1 Overview, selection and application recommendations

Bearing types

- SKF manufactures different types of split bearings. Information about split cylindrical roller bearings (**page 70**) and split tapered roller bearings (**page 102**) can be found in this publication. See (**fig. 1**) for example pictures of standard assortment of split cylindrical roller bearings and split tapered roller bearings. Information about split spherical roller bearings can be found in another publication: PUB 73/P2 18333 EN.
- For interest in other product types, please contact SKF.

Housing types

SKF Cooper split roller bearings can be mounted in various housings:

- plummer (pillow) block housings:
  - with a two-bolt base (**fig. 2**)
  - with a four-bolt base (**fig. 3**)
  - interchangeable with SN housings
  - interchangeable with SD housings
  - interchangeable with SAF housings (**fig. 4**)
  - angled design, interchangeable with SN housings
  - angled design, interchangeable with SD housings
  - angled design, interchangeable with SAF housings
- flanged housings:
  - round (**fig. 5**)
  - square (**fig. 6**)
- hanger housings:
  - single boss (**fig. 7**)
  - double boss (**fig. 8**)
  - triple boss (**fig. 9**)
- take-up housings:
  - tension type (**fig. 10**)
  - push type (**fig. 11**)
- rod end housings:
  - "T" type (**fig. 12**)
  - shoe type (**fig. 13**)

Materials

The various components of SKF Cooper split roller bearing units are made of the following materials, as standard:

- bearing rings and rollers: high carbon chromium bearing steel
- bearing cages:
  - Split cylindrical roller bearings: **table 2**, **page 71**
  - Split tapered roller bearings: brass
- clamping rings: low or medium carbon steel
- cartridges: grey iron
- housings: grey iron or ductile iron
- screws: high tensile steel

Alternative materials are also available. Additional information is provided under *Designations* on **page 186**.

Fig. 1

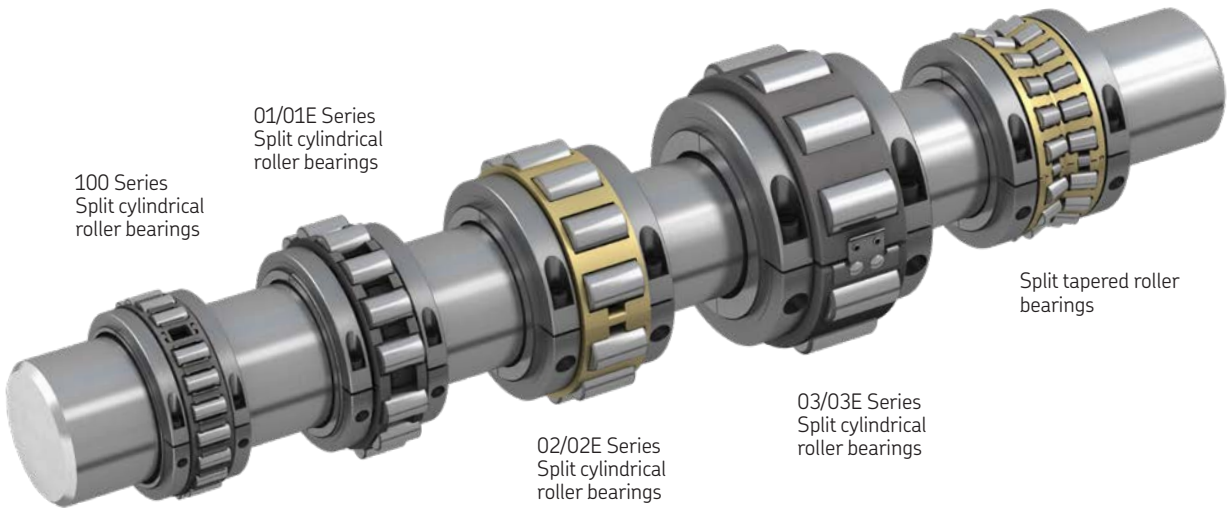


Fig. 2

Plummer block housing with a two-bolt base

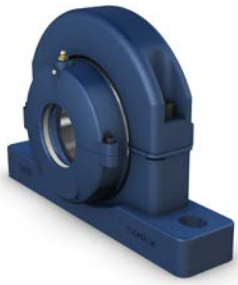


Fig. 3

Plummer block housing with a four-bolt base

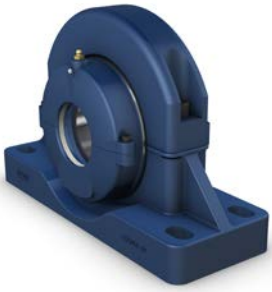


Fig. 4

Plummer block housing, interchangeable with SAF housing

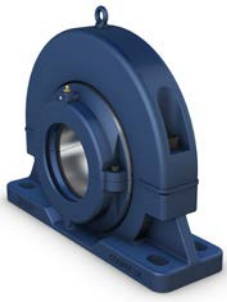


Fig. 5

Flanged housing (round flange)



Fig. 6

Flanged housing (square flange)



Fig. 7

Hanger housing (single boss)



Fig. 8

Hanger housing (double boss)



Fig. 9

Hanger housing (triple boss)

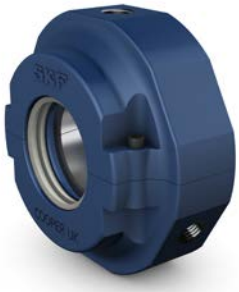


Fig. 10

Take-up housing (tension type)

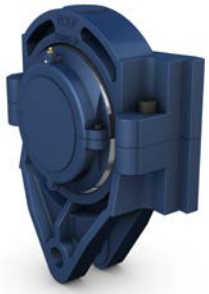


Fig. 11

Take-up housing (push type)



Fig. 12

Rod end housing (“T” type)



Fig. 13

Rod end housing (shoe type)



Bearing size

Size selection based on rating life

Bearing life is defined as the number of revolutions (or the number of operating hours) at a given speed that the bearing is capable of enduring before the first sign of metal fatigue (spalling) occurs on a rolling element or the raceway of the inner or outer ring.

Tests on seemingly identical bearings, under identical operating conditions, result in a large variation in the number of cycles, or time, needed to cause metal fatigue. Therefore, bearing life estimates based on rolling contact fatigue (RCF) are insufficiently accurate and so a statistical approach is needed to determine bearing size.

The basic rating life, L_{10}, is the fatigue life that 90% of a sufficiently large group of apparently identical bearings, operating under identical operating conditions, can be expected to attain or exceed.

To determine a relevant bearing size using the definition given here, compare the calculated rating life against the service life expectations of the bearing application, using experience from previous dimensioning where available. Otherwise, use the guidelines regarding specification life of various bearing applications provided in **table 1**.

Basic rating life

If you consider only the load and speed, you can use the basic rating life, L_{10}. The basic rating life of a bearing according to ISO 281 is

$$L_{10} = \left(\frac{C}{P}\right)^p$$

If the speed is constant, it is often preferable to calculate the life expressed in operating hours using

$$L_{10h} = \frac{10^6}{60\,n} L_{10}$$

where

L_{10} = basic rating life (at 90% reliability) [millions of revolutions]
L_{10h} = basic rating life (at 90% reliability) [millions of hours]
C = basic dynamic load rating [kN]
P = equivalent dynamic bearing load [kN]
n = rotational speed [r/min]
p = exponent of the life equation
= 10/3 for roller bearings

Life adjustment factor

For modern high-quality bearings, the calculated basic rating life can deviate significantly from the actual service life in a given application. Service life in a particular application depends not only on load and bearing size, but also on a variety of influencing factors including lubrication, degree of contamination, proper mounting and other environmental conditions.

ISO 281 uses a modified life factor to supplement the basic rating life

$$L_{nm} = a_1 L_{10} = a_1 \left(\frac{C}{P}\right)^p$$

If the speed is constant, the life can be expressed in operating hours, using the equation

$$L_{nmh} = \left(\frac{10^6}{60\,n}\right) L_{nm}$$

where

L_{nm} = Rating life (at 100 – n[1])% reliability) [millions of revolutions]
L_{nmh} = Rating life (at 100 – n[1])% reliability) [operating hours]
L_{10} = basic rating life (at 90% reliability) [millions of revolutions]
a_1 = life adjustment factor for reliability (**table 2**, values in accordance with ISO 281)
C = basic dynamic load rating [kN]
P = equivalent dynamic bearing load [kN]
n = rotational speed [r/min]
p = exponent of the life equation
= 10/3 for roller bearings

1) The factor n represents the failure probability, which is the difference between the requisite reliability and 100%.

Since the life adjustment factor a_1 is related to fatigue, it is less relevant for load levels, P, below the fatigue load limit P_u. Dimensioning with life adjustment factors reflecting very high reliability (such as 99%) will result in large bearings for given loads. In such cases, the bearing load must be checked against the minimum load requirement for the bearing. See also *Requisite minimum load* (**page 13**).

Table 1

Guideline values of specification life

Type of operation	Specification life
	Operating hours
Operation for use 8 hours a day	20 000 ... 50 000
Continuous operation main drives, large electrical machinery, flywheels, mining	70 000 ... 100 000
Continuous operation and an exceptionally high degree of reliability	100 000 ... 200 000

Life calculation with multiple load conditions

Where varying loads are experienced in operation, using the maximum load condition may lead to an unrealistically low calculated life. For n load conditions constituting the full load cycle (at constant speed), an overall dynamic equivalent load may be calculated as follows:

$$P = \left[\sum_{i=i}^{i=n} P_i^{(10/3)} p_i \right]^{0,3}$$

where
P_i = dynamic equivalent load under load condition i
p_i = proportion of time load condition i is applicable

Where the load is continuously variable, it may be broken down into a discrete approximation to the actual load cycle.

Equivalent dynamic bearing load, P

When calculating the bearing rating life, a value for equivalent dynamic bearing load is required for the bearing life equations.

The loads acting on a bearing are calculated according to the laws of mechanics using the external forces – such as forces from power transmission, work forces, gravitational or inertial forces – that are known or can be calculated.

In real-world circumstances, the loads acting on a bearing may not be constant, can act both radially and axially, and are subject to other factors that require the load calculations to be modified or, in some cases, simplified.

Calculating equivalent dynamic bearing load

The load value, P, used in the bearing rating life equations is the equivalent dynamic bearing load and is defined as: a hypothetical load, constant in magnitude and direction, that acts radially on radial bearings and axially and centrically on thrust bearings.

This hypothetical load, when applied, would have the same influence on bearing life as the actual loads to which the bearing is subjected.

Table 2

Life adjustment factor

Reliability	Failure probability	SKF rating life	Factor
	n	L_{nm}	a_1
%	%	million revolutions	–
90	10	L_{10m}	1
95	5	L_{5m}	0,64
96	4	L_{4m}	0,55
97	3	L_{3m}	0,47
98	2	L_{2m}	0,37
99	1	L_{1m}	0,25

If a bearing is loaded with simultaneously acting radial load F_r and axial load F_a that are constant in magnitude and direction, the equivalent dynamic bearing load P can be obtained from the general equation

$$P = X F_r + Y F_a$$

where
P = equivalent dynamic bearing load [kN]
F_r = actual radial bearing load [kN]
F_a = actual axial bearing load [kN]
X = radial load factor for the bearing
Y = axial load factor for the bearing

An axial load only influences the equivalent dynamic load P for a single row radial bearing if the ratio Fa/Fr exceeds a certain limiting factor, often expressed as e. With double row bearings, even light axial loads influence the equivalent load and have to be considered.

Please see details for each bearing type under *Loads* (**page 72** for split cylindrical roller bearings and **page 103** for split tapered roller bearings).

Size selection based on static load

When any of the following conditions exist, bearing size should be selected or verified based on the static load that the bearing can accommodate, taking into account the possible effects of permanent deformation:

- The bearing is not rotating and is subjected to continuous high load or intermittent peak loads.
- The bearing makes slow oscillating movements under load.
- The bearing rotates and, in addition to the normal fatigue life dimensioning operating loads, has to sustain temporary high peak loads.
- The bearing rotates under load at low speed (n < 10 r/min) and is required to have only a limited life. In such a case, the rating life equations, for a given equivalent load P, would give such a low requisite basic dynamic load rating C, that a bearing selected on a fatigue life basis would be seriously overloaded in service.

In such conditions, the resulting deformation can include flattened areas on the rolling elements or indentations in the raceways. The indentations may be irregularly spaced around the raceway, or evenly spaced at positions corresponding to the spacing of the rolling elements. A stationary or slowly oscillating bearing supporting a load great enough to cause permanent deformation will generate high levels of vibration and friction when subjected to continuous rotation. It is also possible that the internal clearance will increase or the character of the housing and shaft fits may be affected.

Static load rating

The basic static load rating C_0 is defined in ISO 76 as the load that results in a certain value of contact stress at the centre of contact of the most heavily loaded rolling element/raceway. For roller bearings, the contact stress value is 4 000 MPa *(580 000 psi)*.

These stress values produce a total permanent deformation of the rolling element and raceway that is approximately 0,0001 of the rolling element diameter. The loads are purely radial for radial bearings and axial, centrically acting, for thrust bearings.

Equivalent static load

Loads comprising radial and axial components that are to be evaluated in relation to the static load rating C_0, must be converted into an equivalent static bearing load. This is defined as that hypothetical load (radial for a radial bearing and axial for a thrust bearing) which, when applied, would cause the same maximum rolling element load in the bearing as the actual loads to which the bearing is subjected. It is obtained from the general equation

$$P = X_0 F_r + Y_0 F_a$$

where
P_0 = equivalent static bearing load [kN]
F_r = actual radial bearing load [kN]
F_a = actual axial bearing load [kN]
X_0 = radial load factor for the bearing
Y_0 = axial load factor for the bearing

In the equation, use radial and axial component values for the maximum load that can occur. If the load varies then consider the combination that induces the highest value of P_0.

Additional information under *Loads* (**page 72** for split cylindrical roller bearings and **page 103** for split tapered roller bearings).

Static safety factor

The static safety factor s_0 is given by

$$s_0 = C_0/P_0$$

where
s_0 = static safety factor
C_0 = required basic static load rating [kN]
P_0 = equivalent static bearing load [kN]

Alternatively, you can calculate the required basic static load rating, C_0.

Guideline values for the static safety factor s_0, based on experience, are listed in **table 3**. The s_0 values given for continuous motion relate to the influence of permanent deformation on bearing performance – ranging from noticeable friction peaks, vibrations and reduced fatigue resistance (for the lowest s_0 values), to no influence on friction, vibration or fatigue life (for the highest s_0 values). The certainty of load level reflects how well the actual bearing load is known and/or can be predicted.

To calculate the static load carrying capacity of the double bearing, multiply the basic static load rating (C_0) of the single bearing by 2.

Table 3

Guideline values for the static safety factor s_0

Reliability	**Continuous motion** Permanent deformation acceptance			**Infrequent motion** Permanent deformation acceptance
Certainty of load level	Yes	Some	No	Yes
High certainty For example, gravity loading and no vibrations	1	1,5	3	0,8
Low certainty For example, peak loading	≥ 2,5	≥ 3	≥ 4	≥ 2

Size selection based on axial load for split cylindrical bearings

Selecting a bearing based on the axial load is considered independently from the radial load. With the speed and desired shaft size known, the axial load rating can be calculated from

$C_a > f_{da}\, f_{dn}\, P_a / f_b$

where
C_a = axial load [kN]
f_{da} = dynamic or service factor
= 1, for peak overload periods
= 1,1 to 1, 2, for general running
f_{dn} = factor for axial load (**diagram 1**)
f_b = bearing factor
P_a = equivalent axial load [kN]

Value for bearing factor f_b depends on bearing series and calculated values for f_{dn} accordingly:

- For 01/01E, 02 and 03 series where $0,25 \leq dn\ [mm] / 1000 < 63$, $f_b = 1$
- For 01/01E, 02 and 03 series where $63 \leq dn\ [mm] / 1000 \leq 300$, $f_b = 1,25$
- For 100 series where $0,25 \leq dn\ [mm] / 1000 < 240$, $f_b = 1$
- For 100 series with $f_{dn} < 240$ please contact SKF

Retaining rings or recessed journals are required when:

- $P_a > 0,2\ C_a$, for 100 series split cylindrical roller bearings
- $P_a > 0,25\ C_a$, for 01E and 02E series split cylindrical roller bearings
- $P_a > 0,5\ C_a$, for 01, 02, and 03 series split cylindrical roller bearings

For additional information about retaining rings and recessed shafts, see *Axial location of bearings* on **page 15**.

If the axial load exceeds 40% of the radial load, contact SKF.

The axial load carrying capacity is decreased by 50% if the lubricant does not have EP (extreme pressure) additives.

Load carrying capacity of bearing in pairs

The split tapered roller bearings are all supplied as double row bearings and the capacities quoted in this publication are for double row bearings.

For design and mounting of other bearing pairs, please contact SKF for more information and support.

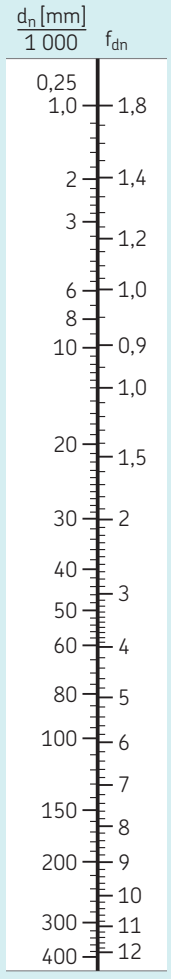
Requisite minimum load

In applications where the bearing size is determined by factors other than load – for example, shaft diameter constrained by critical speed – the bearing may be lightly loaded in relation to its size and carrying capacity. Where there are very light loads, failure mechanisms other than fatigue, such as skidding and smearing of raceways or cage damage, often prevail.

In order to provide satisfactory operation, SKF Cooper split roller bearings must always be subjected to a given minimum load. Additional information under *Loads* (**page 72** for split cylindrical roller bearings and **page 103** for split tapered roller bearings).

Diagram 1

Factor for axial load



[1] Speed factor d_n = bearing bore [mm] x rotational speed [r/min]

Design considerations

Specifications for shafts and housing support surfaces

Shaft bearing seat

SKF recommends the following shaft diameter tolerance classes (**table 4**) for the bearing seat for:

- split cylindrical roller bearings:
  - h7Ⓔ, for typical applications
  - h6Ⓔ, for dn[1] > 150 000 mm/min
  - h6Ⓔ, for bearings with C2 clearance
  - h9Ⓔ, for light loads and low speeds
- split tapered roller bearings:
  - h6Ⓔ, for all applications

The geometrical tolerance of the shaft should be to IT6. The surface roughness Ra of the bearing seat should be:

- < 3,2 µm, for an h7Ⓔ tolerance class
- < 1,6 µm for an h6Ⓔ tolerance class

Seal seat or counterface

If a stepped shaft is used:

- the dimensional tolerance of the shaft under the seals should be h9Ⓔ
- the cylindricity should be to at least IT6

Housing support surface

- flatness: tolerance grade IT7 in accordance with ISO 1101
- surface roughness Ra: ≤ 12, 5 µm

[1] Speed factor dn [mm/min] = bearing bore [mm] x rotational speed [r/min]



Table 4

Shaft tolerances and resultant fits

Shaft Nominal diameter d_a		Shaft diameter deviations, resultant fits Tolerance classes[1]						
		h6		h7		h9		IT6
>	≤							
mm		µm						
–	**50**	0	–16	0	–25	0	–62	16
50	**80**	0	–19	0	–30	0	–74	19
80	**120**	0	–22	0	–35	0	–87	22
120	**180**	0	–25	0	–40	0	–100	25
180	**250**	0	–29	0	–46	0	–115	29
250	**315**	0	–32	0	–52	0	–130	32
315	**400**	0	–36	0	–57	0	–140	36
400	**500**	0	–40	0	–63	0	–155	40
500	**630**	0	–44	0	–70	0	–175	44

[1] The envelope requirement (Ⓔ from ISO 14405-1) is not shown but applies to all tolerance classes.

Axial location of bearings

Cylindrical roller bearings are normally mounted without any axial locating methods. See below conditions for possible exceptions.

Recess mounting

For locating split cylindrical roller bearings (designation suffix GR), a shaft recess (**table 5**) is required if:

- the axial load exceeds 0,2 C_a for 100 series bearings
- the axial load exceeds 0,25 C_a for 01E and 02E series bearings
- the axial load exceeds 0,5 C_a for 01, 02, and 03 series bearings
- there is a combination of axial loading and one or more of the following:
  - impact loads
  - vertical shaft
  - fluctuating temperatures over 100 °C (*210 °F*).

The maximum shaft fillet radius (r) may vary according to bearing series. If larger shaft fillet radii are required, SKF can supply bearings with extra large chamfers on the inner ring bore.

The tolerance on the width of the recess is provided in **table 6**.

NOTE: Recess mounting requires a special cartridge and special seals to accommodate the larger shaft diameters. For some sizes, a modified inner ring is also required to allow the ring halves to be assembled onto the shaft in a truly radial direction.

With standard rings, it is sometimes necessary to incline the ring half slightly to the shaft axis in order to get it into position, but this is prevented by the walls of the recess.

When recess mounting is required for split cylindrical or tapered roller bearings, contact SKF for advice on the required modifications and part designations.

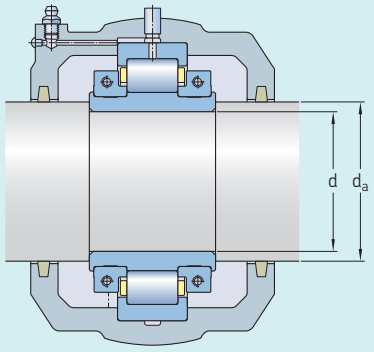
Spiral rings

Another way to axially support the inner ring could be to utilize spiral rings.

Please contact SKF for more information and support.

Table 5

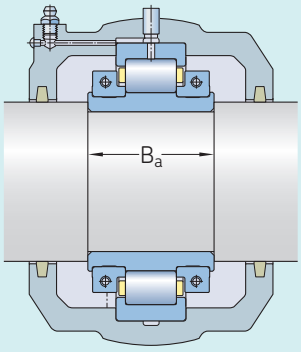
Shaft recess abutment dimensions



Bearing bore Nominal diameter d >	 ≤	Abutment diameter d_a
mm/*in.*		mm/*in.*
–	**90**	d + 5
–	***3 1/2***	*d + 3/16*
90	**155**	d + 10
3 1/2	**6**	*d + 3/8*
155	**–**	d + 10
6	**–**	*d + 3/8*

Table 6

Shaft tolerances on recess width and spacing between retaining rings



Width Nominal diameter B_a >	 ≤	Tolerance class D11	
mm		µm	
–	**50**	+80	+240
50	**80**	+100	+290
80	**120**	+120	+340
120	**180**	+145	+395
180	**250**	+170	+460
250	**315**	+190	+510
315	**400**	+210	+570

Sealing

The purpose of a seal is to retain lubricant and prevent any contaminants from entering a controlled environment.

Seal selection criteria

Seals for bearing applications should provide maximum protection with a minimum amount of friction and wear, under the prevailing operating conditions. Because bearing performance and service life are so closely tied to the effectiveness and cleanliness of the lubricant, the seal is a key component.

Many factors must be considered when selecting the most suitable seal for a particular bearing-shaft-housing system. These include:

- the contaminant type: particles or fluid or both
- the circumferential speed at the seal lip
- the shaft arrangement: horizontal or vertical
- available space
- seal friction and the resulting temperature increase
- environmental influences
- cost

Seal types

SKF offers a variety of sealing solutions for split roller bearing units (**table 7**, **page 17**).

Custom seals and seals of non-standard materials are also available on request.

Aluminium triple labyrinth seals

Aluminium triple labyrinth seals have O-rings which compress against the shaft and cause the seal to rotate with the shaft (**fig. 15**). The amount of compression is designed so that the shaft moves through the seal when axial expansion occurs in non-locating bearings.

Alignment feature

The cartridges in split bearing units have a spherical outer surface that fits into a conforming surface in the housing in the form of a ball and socket joint. If any shaft misalignment is present, the cartridge, seals, and bearing stay together, maintaining the seals on an axis parallel to the shaft (**fig. 16**).

Without this feature, contact between the seal and the shaft is lost on one side when even small amounts of misalignment occur, and sometimes a gap may open. On the other side, the seal presses heavily against the shaft and wears quickly. As a result, the sealing effectiveness is compromised.

With up to 2,5° permissible misalignment of the housings, extremely close tolerances can be maintained between the housing and the shaft resulting in an effective sealing element.

Fig. 15

Labyrinth seals

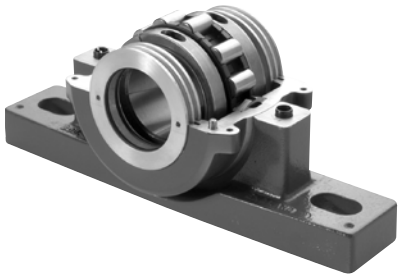


Fig. 16

Alignment feature

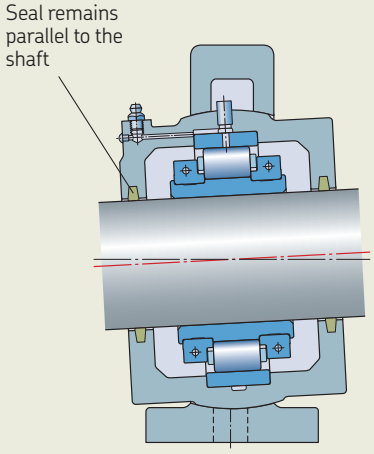
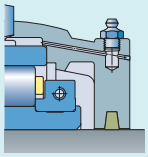
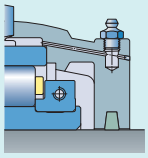
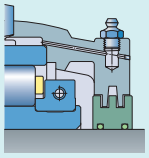
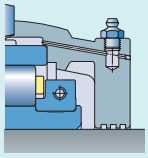
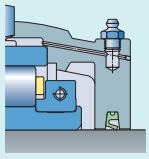
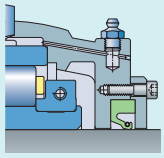


Table 7

Sealing solutions for cartridges

Seal						
Type	Felt (F)	High temperature packing (HTP)	Aluminium triple labyrinth (ATL)	Grease groove (LAB)	Synthetic rubber single lip (SRS)	Spring loaded single lip with retaining plate (SRSRP)
Variants	–	–	High temp. (ATL HT)	–	High temp. (SRS HT)	High pressure (SRSRP 40M)
Material	felt	graphite impregnated PTFE yarn	aluminium O-rings: • ATL: NBR • ATL HT: fluoro carbon	–	SRS: neoprene or NBR SRS HT: fluorinated NBR	neoprene or NBR
Range and availability						
Split cylindrical roller bearings						
US and Canada	available on request	available on request	standard for all sizes	available on request	available on request	available on request
Countries other than US and Canada	standard for $d_a \leq 300$ mm or 12 in. available on request for larger sizes	available on request	available on request	standard for $d_a > 300$ mm or 12 in. available on request for smaller sizes	available on request	available on request
Split tapered roller bearings						
All regions	available on request	available on request	available on request	standard for all sizes	available on request	available on request
Application conditions						
Temperature [°C]	–70 to +100	–70 to +260	ATL: –20 to +100 ATL HT: –20 to +200	Bearing maximum temp. limit	SRS: –20 to +100 SRS HT: –20 to +200	–20 to +100
Temperature [°F]	–95 to +210	–95 to +500	ATL: –5 to +210 ATL HT: –5 to +390	Bearing maximum temp. limit	SRS: –5 to +210 SRS HT: –5 to +390	–5 to +210
Max. rotational speed [dn[1)]]	150 000	150 000	not limited	not limited	150 000	150 000
Shaft roughness Ra [µm]	≤ 1,6	≤ 0,8	≤ 3,2	≤ 3,2	≤ 0,8	≤ 0,4
Sealing suitability						
Dust	–	–	–	– –	+	++
Fine particles	–	–	+	– –	+	++
Coarse particles	+	+	+	+	+	++
Chips	+	+	++	+	+	++
Liquids when sprayed	–	–	– –	– –	+	+
Direct sunlight	– –	– –	++	++	+	+
Applications						
	general applications	general applications	general applications, high speeds	high or slow speeds, marine applications	wet but not submerged conditions, improved lubricant retention with lip mounted inwards	severe splash or completely submerged conditions: ≤ 2 m of water (standard) ≤ 40 m of water (high pressure)

Symbols: ++ very suitable, + suitable, – limited suitability, – – unsuitable

1) Speed factor dn [mm/min] = bearing bore [mm] x rotational speed [r/min]

Bulkhead sealing

By combining a bearing and various sealing features into one unit, the SKF Cooper bulkhead sealed bearing unit can:

- offer an economical solution
- reduce the number of individual units required
- prevent problems with shaft eccentricity sometimes encountered at the bulkhead seal when it is separated from the bearing

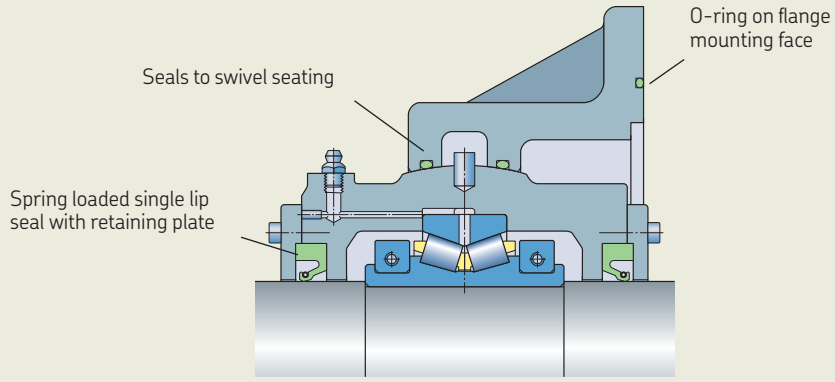
Often, a specially adapted flanged housing is used and the bearing is fitted with spring loaded single lip seals with a retaining plate (**fig. 17**). Additional sealing is used between the cartridge seat and flanged housing, and O-rings are often added on the mounting face.

For high-speed applications, use:

- special high-speed spring loaded single lip seals or
- alternative seal types if a moderate leakage of water is permitted through the bearing in an emergency

Fig. 17

Bulkhead sealing



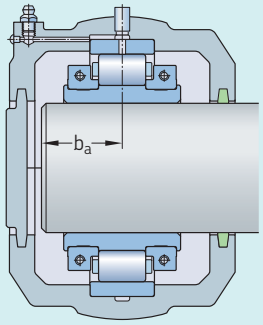
Bearing unit arrangement at shaft ends

Where split cylindrical roller bearings are mounted at shaft ends, an end cover (blanking plate) can be fitted, which:

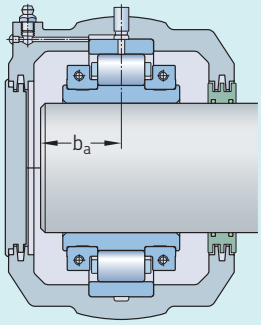
- closes off the open cartridge end
- fits standard single groove cartridges or cartridges for triple labyrinth seals
- can be used to locate the shaft axially with a thrust bearing for $d_a \leq 90$ mm (*3.5 in.*), e.g. in belt conveyers. In this case:
  - the shaft end must be machined with a flatness and squareness to tolerance grade IT7 in accordance with ISO 1101
  - there must be a slight operational clearance between the shaft end and the thrust bearing (b_c, **table 8**, **page 19**)
  - the arrangement is limited to a maximum speed dn = 20 000 mm/min (calculated using shaft size, not the bore of the thrust bearing)
  - the arrangement should only accommodate minimal axial loads

Table 8

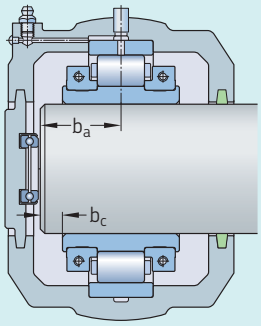
Permissible length of a shaft end with split cylindrical roller bearings



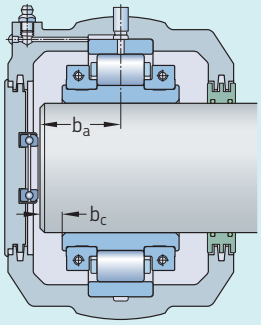
End cover without thrust bearing (designation suffix BP)



End cover without thrust bearing (designation suffix BPTL)



End cover with thrust bearing (designation suffix BT)



End cover with thrust bearing (designation suffix BTTL)

Shaft diameter	01 series bearings		02 series bearings	
d_a	b_a	b_c	b_a	b_c
mm/*in.*	–		–	
1 3/16	27	2	–	–
1 1/4	27	2	–	–
35	27	2	–	–
1 7/16	27	2	–	–
1 1/2	27	2	–	–
40	27	2	–	–
1 11/16	29	1	–	–
1 3/4	29	1	–	–
45	29	1	–	–
1 15/16	29	1	35	1
50	29	1	35	1
2	29	1	35	1
55	30	2	–	–
2 3/16	30	2	38	2
2 1/4	30	2	38	2
60	30	2	38	2
2 7/16	30	2	38	2
2 1/2	30	2	38	2
65	30	2	38	2
2 11/16	35	4	41	0
2 3/4	35	4	41	0
70	35	4	41	0
2 15/16	35	4	41	0
75	35	4	41	0
3	35	4	41	0
80	40	4	48	3
3 3/16	40	4	48	3
3 1/4	40	4	48	3
85	40	4	48	3
3 7/16	40	4	48	3
3 1/2	40	4	48	3
90	40	4	48	3

Additional information about end cover designations is on **page 190.**
Dimensions of larger sizes are available upon request.

Lubrication

SKF Cooper split bearings and housings are designed for grease lubrication, although oil lubrication is possible. The lubricant should be selected based on the operating conditions of the bearing.

Selecting a suitable SKF grease

The assortment of SKF greases for rolling bearings provides adequate choice for most application requirements. These greases have been developed based on the latest knowledge of rolling bearing lubrication and their quality is continuously monitored.

Using LubeSelect and selection rules

SKF LubeSelect is an online tool that lists SKF greases that fulfil the demands of your specified operating conditions. The analysis performed by the tool is based on generalized selection rules that have been carefully developed by SKF lubrication experts.

The same selection rules are used in the *SKF bearing grease selection chart*, **page 22**, where the following operating parameters are used for selecting a suitable grease:

- temperature (**table 9**)
- load range (**table 10**)
- speed (**table 11**)

The most important technical specifications for SKF greases are provided in *Technical specifications for SKF greases*, **page 24**.

For additional information about lubricant selection, refer to **skf.com/lubrication**.

Table 9

Temperature ranges for greases

Range		Temperature	
–		°C	*°F*
L	Low	< 50	*< 120*
M	Medium	50 to 100	*120 to 210*
H	High	> 100	*> 210*
EH	Extremely high	> 150	*> 300*

Table 10

Load ranges for greases

Load range		Load ratio
–		C/P
L	Low	≥ 15
M	Medium	≈ 8
H	High	≈ 4
VH	Very high	< 2

Table 11

Speed ranges for grease lubricated bearings

Speed range		Speed factor Cylindrical roller bearings nd_m [1]	Tapered roller bearings
–		mm/min	
VL	Very low	< 30 000	< 30 000
L	Low	< 75 000	< 75 000
M	Medium	≤ 270 000	≤ 210 000
H	High	> 270 000	> 210 000
VH	Very high	–	–
EH	Extremely high	–	–

[1] Speed factor nd_m [mm/min] = rotational speed [r/min] x (bearing mean diameter [mm] = 0,5 (d + D))

SKF bearing grease selection chart

Grease	Thickener	Base oil	NLGI grade	Base oil viscosity [1] 40 °C (105 °F)	100°C (210 °F)	LTL °C (°F)	LTPL °C (°F)	HTPL °C (°F)
LGMT 2	Li	Min	2	110	11	-30 (-22)	10 (50)	120 (248)
LGMT 3	Li	Min	3	125	12	-30 (-22)	40 (104)	120 (248)
LGEP 2	Li	Min	2	200	16	-20 (-4)	10 (50)	110 (230)
LGWA 2	Lix	Min	2	185	15	-30 (-22)	20 (68)	140 (284)
LGGB 2	Li-Ca	Ester	2	110	13	-40 (-40)	10 (50)	90 (194)
LGLT 2	Li	PAO	2	18	4,5	-50 (-58)	10 (50)	110 (230)
LGWM 1	Li	Min	1	200	16	-30 (-22)	0 (32)	110 (230)
LGEP 1	Li-Ca	Min	1	400	25	-20 (-4)	35 (95)	130 (266)
LGWM 2	CaSx	PAO/Min	1-2	80	8,6	-40 (-40)	10 (50)	110 (230)
LGEM 2	Li-Ca	Min	2	500	32	-20 (-4)	10 (50)	120 (248)
LGEV 2	Li-Ca	Min	2	1020	58	-10 (14)	30 (86)	120 (248)
LGHB 2	CaSx	Min	2	425	26,5	-20 (-4)	40 (104)	150 (302)
LGHC 2	CaSx	Min	2	450	31	-20 (-4)	30 (86)	140 (284)
LGHP 2	PU	Min	2-3	96	10,5	-40 (-40)	40 (104)	150 (302)
LGHQ 2	PU	Min	2	110	12	-30 (-22)	10 (50)	160 (320)
LGET 2	PTFE	PFPE	2	400	38	-40 (-40)	50 (122)	260 (500)
LGFG 2	CaSx	Min	2	150	16	-30 (-22)	30 (86)	140 (284)
LGFP 2	Alx	Min	2	150	15,3	-20 (-4)	20 (68)	110 (230)
LGFQ 2	CaSx	PAO	2	320	30	-40 (-40)	20 (68)	140 (284)
LGED 2	PTFE	PFPE	2	460	42	-30 (-22)	50 (122)	240 (464)

[1] mm^2/s at 40 °C (104 °F) = cSt.

LTL = Low temperature limit
LTPL = Low temperature performance limit
HTPL = High temperature performance limit
HTL = High temperature limit

HTL °C (°F)	Speed max. n x dm (x1000)	High load	Vertical shaft	Oscillating movements	Severe vibrations	Rust protection	Water resistance	Frequent start-up
180 (356)	300	–	o	o	+	+	+	o
180 (356)	300	–	++	o	++	+	+	o
180 (356)	300	+	o	o	+	+	+	++
250 (482)	300	o	o	–	+	+	+	+
170 (338)	300	o	o	+	–	o	+	+
180 (356)	1600	– –	o	–	– –	–	+	o
170 (338)	300	+	– –	+	–	+	+	++
170 (338)	300	++	– –	+	–	+	+	++
300 (572)	300	+	o	++	+	++	++	++
180 (356)	300	++	+	o	+	+	+	++
180 (356)	300	++	o	o	+	+	+	++
220 (428)	300	++	o	++	+	++	++	++
300 (572)	300	++	o	++	+	++	++	++
240 (464)	500	–	+	–	– –	++	++	o
260 (500)	500	o	o	–	– –	+	++	+
300 (572)	300	++	o	–	o	–	+	o
280 (536)	500	+	o	++	+	+	++	+
250 (482)	300	– –	o	–	– –	o	+	o
300 (572)	300	++	o	++	o	+	++	++
300 (572)	300	++	o	–	o	–	+	o

Wide applications greases

Low temperatures

High loads

High temperatures

Food grade

+ = Recommended o = Suitable – = Not suitable

skf.com/lubeselect

	LGMT 2	LGMT 3	LGEP 2	LGWA 2	LGGB 2	LGLT 2	LGWM 1
DIN 51825 code	K2K-30	K3K-30	KP2G-20	KP2N-30	KPE 2K-40	KHC2G-50	KP1G-30
NLGI consistency class	2	3	2	2	2	2	1
Thickener	Lithium	Lithium	Lithium	Lithium complex	Lithium/ calcium	Lithium	Lithium
Colour	Red brown	Amber	Light brown	Amber	Off white	Beige	Brown
Base oil type	Mineral	Mineral	Mineral	Mineral	Ester	PAO	Mineral
Operating temperature range	–30 to +120 °C *(–20 to +250 °F)*	–30 to +120 °C *(–20 to +250 °F)*	–20 to +110 °C *(–5 to +230 °F)*	–30 to +140 °C *(–20 to +285 °F)*	–40 to +90 °C *(–40 to +195 °F)*	–50 to +110 °C *(–60 to +230 °F)*	–30 to +110 °C *(–20 to +230 °F)*
Dropping point (min), ISO 2176	180 °C *(355 °F)*	180 °C *(355 °F)*	180 °C *(355 °F)*	250 °C *(480 °F)*	170 °C *(340 °F)*	180 °C *(355 °F)*	170 °C *(340 °F)*
Base oil viscosity, DIN 51562							
40 °C, mm^2/s	110	125	200	185	110	18	200
100 °C, mm^2/s	11	12	16	15	13	4,5	16
Penetration DIN ISO 2137							
Worked, 60 strokes, 10^{-1} mm	265–295	220–250	265–295	265–295	265–295	265–295	310–340
Prolonged (max.), 100 000 strokes, 10^{-1} mm	+50	280	+50	+50	+50	+50	+50
Mechanical stability							
Roll stability, ASTM D 1831 (max.) 50 hrs at 80 °C, 10^{-1} mm	+50	295	+50	+50	+70	–	–
V2F test, 144 hrs	M	M	M	–	–	–	–
Corrosion protection, Emcor							
ISO 11007, Distilled water	0–0	0–0	0–0	0–0	0–0	0–1	0–0
ISO 11007 modified, Water washout	0–0	0–0	0–0	0–0	–	–	0–0
ISO 11007 modified, 0.5% NaCl	–	–	–	–	–	–	0–0
Water resistance (max.)							
DIN 51 807/1, 3 hrs at 90 °C	1	1	1	1	0	1	1
Oil separation							
DIN 51 817, 40 °C, %	1–6	1–3	2–5	1–5	0,8–3	<4	8–13
Lubrication ability							
R2F, test B at 120 °C	Pass	Pass	Pass	Pass at 100 °C *(210 °F)*	Pass at 100 °C *(210 °F)*	–	Pass at 100 °C *(210 °F)*
Copper corrosion (max.)							
DIN 51811 / ASTM D4048, 24 hrs at 100 °C	2 max. at 110 °C *(230 °F)*	2 max. at 130 °C *(265 °F)*	2 max. at 110 °C *(230°F)*	2 max.	–	1 max.	2 max. at 90 °C *(>195 °F)*
Grease life (min)							
ROF test L_{50} life, 10 000 r/min, hrs at °C	1 000 at 100 °C *(212 °F)*	1 000 at 130 °C *(265 °F)*	1 000 at 110 °C *(230 °F)*	1 000 at 120 °C *(250 °F)*	1000 at 100 °C *(210 °F)*	1 000 at 100 °C *(210 °F)* and 20 000 r/min.	1000 at 100 °C *(210 °F)*
EP performance							
4 ball - Wear scar (max.) DIN 51 350, 1 400 N, mm	–	–	1.4	1.8	1.8	–	1.8
4 ball - Weld load (min.) DIN 51350/4, N	–	–	2 800	2 600	2 600	2 000 min.	2 800
Low temperature torque							
Start/Running, mNm	300/100 at –30 °C *(–20 °F)*	150/100 at –30 °C *(–20 °F)*	200/50 at –20 °C *(–5 °F)*	100/50 at –20 °C *(–5 °F)*	–	50/20 at –50 °C *(–60 °F)*	500/100 at –30 °C *(–20 °F)*

These characteristics represent typical values.

Wide applications greases

LGEP 1	LGWM 2	LGEM 2	LGEV 2	LGHB 2	LGHC 2	LGHP 2	LGHQ 2	LGET 2
KP1K-20	KP2G-40	KPF2K-20	KPF2K-10	KP2N-20	KP2N-20	K2N-40	K2P-30	KFK2U-40
1	1–2	2	2	2	2	2–3	2	2
Lithium-Calcium	Calcium sulphonate complex	Lithium/calcium	Lithium/calcium	Calcium sulphonate complex	Complex calcium sulphonate	Polyurea	Polyurea	PTFE
Beige	Light brown	Black	Black	Brown	Brown	Blue	Blue	White
Mineral	Mineral/PAO	Mineral	Mineral	Mineral	Mineral	Mineral	Mineral	PFPE
–20 to +120 °C *(–4 to +240 °F)*	–40 to +110 °C *(–40 to +230 °F)*	–20 to +120 °C *(–5 to +250 °F)*	–10 to +120 °C *(15 to 250 °F)*	–20 to +150 °C *(–5 to +300 °F)*	–20 to +140 °C *(–5 to +284 °F)*	–40 to +150 °C *(–40 to +300 °F)*	–30 to +160 °C *(–2 to +320 °F)*	–40 to +260 °C *(–40 to +500 °F)*
170 °C *(340 °F)*	300 °C *(570 °F)*	180 °C *(355 °F)*	180 °C *(355 °F)*	220 °C *(430 °F)*	300 °C *(570 °F)*	240 °C *(465 °F)*	260 °C *(500 °F)*	300 °C *(570 °F)*
400 25	80 10	500 32	1 020 47	425 27.5	450 31	96 10,5	110 12	400 38
310–340 +50	280–310 +30	265–295 +50	265–295 +50	265–295 –20 to +50	265–295 +30	245–275 365 max.	265–295 385 max.	265–295 –
+50 –	+30 –	+50 M	+50 M	–20 to +50 M	+30 –	365 max. –	385 max. –	+30 max. at 130 °C *(265 °F)* –
0–0 0–0 0–0 (1% NaCl)	0–0 0–0 0–0	0–0 0–0 2–2	0–0 0–0 2–2	0–0 0–0 0–0	0–0 – 0–1	0–0 0–0 0–0	0–0 0–1 –	1–1 – –
1	1	1	1	1	1	1	1	0
1–5	3 max.	1–5	1–5	1–3 at 60 °C *(140 °F)*	1–3 at 60 °C *(140 °F)*	3 max.	1-3	1-3
Pass at 80 °C *(176 °F)*	Pass,	Pass, 100 °C *(210 °F)*	Pass, 100 °C *(210 °F)*	Pass at 140 °C *(284 °F)*	Pass	Pass at 100 °C *(210 °F)*	Pass at 100 °C *(210 °F)*	–
1 max. at 120 °C *(250 °F)*	2 max.	2 max.	1 max	2 max. at 150 °C *(302 °F)*	1b	1 max. at 150 °C *(300 °F)*	1b max. at 100 °C *(210 °F)*	1 max. at 150 °C *(300 °F)*
1000 at 100 °C *(210 °F)*	1000 at 110 °C *(230 °F)*	1000 at 100 °C *(210 °F)*	1000 at 100 °C *(210 °F)*	1 000 at 130 °C *(265 °F)*	1000 at 110 °C *(230 °F)*	1 000 at 150 °C *(300 °F)*	1 000 at 160 °C *(302 °F)*	1 000 at 220 °C *(428 °F)*
1,8 3 400	2 4 000	1,2 3 400	1,2 3 000	2 4 000	1.2 4 000	– –	1 2600	– 8 000 min.
300/100 at –20 °C *(–5 °F)*	900/200 at –40 °C *(–40 °F)*	150/50 at, –20 °C *(–5 °F)*	150/100 at –10 °C *(14 °F)*	350/100 at –20 °C *(–5 °F)*	250/100 at –20 °C (–5 °F)	1 000,/300 at –40 °C *(–40 °F)*	550/100 –30 °C *(–20 °F)*	–

Low temperatures

High loads

High temperatures

Initial grease fill

During installation, the initial grease fill can be determined from **table 12, pages 27 to 33** for split cylindrical roller bearings and from **table 13**, **page 34** for split tapered roller bearings as follows:

- For operating temperatures ≤ 80 °C (*175 °F*), the initial fill depends on the operating speed of the bearing.
- For operating temperatures > 80 °C (*175 °F*), use a 25% initial fill, regardless of the speed of the bearing.

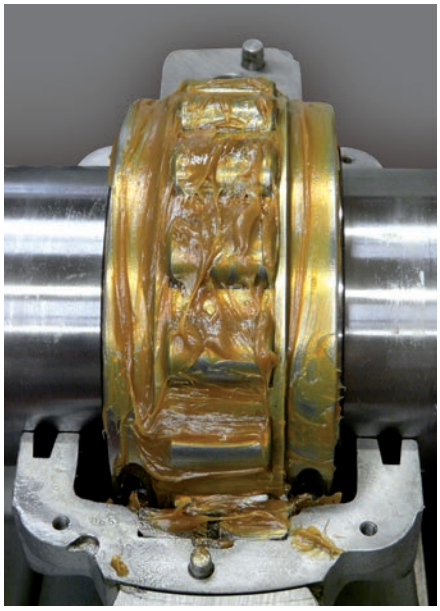


Table 12

Initial grease fill – split cylindrical roller bearings[1)]

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Speed <	Initial fill 100%	Speed > ≤	Initial fill 75%	Speed > ≤	Initial fill 50%	Speed > ≤	Initial fill 33%	Speed >	Initial fill 25%
mm/*in.*				r/min	kg	r/min	kg	r/min	kg	r/min	kg	r/min	kg
1 3/16	**01EB103**	–	**01C1**	1 312	0,06	1 312 2 625	0,05	2 625 3 937	0,03	3 937 5 249	0,02	5 249	0,02
1 1/4	**01EB104**	–	**01C1**	1 312	0,06	1 312 2 625	0,05	2 625 3 937	0,03	3 937 5 249	0,02	5 249	0,02
35	**01EB35M**	–	**01C1**	1 312	0,06	1 312 2 625	0,05	2 625 3 937	0,03	3 937 5 249	0,02	5 249	0,02
1 7/16	**01EB107**	–	**01C1**	1 312	0,06	1 312 2 625	0,05	2 625 3 937	0,03	3 937 5 249	0,02	5 249	0,02
1 1/2	**01EB108**	**01C108**	**01C1**	1 312	0,06	1 312 2 625	0,05	2 625 3 937	0,03	3 937 5 249	0,02	5 249	0,02
40	**01EB40M**	**01C40M**	**01C1**	1 312	0,06	1 312 2 625	0,05	2 625 3 937	0,03	3 937 5 249	0,02	5 249	0,02
1 11/16	**01EB111**	**01C111**	**01C2**	984	0,09	984 1 969	0,07	1 969 2 953	0,05	2 953 3 937	0,03	3 937	0,02
1 3/4	**01EB112**	**01C112**	**01C2**	984	0,09	984 1 969	0,07	1 969 2 953	0,05	2 953 3 937	0,03	3 937	0,02
45	**01EB45M**	**01C45M**	**01C2**	984	0,09	984 1 969	0,07	1 969 2 953	0,05	2 953 3 937	0,03	3 937	0,02
1 15/16	**01EB115**	**01C115**	**01C2**	984	0,09	984 1 969	0,07	1 969 2 953	0,05	2 953 3 937	0,03	3 937	0,02
	02EB115	**02C115**	**02C3**	984	0,15	984 1 969	0,11	1 969 2 953	0,08	2 953 3 937	0,05	3 937	0,04
50	**01EB50M**	**01C50M**	**01C2**	984	0,09	984 1 969	0,07	1 969 2 953	0,05	2 953 3 937	0,03	3 937	0,02
	02EB50M	**02C50M**	**02C3**	984	0,15	984 1 969	0,11	1 969 2 953	0,08	2 953 3 937	0,05	3 937	0,04
2	**01EB200**	**01C200**	**01C2**	984	0,09	984 1 969	0,07	1 969 2 953	0,05	2 953 3 937	0,03	3 937	0,02
	02EB200	**02C200**	**02C3**	984	0,15	984 1 969	0,11	1 969 2 953	0,08	2 953 3 937	0,05	3 937	0,04
55	**01EB55M**	**01C55M**	**01C3**	787	0,15	787 1 575	0,11	1 575 2 362	0,08	2 362 3 150	0,05	3 150	0,04
2 3/16	**01EB203**	**01C203**	**01C3**	787	0,15	787 1 575	0,11	1 575 2 362	0,08	2 362 3 150	0,05	3 150	0,04
	02EB203	**02C203**	**02C4**	787	0,21	787 1 575	0,16	1 575 2 362	0,11	2 362 3 150	0,07	3 150	0,05
2 1/4	**01EB204**	**01C204**	**01C3**	787	0,15	787 1 575	0,11	1 575 2 362	0,08	2 362 3 150	0,05	3 150	0,04
	02EB204	**02C204**	**02C4**	787	0,21	787 1 575	0,16	1 575 2 362	0,11	2 362 3 150	0,07	3 150	0,05
60	**01EB60M**	**01C60M**	**01C3**	787	0,15	787 1 575	0,11	1 575 2 362	0,08	2 362 3 150	0,05	3 150	0,04
	02EB60M	**02C60M**	**02C4**	787	0,21	787 1 575	0,16	1 575 2 362	0,11	2 362 3 150	0,07	3 150	0,05
2 7/16	**01EB207**	**01C207**	**01C3**	787	0,15	787 1 575	0,11	1 575 2 362	0,08	2 362 3 150	0,05	3 150	0,04
	02EB207	**02C207**	**02C4**	787	0,21	787 1 575	0,16	1 575 2 362	0,11	2 362 3 150	0,07	3 150	0,05
2 1/2	**01EB208**	**01C208**	**01C3**	787	0,15	787 1 575	0,11	1 575 2 362	0,08	2 362 3 150	0,05	3 150	0,04
	02EB208	**02C208**	**02C4**	787	0,21	787 1 575	0,16	1 575 2 362	0,11	2 362 3 150	0,07	3 150	0,05
65	**01EB65M**	**01C65M**	**01C3**	787	0,15	787 1 575	0,11	1 575 2 362	0,08	2 362 3 150	0,05	3 150	0,04
	02EB65M	**02C65M**	**02C4**	787	0,21	787 1 575	0,16	1 575 2 362	0,11	2 362 3 150	0,07	3 150	0,05
2 11/16	**01EB211**	**01C211**	**01C4**	656	0,18	656 1 312	0,14	1 312 1 969	0,09	1 969 2 625	0,06	2 625	0,05
	02EB211	**02C211**	**02C5**	656	0,3	656 1 312	0,23	1 312 1 969	0,15	1 969 2 625	0,1	2 625	0,08
2 3/4	**01EB212**	**01C212**	**01C4**	656	0,18	656 1 312	0,14	1 312 1 969	0,09	1 969 2 625	0,06	2 625	0,05
	02EB212	**02C212**	**02C5**	656	0,3	656 1 312	0,23	1 312 1 969	0,15	1 969 2 625	0,1	2 625	0,08
70	**01EB70M**	**01C70M**	**01C4**	656	0,18	656 1 312	0,14	1 312 1 969	0,09	1 969 2 625	0,06	2 625	0,05
	02EB70M	**02C70M**	**02C5**	656	0,3	656 1 312	0,23	1 312 1 969	0,15	1 969 2 625	0,1	2 625	0,08
2 15/16	**100B215**	**100C215**	**100C3**	656	0,15	656 1 312	0,11	1 312 1 969	0,08	1 969 2 625	0,05	2 625	0,04
	01EB215	**01C215**	**01C4**	656	0,18	656 1 312	0,14	1 312 1 969	0,09	1 969 2 625	0,06	2 625	0,05
	02EB215	**02C215**	**02C5**	656	0,3	656 1 312	0,23	1 312 1 969	0,15	1 969 2 625	0,1	2 625	0,08
75	**100B75M**	**100C75M**	**100C3**	656	0,15	656 1 312	0,11	1 312 1 969	0,08	1 969 2 625	0,05	2 625	0,04
	01EB75M	**01C75M**	**01C4**	656	0,18	656 1 312	0,14	1 312 1 969	0,09	1 969 2 625	0,06	2 625	0,05
	02EB75M	**02C75M**	**02C5**	656	0,3	656 1 312	0,23	1 312 1 969	0,15	1 969 2 625	0,1	2 625	0,08

1) The values are valid for a typical lithium grease (about 0,85 g/cm³)

cont. table 12

Initial grease fill – split cylindrical roller bearings[1)]

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Speed <	Initial fill 100%	Speed > ≤	Initial fill 75%	Speed > ≤	Initial fill 50%	Speed > ≤	Initial fill 33%	Speed >	Initial fill 25%
mm/*in.*				r/min	kg	r/min	kg	r/min	kg	r/min	kg	r/min	kg
3	**100B300**	**100C300**	**100C3**	656	0,15	656 1 312	0,11	1 312 1 969	0,08	1 969 2 625	0,05	2 625	0,04
	01EB300	**01C300**	**01C4**	656	0,18	656 1 312	0,14	1 312 1 969	0,09	1 969 2 625	0,06	2 625	0,05
	02EB300	**02C300**	**02C5**	656	0,3	656 1 312	0,23	1 312 1 969	0,15	1 969 2 625	0,1	2 625	0,08
80	**01EB80M**	**01C80M**	**01C5**	562	0,3	562 1 125	0,23	1 125 1 687	0,15	1 687 2 250	0,1	2 250	0,08
	02EB80M	**02C80M**	**02C6**	562	0,45	562 1 125	0,34	1 125 1 687	0,23	1 687 2 250	0,15	2 250	0,11
3 3/16	**01EB303**	**01C303**	**02C6**	562	0,3	562 1 125	0,23	1 125 1 687	0,15	1 687 2 250	0,1	2 250	0,08
	02EB303	**02C303**	**01C5**	562	0,45	562 1 125	0,34	1 125 1 687	0,23	1 687 2 250	0,15	2 250	0,11
3 1/4	**01EB304**	**01C304**	**01C5**	562	0,3	562 1 125	0,23	1 125 1 687	0,15	1 687 2 250	0,1	2 250	0,08
	02EB304	**02C304**	**02C6**	562	0,45	562 1 125	0,34	1 125 1 687	0,23	1 687 2 250	0,15	2 250	0,11
85	**100B85M**	**100C85M**	**100C4**	573	0,22	573 1 145	0,17	1 145 1 718	0,11	1 718 2 291	0,07	2 291	0,06
	01EB85M	**01C85M**	**01C5**	562	0,3	562 1 125	0,23	1 125 1 687	0,15	1 687 2 250	0,1	2 250	0,08
	02EB85M	**02C85M**	**02C6**	562	0,45	562 1 125	0,34	1 125 1 687	0,23	1 687 2 250	0,15	2 250	0,11
3 7/16	**100B307**	**100C307**	**100C4**	573	0,22	573 1 145	0,17	1 145 1 718	0,11	1 718 2 291	0,07	2 291	0,06
	01EB307	**01C307**	**01C5**	562	0,3	562 1 125	0,23	1 125 1 687	0,15	1 687 2 250	0,1	2 250	0,08
	02EB307	**02C307**	**02C6**	562	0,45	562 1 125	0,34	1 125 1 687	0,23	1 687 2 250	0,15	2 250	0,11
3 1/2	**01EB308**	**01C308**	**02C6**	562	0,3	562 1 125	0,23	1 125 1 687	0,15	1 687 2 250	0,1	2 250	0,08
	02EB308	**02C308**	**01C5**	562	0,45	562 1 125	0,34	1 125 1 687	0,23	1 687 2 250	0,15	2 250	0,11
90	**01EB90M**	**01C90M**	**01C5**	562	0,3	562 1 125	0,23	1 125 1 687	0,15	1 687 2 250	0,1	2 250	0,08
	02EB90M	**02C90M**	**02C6**	562	0,45	562 1 125	0,34	1 125 1 687	0,23	1 687 2 250	0,15	2 250	0,11
3 11/16	**01EB311**	**01C311**	**01C6**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	02EB311	**02C311**	**02C7**	492	0,6	492 984	0,45	984 1 476	0,3	1 476 1 969	0,2	1 969	0,15
95	**01EB95M**	**01C95M**	**01C6**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
3 3/4	**01EB312**	**01C312**	**01C6**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	02EB312	**02C312**	**02C7**	492	0,6	492 984	0,45	984 1 476	0,3	1 476 1 969	0,2	1 969	0,15
100	**100B100M**	**100C100M**	**100C5**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	01EB100M	**01C100M**	**01C6**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	02EB100M	**02C100M**	**02C7**	492	0,6	492 984	0,45	984 1 476	0,3	1 476 1 969	0,2	1 969	0,15
	03B100M	**03C100M**	**03C54**	492	1,2	492 984	0,9	984 1 476	0,6	1 476 1 969	0,4	1 969	0,3
3 15/16	**100B315**	**100C315**	**100C5**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	01EB315	**01C315**	**01C6**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	02EB315	**02C315**	**02C7**	492	0,6	492 984	0,45	984 1 476	0,3	1 476 1 969	0,2	1 969	0,15
	03B315	**03C315**	**03C54**	492	1,2	492 984	0,9	984 1 476	0,6	1 476 1 969	0,4	1 969	0,3
4	**100B400**	**100C400**	**100C5**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	01EB400	**01C400**	**01C6**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	02EB400	**02C400**	**02C7**	492	0,6	492 984	0,45	984 1 476	0,3	1 476 1 969	0,2	1 969	0,15
	03B400	**03C400**	**03C54**	492	1,2	492 984	0,9	984 1 476	0,6	1 476 1 969	0,4	1 969	0,3
105	**01EB105M**	**01C105M**	**01C6**	492	0,36	492 984	0,27	984 1 476	0,18	1 476 1 969	0,12	1 969	0,09
	02EB105M	**02C105M**	**02C7**	492	0,6	492 984	0,45	984 1 476	0,3	1 476 1 969	0,2	1 969	0,15
4 3/16	**01EB403**	**01C403**	**01C7**	437	0,51	437 875	0,38	875 1 312	0,26	1 312 1 750	0,17	1 750	0,13
	02EB403	**02C403**	**02C8**	437	0,9	437 875	0,68	875 1 312	0,45	1 312 1 750	0,3	1 750	0,23
110	**100B110M**	**100C110M**	**100C6**	437	0,36	437 875	0,27	875 1 312	0,18	1 312 1 750	0,12	1 750	0,09
	01EB110M	**01C110M**	**01C7**	437	0,51	437 875	0,38	875 1 312	0,26	1 312 1 750	0,17	1 750	0,13
	02EB110M	**02C110M**	**02C8**	437	0,9	437 875	0,68	875 1 312	0,45	1 312 1 750	0,3	1 750	0,23
	03B110M	**03C110M**	**03C55**	437	1,4	437 875	1,05	875 1 312	0,7	1 312 1 750	0,46	1 750	0,35

[1)] The values are valid for a typical lithium grease (about 0,85 g/cm³)

cont. table 12

Initial grease fill – split cylindrical roller bearings[1)]

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Speed <	Initial fill 100%	Speed >	≤	Initial fill 75%	Speed >	≤	Initial fill 50%	Speed >	≤	Initial fill 33%	Speed >	Initial fill 25%
mm/*in.*				r/min	kg	r/min		kg	r/min		kg	r/min		kg	r/min	kg
4 7/16	100B407	100C407	100C6	437	0,36	437	875	0,27	875	1 312	0,18	1 312	1 750	0,12	1 750	0,09
	01EB407	01C407	01C7	437	0,51	437	875	0,38	875	1 312	0,26	1 312	1 750	0,17	1 750	0,13
	02EB407	02C407	02C8	437	0,9	437	875	0,68	875	1 312	0,45	1 312	1 750	0,3	1 750	0,23
	03B407	03C407	03C55	437	1,4	437	875	1,05	875	1 312	0,7	1 312	1 750	0,46	1 750	0,35
4 1/2	100B408	100C408	100C6	437	0,36	437	875	0,27	875	1 312	0,18	1 312	1 750	0,12	1 750	0,09
	01EB408	01C408	01C7	437	0,51	437	875	0,38	875	1 312	0,26	1 312	1 750	0,17	1 750	0,13
	02EB408	02C408	02C8	437	0,9	437	875	0,68	875	1 312	0,45	1 312	1 750	0,3	1 750	0,23
	03B408	03C408	03C55	437	1,4	437	875	1,05	875	1 312	0,7	1 312	1 750	0,46	1 750	0,35
115	100B115M	100C115M	100C6	437	0,36	437	875	0,27	875	1 312	0,18	1 312	1 750	0,12	1 750	0,09
	01EB115M	01C115M	01C7	437	0,51	437	875	0,38	875	1 312	0,26	1 312	1 750	0,17	1 750	0,13
	0E2B115M	02C115M	02C8	437	0,9	437	875	0,68	875	1 312	0,45	1 312	1 750	0,3	1 750	0,23
120	100B120M	100C120M	100C7	394	0,49	394	787	0,37	787	1 181	0,25	1 181	1 575	0,16	1 575	0,12
	01EB120M	01C120M	01C8	394	0,6	394	787	0,45	787	1 181	0,3	1 181	1 575	0,2	1 575	0,15
	02EB120M	02C120M	02C10	394	1,2	394	787	0,9	787	1 181	0,6	1 181	1 575	0,4	1 575	0,3
	03B120M	03C120M	03C55	437	1,4	437	875	1,05	875	1 312	0,7	1 312	1 750	0,46	1 750	0,35
125	100B125M	100C125M	100C7	394	0,49	394	787	0,37	787	1 181	0,25	1 181	1 575	0,16	1 575	0,12
	01EB125M	01C125M	01C8	394	0,6	394	787	0,45	787	1 181	0,3	1 181	1 575	0,2	1 575	0,15
	02EB125M	02C125M	02C10	394	1,2	394	787	0,9	787	1 181	0,6	1 181	1 575	0,4	1 575	0,3
4 15/16	100B415	100C415	100C7	394	0,49	394	787	0,37	787	1 181	0,25	1 181	1 575	0,16	1 575	0,12
	01EB415	01C415	01C8	394	0,6	394	787	0,45	787	1 181	0,3	1 181	1 575	0,2	1 575	0,15
	02EB415	02C415	02C10	394	1,2	394	787	0,9	787	1 181	0,6	1 181	1 575	0,4	1 575	0,3
	03B415	03C415	03C56	394	1,4	394	787	1,05	787	1 181	0,7	1 181	1 575	0,46	1 575	0,35
5	100B500	100C500	100C7	394	0,49	394	787	0,37	787	1 181	0,25	1 181	1 575	0,16	1 575	0,12
	01EB500	01C500	01C8	394	0,6	394	787	0,45	787	1 181	0,3	1 181	1 575	0,2	1 575	0,15
	02EB500	02C500	02C10	394	1,2	394	787	0,9	787	1 181	0,6	1 181	1 575	0,4	1 575	0,3
	03B500	03C500	03C56	394	1,4	394	787	1,05	787	1 181	0,7	1 181	1 575	0,46	1 575	0,35
130	100B130M	100C130M	100C7	394	0,49	394	787	0,37	787	1 181	0,25	1 181	1 575	0,16	1 575	0,12
	01EB130M	01C130M	01C8	394	0,6	394	787	0,45	787	1 181	0,3	1 181	1 575	0,2	1 575	0,15
	02EB130M	02C130M	02C10	394	1,2	394	787	0,9	787	1 181	0,6	1 181	1 575	0,4	1 575	0,3
	03B130M	03C130M	03C56	394	1,4	394	787	1,05	787	1 181	0,7	1 181	1 575	0,46	1 575	0,35
5 3/16	01EB503	01C503	01C9	358	0,78	358	716	0,59	716	1 074	0,39	1 074	1 432	0,26	1 432	0,2
	02EB503	02C503	02C30	358	1,4	358	716	1,05	716	1 074	0,7	1 074	1 432	0,46	1 432	0,35
135	01EB135M	01C135M	01C9	358	0,78	358	716	0,59	716	1 074	0,39	1 074	1 432	0,26	1 432	0,2
5 7/16	100B507	100C507	100C8	358	0,64	358	716	0,48	716	1 074	0,32	1 074	1 432	0,21	1 432	0,16
	01EB507	01C507	01C9	358	0,78	358	716	0,59	716	1 074	0,39	1 074	1 432	0,26	1 432	0,2
	02EB507	02C507	02C30	358	1,4	358	716	1,05	716	1 074	0,7	1 074	1 432	0,46	1 432	0,35
	03B507	03C507	03C57	358	2	358	716	1,5	716	1 074	1	1 074	1 432	0,66	1 432	0,5
5 1/2	100B508	100C508	100C8	358	0,64	358	716	0,48	716	1 074	0,32	1 074	1 432	0,21	1 432	0,16
	01EB508	01C508	01C9	358	0,78	358	716	0,59	716	1 074	0,39	1 074	1 432	0,26	1 432	0,2
	02EB508	02C508	02C30	358	1,4	358	716	1,05	716	1 074	0,7	1 074	1 432	0,46	1 432	0,35
	03B508	03C508	03C57	358	2	358	716	1,5	716	1 074	1	1 074	1 432	0,66	1 432	0,5
140	100B140M	100C140M	100C8	358	0,64	358	716	0,48	716	1 074	0,32	1 074	1 432	0,21	1 432	0,16
	01EB140M	01C140M	01C9	358	0,78	358	716	0,59	716	1 074	0,39	1 074	1 432	0,26	1 432	0,2
	02EB140M	02C140M	02C30	358	1,4	358	716	1,05	716	1 074	0,7	1 074	1 432	0,46	1 432	0,35
	03B140M	03C140M	03C57	358	2	358	716	1,5	716	1 074	1	1 074	1 432	0,66	1 432	0,5
145	02EB145M	02C145M	02C30	358	1,4	358	716	1,05	716	1 074	0,7	1 074	1 432	0,46	1 432	0,35

[1)] The values are valid for a typical lithium grease (about 0,85 g/cm³)

cont. table 12

Initial grease fill – split cylindrical roller bearings[1)]

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Speed <	Initial fill 100%	Speed >	≤	Initial fill 75%	Speed >	≤	Initial fill 50%	Speed >	≤	Initial fill 33%	Speed >	Initial fill 25%
mm/*in.*				r/min	kg	r/min		kg	r/min		kg	r/min		kg	r/min	kg
150	**100B150M**	**100C150M**	**100C9**	328	1,02	328	656	0,77	656	984	0,51	984	1 312	0,34	1 312	0,26
	01EB150M	**01C150M**	**01C10**	328	0,9	328	656	0,68	656	984	0,45	984	1 312	0,3	1 312	0,23
	02EB150M	**02C150M**	**02C31**	328	1,4	328	656	1,05	656	984	0,7	984	1 312	0,46	1 312	0,35
	03B150M	**03C150M**	**03C58**	328	2,7	328	656	2,03	656	984	1,35	984	1 312	0,89	1 312	0,68
5 15/16	**100B515**	**100C515**	**100C9**	328	1,02	328	656	0,77	656	984	0,51	984	1 312	0,34	1 312	0,26
	01EB515	**01C515**	**01C10**	328	0,9	328	656	0,68	656	984	0,45	984	1 312	0,3	1 312	0,23
	02EB515	**02C515**	**02C31**	328	1,4	328	656	1,05	656	984	0,7	984	1 312	0,46	1 312	0,35
	03B515	**03C515**	**03C58**	328	2,7	328	656	2,03	656	984	1,35	984	1 312	0,89	1 312	0,68
6	**100B508**	**100C508**	**100C9**	328	1,02	328	656	0,77	656	984	0,51	984	1 312	0,34	1 312	0,26
	01EB600	**01C600**	**01C10**	328	0,9	328	656	0,68	656	984	0,45	984	1 312	0,3	1 312	0,23
	02EB600	**02C600**	**02C31**	328	1,4	328	656	1,05	656	984	0,7	984	1 312	0,46	1 312	0,35
	03B600	**03C600**	**03C58**	328	2,7	328	656	2,03	656	984	1,35	984	1 312	0,89	1 312	0,68
155	**01EB155M**	**01C155M**	**01C10**	328	0,9	328	656	0,68	656	984	0,45	984	1 312	0,3	1 312	0,23
	02EB155M	**02C155M**	**02C31**	328	1,4	328	656	1,05	656	984	0,7	984	1 312	0,46	1 312	0,35
160	**01EB160MEX10**	**01C160MEX14**	**01C10EX10**	328	0,9	328	656	0,68	656	984	0,45	984	1 312	0,3	1 312	0,23
	01EB160MGR10	**01C160MGR10**	**01C10GR10**	328	0,9	328	656	0,68	656	984	0,45	984	1 312	0,3	1 312	0,23
	01EB160M	**01C160M**	**01C11**	303	1	303	606	0,75	606	909	0,5	909	1 211	0,33	1 211	0,25
	02EB160MEX10	**02C160MEX10**	**02C31EX10**	328	1,4	328	656	1,05	656	984	0,7	984	1 312	0,46	1 312	0,35
	02EB160MGR10	**02C160MGR10**	**02C31GR10**	328	1,4	328	656	1,05	656	984	0,7	984	1 312	0,46	1 312	0,35
	02EB160M	**02C160M**	**02C32**	303	1,4	303	606	1,05	606	909	0,7	909	1 211	0,46	1 211	0,35
	03B160M	**03C160M**	**03C59**	303	3,6	303	606	2,7	606	909	1,8	909	1 211	1,19	1 211	0,9
6 7/16	**01EB607**	**01C607**	**01C11**	303	1	303	606	0,75	606	909	0,5	909	1 211	0,33	1 211	0,25
	02EB607	**02C607**	**02C32**	303	1,4	303	606	1,05	606	909	0,7	909	1 211	0,46	1 211	0,35
	03B607	**03C607**	**03C59**	303	3,6	303	606	2,7	606	909	1,8	909	1 211	1,19	1 211	0,9
6 1/2	**01EB608**	**01C608**	**01C11**	303	1	303	606	0,75	606	909	0,5	909	1 211	0,33	1 211	0,25
	02EB608	**02C608**	**02C32**	303	1,4	303	606	1,05	606	909	0,7	909	1 211	0,46	1 211	0,35
	03B608	**03C608**	**03C59**	303	3,6	303	606	2,7	606	909	1,8	909	1 211	1,19	1 211	0,9
170	**01EB170MEX13**	**01C170MEX13**	**01C11EX10**	303	1	303	606	0,75	606	909	0,5	909	1 211	0,33	1 211	0,25
	01EB170MGR14	**01C170MGR15**	**01C11GR10**	303	1	303	606	0,75	606	909	0,5	909	1 211	0,33	1 211	0,25
	01EB170M	**01C170M**	**01C12**	281	1,2	281	562	0,9	562	844	0,6	844	1 125	0,4	1 125	0,3
	02EB170M	**02C170M**	**02C32EX10**	303	1,4	303	606	1,05	606	909	0,7	909	1 211	0,46	1 211	0,35
	02EB170M	**02C170M**	**02C32GR10**	303	1,4	303	606	1,05	606	909	0,7	909	1 211	0,46	1 211	0,35
	03B170M	**03C170M**	**03C59**	303	3,6	303	606	2,7	606	909	1,8	909	1 211	1,19	1 211	0,9
175	**01EB175M**	**01C175M**	**01C12**	281	1,2	281	562	0,9	562	844	0,6	844	1 125	0,4	1 125	0,3
	02EB175M	**02C175M**	**02C33**	303	2	303	606	1,5	606	909	1	909	1 211	0,66	1 211	0,5
6 15/16	**01EB615**	**01C615**	**01C12**	281	1,2	281	562	0,9	562	844	0,6	844	1 125	0,4	1 125	0,3
	02EB615	**02C615**	**02C33**	303	2	303	606	1,5	606	909	1	909	1 211	0,66	1 211	0,5
	03B615	**03C615**	**03C60**	281	4,2	281	562	3,15	562	844	2,1	844	1 125	1,39	1 125	1,05
7	**01EB700**	**01C700**	**01C12**	281	1,2	281	562	0,9	562	844	0,6	844	1 125	0,4	1 125	0,3
	02EB700	**02C700**	**02C33**	303	2	303	606	1,5	606	909	1	909	1 211	0,66	1 211	0,5
	03B700	**03C700**	**03C60**	281	4,2	281	562	3,15	562	844	2,1	844	1 125	1,39	1 125	1,05
180	**01EB180M**	**01C180M**	**01C12**	281	1,2	281	562	0,9	562	844	0,6	844	1 125	0,4	1 125	0,3
	02EB180M	**02C180M**	**02C33**	303	2	303	606	1,5	606	909	1	909	1 211	0,66	1 211	0,5
	03B180M	**03C180M**	**03C60**	281	4,2	281	562	3,15	562	844	2,1	844	1 125	1,39	1 125	1,05
190	**01EB190M**	**01C190M**	**01C13**	246	1,4	246	492	1,05	492	738	0,7	738	984	0,46	984	0,35
	02EB190M	**02C190M**	**02C34**	246	2,7	246	492	2,03	492	738	1,35	738	984	0,89	984	0,68
	03B190M	**03C190M**	**03C61**	246	5,4	246	492	4,05	492	738	2,7	738	984	1,78	984	1,35
200	**100B200M**	**100C200M**	2)	246	0,9	246	492	0,68	492	738	0,45	738	984	0,3	984	0,23
	01EB200M	**01C200M**	**01C13**	246	1,4	246	492	1,05	492	738	0,7	738	984	0,46	984	0,35
	02EB200M	**02C200M**	**02C34**	246	2,7	246	492	2,03	492	738	1,35	738	984	0,89	984	0,68
	03B200M	**03C200M**	**03C61**	246	5,4	246	492	4,05	492	738	2,7	738	984	1,78	984	1,35

1) The values are valid for a typical lithium grease (about 0,85 g/cm³)
2) Contact SKF

cont. table 12

Initial grease fill – split cylindrical roller bearings[1)]

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Speed <	Initial fill 100%	Speed >	≤	Initial fill 75%	Speed >	≤	Initial fill 50%	Speed >	≤	Initial fill 33%	Speed >	Initial fill 25%
mm/*in.*				r/min	kg	r/min		kg	r/min		kg	r/min		kg	r/min	kg
7 15/16	**100B715**	**100C715**	[2)]	246	0,9	246	492	0,68	492	738	0,45	738	984	0,3	984	0,23
	01EB715	**01C715**	**01C13**	246	1,4	246	492	1,05	492	738	0,7	738	984	0,46	984	0,35
	02EB715	**02C715**	**02C34**	246	2,7	246	492	2,03	492	738	1,35	738	984	0,89	984	0,68
	03B715	**03C715**	**03C61**	246	5,4	246	492	4,05	492	738	2,7	738	984	1,78	984	1,35
8	**100B800**	**100C800**	[2)]	246	0,9	246	492	0,68	492	738	0,45	738	984	0,3	984	0,23
	01EB800	**01C800**	**01C13**	246	1,4	246	492	1,05	492	738	0,7	738	984	0,46	984	0,35
	02EB800	**02C800**	**02C34**	246	2,7	246	492	2,03	492	738	1,35	738	984	0,89	984	0,68
	03B800	**03C800**	**03C61**	246	5,4	246	492	4,05	492	738	2,7	738	984	1,78	984	1,35
220	**100B220M**	**100C220M**	[2)]	232	1,35	232	463	1,01	463	695	0,68	695	926	0,45	926	0,34
	01EB220M	**01C220M**	**01C14**	219	1,4	219	437	1,05	437	656	0,7	656	875	0,46	875	0,35
	02EB220M	**02C220M**	**02C35**	219	3,6	219	437	2,7	437	656	1,8	656	875	1,19	875	0,9
	03B220M	**03C220M**	**03C62**	219	6,9	219	437	5,18	437	656	3,45	656	875	2,28	875	1,73
9	**01EB900**	**01C900**	**01C14**	219	1,4	219	437	1,05	437	656	0,7	656	875	0,46	875	0,35
	02EB900	**02C900**	**02C35**	219	3,6	219	437	2,7	437	656	1,8	656	875	1,19	875	0,9
	03B900	**03C900**	**03C62**	219	6,9	219	437	5,18	437	656	3,45	656	875	2,28	875	1,73
230	**01EB230M**	**01C230M**	**01C14**	219	1,4	219	437	1,05	437	656	0,7	656	875	0,46	875	0,35
	02EB230M	**02C230M**	**02C35**	219	3,6	219	437	2,7	437	656	1,8	656	875	1,19	875	0,9
240	**01EB240M**	**01C240M**	**01C15**	197	2	197	394	1,5	394	591	1	591	787	0,66	787	0,5
	02EB240M	**02C240M**	**02C36**	197	4,2	197	394	3,15	394	591	2,1	591	787	1,39	787	1,05
	03B240M	**03C240M**	**03C63**	197	8,1	197	394	6,08	394	591	4,05	591	787	2,67	787	2,03
250	**01EB250M**	**01C250M**	**01C15**	197	2	197	394	1,5	394	591	1	591	787	0,66	787	0,5
	02EB250M	**02C250M**	**02C36**	197	4,2	197	394	3,15	394	591	2,1	591	787	1,39	787	1,05
	03B250M	**03C250M**	**03C63**	197	8,1	197	394	6,08	394	591	4,05	591	787	2,67	787	2,03
10	**01EB1000**	**01C1000**	**01C15**	197	2	197	394	1,5	394	591	1	591	787	0,66	787	0,5
	02EB1000	**02C1000**	**02C36**	197	4,2	197	394	3,15	394	591	2,1	591	787	1,39	787	1,05
	03B1000	**03C1000**	**03C63**	197	8,1	197	394	6,08	394	591	4,05	591	787	2,67	787	2,03
260	**01EB260MEX16**	**01C260MEX15**	**01C15EX15**	197	2	197	394	1,5	394	591	1	591	787	0,66	787	0,5
	01EB260MGR15	**01C260MGR12**	**01C15GR13**	197	2	197	394	1,5	394	591	1	591	787	0,66	787	0,5
	01EB260M	**01C260M**	**01C16**	179	2	179	358	1,5	358	537	1	537	716	0,66	716	0,5
	02EB260M	**02C260M**	**02C36EX10**	197	4,2	197	394	3,15	394	591	2,1	591	787	1,39	787	1,05
	02EB260M	**02C260M**	**02C36GR11**	197	4,2	197	394	3,15	394	591	2,1	591	787	1,39	787	1,05
	03B260M	**03C260M**	**03C63EX10**	197	8,1	197	394	6,08	394	591	4,05	591	787	2,67	787	2,03
	03B260M	**03C260M**	**03C63GR10**	197	8,1	197	394	6,08	394	591	4,05	591	787	2,67	787	2,03
270	**01EB270M**	**01C270M**	**01C16**	179	2	179	358	1,5	358	537	1	537	716	0,66	716	0,5
275	**01EB275M**	**01C275M**	**01C16**	179	2	179	358	1,5	358	537	1	537	716	0,66	716	0,5
11	**01EB1100**	**01C1100**	**01C16**	179	2	179	358	1,5	358	537	1	537	716	0,66	716	0,5
	02EB1100	**02C1100**	**02C37**	179	4,8	179	358	3,6	358	537	2,4	537	716	1,58	716	1,2
	03EB1100	**03C1100**	**03EC83**	179	10	179	358	7,5	358	537	5	537	716	3,3	716	2,5
280	**01EB280M**	**01C280M**	**01C16**	179	2	179	358	1,5	358	537	1	537	716	0,66	716	0,5
	02EB280M	**02C280M**	**02C37**	179	4,8	179	358	3,6	358	537	2,4	537	716	1,58	716	1,2
	03EB280M	**03C280M**	**03EC83**	179	10	179	358	7,5	358	537	5	537	716	3,3	716	2,5
290	**01EB290M**	**01C290M**	**01C17**	164	2	164	328	1,5	328	492	1	492	656	0,66	656	0,5
	03B290M	**03C290M**	**03C65**	164	11	164	328	8,25	328	492	5,5	492	656	3,63	656	2,75
300	**01EB300M**	**01C300M**	**01C17**	164	2	164	328	1,5	328	492	1	492	656	0,66	656	0,5
	02EB300M	**02C300M**	**02C38**	164	5,4	164	328	4,05	328	492	2,7	492	656	1,78	656	1,35
	03B300M	**03C300M**	**03C65**	164	11	164	328	8,25	328	492	5,5	492	656	3,63	656	2,75
12	**01EB1200**	**01C1200**	**01C17**	164	2	164	328	1,5	328	492	1	492	656	0,66	656	0,5
	02EB1200	**02C1200**	**02C38**	164	5,4	164	328	4,05	328	492	2,7	492	656	1,78	656	1,35
	03B1200	**03C1200**	**03C65**	164	11	164	328	8,25	328	492	5,5	492	656	3,63	656	2,75

[1)] The values are valid for a typical lithium grease (about 0,85 g/cm³)
[2)] Contact SKF

cont. table 12

Initial grease fill – split cylindrical roller bearings[1)]

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Speed <	Initial fill 100%	Speed > ≤		Initial fill 75%	Speed > ≤		Initial fill 50%	Speed > ≤		Initial fill 33%	Speed >	Initial fill 25%
mm/*in.*				r/min	kg	r/min		kg	r/min		kg	r/min		kg	r/min	kg
320	**01B320M**	**01C320M**	**01C18**	151	2,76	151	303	2,07	303	454	1,38	454	606	0,91	606	0,69
	02B320M	**02C320M**	**02C39**	151	6,6	151	303	4,95	303	454	3,3	454	606	2,18	606	1,65
	03B320M	**03C320M**	**03C66**	151	12	151	303	9	303	454	6	454	606	3,96	606	3
330	**01B330M**	**01C330M**	**01C18**	151	2,76	151	303	2,07	303	454	1,38	454	606	0,91	606	0,69
	02B330M	**02C330M**	**02C39**	151	6,6	151	303	4,95	303	454	3,3	454	606	2,18	606	1,65
13	**01B1300**	**01C1300**	**01C18**	151	2,76	151	303	2,07	303	454	1,38	454	606	0,91	606	0,69
	02B1300	**02C1300**	**02C39**	151	6,6	151	303	4,95	303	454	3,3	454	606	2,18	606	1,65
	03B1300	**03C1300**	**03C66**	151	12	151	303	9	303	454	6	454	606	3,96	606	3
340	**01B340MEX13**	**01C340MEX12**	**01C18EX**	151	2,76	151	303	2,07	303	454	1,38	454	606	0,91	606	0,69
	01B340MGR13	**01C340MGR11**	**01C18GR**	151	2,76	151	303	2,07	303	454	1,38	454	606	0,91	606	0,69
	01B340M	**01C340M**	**01C19**	141	3	141	281	2,25	281	422	1,5	422	562	0,99	562	0,75
	02B340M	**02C340M**	**02C40**	141	7,2	141	281	5,4	281	422	3,6	422	562	2,38	562	1,8
	03EB340M	**03C340M**	**03EC86**	141	15	141	281	11,25	281	422	7,5	422	562	4,95	562	3,75
350	**01B350M**	**01C350M**	**01C19**	141	3	141	281	2,25	281	422	1,5	422	562	0,99	562	0,75
	02B350M	**02C350M**	**02C40**	141	7,2	141	281	5,4	281	422	3,6	422	562	2,38	562	1,8
14	**01B1400**	**01C1400**	**01C19**	141	3	141	281	2,25	281	422	1,5	422	562	0,99	562	0,75
	02B1400	**02C1400**	**02C40**	141	7,2	141	281	5,4	281	422	3,6	422	562	2,38	562	1,8
	03EB1400	**03C1400**	**03EC86**	141	15	141	281	11,25	281	422	7,5	422	562	4,95	562	3,75
360	**01B360MEX15**	**01C360MEX13**	**01C19EX**	141	3	141	281	2,25	281	422	1,5	422	562	0,99	562	0,75
	01B360MGR15	**01C360MGR16**	**01C19GR**	141	3	141	281	2,25	281	422	1,5	422	562	0,99	562	0,75
	01B360M	**01C360M**	**01C20**	131	3	131	262	2,25	262	394	1,5	394	525	0,99	525	0,75
	02B360M	**02C360M**	**02C40**	141	7,2	141	281	5,4	281	422	3,6	422	562	2,38	562	1,8
	03EB360M	**03C360M**	**03EC86**	141	15	141	281	11,25	281	422	7,5	422	562	4,95	562	3,75
380	**01B380M**	**01C380M**	**01C20**	131	3	131	262	2,25	262	394	1,5	394	525	0,99	525	0,75
	02B380M	**02C380M**	**02C41**	131	7,8	131	262	5,85	262	394	3,9	394	525	2,57	525	1,95
	03B380M	**03C380M**	**03C68**	131	16,2	131	262	12,15	262	394	8,1	394	525	5,35	525	4,05
15	**01B1500**	**01C1500**	**01C20**	131	3	131	262	2,25	262	394	1,5	394	525	0,99	525	0,75
	02B1500	**02C1500**	**02C41**	131	7,8	131	262	5,85	262	394	3,9	394	525	2,57	525	1,95
	03B1500	**03C1500**	**03C68**	131	16,2	131	262	12,15	262	394	8,1	394	525	5,35	525	4,05
390	**01B390M**	**01C390M**	**01C21**	123	3,6	123	246	2,7	246	369	1,8	369	492	1,19	492	0,9
400	**01B400M**	**01C400M**	**01C21**	123	3,6	123	246	2,7	246	369	1,8	369	492	1,19	492	0,9
	02B400M	**02C400M**	**02C42**	123	9	123	246	6,75	246	369	4,5	369	492	2,97	492	2,25
	03B400M	**03C400M**	**03C68**	131	16,2	131	262	12,15	262	394	8,1	394	525	5,35	525	4,05
16	**01B1600**	**01C1600**	**01C21**	123	3,6	123	246	2,7	246	369	1,8	369	492	1,19	492	0,9
	02B1600	**02C1600**	**02C42**	123	9	123	246	6,75	246	369	4,5	369	492	2,97	492	2,25
420	**01B420M**	**01C420M**	**01C22**	116	4,2	116	232	3,15	232	347	2,1	347	463	1,39	463	1,05
	02B420M	**02C420M**	**02C43**	116	9,6	116	232	7,2	232	347	4,8	347	463	3,17	463	2,4
	03EB420M	**03C420M**	**03EC89**	116	21,6	116	232	16,2	232	347	10,8	347	463	7,13	463	5,4
17	**01B1700**	**01C1700**	**01C22**	116	4,2	116	232	3,15	232	347	2,1	347	463	1,39	463	1,05
	02B1700	**02C1700**	**02C43**	116	9,6	116	232	7,2	232	347	4,8	347	463	3,17	463	2,4
	03EB1700	**03C1700**	**03EC89**	116	21,6	116	232	16,2	232	347	10,8	347	463	7,13	463	5,4
440	**01B440M**	**01C440M**	**01C23**	109	4,2	109	219	3,15	219	328	2,1	328	437	1,39	437	1,05
	02B440M	**02C440M**	**02C44**	109	9,6	109	219	7,2	219	328	4,8	328	437	3,17	437	2,4
	03EB440M	**03C440M**	**03EC89**	116	21,6	116	232	16,2	232	347	10,8	347	463	7,13	463	5,4
18	**01B1800**	**01C1800**	**01C23**	109	4,2	109	219	3,15	219	328	2,1	328	437	1,39	437	1,05
	02B1800	**02C1800**	**02C44**	109	9,6	109	219	7,2	219	328	4,8	328	437	3,17	437	2,4
	03EB1800	**03C1800**	**03EC90**	109	24,6	109	219	18,45	219	328	12,3	328	437	8,12	437	6,15

[1)] The values are valid for a typical lithium grease (about 0,85 g/cm³)

cont. table 12

Initial grease fill – split cylindrical roller bearings[1)]

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Speed <	Initial fill 100%	Speed > ≤		Initial fill 75%	Speed > ≤		Initial fill 50%	Speed > ≤		Initial fill 33%	Speed >	Initial fill 25%
mm/*in.*				r/min	kg	r/min		kg	r/min		kg	r/min		kg	r/min	kg
460	**01B460M**	**01C460M**	**01C23**	109	4,2	109	219	3,15	219	328	2,1	328	437	1,39	437	1,05
	02B460M	**02C460M**	**02C44**	109	9,6	109	219	7,2	219	328	4,8	328	437	3,17	437	2,4
	03EB460M	**03C460M**	**03EC90**	109	24,6	109	219	18,45	219	328	12,3	328	437	8,12	437	6,15
480	**01B480M**	**01C480M**	**01C24**	104	4,8	104	207	3,6	207	311	2,4	311	414	1,58	414	1,2
	02B480M	**02C480M**	**02C45**	104	10,2	104	207	7,65	207	311	5,1	311	414	3,37	414	2,55
19	**01B1900**	**01C1900**	**01C24**	104	4,8	104	207	3,6	207	311	2,4	311	414	1,58	414	1,2
	02B1900	**02C1900**	**02C45**	104	10,2	104	207	7,65	207	311	5,1	311	414	3,37	414	2,55
500	**01B500M**	**01C500M**	**01C25**	98	4,8	98	197	3,6	197	295	2,4	295	394	1,58	394	1,2
	02B500M	**02C500M**	**02C46**	98	10,8	98	197	8,1	197	295	5,4	295	394	3,56	394	2,7
	03B500M	**03C500M**	**03C94**	98	30	98	197	22,5	197	295	15	295	394	9,9	394	7,5
20	**01B2000**	**01C2000**	**01C25**	98	4,8	98	197	3,6	197	295	2,4	295	394	1,58	394	1,2
	02B2000	**02C2000**	**02C46**	98	10,8	98	197	8,1	197	295	5,4	295	394	3,56	394	2,7
	03B2000	**03C2000**	**03C94**	98	30	98	197	22,5	197	295	15	295	394	9,9	394	7,5
530	**01B530M**	**01C530M**	**01C26**	94	5,4	94	187	4,05	187	281	2,7	281	375	1,78	375	1,35
	02B530M	**02C530M**	**02C47**	94	11,4	94	187	8,55	187	281	5,7	281	375	3,76	375	2,85
	03B530M	**03C530M**	**03C94**	98	30	98	197	22,5	197	295	15	295	394	9,9	394	7,5
21	**01B2100**	**01C2100**	**01C26**	94	5,4	94	187	4,05	187	281	2,7	281	375	1,78	375	1,35
	02B2100	**02C2100**	**02C47**	94	11,4	94	187	8,55	187	281	5,7	281	375	3,76	375	2,85
22	**01B2200**	**01C2200**	**01C27**	89	5,4	89	179	4,05	179	268	2,7	268	358	1,78	358	1,35
	02B2200	**02C2200**	**02C48**	89	11,4	89	179	8,55	179	268	5,7	268	358	3,76	358	2,85
	03EB2200	**03C2200**	**03EC94**	89	36	89	179	27	179	268	18	268	358	11,88	358	9
560	**01B560M**	**01C560M**	**01C27**	89	5,4	89	179	4,05	179	268	2,7	268	358	1,78	358	1,35
	02B560M	**02C560M**	**02C48**	89	11,4	89	179	8,55	179	268	5,7	268	358	3,76	358	2,85
	03EB560M	**03C560M**	**03EC94**	89	36	89	179	27	179	268	18	268	358	11,88	358	9
580	**01B580M**	**01C580M**	**01C28**	86	6	86	171	4,5	171	257	3	257	342	1,98	342	1,5
	02B580M	**02C580M**	**02C49**	86	12,6	86	171	9,45	171	257	6,3	257	342	4,16	342	3,15
23	**01B2300**	**01C2300**	**01C28**	86	6	86	171	4,5	171	257	3	257	342	1,98	342	1,5
	02B2300	**02C2300**	**02C49**	86	12,6	86	171	9,45	171	257	6,3	257	342	4,16	342	3,15
	03EB2300	**03C2300**	**03EC95**	86	38,4	86	171	28,8	171	257	19,2	257	342	12,67	342	9,6
600	**01B600M**	**01C600M**	**01C29**	82	6	82	164	4,5	164	246	3	246	328	1,98	328	1,5
	02B600M	**02C600M**	**02C50**	82	12,6	82	164	9,45	164	246	6,3	246	328	4,16	328	3,15
	03EB600M	**03C600M**	**03EC95**	86	38,4	86	171	28,8	171	257	19,2	257	342	12,67	342	9,6
24	**01B2400**	**01C2400**	**01C29**	82	6	82	164	4,5	164	246	3	246	328	1,98	328	1,5
	02B2400	**02C2400**	**02C50**	82	12,6	82	164	9,45	164	246	6,3	246	328	4,16	328	3,15

[1)] The values are valid for a typical lithium grease (about 0,85 g/cm³)

Table 13

Initial grease fill – split tapered roller bearings[1)]

Shaft diameter	Designations			Speed	Initial fill	Speed		Initial fill	Speed		Initial fill	Speed		Initial fill	Speed	Initial fill
	Bearing	Cartridge with grease groove seals	Cartridge for labyrinth seals		100%			75%			50%			33%		25%
d_a				<		>	≤		>	≤		>	≤		>	
mm				r/min	kg	r/min		kg	r/min		kg	r/min		kg	r/min	kg
75	**1DTB75M**	**1DTC75GR75M**	**1DTC75GR30TL**	667	0,19	667	1 333	0,14	1 333	2 000	0,10	2 000	2 667	0,06	2 667	0,05
80	**1DTB80M**	**1DTC80GR80M**	**1DTC80GR35TL**	625	0,23	625	1 250	0,17	1 250	1 875	0,12	1 875	2 500	0,08	2 500	0,06
90	**1DTB90M**	**1DTC90GR90M**	**1DTC90GR35TL**	556	0,25	556	1 111	0,19	1 111	1 667	0,12	1 667	2 222	0,08	2 222	0,06
100	**1DTB100M**	**1DTC100GR100M**	**1DTC100GR40TL**	500	0,41	500	1 000	0,31	1 000	1 500	0,20	1 500	2 000	0,13	2 000	0,10
110	**1DTB110M**	**1DTC110GR110M**	**1DTC110GR45TL**	455	0,44	455	909	0,33	909	1 364	0,22	1 364	1 818	0,14	1 818	0,11
120	**1DTB120M**	**1DTC120GR120M**	**1DTC120GR50TL**	417	0,50	417	833	0,38	833	1 250	0,25	1 250	1 667	0,17	1 667	0,13
130	**1DTB130M**	**1DTC140GR130M**	**1DTC140GR50TL**	357	0,65	357	714	0,48	714	1 071	0,32	1 071	1 429	0,21	1 429	0,16
140	**1DTB140M**	**1DTC140GR140M**	**1DTC140GR55TL**	357	0,65	357	714	0,48	714	1 071	0,32	1 071	1 429	0,21	1 429	0,16
150	**1DTB150M**	**1DTC160GR150M**	**1DTC160GR60TL**	313	0,63	313	625	0,47	625	938	0,32	938	1 250	0,21	1 250	0,16
160	**1DTB160M**	**1DTC160GR160M**	**1DTC160GR65TL**	313	0,63	313	625	0,47	625	938	0,32	938	1 250	0,21	1 250	0,16
180	**1DTB180M**	**1DTC180GR180M**	**1DTC180GR70TL**	278	0,77	278	556	0,58	556	833	0,39	833	1 111	0,25	1 111	0,19

[1)] The values are valid for a typical lithium grease (about 0,85 g/cm³)

Relubrication

For split cylindrical roller bearings, use the shortest relubrication interval to which one or more of the conditions in **table 14** apply. For applications with 100% initial grease fill, use a relubrication interval of 400 hours regardless of the environment. If operating conditions fall outside those listed, contact SKF.

The amount of grease required is provided in **table 15, pages 35 to 41**.

For split tapered roller bearings, relubricate weekly or every 150 hours of operation:

- $d_a \leq 120$ mm: 2 ml grease
- $d_a > 120$ mm: 4 ml grease

NOTE: 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.

Automatic lubrication systems should be metered to deliver grease at an average rate equivalent to the relubrication period specified. SKF recommends relubricating while the bearing is rotating to help distribute the grease but only if it is safe to do so.

Table 14

Relubrication interval – split cylindrical roller bearings

Relubrication interval	Operating conditions		
	Temperature	Speed d_n[1)]	Environment
hours	°C *(°F)*	mm	–
100	80 to 175 *(175 to 345)*	200 000 to 300 000[2)]	very dirty
200	60 to 80 *(140 to 175)*	100 000 to 200 000	dusty/splashed
400[3)]	< 60 *(< 140)*	< 100 000	clean/dry

[1)] Speed factor d_n [mm] = bearing bore [mm] x rotational speed [r/min]
[2)] Or up to the maximum for 100 series bearings
[3)] For bearings with 100% initial grease fill in applications with no axial load, this may be extended over 400 hours. Please contact SKF for support.

Excessive quantities of lubricant should not be used, particularly at high speeds, as this may result in excessive churning and overheating.

Table 15

Relubrication quantity – split cylindrical roller bearings

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Relubrication quantity[1]
mm/*in.*	–			ml
1 3/16	01EB103	–	01C1	4
1 1/4	01EB104	–	01C1	4
35	01EB35M	–	01C1	4
1 7/16	01EB107	–	01C1	4
1 1/2	01EB108	01C108	01C1	4
40	01EB40M	01C40M	01C1	4
1 11/16	01EB111	01C111	01C2	4
1 3/4	01EB112	01C112	01C2	4
45	01EB45M	01C45M	01C2	4
1 15/16	01EB115 02EB115	01C115 02C115	01C2 02C3	4 4
50	01EB50M 02EB50M	01C50M 02C50M	01C2 02C3	4 4
2	01EB200 02EB200	01C200 02C200	01C2 02C3	4 4
55	01EB55M	01C55M	01C3	4
2 3/16	01EB203 02EB203	01C203 02C203	01C3 02C4	4 4
2 1/4	01EB204 02EB204	01C204 02C204	01C3 02C4	4 4
60	01EB60M 02EB60M	01C60M 02C60M	01C3 02C4	4 4
2 7/16	01EB207 02EB207	01C207 02C207	01C3 02C4	4 4
2 1/2	01EB208 02EB208	01C208 02C208	01C3 02C4	4 4
65	01EB65M 02EB65M	01C65M 02C65M	01C3 02C4	4 4
2 11/16	01EB211 02EB211	01C211 02C211	01C4 02C5	4 4
2 3/4	01EB212 02EB212	01C212 02C212	01C4 02C5	4 4

[1] 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.

cont. table 15

Relubrication quantity – split cylindrical roller bearings

Shaft diameter	Designations			Relubrication quantity[1]
	Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	
d_a				
mm/*in.*	–			ml
70	**01EB70M**	**01C70M**	**01C4**	4
	02EB70M	**02C70M**	**02C5**	4
2 15/16	**100B215**	**100C215**	**100C3**	1[2]
	01EB215	**01C215**	**01C4**	4
	02EB215	**02C215**	**02C5**	4
75	**100B75M**	**100C75M**	**100C3**	1[2]
	01EB75M	**01C75M**	**01C4**	4
	02EB75M	**02C75M**	**02C5**	4
3	**100B300**	**100C300**	**100C3**	1[2]
	01EB300	**01C300**	**01C4**	4
	02EB300	**02C300**	**02C5**	4
80	**01EB80M**	**01C80M**	**01C5**	4
	02EB80M	**02C80M**	**02C6**	4
3 3/16	**01EB303**	**01C303**	**01C5**	4
	02EB303	**02C303**	**02C6**	4
3 1/4	**01EB304**	**01C304**	**01C5**	4
	02EB304	**02C304**	**02C6**	4
85	**100B85M**	**100C85M**	**100C4**	1[2]
	01EB85M	**01C85M**	**01C5**	4
	02EB85M	**02C85M**	**02C6**	4
3 7/16	**100B307**	**100C307**	**100C4**	1[2]
	01EB307	**01C307**	**01C5**	4
	02EB307	**02C307**	**02C6**	4
3 1/2	**01EB308**	**01C308**	**01C5**	4
	02EB308	**02C308**	**02C6**	4
90	**01EB90M**	**01C90M**	**01C5**	4
	02EB90M	**02C90M**	**02C6**	4
3 11/16	**01EB311**	**01C311**	**01C6**	4
	02EB311	**02C311**	**02C7**	4
95	**01EB95M**	**01C95M**	**01C6**	4
3 3/4	**01EB312**	**01C312**	**01C6**	4
	02EB312	**02C312**	**02C7**	4
100	**100B100M**	**100C100M**	**100C5**	2
	01EB100M	**01C100M**	**01C6**	4
	02EB100M	**02C100M**	**02C7**	4
	03B100M	**03C100M**	**03C54**	4
3 15/16	**100B315**	**100C315**	**100C5**	2
	01EB315	**01C315**	**01C6**	4
	02EB315	**02C315**	**02C7**	4
	03B315	**03C315**	**03C54**	4
4	**100B400**	**100C400**	**100C5**	2
	01EB400	**01C400**	**01C6**	4
	02EB400	**02C400**	**02C7**	4
	03B400	**03C400**	**03C54**	4
105	**01EB105M**	**01C105M**	**01C6**	4
	02EB105M	**02C105M**	**02C7**	4

1) 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.
2) May be increased to 2 ml if the speed is less than 100 000 d_n or up to 200 000 d_n if operating temperature is less than 80 °C *(175 °F)*.

cont. table 15

Relubrication quantity – split cylindrical roller bearings

Shaft diameter d_a	Designations Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Relubrication quantity[1]
mm/*in.*	–			ml
4 3/16	01EB403	01C403	01C7	4
	02EB403	02C403	02C8	4
110	100B110M	100C110M	100C6	2
	01EB110M	01C110M	01C7	4
	02EB110M	02C110M	02C8	4
	03B110M	03C110M	03C55	4
4 7/16	100B407	100C407	100C6	2
	01EB407	01C407	01C7	4
	02EB407	02C407	02C8	4
	03B407	03C407	03C55	4
4 1/2	100B408	100C408	100C6	2
	01EB408	01C408	01C7	4
	02EB408	02C408	02C8	4
	03B408	03C408	03C55	4
115	100B115M	100C115M	100C6	2
	01EB115M	01C115M	01C7	4
	02EB115M	02C115M	02C8	4
120	100B120M	100C120M	100C7	4
	01EB120M	01C120M	01C8	4
	02EB120M	02C120M	02C10	4
	03B120M	03C120M	03C55	4
125	100B125M	100C125M	100C7	4
	01EB125M	01C125M	01C8	4
	02EB125M	02C125M	02C10	4
4 15/16	100B415	100C415	100C7	4
	01EB415	01C415	01C8	4
	02EB415	02C415	02C10	4
	03B415	03C415	03C56	4
5	100B500	100C500	100C7	4
	01EB500	01C500	01C8	4
	02EB500	02C500	02C10	4
	03B500	03C500	03C56	4
130	100B130M	100C130M	100C7	4
	01EB130M	01C130M	01C8	4
	0E2B130M	02C130M	02C10	4
	03B130M	03C130M	03C56	4
5 3/16	01EB503	01C503	01C9	4
	02EB503	02C503	02C30	4
135	01EB135M	01C135M	01C9	4
5 7/16	100B507	100C507	100C8	4
	01EB507	01C507	01C9	4
	02EB507	02C507	02C30	4
	03B507	03C507	03C57	8
5 1/2	100B508	100C508	100C8	4
	01EB508	01C508	01C9	4
	02EB508	02C508	02C30	4
	03B508	03C508	03C57	8
140	100B140M	100C140M	100C8	4
	01EB140M	01C140M	01C9	4
	02EB140M	02C140M	02C30	4
	03B140M	03C140M	03C57	8

[1] 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.

cont. table 15

Relubrication quantity – split cylindrical roller bearings

Shaft diameter	Designations			Relubrication quantity[1]
	Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	
d_a				
mm/*in.*	–			ml
145	**02EB145M**	**02C145M**	**02C30**	4
150	**100B150M**	**100C150M**	**100C9**	4
	01EB150M	**01C150M**	**01C10**	4
	0E2B150M	**02C150M**	**02C31**	4
	03B150M	**03C150M**	**03C58**	8
5 15/16	**100B515**	**100C515**	**100C9**	4
	01EB515	**01C515**	**01C10**	4
	02EB515	**02C515**	**02C31**	4
	03B515	**03C515**	**03C58**	8
6	**100B508**	**100C600**	**100C9**	4
	01EB600	**01C600**	**01C10**	4
	02EB600	**02C600**	**02C31**	4
	03B600	**03C600**	**03C58**	8
155	**01EB155M**	**01C155M**	**01C10**	4
	02EB155M	**02C155M**	**02C31**	4
160	**01EB160MEX10**	**01C160MEX14**	**01C10EX10**	4
	01EB160MGR10	**01C160MGR10**	**01C10GR10**	4
	01EB160M	**01C160M**	**01C11**	4
	02EB160MEX10	**02C160MEX10**	**02C31EX10**	4
	02EB160MGR10	**02C160MGR10**	**02C31GR10**	4
	02EB160M	**02C160M**	**02C32**	8
	03B160M	**03C160M**	**03C59**	8
6 7/16	**01EB607**	**01C607**	**01C11**	4
	02EB607	**02C607**	**02C32**	8
	03B607	**03C607**	**03C59**	8
6 1/2	**01EB608**	**01C608**	**01C11**	4
	02EB608	**02C608**	**02C32**	8
	03B608	**03C608**	**03C59**	8
170	**01EB170MEX13**	**01C170MEX13**	**01C11EX10**	4
	01EB170MGR14	**01C170MGR15**	**01C11GR10**	4
	01EB170M	**01C170M**	**01C12**	4
	02EB170M	**02C170M**	**02C32EX10**	8
	02EB170M	**02C170M**	**02C32GR10**	8
	03B170M	**03C170M**	**03C59**	8
175	**01EB175M**	**01C175M**	**01C12**	4
	02EB175M	**02C175M**	**02C33**	8
6 15/16	**01EB615**	**01C615**	**01C12**	4
	02EB615	**02C615**	**02C33**	8
	03B615	**03C615**	**03C60**	8
7	**01EB700**	**01C700**	**01C12**	4
	02EB700	**02C700**	**02C33**	8
	03B700	**03C700**	**03C60**	8
180	**01EB180M**	**01C180M**	**01C12**	4
	02EB180M	**02C180M**	**02C33**	8
	03B180M	**03C180M**	**03C60**	8
190	**01EB190M**	**01C190M**	**01C13**	4
	02EB190M	**02C190M**	**02C34**	8
	03B190M	**03C190M**	**03C61**	16

[1] 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.
[2] Contact SKF.

cont. table 15

Relubrication quantity – split cylindrical roller bearings

Shaft diameter d_a	Designations Bearing	Cartridge with felt / grease groove seals	Cartridge for labyrinth seals	Relubrication quantity[1]
mm/*in.*	–			ml
200	100B200M	100C200M	[2]	4
	01EB200M	01C200M	01C13	4
	02EB200M	02C200M	02C34	8
	03B200M	03C200M	03C61	16
7 15/16	100B715	100C200M	[2]	4
	01EB715	01C715	01C13	4
	02EB715	02C715	02C34	8
	03B715	03C715	03C61	16
8	100B800	100C200M	[2]	4
	01EB800	01C800	01C13	4
	02EB800	02C800	02C34	8
	03B800	03C800	03C61	16
220	100B220M	100C220M	[2]	4
	01EB220M	01C220M	01C14	4
	02EB220M	02C220M	02C35	8
	03B220M	03C220M	03C62	16
9	01EB900	01C900	01C14	4
	02EB900	02C900	02C35	8
	03B900	03C900	03C62	16
230	01EB230M	01C230M	01C14	4
	02EB230M	02C230M	02C35	8
240	01EB240M	01C240M	01C15	8
	02EB240M	02C240M	02C36	8
	03B240M	03C240M	03C63	16
250	01EB250M	01C250M	01C15	8
	02EB250M	02C250M	02C36	8
	03B250M	03C250M	03C63	16
10	01EB1000	01C1000	01C15	8
	02EB1000	02C1000	02C36	8
	03B1000	03C1000	03C63	16
260	01EB260MEX16	01C260MEX15	01C15EX15	8
	01EB260MGR15	01C260MGR12	01C15GR13	8
	01EB260M	01C260M	01C16	8
	02EB260M	02C260M	02C36EX10	8
	02EB260M	02C260M	02C36GR11	8
	03B260M	03C260M	03C63EX10	16
	03B260M	03C260M	03C63GR10	16
270	01EB270M	01C270M	01C16	8
275	01EB275M	01C275M	01C16	8
11	01EB1100	01C1100	01C16	8
	02EB1100	02C1100	02C37	16
	03EB1100	03EC1100	03EC83	16
280	01EB280M	01C280M	01C16	8
	02EB280M	02C280M	02C37	16
	03EB280M	03EC280M	03EC83	16
290	01EB290M	01C290M	01C17	8
	03B290M	03C290M	03C65	16
300	01EB300M	01C300M	01C17	8
	02EB300M	02C300M	02C38	16
	03B300M	03C300M	03C65	16

[1] 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.
[2] Contact SKF.

cont. table 15

Relubrication quantity – split cylindrical roller bearings

Shaft diameter	Designations			Relubrication quantity[1]
	Bearing	Cartridge with grease groove seals	Cartridge for labyrinth seals	
d_a				
mm/*in.*	–			ml
12	**01EB1200**	**01C1200**	**01C17**	8
	02EB1200	**02C1200**	**02C38**	16
	03B1200	**03C1200**	**03C65**	16
320	**01B320M**	**01C320M**	**01C18**	8
	02B320M	**02C320M**	**02C39**	16
	03B320M	**03C320M**	**03C66**	24
330	**01B330M**	**01C330M**	**01C18**	8
	02B330M	**02C330M**	**02C39**	16
13	**01B1300**	**01C1300**	**01C18**	8
	02B1300	**02C1300**	**02C39**	16
	03B1300	**03C1300**	**03C66**	24
340	**01B340MEX13**	**01C340MEX12**	**01C18EX**	8
	01B340MGR13	**01C340MGR11**	**01C18GR**	8
	01B340M	**01C340M**	**01C19**	8
	02B340M	**02C340M**	**02C40**	16
	03EB340M	**03EC340M**	**03EC86**	24
350	**01B350M**	**01C350M**	**01C19**	8
	02B350M	**02C350M**	**02C40**	16
14	**01B1400**	**01C1400**	**01C19**	8
	02B1400	**02C1400**	**02C40**	16
	03EB1400	**03EC1400**	**03EC86**	24
360	**01B360MEX15**	**01C360MEX13**	**01C19EX**	8
	01B360MGR15	**01C360MGR16**	**01C19GR**	8
	01B360M	**01C360M**	**01C20**	8
	02B360M	**02C360M**	**02C40**	16
	03EB360M	**03EC360M**	**03EC86**	24
380	**01B380M**	**01C380M**	**01C20**	8
	02B380M	**02C380M**	**02C41**	16
	03B380M	**03C380M**	**03C68**	24
15	**01B1500**	**01C1500**	**01C20**	8
	02B1500	**02C1500**	**02C41**	16
	03B1500	**03C1500**	**03C68**	24
390	**01B390M**	**01C390M**	**01C21**	16
400	**01B400M**	**01C400M**	**01C21**	16
	02B400M	**02C400M**	**02C42**	16
	03B400M	**03C400M**	**03C68**	24
16	**01B1600**	**01C1600**	**01C21**	16
	02B1600	**02C1600**	**02C42**	16
420	**01B420M**	**01C420M**	**01C22**	16
	02B420M	**02C420 M**	**02C43**	16
	03EB420M	**03EC420M**	**03EC89**	24
17	**01B1700**	**01C1700**	**01C22**	16
	02B1700	**02C1700**	**02C43**	16
	03EB1700	**03EC1700**	**03EC89**	24
440	**01B440M**	**01C440M**	**01C23**	16
	02B440M	**02C440M**	**02C44**	24
	03EB440M	**03EC440M**	**03EC89**	32
18	**01B1800**	**01C1800**	**01C23**	16
	02B1800	**02C1800**	**02C44**	24
	03EB1800	**03EC1800**	**03EC90**	32

[1] 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.

cont. table 15

Relubrication quantity – split cylindrical roller bearings

Shaft diameter	Designations			Relubrication quantity[1]
	Bearing	Cartridge with grease groove seals	Cartridge for labyrinth seals	
d_a				
mm/*in.*	–			ml
460	01B460M	01C460M	01C23	16
	02B460M	02C460M	02C44	24
	03EB460M	03EC460M	03EC90	32
480	01B480M	01C480M	01C24	16
	02B480M	02C480M	02C45	24
19	01B1900	01C1900	01C24	16
	02B1900	02C1900	02C45	24
500	01B500M	01C500M	01C25	16
	02B500M	02C500M	02C46	24
	03B500M	03C500M	03C94	32
20	01B2000	01C2000	01C25	16
	02B2000	02C2000	02C46	24
	03B2000	03C2000	03C94	32
530	01B530M	01C530M	01C26	16
	02B530M	02C530M	02C47	24
	03B530M	03C530M	03C94	32
21	01B2100	01C2100	01C26	16
	02B2100	02C2100	02C47	24
22	01B2200	01C2200	01C27	16
	02B2200	02C2200	02C48	24
	03EB2200	03EC2200	03EC94	32
560	01B560M	01C560M	01C27	16
	02B560M	02C560M	02C48	24
	03EB560M	03EC560M	03EC94	32
580	01B580M	01C580M	01C28	16
	02B580M	02C580M	02C49	24
23	01B2300	01C2300	01C28	16
	02B2300	02C2300	02C49	24
	03EB2300	03EC2300	03EC95	32
600	01B600M	01C600M	01C29	16
	02B600M	02C600M	02C50	24
	03EB600M	03EC600M	03EC95	32
24	01B2400	01C2400	01C29	16
	02B2400	02C2400	02C50	24

[1] 2 ml grease is approximately equal to one shot from a conventional side-lever grease gun.

Vibration frequencies

Vibration frequencies are shown in:

- **table 16**, **pages 42 to 48** for split cylindrical roller bearings
- **table 17**, **page 48** for split tapered roller bearings

Table 16

Frequencies – split cylindrical roller bearings

Shaft diameter	Designation	Part frequencies, per shaft revolution				Roller details		
	Bearing	Outer ring	Inner ring	Cage	Rollers	PCD	Qty	Diameter
mm/*in.*	–	1/rev				mm	–	mm
1 3/16	**01EB103**	4,051	5,949	0,405	2,538	62,71	10	11,91
1 1/4	**01EB104**	4,051	5,949	0,405	2,538	62,71	10	11,91
35	**01EB35M**	4,051	5,949	0,405	2,538	62,71	10	11,91
1 7/16	**01EB107**	4,051	5,949	0,405	2,538	62,71	10	11,91
1 1/2	**01EB108**	4,051	5,949	0,405	2,538	62,71	10	11,91
40	**01EB40M**	4,051	5,949	0,405	2,538	62,71	10	11,91
1 11/16	**01EB111**	4,980	7,020	0,415	2,857	76,5	12	13
1 3/4	**01EB112**	4,980	7,020	0,415	2,857	76,5	12	13
45	**01EB45M**	4,980	7,020	0,415	2,857	76,5	12	13
1 15/16	**01EB115**	4,980	7,020	0,415	2,857	76,5	12	13
	02EB115	4,020	5,980	0,402	2,452	80,96	10	15,88
50	**01EB50M**	4,980	7,020	0,415	2,857	76,5	12	13
	02EB50M	4,020	5,980	0,402	2,452	80,96	10	15,88
2	**01EB200**	4,980	7,020	0,415	2,857	76,5	12	13
	02EB200	4,020	5,980	0,402	2,452	80,96	10	15,88
55	**01EB55M**	5,840	8,160	0,417	2,934	90,5	14	15
2 3/16	**01EB203**	5,840	8,160	0,417	2,934	90,5	14	15
	02EB203	4,936	7,064	0,411	2,730	98,43	12	17,46
2 1/4	**01EB204**	5,840	8,160	0,417	2,934	90,5	14	15
	02EB204	4,936	7,064	0,411	2,730	98,43	12	17,46
60	**01EB60M**	5,840	8,160	0,417	2,934	90,5	14	15
	02EB60M	4,936	7,064	0,411	2,730	98,43	12	17,46
2 7/16	**01EB207**	5,840	8,160	0,417	2,934	90,5	14	15
	02EB207	4,936	7,064	0,411	2,730	98,43	12	17,46
2 1/2	**01EB208**	5,840	8,160	0,417	2,934	90,5	14	15
	02EB208	4,936	7,064	0,411	2,730	98,43	12	17,46
65	**01EB65M**	5,840	8,160	0,417	2,934	90,5	14	15
	02EB65M	4,936	7,064	0,411	2,730	98,43	12	17,46
2 11/16	**01EB211**	5,883	8,117	0,42	3,053	106,5	14	17
	02EB211	4,932	7,068	0,411	2,719	115,89	12	20,64
2 3/4	**01EB212**	5,883	8,117	0,42	3,053	106,5	14	17
	02EB212	4,932	7,068	0,411	2,719	115,89	12	20,64

cont. table 16

Frequencies – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Part frequencies, per shaft revolution Outer ring	Inner ring	Cage	Rollers	Roller details PCD	Qty	Diameter
mm/*in.*	–	1/rev				mm	–	mm
70	**01B70M**	5,883	8,117	0,42	3,053	106,5	14	17
	02EB70M	4,932	7,068	0,411	2,719	115,89	12	20,64
2 15/16	**100B215**	8,953	11,047	0,448	4,723	95,5	20	10
	01EB215	5,883	8,117	0,42	3,053	106,5	14	17
	02EB215	4,932	7,068	0,411	2,719	115,89	12	20,64
75	**100B75M**	8,953	11,047	0,448	4,723	95,5	20	10
	01B75M	5,883	8,117	0,42	3,053	106,5	14	17
	02EB75M	4,932	7,068	0,411	2,719	115,89	12	20,64
3	**100B300**	8,953	11,047	0,448	4,723	95,5	20	10
	01EB300	5,883	8,117	0,42	3,053	106,5	14	17
	02EB300	4,932	7,068	0,411	2,719	115,89	12	20,64
80	**01EB80M**	6,774	9,226	0,423	3,187	124	16	19
	02EB80M	5,833	8,167	0,417	2,917	133,35	14	22,23
3 3/16	**01EB303**	5,833	8,167	0,417	2,917	133,35	14	22,23
	02EB303	6,774	9,226	0,423	3,187	124	16	19
3 1/4	**01EB304**	6,774	9,226	0,423	3,187	124	16	19
	02EB304	5,833	8,167	0,417	2,917	133,35	14	22,23
85	**100B85M**	8,924	11,076	0,446	4,592	111,5	20	12
	01EB85M	6,774	9,226	0,423	3,187	124	16	19
	02EB85M	5,833	8,167	0,417	2,917	133,35	14	22,23
3 7/16	**100B307**	8,924	11,076	0,446	4,592	111,5	20	12
	01EB307	6,774	9,226	0,423	3,187	124	16	19
	02EB307	5,833	8,167	0,417	2,917	133,35	14	22,23
3 1/2	**01EB308**	5,833	8,167	0,417	2,917	133,35	14	22,23
	02EB308	6,774	9,226	0,423	3,187	124	16	19
90	**01EB90M**	6,774	9,226	0,423	3,187	124	16	19
	02EB90M	5,833	8,167	0,417	2,917	133,35	14	22,23
3 11/16	**01EB311**	6,756	9,244	0,422	3,138	141,5	16	22
	02EB311	5,833	8,167	0,417	2,917	152,4	14	25,4
95	**01EB95M**	6,756	9,244	0,422	3,138	141,5	16	22
3 3/14	**01EB312**	6,756	9,244	0,422	3,138	141,5	16	22
	02EB312	5,833	8,167	0,417	2,917	152,4	14	25,4
100	**100B100M**	8,915	11,085	0,446	4,553	129	20	14
	01EB100M	6,756	9,244	0,422	3,138	141,5	16	22
	02EB100M	5,833	8,167	0,417	2,917	152,4	14	25,4
	03B100M	3,839	6,161	0,384	2,038	177,8	10	41,28
3 15/16	**100B315**	8,915	11,085	0,446	4,553	129	20	14
	01EB315	6,756	9,244	0,422	3,138	141,5	16	22
	02EB315	5,833	8,167	0,417	2,917	152,4	14	25,4
	03B315	3,839	6,161	0,384	2,038	177,8	10	41,28
4	**100B400**	8,915	11,085	0,446	4,553	129	20	14
	01EB400	6,756	9,244	0,422	3,138	141,5	16	22
	02EB400	5,833	8,167	0,417	2,917	152,4	14	25,4
	03B400	3,839	6,161	0,384	2,038	177,8	10	41,28
105	**01EB105M**	6,756	9,244	0,422	3,138	141,5	16	22
	02EB105M	5,833	8,167	0,417	2,917	152,4	14	25,4
4 3/16	**01B403**	6,880	9,120	0,43	3,501	158,75	16	22,23
	02B403	5,833	8,167	0,417	2,917	171,45	14	28,58

cont. table 16

Frequencies – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Part frequencies, per shaft revolution Outer ring	Inner ring	Cage	Rollers	Roller details PCD	Qty	Diameter
mm/*in.*	–	1/rev				mm	–	mm
110	**100B110M**	8,840	11,160	0,442	4,251	146,5	20	17
	01EB110M	6,880	9,120	0,43	3,501	158,75	16	22,23
	02EB110M	5,833	8,167	0,417	2,917	171,45	14	28,58
	03B110M	3,917	6,083	0,392	2,199	190,5	10	41,28
4 7/16	**100B407**	8,840	11,160	0,442	4,251	146,5	20	17
	01EB407	6,880	9,120	0,43	3,501	158,75	16	22,23
	02EB407	5,833	8,167	0,417	2,917	171,45	14	28,58
	03B407	3,917	6,083	0,392	2,199	190,5	10	41,28
4 1/2	**100B408**	8,840	11,160	0,442	4,251	146,5	20	17
	01EB408	6,880	9,120	0,43	3,501	158,75	16	22,23
	02EB408	5,833	8,167	0,417	2,917	171,45	14	28,58
	03B408	3,917	6,083	0,392	2,199	190,5	10	41,28
115	**100B115M**	8,840	11,160	0,442	4,251	146,5	20	17
	01EB115M	6,880	9,120	0,43	3,501	158,75	16	22,23
	02EB115M	5,833	8,167	0,417	2,917	171,45	14	28,58
120	**100B120M**	8,932	11,068	0,447	4,627	163,46	20	17,46
	01EB120M	6,909	9,091	0,432	3,599	174,63	16	23,81
	02EB120M	5,833	8,167	0,417	2,917	190,5	14	31,75
	03B120M	3,917	6,083	0,392	2,199	190,5	10	41,28
125	**100B125M**	8,932	11,068	0,447	4,627	163,46	20	17,46
	01EB125M	6,909	9,091	0,432	3,599	174,63	16	23,81
	02EB125M	5,833	8,167	0,417	2,917	190,5	14	31,75
4 15/16	**100B415**	8,932	11,068	0,447	4,627	163,46	20	17,46
	01EB415	6,909	9,091	0,432	3,599	174,63	16	23,81
	02EB415	5,833	8,167	0,417	2,917	190,5	14	31,75
	03B415	4,781	7,219	0,398	2,360	203,2	12	41,28
5	**100B500**	8,932	11,068	0,447	4,627	163,46	20	17,46
	01EB500	6,909	9,091	0,432	3,599	174,63	16	23,81
	02EB500	5,833	8,167	0,417	2,917	190,5	14	31,75
	03B500	4,781	7,219	0,398	2,360	203,2	12	41,28
130	**100B130M**	8,932	11,068	0,447	4,627	163,46	20	17,46
	01EB130M	6,909	9,091	0,432	3,599	174,63	16	23,81
	02EB130M	5,833	8,167	0,417	2,917	190,5	14	31,75
	03B130M	4,781	7,219	0,398	2,360	203,2	12	41,28
5 3/16	**01EB503**	6,933	9,067	0,433	3,683	190,5	16	25,4
	02EB503	5,869	8,131	0,419	3,014	206,38	14	33,34
135	**01B135M**	6,933	9,067	0,433	3,683	190,5	16	25,4
5 7/16	**100B507**	8,938	11,062	0,447	4,654	179,33	20	19,05
	01EB507	6,933	9,067	0,433	3,683	190,5	16	25,4
	02EB507	5,869	8,131	0,419	3,014	206,38	14	33,34
	03B507	4,714	7,286	0,393	2,226	222,25	12	47,63
5 1/2	**100B508**	8,938	11,062	0,447	4,654	179,33	20	19,05
	01EB508	6,933	9,067	0,433	3,683	190,5	16	25,4
	02EB508	5,869	8,131	0,419	3,014	206,38	14	33,34
	03B508	4,714	7,286	0,393	2,226	222,25	12	47,63
140	**100B140M**	8,938	11,062	0,447	4,654	179,33	20	19,05
	01EB140M	6,933	9,067	0,433	3,683	190,5	16	25,4
	02EB140M	5,869	8,131	0,419	3,014	206,38	14	33,34
	03B140M	4,714	7,286	0,393	2,226	222,25	12	47,63
145	**02EB145M**	5,869	8,131	0,419	3,014	206,38	14	33,34
150	**100B150M**	8,852	11,148	0,443	4,300	193,68	20	22,23
	01EB150M	7,875	10,125	0,438	3,938	203,2	18	25,4
	02EB150M	6,743	9,257	0,421	3,103	222,25	16	34,93
	03B150M	4,737	7,263	0,395	2,270	241,3	12	50,8

cont. table 16

Frequencies – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Part frequencies, per shaft revolution Outer ring	Inner ring	Cage	Rollers	Roller details PCD	Qty	Diameter
mm/*in.*	–	1/rev				mm	–	mm
5 15/16	**100B515**	8,852	11,148	0,443	4,300	193,68	20	22,23
	01EB515	7,875	10,125	0,438	3,938	203,2	18	25,4
	02EB515	6,743	9,257	0,421	3,103	222,25	16	34,93
	03B515	4,737	7,263	0,395	2,270	241,3	12	50,8
6	**100B508**	8,852	11,148	0,443	4,300	193,68	20	22,23
	01EB600	7,875	10,125	0,438	3,938	203,2	18	25,4
	02EB600	6,743	9,257	0,421	3,103	222,25	16	34,93
	03B600	4,737	7,263	0,395	2,270	241,3	12	50,8
155	**01EB155M**	7,875	10,125	0,438	3,938	203,2	18	25,4
	02EB155M	6,743	9,257	0,421	3,103	222,25	16	34,93
160	**01EB160MEX10**	7,875	10,125	0,438	3,938	203,2	18	25,4
	01EB160MGR10	7,875	10,125	0,438	3,938	203,2	18	25,4
	01EB160M	7,784	10,216	0,432	3,632	222	18	30
	02EB160MEX10	6,743	9,257	0,421	3,103	222,25	16	34,93
	02EB160MGR10	6,743	9,257	0,421	3,103	222,25	16	34,93
	02EB160M	6,739	9,261	0,421	3,092	241	16	38
	03B160M	5,720	8,280	0,409	2,642	260,35	14	47,63
6 7/16	**01EB607**	7,784	10,216	0,432	3,632	222	18	30
	02EB607	6,739	9,261	0,421	3,092	241	16	38
	03B607	5,720	8,280	0,409	2,642	260,35	14	47,63
6 1/2	**01EB608**	7,784	10,216	0,432	3,632	222	18	30
	02EB608	6,739	9,261	0,421	3,092	241	16	38
	03B608	5,720	8,280	0,409	2,642	260,35	14	47,63
170	**01EB170MEX13**	7,784	10,216	0,432	3,632	222	18	30
	01EB170MGR14	7,784	10,216	0,432	3,632	222	18	30
	01EB170M	8,796	11,204	0,440	4,092	232,5	20	28
	02EB170M	6,739	9,261	0,421	3,092	241	16	38
	03B170M	5,720	8,280	0,409	2,642	260,35	14	47,63
175	**01EB175M**	8,796	11,204	0,440	4,092	232,5	20	28
	02EB175M	6,769	9,231	0,423	3,173	260	16	40
6 15/16	**01EB615**	8,796	11,204	0,440	4,092	232,5	20	28
	02EB615	6,769	9,231	0,423	3,173	260	16	40
	03B615	5,753	8,247	0,411	2,717	276,23	14	49,21
7	**01EB700**	8,796	11,204	0,440	4,092	232,5	20	28
	02EB700	6,769	9,231	0,423	3,173	260	16	40
	03B700	5,753	8,247	0,411	2,717	276,23	14	49,21
180	**01EB180M**	8,796	11,204	0,440	4,092	232,5	20	28
	02EB180M	6,769	9,231	0,423	3,173	260	16	40
	03B180M	5,753	8,247	0,411	2,717	276,23	14	49,21
190	**01EB190M**	9,722	12,278	0,442	4,246	258,25	22	30
	02EB190M	6,735	9,265	0,421	3,082	284,5	16	45
	03B190M	5,786	8,214	0,413	2,796	311,15	14	53,98
200	**100B200M**	12,936	15,064	0,462	6,541	250	28	19
	01EB200M	9,722	12,278	0,442	4,246	258,25	22	30
	02EB200M	6,735	9,265	0,421	3,082	284,5	16	45
	03B200M	5,786	8,214	0,413	2,796	311,15	14	53,98
7 15/16	**100B715**	12,936	15,064	0,462	6,541	250	28	19
	01EB715	9,722	12,278	0,442	4,246	258,25	22	30
	02EB715	6,735	9,265	0,421	3,082	284,5	16	45
	03B715	5,786	8,214	0,413	2,796	311,15	14	53,98
8	**100B800**	12,936	15,064	0,462	6,541	250	28	19
	01EB800	9,722	12,278	0,442	4,246	258,25	22	30
	02EB800	6,735	9,265	0,421	3,082	284,5	16	45
	03B800	5,786	8,214	0,413	2,796	311,15	14	53,98

cont. table 16

Frequencies – split cylindrical roller bearings

Shaft diameter	Designation	Part frequencies, per shaft revolution				Roller details		
	Bearing	Outer ring	Inner ring	Cage	Rollers	PCD	Qty	Diameter
mm/*in.*	–	1/rev				mm	–	mm
220	**100B220M**	9,929	12,071	0,451	5,086	267	22	26
	01EB220M	10,745	13,255	0,448	4,727	286,75	24	30
	02EB220M	7,712	10,288	0,428	3,423	314,5	18	45
	03B220M	4,964	7,036	0,414	2,808	349,25	12	60,33
9	**01EB900**	10,745	13,255	0,448	4,727	286,75	24	30
	02EB900	7,712	10,288	0,428	3,423	314,5	18	45
	03B900	4,964	7,036	0,414	2,808	349,25	12	60,33
230	**01EB230M**	10,745	13,255	0,448	4,727	286,75	24	30
	02EB230M	7,712	10,288	0,428	3,423	314,5	18	45
240	**01EB240M**	11,690	14,310	0,45	4,911	317,5	26	32
	02EB240M	6,837	9,163	0,427	3,367	344	16	50
	03B240M	5,853	8,147	0,418	2,971	368,3	14	60,33
250	**01EB250M**	11,690	14,310	0,45	4,911	317,5	26	32
	02EB250M	6,837	9,163	0,427	3,367	344	16	50
	03B250M	5,853	8,147	0,418	2,971	368,3	14	60,33
10	**01EB1000**	11,690	14,310	0,45	4,911	317,5	26	32
	02EB1000	6,837	9,163	0,427	3,367	344	16	50
	03B1000	5,853	8,147	0,418	2,971	368,3	14	60,33
260	**01EB260MEX16**	11,690	14,310	0,45	4,911	317,5	26	32
	01EB260MGR15	11,690	14,310	0,45	4,911	317,5	26	32
	01EB260M	11,675	14,325	0,449	4,856	343,5	26	35
	02EB260M	6,837	9,163	0,427	3,367	344	16	50
	03B260M	5,853	8,147	0,418	2,971	368,3	14	60,33
270	**01EB270M**	11,675	14,325	0,449	4,856	343,5	26	35
275	**01EB275M**	11,675	14,325	0,449	4,856	343,5	26	35
11	**01EB1100**	11,675	14,325	0,449	4,856	343,5	26	35
	02EB1100	7,795	10,205	0,433	3,668	373,5	18	50
	03EB1100	6,794	9,206	0,425	3,240	400,05	16	60,33
280	**01EB280M**	11,675	14,325	0,449	4,856	343,5	26	35
	02EB280M	7,795	10,205	0,433	3,668	373,5	18	50
	03EB280M	6,794	9,206	0,425	3,240	400,05	16	60,33
290	**01EB290M**	12,677	15,323	0,453	5,246	370,5	28	35
	03B290M	6,824	9,176	0,426	3,326	431,8	16	63,5
300	**01EB300M**	12,677	15,323	0,453	5,246	370,5	28	35
	02EB300M	8,755	11,245	0,438	3,953	401,5	20	50
	03B300M	6,824	9,176	0,426	3,326	431,8	16	63,5
12	**01EB1200**	12,677	15,323	0,453	5,246	370,5	28	35
	02EB1200	8,755	11,245	0,438	3,953	401,5	20	50
	03B1200	6,824	9,176	0,426	3,326	431,8	16	63,5
320	**01B320M**	11,908	14,092	0,458	5,910	396,88	26	33,34
	02B320M	8,852	11,148	0,443	4,297	428,63	20	49,21
	03B320M	5,927	8,073	0,423	3,184	476,2	14	73,03
330	**01B330M**	11,908	14,092	0,458	5,910	396,88	26	33,34
	02B330M	8,852	11,148	0,443	4,297	428,63	20	49,21
13	**01B1300**	11,908	14,092	0,458	5,910	396,88	26	33,34
	02B1300	8,852	11,148	0,443	4,297	428,63	20	49,21
	03B1300	5,927	8,073	0,423	3,184	476,2	14	73,03
340	**01B340MEX13**	11,908	14,092	0,458	5,910	396,88	26	33,34
	01B340MGR13	11,908	14,092	0,458	5,910	396,88	26	33,34
	01B340M	12,895	15,105	0,461	6,294	422,28	28	33,34
	02B340M	8,862	11,138	0,443	4,337	460,38	20	52,39
	03EB340M	6,850	9,150	0,428	3,405	485,78	16	69,85

cont. table 16

Frequencies – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Part frequencies, per shaft revolution Outer ring	Inner ring	Cage	Rollers	Roller details PCD	Qty	Diameter
mm/*in.*	–	1/rev				mm	–	mm
350	**01B350M**	12,895	15,105	0,461	6,294	422,28	28	33,34
	02B350M	8,862	11,138	0,443	4,337	460,38	20	52,39
14	**01B1400**	12,895	15,105	0,461	6,294	422,28	28	33,34
	02B1400	8,862	11,138	0,443	4,337	460,38	20	52,39
	03EB1400	6,850	9,150	0,428	3,405	485,78	16	69,85
360	**01B360MEX15**	12,895	15,105	0,461	6,294	422,28	28	33,34
	01B360MGR15	12,895	15,105	0,461	6,294	422,28	28	33,34
	01B360M	12,915	15,085	0,461	6,416	450,85	28	34,93
	02B360M	8,862	11,138	0,443	4,337	460,38	20	52,39
	03EB360M	6,850	9,150	0,428	3,405	485,78	16	69,85
380	**01B380M**	12,915	15,085	0,461	6,416	450,85	28	34,93
	02B380M	9,806	12,194	0,446	4,552	482,6	22	52,39
	03B380M	6,857	9,143	0,429	3,429	533,4	16	76,2
15	**01B1500**	12,915	15,085	0,461	6,416	450,85	28	34,93
	02B1500	9,806	12,194	0,446	4,552	482,6	22	52,39
	03B1500	6,857	9,143	0,429	3,429	533,4	16	76,2
390	**01B390M**	13,900	16,100	0,463	6,782	476,25	30	34,93
400	**01B400M**	13,900	16,100	0,463	6,782	476,25	30	34,93
	02B400M	9,839	12,161	0,447	4,682	511,18	22	53,98
	03B400M	6,857	9,143	0,429	3,429	533,4	16	76,2
16	**01B1600**	13,900	16,100	0,463	6,782	476,25	30	34,93
	02B1600	9,839	12,161	0,447	4,682	511,18	22	53,98
420	**01B420M**	14,886	17,114	0,465	7,147	501,65	32	34,93
	02B420M	9,868	12,132	0,449	4,806	539,75	22	55,56
	03EB420M	8,693	11,307	0,435	3,759	566	20	74
17	**01B1700**	14,886	17,114	0,465	7,147	501,65	32	34,93
	02B1700	9,868	12,132	0,449	4,806	539,75	22	55,56
	03EB1700	8,693	11,307	0,435	3,759	566	20	74
440	**01B440M**	15,873	18,127	0,467	7,512	527,05	34	34,93
	02B440M	10,814	13,186	0,451	5,008	561,98	24	55,56
	03EB440M	8,693	11,307	0,435	3,759	566	20	74
18	**01B1800**	15,873	18,127	0,467	7,512	527,05	34	34,93
	02B1800	10,814	13,186	0,451	5,008	561,98	24	55,56
	03EB1800	7,800	10,200	0,433	3,683	600	18	80
460	**01B460M**	15,873	18,127	0,467	7,512	527,05	34	34,93
	02B460M	10,814	13,186	0,451	5,008	561,98	24	55,56
	03EB460M	7,800	10,200	0,433	3,683	600	18	80
480	**01B480M**	14,949	17,051	0,467	7,576	555,63	32	36,51
	02B480M	11,777	14,223	0,453	5,267	590,55	26	55,56
19	**01B1900**	14,949	17,051	0,467	7,576	555,63	32	36,51
	02B1900	11,777	14,223	0,453	5,267	590,55	26	55,56
500	**01B500M**	15,932	18,068	0,469	7,925	581,03	34	36,51
	02B500M	12,731	15,269	0,455	5,469	612,78	28	55,56
	03B500M	7,864	10,136	0,437	3,900	679,45	18	85,73
20	**01B2000**	15,932	18,068	0,469	7,925	581,03	34	36,51
	02B2000	12,731	15,269	0,455	5,469	612,78	28	55,56
	03B2000	7,864	10,136	0,437	3,900	679,45	18	85,73
530	**01B530M**	16,927	19,073	0,47	8,362	612,78	36	36,51
	02B530M	11,789	14,211	0,453	5,322	647,7	26	60,33
	03B530M	7,864	10,136	0,437	3,900	679,45	18	85,73

cont. table 16

Frequencies – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Part frequencies, per shaft revolution Outer ring	Inner ring	Cage	Rollers	Roller details PCD	Qty	Diameter
mm/*in.*	–	1/rev				mm	–	mm
21	**01B2100**	16,927	19,073	0,47	8,362	612,78	36	36,51
	02B2100	11,789	14,211	0,453	5,322	647,7	26	60,33
22	**01B2200**	17,913	20,087	0,471	8,711	638,18	38	36,51
	02B2200	12,751	15,249	0,455	5,561	676,28	28	60,33
	03EB2200	8,800	11,200	0,44	4,107	714,38	20	85,73
560	**01B560M**	17,913	20,087	0,471	8,711	638,18	38	36,51
	02B560M	12,751	15,249	0,455	5,561	676,28	28	60,33
	03EB560M	8,800	11,200	0,44	4,107	714,38	20	85,73
580	**01B580M**	17,914	20,086	0,471	8,721	666,75	38	38,1
	02B580M	13,841	16,159	0,461	6,432	698,5	30	53,98
23	**01B2300**	17,914	20,086	0,471	8,721	666,75	38	38,1
	02B2300	13,841	16,159	0,461	6,432	698,5	30	53,98
	03EB2300	9,722	12,278	0,442	4,244	740	22	86
600	**01B600M**	18,899	21,101	0,472	9,056	692,15	40	38,1
	02B600M	13,750	16,250	0,458	5,958	723,9	30	60,33
	03EB600M	9,722	12,278	0,442	4,244	740	22	86
24	**01B2400**	18,899	21,101	0,472	9,056	692,15	40	38,1
	02B2400	13,750	16,250	0,458	5,958	723,9	30	60,33

Table 17

Frequencies – split tapered roller bearings

Shaft diameter	Designation Bearing	Part frequencies, per shaft revolution Outer ring	Inner ring	Cage	Rollers	Roller details PCD	Qty	Diameter	Contact angle
mm	–	1/rev				mm	–	mm	°
75	**1DTB75M**	0,445	4,264	8,006	9,994	102,6	18	11,95	17,5
80	**1DTB80M**	0,448	4,507	8,959	11,041	108,2	20	11,95	18,5
90	**1DTB90M**	0,453	4,898	9,955	12,045	117,4	22	11,95	20,13
100	**1DTB100M**	0,449	4,627	9,888	12,112	136	22	14,63	19
110	**1DTB110M**	0,455	5,167	10,926	13,074	147,9	24	14,29	21,25
120	**1DTB120M**	0,457	5,404	11,895	14,105	154,5	26	14,29	22,25
130	**1DTB130M**	0,461	6,022	12,901	15,099	176,4	28	14,62	18
140	**1DTB140M**	0,461	6,022	12,901	15,099	176,4	28	14,62	18
150	**1DTB150M**	0,461	6,145	12,918	15,082	196,9	28	15,99	17,21
160	**1DTB160M**	0,461	6,145	12,918	15,082	196,9	28	15,99	17,21
180	**1DTB180M**	0,465	6,776	13,959	16,041	216,8	30	15,99	19

Mounting

The mounting procedures for a split cylindrical roller and a split tapered roller bearing are similar. Instructions are supplied with each bearing. Specific instructions for non-standard assemblies can be supplied on request.

Prior to mounting

- Disassemble the bearings.
  - Unwrap the bearing parts.
  - Remove the outer ring halves (if supplied assembled around other parts).
  - Separate the cage halves (if required).
  - Undo the clamping ring screws and remove the clamping rings from the inner ring halves.
- Remove the preservative from all surfaces.

NOTE: Complete roller bearings are interchangeable between similar cartridges and cartridges are interchangeable between standard housings provided that standard clearances are specified.

The bearing, cage assemblies, and housing components however should not be mixed. All bearing and housing components (except for pressed steel, die cast, and plastic cages) are marked with matching numbers/letters on each half. Keep similar components together. Cage halves that are not marked should also be kept together as the rollers are graded into sets.

Mounting a split roller bearing in a plummer block housing

1 Position the housing base

- Place the plummer block base in position (**fig. 19**).
- Bolt the housing base to the support surface using appropriate attachment bolts (**product tables, pages 108 to 147).**
  - Plummer block housing bases typically require slight movement at a later stage in order to accurately position the shaft.

2 Mount the inner ring halves

- Lightly oil the shaft with a thin oil and remove the excess with a clean lint-free cloth.
- Position the inner ring halves on the shaft in the correct position (**fig. 20**).
- Using feeler gauges, make sure the gaps at both joints of the inner ring are equal.
  - Inner rings of non-locating cylindrical roller bearings are typically set centrally with the outer rings.
  - In cases of significant axial expansion there may be a deliberate offset. This is usually up to a maximum of 10% of the roller length, but may be more in the case of special types of bearings.

3 Mount the clamping rings

- Fit the clamping rings with joints at approximately 90° to the inner ring joints (45° in the case of large bearings with four-part clamping rings).
- Progressively tighten all clamping ring screws (**fig. 21**).
- Tap down each inner ring half and clamping ring all around the shaft using a soft-faced hammer (**fig. 22**), or insert a hardwood block between a steel hammer and the bearing parts.
- Retighten the clamping ring screws.
- Repeat until screws remain fully tight.
- Make sure the gaps at both joints of the inner ring are equal.
- Make sure the gaps at both (or all four) joints of the clamping rings are equal.

Fig. 19

Positioning the housing base

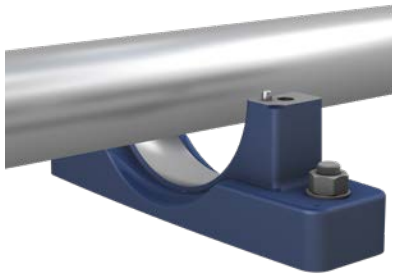


Fig. 20

Mounting the inner ring halves

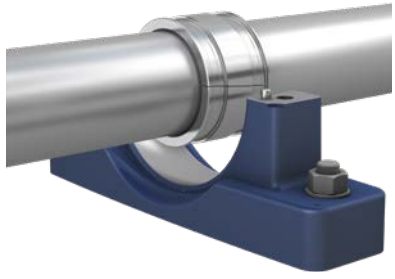


Fig. 21

Tightening the clamping ring screws

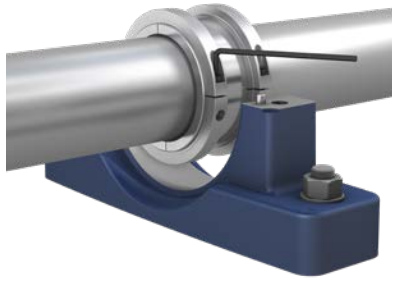
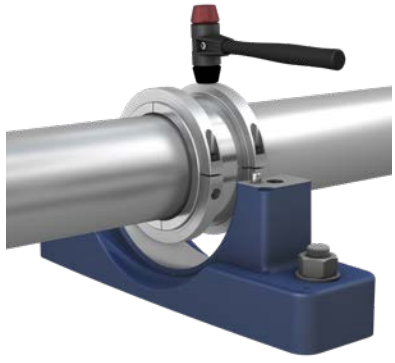


Fig. 22

Setting the clamping ring and inner ring



4 Mount the roller and cage assembly

- Coat the inside diameter of the roller and cage assembly halves with grease.
- Coat the inner ring and clamping rings lightly with grease (for protection).
- Mount the roller and cage assembly halves around the inner rings.

For cylindrical roller bearings (**fig. 23**):

- The two halves of the roller and cage assembly are fixed together depending on bearing size and series. (Refer to the assembly instructions supplied with the bearing.)

For tapered roller bearings (**fig. 24**):

- Note that the angle of the inner ring integral flange is such that the rollers cannot assume their working position (**a**) radially upon assembly. There is sufficient axial movement of the rollers in the cage to allow the cage to be assembled with the rollers axially clear of the integral flanges of the inne ring (**b**). Sometimes, the rollers assume an incorrect position during assembly (**c**). It is iportant to correct the position of these rollers before assembly-ing the cartridge and outer ring into position. Secure the two halves of the cage together by pressing the four "U" clips provided into position into the provided recesses. Push the "U" clip fully so that the clip touches the outside diameter of the cage.

Fig. 23

Mounting the roller and cage assembly

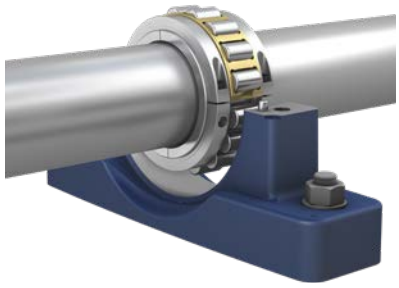
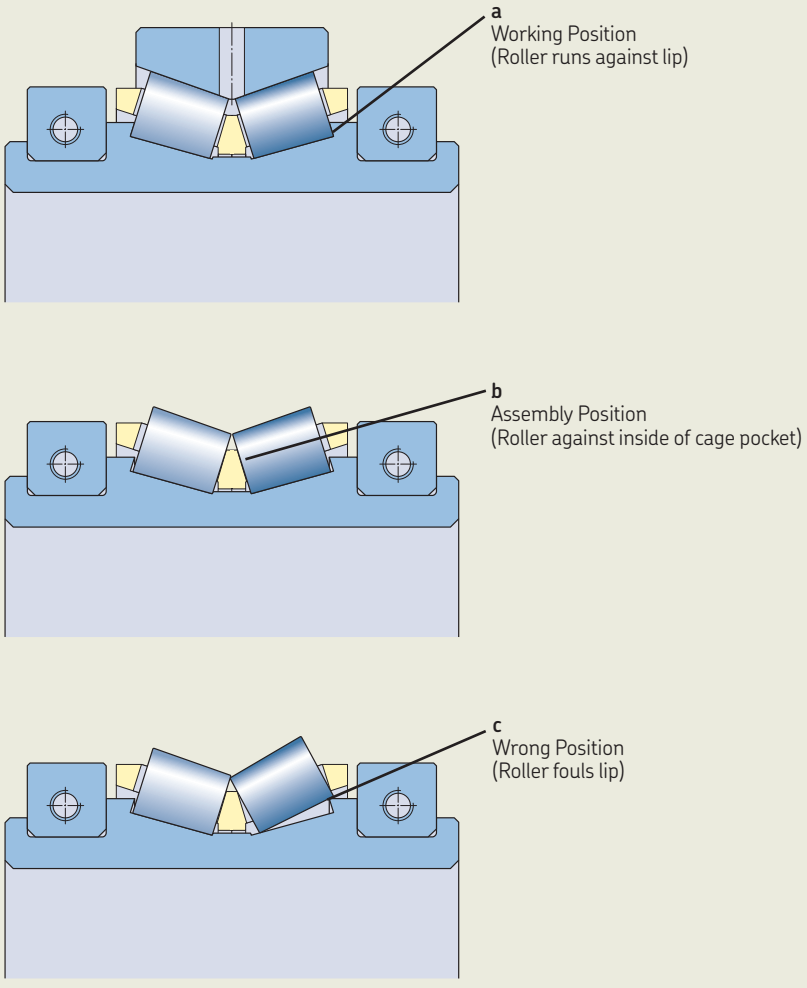


Fig. 24

Roller location



5 Cartridge and outer ring sub assembly

See **fig. 25** for a schematic illustration of side rods (A), side screws (B), radial screws (C) and joint screws (D).

- Place the outer ring half with the lubrication hole into the top half of the cartridge and the other outer ring half into the lower half of the cartridge.
- Make sure the ends of the outer ring protrude from the cartridge joint face by equal amounts.

For cylindrical roller bearings:

- For locating bearings and cartridges with outer rings having integral flanges:
  - Axially clamp all outer rings with an integral flange with side screws (B).
  - Place the radial joint screws (D) (where fitted, complete with washers) into the corresponding outer ring holes, but do not tighten.
  - Put the two cartridge halves together, complete with outer rings, and fully tighten the joint screws (D).
  - Put the side rods (A) (where fitted) and screws (B) in position.
  - Progressively and fully tighten the side screws (B) and radial screws (C) (where fitted).
- For non-locating bearings:
  - Place the radial screws (C) (where fitted, complete with washers) into the corresponding outer ring holes, but do not tighten.
  - Place the two cartridge halves together, complete with outer rings, and fully tighten the joint screws (D).
  - Fully tighten the radial screws (C).

For tapered roller bearings:

- Before putting the two halves of the cartridge together, fit side rods (A) and side screws (B) and tighten very lightly.
- Place together the two halves for the cartridge complete with outer ring halves and fully tighten joint screws (C and D).
- Progressively and fully tighten side screws (B).
- Inject grease to fill the grease passages. Remove joint screws (C and D) and separate cartridge halves, taking care that the outer ring halves do not fall out of position in their respective half-cartridges.

6 Install the seals

- Felt seals:
  - Soak the seals in hot oil.
  - Fit the seals into the cartridges.
- Grease groove seals:
  - Lubricate the cartridge end bores (machined with a series of small grooves with grease.
- Labyrinth seals (**fig. 26**):
  - Separate the seal halves by driving out the two jointing pins.
  - Lubricate the O-rings in the bore with grease.
  - Reassemble the seal on the shaft by compressing the O-rings of both halves sufficiently to allow the jointing pins to be reinserted.
  - Tighten the pins. (The seals are able to slide along the shaft once assembled.)
- High temperature packing seals:
  - Place the seals into the cartridge end bores and lubricate.
- Synthetic rubber single lip seals:
  - Place the seals into the cartridge end bores and lubricate.
- Spring loaded single lip seals with retaining plate:
  - Note: These seals are assembled after closing the cartridge (Step 8).
  - For each seal, remove the spring from the lip of its seal by twisting it in the appropriate direction at the joint.
  - Place the seal around the shaft with its lip pointing outwards and the joint of the seal at the top position.
  - Place the spring round the shaft, hold one end firmly and twist the other end round three or four times in the opposite direction to which it was twisted to release the spring.
  - Place the two ends of the spring together. Slowly let the twisted end unwind joining the two ends and fully twist the two ends of the spring together.
  - Place the spring over the lip of the seal so that it sits in its groove.
  - Grease the shaft where the seal will run and then push the seal along the shaft until it is fully positioned in the seal groove in the end of the cartridge.
  - Apply further lubricant to the seal lip.
  - Screw the seal retaining plate to the end face of the cartridge.

Fig. 25

Cartridge and outer ring sub assembly

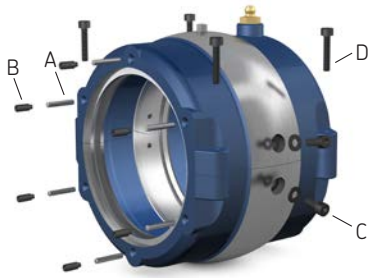
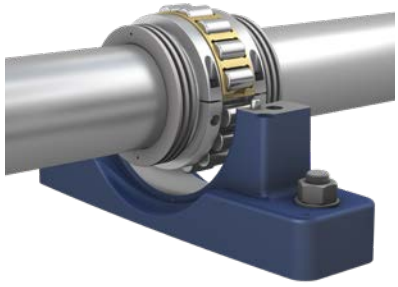


Fig. 26

Installing the seals



7 Lubricate with grease

- Coat the inside of the cartridge, roller and cage assembly, and all seals with grease (**table 12, pages 27 to 33** for split cylindrical roller bearings and **table 13, page 35** for split tapered roller bearings).
- For speeds over d_n = 150 000, approximately 40% of the grease used should be applied to the bearing parts and the remainder applied to the inside of the cartridge. This is to avoid excess churning of the grease when running at high speed.

8 Mounting the cartridge

- Lubricate the spherical seat of the bottom half of the cartridge with grease.
- Place the bottom half of the cartridge on top of the bearing and rotate 180° into the plummer block base.
- Place the top half of the cartridge on top of the bottom half, and close the cartridge (**fig. 27**).
- Fully tighten the joint screws.
- Lubricate the spherical seat with grease.

9 Mount the housing cap

- If not already done, tighten the attachment bolts fixing the housing base to the support surface.
- Place the plummer block cap into position.
- If safe to do so, run the shaft for a short while before tightening the cap bolts. This will help the bearing to become accurately aligned.
- Fully tighten the joint screws (**fig. 28**).

Tightening torques and screw sizes

Tightening torques, screw sizes and key sizes are provided in following tables:

- **table 18**, **page 54** for split cylindrical roller bearings
- **table 19**, **page 68** for split tapered roller bearings

All screws supplied for the housings, cartridges, and clamping rings, except for the cartridge side screws, are socket head cap screws. Cartridge side screws are hexagon set screws. All screws are made of high tensile steel, grade 12, 9 with a metric coarse thread.

Fig. 27

Mounting the cartridge

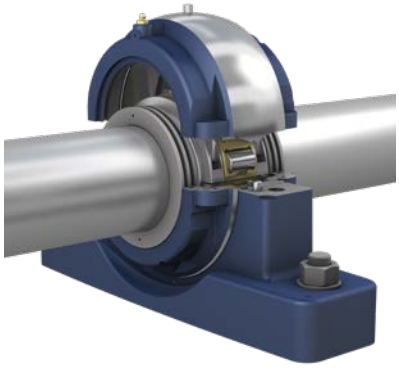
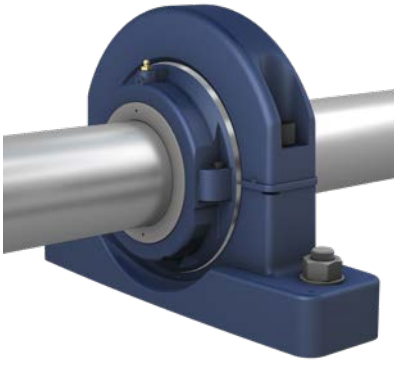


Fig. 28

Mounting the housing cap



Screw sizes, key sizes, and tightening torques – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Screw sizes, key sizes, and tightening torques Clamping ring screw Screw size	Key size (A/F)	Torque	Cartridge joint screw Screw size	Key size (A/F)	Torque	Cartridge radial screw Screw size	Key size (A/F)	Torque
mm/*in.*	–			–	mm	Nm	–	mm	Nm	–	mm	Nm
1 3/16	**01EB103**	–	**01C1**	M4	3	4,5	M4	3	3,5	–	–	–
1 1/4	**01EB104**	–	**01C1**	M4	3	4,5	M4	3	3,5	–	–	–
35	**01EB35M**	–	**01C1**	M4	3	4,5	M4	3	3,5	–	–	–
1 7/16	**01EB107**	–	**01C1**	M4	3	4,5	M4	3	3,5	–	–	–
1 1/2	**01EB108**	**01C108**	**01C1**	M4	3	4,5	M4	3	3,5	–	–	–
40	**01EB40M**	**01C40M**	**01C1**	M4	3	4,5	M4	3	3,5	–	–	–
1 11/16	**01EB111**	**01C111**	**01C2**	M4	3	4,5	M4	3	3,5	–	–	–
1 3/4	**01EB112**	**01C112**	**01C2**	M4	3	4,5	M4	3	3,5	–	–	–
45	**01EB45M**	**01C45M**	**01C2**	M4	3	4,5	M4	3	3,5	–	–	–
1 15/16	**01EB115**	**01C115**	**01C2**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB115	**02C115**	**02C3**	M5	4	8,5	M5	4	6,5	–	–	–
50	**01EB50M**	**01C50M**	**01C2**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB50M	**02C50M**	**02C3**	M5	4	8,5	M5	4	6,5	–	–	–
2	**01EB200**	**01C200**	**01C2**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB200	**02C200**	**02C3**	M5	4	8,5	M5	4	6,5	–	–	–
55	**01EB55M**	**01C55M**	**01C3**	M4	3	4,5	M4	3	3,5	–	–	–
2 3/16	**01EB203**	**01C203**	**01C3**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB203	**02C203**	**02C4**	M5	4	8,5	M5	4	6,5	–	–	–
2 1/4	**01EB204**	**01C204**	**01C3**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB204	**02C204**	**02C4**	M5	4	8,5	M5	4	6,5	–	–	–
60	**01EB60M**	**01C60M**	**01C3**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB60M	**02C60M**	**02C4**	M5	4	8,5	M5	4	6,5	–	–	–
2 7/16	**01EB207**	**01C207**	**01C3**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB207	**02C207**	**02C4**	M5	4	8,5	M5	4	6,5	–	–	–
2 1/2	**01EB208**	**01C208**	**01C3**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB208	**02C208**	**02C4**	M5	4	8,5	M5	4	6,5	–	–	–
65	**01EB65M**	**01C65M**	**01C3**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB65M	**02C65M**	**02C4**	M5	4	8,5	M5	4	6,5	–	–	–
2 11/16	**01EB211**	**01C211**	**01C4**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB211	**02C211**	**02C5**	M6	5	15	M6	5	11	–	–	–
2 3/4	**01EB212**	**01C212**	**01C4**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB212	**02C212**	**02C5**	M6	5	15	M6	5	11	–	–	–
70	**01EB70M**	**01C70M**	**01C4**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB70M	**02C70M**	**02C5**	M6	5	15	M6	5	11	–	–	–
2 15/16	**100B215**	**100C215**	**100C3**	M3	2,5	2	M4	3	3,5	–	–	–
	01EB215	**01C215**	**01C4**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB215	**02C215**	**02C5**	M6	5	15	M6	5	11	–	–	–

1) For tension type take-up housings, replace TP with TT.
2) Designations listed are for housings with an oval flange. Those with the designation prefix D denote housings that are also available with a square flange.
3) For double or triple boss hangers, add the designation suffix DOUBLE BOSS or TRIPLE BOSS respectively.
4) The designation for a housing with a square flange is DFN0510; joint screw size M10, key size (A/F) 8 mm, tightening torque 52.5 Nm.

Table 18

Cartridge side screw			Plummer block / Take-up housing joint screw					Flanged housing joint screw				Hanger housing joint screw			
Screw size	Key size (A/F)	Torque	Designation[1]		Screw size	Key size (A/F)	Torque	Designation[2]	Screw size	Key size (A/F)	Torque	Designation[3]	Screw size	Key size (A/F)	Torque
–	mm	Nm	–		–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M4	2	2	**P01**	**TP01**	M8	6	26	**F01**	M8	6	26	–	M5	4	6,5
M4	2	2	**P01**	**TP01**	M8	6	26	**F01**	M8	6	26	–	M5	4	6,5
M4	2	2	**P01**	**TP01**	M8	6	26	**F01**	M8	6	26	–	M5	4	6,5
M4	2	2	**P01**	**TP01**	M8	6	26	**F01**	M8	6	26	–	M5	4	6,5
M4	2	2	**P01**	**TP01**	M8	6	26	**F01**	M8	6	26	**01H108**	M5	4	6,5
M4	2	2	**P01**	**TP01**	M8	6	26	**F01**	M8	6	26	**01H40M**	M5	4	6,5
M4	2	2	**P02**	**TP02**	M8	6	26	**(D)F02**	M8	6	26	**01H111**	M6	5	11
M4	2	2	**P02**	**TP02**	M8	6	26	**(D)F02**	M8	6	26	**01H112**	M6	5	11
M4	2	2	**P02**	**TP02**	M8	6	26	**(D)F02**	M8	6	26	**01H45M**	M6	5	11
M4	2	2	**P02**	**TP02**	M8	6	26	**(D)F02**	M8	6	26	**01H115**	M6	5	11
M4	2	2	**P01**	**TP03**	M10	8	52,5	**F03**	M10	8	52,5	–	–	–	–
M4	2	2	**P02**	**TP02**	M8	6	26	**(D)F02**	M8	6	26	**01H50M**	M6	5	11
M4	2	2	**P01**	**TP03**	M10	8	52,5	**F03**	M10	8	52,5	–	–	–	–
M4	2	2	**P02**	**TP02**	M8	6	26	**F02**	M8	6	26	**01H200**	M6	5	11
M4	2	2	**P01**	**TP03**	M10	8	52,5	**F03**	M10	8	52,5	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**01H55M**	M6	5	11
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**01H203**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**F04**	M12	10	90	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**01H204**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**F04**	M12	10	90	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**01H60M**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**F04**	M12	10	90	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**01H207**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**F04**	M12	10	90	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**01H208**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**F04**	M12	10	90	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**01H65M**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**F04**	M12	10	90	–	–	–	–
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**01H211**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	–	–	–	–
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**01H212**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**	M12	10	90	–	–	–	–
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**01H70M**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**100H215**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**01H215**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	–	–	–	–

Screw sizes, key sizes, and tightening torques – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Screw sizes, key sizes, and tightening torques Clamping ring screw Screw size	Key size (A/F)	Torque	Cartridge joint screw Screw size	Key size (A/F)	Torque	Cartridge radial screw Screw size	Key size (A/F)	Torque
mm/*in.*	–			–	mm	Nm	–	mm	Nm	–	mm	Nm
75	**100B75M**	**100C75M**	**100C3**	M3	2,5	2	M4	3	3,5	–	–	–
	01EB75M	**01C75M**	**01C4**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB75M	**02C75M**	**02C5**	M6	5	15	M6	5	11	–	–	–
3	**100B300**	**100C300**	**100C3**	M3	2,5	2	M4	3	3,5	–	–	–
	01EB300	**01C300**	**01C4**	M4	3	4,5	M4	3	3,5	–	–	–
	02EB300	**02C300**	**02C5**	M6	5	15	M6	5	11	–	–	–
80	**01EB80M**	**01C80M**	**01C5**	M5	4	8,5	M5	4	6,5	–	–	–
	02EB80M	**02C80M**	**02C6**	M6	5	15	M6	5	11	–	–	–
3 3/16	**01EB303**	**01C303**	**01C5**	M5	4	8,5	M5	4	6,5	–	–	–
	02EB303	**02C303**	**02C6**	M6	5	15	M6	5	11	–	–	–
3 1/4	**01EB304**	**01C304**	**01C5**	M5	4	8,5	M5	4	6,5	–	–	–
	02EB304	**02C304**	**02C6**	M6	5	15	M6	5	11	–	–	–
85	**100B85M**	**100C85M**	**100C4**	M4	3	4,5	M4	3	3,5	–	–	–
	01EB85M	**01C85M**	**01C5**	M5	4	8,5	M5	4	6,5	–	–	–
	02EB85M	**02C85M**	**02C6**	M6	5	15	M6	5	11	–	–	–
3 7/16	**100B307**	**100C307**	**100C4**	M4	3	4,5	M4	3	3,5	–	–	–
	01EB307	**01C307**	**01C5**	M5	4	8,5	M5	4	6,5	–	–	–
	02EB307	**02C307**	**02C6**	M6	5	15	M6	5	11	–	–	–
3 1/2	**01EB308**	**01C308**	**01C5**	M5	4	8,5	M5	4	6,5	–	–	–
	02EB308	**02C308**	**02C6**	M6	5	15	M6	5	11	–	–	–
90	**01EB90M**	**01C90M**	**01C5**	M5	4	8,5	M5	4	6,5	–	–	–
	02EB90M	**02C90M**	**02C6**	M6	5	15	M6	5	11	–	–	–
3 11/16	**01EB311**	**01C311**	**01C6**	M6	5	15	M6	5	11	–	–	–
	02EB311	**02C311**	**02C7**	M6	5	15	M6	5	11	–	–	–
95	**01EB95M**	**01C95M**	**01C6**	M6	5	15	M6	5	11	–	–	–
3 3/4	**01EB312**	**01C312**	**01C6**	M6	5	15	M6	5	11	–	–	–
	02EB312	**02C312**	**02C7**	M6	5	15	M6	5	11	–	–	–
100	**100B100M**	**100C100M**	**100C5**	M4	3	4,5	M5	4	6,5	–	–	–
	01EB100M	**01C100M**	**01C6**	M6	5	15	M6	5	11	–	–	–
	02EB100M	**02C100M**	**02C7**	M6	5	15	M6	5	11	–	–	–
	03B100M	**03C100M**	**03C54**	M10	8	70	M10	8	52,5	–	–	–
3 15/16	**100B315**	**100C315**	**100C5**	M4	3	4,5	M5	4	6,5	–	–	–
	01EB315	**01C315**	**01C6**	M6	5	15	M6	5	11	–	–	–
	02EB315	**02C315**	**02C7**	M6	5	15	M6	5	11	–	–	–
	03B315	**03C315**	**03C54**	M10	8	70	M10	8	52,5	–	–	–
4	**100B400**	**100C400**	**100C5**	M4	3	4,5	M5	4	6,5	–	–	–
	01EB400	**01C400**	**01C6**	M6	5	15	M6	5	11	–	–	–
	02EB400	**02C400**	**02C7**	M6	5	15	M6	5	11	–	–	–
	03B400	**03C400**	**03C54**	M10	8	70	M10	8	52,5	–	–	–
105	**01EB105M**	**01C105M**	**01C6**	M6	5	15	M6	5	11	–	–	–
	02EB105M	**02C105M**	**02C7**	M6	5	15	M6	5	11	–	–	–

1) For tension type take-up housings, replace TP with TT.
2) Designations listed are for housings with a round flange. Those with the designation prefix D denote housings that are also available with a square flange.
3) For double or triple boss hangers, add the designation suffix DOUBLE BOSS orTRIPLE BOSS respectively.
4) The designation for a housing with a square flange is DFN0510; joint screw size M10, key size (A/F) 8 mm, tightening torque 52.5 Nm.

cont. table 18

Cartridge side screw			Plummer block / Take-up housing joint screw					Flanged housing joint screw				Hanger housing joint screw			
Screw size	Key size (A/F)	Torque	Designation[1]		Screw size	Key size (A/F)	Torque	Designation[2]	Screw size	Key size (A/F)	Torque	Designation[3]	Screw size	Key size (A/F)	Torque
–	mm	Nm	–		–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**100H75M**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**01H75M**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**	M12	10	90	–	–	–	–
M4	2	2	**P03**	**TP03**	M10	8	52,5	**(D)F03**	M10	8	52,5	**100H300**	M6	5	11
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**01H300**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**	M12	10	90	–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**01H80M**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**01H303**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**01H304**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	–	–	–	–
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**100H85M**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**01H85M**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	–	–	–	–
M4	2	2	**P04**	**TP04**	M12	10	90	**(D)F04**	M12	10	90	**100H307**	M8	6	26
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**01H307**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**01H308**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**01H90M**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	–	–	–	–
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**01H311**	M10	8	52,5
M4	2	2	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	–	–	–	–
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**01H95M**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**01H312**	M10	8	52,5
M4	2	2	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**100H100M**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**01H100M**	M10	8	52,5
M4	2	2	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	–	–	–	–
M6	3	7,8	**P54**	–	M16	14	225	–	–	–		–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**100H315**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**01H315**	M10	8	52,5
M4	2	2	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	–	–	–	–
M6	3	7,8	**P54**	–	M16	14	225	–	–	–	–	–	–	–	–
M4	2	2	**P05**	**TP05**	M16	14	225	**F05**[4]	M12	10	90	**100H400**	M10	8	52,5
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**01H400**	M10	8	52,5
M4	2	2	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	–	–	–	–
M6	3	7,8	**P54**	–	M16	14	225	–	–	–	–	–	–	–	–
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**01H105M**	M10	8	52,5
M4	2	2	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	–	–	–	–

Screw sizes, key sizes, and tightening torques – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Screw sizes, key sizes, and tightening torques Clamping ring screw			Cartridge joint screw			Cartridge radial screw		
				Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque
mm/*in.*	–			–	mm	Nm	–	mm	Nm	–	mm	Nm
4 3/16	**01EB403**	**01C403**	**01C7**	M6	5	15	M6	5	11	–	–	–
	02EB403	**02C403**	**02C8**	M8	6	35	M8	6	26	–	–	–
110	**100B110M**	**100C110M**	**100C6**	M5	4	8,5	M5	4	6,5	–	–	–
	01EB110M	**01C110M**	**01C7**	M6	5	15	M6	5	11	–	–	–
	02EB110M	**02C110M**	**02C8**	M8	6	35	M8	6	26	–	–	–
	03B110M	**03C110M**	**03C55**	M10	8	70	M10	8	52,5	M10	8	35
4 7/16	**100B407**	**100C407**	**100C6**	M5	4	8,5	M5	4	6,5	–	–	–
	01EB407	**01C407**	**01C7**	M6	5	15	M6	5	11	–	–	–
	02EB407	**02C407**	**02C8**	M8	6	35	M8	6	26	–	–	–
	03B407	**03C407**	**03C55**	M10	8	70	M10	8	52,5	M10	8	35
4 1/2	**100B408**	**100C408**	**100C6**	M5	4	8,5	M5	4	6,5	–	–	–
	01EB408	**01C408**	**01C7**	M6	5	15	M6	5	11	–	–	–
	02EB408	**02C408**	**02C8**	M8	6	35	M8	6	26	–	–	–
	03B408	**03C408**	**03C55**	M10	8	70	M10	8	52,5	M10	8	35
115	**100B115M**	**100C115M**	**100C6**	M5	4	8,5	M5	4	6,5	–	–	–
	01EB115M	**01C115M**	**01C7**	M6	5	15	M6	5	11	–	–	–
	02EB115M	**02C115M**	**02C8**	M8	6	35	M8	6	26	–	–	–
120	**100B120M**	**100C120M**	**100C7**	M6	5	15	M6	5	11	–	–	–
	01EB120M	**01C120M**	**01C8**	M6	5	15	M6	5	11	–	–	–
	02EB120M	**02C120M**	**02C10**	M8	6	35	M8	6	26	–	–	–
	03B120M	**03C120M**	**03C55**	M10	8	70	M10	8	52,5	M10	8	35
125	**100B125M**	**100C125M**	**100C7**	M6	5	15	M6	5	11	–	–	–
	01EB125M	**01C125M**	**01C8**	M6	5	15	M6	5	11	–	–	–
	02EB125M	**02C125M**	**02C10**	M8	6	35	M8	6	26	–	–	–
4 15/16	**100B415**	**100C415**	**100C7**	M6	5	15	M6	5	11	–	–	–
	01EB415	**01C415**	**01C8**	M6	5	15	M6	5	11	–	–	–
	02EB415	**02C415**	**02C10**	M8	6	35	M8	6	26	–	–	–
	03B415	**03C415**	**03C56**	M10	8	70	M10	8	52,5	M10	8	35
5	**100B500**	**100C500**	**100C7**	M6	5	15	M6	5	11	–	–	–
	01EB500	**01C500**	**01C8**	M6	5	15	M6	5	11	–	–	–
	02EB500	**02C500**	**02C10**	M8	6	35	M8	6	26	–	–	–
	03B500	**03C500**	**03C56**	M10	8	70	M10	8	52,5	M10	8	35
130	**100B130M**	**100C130M**	**100C7**	M6	5	15	M6	5	11	–	–	–
	01EB130M	**01C130M**	**01C8**	M6	5	15	M6	5	11	–	–	–
	02EB130M	**02C130M**	**02C10**	M8	6	35	M8	6	26	–	–	–
	03B130M	**03C130M**	**03C56**	M10	8	70	M10	8	52,5	M10	8	35
5 3/16	**01EB503**	**01C503**	**01C9**	M8	6	35	M8	6	26	–	–	–
	02EB503	**02C503**	**02C30**	M8	6	35	M8	6	26	–	–	–
135	**01EB135M**	**01C135M**	**01C9**	M8	6	35	M8	6	26	–	–	–
5 7/16	**100B507**	**100C507**	**100C8**	M6	5	15	M6	5	11	–	–	–
	01EB507	**01C507**	**01C9**	M8	6	35	M8	6	26	–	–	–
	02EB507	**02C507**	**02C30**	M8	6	35	M8	6	26	–	–	–
	03B507	**03C507**	**03C57**	M10	8	70	M10	8	52,5	M10	8	35
5 1/2	**100B508**	**100C508**	**100C8**	M6	5	15	M6	5	11	–	–	–
	01EB508	**01C508**	**01C9**	M8	6	35	M8	6	26	–	–	–
	02EB508	**02C508**	**02C30**	M8	6	35	M8	6	26	–	–	–
	03B508	**03C508**	**03C57**									

[1] For tension type take-up housings, replace TP with TT.
[2] For double or triple boss hangers, add the designation suffix DOUBLE BOSS or TRIPLE BOSS respectively.

cont. table 18

Cartridge side screw			Plummer block / Take-up housing joint screw					Flanged housing joint screw				Hanger housing joint screw			
Screw size	Key size (A/F)	Torque	Designation[1]		Screw size	Key size (A/F)	Torque	Designation	Screw size	Key size (A/F)	Torque	Designation[2]	Screw size	Key size (A/F)	Torque
–	mm	Nm	–		–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**01H403**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	–	–	–	–
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**100H110M**	M10	8	52,5
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**01H110M**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	–	–	–	–
M6	3	7,8	**P55**	–	M16	14	225	–	–	–	–	–	–	–	–
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**100H407**	M10	8	52,5
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**01H407**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	–	–	–	–
M6	3	7,8	**P55**	–	M16	14	225	–	–	–	–	–	–	–	–
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**100H408**	M10	8	52,5
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**01H408**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	–	–	–	–
M6	3	7,8	**P55**	–	M16	14	225	–	–	–	–	–	–	–	–
M4	2	2	**P06**	**TP06**	M16	14	225	**F06**	M16	14	225	**100H115M**	M10	8	52,5
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**01H115M**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	–	–	–	–
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**100H120M**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**01H120M**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P55**	–	M16	14	225	–	–	–	–	–	–	–	–
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**100H125M**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**01H125M**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**100H415**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**01H415**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P56**	–	M16	14	225	–	–	–	–	–	–	–	–
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**100H500**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**01H500**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P56**	–	M16	14	225	–	–	–	–	–	–	–	–
M6	3	7,8	**P07**	**TP07**	M20	17	420	**F07**	M16	14	225	**100H130M**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**01H130M**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P56**	–	M16	14	225	–	–	–	–	–	–	–	–
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**01H503**	M10	8	52,5
M6	3	7,8	**P30**	**TP09**	M20	17	420	**F30**	M24	19	712	–	–	–	–
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**01H135M**	M10	8	52,5
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**100H507**	M10	8	52,5
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**01H507**	M10	8	52,5
M6	3	7,8	**P30**	**TP09**	M20	17	420	**F30**	M24	19	712	–	–	–	–
M10	5	30	**P57**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**100H508**	M10	8	52,5
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**01H508**	M10	8	52,5
M6	3	7,8	**P30**	**TP09**	M20	17	420	**F30**	M24	19	712	–	–	–	–
M10	5	30	**P57**	–	M20	17	420	–	–	–	–	–	–	–	–

Screw sizes, key sizes, and tightening torques – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Screw sizes, key sizes, and tightening torques Clamping ring screw			Cartridge joint screw			Cartridge radial screw		
				Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque
mm/*in.*	–			–	mm	Nm	–	mm	Nm	–	mm	Nm
140	**100B140M**	**100C140M**	**100C8**	M6	5	15	M6	5	11	–	–	–
	01EB140M	**01C140M**	**01C9**	M8	6	35	M8	6	26	–	–	–
	02EB140M	**02C140M**	**02C30**	M8	6	35	M8	6	26	–	–	–
	03B140M	**03C140M**	**03C57**	M10	8	70	M10	8	52,5	M10	8	35
145	**02EB145M**	**02C145M**	**02C30**	M8	6	35	M8	6	26	–	–	–
150	**100B150M**	**100C150M**	**100C9**	M8	6	35	M8	6	26	–	–	–
	01EB150M	**01C150M**	**01C10**	M8	6	35	M8	6	26	–	–	–
	02EB150M	**02C150M**	**02C31**	M8	6	35	M8	6	26	–	–	–
	03B150M	**03C150M**	**03C58**	M10	8	70	M10	8	52,5	M10	8	35
5 15/16	**100B515**	**100C515**	**100C9**	M8	6	35	M8	6	26	–	–	–
	01EB515	**01C515**	**01C10**	M8	6	35	M8	6	26	–	–	–
	02EB515	**02C515**	**02C31**	M8	6	35	M8	6	26	–	–	–
	03B515	**03C515**	**03C58**	M10	8	70	M10	8	52,5	M10	8	35
6	**100B508**	**100C600**	**100C9**	M8	6	35	M8	6	26	–	–	–
	01EB600	**01C600**	**01C10**	M8	6	35	M8	6	26	–	–	–
	02EB600	**02C600**	**02C31**	M8	6	35	M8	6	26	–	–	–
	03B600	**03C600**	**03C58**	M10	8	70	M10	8	52,5	M10	8	35
155	**01EB155M**	**01C155M**	**01C10**	M8	6	35	M8	6	26	–	–	–
	02EB155M	**02C155M**	**02C31**	M8	6	35	M8	6	26	–	–	–
160	**01EB160MEX10**	**01C160MEX14**	**01C10EX10**	M8	6	35	M8	6	26	–	–	–
	01EB160MGR10	**01C160MGR10**	**01C10GR10**	M8	6	35	M8	6	26	–	–	–
	01EB160M	**01C160M**	**01C11**	M8	6	35	M8	6	26	–	–	–
	02EB160MEX10	**02C160MEX10**	**02C31EX10**	M8	6	35	M8	6	26	–	–	–
	02EB160MGR10	**02C160MGR10**	**02C31GR10**	M8	6	35	M8	6	26	–	–	–
	02EB160M	**02C160M**	**02C32**	M10	8	70	M10	8	52,5	–	–	–
	03B160M	**03C160M**	**03C59**	M12	10	120	M12	10	90	M12	10	60
6 7/16	**01EB607**	**01C607**	**01C11**	M8	6	35	M8	6	26	–	–	–
	02EB607	**02C607**	**02C32**	M10	8	70	M10	8	52,5	–	–	–
	03B607	**03C607**	**03C59**	M12	10	120	M12	10	90	M12	10	60
6 1/2	**01EB608**	**01C608**	**01C11**	M8	6	35	M8	6	26	–	–	–
	02EB608	**02C608**	**02C32**	M10	8	70	M10	8	52,5	–	–	–
	03B608	**03C608**	**03C59**	M12	10	120	M12	10	90	M12	10	60
170	**01EB170MEX13**	**01C170MEX13**	**01C11EX10**	M8	6	35	M8	6	26	–	–	–
	01EB170MGR14	**01C170MGR15**	**01C11GR10**	M8	6	35	M8	6	26	–	–	–
	01EB170M	**01C170M**	**01C12**	M8	6	35	M8	6	26	–	–	–
	02EB170M	**02C170M**	**02C32EX10**	M10	8	70	M10	8	52,5	–	–	–
	02EB170M	**02C170M**	**02C32GR10**	M10	8	70	M10	8	52,5	–	–	–
	03B170M	**03C170M**	**03C59**	M12	10	120	M12	10	90	M12	10	60
175	**01EB175M**	**01C175M**	**01C12**	M8	6	35	M8	6	26	–	–	–
	02EB175M	**02C175M**	**02C33**	M10	8	70	M10	8	52,5	M10	8	35
6 15/16	**01EB615**	**01C615**	**01C12**	M8	6	35	M8	6	26	–	–	–
	02EB615	**02C615**	**02C33**	M10	8	70	M10	8	52,5	M10	8	35
	03B615	**03C615**	**03C60**	M12	10	120	M12	10	90	M12	10	60
7	**01EB700**	**01C700**	**01C12**	M8	6	35	M8	6	26	–	–	–
	02EB700	**02C700**	**02C33**	M10	8	70	M10	8	52,5	M10	8	35
	03B700	**03C700**	**03C60**	M12	10	120	M12	10	90	M12	10	60
180	**01EB180M**	**01C180M**	**01C12**	M8	6	35	M8	6	26	–	–	–
	02EB180M	**02C180M**	**02C33**	M10	8	70	M10	8	52,5	M10	8	35
	03B180M	**03C180M**	**03C60**	M12	10	120	M12	10	90	M12	10	60

1) For tension type take-up housings, replace TP with TT.
2) For double or triple boss hangers, add the designation suffix DOUBLE BOSS or TRIPLE BOSS respectively.
3) For housing TP31 (or TT31), the screw size is M24, the key size is 19 mm and the torque is 712 Nm.

cont. table 18

Cartridge side screw			Plummer block / Take-up housing joint screw					Flanged housing joint screw				Hanger housing joint screw			
Screw size	Key size (A/F)	Torque	Designation[1]		Screw size	Key size (A/F)	Torque	Designation	Screw size	Key size (A/F)	Torque	Designation[2]	Screw size	Key size (A/F)	Torque
–	mm	Nm	–		–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M6	3	7,8	**P08**	**TP08**	M20	17	420	**F08**	M20	17	420	**100H140M**	M10	8	52,5
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**01H140M**	M10	8	52,5
M6	3	7,8	**P30**	**TP09**	M20	17	420	**F30**	M24	19	712	–	–	–	–
M10	5	30	**P57**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P30**	**TP09**	M20	17	420	**F30**	M24	19	712	–	–	–	–
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**100H150M**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P31**	**TP31**[3]	M20	17	420	**F31**	M24	19	712	–	–	–	–
M10	5	30	**P58**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**100H515**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P31**	**TP31**[3]	M20	17	420	**F31**	M24	19	712	–	–	–	–
M10	5	30	**P58**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P09**	**TP09**	M20	17	420	**F09**	M20	17	420	**100H600**	M10	8	52,5
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P31**	**TP31**[3]	M20	17	420	**F31**	M24	19	712	–	–	–	–
M10	5	30	**P58**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P31**	**TP31**[3]	M20	17	420	**F31**	M24	19	712	–	–	–	–
–	–	–	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P10**	**TP10**	M20	17	420	**F10**	M20	17	420	–	–	–	–
M6	3	7,8	**P11**	**TP31**[3]	M16	14	225	**F11**	M20	17	420	–	–	–	–
–	–	–	**P31**	–	M20	17	420	**F31**	M24	19	712	–	–	–	–
M6	3	7,8	**P31**	–	M20	17	420	**F31**	M24	19	712	–	–	–	–
M6	3	7,8	**P32**	–	M20	17	420	**F32**	M24	19	712	–	–	–	–
M10	5	30	**P59**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P11**	–	M16	14	225	**F11**	M20	17	420	–	–	–	–
M6	3	7,8	**P32**	–	M20	17	420	**F32**	M24	19	712	–	–	–	–
M10	5	30	**P59**	–	M20	17	420		–	–	–	–	–	–	–
M6	3	7,8	**P11**	–	M16	14	225	**F11**	M20	17	420	–	–	–	–
M6	3	7,8	**P32**	–	M20	17	420	**F32**	M24	19	712	–	–	–	–
M10	5	30	**P59**	–	M20	17	420	–	–	–	–	–	–	–	–
–	–	–	**P11**	–	M16	14	225	**F11**	M20	17	420	–	–	–	–
M6	3	7,8	**P11**	–	M16	14	225	**F11**	M20	17	420	–	–	–	–
			P12	–	M16	14	225	**F32**	M20	17	420	–	–	–	–
–	–	–	**P32**	–	M20	17	420	**F12**	M24	19	712	–	–	–	–
M6	3	7,8	**P32**	–	M20	17	420	**F12**	M24	19	712	–	–	–	–
M10	5	30	**P59**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P12**	–	M16	14	225	**F12**	M20	17	420	–	–	–	–
M6	3	7,8	**P33**	–	M20	17	420	**F33**	M24	19	712	–	–	–	–
M6	3	7,8	**P12**	–	M16	14	225	**F12**	M20	17	420	–	–	–	–
M6	3	7,8	**P33**	–	M20	17	420	**F33**	M24	19	712	–	–	–	–
M10	5	30	**P60**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P12**	–	M16	14	225	**F12**	M20	17	420	–	–	–	–
M6	3	7,8	**P33**	–	M20	17	420	**F33**	M24	19	712	–	–	–	–
M10	5	30	**P60**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P12**	–	M16	14	225	**F12**	M20	17	420	–	–	–	–
M6	3	7,8	**P33**	–	M20	17	420	**F33**	M24	19	712	–	–	–	–
M10	5	30	**P60**	–	M20	17	420	–	–	–	–	–	–	–	–

Screw sizes, key sizes, and tightening torques – split cylindrical roller bearings

Shaft diameter	Designation Bearing	Cartridge with felt seals	Cartridge for labyrinth seals	Screw sizes, key sizes, and tightening torques Clamping ring screw Screw size	Key size (A/F)	Torque	Cartridge joint screw Screw size	Key size (A/F)	Torque	Cartridge radial screw Screw size	Key size (A/F)	Torque
mm/*in.*	–			–	mm	Nm	–	mm	Nm	–	mm	Nm
190	**01EB190M**	**01C190M**	**01C13**	M8	6	35	M8	6	26	M10	8	35
	02EB190M	**02C190M**	**02C34**	M12	10	120	M12	10	90	M10	8	35
	03B190M	**03C190M**	**03C61**	M12	10	120	M12	10	90	M12	10	60
200	**100B200M**	**100C200M**	[1]	M8	6	35	M8	6	26	–	–	–
	01EB200M	**01C200M**	**01C13**	M8	6	35	M8	6	26	M10	8	35
	02EB200M	**02C200M**	**02C34**	M12	10	120	M12	10	90	M10	8	35
	03B200M	**03C200M**	**03C61**	M12	10	120	M12	10	90	M12	10	60
7 15/16	**100B715**	**100C200M**	[1]	M8	6	35	M8	6	26	–	–	–
	01EB715	**01C715**	**01C13**	M8	6	35	M8	6	26	M10	8	35
	02EB715	**02C715**	**02C34**	M12	10	120	M12	10	90	M10	8	35
	03B715	**03C715**	**03C61**	M12	10	120	M12	10	90	M12	10	60
8	**100B800**	**100C200M**	[1]	M8	6	35	M8	6	26	–	–	–
	01EB800	**01C800**	**01C13**	M8	6	35	M8	6	26	M10	8	35
	02EB800	**02C800**	**02C34**	M12	10	120	M12	10	90	M10	8	35
	03B800	**03C800**	**03C61**	M12	10	120	M12	10	90	M12	10	60
220	**100B220M**	**100C220M**	[1]	M8	6	35	M8	6	26	M6	5	7,5
	01EB220M	**01C220M**	**01C14**	M10	8	70	M10	8	52,5	M10	8	35
	02EB220M	**02C220M**	**02C35**	M12	10	120	M12	10	90	M10	8	35
	03B220M	**03C220M**	**03C62**	M16	14	300	M16	14	225	M12	10	60
9	**01EB900**	**01C900**	**01C14**	M10	8	70	M10	8	52,5	M10	8	35
	02EB900	**02C900**	**02C35**	M12	10	120	M12	10	90	M10	8	35
	03B900	**03C900**	**03C62**	M16	14	300	M16	14	225	M12	10	60
230	**01EB230M**	**01C230M**	**01C14**	M10	8	70	M10	8	52,5	M10	8	35
	02EB230M	**02C230M**	**02C35**	M12	10	120	M12	10	90	M10	8	35
240	**01EB240M**	**01C240M**	**01C15**	M10	8	70	M10	8	52,5	M10	8	35
	02EB240M	**02C240M**	**02C36**	M12	10	120	M12	10	90	M10	8	35
	03B240M	**03C240M**	**03C63**	M16	14	300	M16	14	225	M12	10	60
250	**01EB250M**	**01C250M**	**01C15**	M10	8	70	M10	8	52,5	M10	8	35
	02EB250M	**02C250M**	**02C36**	M12	10	120	M12	10	90	M10	8	35
	03B250M	**03C250M**	**03C63**	M16	14	300	M16	14	225	M12	10	60
10	**01EB1000**	**01C1000**	**01C15**	M10	8	70	M10	8	52,5	M10	8	35
	02EB1000	**02C1000**	**02C36**	M12	10	120	M12	10	90	M10	8	35
	03B1000	**03C1000**	**03C63**	M16	14	300	M16	14	225	M12	10	60
260	**01EB260MEX16**	**01C260MEX15**	**01C15EX15**	M10	8	70	M10	8	52,5	M10	8	35
	01EB260MGR15	**01C260MGR12**	**01C15GR13**	M10	8	70	M10	8	52,5	M10	8	35
	01EB260M	**01C260M**	**01C16**	M10	8	70	M10	8	52,5	M10	8	35
	02EB260M	**02C260M**	**02C36EX10**	M12	10	120	M12	10	90	M10	8	35
	02EB260M	**02C260M**	**02C36GR11**	M12	10	120	M12	10	90	M10	8	35
	03B260M	**03C260M**	**03C63EX10**	M16	14	300	M16	14	225	M12	10	60
	03B260M	**03C260M**	**03C63GR10**	M16	14	300	M16	14	225	M12	10	60
270	**01EB270M**	**01C270M**	**01C16**	M10	8	70	M10	8	52,5	M10	8	35
275	**01EB275M**	**01C275M**	**01C16**	M10	8	70	M10	8	52,5	M10	8	35
11	**01EB1100**	**01C1100**	**01C16**	M10	8	70	M10	8	52,5	M10	8	35
	02EB1100	**02C1100**	**02C37**	M16	14	300	M16	14	225	M10	8	35
	03EB1100	**03C1100**	**03C83**	M20	17	560	M20	17	420	M12	10	60
280	**01EB280M**	**01C280M**	**01C16**	M10	8	70	M10	8	52,5	M10	8	35
	02EB280M	**02C280M**	**02C37**	M16	14	300	M16	14	225	M10	8	35
	03EB280M	**03C280M**	**03C83**	M20	17	560	M20	17	420	M12	10	60

[1] Contact SKF.

cont. table 18

Cartridge side screw			Plummer block / Take-up housing joint screw					Flanged housing joint screw				Hanger housing joint screw			
Screw size	Key size (A/F)	Torque	Designation		Screw size	Key size (A/F)	Torque	Desig-nation	Screw size	Key size (A/F)	Torque	Designa-tion	Screw size	Key size (A/F)	Torque
–	mm	Nm	–		–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M6	3	7,8	**P13**	–	M16	14	225	**F13**	M24	19	712	–	–	–	–
M6	3	7,8	**P34**	–	M20	17	420	**F34**	M24	19	712	–	–	–	–
M10	5	30	**P61**	–	M24	19	712	–	–	–	–	–	–	–	–
M6	3	7,8	**P12**	–	M16	14	225	**F12**	M20	17	420	–	–	–	–
M6	3	7,8	**P13**	–	M16	14	225	**F13**	M24	19	712	–	–	–	–
M6	3	7,8	**P34**	–	M20	17	420	**F34**	M24	19	712	–	–	–	–
M10	5	30	**P61**	–	M24	19	712	–	–	–	–	–	–	–	–
M6	3	7,8	**P12**	–	M16	14	225	**F12**	M20	17	420	–	–	–	–
M6	3	7,8	**P13**	–	M16	14	225	**F13**	M24	19	712	–	–	–	–
M6	3	7,8	**P34**	–	M20	17	420	**F34**	M24	19	712	–	–	–	–
M10	5	30	**P61**	–	M24	19	712	–	–	–	–	–	–	–	–
M6	3	7,8	**P12**	–	M16	14	225	**F12**	M20	17	420	–	–	–	–
M6	3	7,8	**P13**	–	M16	14	225	**F13**	M24	19	712	–	–	–	–
M6	3	7,8	**P34**	–	M20	17	420	**F34**	M24	19	712	–	–	–	–
M10	5	30	**P61**	–	M24	19	712	–	–	–	–	–	–	–	–
M6	3	7,8	**P13**	–	M16	14	225	**F13**	M24	19	712	–	–	–	–
M6	3	7,8	**P14**	–	M16	14	225	**F14**	M24	19	712	–	–	–	–
M6	3	7,8	**P35**	–	M20	17	420	**F35**	M24	19	712	–	–	–	–
M10	5	30	**P62**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P14**	–	M16	14	225	**F14**	M24	19	712	–	–	–	–
M6	3	7,8	**P35**	–	M20	17	420	**F35**	M24	19	712	–	–	–	–
M10	5	30	**P62**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P14**	–	M16	14	225	**F14**	M24	19	712	–	–	–	–
M6	3	7,8	**P35**	–	M20	17	420	**F35**	M24	19	712	–	–	–	–
M6	3	7,8	**P15**	–	M20	17	420	**F15**	M24	19	712	–	–	–	–
M10	5	30	**P36**	–	M20	17	420	**F36**	M24	19	712	–	–	–	–
M10	5	30	**P63**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P15**	–	M20	17	420	**F15**	M24	19	712	–	–	–	–
M10	5	30	**P36**	–	M20	17	420	**F36**	M24	19	712	–	–	–	–
M10	5	30	**P63**	–	M20	17	420	–	–	–	–	–	–	–	–
M6	3	7,8	**P15**	–	M20	17	420	**F15**	M24	19	712	–	–	–	–
M10	5	30	**P36**	–	M20	17	420	**F36**	M24	19	712	–	–	–	–
M10	5	30	**P63**	–	M20	17	420	–	–	–	–	–	–	–	–
–	–	–	**P15**	–	M20	17	420	**F15**	M24	19	712	–	–	–	–
M6	3	7,8	**P15**	–	M20	17	420	**F15**	M24	19	712	–	–	–	–
M10	5	30	**P16**	–	M20	17	420	**F36**	M24	19	712	–	–	–	–
–	–	–	**P36**	–	M20	17	420	**F16**	M24	19	712	–	–	–	–
M10	5	30	**P36**	–	M20	17	420	**F16**	M24	19	712	–	–	–	–
–	–	–	**P63**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P63**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P16**	–	M20	17	420	**F16**	M24	19	712	–	–	–	–
M10	5	30	**P16**	–	M20	17	420	**F16**	M24	19	712	–	–	–	–
M10	5	30	**P16**	–	M20	17	420	**F16**	M24	19	712	–	–	–	–
M10	5	30	**P37**	–	M20	17	420	**F37**	M24	19	712	–	–	–	–
M10	5	30	**P83**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P16**	–	M20	17	420	**F16**	M24	19	712	–	–	–	–
M10	5	30	**P37**	–	M20	17	420	**F37**	M24	19	712	–	–	–	–
M10	5	30	**P83**	–	M20	17	420	–	–	–	–	–	–	–	–

Screw sizes, key sizes, and tightening torques – split cylindrical roller bearings

Shaft diameter	Designation			Screw sizes, key sizes, and tightening torques								
	Bearing	Cartridge with felt / grease groove seals	Cartridge for labyrinth seals	Clamping ring screw			Cartridge joint screw			Cartridge radial screw		
				Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque
mm/*in.*	–			–	mm	Nm	–	mm	Nm	–	mm	Nm
290	**01EB290M**	**01C290M**	**01C17**	M10	8	70	M10	8	52,5	M10	8	35
	03B290M	**03C290M**	**03C65**	M20	17	560	M20	17	420	M12	10	60
300	**01EB300M**	**01C300M**	**01C17**	M10	8	70	M10	8	52,5	M10	8	35
	02EB300M	**02C300M**	**02C38**	M16	14	300	M16	14	225	M10	8	35
	03B300M	**03C300M**	**03C65**	M20	17	560	M20	17	420	M12	10	60
12	**01EB1200**	**01C1200**	**01C17**	M10	8	70	M10	8	52,5	M10	8	35
	02EB1200	**02C1200**	**02C38**	M16	14	300	M16	14	225	M10	8	35
	03B1200	**03C1200**	**03C65**	M20	17	560	M20	17	420	M12	10	60
320	**01B320M**	**01C320M**	**01C18**	M12	10	120	M12	10	90	M10	8	35
	02B320M	**02C320M**	**02C39**	M16	14	300	M16	14	225	M10	8	35
	03B320M	**03C320M**	**03C66**	M20	17	560	M20	17	420	M12	10	60
330	**01B330M**	**01C330M**	**01C18**	M12	10	120	M12	10	90	M10	8	35
	02B330M	**02C330M**	**02C39**	M16	14	300	M16	14	225	M10	8	35
13	**01B1300**	**01C1300**	**01C18**	M12	10	120	M12	10	90	M10	8	35
	02B1300	**02C1300**	**02C39**	M16	14	300	M16	14	225	M10	8	35
	03B1300	**03C1300**	**03C66**	M20	17	560	M20	17	420	M12	10	60
340	**01B340MEX13**	**01C340MEX12**	**01C18EX**	M12	10	120	M12	10	90	M10	8	35
	01B340MGR	**01C340MGR11**	**01C18GR**	M12	10	120	M12	10	90	M10	8	35
	01B340M	**01C340M**	**01C19**	M12	10	120	M12	10	90	M10	8	35
	02B340M	**02C340M**	**02C40**	M16	14	300	M16	14	225	M12	10	60
	03EB340M	**03C340M**	**03C86**	M24	19	950	M20	17	420	M12	10	60
350	**01B350M**	**01C350M**	**01C19**	M12	10	120	M12	10	90	M10	8	35
	02B350M	**02C350M**	**02C40**	M16	14	300	M16	14	225	M12	10	60
14	**01B1400**	**01C1400**	**01C19**	M12	10	120	M12	10	90	M10	8	35
	02B1400	**02C1400**	**02C40**	M16	14	300	M16	14	225	M12	10	60
	03EB1400	**03C1400**	**03C86**	M24	19	950	M20	17	420	M12	10	60
360	**01B360MEX15**	**01C360MEX13**	**01C19EX**	M12	10	120	M12	10	90	M10	8	35
	01B360MGR15	**01C360MGR16**	**01C19GR**	M12	10	120	M12	10	90	M10	8	35
	01B360M	**01C360M**	**01C20**	M16	14	300	M16	14	225	M12	10	60
	02B360M	**02C360M**	**02C40**	M16	14	300	M16	14	225	M12	10	60
	03EB360M	**03C360M**	**03C86**	M24	19	950	M20	17	420	M12	10	60
380	**01B380M**	**01C380M**	**01C20**	M12	10	120	M12	10	90	M10	8	35
	02B380M	**02C380M**	**02C41**	M16	14	300	M16	14	225	M12	10	60
	03B380M	**03C380M**	**03C68**	M24	19	950	M20	17	420	M12	10	60
15	**01B1500**	**01C1500**	**01C20**	M12	10	120	M12	10	90	M10	8	35
	02B1500	**02C1500**	**02C41**	M16	14	300	M16	14	225	M12	10	60
	03B1500	**03C1500**	**03C68**	M24	19	950	M20	17	420	M12	10	60
390	**01B390M**	**01C390M**	**01C21**	M12	10	120	M12	10	90	M10	8	35
400	**01B400M**	**01C400M**	**01C21**	M12	10	120	M12	10	90	M10	8	35
	02B400M	**02C400M**	**02C42**	M16	14	300	M16	14	225	M12	10	60
	03B400M	**03C400M**	**03C68**	M24	19	950	M20	17	420	M12	10	60
16	**01B1600**	**01C1600**	**01C21**	M12	10	120	M12	10	90	M10	8	35
	02B1600	**02C1600**	**02C42**	M16	14	300	M16	14	225	M12	10	60
420	**01B420M**	**01C420M**	**01C22**	M12	10	120	M12	10	90	M10	8	35
	02B420M	**02C420 M**	**02C43**	M16	14	300	M16	14	225	M12	10	60
	03EB420M	**03C420M**	**03C89**	M24	19	950	M20	17	420	M12	10	60

cont. table 18

Cartridge side screw			Plummer block / Take-up housing joint screw					Flanged housing joint screw				Hanger housing joint screw			
Screw size	Key size (A/F)	Torque	Designation		Screw size	Key size (A/F)	Torque	Desig-nation	Screw size	Key size (A/F)	Torque	Designa-tion	Screw size	Key size (A/F)	Torque
–	mm	Nm	–		–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M10	5	30	**P17**	–	M20	17	420	**F17**	M24	19	712	–	–	–	–
M10	5	30	**P65**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P17**	–	M20	17	420	**F17**	M24	19	712	–	–	–	–
M10	5	30	**P38**	–	M20	17	420	**F38**	M24	19	712	–	–	–	–
M10	5	30	**P65**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P17**	–	M20	17	420	**F17**	M24	19	712	–	–	–	–
M10	5	30	**P38**	–	M20	17	420	**F38**	M24	19	712	–	–	–	–
M10	5	30	**P65**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P18**	–	M20	17	420	**F18**	M24	19	712	–	–	–	–
M10	5	30	**P39**	–	M20	17	420	**F39**	M24	19	712	–	–	–	–
M10	5	30	**P66**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P18**	–	M20	17	420	**F18**	M24	19	712	–	–	–	–
M10	5	30	**P39**	–	M20	17	420	**F39**	M24	19	712	–	–	–	–
M10	5	30	**P18**	–	M20	17	420	**F18**	M24	19	712	–	–	–	–
M10	5	30	**P39**	–	M20	17	420	**F39**	M24	19	712	–	–	–	–
M10	5	30	**P66**	–	M24	19	712	–	–	–	–	–	–	–	–
–	–	–	**P18**	–	M20	17	420	**F18**	M24	19	712	–	–	–	–
M10	5	30	**P18**	–	M20	17	420	**F18**	M24	19	712	–	–	–	–
M10	5	30	**P19**	–	M20	17	420	**F19**	M24	19	712	–	–	–	–
M10	5	30	**P40**	–	M20	17	420	–	–	–	–	–	–	–	–
M16	8	125	**P86**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P19**	–	M20	17	420	**F19**	M24	19	712	–	–	–	–
M10	5	30	**P40**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P19**	–	M20	17	420	**F19**	M24	19	712	–	–	–	–
M10	5	30	**P40**	–	M20	17	420	–	–	–	–	–	–	–	–
M16	8	125	**P86**	–	M24	19	712	–	–	–	–	–	–	–	–
–	–	–	**P19**	–	M20	17	420	**F19**	M24	19	712	–	–	–	–
M10	5	30	**P19**	–	M20	17	420	**F19**	M24	19	712	–	–	–	–
			P20	–	M20	17	420	**F20**	M24	19	712	–	–	–	–
M10	5	30	**P40**	–	M20	17	420	–	–	–	–	–	–	–	–
M16	8	125	**P86**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P20**	–	M20	17	420	**F20**	M24	19	712	–	–	–	–
M10	5	30	**P41**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P68**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P20**	–	M20	17	420	**F20**	M24	19	712	–	–	–	–
M10	5	30	**P41**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P68**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P21**	–	M20	17	420	**F21**	M24	19	712	–	–	–	–
M10	5	30	**P21**	–	M20	17	420	**F21**	M24	19	712	–	–	–	–
M10	5	30	**P42**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P68**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P21**	–	M20	17	420	**F21**	M24	19	712	–	–	–	–
M10	5	30	**P42**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P22**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P43**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P89**	–	M24	19	712	–	–	–	–	–	–	–	–

Screw sizes, key sizes, and tightening torques – split cylindrical roller bearings

Shaft diameter	Designation			Screw sizes, key sizes, and tightening torques								
	Bearing	Cartridge with felt / grease groove seals	Cartridge for labyrinth seals	Clamping ring screw			Cartridge joint screw			Cartridge radial screw		
				Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque	Screw size	Key size (A/F)	Torque
mm/*in.*	–			–	mm	Nm	–	mm	Nm	–	mm	Nm
17	**01B1700**	**01C1700**	**01C22**	M12	10	120	M12	10	90	M10	8	35
	02B1700	**02C1700**	**02C43**	M16	14	300	M16	14	225	M12	10	60
	03EB1700	**03C1700**	**03C89**	M24	19	950	M20	17	420	M12	10	60
440	**01B440M**	**01C440M**	**01C23**	M12	10	120	M12	10	90	M10	8	35
	02B440M	**02C440M**	**02C44**	M16	14	300	M16	14	225	M12	10	60
	03EB440M	**03C440M**	**03C89**	M24	19	950	M20	17	420	M12	10	60
18	**01B1800**	**01C1800**	**01C23**	M12	10	120	M12	10	90	M10	8	35
	02B1800	**02C1800**	**02C44**	M16	14	300	M16	14	225	M12	10	60
	03EB1800	**03C1800**	**03C90**	M24	19	950	M20	17	420	M12	10	60
460	**01B460M**	**01C460M**	**01C23**	M12	10	120	M12	10	90	M10	8	35
	02B460M	**02C460M**	**02C44**	M16	14	300	M16	14	225	M12	10	60
	03EB460M	**03C460M**	**03C90**	M24	19	950	M20	17	420	M12	10	60
480	**01B480M**	**01C480M**	**01C24**	M12	10	120	M12	10	90	M10	8	35
	02B480M	**02C480M**	**02C45**	M20	17	560	M20	17	420	M12	10	60
19	**01B1900**	**01C1900**	**01C24**	M12	10	120	M12	10	90	M10	8	35
	02B1900	**02C1900**	**02C45**	M20	17	560	M20	17	420	M12	10	60
500	**01B500M**	**01C500M**	**01C25**	M16	14	300	M16	14	225	M12	10	60
	02B500M	**02C500M**	**02C46**	M20	17	560	M20	17	420	M12	10	60
	03B500M	**03C500M**	**03C94**	M24	19	950	M20	17	420	M16	14	150
20	**01B2000**	**01C2000**	**01C25**	M16	14	300	M16	14	225	M12	10	60
	02B2000	**02C2000**	**02C46**	M20	17	560	M20	17	420	M12	10	60
	03B2000	**03C2000**	**03C94**	M24	19	950	M20	17	420	M16	14	150
530	**01B530M**	**01C530M**	**01C26**	M16	14	300	M16	14	225	M12	10	60
	02B530M	**02C530M**	**02C47**	M20	17	560	M20	17	420	M12	10	60
	03B530M	**03C530M**	**03C94**	M24	19	950	M20	17	420	M16	14	150
21	**01B2100**	**01C2100**	**01C26**	M16	14	300	M16	14	225	M12	10	60
	02B2100	**02C2100**	**02C47**	M20	17	560	M20	17	420	M12	10	60
22	**01B2200**	**01C2200**	**01C27**	M16	14	300	M16	14	225	M12	10	60
	02B2200	**02C2200**	**02C48**	M20	17	560	M20	17	420	M12	10	60
	03EB2200	**03C2200**	**03C94**	M24	19	950	M20	17	420	M12	10	60
560	**01B560M**	**01C560M**	**01C27**	M16	14	300	M16	14	225	M12	10	60
	02B560M	**02C560M**	**02C48**	M20	17	560	M20	17	420	M12	10	60
	03EB560M	**03C560M**	**03C94**	M24	19	950	M20	17	420	M12	10	60
580	**01B580M**	**01C580M**	**01C28**	M16	14	300	M16	14	225	M12	10	60
	02B580M	**02C580M**	**02C49**	M20	17	560	M20	17	420	M12	10	60
23	**01B2300**	**01C2300**	**01C28**	M16	14	300	M16	14	225	M12	10	60
	02B2300	**02C2300**	**02C49**	M20	17	560	M20	17	420	M12	10	60
	03EB2300	**03C2300**	**03C95**	M24	19	950	M20	17	420	M12	10	60
600	**01B600M**	**01C600M**	**01C29**	M16	14	300	M16	14	225	M12	10	60
	02B600M	**02C600M**	**02C50**	M20	17	560	M20	17	420	M12	10	60
	03EB600M	**03C600M**	**03C95**	M24	19	950	M20	17	420	M12	10	60
24	**01B2400**	**01C2400**	**01C29**	M16	14	300	M16	14	225	M12	10	60
	02B2400	**02C2400**	**02C50**	M20	17	560	M20	17	420	M12	10	60

cont. table 18

Cartridge side screw			Plummer block / Take-up housing joint screw					Flanged housing joint screw				Hanger housing joint screw			
Screw size	Key size (A/F)	Torque	Designation		Screw size	Key size (A/F)	Torque	Desig-nation	Screw size	Key size (A/F)	Torque	Designa-tion	Screw size	Key size (A/F)	Torque
–	mm	Nm	–		–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M10	5	30	**P22**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P43**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P89**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P23**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P44**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P89**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P23**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P44**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P90**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P23**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P44**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P90**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P24**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P45**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P24**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P45**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P25**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P46**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P94**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P25**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P46**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P94**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P26**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P47**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P94**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P26**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P47**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P27**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P48**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P94**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P27**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P48**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P94**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P28**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P49**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P28**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P49**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P95**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P29**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P50**	–	M24	19	712	–	–	–	–	–	–	–	–
M16	8	125	**P95**	–	M24	19	712	–	–	–	–	–	–	–	–
M10	5	30	**P29**	–	M20	17	420	–	–	–	–	–	–	–	–
M10	5	30	**P50**	–	M24	19	712	–	–	–	–	–	–	–	–

Screw sizes, key sizes, and tightening torques – split tapered roller bearings

Shaft diameter d_a	**Designation** Bearing	Cartridge with grease groove seals	Cartridge for labyrinth seals	**Screw sizes, key sizes, and tightening torques** Clamping ring screw Screw size	Key size (A/F)	Torque	Cartridge joint screw Screw size	Key size (A/F)	Torque
mm	–			–	mm	Nm	–	mm	Nm
75	**1DTB75M**	**1DTC75GR75M**	**1DTC75GR30TL**	M5	4	8,5	M6	5	11
80	**1DTB80M**	**1DTC80GR80M**	**1DTC80GR35TL**	M5	4	8,5	M10	8	52,5
90	**1DTB90M**	**1DTC90GR90M**	**1DTC90GR35TL**	M5	4	8,5	M10	8	52,5
100	**1DTB100M**	**1DTC100GR100M**	**1DTC100GR40TL**	M8	6	35	M10	8	52,5
110	**1DTB110M**	**1DTC110GR110M**	**1DTC110GR45TL**	M8	6	35	M12	10	90
120	**1DTB120M**	**1DTC120GR120M**	**1DTC120GR50TL**	M8	6	35	M10	8	52,5
130	**1DTB130M**	**1DTC140GR130M**	**1DTC140GR50TL**	M10	8	70	M10	8	52,5
140	**1DTB140M**	**1DTC140GR140M**	**1DTC140GR55TL**	M8	6	35	M10	8	52,5
150	**1DTB150M**	**1DTC160GR150M**	**1DTC160GR60TL**	M10	8	70	M10	8	52,5
160	**1DTB160M**	**1DTC160GR160M**	**1DTC160GR65TL**	M8	6	35	M10	8	52,5
180	**1DTB180M**	**1DTC180GR180M**	**1DTC180GR70TL**	M8	6	35	M10	8	52,5

Table 19

Cartridge side screw			Plummer block housing joint screw				Flanged housing joint screw			
Screw size	Key size (A/F)	Torque	Designation	Screw size	Key size (A/F)	Torque	Designation	Screw size	Key size (A/F)	Torque
–	mm	Nm	–	–	mm	Nm	–	–	mm	Nm
M6	3	7,8	**PN05**	M16	14	225	**FN05**	M12	10	90
M6	3	7,8	**PN06**	M16	14	225	**FN06**	M16	14	225
M6	3	7,8	**PN06**	M16	14	225	**FN06**	M16	14	225
M6	3	7,8	**PN07**	M20	17	420	**FN07**	M16	14	225
M6	3	7,8	**PN08**	M20	17	420	**FN08**	M20	17	420
M6	3	7,8	**PN08**	M20	17	420	**FN08**	M20	17	420
M6	3	7,8	**PN09**	M20	17	420	**FN09**	M20	17	420
M6	3	7,8	**PN09**	M20	17	420	**FN09**	M20	17	420
M10	5	30	**PN11**	M16	14	225	**FN11**	M20	17	420
M10	5	30	**PN11**	M16	14	225	**FN11**	M20	17	420
M10	5	30	**PN31**	M20	17	420	**FN31**	M24	19	712