – 0,8750 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min	kg	-	-	
<b>14,989</b> 0,5906	34,988 1,3775	10,998 0,4326	13,4	13,2	1,29	16 000	24 000	0,051	<b>A 4059/A 4138</b>	A 4000
<b>15,875</b> 0,6250	41,275	14,288	22	21,2	2,16	14 000	20 000	0,090	<b>03062/03162/Q</b>	03000
	1,6250	0,5625	17,6	17,6	1,83	12 000	17 000	0,10	<b>11590/11520/Q</b>	11500
	42,862	14,288								
1,6875	0,5625									
<b>17,462</b> 0,6875	39,878	13,843	21,2	20,8	2,12	13 000	20 000	0,081	<b>LM 11749/710/Q</b>	LM 11700
	1,5700	0,5450	21,2	20,8	2,12	13 000	20 000	0,081	<b>LM 11749/710/QVCO27</b>	LM 11700
	39,878	13,843								
1,5700	0,5450									
<b>19,050</b> 0,7500	45,237	15,494	27,5	27,5	2,9	12 000	18 000	0,12	<b>LM 11949/910/Q</b>	LM 11900
	1,7810	0,6100	39,1	40	4,3	11 000	17 000	0,17	<b>09067/09195/Q</b>	09000
	49,225	18,034								
	1,9380	0,7100	39,1	40	4,3	11 000	17 000	0,18	<b>09074/09195/QVQ494</b>	09000
	49,225	19,845								
1,9380	0,7813									
<b>21,430</b> 0,8437	45,237	15,494	27,5	31	3,2	11 000	17 000	0,12	<b>LM 12748/710</b>	LM 12700
	1,7810	0,6100	36,9	38	4,15	11 000	16 000	0,17	<b>M 12649/610/Q</b>	M 12600
	50,005	17,526								
1,9687	0,6900									
<b>21,986</b> 0,8656	45,237	15,494	27,5	31	3,2	11 000	17 000	0,12	<b>LM 12749/710/Q</b>	LM 12700
	1,7810	0,6100	27,5	31	3,2	11 000	17 000	0,12	<b>LM 12749/711/Q</b>	LM 12700
	45,974	15,494								
1,8100	0,6100									
<b>22,225</b> 0,8750	52,388 2,0625	19,368 0,7625	41,8	44	4,8	10 000	15 000	0,20	<b>1380/1328/Q</b>	1300

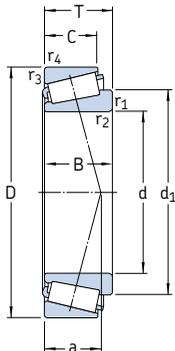


Dimensions								Abutment and fillet dimensions								Calculation factors		
d	d <sub>1</sub>	B	C	r <sub>1,2</sub>	r <sub>3,4</sub>	a	d <sub>a</sub>	d <sub>b</sub>	D <sub>a</sub>	D <sub>a</sub>	D <sub>b</sub>	C <sub>a</sub>	C <sub>b</sub>	r <sub>a</sub>	r <sub>b</sub>	e	Y	Y <sub>0</sub>
mm/in							mm								-			
<b>14,989</b> 0,5906	25,3	10,988 0,4326	8,7300 0,3437	0,8 0,03	1,3 0,05	8	20	20	28	29	31	2	2	0,8	1,3	0,46	1,3	0,7
<b>15,875</b> 0,6250	28,1	14,681 0,5780	11,112 0,4375	1,3 0,05	2 0,08	9	22	22	33,5	33,5	37	2	3	1,3	2	0,31	1,9	1,1
	31,1	14,288 0,5625	9,5250 0,3750	1,5 0,06	1,5 0,06	13	23	23	32	36	38	2	4,5	1,5	1,5	0,72	0,84	0,45
<b>17,462</b> 0,6875	28,9	14,605 0,5750	10,668 0,4200	1,3 0,05	1,3 0,05	9	23	23,5	33,5	33,5	36	2	3	1,3	1,3	0,28	2,1	1,1
	28,9	14,605 0,5750	10,668 0,4200	1,3 0,05	1,3 0,05	9	23	23,5	33,5	33,5	36	2	3	1,3	1,3	0,28	2,1	1,1
<b>19,050</b> 0,7500	31,4	16,637 0,6550	12,065 0,4750	1,3 0,05	1,3 0,05	10	25	25	38	38,5	41	3	3	1,3	1,3	0,3	2	1,1
	32,3	19,050 0,7500	14,288 0,5625	1,3 0,05	1,3 0,05	10	26	25	41	42,5	44	4	3,5	1,3	1,3	0,27	2,2	1,3
	32,3	21,539 0,8480	14,288 0,5625	1,5 0,06	1,3 0,05	10	26	26	41	42,5	44	5	5,5	1,5	1,3	0,27	2,2	1,3
<b>21,430</b> 0,8437	34,3	16,637 0,6550	12,065 0,4750	1,3 0,05	1,3 0,05	10	28	27,5	39	40	42	3	3	1,3	1,3	0,31	1,9	1,1
	34,3	18,288 0,7200	13,970 0,5500	1,3 0,05	1,3 0,05	11	28	27,5	43	43,5	46	3	3,5	1,3	1,3	0,28	2,1	1,1
<b>21,986</b> 0,8656	34,3	16,637 0,6550	12,065 0,4750	1,3 0,05	1,3 0,05	10	28	28	39	40	42	3	3	1,3	1,3	0,31	1,9	1,1
	34,3	16,637 0,6550	12,065 0,4750	1,3 0,05	1,3 0,05	10	28	28	39	40	42	3	3	1,3	1,3	0,31	1,9	1,1
<b>22,225</b> 0,8750	36	20,168 0,7940	14,288 0,5625	1,5 0,06	1,5 0,06	11	29	29,5	45	45	48	4	5	1,5	1,5	0,30	2	1,1

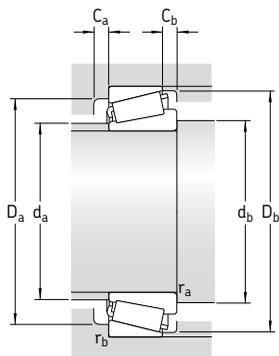
# Inch single row tapered roller bearings

d **25,400 – 30,162** mm

1,000 – 1,1875 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	-	-
<b>25,400</b> 1,0000	50,292	14,224	26	30	3	10 000	15 000	0,13	<b>L 44643/610/Q</b>	L 44600
	1,9800	0,5600								
	50,800	15,011	28,1	30,5	3,15	10 000	15 000	0,13	<b>07100 S/07210 X/Q</b>	07000
	2,0000	0,5910								
	57,150	17,462	40,2	45,5	4,9	9 000	13 000	0,23	<b>15578/15520</b>	15500
<b>26,162</b> 1,0300	2,2500	0,6875								
	57,150	19,431	39,6	45	5	9 000	13 000	0,23	<b>M 84548/2/510/2/QVQ506</b>	M 84500
	2,2500	0,7650								
	62,000	19,050	48,4	57	6,2	8 000	12 000	0,31	<b>15101/15245</b>	15000
	2,4409	0,7500								
<b>26,988</b> 1,0625	61,912	19,050	48,4	57	6,2	8 000	12 000	0,29	<b>15103 S/15243/Q</b>	15000
	2,4375	0,7500								
	62,000	19,050	48,4	57	6,2	8 000	12 000	0,29	<b>15103 S/15245/Q</b>	15000
<b>27,500</b> 1,0826	2,4409	0,7500								
	50,292	14,224	26	30	3	10 000	15 000	0,11	<b>L 44649/610/Q</b>	L 44600
<b>28,575</b> 1,1250	1,9800	0,5600								
	57,150	19,845	45,7	51	5,6	9 000	13 000	0,22	<b>1982 F/1924 A/QVQ519</b>	1900
	2,2500	0,7813								
	57,150	19,845	45,7	51	5,6	9 000	13 000	0,22	<b>1985/1922/Q</b>	1900
	2,2500	0,7813								
<b>29,000</b> 1,1417	64,292	21,433	49,5	61	6,8	8 000	11 000	0,35	<b>M 86647/610/QL7C</b>	M 86600
	2,5312	0,8438								
	73,025	22,225	99	140	15	7 000	10 000	1,05	<b>02872/02820/Q</b>	02800
	2,8750	0,8750								
	50,292	14,224	26	32,5	3,35	10 000	14 000	0,11	<b>L 45449/410/Q</b>	L 45400
<b>30,162</b> 1,1875	1,9800	0,5600								
	64,292	21,433	49,5	61	6,8	8 000	11 000	0,33	<b>M 86649/2/610/2/QVQ506</b>	M 86600
	2,5312	0,8435								
	68,262	22,225	55	69,5	7,8	7 500	11 000	0,41	<b>M 88043/010/2/QL7C</b>	M 88000
	2,6875	0,8750								

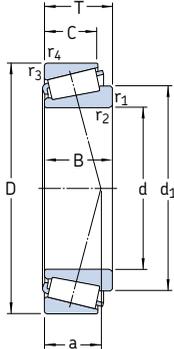


Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub>	r <sub>3,4</sub>	a	d <sub>a</sub>	d <sub>b</sub>	D <sub>a</sub>	D <sub>a</sub>	D <sub>b</sub>	C <sub>a</sub>	C <sub>b</sub>	r <sub>a</sub>	r <sub>b</sub>	e	Y	Y <sub>0</sub>
mm/in							mm								-			
<b>25,400</b> 1,0000	39,1	14,732	10,668	1,3	1,3	11	33	31,5	43,5	43,5	47	2	3,5	1,3	1,3	0,37	1,6	0,9
		0,5800	0,4200	0,05	0,05													
	37,3	14,260	12,700	1,5	1,5	12	31	32,5	41	43,5	48	2	2	1,5	1,5	0,4	1,5	0,8
		0,5614	0,5000	0,06	0,06													
	42,3	17,462	13,495	1,3	1,5	12	35	31,5	49	50	53	3	3,5	1,3	1,5	0,35	1,7	0,9
42,5	19,431	14,732	15,875	1,5	1,5	16	33	32,5	45	50	53	3	4,5	1,5	1,5	0,54	1,1	0,6
		0,7650	0,5800	0,06	0,06													
	45,8	20,638	14,288	0,8	1,3	13	38	30,5	54	55	58	4	4,5	0,8	1,3	0,35	1,7	0,9
		0,8125	0,5625	0,03	0,05													
		0,8125	0,5625	0,03	0,05													
<b>26,162</b> 1,0300	45,8	20,638	14,288	0,8	2	13	38	31	54	55	54	4	4,5	0,8	2	0,35	1,7	0,9
		0,8125	0,5625	0,03	0,08													
	45,8	20,638	14,288	0,8	1,3	13	38	31	54	55	58	4	4,5	0,8	1,3	0,35	1,7	0,9
		0,8125	0,5625	0,03	0,05													
<b>26,988</b> 1,0625	38,2	14,732	10,668	3,5	1,3	11	33	38	43,5	44	47	2	3,5	3	1,3	0,37	1,6	0,9
		0,5800	0,4200	0,14	0,05													
<b>27,500</b> 1,0826	42	20,165	15,875	2,5	0,8	14	35	36,5	49	52	54	3	3,5	2,5	0,8	0,33	1,8	1
		0,7939	0,6250	0,1	0,03													
<b>28,575</b> 1,1250	42	19,355	15,875	0,8	1,5	14	35	33,5	49	49,5	54	3	3,5	0,8	1,5	0,33	1,8	1
		0,7620	0,6250	0,03	0,06													
	42	19,355	15,875	3,5	1,5	14	35	40	49	49,5	54	3	3,5	3	1,5	0,33	1,8	1
		0,7620	0,6250	0,14	0,06													
	48,8	21,433	16,670	1,5	1,5	18	38	36	51	56,5	60	3	4,5	1,5	1,5	0,54	1,1	0,6
54,2	22,225	17,462	0,8	3,3	26	44	33,5	60	61,5	67	3	4,5	0,8	3	0,46	1,3	0,7	
		0,8750	0,6875	0,03	0,13													
<b>29,000</b> 1,1417	40,8	14,732	10,668	3,5	1,3	11	34	40	44	44	48	3	3,5	3	1,3	0,37	1,6	0,9
		0,5800	0,4200	0,14	0,05													
<b>30,162</b> 1,1875	48,8	21,433	16,670	1,5	1,5	18	37,5	3,5	51	56,5	60	3	4,5	1,5	1,5	0,54	1,1	0,6
		0,8438	0,6563	0,06	0,06													
	52,3	22,225	17,462	2,3	1,5	19	41	39	54	60,5	64	3	4,5	2	1,5	0,54	1,1	0,6
		0,8750	0,6875	0,09	0,06													

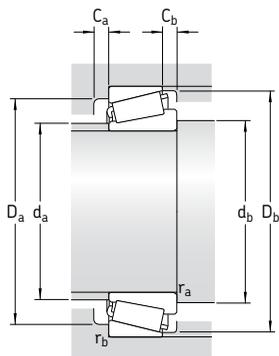
# Inch single row tapered roller bearings

d **31,750 – 34,988** mm

1,2500 – 1,3775 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	-	-
<b>31,750</b> 1,2500	59,131	15,875	34,7	41,5	4,4	8 500	12 000	0,18	<b>LM 67048/010/Q</b>	LM 67000
	2,3280	0,6250								
	61,912	19,050	48,4	57	6,2	8 000	12 000	0,24	<b>15123/15243/Q</b>	15000
	2,4375	0,7500								
	62,000	19,050	48,4	57	6,2	8 000	12 000	0,24	<b>15123/15245/Q</b>	15000
	2,4409	0,7500								
	73,025	29,370	70,4	95	10,4	6 700	10 000	0,62	<b>HM 88542/510/Q</b>	HM 88500
<b>33,338</b> 1,3125	2,8750	1,1563								
	73,025	29,370	70,4	95	10,4	6 700	10 000	0,62	<b>HM 88542/2/510/2/QCL7C</b>	HM 88500
	2,8750	1,1563								
	68,262	22,225	55	69,5	7,8	7 500	11 000	0,38	<b>M 88048/2/010/2/QCL7C</b>	M 88000
	2,6875	0,8750								
	69,012	19,845	53,9	67	7,35	7 500	11 000	0,35	<b>14131/14276/Q</b>	14000
	2,7170	0,7813								
<b>34,925</b> 1,3750	65,088	18,034	47,3	57	6,2	7 500	11 000	0,25	<b>LM 48548/510/Q</b>	LM 48500
	2,5625	0,7100								
	65,088	18,034	47,3	57	6,2	7 500	11 000	0,25	<b>LM 48548 A/510/Q</b>	LM 48500
	2,5625	0,7100								
	69,012	19,845	53,9	67	7,35	7 500	11 000	0,34	<b>14137 A/14276/Q</b>	14000
	2,7170	0,7813								
	72,233	25,400	67,1	90	10	6 700	10 000	0,50	<b>HM 88649/2/610/2/QCL7C</b>	HM 88600
	2,8438	1,0000								
	73,025	23,812	72,1	88	9,8	7 000	10 000	0,47	<b>25877/2/25821/2/Q</b>	25800
	2,8750	0,9375								
	73,025	26,988	76,5	93	10,4	7 000	10 000	0,52	<b>23690/23620/QCL7C</b>	23600
	2,8750	1,0625								
	76,200	29,370	85,8	106	12	6 700	10 000	0,63	<b>31594/31520/Q</b>	31500
	3,0000	1,1563								
76,200	29,370	78,1	106	11,8	6 300	9 500	0,66	<b>HM 89446/2/410/2/QCL7C</b>	HM 89400	
3,0000	1,1563									
<b>34,988</b> 1,3775	59,131	15,875	33	44	4,5	8 000	12 000	0,17	<b>L 68149/110/Q</b>	L 68100
	2,3280	0,6250								
	59,974	15,875	33	44	4,5	8 000	12 000	0,17	<b>L 68149/111/Q</b>	L 68100
	2,3612	0,6250								

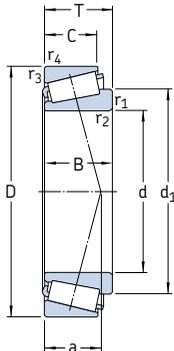


Dimensions							Abutment and fillet dimensions								Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm/in							mm								-				
<b>31,750</b> 1,2500	44,9	16,764	11,811	3,6	1,3	13	38	42	51	53	55	3	4	3	1,3	0,4	1,5	0,8	
		0,6600	0,4650	0,14	0,05														
	45,8	19,050	14,288	4	2	13	38	44	54	55	58	4	3,5	3	2	0,35	1,7	0,9	
		0,7500	0,5625	0,16	0,08														
	45,8	19,050	14,288	4	1,3	13	38	44	54	55	58	4	3,5	3	1,3	0,35	1,7	0,9	
		0,7500	0,5625	0,16	0,05														
<b>33,338</b> 1,3125	52,3	22,225	17,462	0,8	1,5	19	41	38,5	54	60,5	64	3	4,5	0,8	1,5	0,54	1,1	0,6	
		0,8750	0,6875	0,03	0,06														
	50,7	19,583	15,875	0,8	1,3	15	43	38,5	47	61,5	63	3	3,5	0,8	1,3	0,37	1,6	0,9	
		0,7710	0,6250	0,03	0,05														
	<b>34,925</b> 1,3750	50	18,288	13,970	3,5	1,3	14	42	46	57	58,5	61	3	4	3	1,3	0,37	1,6	0,9
			0,7200	0,5500	0,14	0,05													
50		18,288	13,970	0,8	1,3	14	42	40	57	58,5	61	3	4	0,8	1,3	0,37	1,6	0,9	
		0,7200	0,5500	0,03	0,05														
50,7		19,583	15,875	1,5	1,3	15	43	42	47	61,5	63	3	3,5	1,5	1,3	0,37	1,6	0,9	
		0,7710	0,6250	0,06	0,05														
<b>34,988</b> 1,3775	55,9	25,400	19,842	2,3	2,3	20	42	44	57	63	68	5	5,5	2	2	0,54	1,1	0,6	
		1,0000	0,7812	0,09	0,09														
	52,5	24,608	19,050	1,5	0,8	15	44	42	62	66,5	67	5	4,5	1,5	0,8	0,3	2	1,1	
		0,9688	0,7500	0,06	0,03														
	52,3	26,975	22,225	3,5	1,5	19	42	46	59	65	67	3	4,5	3	1,5	0,37	1,6	0,9	
		1,0625	0,8750	0,14	0,6														
	55,6	28,575	23,812	1,5	3,3	20	44	42	62	64,5	71	4	5,5	1,5	3	0,4	1,5	0,8	
		1,1250	0,9375	0,06	0,13														
	59,3	28,575	23,020	3,5	3,3	23	44	46	58	65	72	3	6	3	3	0,54	1,1	0,6	
		1,1250	0,9063	0,14	0,13														
	48,4	16,764	11,938	3,5	1,3	13	41	46	52	53,5	56	3	3,5	3	1,3	0,43	1,4	0,8	
		0,6600	0,4700	0,14	0,05														
48,4	16,764	11,938	3,5	1,3	13	41	46	52	53,5	56	3	3,5	3	1,3	0,43	1,4	0,8		
	0,6600	0,4700	0,14	0,05															

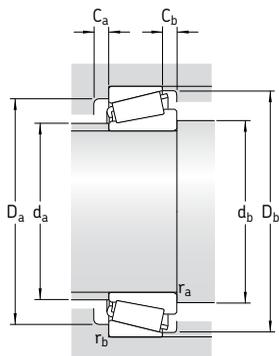
# Inch single row tapered roller bearings

d **36,487 – 40,988** mm

1,4365 – 1,6137 in



Principal dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static C <sub>0</sub>	P <sub>u</sub>	Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>36,487</b> 1,4365	73,025 2,8750	23,812 0,9375	72,1	88	9,8	7 000	10 000	0,45	<b>25880/25820/Q</b>	25800
<b>36,512</b> 1,4375	76,200 3,0000	29,370 1,1563	78,1	106	11,8	6 300	9 500	0,64	<b>HM 89449/2/410/2/QCL7C</b>	HM 89400
<b>38,100</b> 1,5000	65,088 2,5625	18,034 0,7100	42,9	57	6,1	7 500	11 000	0,25	<b>LM 29748/710/Q</b>	LM 29700
	65,088 2,5625	18,034 0,7100	42,9	57	6,1	8 000	11 000	0,25	<b>LM 29749/710/Q</b>	LM 29700
	65,088 2,5625	19,812 0,7800	42,9	57	6,1	7 500	11 000	0,25	<b>LM 29749/711/Q</b>	LM 29700
	65,088 2,5625	19,812 0,7800	42,9	57	6,1	7 500	11 000	0,25	<b>LM 29749/711/QCL7CVA607</b>	LM 29700
	72,238 2,8440	20,638 0,8125	49,5	60	6,55	7 000	10 000	0,39	<b>16150/16284/Q</b>	16000
	72,238 2,8440	23,812 0,9375	49,5	60	6,55	7 000	10 000	0,39	<b>16150/16283/Q</b>	16000
	76,200 3,0000	23,812 0,9375	74,8	93	10,4	6 700	10 000	0,50	<b>2788/2720/QCL7C</b>	2700
	79,375 3,1250	29,370 1,1563	91,3	110	12,5	6 700	9 500	0,67	<b>3490/3420/QCL7CVQ492</b>	3400
	82,550 3,2500	29,370 1,1563	85,8	118	13,4	6 000	8 500	0,78	<b>HM 801346/310/Q</b>	HM 801300
	82,550 3,2500	29,370 1,1563	85,8	118	13,4	6 000	8 500	0,77	<b>HM 801346 X/2/310/QVQ523</b>	HM 801300
	88,500 3,4843	26,988 1,0625	101	114	13,2	6 300	9 000	0,83	<b>418/414/Q</b>	415
<b>39,688</b> 1,5625	73,025 2,8750	25,654 1,0100	66	86,5	9,3	6 700	10 000	0,45	<b>M 201047/011/Q</b>	M 201000
<b>40,988</b> 1,6137	67,975 2,6762	17,500 0,6890	44	58,5	6,3	7 000	10 000	0,24	<b>LM 300849/811/Q</b>	LM 300800

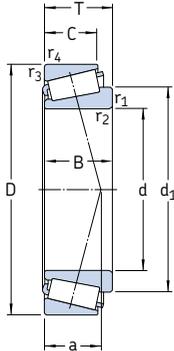


Dimensions								Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub>	r <sub>3,4</sub>	a		d <sub>a</sub>	d <sub>b</sub>	D <sub>a</sub>	D <sub>a</sub>	D <sub>b</sub>	C <sub>a</sub>	C <sub>b</sub>	r <sub>a</sub>	r <sub>b</sub>	e	Y	Y <sub>0</sub>
	~			min	min			max	min	min	max	min	min	min	max	max			
mm/in							mm										-		
<b>36,487</b> 1,4365	52,5	24,608 0,9688	19,050 0,7500	1,5 0,06	2,3 0,09	15		44	43,5	62	66,5	67	5	4,5	1,5	2	0,3	2	1,1
<b>36,512</b> 1,4375	59,3	28,575 1,1250	23,020 0,9063	3,5 0,14	3,3 0,13	23		44	47,5	58	65	72	3	6	3	3	0,54	1,1	0,6
<b>38,100</b> 1,5000	51,8	18,288 0,7200	13,970 0,5500	2,3 0,09	1,3 0,05	15		44	47	58	58	61	2	4	2	1,3	0,33	1,8	1
	51,8	18,288 0,7200	13,970 0,5500	2,3 0,09	1,3 0,05	15		44	47	58	58	61	2	4	2	1,3	0,33	1,8	1
	51,8	18,288 0,7200	15,748 0,6200	2,3 0,09	1,3 0,05	15		44	47	57	58,5	61	2	4	2	1,3	0,33	1,8	1
	51,8	18,288 0,7200	15,748 0,6200	2,3 0,09	1,3 0,05	15		44	47	57	58,5	61	2	4	2	1,3	0,33	1,8	1
	53,8	20,638 0,8125	15,875 0,5625	3,5 0,14	1,3 0,05	19		45	49,5	58	65	66	3	4,5	3	1,3	0,4	1,5	0,8
	53,8	20,638 0,8125	19,050 0,7500	3,5 0,14	2,3 0,09	19		45	49,5	58	63	66	3	4,5	3	2	0,4	1,5	0,8
	54,8	25,654 1,0100	19,050 0,7500	3,5 0,14	3,3 0,13	16		46	49,5	64	65	69	5	4,5	3	3	0,3	2	1,1
	57,3	29,771 1,1721	23,812 0,9375	3,5 0,14	3,3 0,13	20		46	49,5	65	68	73	4	5,5	3	3	0,37	1,6	0,9
	64,1	28,575 1,1250	23,020 0,9063	0,8 0,03	3,3 0,13	24		49	43	64	71	78	4	6	0,8	3	0,54	1,1	0,6
	64,1	28,575 1,1250	23,020 0,9063	2,3 0,09	3,3 0,13	24		49	47	64	71	78	4	6	2	3	0,54	1,1	0,6
	58,8	29,083 1,1450	22,225 0,8750	3,5 0,14	1,5 0,06	17		49	49,5	73	80,5	78	5	4,5	3	1,5	0,26	2,3	1,3
<b>39,688</b> 1,5625	55,7	22,098 0,8700	21,336 0,8400	0,8 0,03	2,3 0,09	19		47	45	62	63,5	69	4	4,5	0,8	2	0,33	1,8	1
<b>40,988</b> 1,6137	54,3	18,000 0,7087	13,500 0,5313	3,6 0,14	1,5 0,06	14		48	48,5	60	60	64	3	4	3,5	1,5	0,35	1,7	0,9

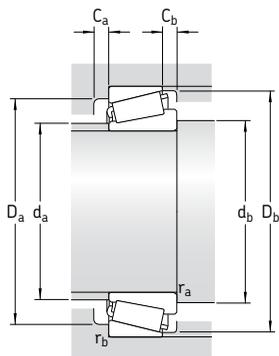
# Inch single row tapered roller bearings

d **41,275 – 42,875** mm

1,6250 – 1,6880 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>41,275</b> 1,6250	73,025	16,667	46,8	56	6,2	6 700	10 000	0,27	<b>18590/18520/Q</b>	18500
	2,8750	0,6562								
	73,431	19,558	55	68	7,65	6 700	10 000	0,33	<b>LM 501349/310/Q</b>	LM 501300
	2,8910	0,7700								
	73,431	19,558	55	68	7,65	6 700	10 000	0,33	<b>LM 501349/2/310/2/QCL7C</b>	LM 501300
	2,8910	0,7700								
	73,431	21,430	55	68	7,65	6 700	10 000	0,35	<b>LM 501349/314/Q</b>	LM 501300
	2,8910	0,8437								
	76,200	18,009	45,7	56	6,1	6 700	9 500	0,34	<b>11162/11300/Q</b>	11000
	3,0000	0,7090								
	76,200	18,009	45,7	56	6,1	6 700	9 500	0,34	<b>11163/11300/Q</b>	11000
	3,0000	0,7090								
	76,200	22,225	68,2	86,5	9,65	6 700	9 500	0,43	<b>24780/24720/Q</b>	24700
	3,0000	0,8750								
	82,550	26,543	73,7	91,5	10,6	6 000	9 000	0,62	<b>M 802048/011/QCL7C</b>	M 802000
3,2500	1,0450									
87,312	30,162	102	132	15	6 000	8 500	0,85	<b>3585/3525/Q</b>	3500	
3,4375	1,1875									
88,900	30,162	95,2	127	14,6	5 600	8 000	0,90	<b>HM 803146/110/Q</b>	HM 803100	
3,5000	1,1875									
88,900	30,162	95,2	127	14,6	5 600	8 000	0,90	<b>HM 803146/2/110/2/QCL7C</b>	HM 803100	
3,5000	1,1875									
101,600	34,925	151	190	22,8	5 000	7 500	1,45	<b>526/522/Q</b>	525	
4,0000	1,3750									
<b>42,875</b> 1,6880	82,931	23,812	80,9	106	12	6 000	9 000	0,57	<b>25577/2/25520/2/Q</b>	25500
	3,2650	0,9375								
	83,058	23,876	80,9	106	12	6 000	9 000	0,57	<b>25577/2/25523/2/Q</b>	25500
	3,2700	0,9400								

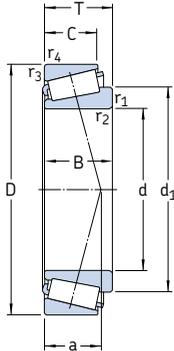


Dimensions							Abutment and fillet dimensions								Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm/in							mm								-				
<b>41,275</b> 1,6250	56,1	17,462	12,700	3,5	1,5	14	49	52,5	65	65	68	3	3,5	3	1,5	0,35	1,7	0,9	
		0,6875	0,5000	0,14	0,06														
	56,6	19,812	14,732	3,5	0,8	16	48	52,5	64	68	69	4	4,5	3	0,8	0,4	1,5	0,8	
		0,7800	0,5800	0,14	0,03														
	56,6	19,812	14,732	3,5	0,8	16	48	52,5	64	68	69	4	4,5	3	0,8	0,4	1,5	0,8	
		0,7800	0,5800	0,14	0,03														
	56,6	19,812	16,604	3,5	0,8	18	48	52,5	63	68	69	3	4,5	3	0,8	0,4	1,5	0,8	
		0,7800	0,6537	0,14	0,03														
	58,1	17,384	14,288	1,5	1,5	17	50	49	65	68	71	3	4,5	1,5	1,5	0,48	1,25	0,7	
		0,6844	0,5625	0,06	0,06														
58,1	17,384	14,288	0,8	1,5	17	50	46	65	68	71	3	4,5	0,8	1,5	0,48	1,25	0,7		
	0,6844	0,5625	0,03	0,06															
57,7	23,020	17,462	3,5	0,8	17	48	52,5	64	64	71	3	3,5	3	0,8	0,4	1,5	0,8		
	0,9063	0,6875	0,14	0,03															
62,5	25,654	20,193	3,5	3,3	22	50	52,5	66	71	78	4	6	3	3	0,54	1,1	0,6		
	1,0100	0,7950	0,14	0,13															
63,1	30,886	23,812	1,5	3,3	20	53	49	73	76	80	4	6	1,5	3	0,31	1,9	1,1		
	1,2160	0,9375	0,06	0,13															
68,9	29,370	23,020	3,5	3,3	26	53	52,5	70	78	84	4	7	3	3	0,54	1,1	0,6		
	1,1563	0,9063	0,14	0,13															
68,9	29,370	23,020	3,5	3,3	26	53	52,5	70	78	84	4	7	3	3	0,54	1,1	0,6		
	1,1563	0,9063	0,14	0,13															
72,9	36,068	26,988	3,5	3,3	22	61	52,5	87	90,5	94	6	7,5	3	3	0,28	2,1	1,1		
	1,4200	1,0625	0,14	0,13															
<b>42,875</b> 1,6880	62,1	25,400	19,050	3,5	0,8	17	53	54	71	77	76	5	4,5	3	0,8	0,33	1,8	1	
		1,0000	0,7500	0,14	0,03														
	62,1	25,400	22,225	3,5	2,3	20	53	54	70	74	76	3	4,5	3	2	0,33	1,8	1	
	1,0000	0,8750	0,14	0,09															

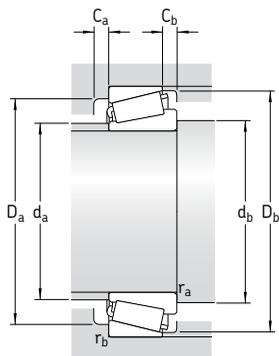
# Inch single row tapered roller bearings

d **44,450 – 45,618** mm

1,7500 – 1,7960 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>44,450</b> 1,7500	82,931	23,812	80,9	106	11,8	6 000	9 000	0,57	<b>25580/25520/Q</b>	25500
	3,2650	0,9375	80,9	106	11,8	6 000	9 000	0,57	<b>25580/25523/Q</b>	25500
	82,931	26,988								
	3,2650	1,0625								
	83,058	23,876	80,9	106	11,8	6 000	9 000	0,57	<b>25580/25522/Q</b>	25500
	3,2700	0,9400	95,2	127	14,6	5 600	8 000	1,50	<b>HM 803149/110/Q</b>	HM 803100
	88,900	30,162								
	3,5000	1,1875								
	88,900	30,162	95,2	127	14,6	5 600	8 000	1,50	<b>HM 803149/2/110/2/QCL7C</b>	HM 803100
	3,5000	1,1875	101	122	14	4 800	7 000	1,00	<b>HM 903249/2/210/2/Q</b>	HM 903200
	95,250	30,958								
	3,7500	1,2188								
	95,250	30,958	101	122	14	4 800	7 000	1,00	<b>HM 903249/W/210/QCL7C</b>	HM 903200
	3,7500	1,2188	88	96,5	11,4	5 000	7 000	0,93	<b>53178/53377/Q</b>	53000
	95,250	30,958								
3,7500	1,2188									
104,775	36,512	145	204	22,4	4 500	6 700	1,50	<b>HM 807040/010/QCL7C</b>	HM 807000	
4,1250	1,4375	151	190	22,8	4 800	7 000	1,70	<b>535/532 X</b>	535	
107,950	36,512									
4,2500	1,4375									
111,125	38,100	151	190	22,8	4 800	7 000	1,85	<b>535/532 A</b>	535	
4,3750	1,5000	102	132	15	6 000	8 500	0,85	<b>3586/3525/Q</b>	3500	
87,313	30,162									
1,7810	3,4375									
<b>45,242</b> 1,7812	73,431	19,558	53,9	75	8,15	6 700	9 500	0,30	<b>LM 102949/910/Q</b>	LM 102900
	2,8910	0,7700	53,9	69,5	7,65	6 300	9 000	0,37	<b>LM 603049/011/Q</b>	LM 603000
	77,788	19,842								
3,0625	0,7812	80,9	106	11,8	6 000	9 000	0,55	<b>25590/25520/Q</b>	25500	
82,931	23,812									
3,2650	0,9375									
82,931	26,988									
3,2500	1,0625									
83,058	23,876									
3,2700	0,9400	80,9	106	11,8	6 000	9 000	0,55	<b>25590/25522/Q</b>	25500	

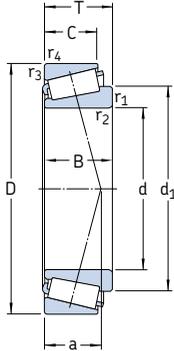


Dimensions							Abutment and fillet dimensions								Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm/in							mm								-				
<b>44,450</b> 1,7500	62,1	25,400	19,050	3,5	0,8	17	53	55,5	71	76	76	5	4,5	3	0,8	0,33	1,8	1	
		1,0000	0,7500	0,14	0,03														
	62,1	25,400	22,225	3,5	2,3	20	53	55,5	70	73	76	3	4,5	3	2	0,33	1,8	1	
		1,0000	0,8750	0,14	0,09														
	62,1	25,400	19,114	3,5	2	17	53	55,5	71	74	76	5	4,5	3	2	0,33	1,8	1	
		1,0000	0,7525	0,14	0,08														
	68,9	29,370	23,020	3,5	3,3	26	53	55,5	70	78	84	4	7	3	3	0,54	1,1	0,6	
		1,1563	0,9063	0,14	0,13														
	68,9	29,370	23,020	3,5	3,3	26	53	55,5	70	78	84	4	7	3	3	0,54	1,1	0,6	
		1,1563	0,9063	0,14	0,13														
	71,6	28,575	22,225	3,5	0,8	30	53	55,5	71	88	90	4	8,5	3	0,8	0,75	0,8	0,45	
		1,1250	0,8750	0,14	0,03														
	71,6	28,575	22,225	3,5	0,8	30	53	55,5	71	88	90	4	8,5	3	0,8	0,75	0,8	0,45	
		1,1250	0,8750	0,14	0,03														
	69,4	28,300	20,638	2	2,3	30	53	52,5	72	86	89	4	10	2	2	0,75	0,8	0,45	
		1,1142	0,8125	0,08	0,09														
	81	36,512	28,575	3,5	3,3	28	63	55,5	85	93	100	4	7,5	3	3	0,48	1,25	0,7	
		1,4375	1,1250	0,14	0,13														
	76,5	36,957	28,575	3,5	3,3	24	64	55,5	90	95,5	97	5	7,5	3	3	0,3	2	1,1	
		1,4550	1,1250	0,14	0,13														
	76,5	36,957	30,162	3,5	3,3	24	64	55,5	90	95,5	97	5	7,5	3	3	0,3	2	1,1	
		1,4550	1,1875	0,14	0,13														
<b>45,237</b> 1,7810	56	30,886	23,812	3,5	3,3	20	53	57	73	76	80	4	6	3	3	0,31	1,9	1,1	
		1,2160	0,9375	0,14	0,13														
<b>45,242</b> 1,7812	59,4	19,812	15,748	3,5	0,8	15	52	57	66	68	70	3	3,5	3	0,8	0,3	2	1,1	
		0,7800	0,6200	0,14	0,03														
	60,9	19,842	15,080	3,5	0,8	17	52	57	68	72	74	4	4,5	3	0,8	0,43	1,4	0,8	
		0,7812	0,5937	0,14	0,03														
<b>45,618</b> 1,7960	62,1	25,400	19,050	3,5	0,8	17	53	57	71	77	76	5	4,5	3	0,8	0,33	1,8	1	
		1,0000	0,7500	0,14	0,03														
	62,1	25,400	22,225	3,5	2,3	20	53	57	71	74	76	3	4,5	3	2	0,33	1,8	1	
		1,0000	0,8750	0,14	0,09														
	62,1	25,400	19,114	3,5	2	17	53	57	71	74,5	76	5	4,5	3	2	0,33	1,8	1	
		1,0000	0,7525	0,14	0,08														

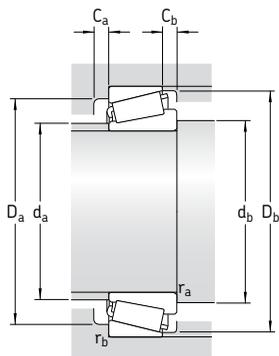
# Inch single row tapered roller bearings

d **46,038 – 50,800** mm

1,8105 – 2,0000 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>46,038</b> 1,8105	79,375	17,462	49,5	62	6,8	6 300	9 000	0,33	<b>18690/18620/Q</b>	18600
	3,1250	0,6875	70,4	81,5	9,3	6 000	8 500	0,49	<b>359 S/354 X/Q</b>	355
	85,000	20,638								
3,3465	0,8125									
<b>47,625</b> 1,8750	88,900	20,637	76,5	91,5	10,4	5 600	8 000	0,55	<b>369 S/2/362 A/2/Q</b>	365
	3,5000	0,8125	108	146	17,3	5 000	7 500	0,95	<b>HM 804846/2/810/2/Q</b>	HM 804800
	95,250	30,162								
	3,7500	1,1875	151	190	22,8	5 000	7 500	1,25	<b>528 R/522</b>	525
101,600	34,925	4,0000	1,3750							
<b>49,212</b> 1,9375	114,300	44,450	183	224	25	4 500	6 700	2,20	<b>65390/65320/QCL7C</b>	65300
	4,5000	1,7500								
<b>50,800</b> 2,0000	82,550	21,590	72,1	100	11	6 000	8500	0,43	<b>LM 104949/911Q</b>	LM104900
	3,2500	0,8500	50,1	65,5	7,2	5 600	8 500	0,37	<b>18790/18720/Q</b>	18700
	85,000	17,462								
	3,3465	0,6875	76,5	91,5	10,4	5 600	8 000	0,50	<b>368 A/362 A/Q</b>	365
	88,900	20,637	76,5	91,5	10,4	5 600	8 000	0,58	<b>368 A/362 X/Q</b>	365
	3,5000	0,8125								
	90,000	25,000	110	146	17	5 300	7 500	0,85	<b>3780/3720/Q</b>	3700
	3,5433	0,9843	110	146	17	5 300	7 500	0,85	<b>3780/3720/Q</b>	3700
	93,264	30,162								
	3,6718	1,1875								
	97,630	24,608	89,7	129	14,6	5 000	7 000	0,83	<b>28678/28622 B/Q</b>	28600
3,8437	0,9688	145	204	22,4	4 500	6 700	1,50	<b>HM 807046/010/QCL7C</b>	HM 807000	
104,775	36,512									
4,1250	1,4375	157	224	25,5	4 800	7 000	1,65	<b>4580/2/4535/2/Q</b>	4500	
104,775	39,688	151	190	22,8	4 800	7 000	1,55	<b>537/532 X/Q</b>	535	
4,1250	1,5625									
107,950	36,512									
4,2500	1,4375									

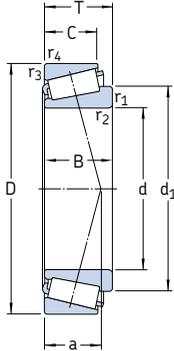


Dimensions							Abutment and fillet dimensions										Calculation factors		
d	d <sub>1</sub>	B	C	r <sub>1,2</sub>	r <sub>3,4</sub>	a	d <sub>a</sub>	d <sub>b</sub>	D <sub>a</sub>	D <sub>a</sub>	D <sub>b</sub>	C <sub>a</sub>	C <sub>b</sub>	r <sub>a</sub>	r <sub>b</sub>	e	Y	Y <sub>0</sub>	
mm/in							mm										-		
<b>46,038</b> 1,8105	60,3	17,462	13,495	2,8	1,5	15	53	56,5	69	72	73	3	3,5	2,5	1,5	0,37	1,6	0,9	
	62,4	0,6875	0,5313	0,11	0,06	16	55	55	76	77,5	80	3	3	2	1,5	0,31	1,9	1,1	
		21,692	17,463	2,3	1,5		0,09	0,06											
<b>47,625</b> 1,8750	62,4	22,225	16,513	2,3	1,3	16	55	56,5	76	82,5	80	3	3	2	1,3	0,31	1,9	1,1	
	73,6	0,8750	0,6501	0,09	0,05	26	58	59	76	84	90	5	7	3	3	0,54	1,1	0,6	
		29,370	23,020	3,5	3,3		0,14	0,13											
		1,1563	0,9063	0,14	0,13														
72,9	36,068	26,988	8	3,3	22	54	71,5	87	90	94	6	7,5	7	3	0,28	2,1	1,1		
<b>49,212</b> 1,9375	79,3	44,450	34,925	3,5	3,3	31	60	60,5	89	103	105	5	9,5	3	3	0,43	1,4	0,8	
	1,7500	1,3750	0,14	0,13															
<b>50,800</b> 2,0000	65,1	22,225	16,510	3,5	1,3	18	57	62	72	76	77	4	4,5	3	1,3	0,3	2	1,1	
	66	0,8750	0,6500	0,14	0,05	16	59	62	75	77,5	79	3	3,5	3	1,5	0,4	1,5	0,8	
		17,462	13,495	3,5	1,5		0,14	0,06											
	66,2	0,6875	0,5313	0,14	0,06	16	58	62	80	82,5	83	4	4	3	1,3	0,31	1,9	1,1	
		22,225	16,513	3,5	1,3		0,14	0,05											
	66,2	0,8750	0,6501	0,14	0,05	21	58	62	78	81,5	83	3	5	3	2	0,31	1,9	1,1	
		22,225	20,000	3,5	2		0,14	0,08											
	71,2	0,8750	0,7874	0,14	0,08	22	60	62	80	84,5	87	4	6	3	3	0,33	1,8	1	
		30,302	23,812	3,5	3,3		0,14	0,13											
	76,7	24,608	19,446	3,5	0,8	21	66	62	84	90,5	91	4	5	3	0,8	0,4	1,5	0,8	
0,9688		0,7656	0,14	0,03															
81	36,512	28,575	3,5	3,3	29	63	62	85	92,5	100	6	7,5	3	3	0,48	1,25	0,7		
	1,4375	1,1250	0,14	0,13															
79,5	40,157	33,338	3,5	3,3	27	65	62	87	92,5	98	5	6	3	3	0,33	1,8	1		
	1,5810	1,3125	0,14	0,13															
76,5	36,957	28,575	3,5	3,3	24	64	62	90	95,5	97	5	7,5	3	3	0,3	2	1,1		
	1,4550	1,1250	0,14	0,13															

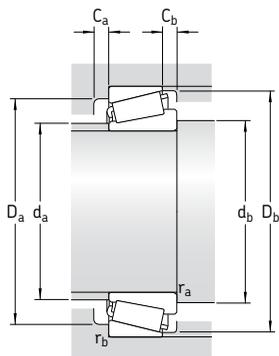
# Inch single row tapered roller bearings

d 53,975 – 60,325 mm

2,1250 – 2,3750 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN	kN	r/min	kg	–	–		
<b>53,975</b> 2,1250	88,900	19,050	58,3	78	9	5 300	8 000	0,43	<b>LM 806649/610/Q</b>	LM 806600
	3,5000	0,7500	105	137	16	5 300	7 500	0,80	<b>33895/33821/Q</b>	33800
	95,250	27,783	105	137	16	5 300	7 500	0,80	<b>33895/33822/Q</b>	33800
	3,7500	1,0938	151	190	22,8	4 800	7 000	1,45	<b>539/532 X</b>	535
	95,250	27,783	151	190	22,8	4 800	7 000	1,55	<b>539/532 A</b>	535
	3,7500	1,0938	147	180	21,6	3 800	5 600	2,05	<b>72212/2/72487/2/Q</b>	72000
	107,950	36,512	80,9	102	11,6	5 000	7 500	0,59	<b>387 A/382 A/Q</b>	385
	4,2500	1,4375	80,9	102	11,6	5 000	7 500	0,59	<b>387/382 A</b>	385
	111,125	38,100	80,9	102	11,6	5 000	7 500	0,58	<b>387 A/382 S/Q</b>	385
	4,3750	1,5000	80,9	102	11,6	5 000	7 500	0,58	<b>387 A/382/Q</b>	385
<b>57,150</b> 2,2500	123,825	36,512	121	160	18,6	4 800	7 000	1,05	<b>462/453 X</b>	455
	4,8750	1,4375	142	204	23,6	4 300	6 300	1,45	<b>39580/39520/Q</b>	39500
	104,775	30,162	142	204	23,6	4 300	6 300	1,40	<b>39581/39520/Q</b>	39500
	4,1250	1,1875	142	204	23,6	4 300	6 300	1,75	<b>39580/39528/Q</b>	39500
	112,712	30,162	142	204	23,6	4 300	6 300	1,75	<b>39581/39528/Q</b>	39500
	4,4375	1,1875	119,985	32,750	14,2	4 300	6 300	1,75	<b>39581/39528/Q</b>	39500
	112,712	30,162	119,985	32,750	14,2	4 300	6 300	1,75	<b>39581/39528/Q</b>	39500
	4,4375	1,1875	119,985	32,750	14,2	4 300	6 300	1,75	<b>39581/39528/Q</b>	39500
	119,985	32,750	119,985	32,750	14,2	4 300	6 300	1,75	<b>39581/39528/Q</b>	39500
	4,7238	1,2894	130,175	36,512	15,1	3 600	5 000	2,10	<b>HM 911245/W/2/210/2/QCL7C</b>	HM 911200
<b>60,325</b> 2,3750	5,1250	1,4375	151	180	22,4	3 600	5 000	2,10	<b>HM 911245/W/210/QV001</b>	HM 911200
	130,175	36,512								
	5,1250	1,4375								

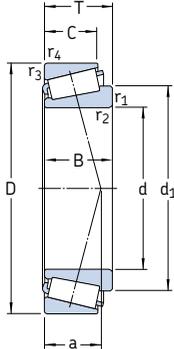


Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub>	r <sub>3,4</sub>	a	d <sub>a</sub>	d <sub>b</sub>	D <sub>a</sub>	D <sub>a</sub>	D <sub>b</sub>	C <sub>a</sub>	C <sub>b</sub>	r <sub>a</sub>	r <sub>b</sub>	e	Y	Y <sub>0</sub>
mm/in	~			min	min		max	min	min	max	min	min	min	max	max	-		
<b>53,975</b> 2,1250	71,6	19,050	13,492	2,3	2	21	62	64	78	79,5	84	4	5,5	2	2	0,54	1,1	0,6
	72,3	0,7500	0,5313	0,09	0,08	20	61	61,5	83	88	90	6	6,5	1,5	2,3	0,33	1,8	1
		28,575	22,225	1,5	2,3													
	72,3	1,1250	0,8750	0,06	0,09	20	61	61,5	83	88	90	6	6,5	1,5	0,8	0,33	1,8	1
		28,575	22,225	1,5	0,8													
	76,5	1,1250	0,8750	0,06	0,03	24	64	65,5	90	95,5	97	5	7,5	3	3	0,3	2	1,1
		36,957	28,575	3,5	3,3													
	76,5	1,4550	1,1250	0,14	0,13	24	64	65,5	90	95,5	97	5	7,5	3	3	0,3	2	1,1
		36,957	30,162	3,5	3,3													
	88,8	1,4550	1,1875	0,14	0,13	36	68	65,5	93	113	114	5	11	3	3	0,75	0,8	0,45
32,791		25,400	3,5	3,3														
1,2910	1,0000	0,14	0,13	17	65	68,5	87	91,5	91	5	5	3	0,8	0,35	1,7	0,9		
	21,946	15,875	2,3														0,8	
<b>57,150</b> 2,2500	74,1	21,946	0,6250	0,14	0,03	17	65	66,5	87	91,5	91	5	5	2	0,8	0,35	1,7	0,9
	74,1	21,946	15,875	2,3	0,8													
	74,1	0,8640	0,6250	0,14	0,03	19	65	68,5	87	87,5	91	5	5	3	2	0,35	1,7	0,9
		21,946	20,274	3,5	2,3													
	74,1	0,8640	0,7982	0,14	0,09	19	65	68,5	87	93	91	5	5	3	0,8	0,35	1,7	0,9
		21,946	17,826	3,5	0,8													
	78,9	0,8640	0,7018	0,14	0,03	24	68	67,5	91	93,5	98	4	5,5	2	3	0,33	1,8	1
		29,317	24,605	2,3	3,3													
	88,3	1,1542	0,9687	0,09	0,13	23	76	68,5	100	102	107	5	6	3	3	0,33	1,8	1
		30,162	23,812	3,5	3,3													
88,3	1,1875	0,9375	0,14	0,13	23	76	81	100	102	107	5	6	7	3	0,33	1,8	1	
	30,162	23,812	8	3,3														
88,3	1,1875	0,9375	0,31	0,13	25	76	68,5	100	114	107	5	6	3	0,8	0,33	1,8	1	
	30,162	26,949	3,5	0,8														
88,3	1,1875	1,0610	0,14	0,03	25	76	81	100	114	107	5	6	7	0,8	0,33	1,8	1	
	30,162	26,949	8	0,8														
1,1875	1,0610	0,31	0,03	40	74	76	102	119	124	4	12,5	4	3	0,83	0,72	0,4		
	33,338	23,812	5														3,3	
<b>60,325</b> 2,3750	97,2	33,338	0,9375	0,2	0,13	40	74	76	102	119	124	4	12,5	4	3	0,83	0,72	0,4
	97,2	33,338	23,812	5	3,3													
1,3125	0,9375	0,2	0,13	40	74	76	102	119	124	4	12,5	4	3	0,83	0,72	0,4		
	33,338	23,812	5														3,3	
1,3125	0,9375	0,2	0,13	40	74	76	102	119	124	4	12,5	4	3	0,83	0,72	0,4		
	33,338	23,812	5														3,3	

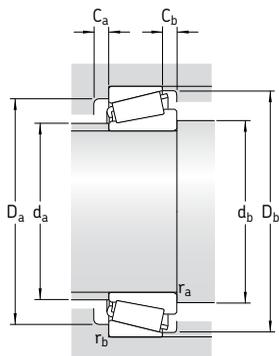
# Inch single row tapered roller bearings

d **61,912 – 71,438** mm

2,4375 – 2,8125 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>61,912</b> 2,4375	146,050	41,275	198	236	29	3 200	4 500	3,20	<b>H 913842/810/QCL7C</b>	H 913800
	5,7500 146,050 5,7500	1,6250 41,275 1,6250	198	236	29	3 200	4 500	3,20	<b>H 913843/810/QCL7C</b>	H 913800
<b>63,500</b> 2,5000	112,712	30,162	123	183	21,2	4 300	6 300	1,25	<b>3982/3920</b>	3900
	4,4375	1,8175								
<b>65,088</b> 2,5625	135,755	53,975	286	400	46,5	3 800	5 600	3,70	<b>6379/K-6320/Q</b>	6300
	5,3447	2,1250								
<b>66,675</b> 2,6250	112,712	30,162	123	183	21,2	4 300	6 000	1,15	<b>3984/2/3920/2/Q</b>	3900
	4,4375	1,8175								
	112,712	30,162	142	204	24	4 300	6 300	1,20	<b>39590/39520/Q</b>	39500
	4,4375	1,8175								
	119,985	32,750	142	204	24	4 300	6 300	1,20	<b>39590/39528/Q</b>	39500
	4,7238	1,2894								
<b>69,850</b> 2,7500	135,755	53,975	286	400	46,5	3 800	5 600	3,65	<b>6386/K-6320/Q</b>	6300
	5,3447	2,1250								
	112,712	25,400	99	156	17,6	4 000	6 000	0,97	<b>29675/29620/3/Q</b>	29600
	4,4375	1,0000								
	120,000	29,795	132	186	21,6	4 000	6 000	1,35	<b>482/472/Q</b>	475
	4,7244	1,1730								
	120,000	32,545	154	228	26,5	4 000	6 000	1,50	<b>47487/47420</b>	47400
	4,7244	1,2813								
<b>71,438</b> 2,8125	120,000	32,545	154	228	26,5	4 000	6 000	1,50	<b>47487/47420 A/Q</b>	47400
	4,7244	1,2813								
	127,000	36,512	176	255	30,5	3 800	5 600	1,90	<b>566/563/Q</b>	565
	5,0000	1,4375								
	117,475	30,162	123	190	22	4 000	6 000	1,25	<b>33281/33462/Q</b>	33000
	4,6250	1,1875								
<b>71,438</b> 2,8125	136,525	41,275	224	290	34	3 600	5 300	2,65	<b>H 414249/210/Q</b>	H 414200
	5,3750	1,6250								

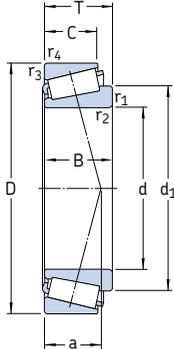


Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm/in							mm								-			
<b>61,912</b> 2,4375	109	39,688	25,400	3,5	3,3	44	83	73,5	116	135	138	6	15,5	3	3	0,79	0,76	0,4
	109	39,688 1,5625	25,400 1,0000	3,5 0,14	3,3 1,3	44	83	83	116	135	138	6	15,5	6	3	0,79	0,76	0,4
<b>63,500</b> 2,5000	87,8	30,048	23,812	3,5	3,3	25	75	75	96	101	105	4	6	3	3	0,4	1,5	0,8
		1,1830	0,9375	0,14	0,13													
<b>65,088</b> 2,5625	97,4	56,007	44,450	3,5	3,3	34	78	76,5	110	124	125	7	9,5	3	3	0,33	1,8	1
		2,2050	1,7500	0,14	0,13													
<b>66,675</b> 2,6250	87,8	30,048	23,812	3,5	3,3	25	75	78,5	96	101	105	4	6	3	3	0,4	1,5	0,8
		1,1830	0,9375	0,14	0,13													
	88,3	30,162	23,812	3,5	3,3	23	76	78,5	100	101	107	5	6	3	3	0,33	1,8	1
		1,1830	0,9375	0,14	0,13													
	88,3	30,162	26,949	3,5	0,8	25	76	78,5	100	112	107	5	6	3	0,8	0,33	1,8	1
	1,1830	1,0610	0,14	0,03														
	97,4	56,007	44,450	4,3	3,3	34	78	80,5	110	124	125	7	9,5	4	3	0,33	1,8	1
		2,2050	1,7500	0,17	0,13													
<b>69,850</b> 2,7500	94,3	25,400	19,050	1,5	3,3	26	82	77,5	100	101	108	4	6	1,5	3	0,48	1,25	0,7
		1,0000	0,7500	0,06	0,13													
	92,5	29,007	24,237	3,5	2	26	80	82	103	111	112	4	5,5	3	2	0,37	1,6	0,9
		1,1420	0,9542	0,14	0,08													
	94,3	32,545	26,195	3,5	3,3	25	81	82	105	109	113	6	6	3	3	0,35	1,7	0,9
		1,2813	1,0313	0,14	0,13													
94,3	32,545	26,195	3,5	0,5	25	81	82	105	117	113	6	6	3	0,5	0,35	1,7	0,9	
	1,2813	1,0313	0,14	0,02														
	97,6	36,170	28,575	3,5	3,3	28	83	82	109	114	119	5	7,5	3	3	0,37	1,6	0,9
		1,4240	1,1250	0,14	0,13													
<b>71,438</b> 2,8125	94,1	30,162	23,812	3,5	3,3	26	81	83	101	105	111	5	6	3	3	0,44	1,35	0,8
		1,1875	0,9375	0,14	0,13													
	101	41,275	31,750	3,5	3,3	30	83	83	118	123,5	129	7	9,5	3	3	0,35	1,7	0,9
		1,6250	1,2500	0,14	0,13													

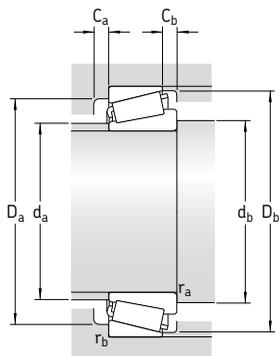
# Inch single row tapered roller bearings

d **73,025 – 101,600** mm

2,8750 – 4,0000 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>73,025</b> 2,8750	112,712	25,400	99	156	17,6	4 000	6 000	0,89	<b>29685/2/29620/3/Q</b>	29600
	4,4375	1,0000	123	190	22	4 000	6 000	1,20	<b>33287/33462/Q</b>	33000
	117,475	30,162	176	255	30,5	3 800	5 600	1,80	<b>567/563</b>	565
	4,6250	1,1875								
	127,000	36,512								
	5,0000	1,4375								
<b>76,200</b> 3,0000	109,538	19,050	58,3	102	11	4 000	6 000	0,60	<b>L 814749/710/QCL7C</b>	L 814700
	4,3125	0,7500	138	204	24	3 800	5 300	1,90	<b>42687/42620</b>	42600
	127,000	30,162								
	5,0000	1,1875	165	260	30	3 400	5 000	1,90	<b>47678/47620/Q</b>	47600
	133,350	33,338								
	5,2500	1,3125	187	280	32,5	3 400	5 000	2,45	<b>575/572/Q</b>	575
	139,992	36,512								
	5,5115	1,4375	260	335	38	2 800	4 000	4,40	<b>9285/9220/CL7C</b>	9200
161,925	49,212									
	6,3750	1,9375								
<b>82,550</b> 3,2500	139,992	36,512	187	280	32,5	3 400	5 000	2,20	<b>580/572/Q</b>	575
	5,5115	1,4375	220	320	35,5	3 200	4 800	2,80	<b>663/653/Q</b>	655
	146,050	41,275								
	5,7500	1,6250								
<b>88,900</b> 3,5000	152,400	39,688	194	305	34,5	3 000	4 500	2,80	<b>593/592 A/Q</b>	595
	6,0000	1,5625								
<b>92,075</b> 3,6250	152,400	39,688	194	305	34,5	3 000	4 500	2,70	<b>598/592 A/Q</b>	595
	6,0000	1,5625								
<b>95,250</b> 3,7500	146,050	33,338	168	280	31,5	3 200	4 500	1,90	<b>47896/47820/Q</b>	47800
	5,7500	1,3125	194	305	34,5	3 000	4 500	2,55	<b>594/592 A/Q</b>	595
	152,400	39,688								
	6,0000	1,5625	194	305	34,5	3 000	4 500	2,55	<b>594 A/592 A/Q</b>	595
	152,400	39,688								
	6,0000	1,5625	233	365	39	2 800	4 000	3,80	<b>683/672</b>	675
	168,275	41,275								
	6,6250	1,6250								
<b>101,600</b> 4,0000	168,275	41,275	233	365	39	2 800	4 000	3,45	<b>687/672</b>	675
	6,6250	1,6250								

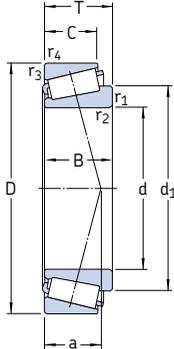


Dimensions							Abutment and fillet dimensions								Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>	
mm/in							mm								-				
<b>73,025</b> 2,8750	94,3	25,400	19,050	3,5	3,3	26	82	85	100	100	108	4	6	3	3	0,48	1,25	0,7	
	~	1,0000	0,7500	0,14	0,13														
	94,1	30,162	23,812	3,5	3,3	26	81	85	101	105	111	5	6	3	3	0,44	1,35	0,8	
97,6	1,1875	0,9375	0,14	0,13															
	36,170	28,575	3,5	3,3	28	83	85	109	114	119	5	7,5	3	3	0,37	1,6	0,9		
1,4240	1,1250	0,14	0,13																
<b>76,200</b> 3,0000	94,8	19,050	15,083	1,5	1,5	24	85	85	98	100,5	105	3	3,5	1,5	1,5	0,5	1,2	0,7	
	~	0,7500	0,5938	0,06	0,06														
	101	31,000	22,225	3,5	3,3	27	88	89,5	112	114	120	5	7,5	3	3	0,43	1,4	0,8	
	~	1,2205	0,8750	0,14	0,13														
	108	33,338	26,195	6,4	3,3	29	93	96	117	120,5	126	5	7	6	3	0,4	1,5	0,8	
	~	1,3125	1,0313	0,25	0,13														
110	36,098	28,575	3,5	3,3	31	94	89,5	120	127	131	5	7,5	3	3	0,4	1,5	0,8		
	~	1,4212	1,1250	0,14	0,13														
	46,068	31,750	3,5	3,3	47	93	90	128	148,5	153	7	17	3	3	0,72	0,84	0,45		
1,8125	1,2500	0,14	0,13																
<b>82,550</b> 3,2500	110	36,098	28,575	3,5	3,3	31	94	94,5	120	127	131	5	7,5	3	3	0,4	1,5	0,8	
	~	1,4212	1,1250	0,14	0,13														
114	41,275	31,750	3,5	3,3	32	96	94,5	125	133	138	6	9	3	3	0,4	1,5	0,8		
1,6250	1,2500	0,14	0,13																
<b>88,900</b> 3,5000	122	36,322	30,162	3,5	3,3	37	101	102,5	128	141	141	4	9,5	3	3	0,44	1,35	0,8	
	~	1,4300	1,1875	0,14	0,13														
<b>92,075</b> 3,6250	122	36,322	30,162	3,5	3,3	37	101	106	128	141	141	4	9,5	3	3	0,44	1,35	0,8	
	~	1,4300	1,1875	0,14	0,13														
<b>95,250</b> 3,7500	120	34,925	26,195	3,5	3,3	32	105	107	128	138,5	141	6	7	3	3	0,44	1,35	0,8	
	~	1,3750	1,0313	0,14	0,13														
	121	36,322	30,162	3,5	3,3	37	104	107	128	139	141	4	9,5	3	3	0,44	1,35	0,8	
	~	1,4300	1,1875	0,14	0,13														
121	36,322	30,162	5	3,3	37	104	112	128	139	141	4	9,5	4	3	0,44	1,35	0,8		
	~	1,4300	1,1875	0,2	0,13														
	41,275	30,162	3,5	3,3	38	114	107	143	154,5	157	6	11	3	3	0,48	1,25	0,7		
1,6250	1,1875	0,14	0,13																
<b>101,600</b> 4,0000	133	41,275	30,162	3,5	3,3	38	114	113	143	157	157	6	11	3	3	0,48	1,25	0,7	
	~	1,6250	1,1875	0,14	0,13														

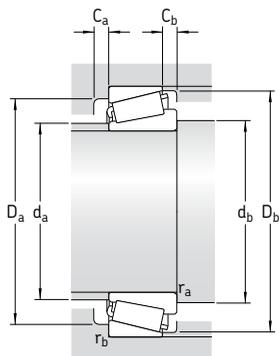
# Inch single row tapered roller bearings

d **107,950 – 179,934** mm

4,2500 – 7,0840 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>107,950</b> 4,2500	158,750 6,2500	23,020 0,9063	101	163	18,3	2 800	4 300	1,40	<b>37425/2/37625/2/Q</b>	37000
<b>114,300</b> 4,5000	177,800 7,0000	41,275 1,6250	251	415	42,5	2 600	3 800	3,60	<b>64450/64700</b>	64000
	180,975 7,1250	34,925 1,3750	183	280	30	2 600	3 800	2,95	<b>68450/68712</b>	68000
<b>127,000</b> 5,0000	182,562 7,1875	39,688 1,5625	229	440	44	2 400	3 600	3,30	<b>48290/48220/Q</b>	48200
	196,850 7,7500	46,038 1,8135	319	585	60	2 200	3 400	5,20	<b>67388/67322</b>	67300
<b>133,350</b> 5,2500	177,008 6,9688	25,400 1,0000	134	280	28	2 400	3 600	1,80	<b>L 327249/210</b>	L 327200
	196,850 7,7500	46,038 1,8135	319	585	60	2 200	3 400	4,80	<b>67391/67322</b>	67300
<b>139,700</b> 5,5000	236,538 9,3125	57,150 2,2500	512	850	86,5	1 900	2 800	10,0	<b>HM 231132/110</b>	HM 231100
<b>149,225</b> 5,8750	236,538 9,3125	57,150 2,2500	512	850	86,5	1 900	2 800	10,0	<b>HM 231148/110</b>	HM 231100
<b>152,400</b> 6,0000	222,250 8,7500	46,830 1,8437	330	630	62	2 000	3 000	5,90	<b>M 231649/610/VQ051</b>	M 231600
<b>158,750</b> 6,2500	205,583 8,0938	23,812 0,9375	138	280	27	2 000	3 000	1,95	<b>L 432348/310</b>	L 432300
	205,583 8,0938	23,812 0,9375	138	280	27	2 000	3 000	1,95	<b>L 432349/310</b>	L 432300
<b>177,800</b> 7,0000	227,012 8,9375	30,162 1,1875	187	425	40	1 800	2 800	3,00	<b>36990/36920</b>	36900
<b>178,595</b> 7,0313	265,112 10,4375	51,595 2,0313	495	880	86,5	1 700	2 400	9,60	<b>M 336948/912</b>	M 336900
<b>179,934</b> 7,0840	265,112 10,4375	51,595 2,0313	495	880	86,5	1 700	2 400	9,40	<b>M 336949/912</b>	M 336900

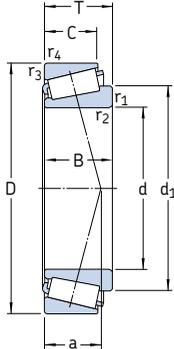


Dimensions							Abutment and fillet dimensions							Calculation factors				
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm/in							mm							-				
<b>107,950</b> 4,2500	132	21,438 0,8440	15,875 0,6250	3,5 0,14	3,3 0,13	37	120	121	140	145	149	4	7	3	3	0,6	1	0,6
<b>114,300</b> 4,5000	146	41,275 1,6250	30,162 1,1875	3,5 0,14	3,3 0,13	42	126	127	155	166	171	6	11	3	3	0,52	1,15	0,6
	144	31,750 1,2500	25,400 1,0000	3,5 0,14	3,3 0,13	40	129	127	158	170	170	4	9,5	3	3	0,5	1,2	0,7
<b>127,000</b> 5,0000	155	38,100 1,5000	33,338 1,3125	3,5 0,14	3,3 0,13	34	140	140	165	168,5	174	6	6	3	3	0,3	2	1,1
	164	46,038 1,8125	38,100 1,5000	3,5 0,14	3,3 0,13	39	146	140	177	185	189	7	7,5	3	3	0,35	1,7	0,9
<b>133,350</b> 5,2500	155	26,195 1,0313	20,638 0,8125	1,5 0,06	1,5 0,06	29	145	141	165	188	170	5	4,5	1,5	1,5	0,33	1,8	1
	164	46,038 1,8125	38,100 1,5000	8 0,31	3,3 0,13	39	146	161	177	185	189	7	7,5	7	3	0,35	1,7	0,9
<b>139,700</b> 5,5000	187	56,642 2,2300	44,450 1,7500	3,5 0,14	3,3 0,13	45	166	153	210	225	223	9	12,5	3	3	0,31	1,9	1,1
<b>149,225</b> 5,8750	187	56,642 2,2300	44,450 1,7500	6,4 0,25	3,3 0,13	45	166	171	210	225	223	9	12,5	6	3	0,31	1,9	1,1
<b>152,400</b> 6,0000	186	46,830 1,8437	34,925 1,3750	3,5 0,14	1,5 0,06	40	169	165	200	214	210	7	11,5	3	1,5	0,33	1,8	1
<b>158,750</b> 6,2500	182	23,812 0,9375	18,258 0,7188	4,8 0,19	1,5 0,06	33	172	175	194	197	197	5	5,5	4	1,5	0,35	1,7	0,9
	182	23,812 0,9375	18,258 0,7188	1,5 0,06	1,5 0,06	33	172	167	194	197	197	5	5,5	1,5	1,5	0,35	1,7	0,9
<b>177,800</b> 7,0000	203	30,162 1,1875	23,020 0,9063	1,5 0,06	1,5 0,06	43	190	186	212	219	220	5	7	1,5	1,5	0,44	1,35	0,8
<b>178,595</b> 7,0313	217	57,150 2,2500	38,895 1,5313	3,3 0,13	3,3 0,13	47	196	191	240	253	251	9	12,5	3	3	0,33	1,8	1
<b>179,934</b> 7,0840	217	57,150 2,2500	38,895 1,5313	3,3 0,13	3,3 0,13	47	196	193	240	253	251	9	12,5	3	3	0,33	1,8	1

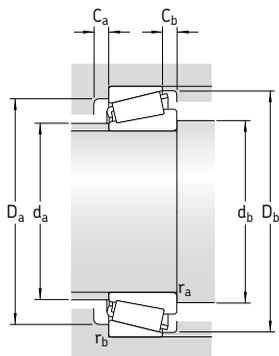
# Inch single row tapered roller bearings

d 187,325 – 231,775 mm

7,3750 – 9,1250 in



Principal dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static C <sub>0</sub>	P <sub>u</sub>	Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	-	-
<b>187,325</b> 7,3750	282,575 11,1250	50,800 2,0000	402	695	67	1 600	2 200	9,80	<b>87737/87111</b>	87000
<b>190,475</b> 7,4990	279,400 11,0000	52,388 2,0625	523	980	95	1 600	2 200	9,50	<b>M 239449/410</b>	M 239400
<b>190,500</b> 7,5000	282,575 11,1250	50,800 2,0000	402	695	67	1 600	2 200	9,60	<b>87750/87111</b>	87000
<b>191,237</b> 7,5290	279,400 11,0000	52,388 2,0625	523	980	95	1 600	2 200	9,20	<b>M 239448 A/410</b>	M 239400
<b>196,850</b> 7,7500	241,300	23,812	154	315	29	1 700	2 600	2,00	<b>LL 639249/210</b>	LL 639200
	9,5000	0,9375								
	241,300	23,812	154	315	29	1 700	2 600	2,00	<b>LL 639249/2/210/4</b>	LL 639200
	9,5000	0,9375								
	257,175	39,688	275	655	58,5	1 600	2 400	5,30	<b>LM 739749/710/VE174</b>	LM 739700
	10,1250	1,5625								
<b>200,025</b> 7,8750	276,225 10,8750	42,862 1,6875	391	780	72	1 500	2 200	7,70	<b>LM 241147/110/VQ051</b>	LM 241100
<b>203,987</b> 8,0310	276,225 10,8750	42,862 1,6875	391	780	72	1 500	2 200	7,25	<b>LM 241148/110/VQ051</b>	LM 241100
<b>206,375</b> 8,1250	282,575 11,1250	46,038 1,8125	380	830	76,5	1 500	2 200	8,60	<b>67985/67920/HA3VQ117</b>	67900
<b>216,408</b> 8,5200	285,750 11,2500	46,038 1,8125	380	850	76,5	1 500	2 200	7,85	<b>LM 742747/710</b>	LM 742700
<b>216,713</b> 8,5320	285,750 11,2500	46,038 1,8125	380	850	76,5	1 500	2 200	7,85	<b>LM 742747 A/710</b>	LM 742700
<b>230,188</b> 9,0625	317,500 12,5000	47,625 1,8750	523	980	90	1 300	2 000	10,5	<b>LM 245846/810</b>	LM 245800
<b>231,775</b> 9,1250	300,038	33,338	216	425	39	1 400	2 000	5,30	<b>544091/2B/118 A/2B</b>	544000
	11,8125	1,3125								
	317,500	47,625	523	980	90	1 300	2 000	10,5	<b>LM 245848/810</b>	LM 245800
	12,5000	1,8750								

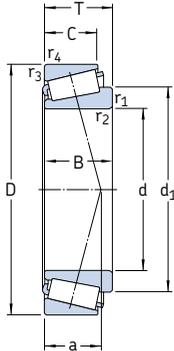


Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm/in							mm								-			
<b>187,325</b> 7,3750	233	47,625 1,8750	36,512 1,4375	3,5 0,14	3,3 0,13	55	213	201	253	271	267	6	14	3	3	0,43	1,4	0,8
<b>190,475</b> 7,4990	232	57,150 2,2500	41,275 1,6250	3,3 0,13	3,3 0,13	49	211	203	254	265	266	9	11	3	3	0,35	1,7	0,9
<b>190,500</b> 7,5000	233	47,625 1,8750	36,512 1,4375	3,5 0,14	3,3 0,13	55	213	205	253	268	267	6	14	3	3	0,43	1,4	0,8
<b>191,237</b> 7,5290	232	58,738 2,3125	41,275 1,6250	3,3 0,13	3,3 0,13	49	211	204	254	265	266	9	11	3	3	0,35	1,7	0,9
<b>196,850</b> 7,7500	217	23,017 0,9062	17,462 0,6875	1,5 0,06	1,5 0,06	41	207	204	232	233	235	5	6	1,5	1,5	0,43	1,4	0,8
	217	23,017 0,9062	17,462 0,6875	1,5 0,06	1,5 0,06	41	207	204	232	233	235	5	6	1,5	1,5	0,43	1,4	0,8
	229	39,688 1,5625	30,162 1,1875	3,5 0,14	3,3 0,13	50	236	210	236	245	247	8	9,5	3	3	0,44	1,35	0,8
<b>200,025</b> 7,8750	237	46,038 1,8125	34,133 1,3438	3,5 0,14	3,3 0,13	45	220	213	257	261	265	6	8,5	3	3	0,31	1,9	1,1
<b>203,987</b> 8,0310	237	46,038 1,8125	34,133 1,3438	3,5 0,14	3,3 0,13	45	220	217	257	261	265	6	8,5	3	3	0,31	1,9	1,1
<b>206,375</b> 8,1250	247	46,038 1,8125	36,512 1,4375	3,5 0,14	3,3 0,13	62	222	220	254	268	272	8	9,5	3	3	0,5	1,2	0,7
<b>216,408</b> 8,5200	253	49,212 1,9375	34,924 1,3750	3,5 0,14	3,3 0,13	60	230	230	261	271	277	7	11	3	3	0,48	1,25	0,7
<b>216,713</b> 8,5320	253	49,212 1,9375	34,924 1,3750	3,5 0,14	3,3 0,13	60	230	230	261	271	277	7	11	3	3	0,48	1,25	0,7
<b>230,188</b> 9,0625	268	52,388 2,0625	36,512 1,4375	3,3 0,13	3,3 0,13	49	249	243	296	303	304	8	11	3	3	0,31	1,9	1,1
<b>231,775</b> 9,1250	260	31,750 1,2500	23,812 0,9375	3,5 0,13	3,3 0,13	49	248	246	278	285	284	5	9,5	3	3	0,4	1,5	0,8
	268	52,388 2,0625	36,512 1,4375	3,3 0,13	3,3 0,13	49	249	245	296	303	304	8	11	3	3	0,31	1,9	1,1

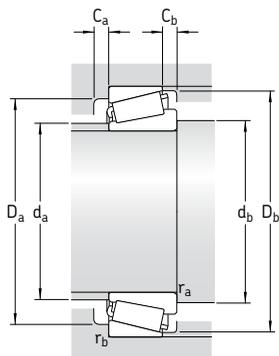
# Inch single row tapered roller bearings

d 255,600 – 488,950 mm

10,0630 – 19,2500 in



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Reference speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>255,600</b> 10,0630	342,900 13,5000	57,150 2,2500	594	1 220	110	1 200	1 800	14,0	<b>M 349547/510</b>	M 349500
<b>257,175</b> 10,1259	342,900 13,5000	57,150 2,2500	594	1 220	110	1 200	1 800	14,0	<b>M 349549/510/VE174</b>	M 349500
	358,775 14,1250	71,438 2,8125	842	1 760	156	1 200	1 700	20,5	<b>M 249747/710</b>	M 249700
<b>263,525</b> 10,3750	325,438 12,8125	28,575 1,1250	220	550	48	1 300	1 800	53,0	<b>38880/38820</b>	38800
<b>292,100</b> 11,5000	374,650 14,7500	47,625 1,8750	501	1 140	98	1 100	1 600	12,0	<b>L 555249/210</b>	L 555200
	374,650 14,7500	47,625 1,8750	501	1 140	98	1 100	1 600	12,0	<b>L 555249/210/VE174</b>	L 555200
<b>304,800</b> 12,0000	393,700 15,5000	50,800 2,0000	528	1 220	104	1 000	1 500	14,5	<b>L 357049/010/VE174</b>	L 357000
<b>343,154</b> 13,5100	450,850 17,7500	66,675 2,6250	935	2 200	180	900	1 300	28,0	<b>LM 361649 A/610</b>	LM 361600
<b>346,075</b> 13,6250	488,950 19,2500	95,250 3,7500	1 420	3 150	255	850	1 200	55,0	<b>HM 262749/710</b>	HM 262700
<b>381,000</b> 15,0000	479,425 18,8750	49,213 1,9375	594	1 500	120	800	1 200	20,0	<b>L 865547/512</b>	L 865500
<b>384,175</b> 15,1250	546,100 21,5000	104,775 4,1250	1 870	4 150	320	750	1 100	77,0	<b>HM 266449/410</b>	HM 266400
<b>403,225</b> 15,8750	460,375 18,1250	28,575 1,1250	246	765	58,5	800	1 200	6,70	<b>LL 566848/810/HA1</b>	LL 566800
<b>406,400</b> 16,0000	549,275 21,6250	85,725 3,3750	1 380	3 050	236	700	1 000	53,5	<b>LM 567949/910/HA1</b>	LM 567900
<b>457,200</b> 18,0000	603,250 23,7500	85,725 3,3750	1 450	3 400	265	630	950	61,5	<b>LM 770949/910</b>	LM 770900
<b>488,950</b> 19,2500	634,873 24,9950	84,138 3,3125	1 450	3 650	265	600	850	63,5	<b>LM 772748/710/HA1</b>	LM 772700

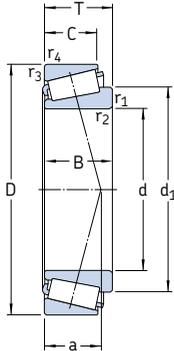


Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub> min	r <sub>3,4</sub> min	a	d <sub>a</sub> max	d <sub>b</sub> min	D <sub>a</sub> min	D <sub>a</sub> max	D <sub>b</sub> min	C <sub>a</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>b</sub> max	e	Y	Y <sub>0</sub>
mm/in							mm								-			
<b>255,600</b> 10,0630	297	63,500 2,5000	44,450 1,7500	1,5 0,06	3,3 0,13	60	274	267	318	328	331	9	12,5	1,5	3	0,35	1,7	0,9
<b>257,175</b> 10,1250	297	57,150 2,2500	44,450 1,7500	6,4 0,25	3,3 0,13	60	274	289	318	328	331	9	12,5	6	3	0,35	1,7	0,9
	303	76,200 3,0000	53,975 2,1250	1,5 0,06	3,3 0,13	64	276	269	326	343	343	11	17	1,5	3	0,33	1,8	1
<b>263,525</b> 10,3750	294	28,575 1,1250	25,400 1,0000	1,5 0,06	1,5 0,06	49	282	275	307	315	313	4	3	1,5	1,5	0,37	1,6	0,9
<b>292,100</b> 11,5000	331	47,625 1,8750	34,925 1,3750	3,5 0,14	3,3 0,13	65	311	308	350	359	361	8	12,5	3	3	0,4	1,5	0,8
	331	47,625 1,8750	34,925 1,3750	3,5 0,14	3,3 0,13	65	311	308	350	359	361	8	12,5	3	3	0,4	1,5	0,8
<b>304,800</b> 12,0000	348	50,800 2,0000	38,100 1,5000	6,4 0,25	3,3 0,13	64	328	337	368	378	379	7	12,5	6	3	0,35	1,7	0,9
<b>343,154</b> 13,5100	394	66,675 2,6250	52,388 2,0625	8,5 0,33	3,5 0,14	75	365	385	417	433	434	12	14	8	3	0,35	1,7	0,9
<b>346,075</b> 13,6250	413	95,250 3,7500	74,612 2,9375	6,4 0,25	3,3 0,13	88	379	378	442	472	467	12	21	6	3	0,33	1,8	1
<b>381,000</b> 15,0000	431	47,625 1,8750	34,925 1,3750	6,4 0,25	3,3 0,13	92	406	413	448	462	463	9	14	6	3	0,5	1,2	0,7
<b>384,175</b> 15,1250	458	104,775 4,1250	82,550 3,2500	6,4 0,25	6,4 0,25	96	418	416	492	514	520	15	22	6	6	0,33	1,8	1
<b>403,225</b> 15,8750	430	28,575 1,1250	20,638 0,8125	3,5 0,14	3,3 0,13	70	417	420	445	443	448	6	7,5	3	3	0,4	1,5	0,8
<b>406,400</b> 16,0000	471	84,138 3,3125	61,962 2,4375	6,4 0,25	3,3 0,13	100	434	438	502	532	526	13	23,5	6	3	0,4	1,5	0,8
<b>457,200</b> 18,0000	525	84,138 3,3125	60,325 2,3750	6,4 0,25	3,3 0,13	115	486	489	553	586	580	13	25	6	3	0,46	1,3	0,7
<b>488,950</b> 19,2500	560	84,138 3,3125	61,912 2,4375	6,4 0,25	3,3 0,13	124	519	520	584	618	613	13	22	6	3	0,48	1,25	0,7

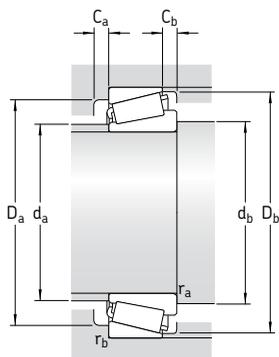
# Inch single row tapered roller bearings

d **498,475 – 838,200** mm

19,6250 – 33,0000 in

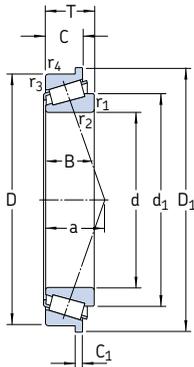


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation	Series
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed			
mm/in			kN		kN	r/min		kg	–	–
<b>498,475</b> 19,6250	634,873 24,9950	80,962 3,1875	1 470	3 650	270	600	850	59,5	<b>EE 243196/250/HA2</b>	243000
<b>558,800</b> 22,0000	736,600 29,0000	88,108 3,4688	1 830	4 150	305	500	750	92,5	<b>EE 843220/290</b>	843000
	736,600 29,0000	104,775 4,1250	2 330	5 700	405	500	750	115	<b>LM 377449/410</b>	LM 377400
<b>609,600</b> 24,0000	787,400 31,0000	93,662 3,6875	2 160	5 300	380	450	670	110	<b>EE 649240/310</b>	649000
<b>749,300</b> 29,5000	990,600 39,0000	159,500 6,2795	4 570	12 000	750	340	500	330	<b>LM 283649/610/HA1</b>	LM 283600
<b>760,000</b> 29,9183	889,000 35,0000	69,850 2,7500	1 230	3 800	255	380	560	67,5	<b>LL 483448/418</b>	LL 483400
	889,000 35,0000	88,900 3,5000	1 870	5 850	380	360	530	94,0	<b>L 183448/410</b>	L 183400
	889,000 35,0000	69,850 2,7500	1 230	3 800	255	380	560	66,5	<b>LL 483449/418</b>	LL 483400
<b>838,200</b> 33,0000	889,000 35,0000	88,900 3,5000	1 870	5 850	380	360	530	94,0	<b>L 183449/410</b>	L 183400
	1 041,400 41,0000	93,662 3,6875	1 900	4 800	320	320	460	160	<b>EE 763330/410</b>	763000



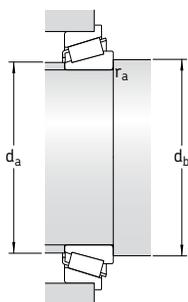
Dimensions							Abutment and fillet dimensions								Calculation factors			
d	d <sub>1</sub>	B	C	r <sub>1,2</sub>	r <sub>3,4</sub>	a	d <sub>a</sub>	d <sub>b</sub>	D <sub>a</sub>	D <sub>a</sub>	D <sub>b</sub>	C <sub>a</sub>	C <sub>b</sub>	r <sub>a</sub>	r <sub>b</sub>	e	Y	Y <sub>0</sub>
mm/in							mm								-			
<b>498,475</b> 19,6250	556	80,962 3,1875	63,500 2,5000	6,4 0,25	3,3 0,13	98	522	530	590	618	610	14	17	6	3	0,35	1,7	0,9
<b>558,800</b> 22,0000	637	88,108 3,4686	63,500 2,5000	6,4 0,25	6,4 0,25	111	600	590	689	704	707	13	24,5	6	6	0,35	1,7	0,9
	640	104,775 4,1250	80,962 3,1875	6,4 0,25	6,4 0,25	130	595	590	680	704	707	17	23,5	6	6	0,35	1,7	0,9
<b>609,600</b> 24,0000	687	93,662 3,6875	69,850 2,7500	6,4 0,25	6,4 0,25	125	643	642	732	755	755	17	23,5	6	6	0,37	1,6	0,9
<b>749,300</b> 29,5000	858	160,338 6,3125	123,000 4,8425	6,4 0,25	6,4 0,25	165	793	781	910	958	953	22	36,6	6	6	0,33	1,8	1
<b>760,000</b> 29,9183	819	69,850 2,7500	50,800 2,0000	3,3 0,13	3,3 0,13	132	785	777	844	872	858	13	19	3	3	0,37	1,6	0,9
	822	88,900 3,5000	72,000 2,8346	3,3 0,13	3,3 0,13	123	785	777	854	872	872	16	16,5	3	3	0,3	2	1,1
<b>762,000</b> 30,0000	819	69,850 2,7500	50,800 2,0000	3,3 0,13	3,3 0,13	132	785	779	844	872	858	13	19	3	3	0,37	1,6	0,9
	822	88,900 3,5000	72,000 2,8346	3,3 0,13	3,3 0,13	123	785	779	854	872	872	16	16,5	3	3	0,3	2	1,1
<b>838,200</b> 33,0000	925	88,900 3,5000	66,675 2,6250	6,4 0,25	6,4 0,25	177	894	870	975	1010	1001	10	26,5	6	6	0,44	1,35	0,8

**Metric single row tapered roller bearings  
with flanged outer ring**  
d 35 – 65 mm



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation
d	D	T	dynamic	static $C_0$		Refer- ence speed	Limiting speed		
mm			kN		kN	r/min		kg	–
35	80	22,75	72,1	73,5	8,3	6 700	9 000	0,52	30307 RJ2/Q
			52,8	71		7 000	9 500		
40	68	19	61,6	68	7,65	6 300	8 500	0,27 0,42	32008 XR/QVA621 30208 RJ2/Q
			134	176		4 800	6 700		
45	100	38,25	216	260	30	4 300	5 600	2,50	* 32311 BRJ2/QCL7C
65	110	34	142	208	24	4 300	5 600	1,30	33113 R/Q 30313 RJ2
			194	228		3 600	4 800		

\* SKF Explorer bearing



Dimensions									Abutment and fillet dimensions			Calculation factors		
d	$d_1$	$D_1$	B	C	$C_1$	$r_{1,2}$ min	$r_{3,4}$ min	a	$d_a$ max	$d_b$ min	$r_a$ max	e	Y	$Y_0$
mm									mm			-		
<b>35</b>	54,5	85	21	18	4,5	2	1,5	16	46	44	1,5	0,31	1,9	1,1
<b>40</b>	54,2 57,5	72 85	19 18	14,5 16	3,5 4	1 1,5	1 1,5	15 16	46 49	46 47	1 1	0,37 0,37	1,6 1,6	0,9 0,9
<b>45</b>	74,8	106	36	30	7	2	1,5	30	55	54	1,5	0,54	1,1	0,6
<b>55</b>	90,5	127	43	35	8	2,5	2	36	67	65	2	0,54	1,1	0,6
<b>65</b>	87,9 98,3	116 147	34 33	26,5 28	5,5 6	1,5 3	1,5 2,5	26 28	74 84	72 77	1 2	0,4 0,35	1,5 1,7	0,8 0,9



# Paired single row tapered roller bearings

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## Matched bearing pairs

For bearing arrangements where the load carrying capacity of a single tapered roller bearing is inadequate, or where the shaft has to be axially located in both directions with a given positive or negative axial play, the bearings listed in the section “Single row tapered roller bearings”, starting on **page 605**, can be supplied as matched pairs (→ **fig. 1**) arranged

- face-to-face
- back-to-back
- in tandem.

Matched bearing sets provide an economic solution to many bearing arrangement problems and offer many advantages, including

- simple mounting, since calibration of intermediate rings is not required, so that mounting errors are avoided
- exact axial location of the shaft; the axial play is determined during manufacture
- high radial and axial load carrying capacity
- simple maintenance; the lubricant can be introduced via the annular groove and lubrication holes in the intermediate ring.

SKF can supply matched bearing sets in the arrangements shown in **fig. 2** and described in the following. The bearing pairs shown in the product tables, starting on **page 680**, are only part of the comprehensive SKF programme. Other bearing sets can be supplied to order.

Fig. 1

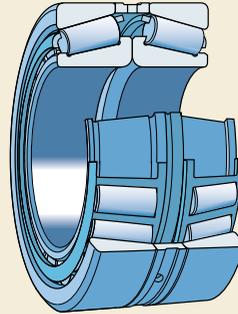
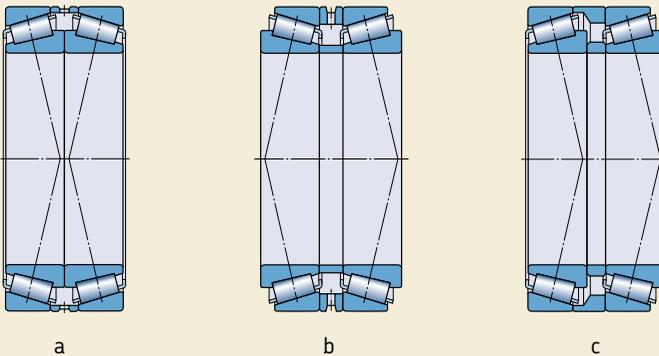


Fig. 2



### **Face-to-face arrangement**

In bearing pairs where the bearings are matched face-to-face, an intermediate ring is positioned between the two outer rings (→ **fig. 2a**) so that production is relatively simple. In face-to-face arrangements, the load lines converge towards the bearing axis. Axial loads acting in both directions can be accommodated by each bearing in one direction.

### **Back-to-back arrangement**

In bearing pairs where the bearings are arranged back-to-back (→ **fig. 2b**) an intermediate ring is positioned both between the two inner rings and between the two outer rings. This is a more expensive production than required for the face-to-face sets. In back-to-back arrangements, the load lines diverge towards the bearing axis, thus providing relatively rigid bearing arrangements, which can also take up tilting moments. Axial loads acting in both directions can be accommodated by each bearing in one direction.

### **Tandem arrangement**

Bearing pairs where the bearings are arranged in tandem are seldom used and also require an intermediate ring between both inner rings and both outer rings (→ **fig. 2c**). Because the load lines of the two bearings are in parallel, radial and axial loads will be equally distributed over the two bearings. The bearing pair can only accommodate axial loads acting in one direction and should be adjusted against a third bearing that can accommodate the axial loads acting in the opposite direction.

# Bearing data – general

the deviation of a single total abutment width of a bearing pair from the nominal.

## Dimensions

The boundary dimensions of the individual bearings with series designations of a set are in accordance with ISO 355:1977.

## Tolerances

The matched bearing sets are made to Normal tolerances as for the single bearings. The values for the Normal tolerances conform to ISO 492:2002 and are listed in **table 6** on **page 128**. The tolerance for the total width of the set, although not standardized, can be found in **table 1**. In the table  $\Delta_{TSD}$  designates

Table 1

Total width tolerances of matched single row metric tapered roller bearings													
Bore diameter		Total width tolerance $\Delta_{TSD}$ of matched bearings of series											
		329		320 X		330		331, 302, 322, 332		303, 323		313 (X)	
d over	incl.	$\Delta_{TSD}$ high	low	$\Delta_{TSD}$ high	low	$\Delta_{TSD}$ high	low	$\Delta_{TSD}$ high	low	$\Delta_{TSD}$ high	low	$\Delta_{TSD}$ high	low
mm		$\mu$ m											
-	30	-	-	+550	+100	-	-	+550	+100	+600	+150	+500	+50
30	40	-	-	+550	+100	-	-	+600	+150	+600	+150	+550	+50
40	50	-	-	+600	+150	-	-	+600	+200	+600	+200	+550	+50
50	65	-	-	+600	+150	-	-	+600	+200	+650	+200	+550	+100
65	80	-	-	+600	+200	-	-	+650	+200	+700	+200	+600	+100
80	100	+750	-150	+650	-250	+800	-50	+700	-200	+700	-100	+600	-300
100	120	+750	-150	+700	-200	+800	-100	+700	-200	+750	-150	+600	-300
120	140	+1 100	-200	+1 000	-300	+1 100	-200	+1 000	-300	+1 100	-200	+950	-350
140	160	+1 150	-150	+1 050	-250	+1 100	-200	+1 050	-250	+1 150	-150	+950	-350
160	180	+1 150	-150	+1 100	-200	-	-	+1 100	-200	+1 150	-150	-	-
180	190	+1 150	-150	+1 100	-200	-	-	+1 100	-200	+1 200	-100	-	-
190	200	+1 150	-150	+1 100	-200	-	-	+1 100	-200	+1 200	-100	-	-
200	225	+1 200	-100	+1 150	-150	-	-	+1 150	-150	+1 250	-50	-	-
225	250	+1 200	-100	+1 200	-100	-	-	+1 200	-100	+1 300	0	-	-
250	280	+1 300	0	+1 250	-50	-	-	+1 250	-50	-	-	-	-
280	300	+1 400	+100	+1 300	0	-	-	+1 300	0	-	-	-	-
300	315	+1 400	+100	+1 350	+50	-	-	+1 350	+50	-	-	-	-
315	340	+1 500	-200	+1 450	-250	-	-	+1 450	+200	-	-	-	-

## Axial internal clearance

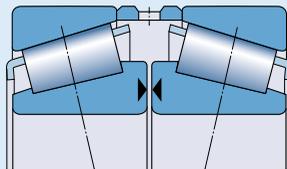
The bearing sets of standard metric bearings are produced with the axial internal clearance provided in **table 2** as standard. The values in the table apply to bearing pairs before they are mounted under measuring loads of

- 0,1 kN for bearings with outside diameter  $D \leq 90$  mm
- 0,3 kN for bearings with outside diameter  $90 < D \leq 240$  mm
- 0,5 kN for bearings with outside diameter  $D > 240$  mm.

Matched bearing sets having a clearance other than the standard value are identified by the designation suffix C followed by a two or three-figure number which gives the mean axial internal clearance in  $\mu\text{m}$ . The range of the special clearance is, however, the same as for the standard clearance, i.e. for the bearing set 32232 J2/DFC230, which has a mean axial internal clearance of 230  $\mu\text{m}$ , the clearance will lie in the range 200 to 260  $\mu\text{m}$ .

Table 2

### Axial internal clearance of matched single row metric tapered roller bearings



Bore diameter d over incl.	Axial internal clearance of matched bearings of series											
	329		320 X		330		331, 302, 322, 332		303, 323		313 (X)	
	min	max	min	max	min	max	min	max	min	max	min	max
mm	$\mu\text{m}$											
– 30	–	–	80	120	–	–	100	140	130	170	60	100
30 40	–	–	100	140	–	–	120	160	140	180	70	110
40 50	–	–	120	160	180	220	140	180	160	200	80	120
50 65	–	–	140	180	200	240	160	200	180	220	100	140
65 80	–	–	160	200	250	290	180	220	200	260	110	170
80 100	270	310	190	230	350	390	210	270	240	300	110	170
100 120	270	330	220	280	340	400	220	280	280	340	130	190
120 140	310	370	240	300	340	400	240	300	330	390	160	220
140 160	370	430	270	330	340	400	270	330	370	430	180	240
160 180	370	430	310	370	–	–	310	370	390	450	–	–
180 190	370	430	340	400	–	–	340	400	440	500	–	–
190 200	390	450	340	400	–	–	340	400	440	500	–	–
200 225	440	500	390	450	–	–	390	450	490	550	–	–
225 250	440	500	440	500	–	–	440	500	540	600	–	–
250 280	540	600	490	550	–	–	490	550	–	–	–	–
280 300	640	700	540	600	–	–	540	600	–	–	–	–
300 340	640	700	590	650	–	–	590	650	–	–	–	–

## Paired single row tapered roller bearings

### Misalignment

Any misalignment of the outer rings relative to the inner rings of matched bearing pairs can only be accommodated between the rollers and raceways by force. The increased stress in the bearing caused by misalignment should be avoided. If misalignment cannot be avoided, SKF recommends using the less rigid face-to-face arrangement.

### Cages

SKF single row tapered roller bearings that are matched in bearing sets, are fitted as standard with a pressed window-type steel cage, roller centred (→ fig. 3).

### Minimum load

In order to provide satisfactory operation, paired tapered roller bearings, like all ball and roller bearings, must always be subjected to a given minimum load, particularly if they are to operate at high speeds or are to be subjected to high accelerations or rapid changes in the direction of load. Under such conditions, the inertia forces of the rollers and cages, and the friction in the lubricant, can have a detrimental influence on the rolling conditions in the bearing arrangement and may cause damaging sliding movements to occur between the rollers and raceways.

The requisite minimum radial load to be applied to matched pairs of SKF standard bearings can be estimated from

$$F_{rm} = 0,02 C$$

and for matched pairs of SKF Explorer bearings from

$$F_{rm} = 0,017 C$$

where

$F_{rm}$  = minimum radial load for a bearing pair, kN  
 $C$  = basic dynamic load rating of a bearing pair, kN (→ product tables)

When starting up at low temperatures or when the lubricant is highly viscous, even greater minimum loads may be required. The weight of the components supported by the bearing pair, together with external forces, generally exceeds

Fig. 3



the requisite minimum load. If this is not the case, the bearing pair must be subjected to an additional radial load.

### Equivalent dynamic bearing load

For bearing pairs arranged face-to-face or back-to-back

$$P = F_r + Y_1 F_a \quad \text{when } F_a/F_r \leq e$$
$$P = 0,67 F_r + Y_2 F_a \quad \text{when } F_a/F_r > e$$

and for bearing pairs arranged in tandem

$$P = F_r \quad \text{when } F_a/F_r \leq e$$
$$P = 0,4 F_r + Y F_a \quad \text{when } F_a/F_r > e$$

$F_r$  and  $F_a$  are the forces acting on the bearing pair. Values for the calculation factors  $e$ ,  $Y$ ,  $Y_1$  and  $Y_2$  are provided in the product tables.

When determining the axial force for bearing pairs arranged in tandem reference should be made to the section "Determining axial force for bearings mounted singly or paired in tandem" on page 612.

### Equivalent static bearing load

For bearing pairs arranged face-to-face or back-to-back

$$P_0 = F_r + Y_0 F_a$$

and for bearing pairs arranged in tandem

$$P_0 = 0,5 F_r + Y_0 F_a$$

When  $P_0 < F_r$ ,  $P_0 = F_r$  should be used.  $F_r$  and  $F_a$  are the forces acting on the bearing pair. Values of the calculation factor  $Y_0$  are provided in the product tables.

When determining the axial force for bearing pairs arranged in tandem reference should be made to the section "Determining axial force for bearings mounted singly or paired in tandem" on **page 612**.

### Supplementary designations

The designation suffixes used to identify certain features of SKF paired single row tapered roller bearings are explained in the following.

- CL7C** High-performance design for pinion bearing arrangements
- C...** Special clearance. The two or three-figure number immediately following the C gives the mean axial internal clearance in  $\mu\text{m}$
- DB** Matched bearing pair arranged back-to-back. A figure combination immediately following the DB identifies the design of the intermediate rings
- DF** Matched bearing pair arranged face-to-face. A figure combination immediately following the DF identifies the design of the intermediate ring
- DT** Matched bearing pair arranged in tandem. A figure combination immediately following the DT identifies the design of the intermediate rings
- HA1** Case-hardened inner and outer rings
- HA3** Case-hardened inner ring
- J** Pressed window-type steel cage. A figure following the J indicates a different cage design
- Q** Optimized contact geometry and surface finish
- T** T, followed by a figure, identifies the total width of bearing pairs arranged back-to-back or in tandem
- X** Boundary dimensions changed to conform to ISO

## Fits for bearing pairs

The values of axial internal clearance provided in **table 2** on **page 675** are so dimensioned that if the bearings are mounted on shafts machined to

- m5 for shaft diameters up to and including 140 mm
- n6 for shaft diameters over 140 mm and up to and including 200 mm
- p6 for shaft diameters above 200 mm

an appropriate operational clearance will be obtained. These shaft seat tolerances are recommended where loads are moderate to heavy and rotating loads apply for the inner ring. If tighter fits are selected, it is necessary to check that the bearings do not become pinched or clamped.

For stationary outer ring load, the recommended housing bore tolerance is J6 or H7.

## Determining the load acting on bearing pairs

If matched pairs of tapered roller bearings arranged face-to-face or back-to-back are mounted together with a third bearing, the bearing arrangement is statically indeterminate. In these cases the size of the radial load  $F_r$  acting on the bearing pair must first be determined.

### Bearing pairs arranged face-to-face

For bearing pairs where the two bearings are arranged face-to-face ( $\rightarrow$  fig. 4) it can be assumed that the radial load will act at the geometric centre of the bearing set, as the distance between the pressure centres of the two bearings is short compared with the distance between the geometric centres of the set and the other bearing. In this case it can be assumed that the bearing arrangement is statically determined.

### Bearing pairs arranged back-to-back

The distance between the pressure centres of two bearings arranged back-to-back in a matched set is large compared with the distance  $L$  between the geometric centres of the set and the other bearing ( $\rightarrow$  fig. 5). It is therefore necessary to determine the magnitude of the load acting on the bearing pair and also the distance  $a_1$  at which the load acts. The magnitude of the radial load can be obtained from the equation

$$F_r = \frac{L_1}{L - a_1} K_r$$

where

$F_r$  = radial load acting on a bearing pair, kN

$K_r$  = radial force acting on the shaft, kN

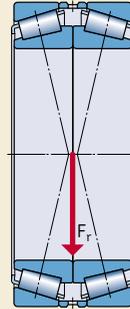
$L$  = distance between the geometric centres of the two bearing positions, mm

$L_1$  = distance between the centre of bearing position I and the point of action of the force  $K_r$ , mm

$a$  = distance between the bearing pressure centres, mm

$a_1$  = distance between the geometric centre of the bearing set and the point of action of the radial load  $F_r$ , mm

Fig. 4



The distance  $a_1$  can be determined using **diagram 1**. The distance of the pressure centres  $a$  and the calculation factor  $Y_2$  are provided in the product table.

Fig. 5

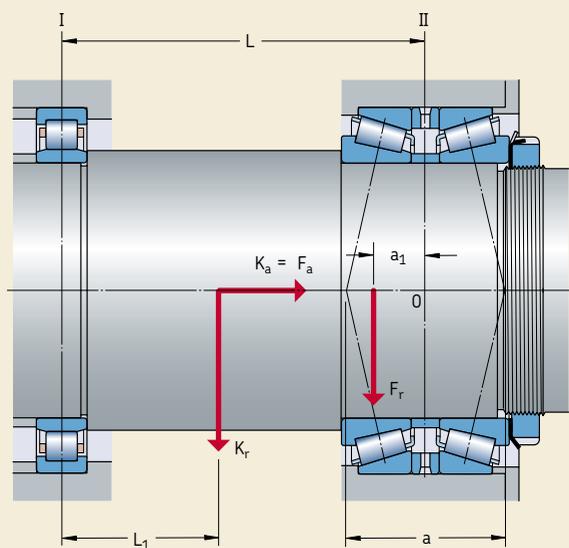
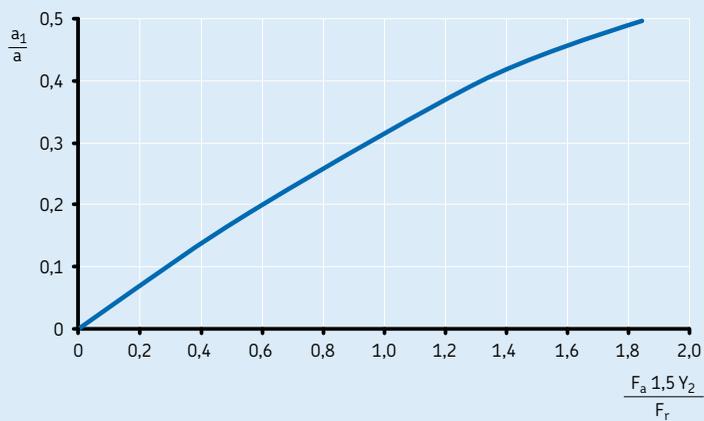
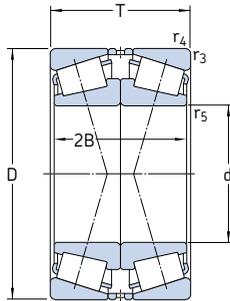


Diagram 1

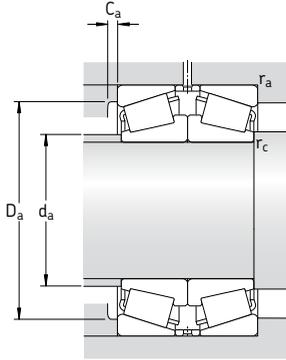


**Single row tapered roller bearings  
paired face-to-face**  
d 25 – 80 mm



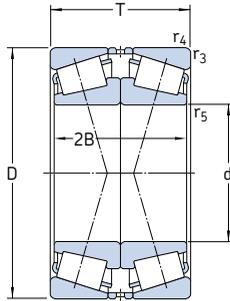
Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed		
mm			kN		kN	r/min		kg	–
25	62	36,5	64,4	80	8,65	6 000	11 000	0,55	31305 J2/QDF
30	72	41,5	80,9	100	11,4	5 300	9 500	0,85	31306 J2/QDF
35	80	45,5	105	134	15,6	4 500	8 500	1,10	31307 J2/QDF
40	90	50,5	146	163	19	4 500	7 500	1,50	* 31308 J2/QCL7CDF
45	100	54,5	180	204	24,5	4 000	6 700	2,00	* 31309 J2/QCL7CDF
50	90	43,5	130	183	20,8	4 500	7 500	1,10	30210 J2/QDF
	110	58,5	208	240	28,5	3 600	6 000	2,60	* 31310 J2/QCL7CDF
55	90	54	180	270	30,5	4 500	7 000	1,35	* 33011/QDF03C170
	120	63	209	275	33,5	3 000	5 600	3,30	31311 J2/QDF
60	95	46	163	245	27	4 300	6 700	1,90	* 32012 X/QCL7CDFC250
	110	59,5	216	320	37,5	3 600	6 000	2,40	32212 J2/QDFC290
	130	67	246	335	40,5	2 800	5 300	4,10	31312 J2/QDF
65	120	49,5	228	270	32,5	3 600	5 600	1,20	* 30213 J2/QDF
	140	72	281	380	47,5	2 600	4 800	5,05	31313 J2/QCL7CDF
70	110	50	172	305	34,5	3 400	5 600	1,80	32014 X/QDF
	110	62	220	400	45,5	3 400	5 600	2,40	33014/DF
	150	76	319	440	54	2 400	4 500	6,15	31314 J2/QCL7CDF
75	115	62	233	455	52	3 200	5 300	2,40	33015/QDF
	125	74	303	530	63	3 000	5 000	3,80	33115/QDFC150
	130	54,5	238	355	41,5	3 000	5 000	2,85	30215 J2/QDF
	130	66,5	275	425	49	3 000	5 000	3,40	32215 J2/QDF
	160	80	358	490	58,5	2 200	4 300	7,25	31315 J2/QCL7CDF
80	125	58	233	430	49	3 000	5 000	2,65	32016 X/QDFC165
	140	70,5	319	490	57	2 800	4 500	4,25	32216 J2/QDF
	170	85	380	530	64	2 200	4 000	8,75	31316 J1/QCL7CDF

\* SKF Explorer bearing

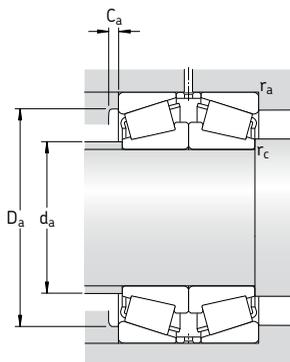


Dimensions				Abutment and fillet dimensions						Calculation factors			
d	2B	r <sub>3,4</sub> min	r <sub>5</sub> min	d <sub>a</sub> max	D <sub>a</sub> min	D <sub>a</sub> max	C <sub>a</sub> min	r <sub>a</sub> max	r <sub>c</sub> max	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
mm				mm						-			
25	34	1,5	0,6	34	47	55	3	1,5	0,6	0,83	0,81	1,2	0,8
30	38	1,5	0,6	40	55	65	3	1,5	0,6	0,83	0,81	1,2	0,8
35	42	1,5	0,6	45	62	71	3	1,5	0,6	0,83	0,81	1,2	0,8
40	46	1,5	0,6	51	71	81	3	1,5	0,6	0,83	0,81	1,2	0,8
45	50	1,5	0,6	57	79	91	4	1,5	0,6	0,83	0,81	1,2	0,8
50	40	1,5	0,6	58	79	83	3	1,5	0,6	0,43	1,6	2,3	1,6
	54	2	0,6	62	87	100	4	2	0,6	0,83	0,81	1,2	0,8
55	54	1,5	0,6	63	81	83	5	1,5	0,6	0,31	2,2	3,3	2,2
	58	2	0,6	68	94	112	4	2	0,6	0,83	0,81	1,2	0,8
60	46	1,5	0,6	67	85	88	4	1,5	0,6	0,43	1,6	2,3	1,6
	56	1,5	0,6	69	95	103	4	1,5	0,6	0,4	1,7	2,5	1,6
	62	2,5	1	74	103	118	5	2	1	0,83	0,81	1,2	0,8
65	46	1,5	0,6	78	106	113	4	1,5	0,6	0,4	1,7	2,5	1,6
	66	2,5	1	80	111	128	5	2	1	0,83	0,81	1,2	0,8
70	50	1,5	0,6	78	98	103	5	1,5	0,6	0,43	1,6	2,3	1,6
	62	1,5	0,6	78	99	103	5	1,5	0,6	0,28	2,4	3,6	2,5
	70	2,5	1	85	118	138	5	2	1	0,83	0,81	1,2	0,8
75	62	1,5	0,6	84	104	108	6	1,5	0,6	0,3	2,3	3,4	2,2
	74	1,5	0,6	84	109	117	6	1,5	0,6	0,4	1,7	2,5	1,6
	50	1,5	0,6	86	115	122	4	1,5	0,6	0,43	1,6	2,3	1,6
	62	1,5	0,6	85	114	122	4	1,5	0,6	0,43	1,6	2,3	1,6
	74	2,5	1	91	127	148	6	2	1	0,83	0,81	1,2	0,8
80	58	1,5	0,6	90	112	117	6	1,5	0,6	0,43	1,6	2,3	1,6
	66	2	0,6	91	122	130	5	2	0,6	0,43	1,6	2,3	1,6
	78	2,5	1	97	134	158	6	2	1	0,83	0,81	1,2	0,8

**Single row tapered roller bearings  
paired face-to-face**  
d 85 – 120 mm

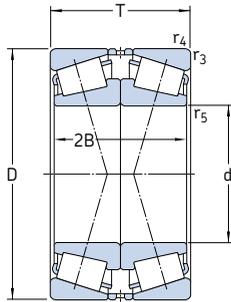


Principal dimensions			Basic load ratings dynamic static		Fatigue load limit $P_u$	Speed ratings Refer- ence speed		Mass	Designation
d	D	T	C	$C_0$			Limiting speed		
mm			kN		kN	r/min		kg	–
<b>85</b>	130	58	238	450	51	2 800	4 800	2,80	<b>32017 X/QDF</b> <b>33017/QDFC240</b>
	130	72	308	620	69,5	2 800	4 800	3,55	
	150	61	303	440	51	2 600	4 300	4,30	<b>30217 J2/QDF</b> <b>32217 J2/QDF</b> <b>33217/QDF</b> <b>31317 J2/DF</b>
	150	77	369	570	65,5	2 600	4 300	5,45	
	150	98	495	850	96,5	2 400	4 300	7,35	
	180	89	413	570	67	2 000	3 800	10,0	
<b>90</b>	140	64	292	540	62	2 600	4 300	3,65	<b>32018 X/QDF</b> <b>33018/QDFC150</b>
	140	78	369	710	78	2 600	4 500	4,50	
	160	65	336	490	57	2 400	4 000	5,15	<b>30218 J2/DF</b> <b>32218 J2/QDF</b> <b>31318 J2/DF</b>
	160	85	429	680	76,5	2 400	4 000	6,90	
	190	93	457	630	73,5	1 900	3 400	11,5	
<b>95</b>	145	78	380	735	81,5	2 600	4 300	5,00	<b>33019/QDF</b> <b>32219 J2/DF</b> <b>31319 J2/DF</b>
	170	91	484	780	86,5	2 200	3 800	8,45	
	200	99	501	710	78	1 800	3 400	13,0	
<b>100</b>	150	64	292	560	62	2 400	4 000	3,95	<b>32020 X/QDF</b> <b>30220 J2/DF</b> <b>32220 J2/DF</b>
	180	74	418	640	72	2 200	3 600	7,60	
	180	98	539	880	96,5	2 200	3 600	10,0	
	215	103	693	980	106	1 900	3 200	16,5	<b>30320 J2/DFC400</b> <b>31320 XJ2/DF</b>
	215	113	644	930	102	1 700	3 000	18,0	
	<b>105</b>	160	70	347	670	73,5	2 200	3 800	5,00
<b>110</b>	170	76	402	780	85	2 200	3 600	6,30	<b>32022 X/QDF</b> <b>33122/DF</b>
	180	112	627	1 250	134	2 000	3 400	11,5	
	200	82	523	800	90	2 000	3 200	10,5	<b>30222 J2/DF</b> <b>32222 J2/DF</b> <b>31322 XJ2/DF</b>
	200	112	682	1 140	122	1 900	3 200	14,5	
	240	126	781	1 160	125	1 500	2 800	26,0	
<b>120</b>	180	76	418	830	88	2 000	3 400	6,75	<b>32024 X/DF</b> <b>33024/DFC250</b>
	180	96	495	1 080	112	2 000	3 400	8,65	
	215	87	583	915	98	1 800	3 000	13,0	<b>30224 J2/DF</b> <b>32224 J2/DF</b>
	215	123	792	1 400	146	1 800	3 000	18,5	
	260	119	968	1 400	146	1 600	2 600	29,5	<b>30324 J2/DFC600</b> <b>31324 XJ2/DF</b>
	260	136	935	1 400	146	1 400	2 400	33,5	

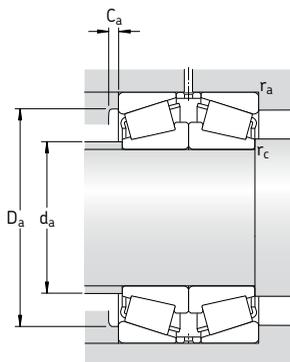


Dimensions				Abutment and fillet dimensions						Calculation factors			
d	2B	r <sub>3,4</sub> min	r <sub>5</sub> min	d <sub>a</sub> max	D <sub>a</sub> min	D <sub>a</sub> max	C <sub>a</sub> min	r <sub>a</sub> max	r <sub>c</sub> max	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
mm				mm						-			
<b>85</b>	58	1,5	0,6	94	117	122	6	1,5	0,6	0,44	1,5	2,3	1,6
	72	1,5	0,6	94	118	122	6	1,5	0,6	0,3	2,3	3,4	2,2
<b>90</b>	56	2	0,6	97	132	140	5	2	0,6	0,43	1,6	2,3	1,6
	72	2	0,6	97	130	140	5	2	0,6	0,43	1,6	2,3	1,6
	98	2	0,6	96	128	140	7	2	0,6	0,43	1,6	2,3	1,6
	82	3	1	103	143	166	6	2,5	1	0,83	0,81	1,2	0,8
<b>95</b>	64	1,5	0,6	100	125	132	6	1,5	0,6	0,43	1,6	2,3	1,6
	78	1,5	0,6	100	127	132	7	1,5	0,6	0,27	2,5	3,7	2,5
	60	2	0,6	102	140	150	5	2	0,6	0,43	1,6	2,3	1,6
	80	2	0,6	102	138	150	5	2	0,6	0,43	1,6	2,3	1,6
<b>95</b>	86	3	1	109	151	176	5	2,5	1	0,83	0,81	1,2	0,8
	78	1,5	0,6	104	131	138	7	1,5	0,6	0,28	2,4	3,6	2,5
	86	2,5	1	109	145	158	5	2	1	0,43	1,6	2,3	1,6
<b>100</b>	90	3	1	114	157	186	5	2,5	1	0,83	0,81	1,2	0,8
	64	1,5	0,6	110	134	142	6	1,5	0,6	0,46	1,5	2,2	1,4
	68	2,5	1	116	157	168	5	2	1	0,43	1,6	2,3	1,6
<b>100</b>	92	2,5	1	115	154	168	5	2	1	0,43	1,6	2,3	1,6
	94	3	1	127	184	201	6	2,5	1	0,35	1,9	2,9	1,8
<b>105</b>	102	3	1	121	168	201	7	2,5	1	0,83	0,81	1,2	0,8
	70	2	0,6	116	143	150	6	2	0,6	0,44	1,5	2,3	1,6
<b>110</b>	76	2	0,6	123	152	160	7	2	0,6	0,43	1,6	2,3	1,6
	112	2	0,6	121	155	170	9	2	0,6	0,43	1,6	2,3	1,6
<b>120</b>	76	2,5	1	129	174	188	6	2	1	0,43	1,6	2,3	1,6
	106	2,5	1	127	170	188	6	2	1	0,43	1,6	2,3	1,6
	114	3	1	135	188	226	7	2,5	1	0,83	0,81	1,2	0,8
	76	2	0,6	132	161	170	7	2	0,6	0,46	1,5	2,2	1,4
<b>120</b>	96	2	0,6	132	160	170	6	2	0,6	0,3	2,3	3,4	2,2
	80	2,5	1	141	187	203	6	2	1	0,43	1,6	2,3	1,6
	116	2,5	1	137	181	203	7	2	1	0,43	1,6	2,3	1,6
	110	3	1	153	221	245	7	2,5	1	0,35	1,9	2,9	1,8
<b>120</b>	124	3	1	145	203	245	9	2,5	1	0,83	0,81	1,2	0,8

**Single row tapered roller bearings**  
**paired face-to-face**  
**d 130 – 220 mm**

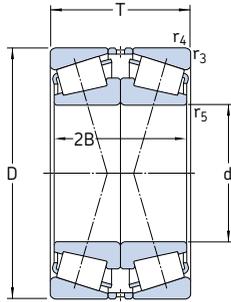


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation
d	D	T	dynamic	static		Reference speed	Limiting speed		
mm	mm	mm	kN	kN	kN	r/min	r/min	kg	—
<b>130</b>	180	64	341	735	76,5	2 000	3 600	4,95	<b>32926/DF</b>
	200	90	539	1 080	110	1 800	3 000	10,0	<b>32026 X/DF</b>
	230	87,5	627	980	106	1 700	2 800	14,5	<b>30226 J2/DF</b>
	230	135,5	952	1 660	170	1 600	2 800	23,0	<b>32226 J2/DF</b>
	280	144	1 050	1 560	163	1 300	2 400	40,0	<b>31326 XJ2/DF</b>
<b>140</b>	210	90	561	1 160	116	1 700	2 800	11,0	<b>32028 X/DF</b>
	250	91,5	721	1 140	116	1 500	2 600	18,0	<b>30228 J2/DFC100</b>
	250	143,5	1 100	2 000	200	1 500	2 600	29,5	<b>32228 J2/DF</b>
	300	154	1 190	1 800	176	1 200	2 200	52,5	<b>31328 XJ2/DF</b>
<b>150</b>	225	96	644	1 320	132	1 600	2 600	13,5	<b>32030 X/DF</b>
	270	98	737	1 120	114	1 400	2 400	22,5	<b>30230/DFC350</b>
	270	154	1 250	2 280	224	1 400	2 400	37,0	<b>32230 J2/DF</b>
	320	164	1 340	2 040	200	1 100	2 000	58,5	<b>31330 XJ2/DF</b>
<b>160</b>	240	102	737	1 560	156	1 500	2 400	16,0	<b>32032 X/DF</b>
	290	104	913	1 460	143	1 300	2 200	27,5	<b>30232 J2/DF</b>
	290	168	1 510	2 800	265	1 300	2 200	48,0	<b>32232 J2/DF</b>
<b>170</b>	230	76	484	1 160	110	1 500	2 800	9,20	<b>32934/DFC225</b>
	260	114	880	1 830	180	1 400	2 200	22,0	<b>32034 X/DF</b>
	310	182	1 720	3 250	300	1 200	2 000	59,0	<b>32234 J2/DF</b>
<b>180</b>	250	90	605	1 460	137	1 400	2 600	14,0	<b>32936/DF</b>
	280	128	1 100	2 320	220	1 300	2 000	29,5	<b>32036 X/DF</b>
	320	114	1 010	1 630	160	1 200	2 000	42,0	<b>30236 J2/DFC300</b>
	320	182	1 720	3 250	300	1 100	1 900	61,0	<b>32236 J2/DF</b>
<b>190</b>	260	90	616	1 530	143	1 300	2 400	14,5	<b>32938/DF</b>
	290	128	1 120	2 400	224	1 200	2 000	30,5	<b>32038 X/DF</b>
	340	120	1 230	2 000	190	1 100	1 800	50,0	<b>30238 J2/DFC700</b>
<b>200</b>	310	140	1 280	2 750	255	1 100	1 900	39,0	<b>32040 X/DF</b>
	360	128	1 340	2 240	212	1 000	1 700	52,0	<b>30240 J2/DFC570</b>
	360	208	2 090	4 000	360	1 000	1 700	88,0	<b>32240 J2/DF</b>
<b>220</b>	300	102	842	2 000	183	1 100	2 000	21,0	<b>32944/DFC300</b>
	340	152	1 540	3 350	300	1 000	1 700	51,0	<b>32044 X/DF</b>

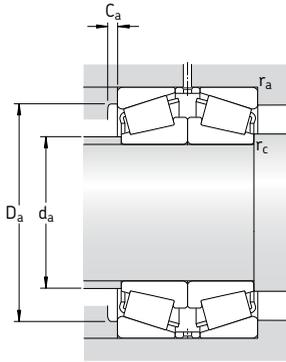


Dimensions				Abutment and fillet dimensions						Calculation factors			
d	2B	r <sub>3,4</sub> min	r <sub>5</sub> min	d <sub>a</sub> max	D <sub>a</sub> min	D <sub>a</sub> max	C <sub>a</sub> min	r <sub>a</sub> max	r <sub>c</sub> max	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
mm				mm						-			
<b>130</b>	64	1,5	0,6	141	167	172	6	1,5	0,6	0,33	2	3	2
	90	2	0,6	144	178	190	7	2	0,6	0,43	1,6	2,3	1,6
	80	3	1	152	203	216	7	2,5	1	0,43	1,6	2,3	1,6
	128	3	1	146	193	216	7	2,5	1	0,43	1,6	2,3	1,6
	132	4	1,5	157	218	263	8	3	1,5	0,83	0,81	1,2	0,8
<b>140</b>	90	2	0,6	153	187	200	7	2	0,6	0,46	1,5	2,2	1,4
	84	3	1	164	219	236	7	2,5	1	0,43	1,6	2,3	1,6
	136	3	1	159	210	236	8	2,5	1	0,43	1,6	2,3	1,6
	140	4	1,5	169	235	283	9	3	1,5	0,83	0,81	1,2	0,8
<b>150</b>	96	2,5	1	164	200	213	8	2	1	0,46	1,5	2,2	1,4
	90	3	1	175	234	256	9	2,5	1	0,43	1,6	2,3	1,6
	146	3	1	171	226	256	8	2,5	1	0,43	1,6	2,3	1,6
	150	4	1,5	181	251	303	9	3	1,5	0,83	0,81	1,2	0,8
<b>160</b>	102	2,5	1	175	213	228	8	2	1	0,46	1,5	2,2	1,4
	96	3	1	189	252	275	8	2,5	1	0,43	1,6	2,3	1,6
	160	3	1	183	242	275	10	2,5	1	0,43	1,6	2,3	1,6
<b>170</b>	76	2	0,6	183	213	220	7	2	0,6	0,37	1,7	2,8	1,8
	114	2,5	1	188	230	246	10	2	1	0,44	1,5	2,3	1,6
	172	4	1,5	196	259	293	10	3	1,5	0,43	1,6	2,3	1,6
<b>180</b>	90	2	0,6	194	225	240	8	2	0,6	0,48	1,4	2,1	1,4
	128	2,5	1	199	247	266	10	2	1	0,43	1,6	2,3	1,6
	104	4	1,5	211	278	303	9	3	1,5	0,44	1,5	2,3	1,6
	172	4	1,5	204	267	303	10	3	1,5	0,44	1,5	2,3	1,6
<b>190</b>	90	2	0,6	204	235	248	8	2	0,6	0,48	1,4	2,1	1,4
	128	2,5	1	210	257	276	10	2	1	0,44	1,5	2,3	1,6
	110	4	1,5	224	298	323	9	3	1,5	0,43	1,6	2,3	1,6
<b>200</b>	140	2,5	1	222	273	296	11	2	1	0,43	1,6	2,3	1,6
	116	4	1,5	237	315	343	9	3	1,5	0,43	1,6	2,3	1,6
	196	4	1,5	231	302	343	11	3	1,5	0,4	1,7	2,5	1,6
<b>220</b>	102	2,5	1	234	275	286	9	2	1	0,43	1,6	2,3	1,6
	152	3	1	244	300	325	12	2,5	1	0,43	1,6	2,3	1,6

**Single row tapered roller bearings  
paired face-to-face**  
d 240 – 320 mm

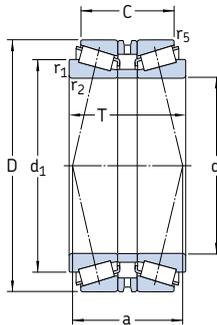


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation
d	D	T	dynamic C	static $C_0$		Refer- ence speed	Limiting speed		
mm			kN		kN	r/min		kg	–
<b>240</b>	360	152	1 570	3 550	315	950	1 600	54,5	<b>32048 X/DF</b>
<b>260</b>	400	174	1 980	4 400	380	850	1 400	79,5	<b>32052 X/DF</b>
<b>280</b>	420	174	2 050	4 750	400	800	1 300	84,5	<b>32056 X/DF</b>
<b>300</b>	420	152	1 790	4 500	375	800	1 400	65,5	<b>32960/DF</b>
<b>320</b>	480	200	2 640	6 200	510	700	1 100	125	<b>32064 X/DF</b>

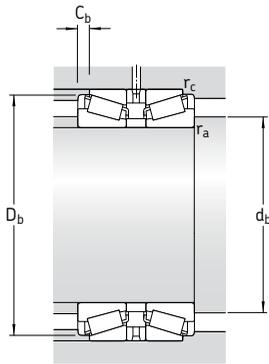


Dimensions				Abutment and fillet dimensions						Calculation factors			
d	2B	r <sub>3,4</sub> min	r <sub>5</sub> min	d <sub>a</sub> max	D <sub>a</sub> min	D <sub>a</sub> max	C <sub>a</sub> min	r <sub>a</sub> max	r <sub>c</sub> max	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
mm				mm						-			
<b>240</b>	152	3	1	262	318	345	12	2,5	1	0,46	1,5	2,2	1,4
<b>260</b>	174	4	1,5	287	352	383	13	3	1,5	0,43	1,6	2,3	1,6
<b>280</b>	174	4	1,5	305	370	400	14	3	1,5	0,46	1,5	2,2	1,4
<b>300</b>	152	3	1	324	383	404	12	2,5	1	0,4	1,7	2,5	1,6
<b>320</b>	200	4	1,5	350	424	460	15	3	1,5	0,46	1,5	2,2	1,4

**Single row tapered roller bearings  
paired back-to-back**  
d 40 – 170 mm

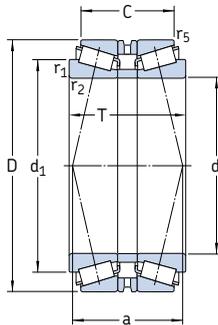


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation
d	D	T	dynamic	static		Refer- ence speed	Limiting speed		
mm			kN		kN	r/min		kg	–
<b>40</b>	90	72	147	190	21,6	4 800	8 000	1,90	<b>30308T72 J2/QDBC220</b>
<b>75</b>	130	70	238	355	41,5	3 000	5 000	3,25	<b>30215T70 J2/DBC270</b>
	130	80	275	425	49	3 000	5 000	6,80	<b>32215T80 J2/QDB</b>
<b>80</b>	140	78	319	490	57	2 800	4 500	4,45	<b>32216T78 J2/QDBC110</b>
<b>85</b>	130	66	238	450	51	2 800	4 800	2,70	<b>32017T66 X/QDBC280</b>
	150	71	303	440	51	2 600	4 300	4,10	<b>30217T71 J2/QDB</b>
<b>90</b>	190	103	457	630	73,5	1 900	3 400	12,5	<b>31318T103 J2/DB31</b>
<b>100</b>	180	108	539	880	96,5	2 200	3 600	10,5	<b>32220T108 J2/DB</b>
	180	140	539	880	96,5	2 200	3 600	12,5	<b>32220T140 J2/DB11</b>
<b>110</b>	170	84	402	780	85	2 200	3 600	6,50	<b>32022T84 X/QDBC200</b>
<b>120</b>	180	84	418	830	88	2 000	3 400	7,00	<b>32024T84 X/QDBC200</b>
	215	146	792	1 400	146	1 800	3 000	21,0	<b>32224T146 J2/DB31C210</b>
	260	146	935	1 400	146	1 400	2 400	35,0	<b>31324T146 XJ2/DB</b>
<b>130</b>	230	97,5	627	980	106	1 700	2 800	15,0	<b>30226T97.5 J2/DB</b>
	280	142	1 080	1 600	166	1 400	2 400	36,5	<b>30326T142 J2/DB11C150</b>
<b>140</b>	210	130	561	1 160	116	1 700	2 800	12,7	<b>32028T130 X/QDB</b>
	250	106	721	1 140	116	1 500	2 600	19,5	<b>30228T106 J2/DB</b>
	250	158	1 100	2 000	200	1 500	2 600	31,0	<b>32228T158 J2/DB</b>
<b>150</b>	270	168	1 250	2 280	224	1 400	2 400	38,0	<b>32230T168 J2/DB</b>
	270	248	1 250	2 280	224	1 400	2 400	39,5	<b>32230T248 J2/DB31</b>
	320	179	1 340	2 040	200	1 100	2 000	58,5	<b>31330T179 XJ2/DB</b>
<b>160</b>	290	179	1 510	2 800	265	1 300	2 200	52,5	<b>32232T179 J2/DB32C230</b>
<b>170</b>	260	162	880	1 830	180	1 400	2 200	30,5	<b>32034T162 X/DB31</b>

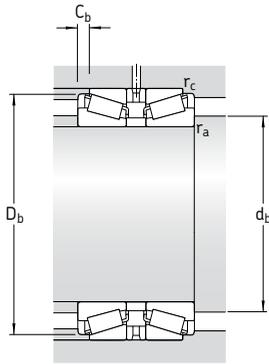


Dimensions						Abutment and fillet dimensions					Calculation factors			
d	d <sub>1</sub>	C	r <sub>1,2</sub> min	r <sub>5</sub> min	a	d <sub>b</sub> min	D <sub>b</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>c</sub> max	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
mm						mm					-			
<b>40</b>	62,5	61,5	2	0,6	50	49	82	5	2	0,6	0,35	1,9	2,9	1,8
<b>75</b>	99,2	59,5	2	0,6	69	84	124	5	2	0,6	0,43	1,6	2,3	1,6
	100	67,5	2	0,6	72	84	125	6	2	0,6	0,43	1,6	2,3	1,6
<b>80</b>	106	63,5	2,5	0,6	68	90	134	7	2	0,6	0,43	1,6	2,3	1,6
<b>85</b>	108	52	1,5	0,6	64	92	125	7	1,5	0,6	0,44	1,5	2,3	1,4
	112	58,5	2,5	0,6	71	95	141	6,5	2	0,6	0,43	1,6	2,3	1,6
<b>90</b>	138	70	4	1	124	105	179	16,5	3	1	0,83	0,81	1,2	0,8
<b>100</b>	135	88	3	1	92	112	171	10	2,5	1	0,43	1,6	2,3	1,6
	135	120	3	1	124	112	171	10	2,5	1	0,43	1,6	2,3	1,6
<b>110</b>	140	66	2,5	0,6	80	121	163	9	2	0,6	0,43	1,6	2,3	1,6
	150	66	2,5	0,6	86	131	173	9	2	0,6	0,46	1,5	2,2	1,4
	163	123	3	1	125	132	204	11,5	2,5	1	0,43	1,6	2,3	1,6
<b>120</b>	190	134	4	1	166	135	244	26	3	1	0,83	0,81	1,2	0,9
	173	78	4	1	99	146	217	9,5	3	1	0,43	1,6	2,3	1,6
<b>130</b>	196	112,5	5	1,5	117	150	255	14,5	4	1,5	0,35	1,9	2,9	1,8
	175	108	2,5	0,6	132	152	202	11	2	0,6	0,46	1,5	2,2	1,4
<b>140</b>	186	86,5	4	1	108	156	234	9,5	3	1	0,43	1,6	2,3	1,6
	191	130,5	4	1	134	156	238	13,5	3	1	0,43	1,6	2,3	1,6
	205	134	4	1	142	166	254	17	3	1	0,43	1,6	2,3	1,6
<b>150</b>	205	214	4	1	222	166	254	17	3	1	0,43	1,6	2,3	1,6
	234	115	5	1,5	207	170	300	32	4	1,5	0,83	0,81	1,2	0,8
	<b>160</b>	221	145	4	1	150	176	274	17	3	1	0,43	1,6	2,3
<b>170</b>	214	134	3	1	160	184	249	14	2,5	1	0,44	1,5	2,3	1,6

**Single row tapered roller bearings  
paired back-to-back**  
d 180 – 260 mm

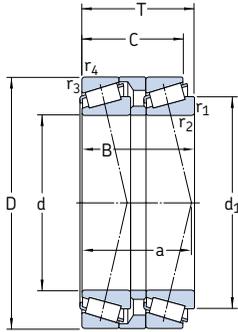


Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation
d	D	T	dynamic	static		Refer- ence speed	Limiting speed		
mm			kN	kN		r/min	kg	–	
<b>180</b>	250	135	605	1 460	137	1 400	2 600	14,5	<b>32936T135/DBC260</b>
	280	150	1 100	2 320	220	1 300	2 200	29,5	<b>32036T150 X/DB</b>
	280	150	1 100	2 320	220	1 300	2 200	29,5	<b>32036T150 XDB11C150</b>
	320	196	1 720	3 250	300	1 100	1 900	61,5	<b>32236T196 J2/DB32</b>
<b>190</b>	260	102	616	1 530	143	1 300	2 400	15,0	<b>32938T102/DB31</b>
	260	122	616	1 530	143	1 300	2 400	15,5	<b>32938T122/DBCG</b>
	290	146	1 120	2 400	224	1 200	2 000	31,5	<b>32038T146 X/DB42C220</b>
	290	146	1 120	2 400	224	1 200	2 000	31,5	<b>32038T146 X/DBC220</b>
	290	183	1 120	2 400	224	1 200	2 000	32,5	<b>32038T183 X/DB31C330</b>
<b>200</b>	310	154,5	1 280	2 750	255	1 100	1 900	39,5	<b>32040T154.5 X/DB11C170</b>
<b>220</b>	340	165	1 540	3 550	300	1 000	1 700	52,0	<b>32044T165 X/DB11C170</b>
	340	165	1 540	3 550	300	1 000	1 700	52,0	<b>32044T165 X/DB42C220</b>
	340	165	1 540	3 550	300	1 000	1 700	52,0	<b>32044T165 X/DBC340</b>
	340	168	1 540	3 550	300	1 000	1 700	52,0	<b>32044T168 X/DB</b>
<b>240</b>	360	172	1 570	3 550	315	950	1 600	56,0	<b>32048T172 X/DB</b>
	440	284	3 300	6 550	550	800	1 400	180	<b>32248T284 J3/DB</b>
<b>260</b>	400	189	1 980	4 400	380	850	1 400	80,5	<b>32052T189 X/DBC280</b>
	400	194	1 980	4 400	380	850	1 400	80,5	<b>32052T194 X/DB</b>

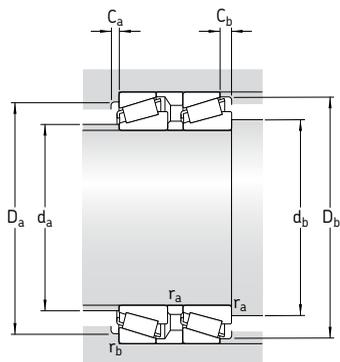


Dimensions						Abutment and fillet dimensions					Calculation factors			
d	d <sub>1</sub>	C	r <sub>1,2</sub> min	r <sub>5</sub> min	a	d <sub>b</sub> min	D <sub>b</sub> min	C <sub>b</sub> min	r <sub>a</sub> max	r <sub>c</sub> max	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
mm						mm					-			
<b>180</b>	216	83	2,5	0,6	122	192	241	11	2	0,6	0,48	1,4	2,1	1,4
	229	118	3	1	140	194	267	16	2,5	1	0,43	1,6	2,3	1,6
	229	118	3	1	140	194	267	16	2,5	1	0,43	1,6	2,3	1,6
	239	156	5	1,5	169	200	297	14	4	1,5	0,44	1,5	2,3	1,4
<b>190</b>	227	80	2,5	0,6	122	202	251	11	2	0,6	0,48	1,4	2,1	1,4
	227	100	2,5	0,6	142	202	251	11	2	0,6	0,48	1,4	2,1	1,4
	240	114	3	1	142	204	279	16	2,5	1	0,44	1,5	2,3	1,4
	240	114	3	1	142	204	279	16	2,5	1	0,44	1,5	2,3	1,4
	240	151	3	1	179	204	279	16	2,5	1	0,44	1,5	2,3	1,4
<b>200</b>	254	120,5	3	1	147	214	297	17	2,5	1	0,43	1,6	2,3	1,6
<b>220</b>	279	127	4	1	157	236	326	19	3	1	0,43	1,6	2,3	1,6
	279	127	4	1	157	236	326	19	3	1	0,43	1,6	2,3	1,6
	279	127	4	1	157	236	326	19	3	1	0,43	1,6	2,3	1,6
	279	130	4	1	160	236	326	19	3	1	0,43	1,6	2,3	1,6
<b>240</b>	299	134	4	1	175	256	346	19	3	1	0,46	1,5	2,2	1,4
	346	230	5	1,5	240	262	415	27	4	1,5	0,43	1,6	2,3	1,6
<b>260</b>	328	145	5	1,5	183	282	383	22	4	1,5	0,43	1,6	2,3	1,6
	328	150	5	1,5	188	282	383	22	4	1,5	0,43	1,6	2,3	1,6

**Single row tapered roller bearings  
paired in tandem**  
d 55 – 80 mm



Principal dimensions			Basic load ratings		Fatigue load limit $P_u$	Speed ratings		Mass	Designation
d	D	T	dynamic	static $C_0$		Refer- ence speed	Limiting speed		
mm			kN		kN	r/min		kg	–
<b>55</b>	115	73	216	325	39	3 000	5 600	3,50	<b>T7FC 055T73/QCL7CDTC10</b>
<b>60</b>	125	80	264	405	49	2 800	5 300	4,05	<b>T7FC 060T80/QCL7CDTC10</b>
<b>70</b>	140	83	303	480	55	2 400	4 500	11,0	<b>T7FC 070T83/QCL7CDTC10</b>
<b>80</b>	160	98	391	630	71	2 200	4 000	16,5	<b>T7FC 080T98/QCL7CDTC20</b>



Dimensions				Abutment and fillet dimensions										Calculation factors				
d	$d_1$	B	C	$r_{1,2}$	$r_{3,4}$	a	$d_a$	$d_b$	$D_a$	$D_b$	$C_a$	$C_b$	$r_a$	$r_b$	e	Y	$Y_0$	
							mm							-				
55	90	70	62,5	3	3	78	66	67	86	101	109	4	10,5	2,5	2,5	0,88	0,68	0,4
60	97	76,5	69	3	3	84	72	72	94	111	119	4	11	2,5	2,5	0,83	0,72	0,4
70	110	79,5	71	3	3	47	82	82	106	126	133	5	12	2,5	2,5	0,88	0,68	0,4
80	125	94	84	3	3	106	94	92	121	146	152	5	14	2,5	2,5	0,88	0,68	0,4