

SKF bearing housings and roller bearing units



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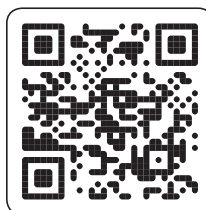
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SKF bearing housings – overview, selection and application recommendations

Split plummer block housings – SNL 2, 3, 5 and 6 series

Split plummer block housings – SE 2, 3, 5 and 6 series

Split plummer block housings – SNLN 30 series

Split plummer block housings – SNL 30, 31 and 32 series

Split plummer block housings – SED 30, 31, 32 and 39 series

Split plummer block housings – SONL series

Split pillow blocks – SAF and SAW series

Split plummer blocks – SDAF series

Non-split plummer block housings and
take-up housings – SBD and THD series

Flanged housings – FNL series

Two-bearing housings – PD series

Housings for paper machines – SBFN, SBPN and SDM series

Split plummer block housings for converters in steel making – SKND series

Trunnion bearing housings for grinding mills – FSDR..K series

Metric roller bearings units – SYNT and FYNT series

Inch roller bearing units – SYE, SYR, FYE and FYR series

Notice

For important updates and changes to this catalogue, go to skf.com/errata

SKF bearing housings and roller bearing units



SKF bearing housings and roller bearing units

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Unit conversions

| Unit conversions | | | | | |
|-------------------------|-------------------------------------|---------------------|--------------------------|-------------|-----------------------------|
| Quantity | Unit | Conversion | | | |
| Length | inch | 1 mm | 0.03937 in. | 1 in. | 25,40 mm |
| | foot | 1 m | 3.281 ft. | 1 ft. | 0,3048 m |
| | yard | 1 m | 1.094 yd. | 1 yd. | 0,9144 m |
| | mile | 1 km | 0.6214 mi. | 1 mi. | 1,609 km |
| Area | square inch | 1 mm ² | 0.00155 sq-in | 1 sq-in | 645,16 mm ² |
| | square foot | 1 m ² | 10.76 sq-ft | 1 sq-ft | 0,0929 m ² |
| Volume | cubic inch | 1 cm ³ | 0.061 cu-in | 1 cu-in | 16,387 cm ³ |
| | cubic foot | 1 m ³ | 35 cu-ft | 1 cu-ft | 0,02832 m ³ |
| | imperial gallon | 1 l | 0.22 gallon | 1 gallon | 4,5461 l |
| | US gallon | 1 l | 0.2642 US gallon | 1 US gallon | 3,7854 l |
| Speed, velocity | foot per second | 1 m/s | 3.28 ft/s | 1 ft/s | 0,30480 m/s |
| | mile per hour | 1 km/h | 0.6214 mph | 1 mph | 1,609 km/h |
| Mass | ounce | 1 g | 0.03527 oz. | 1 oz. | 28,350 g |
| | pound | 1 kg | 2.205 lb. | 1 lb. | 0,45359 kg |
| | short ton | 1 tonne | 1.1023 short ton | 1 short ton | 0,90719 tonne |
| | long ton | 1 tonne | 0.9842 long ton | 1 long ton | 1,0161 tonne |
| Density | pound per cubic inch | 1 g/cm ³ | 0.0361 lb/cu-in | 1 lb/cu-in | 27,680 g/cm ³ |
| Force | pound-force | 1 N | 0.225 lbf. | 1 lbf. | 4,4482 N |
| Pressure, stress | pounds per square inch | 1 MPa | 145 psi | 1 psi | 6,8948 × 10 ³ Pa |
| | | 1 N/mm ² | 145 psi | 1 psi | 0,068948 bar |
| | | 1 bar | 14,5 psi | | |
| Moment | pound-force inch | 1 Nm | 8.85 lbf-in | 1 lbf-in | 0,113 Nm |
| Power | foot-pound per second horsepower | 1 W | 0.7376 ft-lbf/s | 1 ft-lbf/s | 1,3558 W |
| | | 1 kW | 1.36 hp | 1 hp | 0,736 kW |
| Temperature | degree | Celsius | $t_c = 0.555 (t_f - 32)$ | Fahrenheit | $t_f = 1,8 t_c + 32$ |

Foreword

This catalogue contains the standard assortment of SKF housings and roller bearing units typically used in industrial applications. To provide the highest levels of quality and customer service, these products are available worldwide through SKF sales channels. For information about lead times and deliveries, contact your local SKF representative or SKF Authorized Distributor.

The data in this catalogue reflects SKF's state-of-the-art technology and production capabilities as of 2015. The data contained within may differ from that shown in earlier catalogues because of redesign, technological developments, or revised calculation methods. SKF reserves the right to continually improve its products with respect to materials, design and manufacturing methods, some of which are driven by technological developments.

about mounting and maintenance is provided in the *SKF bearing maintenance handbook* (ISBN 978-91-978966-4-1).

Getting started

This catalogue contains detailed information about all standard SKF metric and inch bearing housings, some application specific housings and SKF roller bearing units. Roller bearing units consist of a housing, a spherical roller bearing, seals and lubricant. These ready-to-mount units can provide a number of advantages when compared to plunger (pillow) block or flanged housings. They are easy and safe to mount and do not require any additional parts.

The first section, which contains general technical information, is designed to help the reader select the best, most effective products for a particular application. In this section, shaft-bearing combinations, sealing solutions and lubrication methods are discussed in detail. Installation and maintenance information is also included. More practical information

Foreword

The latest developments

The latest innovations within the area of SKF bearing housings include:

SE series housings – new housings in accordance with ISO 113

SE plummer block housings supersede SNL plummer block housings in the 2, 3, 5 and 6 series, and are available in corresponding sizes, from size 507 up to 515-612. From size 516-613, SNL plummer block housings in the 2, 3, 5 and 6 series remains.

SED series housings – largest housings in the standard range

Split housings for bearings with shaft diameters from 430 mm up to 900 mm were typically not standard. A new design concept makes it possible to supply these exceptionally large housings as standard (→ *Split plummer block housings – SED 30, 31, 32 and 39 series, page 331*).

Housings for sealed spherical roller bearings

Sealed spherical roller bearings have been proven to enhance reliability under arduous operating conditions. Consequently, the SKF bearing housing assortment includes housings for these bearings.

Roller bearing units with SKF ConCentra locking technology

Like bearing units with a locking collar, SKF ConCentra roller bearing units are simple and safe to install. The unique SKF ConCentra locking technology provides a truly concentric fit on the shaft, which virtually eliminates fretting corrosion. These units provide the same running accuracy as housing assemblies with sleeve-mounted bearings. (→ *Metric roller bearing units – SYNT and FYNT series, page 659 or Inch roller bearing units – SYE, SYR, FYE and FYR series, page 691*).



SE series housing



SED series housing



Roller bearing unit with SKF ConCentra locking technology

How best to use this catalogue

The catalogue follows an easy principle:

- Chapter 1 provides basic information about bearing housings. It includes a product overview that compares different housing series, sizes, typical shaft-bearing combinations, sealing solutions and lubrication methods. (→ **pages 21 to 53**).
- Chapters 2 to 17 provide information specific to a bearing housing or bearing unit series. Basic design, variants, sealing options and design considerations are discussed in detail. Following that discussion are the product tables.
- Chapter 18 contains the indexes.

Find a housing for a bearing quickly

The bearing index (→ **page 742**) is a quick way to find a housing for a particular bearing. All bearings, which can be accommodated by a housing in this catalogue, are listed per bearing type and sorted alphanumerically, but with cylindrical bore bearings listed before tapered bore bearings.

Find specific information quickly

To make it easy to find specific information, there is a full table of contents at the front of the catalogue. In chapter 18, there is a product index and a full text index.

Find product details quickly

A quick way to access detailed product data is via the product table number. Product table numbers are listed in the full table of contents at the front of the catalogue, in the table of contents at the start of each product chapter and in the product and bearing indexes.

SKF bearing housings - overview, selection and application recommendations

Table 2

| Series | SBO | THD | FNL | PD |
|-----------------------|----------|----------|-----------|-----------|
| Character | 10 | 10 | 11 | 12 |
| Sealing types | ✓ | ✓ | ✓ | ✓ |
| Dimensions range (mm) | 65 - 400 | 90 - 400 | 110 - 400 | 110 - 400 |
| Weight (kg) | - | - | - | - |
| Weight (lb) | - | - | - | - |

Product overview

Bearing index

| Bearing designation | Housing |
|--------------------------------------|---------|
| Angular contact ball bearings | |
| 7214 BECBP | PDP 214 |
| 7216 BECBP | PDP 216 |
| 7218 BECBP | PDP 218 |
| 7220 BECBP | PDP 220 |
| 7222 BECBP | PDP 222 |
| 7224 BECBP | PDP 224 |
| CARB toroidal roller bearings | |
| C 2205 TN9 | |
| C 2205 KTN9 + H 305 E | SNL 205 |
| C 2205 KTN9 + HE 305 E | SNL 305 |
| C 2206 TN9 | SNL 206 |
| C 2206 KTN9 + H 305 E | SNL 305 |

The bearing index lists all bearings and their appropriate housings

| H ₂ | J _{min} | J _{max} | J ₁ | L | G | Mass |
|----------------|------------------|------------------|----------------|--------|-------|------|
| lb. | | | | | | |
| 3/4 | 30 1/2 | 29 | 8 3/4 | 35 | 1 5/8 | 1100 |
| 1 | 30 1/2 | 29 | 8 3/4 | 35 | 1 5/8 | 1050 |
| | 33 1/2 | 32 3/4 | | | | 1350 |
| | 33 1/2 | 32 3/4 | 9 | 38 1/4 | 1 5/8 | 1250 |
| | 33 1/2 | 32 3/4 | 9 | 38 1/4 | 1 5/8 | 1400 |
| | 33 1/2 | 32 3/4 | 9 | 38 1/4 | | |

9.3

Numbered product tables make it easier to access product data.

Foreword

Identify products

Product designations for SKF bearing housings typically contain information about the housing and additional features. To specify a housing or to find more information about an existing SKF housing, SKF product designations can be found in:

- Product index
The product index at the end of the catalogue lists series designations and relates them to the relevant product chapter and product table.
- Designation charts
Charts in each product chapter provide an overview of commonly used designation prefixes and suffixes.

Units of measurement

This catalogue is for global use. Therefore, the predominant units of measurement are in accordance with ISO 80000-1. Imperial units are used whenever necessary. Unit conversions can be made using the conversion table (→ page 10).

For easier use, temperature values are provided in both, °C and °F. Temperature values are typically rounded. Therefore, the two values do not always match according to the conversion formula.

| Series designation | Product |
|--------------------|---|
| SNL 5... | Plummer block housings for bearings on an adapter |
| SNL 5... | Plummer block housings for bearings on an adapter |
| SNL 6... | Plummer block housings for bearings on a cylindrical |
| SNL 6... | Plummer block housings for bearings on an adapter |
| SNLN 30... | Plummer block housings for bearings on an adapter |
| SNLN 30... | Plummer block housings for bearings on a cylindrical |
| SOFN | → Split plummer block housings for bearings on an adapter |
| SONL | Plummer block housings – SONL series |
| SONL | Plummer block housings for bearings on an adapter |
| SONL | Plummer block housings for bearings on an adapter |
| SVE... | Inch roller bearings |
| SVE... N | SKF |
| SVNT | SKF |

The product index makes finding information based on a bearing's designation easy.

| Designations | |
|---|---------|
| Designation system for SNLN 30 plummer block housings | |
| Prefix for ball bores | S |
| Two sloped cent holes for attachment bolts No holes for attachment bolts (only for housings made of superalloy/graphite cast iron) | |
| Series | SNLN |
| Standard plummer block housing | |
| Material | D |
| Grey cast iron Substrate of lighter cast iron | |
| Size identification | 3024 EN |
| Bearing for bearings in the 30 (for 40) diameter series Size code of the bearing: (B) × D = bearing bore diameter [mm] | |
| Suffixes | |
| 7 | |
| 8 | |

Designation chart to decode housing designations

More SKF housings and units

Application specific housings

The SKF design and manufacturing capabilities for bearing housings are not limited to the products described in this catalogue. SKF has supplied bearing and housing solutions for various applications including:

- main shaft support for wind turbines
- rudder or drive shaft support for ships
- rail bound vehicles
- moveable bridges
- housings for split bearings
- housings for converters in steel making

Customized housings

SKF can design custom housings using state-of-the-art finite element analysis. Prior to prototyping, SKF engineers can add their bearing, and seal expertise and confirm the integrity of the system on a virtual test rig. SKF housing manufacturing facilities are able to produce bearing housings for nearly all SKF rolling bearings.

Y-bearing units

Y-bearing units consist of a housing, a deep groove ball bearing, seals or shields and grease. These ready to mount units are available in a variety of shapes and sizes. For additional information about these products, visit skf.com/bearings.

Previous housing series

Some housing series are no longer available and are not listed in this catalogue. If replacement parts are required, especially for housings in the SOFN or SDG series, contact SKF.

This is SKF

From one simple but inspired solution to a misalignment problem in a textile mill in Sweden, and fifteen employees in 1907, SKF has grown to become a global industrial knowledge leader. Over the years, we have built on our expertise in bearings, extending it to seals, mechatronics, services and lubrication systems. Our knowledge network includes 46 000 employees, 15 000 distributor partners, offices in more than 130 countries, and a growing number of SKF Solution Factory sites around the world.



Research and development

We have hands-on experience in over forty industries based on our employees' knowledge of real life conditions. In addition, our world-leading experts and university partners pioneer advanced theoretical research and development in areas including tribology, condition monitoring, asset management and bearing life theory. Our ongoing commitment to research and development helps us keep our customers at the forefront of their industries.



SKF Solution Factory makes SKF knowledge and manufacturing expertise available locally to provide unique solutions and services to our customers.

Meeting the toughest challenges

Our network of knowledge and experience, along with our understanding of how our core technologies can be combined, helps us create innovative solutions that meet the toughest of challenges. We work closely with our customers throughout the asset life cycle, helping them to profitably and responsibly grow their businesses.

Working for a sustainable future

Since 2005, SKF has worked to reduce the negative environmental impact from our operations and those of our suppliers. Our continuing technology development resulted in the introduction of the SKF BeyondZero portfolio of products and services which improve efficiency and reduce energy losses, as well as enable new technologies harnessing wind, solar and ocean power. This combined approach helps reduce the environmental impact both in our operations and our customers' operations.



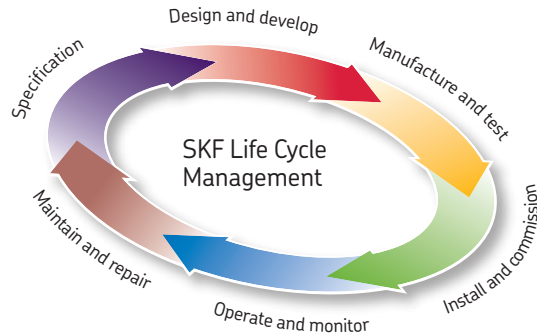
Working with SKF IT and logistics systems and application experts, SKF Authorized Distributors deliver a valuable mix of product and application knowledge to customers worldwide.



SKF – the knowledge engineering company

Our knowledge – your success

SKF Life Cycle Management is how we combine our technology platforms and advanced services, and apply them at each stage of the asset life cycle, to help our customers to be more successful, sustainable and profitable.



Working closely with you

Our objective is to help our customers improve productivity, minimize maintenance, achieve higher energy and resource efficiency, and optimize designs for long service life and reliability.

Innovative solutions

Whether the application is linear or rotary or a combination, SKF engineers can work with you at each stage of the asset life cycle to improve machine performance by looking at the entire

application. This approach doesn't just focus on individual components like bearings or seals. It looks at the whole application to see how each component interacts with each other.

Design optimization and verification

SKF can work with you to optimize current or new designs with proprietary 3-D modelling software that can also be used as a virtual test rig to confirm the integrity of the design.



Bearings

SKF is the world leader in the design, development and manufacture of high performance rolling bearings, plain bearings, bearing units and housings.



Machinery maintenance

Condition monitoring technologies and maintenance services from SKF can help minimize unplanned downtime, improve operational efficiency and reduce maintenance costs.



Sealing solutions

SKF offers standard seals and custom engineered sealing solutions to increase uptime, improve machine reliability, reduce friction and power losses, and extend lubricant life.



Mechatronics

SKF fly-by-wire systems for aircraft and drive-by-wire systems for off-road, agricultural and forklift applications replace heavy, grease or oil consuming mechanical and hydraulic systems.



Lubrication solutions

From specialized lubricants to state-of-the-art lubrication systems and lubrication management services, lubrication solutions from SKF can help to reduce lubrication related downtime and lubricant consumption.



Actuation and motion control

With a wide assortment of products – from actuators and ball screws to profile rail guides – SKF can work with you to solve your most pressing linear system challenges.



SKF bearing housings – overview, selection and application recommendations

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Basics

The purpose of a bearing housing is to:

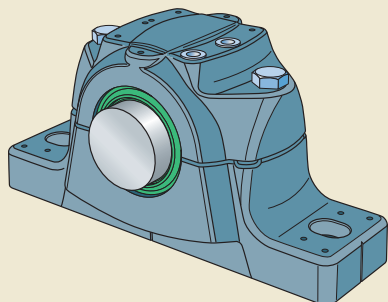
- support the bearing and transmit operating static and dynamic loads
- protect the bearing and lubricant from contaminants
- contain the lubricant and accommodate lubrication system components
- accommodate monitoring system components
- maximize the performance and service life of the incorporated bearings

Terminology

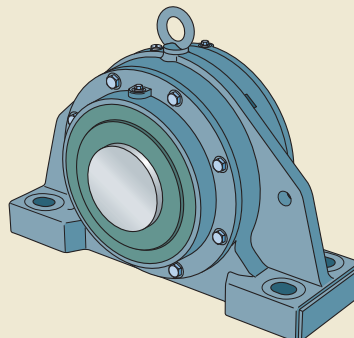
An overview of the terminology used in this catalogue is provided in **figs. 1 to 4**:

- types of bearing housings and bearing units (→ **fig. 1**)
- split plummer (pillow) block housings (→ **fig. 2**)
- housing and shaft arrangements (→ **figs. 3 and 4**)

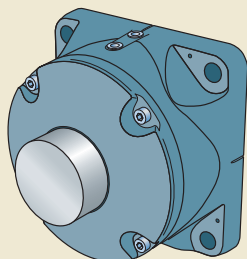
Fig. 1



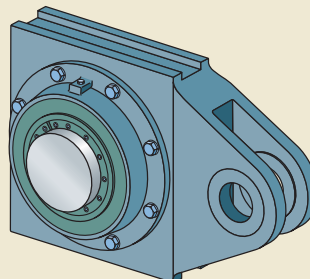
Split plummer (pillow) block housing



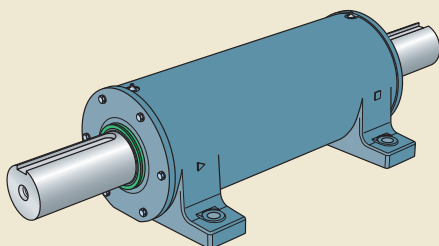
Non-split plummer (pillow) block housing



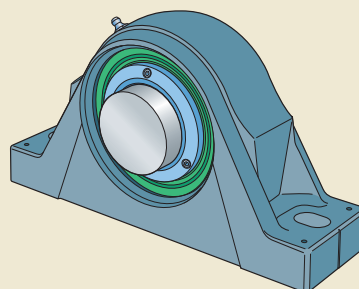
Flanged housing



Take-up housing



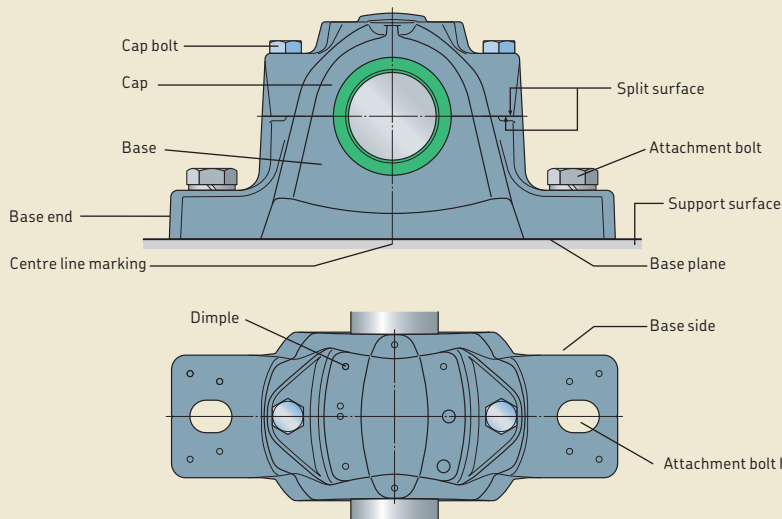
Two-bearing housing



Roller bearing unit

Fig. 2

SE plummer (pillow) block housing



SONL plummer (pillow) block housing

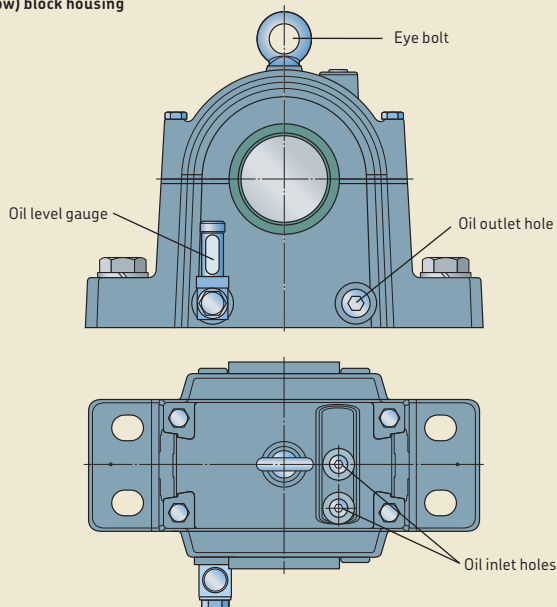


Fig. 3

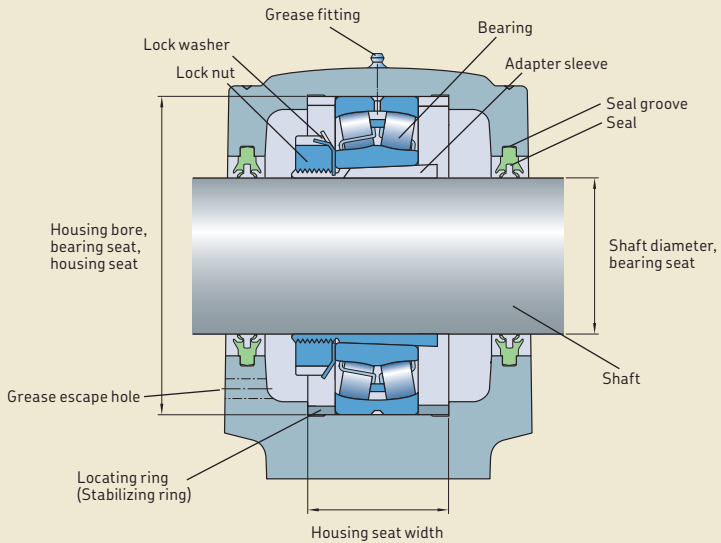
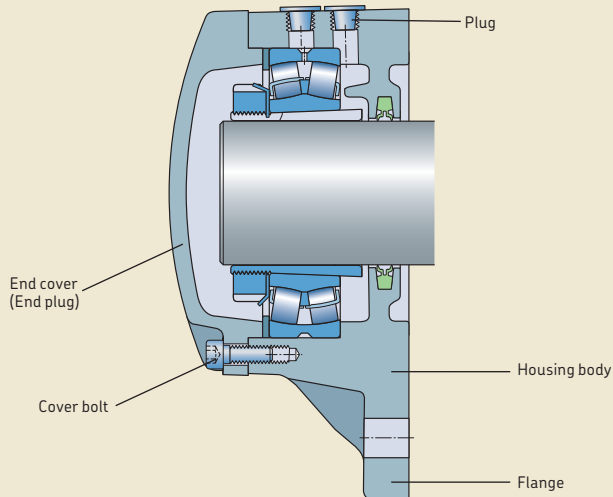
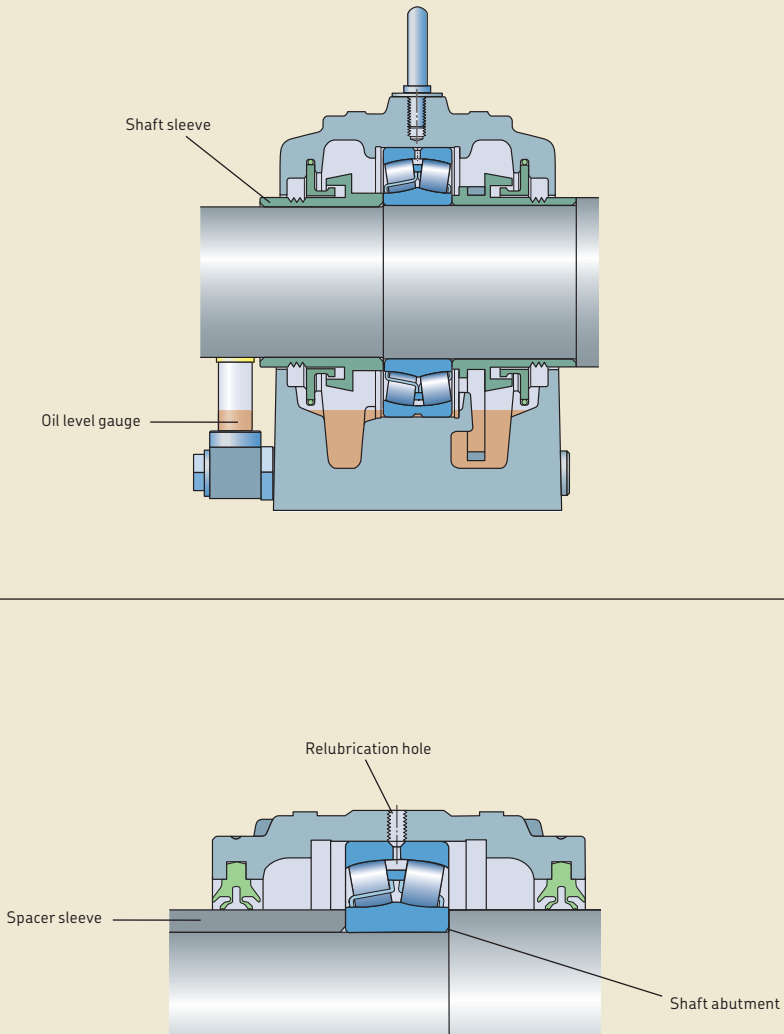
SE plummer (pillow) block housing**FNL flanged housing**

Fig. 4



Overview of SKF bearing housings

Assortment

The comprehensive assortment of SKF bearing housings is provided in **tables 1 to 4**, starting on **page 30**. SKF can also supply custom housings for specific applications and requirements. For additional information, contact the SKF application engineering service.

Split plummer (pillow) block housings

The main benefit of split plummer (pillow) block housings (→ **fig. 5**) is that they can accommodate preassembled shafts. Also, these housings simplify bearing inspections and maintenance because the shaft does not need to be disassembled.

The assortment of split plummer block housings is provided in **table 1** on **page 30**. Application-specific housings are provided in **table 4** on **page 34**.

Non-split plummer (pillow) block housings

Non-split plummer (pillow) block housings (→ **fig. 6**) are preferred when there are heavy loads acting in directions other than toward the support surface. They are also used when the housing has to be mounted from the end of the shaft.

The assortment of non-split plummer block housings is provided in **table 2** on **page 32**. Application-specific housings are provided in **table 4** on **page 34**.

Flanged housings

Flanged housings (→ **fig. 7**) provide a solution for applications that do not have a frame parallel to the shaft. The assortment of flanged housings is provided in **table 2** on **page 32**.

Fig. 5



Fig. 6

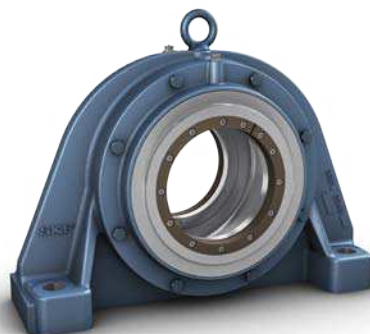


Fig. 7



Take-up housings

Take-up housings (→ **fig. 8**) are typically used to maintain the tension in conveyor belt applications and are mounted onto a guide frame.

The assortment of take-up housings is provided in **table 2** on **page 32**.

Two-bearing housings

Two-bearing housings (→ **fig. 9**) have intrinsically aligned bearing seats. As a result, they can accommodate rigid bearings, such as deep groove ball bearings, angular contact ball bearings and cylindrical roller bearings. Two-bearing housings are typically used in applications with an overhanging load.

The assortment of two-bearing housings is provided in **table 2** on **page 32**.

Roller bearing units

Roller bearing units consist of a bearing, housing, lubricant and seals as well as a mechanism to lock the bearing inner ring onto the shaft (→ **fig. 10**). These ready-to-mount units are assembled, lubricated and sealed at the factory for maximum service life. Bearing units require very little maintenance. They are also easy to install and replace. Once a unit is bolted to its support surface, only the grub (set) screws in the collar need to be tightened.

The assortment of roller bearing units is provided in **table 3** on **page 33**.

Application-specific housings

Application-specific housings have features that enable them to be used in special operating conditions. The assortment of application-specific housings is provided in **table 4** on **page 34**.

Fig. 8



Fig. 9

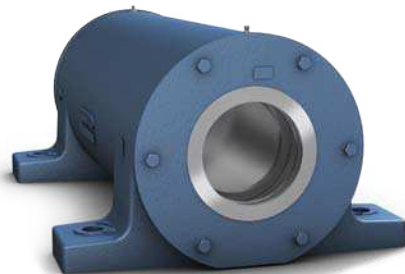


Fig. 10



Housing materials

SKF housings are typically made of either grey cast iron or spheroidal graphite cast iron. For information about the material options available for a particular housing type, refer to **tables 1 to 4**, starting on **page 30**, or the relevant product chapter.

Grey cast iron

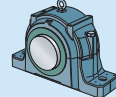
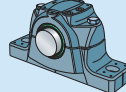
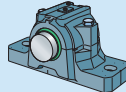
Grey cast iron is the standard material for most SKF housings and is sufficient for the majority of applications. It is characterized by high strength, good damping capability and good thermal conductivity.

Spheroidal graphite cast iron

Spheroidal graphite cast iron contains graphite nodules, making it ductile. It therefore provides a higher degree of strength and toughness than grey cast iron. On average, housings made of spheroidal graphite cast iron can withstand 1,8 times heavier loads compared to housings made of grey cast iron.

SKF bearing housings – overview, selection and application recommendations

Split plummer (pillow) block housings



| Series | SNL 2, 3, 5 and 6 | SE 2, 3, 5 and 6 | SNLN 30 |
|----------------------------------|-----------------------------------|-------------------------------|--------------------------|
| Chapter | 2 | 3 | 4 |
| Bearing types | | | |
| Self-aligning ball bearing | ✓ | ✓ | – |
| Spherical roller bearing | ✓ | ✓ | ✓ |
| CARB bearing | ✓ | ✓ | ✓ |
| Shaft diameter range | | | |
| from [mm] | 20 and 60 | 30 | 110 |
| to [mm] | 30 and 160 | 75 | 280 |
| from [in.] | $\frac{3}{4}$ and $2\frac{3}{16}$ | $\frac{15}{16}$ | – |
| to [in.] | 1 and $5\frac{1}{2}$ | $2\frac{1}{2}$ | – |
| Shaft-bearing combination | | | |
| Bearing on an adapter sleeve | ✓ | ✓ | ✓ |
| Bearing on a withdrawal sleeve | ✓ | ✓ | ✓ |
| Bearing on a cylindrical seat | ✓ | ✓ | ✓ |
| Sealing solutions | | | |
| Lip seal | ✓ | ✓ | ✓ ¹⁾ |
| Radial shaft seal | – | – | – |
| V-ring seal | ✓ | ✓ | ✓ ¹⁾ |
| Felt seal | ✓ | ✓ | ✓ ¹⁾ |
| Labyrinth seal | ✓ | ✓ | ✓ |
| Taconite heavy-duty seal | ✓ | ✓ | ✓ |
| Multi-seal | – | – | – |
| Lubrication | | | |
| Grease | ✓ | ✓ | ✓ |
| Oil | optional | optional ²⁾ | – |
| Materials | | | |
| Grey cast iron | standard | standard | standard |
| Spheroidal graphite cast iron | optional | optional | optional |
| Cast steel | – | – | – |
| Mounting | | | |
| No attachment bolts | ✓ | ✓ | ✓ |
| Two-bolt mounting | ✓ | ✓ | ✓ |
| Four-bolt mounting | ✓ | ✓ | ✓ |
| Eight-bolt mounting | – | – | – |
| Supersedes (SKF) | SNH, SNA, SN | SNL 2,3,5 and 6, SNH, SNA, SN | SN 30 |
| Replacement for (non-SKF) | ISO 113 standard housing | ISO 113 standard housing | ISO 113 standard housing |

¹⁾ Not available for sizes 34 and above.

²⁾ For sizes 518 to 532 circulating oil only.

Overview of SKF bearing housings

Table 1

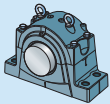
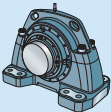
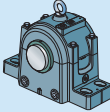
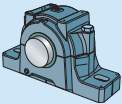
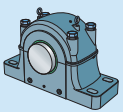
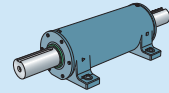
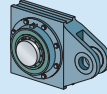
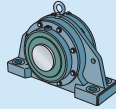
|  |  |  |  |  |
|---|---|---|---|---|
| SNL 30, 31 and 32 | SED | SONL | SAF, SAW | SDAF |
| 5 | 6 | 7 | 8 | 9 |
| - ✓ ✓ | - ✓ ✓ | ✓ ✓ ✓ | ✓ ✓ ✓ | - ✓ ✓ |
| 115 530 4 ^{7/16} 19 ^{1/2} | 430 900 - - | 75 240 2 ^{15/16} 8 ^{15/16} | 40 220 1 ^{3/16} 10 ^{1/2} | 85 530 2 ^{15/16} 20 |
| ✓ ✓ ✓ | ✓ - ✓ | ✓ - ✓ | ✓ - ✓ | ✓ - ✓ |
| - - - ✓ ✓ - | - - - - ✓ | - - - ✓ - - | - ✓ - ✓ ✓ - | - ✓ - ✓ ✓ - |
| ✓ ✓ | ✓ ✓ | - ✓ | ✓ ✓ | ✓ ✓ |
| standard optional - | - standard - | standard optional - | standard optional optional | standard optional optional |
| - - ✓ - | - - - ✓ | - - ✓ - | - ✓ ✓ - | - - ✓ - |
| SD, SDD | - | SOFN 2, 5 | - | - |
| ISO 113 standard housing | - | - | - | - |

Table 2

Non-split housings



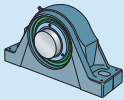
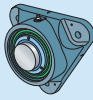
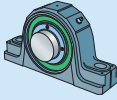
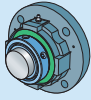
| Series | SBD | THD | FNL | PD |
|----------------------------------|----------|----------|-----------------|-----------------|
| Chapter | 10 | 10 | 11 | 12 |
| Bearing types | | | | |
| Self-aligning ball bearing | – | – | ✓ | – |
| Spherical roller bearing | ✓ | ✓ | ✓ | ✓ |
| CARB bearing | ✓ | ✓ | ✓ | – |
| Other | – | – | – | ✓ ¹⁾ |
| Shaft diameter range | | | | |
| from [mm] | 60 | 50 | 20 | 25 |
| to [mm] | 420 | 400 | 100 | 120 |
| from [in.] | – | – | – | – |
| to [in.] | – | – | – | – |
| Shaft-bearing combination | | | | |
| Bearing on an adapter sleeve | ✓ | ✓ | ✓ | – |
| Bearing on a withdrawal sleeve | – | – | – | – |
| Bearing on a cylindrical seat | ✓ | ✓ | – | ✓ |
| Sealing solutions | | | | |
| Lip seal | – | – | ✓ | – |
| V-ring seal | – | – | – | ✓ |
| Felt seal | – | – | – | ✓ |
| Labyrinth seal | ✓ | ✓ | – | – |
| Lubrication | | | | |
| Grease | ✓ | ✓ | ✓ | ✓ |
| Oil | – | – | – | optional |
| Materials | | | | |
| Grey cast iron | optional | optional | standard | standard |
| Spheroidal graphite cast iron | standard | standard | – | – |
| Cast steel | optional | optional | – | – |
| Mounting | | | | |
| No attachment bolts | – | n/a | – | – |
| Two-bolt mounting | – | n/a | – | – |
| Four-bolt mounting | ✓ | n/a | ✓ ²⁾ | ✓ |
| Supersedes (SKF) | | | | |
| | – | – | 7225(00) | – |

¹⁾ Typical bearings include deep groove ball bearings, angular contact ball bearings, and cylindrical roller bearings.

²⁾ Housings with a triangular flange have three attachment bolts.

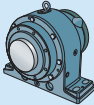
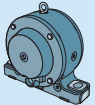
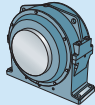
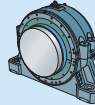
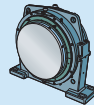
Table 3

Roller bearing units

| |  |  |  |  |
|-----------------------------|---|---|---|---|
| Series | SYNT | FYNT | SYE .. N, SYR .. N, FSYE | FYE, FYR, FYRP |
| Chapter | 16 | 16 | 17 | 17 |
| Bearing types | | | | |
| Self-aligning ball bearing | – | – | – | – |
| Spherical roller bearing | ✓ | ✓ | ✓ | ✓ |
| CARB bearing | – | – | – | – |
| Shaft diameter range | | | | |
| from [mm] | 35 | 35 | – | – |
| to [mm] | 100 | 100 | – | – |
| from [in.] | – | – | 1 7/16 | 1 7/16 |
| to [in.] | – | – | 4 15/16 | 4 |
| Locking method | | | | |
| SKF ConCentra | ✓ | ✓ | ✓ | ✓ |
| Locking collar | – | – | ✓ | ✓ |
| Sealing solutions | | | | |
| Lip seal | ✓ | ✓ | ✓ | ✓ |
| Radial shaft seal | ✓ | – | ✓ | ✓ |
| Labyrinth seal | ✓ | – | ✓ | ✓ |
| Lubrication | | | | |
| Grease | ✓ | ✓ | ✓ | ✓ |
| Oil | – | – | – | – |
| Materials | | | | |
| Grey cast iron | ✓ | ✓ | ✓ | ✓ |
| Mounting | | | | |
| No attachment bolts | – | – | – | – |
| Two-bolt mounting | ✓ | – | ✓ | – |
| Four-bolt mounting | – | ✓ ¹⁾ | ✓ | ✓ |
| Supersedes (SKF) | SYT | – | – | – |

¹⁾ Housings with a triangular flange have three attachment bolts.

Table 4

| Application-specific housings | | | | | |
|----------------------------------|---|---|---|---|--|
| |  |  |  |  |  |
| Series | SBPN | SBFN | SDM | SKND | FSDR |
| Chapter | 13 | 13 | 13 | 14 | 15 |
| Application | Drying cylinder | Felt roll | Yankee cylinder | Converter trunnion | Mill trunnion |
| Bearing types | | | | | |
| Self-aligning ball bearing | – | – | – | – | – |
| Spherical roller bearing | ✓ | ✓ | ✓ | ✓ | ✓ |
| CARB bearing | ✓ | ✓ | ✓ | ✓ | – |
| Shaft diameter range | | | | | |
| from [mm] | 180 | 60 | 340 | 530 | 825 |
| to [mm] | 320 | 180 | 670 | 1 180 | 1 460 |
| from [in.] | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ |
| to [in.] | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ |
| Shaft-bearing combination | | | | | |
| Bearing on an unthreaded sleeve | – | – | – | – | ✓ ²⁾ |
| Bearing on a cylindrical seat | – | optional | – | ✓ | – |
| Bearing on a tapered seat | ✓ | ✓ | ✓ | – | – |
| Sealing solutions | | | | | |
| Lip seal | – | – | – | ✓ | – |
| V-ring seal | – | – | – | – | ✓ |
| Labyrinth seal | ✓ | ✓ | – | – | ✓ |
| Gap-type seal | – | – | ✓ | – | – |
| Lubrication | | | | | |
| Grease | – | – | – | ✓ | ✓ |
| Oil | ✓ | ✓ | ✓ | – | – |
| Materials | | | | | |
| Grey cast iron | ✓ | ✓ | ✓ | – | ✓ |
| Spheroidal graphite cast iron | – | – | – | ✓ | optional |
| Mounting | | | | | |
| No attachment bolts | – | – | – | – | – |
| Two-bolt mounting | – | ✓ | – | – | – |
| Four-bolt mounting | ✓ | optional | ✓ | ✓ | ✓ |
| Supersedes (SKF) | | | | | |
| | SBP | SBF ²⁾ | – | SDKD | – |

¹⁾ Contact SKF.

²⁾ Housings are still available.

Selecting a housing

When selecting a housing, many factors should be considered. The selection process depends not only on the bearing type and size but also on the ability of the housing to safely accommodate the magnitude and characteristics of all applied loads. Beside this, important considerations are mounting, maintenance, sealing options and bearing lubricant requirements.

Search for a housing

To identify housings that are suitable for a specific bearing type, size and shaft-bearing combination, use the *Bearing index*, starting on **page 742**, or the online application *SKF Housing Select*, available at skf.com/housings. Also keep in mind that a roller bearing unit may be the preferred solution (→ **table 5**). An online search facility for bearing units is also available at skf.com/housings.

Adjust the bearing selection

If there is no suitable housing for the selected bearing type or size, consider switching to a bearing that can be accommodated in a standard housing. The result will be a more cost-effective bearing/housing solution.

Select the final housing variant

Once a housing has been selected, be sure that the housing and available sealing solutions will accommodate the loads, shaft-bearing combination, lubrication method and operating conditions, e.g. type and level of contaminants. Consider all housing variants, including those with a non-standard seat tolerance or special seals. For unique requirements, contact the SKF application engineering service.

Table 5

| Housing equivalents | |
|---------------------|---|
| Housing series | Roller bearing unit |
| SNL 5 series | SKF ConCentra roller bearing units in the SYNT series |
| FNL series | SKF ConCentra roller bearing units in the FYNT series |

Environmental conditions

SKF housings are intended for both interior and exterior applications. The following corrosivity categories, in accordance with ISO 12944-2, are applicable for SKF housings:

- C2 for all housings except SE and SED plummer (pillow) block housings
- C3 for SE and SED plummer (pillow) block housings

Additional information about corrosivity categories is provided in **table 6**.

Custom painting / corrosivity category

The standard colour and corrosivity category of an SKF housing is indicated in the relevant product chapter. SKF housings can also be supplied in other colours and/or corrosivity categories (→ **table 6**) or according to customer specifications. Housings that have a non-standard painting requirement are identified by the designation suffix P followed by a unique two- or three-digit number e.g. SNL 510-608/P76.

If a housing is going to be repainted, SKF recommends taking the following precautions prior to painting:

- Cover all housing openings. For housings with seal grooves, place discs cut from cardboard or plastic in the seal grooves. This is particularly important because residual chemicals or abrasives from the preparation process can lead to premature bearing and seal damage.
- Remove all grease fittings and protect all threaded holes with plugs.
- To avoid any chemical attack of the surface when washing painted castings, follow the instructions from the supplier of the washing chemicals regarding concentration, temperature, and time. The paint is resistant to commonly used low alkaline washing chemicals.

Sealing solutions

The performance of a sealing arrangement is vital to the cleanliness of the lubricant and the service life of the bearings. The type of seal should be selected based on the lubricant type and operating speed but levels of contamination and misalignment should also be considered.

There is a wide assortment of SKF housing seals. Some housings can accommodate different types of seals, while other housings are designed for one specific sealing solution. For information about the sealing solutions available for a particular housing or roller bearing unit, refer to **tables 1 to 4**, starting on **page 30**, or the relevant product chapter. The properties, application conditions and suitability of each sealing solution are also provided in the relevant product chapter.

Converting circumferential to rotational speeds

To convert the circumferential speed limit of a sealing solution to the equivalent rotational speed, refer to **table 7**.

Table 6

Corrosivity categories¹⁾

| Corrosivity category | Examples of typical environments in a temperate climate | |
|--|--|---|
| | Exterior | Interior |
| C1 (very low) | – | Heated buildings with clean atmospheres, e.g. offices, shops, schools, hotels. |
| C2 (low) | Atmospheres with low levels of pollution. Typically inland rural areas. | Unheated buildings where condensation may occur, e.g. depots, sport halls. |
| C3 (medium) | Urban and industrial atmospheres with moderate levels of sulphur dioxide. Coastal areas with low salinity. | Production rooms with high humidity and some air pollution, e.g. food-processing plants, laundries, breweries, dairies. |
| C4 (high) | Industrial and coastal areas with moderate salinity. | Chemical plants, swimming pools, coastal ship- and boatyards. |
| C5-I (very high, industrial) | Industrial areas with high humidity and aggressive atmosphere. | Buildings or areas with almost permanent condensation and with high pollution. |
| C5-M (very high, marine) | Coastal and offshore areas with high salinity. ²⁾ | Buildings or areas with almost permanent condensation and with high pollution. |

¹⁾ In accordance with ISO 12944-2.

²⁾ In hot, humid coastal areas, the mass loss or thickness loss can exceed the limits of category C5-M and special precautions should be taken when selecting protective paint systems.

Table 7

Converting circumferential speed limits to rotational speeds

| Shaft diameter at the seal lip | Rotational speed for circumferential speed limits | | | | | |
|--------------------------------|---|-------|-------|-------|--------|--------|
| | 2 m/s | 4 m/s | 7 m/s | 8 m/s | 12 m/s | 13 m/s |
| mm | r/min | | | | | |
| 20 | 1 910 | 3 820 | 6 680 | 7 640 | 11 460 | 12 410 |
| 25 | 1 530 | 3 060 | 5 350 | 6 110 | 9 170 | 9 930 |
| 30 | 1 270 | 2 550 | 4 460 | 5 090 | 7 640 | 8 280 |
| 35 | 1 090 | 2 180 | 3 820 | 4 370 | 6 550 | 7 090 |
| 40 | 950 | 1 910 | 3 340 | 3 820 | 5 730 | 6 210 |
| 45 | 850 | 1 700 | 2 970 | 3 400 | 5 090 | 5 520 |
| 50 | 760 | 1 530 | 2 670 | 3 060 | 4 580 | 4 970 |
| 55 | 690 | 1 390 | 2 430 | 2 780 | 4 170 | 4 510 |
| 60 | 640 | 1 270 | 2 230 | 2 550 | 3 820 | 4 140 |
| 65 | 590 | 1 180 | 2 060 | 2 350 | 3 530 | 3 820 |
| 70 | 550 | 1 090 | 1 910 | 2 180 | 3 270 | 3 550 |
| 75 | 510 | 1 020 | 1 780 | 2 040 | 3 060 | 3 310 |

continues on next page

Converting circumferential speed limits to rotational speeds

| Shaft diameter at the seal lip | Rotational speed for circumferential speed limits | | | | | |
|-----------------------------------|--|-------|-------|-------|--------|--------|
| | 2 m/s | 4 m/s | 7 m/s | 8 m/s | 12 m/s | 13 m/s |
| mm | r/min | | | | | |
| 80 | 480 | 950 | 1 670 | 1 910 | 2 860 | 3 100 |
| 85 | 450 | 900 | 1 570 | 1 800 | 2 700 | 2 920 |
| 90 | 420 | 850 | 1 490 | 1 700 | 2 550 | 2 760 |
| 95 | 400 | 800 | 1 410 | 1 610 | 2 410 | 2 610 |
| 100 | 380 | 760 | 1 340 | 1 530 | 2 290 | 2 480 |
| 110 | 350 | 690 | 1 220 | 1 390 | 2 080 | 2 260 |
| 115 | 330 | 660 | 1 160 | 1 330 | 1 990 | 2 160 |
| 120 | 320 | 640 | 1 110 | 1 270 | 1 910 | 2 070 |
| 125 | 310 | 610 | 1 070 | 1 220 | 1 830 | 1 990 |
| 130 | 290 | 590 | 1 030 | 1 180 | 1 760 | 1 910 |
| 135 | 280 | 570 | 990 | 1 130 | 1 700 | 1 840 |
| 140 | 270 | 550 | 950 | 1 090 | 1 640 | 1 770 |
| 145 | 260 | 530 | 920 | 1 050 | 1 580 | 1 710 |
| 150 | 250 | 510 | 890 | 1 020 | 1 530 | 1 660 |
| 155 | 250 | 490 | 860 | 990 | 1 480 | 1 600 |
| 160 | 240 | 480 | 840 | 950 | 1 430 | 1 550 |
| 165 | 230 | 460 | 810 | 930 | 1 390 | 1 500 |
| 170 | 220 | 450 | 790 | 900 | 1 350 | 1 460 |
| 175 | 220 | 440 | 760 | 870 | 1 310 | 1 420 |
| 180 | 210 | 420 | 740 | 850 | 1 270 | 1 380 |
| 185 | 210 | 410 | 720 | 830 | 1 240 | 1 340 |
| 195 | 200 | 390 | 690 | 780 | 1 180 | 1 270 |
| 200 | 190 | 380 | 670 | 760 | 1 150 | 1 240 |
| 205 | 190 | 370 | 650 | 750 | 1 120 | 1 210 |
| 215 | 180 | 360 | 620 | 710 | 1 070 | 1 150 |
| 220 | 170 | 350 | 610 | 690 | 1 040 | 1 130 |
| 240 | 160 | 320 | 560 | 640 | 950 | 1 030 |
| 255 | 150 | 300 | 520 | 600 | 900 | 970 |
| 260 | 150 | 290 | 510 | 590 | 880 | 950 |
| 275 | 140 | 280 | 490 | 560 | 830 | 900 |
| 280 | 140 | 270 | 480 | 550 | 820 | 890 |
| 295 | 130 | 260 | 450 | 520 | 780 | 840 |
| 300 | 130 | 250 | 450 | 510 | 760 | 830 |
| 320 | 120 | 240 | 420 | 480 | 720 | 780 |
| 340 | 110 | 220 | 390 | 450 | 670 | 730 |
| 360 | 110 | 210 | 370 | 420 | 640 | 690 |
| 380 | 100 | 200 | 350 | 400 | 600 | 650 |
| 400 | 100 | 190 | 330 | 380 | 570 | 620 |
| 410 | 90 | 190 | 330 | 370 | 560 | 610 |
| 430 | 90 | 180 | 310 | 360 | 530 | 580 |
| 450 | 80 | 170 | 300 | 340 | 510 | 550 |
| 470 | 80 | 160 | 280 | 330 | 490 | 530 |
| 500 | 80 | 150 | 270 | 310 | 460 | 500 |

The SKF three-barrier solution

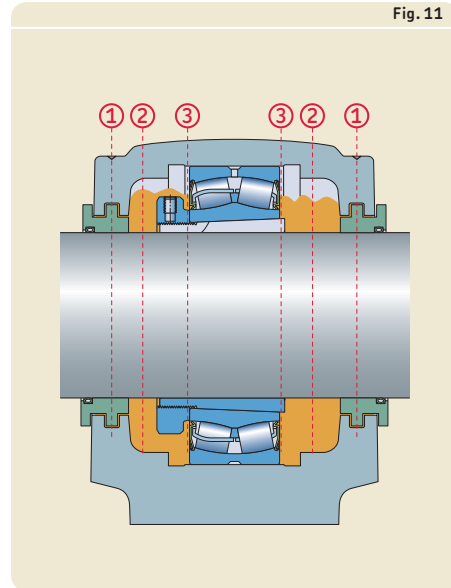
For highly contaminated environments, SKF recommends the three-barrier solution. This cost-effective sealing solution can have a significant impact on bearing service life as contaminants have to pass through three barriers to reach the bearing (→ **fig. 11**):

- 1st barrier – external housing seal
- 2nd barrier – housing grease
- 3rd barrier – integral bearing seal

The SKF three-barrier solution consists of a sealed SKF bearing, a housing with a 70 to 90% grease fill, and labyrinth housing seals.

Sealed bearings have integral contact seals that keep the lubricant in and contaminants out of the bearing cavity during operation. The seals also protect the bearing from the ingress of contaminants during installation. Using a sealed bearing also means that the grease used to fill the housing and labyrinth seals is independent of the lubrication requirements for the bearing. Therefore, environmentally friendly, biodegradable greases, such as SKF LGGB 2, can be used to fill the housing (→ skf.com/lubrication).

When the SKF self-aligning bearing system is used (→ **page 41**), the labyrinth seal for the CARB toroidal roller bearing should be replaced with a taconite seal.



Design considerations

SKF housings are typically designed for self-aligning ball bearings, spherical roller bearings and CARB toroidal roller bearings. These bearings are chosen because they are insensitive to initial misalignment, which normally occurs when the housings are spaced far apart.

Two-bearing housings have inherently aligned bearing seats and therefore can accommodate rigid bearings such as deep groove ball bearings, angular contact ball bearings and cylindrical roller bearings.

Bearing arrangements

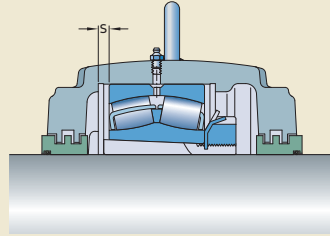
Locating/non-locating bearing arrangements

Conventional locating/non-locating bearing arrangements (→ **fig. 15**) are designed to accommodate thermal elongation of the shaft. In these systems, the non-locating bearing must be able to move axially on its seat in the housing.

SKF housings can accommodate bearings in both the locating and non-locating positions. Most standard housings have a bearing seat that is sufficiently wide to enable axial displacement of the non-locating bearing (→ **fig. 12**, "s"). When these housings are used in the locating position, locating (stabilizing) ring(s) should be used to secure the bearing axially in the housing (→ **fig. 13**).

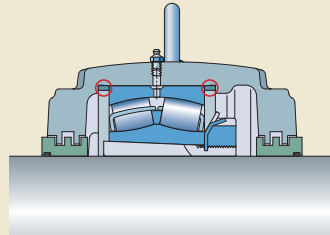
Some SKF housing series are available with a wide bearing seat for axial displacement, designation suffix L, and a bearing seat that matches the width of the bearing to locate it axially, designation suffix F (→ **fig. 14**).

Fig. 12



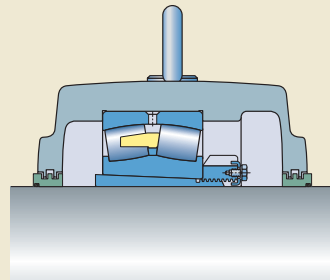
Wide bearing seat for the non-locating bearing position

Fig. 13



Locating bearing held axially by locating rings

Fig. 14



Locating bearing held axially by a matched bearing seat

The SKF self-aligning bearing system

To accommodate misalignment and shaft deflections, conventional self-aligning bearing arrangements use spacer self-aligning ball bearings in both the locating and non-locating bearing positions (→ **fig. 15**). To accommodate thermal elongation of the shaft in these arrangements, the non-locating bearing must be able to move axially on its seat in the housing. Any wear or damage to the housing seat results in a “stick-slip” condition that induces axial loads, friction, and heat into the bearing arrangement.

A better solution is to use a CARB toroidal roller bearing in the non-locating position (→ **fig. 15**). CARB bearings accommodate misalignment and shaft deflections. They also accommodate thermal elongation of the shaft within the bearing, with virtually no friction, to avoid induced axial loads.

Because CARB bearings do not accommodate axial loads, these bearings must always be secured axially in the housing, with either locating (stabilizing) rings or by using a housing variant with an F (or RA for some housings) in its designation suffix.

Compared to conventional self-aligning bearing arrangements, replacing the non-locating bearing with a CARB bearing increases the load carrying capacity of the bearing arrangement, enabling a more compact, and therefore lighter, bearing arrangement to be used. By virtually eliminating induced axial loads, vibration levels and temperatures are reduced and less grease is consumed, result-

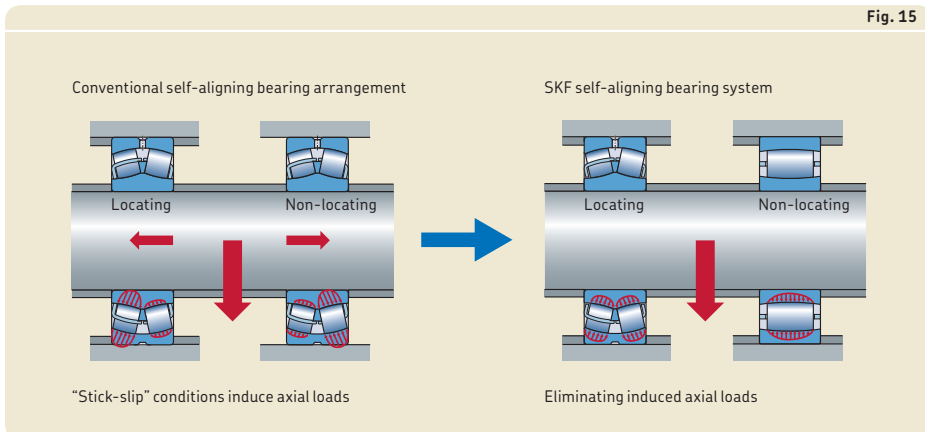
ing in less maintenance. The solution contributes to improved reliability and extended bearing service life.

Typical shaft-bearing combinations

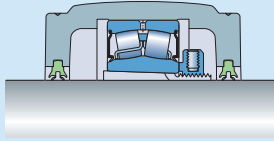
Bearings in SKF housings can be mounted either directly on a shaft or on a sleeve on the shaft. There are four typical combinations (→ **table 8, pages 42–43**):

- plain shaft with bearing on an adapter sleeve
- stepped shaft with bearing on an adapter sleeve
- stepped shaft with bearing on a withdrawal sleeve
- stepped shaft with bearing on a cylindrical seat

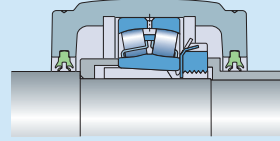
For information about the shaft-bearing combination alternatives for a particular housing type, refer to **tables 1 to 4**, starting on **page 30**, or the relevant product chapter.



Comparison of typical shaft-bearing combinations



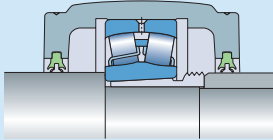
Plain shaft with bearing on an adapter sleeve



Stepped shaft with bearing on an adapter sleeve

| | | |
|---------------------------------|--|--|
| Shaft | <ul style="list-style-type: none"> • Machining not required, drawn round bars (h9 or better) can be used • Maximum shaft strength (no shoulders or undercuts) | <ul style="list-style-type: none"> • Machining required, typically two steps • Shaft strength weakened by shoulders |
| Bearing | <ul style="list-style-type: none"> • Bearing can be mounted at any position on the shaft • Internal clearance changes during mounting (proper drive-up required) • Axial load carrying capacity limited by the adapter sleeve | <ul style="list-style-type: none"> • Bearing position determined accurately by the stepped ring • Internal clearance changes during mounting (proper drive-up required) • Axial load carrying capacity limited by the shaft sleeve or adapter sleeve in one direction and by the bearing and housing in the other direction |
| Mounting and dismounting | <ul style="list-style-type: none"> • 40% less mounting force required compared to other sleeve mounted arrangements as friction only occurs between two mating surfaces | <ul style="list-style-type: none"> • Other components on the shaft can be located axially against the bearing on its sleeve via spacer sleeves • Easy dismounting as the bearing inner ring is in contact with the stepped ring |
| Applications | <ul style="list-style-type: none"> • Long shafts where more than two bearings are required for support • When the final position of the bearing cannot be accurately determined prior to mounting • When machine components are mounted using clamping or tensioning devices so that the shaft does not need to be machined | <ul style="list-style-type: none"> • Support of shaft ends • Frequent mounting and dismounting |

Table 8



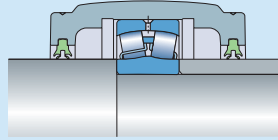
Stepped shaft with bearing on a withdrawal sleeve

- Machining required, typically two steps
- Shaft strength weakened by shoulders

- Bearing position determined accurately by the shaft shoulder
- Internal clearance changes during mounting (proper drive-up required)
- Axial load carrying capacity limited by the shaft sleeve or withdrawal sleeve in one direction and by the bearing and housing in the other direction

- Other components on the shaft can be located axially against the bearing on its sleeve via spacer sleeves
- Easy dismounting with a withdrawal sleeve and hydraulic nut

- Support of shaft ends
- Frequent mounting and dismounting



Stepped shaft with bearing on a cylindrical seat

- Machining required, typically two steps
- Shaft strength weakened by shoulders
- Largest shaft diameter for a given bearing size

- Bearing position determined accurately by the shaft shoulder
- Internal clearance determined by the shaft seat tolerance
- Axial load carrying capacity limited by the bearing and housing

- Other components can be located axially against the bearing via spacer sleeves
- Suitable when large numbers of bearings have to be mounted
- Simple axial locating by shaft nut

- Support of shaft ends
- Frequent mounting and dismounting
- Suitable for shock loads or where higher speeds or higher precision are required

Load carrying capacity

The load carrying capacity of a housing depends on many factors:

- the housing material and design and, where applicable, cap bolt strength
- the direction of the load
- the strength of the attachment bolts and support structure
- the condition of the support surface

SKF provides static housing load limits, either in the form of breaking loads or safe loads, for most housings. Where values are not provided, the load carrying capacity is higher for the housing than for the bearing.

Breaking loads can be used to calculate a permissible load, based on a selected safety factor. Safe loads already include a safety factor.

Special attention is required for split housings subjected to cyclic loads or dynamic imbalance. Under these conditions, cap bolt and housing cap strength (P_{180°) should be analyzed carefully. For additional information, contact the SKF application engineering service.

Breaking loads

For most SKF housings, guideline values for the breaking loads P are provided in the relevant product chapter. To obtain the permissible load for a housing, the guideline value should be divided by a factor based on the safety requirements and operating conditions of the application. In general engineering, a safety factor of 6 is typical. The permissible load can only be exploited if the housing is mounted properly and all bolts are tightened to the specified torque values. For split housings, the strength of the cap bolts should also be considered. A minimum safety factor of 2 against cap bolt yield should be used.

The load P_a is the axial breaking load of the housing. If the incorporated bearing is mounted on a sleeve, check the permissible axial load for the sleeve (→ *Axial load carrying capacity for bearings on a sleeve*).

Safe loads

In some regions, safe loads are used instead of breaking loads. These guideline values have been established using accepted engineering practices, taking safety and ultimate tensile strength of the materials into account. They reflect a safety factor of 5 against housing fracture, and where applicable, a minimum factor of 2 against cap bolt yield. The safe loads can only be fully exploited if the housing is mounted properly and all bolts are tightened to the correct torque values.

Axial load carrying capacity for bearings on a sleeve

When using a bearing on a sleeve on a plain shaft, the axial load carrying capacity is limited either by the bearing, sleeve or housing.

For the axial load carrying capacity of the bearing, refer to the product information available online at skf.com/bearings. For the sleeve, the permissible axial load to safely prevent slippage on the shaft is determined by the friction between the shaft and sleeve. Provided the bearing is mounted correctly (→ skf/mount.com), the permissible axial load can be calculated from

$$F_{ap} = 0,003 B d$$

where

F_{ap} = maximum permissible axial load

B = bearing width [mm]

d = bearing bore diameter [mm]

Information about the axial load carrying capacity of the housing is provided in the relevant product chapter.

Specifications for shafts and housing support surfaces

Shaft

Bearing seat

Recommended fits for bearings on solid steel shafts in cast iron housings are provided in the SKF catalogue *Rolling bearings* and are available online at skf.com/bearings.

If adapter or withdrawal sleeves are used, the sleeve seat on the shaft should be machined to tolerance class h9(Ⓔ) or better. The total radial runout should be IT5/2 for tolerance class h9(Ⓔ).

If bearings are to be mounted directly onto the shaft, the cylindricity tolerance and total runout tolerance of the bearing seat should, depending on the requirements, be one to two IT tolerance grades better than the prescribed dimensional tolerance. Abutments for bearing rings should have a perpendicularity tolerance and total axial runout tolerance that is at least one IT tolerance grade better than the diameter tolerance of the associated cylindrical seat.

Seal seat or counterface

Recommendations are provided in the relevant product chapter. Generally, seal counterfaces should be machined to tolerance class h9(Ⓔ) or better and the cylindricity should be to tolerance grade IT5.

Surface roughness

At the sleeve and seal positions, the shaft surface should have a surface roughness $R_a \leq 3,2 \mu\text{m}$ (125 $\mu\text{in.}$). Recommendations for the surface roughness of cylindrical bearing seats are provided in the SKF catalogue *Rolling bearings* and are available online at skf.com/bearings.

Housing support surface

To maximize bearing service life and prevent deformation of the housing bore, SKF recommends that the flatness of the housing support surface is to tolerance grade IT7 in accordance with ISO 1101. The surface should be finished to a surface roughness $R_a \leq 12,5 \mu\text{m}$ (500 $\mu\text{in.}$).

Lubrication

Grease selection

Grease selection is typically driven by the bearing and its operating conditions. The same grease can be used to fill the housing and lubricate the seal.

For information about SKF greases, refer to the product information available online at skf.com/lubrication. The SKF grease selection program *LubeSelect*, also available online at skf.com/lubrication, can be used to select an appropriate grease.

Biodegradable grease for housings with sealed bearings

If sealed bearings are used, the grease used to fill the housing and lubricate the housing seals does not need to be compatible with the grease inside the bearing. This is a good opportunity to use environmentally friendly grease such as SKF LGGB 2. It is a biodegradable, low toxicity grease. For additional information about this grease, refer to the product information available online at skf.com/lubrication.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 20 to 40% of its volume. A 40% grease fill is required when bearings have to be relubricated from the side, while a 20% grease fill is used when bearings are lubricated via the outer ring.

For highly contaminated environments and slow speeds, fill the housing to 70 to 80%. For the best protection against contaminants, use the SKF three-barrier solution (→ page 39).

Higher speeds can require a reduced grease fill. For additional information, contact the SKF application engineering service. Quantities for the initial grease fill are provided in the individual product chapters.

Relubrication

Grease escape holes

Bearing arrangements in housings that have contact seals, e.g. double-lip or four-lip seals, can be equipped with a grease escape hole to allow used, excess grease to be purged from the housing. The escape hole should be positioned on the side opposite the grease inlet and if applicable, on the same side as the lock nut. For long relubrication intervals, it is often sufficient to remove the housing cap or cover and remove the old grease.

Relubrication via the outer ring

CAUTION: Care should be taken when relubricating spherical roller bearings in the non-locating position via their lubrication feature in the outer ring. There is a risk that the lubrication groove of the bearing will not be aligned with the hole in the centre of the housing cap and the lubricant will not reach the bearing. This can be the case when narrow bearings are mounted in housings with a wide housing seat, e.g. spherical roller bearings in the 222 series mounted in SNL 5(00) series housings, and the application is subjected to large axial movements. Under these circumstances, the bearings should be relubricated from the side.



SKF tools and products

SKF has a wide assortment of lubrication tools and products for SKF bearing housings. A brief overview is provided here. For additional information, refer to the product information available online at mapro.skf.com and skf.com/lubrication.

Grease meter

The SKF grease meter LAGM 1000E (→ **fig. 16**) accurately measures grease discharge in volume or weight, and in both metric (cm^3 or g) and imperial (fl.oz. or oz.) units. It is suitable for all SKF bearing greases with a consistency class of up to 3 on the NLGI scale.

Automatic lubricators

Automatic lubricators can prevent both over and under-greasing.

SKF SYSTEM 24 lubricators (→ **fig. 17**) are automatic single point lubricators suitable for a wide range of applications and operating conditions. They are compact, easy to install and have a transparent container to check the amount of lubricant that is available. There are two series of lubricators: Gas driven lubricators include LAGD 60 (60 ml) and LAGD 125 (125 ml); Electro-mechanical driven lubricators include LAGE 125 (122 ml) and LAGE 250 (250 ml).

The SKF MultiPoint lubricator LAGD 400 (→ **fig. 18**) is a centralized automatic lubricator that simultaneously lubricates up to eight points. It is compact, easy to install and has a transparent container to check the amount of lubricant that is available.



Fig. 17

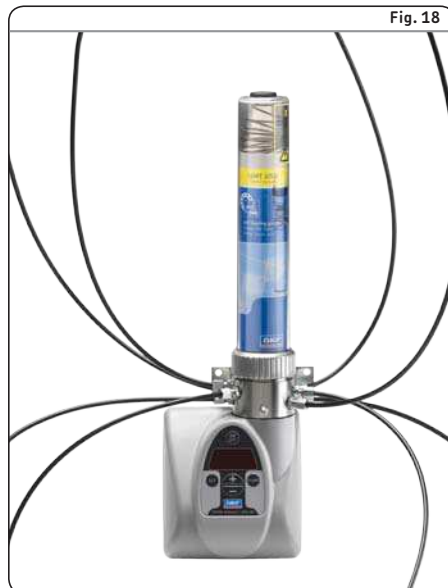


Fig. 18

SKF bearing housings – overview, selection and application recommendations

Oil levellers

SKF oil levellers LAHD 500 (→ **fig. 19**) and LAGH 1000 are designed to automatically adjust the oil level in a bearing housing. The levellers allow the oil level to be adjusted during operation, optimizing machine performance and increasing the service life of the bearings. The transparent container enables the oil level to be inspected.

Adapters to change connection threads

The assortment of adapters in the LAPN series (→ **fig. 20**) are available, to convert, for example, from a 1/8 – 27 NPSF thread to a G 1/4 thread.

Caps and tags for grease fittings

TLAC 50 caps and tags provide a space to properly identify the lubrication point(s) on a bearing housing as well as protect the grease fittings from the ingress of contaminants (→ **fig. 21**). The labels can also be used in conjunction with the SKF Lubrication Planner.

Centralized lubrication systems

The SKF Multilube pumping unit (→ **fig. 22**) is a compact, all-in-one unit for lubricating individual machines and equipment. Designed for indoor and outdoor use, the unit is suitable for all pumpable oils and greases and can be used in single line, dual line and progressive lubrication systems.

Circulating oil lubrication concept

Oil circulation lubrication is needed in applications where the lubrication point (bearing) must be cooled while lubricated. An oil circulation system consists of a pumping station with a large oil reservoir and oil flow meters.

SKF Flowline reservoir (→ **fig. 23**) is round in shape and the plate construction inside improves the oil movement so much, that the efficiency is over 90%. This means, the reservoir size can be reduced even down to 1/3 of the traditional reservoir and still the real retention time of the oil is the same or better. Plate construction makes water and air separation very effective and the oil remains in very good condition, which means longer bearing life.



Savings in the oil purchase and handling costs are significant and the entire pumping station can be installed in the space taken by the old reservoir only.

Oil flow meters are always needed as a part of an oil circulation system to regulate and monitor oil flow. SKF Flowline Monitor is a digital oil flow meter, where the measurement is viscosity compensated and the reading by clear numbers is always correct, independent of temperature. On-line monitoring and setting parameters can also be done remotely.

Fig. 22



Fig. 21



Fig. 23



Mounting

Mounting instructions are supplied with most SKF bearing housings, or with the corresponding seal kit. For additional information about mounting, refer to the *SKF bearing maintenance handbook* or the information available online at skf.com/mount.

Preparations prior to mounting

Mounting housings (and bearings) requires care, accuracy and the appropriate tools. Prior to mounting, do the following:

- Make sure that the work area is clean.
- Study any drawings or instructions to determine the correct order in which to assemble the various components.
- Make sure that all the necessary components and tools are at hand.
- Clean the support surface.
- Check that the support surface meets the requirements for flatness (→ *Specifications for shafts and housing support surfaces*, page 45).
- Check that the shaft seats and seal counterfaces meet the requirements for dimensional and form accuracy, roughness and hardness (→ *Specifications for shafts and housing support surfaces*, page 45).
- Chamfer or round any shaft edges over which a seal lip will pass.

SKF tools and products

The SKF assortment of mounting tools and products includes mechanical tools, hydraulic tools, heating equipment and gloves. For additional information, refer to the product information available online at mapro.skf.com.

Lifting housings

Many SKF bearing housings are supplied with eye bolts for safe and easy handling. The eye bolts are designed to support the weight of the housing only, and not the incorporated bearing or shaft.

When lifting, make sure that the eye bolts are only subjected to load in the direction of the shank axis. The load should be evenly distributed across the number of eye bolts.

Attachment bolt tightening

Applying the specified torque to a bolt during installation is extremely important. Improper torque values can lead to machinery movement during operation. This can cause misalignment between machine parts, which will eventually lead to premature damage to bearings and other components.

Recommended tightening torque values are provided in the product chapters and are based on bolt manufacturers' recommendations.

All bolts should be tightened with an accurate torque wrench (in at least two stages) or a hydraulic bolt tensioner. SKF recommends using a HYDROCAM hydraulic bolt tensioner in applications where the attachment bolt has an end protruding above the tightening nut. These tensioners reduce the risk of over tightening and enable bolts to be installed accurately without the need of a torque wrench. The tensioners also provide uniform assembly preload or uniform bolt elongation.

Using shims

Shims can be used to raise the centre height of a housing. SKF recommends using shims made of stainless sheet steel with sufficient strength and the ability to withstand corrosion from several media. Shims made from soft metals like copper or brass typically compress over time, causing looseness, which can eventually lead to misalignment. Whenever possible, use only one shim and never stack more than three shims.

CAUTION: Make sure that the shim covers the complete contact surface between the housing base and the support surface (→ fig. 23). If shims are placed under the housing feet only, the bearing seat can distort.

Using locating (stabilizing) rings

A bearing in the locating position must be secured axially in the housing. If the bearing seat in the housing and the bearing width do not match, locating (stabilizing) rings (→ fig. 24) are required. Typically, two locating rings are required per housing. One ring should be placed on each side of the bearing. If only one locating ring is required, it should be installed on the same side as the lock nut. When placing

a locating ring in position, make sure that the open end of the locating ring is facing up.

CARB toroidal roller bearings, which are used exclusively in the non-locating position, require locating rings when the bearing seat in the housing and the bearing width do not match. For information about which locating rings are required for a bearing in a particular housing, refer to the relevant product chapter.

Installing seals

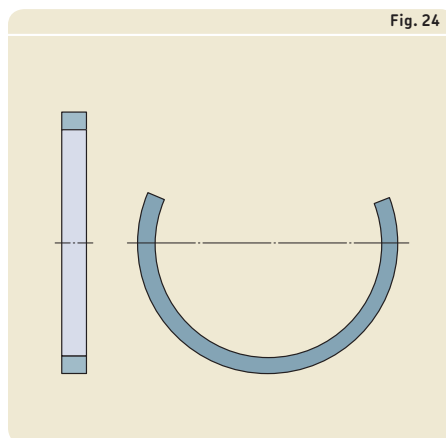
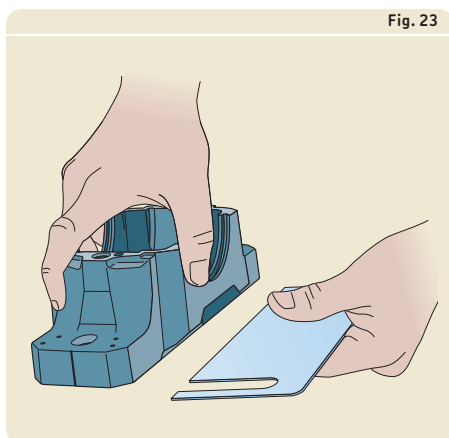
The seal counterface should meet the specifications for surface roughness and roundness (→ *Specifications for shafts and housing support surfaces*, page 45), and should be clean. If the counterface shows any signs of wear, repair it. This can be done easily with an SKF SPEEDI-SLEEVE or a large diameter wear sleeve (LDSLVL). If repair is not possible, replace the shaft.

In general, the seal and counterface should be coated lightly with the lubricant used in the application.

When installing seals, make sure that the seal is oriented correctly. Many seals are not symmetrical and can be installed to either exclude contaminants or retain the lubricant.

Split seals consist of two halves, which can be installed around the shaft. They are easier to replace and can ease mounting.

Felt seals should be soaked in hot oil prior to installation.



Inspection and condition monitoring

SKF housings and roller bearing units should be inspected regularly for damage and lubricant leaks. SKF also recommends a visual inspection of the seals, plugs, bolts and housing joints. The frequency of these inspections depends on the operating conditions and potential downtime consequences but should be done as part of a regularly scheduled maintenance program.

Where oil bath lubrication is used, the oil level should be monitored regularly. During operation, the oil level may drop below the minimum level. If that should happen, and oil needs to be added while the machine is running, keep the oil level well below the maximum oil level on the indicator or overfilling can result.

For additional information about inspection techniques and corrective maintenance actions, refer to the *SKF bearing maintenance handbook*.

SKF also recommends monitoring the condition of all bearings on a regular or continuous basis to detect early signs of bearing damage. Trending the condition of the bearing makes it possible to analyze the root cause of an impending failure, and plan for corrective action. Trending can also eliminate unplanned downtime. The most reliable way to do condition monitoring is through vibration analysis.

Vibration analysis

Many SKF housings are prepared for condition monitoring and are supplied with drilled and tapped holes to accommodate sensors. For other housings, dimples indicate the position where sensors can be located. For information about the condition monitoring possibilities for a particular housing type, refer to the relevant product chapter.

SKF has a comprehensive assortment of vibration detection, analysis and diagnostic products, from light hand-held instruments to fully integrated monitoring systems. For additional information, refer to the product information available online at skf.com/cm.

Storage

SKF housings, roller bearing units and associated components, including the seals, should be stored under controlled temperature and humidity conditions in a clean, dry environment. Variations in temperature and humidity should be avoided but gradual, seasonal variations of a gradual nature are acceptable. As a general rule, SKF recommends the following storage conditions:

- temperature: < 30 °C (< 85 °F) for long-term storage
- relative humidity: < 60%
- If peaks above 65% occur regularly, a dehumidifier is required.
- temperature fluctuation: max. 3 °C / 48 hours

Under these conditions, housings can be stored for up to 10 years. Roller bearing units should not be subjected to vibration during storage as this could cause false brinelling damage to the bearing. Depending on the actual storage conditions, the lubricating properties of the initial grease fill might deteriorate. Generally SKF roller bearing units should not be stored for more than 3 years.



Split plummer block housings SNL 2, 3, 5 and 6 series

Bearing types

- Self-aligning ball bearings
- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 02, 03, 22, 23, 32

Shaft diameter range

- 20 to 30 mm and 60 to 160 mm
- 3/4 to 1 1/8 in. and 2 1/2 to 5 1/2 in.

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seals

- Four-lip
- Labyrinth
- Felt
- V-ring
- Heavy-duty

Lubrication

- Grease

Materials

- Grey cast iron
- Spheroidal graphite cast iron

Mounting

- Two-bolt mounting
- Four-bolt mounting

Compliance to standards

- ISO 113
(two-bolt plummer block housings)

Supersedes

- SN, SNA, SNH series

SNL plummer block housings are the most popular SKF bearing housings on the market, developed to be the first choice for design, quality and economy.

SNL plummer block housings enable the incorporated bearings to achieve maximum service life with less need for maintenance. Different housing variants and seal designs are available, making the use of tailored housings virtually unnecessary and enabling cost-effective bearing arrangements to be made.

For sizes 507 up to and including 515-612, SNL housings are replaced by a new generation of plummer block housings (→ *Split plummer block housings SE 2, 3, 5 and 6 series*, starting on **page 139**). From size 516-613 upward, SNL plummer block housings in the 2, 3, 5 and 6 series remains.

Split plummer block housings SNL 2, 3, 5 and 6 series

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Designations

Designation system for SNL plummer (pillow) block housings

SNL 518-615 SN

Prefixes for bolt holes

| | |
|---|---|
| – | Two oblong cast holes for attachment bolts |
| F | Four oblong cast holes for attachment bolts |
| S | No holes for attachment bolts (drilled holes can be supplied) |

Series

| | |
|-----|--------------------------------|
| SNL | Standard plummer block housing |
|-----|--------------------------------|

Material

| | |
|---|-------------------------------|
| – | Grey cast iron |
| D | Spheroidal graphite cast iron |

Size identification

| | |
|--------|---|
| 2(00) | Housing for bearings on a cylindrical seat, diameter series 2 |
| 3(00) | Housing for bearings on a cylindrical seat, diameter series 3 |
| 5(00) | Housing for bearings on an adapter sleeve, diameter series 2 |
| 6(00) | Housing for bearings on an adapter sleeve, diameter series 3 |
| ..(00) | Size code of the bearing, (00) x 5 = bearing bore diameter [mm] |

Suffixes¹⁾

| | |
|------|---|
| V | Grease escape hole in the housing base |
| TURU | Housing prepared for oil lubrication, including seals |
| T | Drilled and tapped hole 1/4-28 UNF at one side of the housing cap to lubricate a seal. Grease fitting AH 1/4-28 SAE-LT supplied with the housing |
| TD | Drilled and tapped hole 1/4-28 UNF at both sides of the housing cap to lubricate the seals. Two grease fittings AH 1/4-28 SAE-LT supplied with the housing |
| SN | Drilled and tapped M8 hole for sensor in position 3 (→ fig. 16, page 83) |
| /MS1 | Two drilled holes for attachment bolts |
| /MS2 | Four drilled holes for attachment bolts |

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Split plummer block housings SNL 2, 3, 5 and 6 series

Designation system for seals

TSN 518 L

Series

| | |
|------------|---|
| TSN | Seal for SNL plummer block housings |
| FS | Felt strip |
| FSB | Felt strip for high operating temperature |

Size identification

| | |
|--------------|---|
| 2(00) | Housing for bearings with a cylindrical bore, diameter series 2 |
| 3(00) | Housing for bearings with a cylindrical bore, diameter series 3 |
| 5(00) | Housing for bearings on an adapter sleeve, diameter series 2 |
| 6(00) | Housing for bearings on an adapter sleeve, diameter series 3 |
| (00) | Size code of the bearing, (00) x 5 = bearing bore diameter [mm] |
| ... | For felt strips only, number indicating the length of the strip |

Seal type

| | |
|-----------|--|
| A | V-ring seal |
| C | Felt seal |
| CB | Felt seal for high operating temperature |
| L | Four-lip seal |
| S | Labyrinth seal |
| NB | Taconite heavy-duty seal with axial labyrinth and V-ring seal |
| NC | Taconite heavy-duty seal with axial labyrinth |
| ND | Taconite heavy-duty seal with radial labyrinth and V-ring seal |

Indication for an inch shaft

| | |
|-------------|---------------------|
| A, E | Seal for inch shaft |
|-------------|---------------------|

Designation system for end covers

ASNH 518-615

Series

| | |
|-------------|--|
| ASNH | End cover for SNL plummer block housings |
|-------------|--|

Size identification

| | |
|------------|-----------------------------|
| ... | Housing size identification |
|------------|-----------------------------|

Designation system for locating rings

FRB 17.5/160

Series

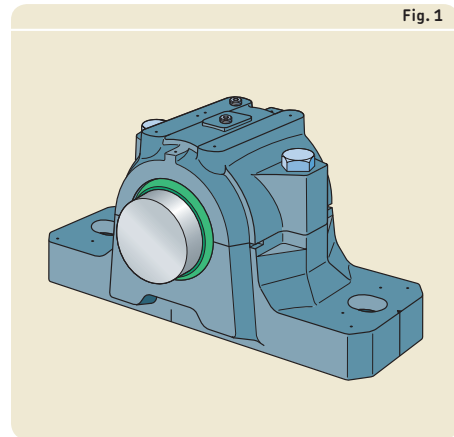
| | |
|------------|--|
| FRB | Locating ring for SKF bearing housings |
|------------|--|

Size identification

| | |
|------------|--|
| ... | Width and outside diameter of the locating ring [mm] |
|------------|--|

Standard housing design

SNL plummer (pillow) block housings in the 2, 3, 5 and 6 series are split housings consisting of a cap and base (→ **fig. 1**). They have two holes cast into the base for attachment bolts. The housings are designed on the “building block” principle to enable a wider choice of bearings and seals as well as a variety of shaft-bearing combinations.



Split plummer block housings SNL 2, 3, 5 and 6 series

Features and benefits

SNL plummer block housings in the 2, 3, 5 and 6 series have the following features and benefits:

Stiff housing

The housing base is reinforced with ribs and has extra material surrounding the holes for the attachment bolts (→ **fig. 2**). The attachment bolts can be preloaded to locate the housing without deforming the housing base or bore.

Good heat dissipation

Additional ribs in the housing base (→ **fig. 3**) increase the contact area between the housing base and the support surface to improve the heat flow from the bearing outer ring to the support surface.

Grease guiding system

For more efficient relubrication from the side, SNL housings from sizes 216 and 516-613 upwards have an integrated flange that guides grease from the grease fitting directly to the bearing (→ **fig. 4**).

Caps and bases individually marked

The housing cap and base are matched during manufacture and are not interchangeable with the caps and bases of other housings. To prevent any mismatches, a unique serial number is marked on both the housing cap and the base (→ **fig. 5**).

Dimples to locate accessories

Dimples cast into the housing cap indicate where grease fittings and condition monitoring sensors can be mounted for maximum effectiveness (→ **fig. 6**).

Simple mounting

To simplify mounting and make alignment more accurate, lines indicating the centre of the bearing seat and the housing bore axis are cast into the housing base. Dimples indicate the position for dowel pins (→ **fig. 7**). Mounting instructions are supplied with each seal pack.

Housings from size 524-620 and above are supplied with an eye bolt on the cap for safe and easy handling.

Fig. 2

Reinforcement rib in the base

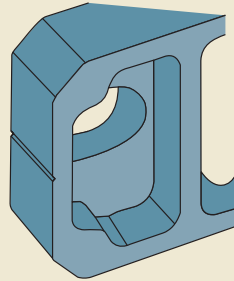


Fig. 3

Extra rib for better heat conduction

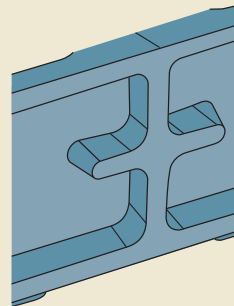


Fig. 4

Grease guiding system

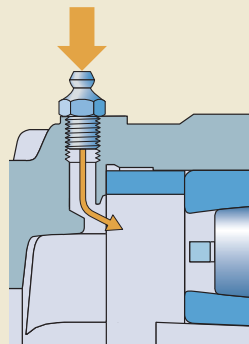


Fig. 5

Individually marked cap and base

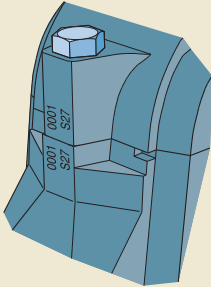


Fig. 6

Dimples indicate positions for accessories

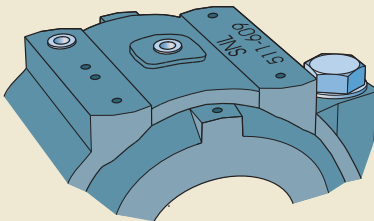
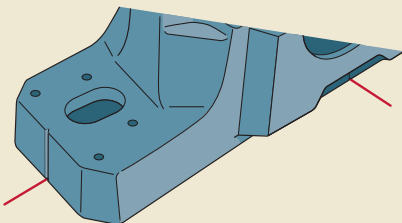


Fig. 7

Cast indications mark the centre of the housing bore



Housing material

SNL housings are made of grey cast iron.

Paint, corrosion protection

SNL housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating and engine oils, cutting fluids or alkalescent washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Dimension standards

Boundary dimensions are in accordance with ISO 113 for two-bolt plummer block housings.

Interchangeability

SNL plummer block housings in the 2, 3, 5 and 6 series are dimensionally interchangeable with the earlier SN, SNA and SNH series.

Housing variants

In addition to standard design SNL plummer (pillow) block housings, a number of variants are also available. Variants include housings made of different materials, alternative attachment bolt hole configurations, different bearing seat tolerance classes and modifications for special applications.

Housing material

For applications where extra strength is needed, SNL housings are also available in spheroidal graphite cast iron. Housings made of spheroidal graphite cast iron are available from size 516-613 and are supplied with a solid base (no

holes for attachment bolts) as standard. From size 516-613 the housings can be supplied with four oblong holes cast in the base. All housings made of spheroidal graphite cast iron can be supplied with two drilled holes for attachment bolts (designation suffix /MS1).

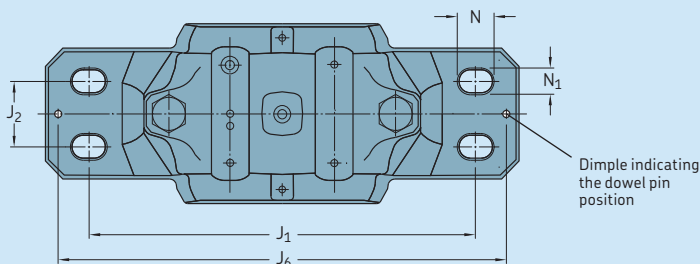
Attachment bolt holes

SNL plummer block housings can be supplied with the following bolt hole configurations:

- four cast holes
Dimensions are listed in **table 1**. These housings are designated FSNL.

Table 1

Dimensions for four cast attachment bolt holes



| Housing Size | | Dimensions | | | | | Attachment bolts | |
|--------------|--------------|------------|----------------|----------------|----------------|----------------|------------------|---------------------------------|
| | | N | N ₁ | J ₁ | J ₂ | J ₆ | Size | Tightening torque ¹⁾ |
| | | mm | | | | | | |
| FSE 211 | FSE 511-609 | 20 | 15 | 210 | 35 | 234 | M 12 | 80 |
| FSE 212 | FSE 512-610 | 20 | 15 | 210 | 35 | 234 | M 12 | 80 |
| FSE 213 | FSE 513-611 | 20 | 15 | 230 | 40 | 252 | M 12 | 80 |
| FSE 215 | FSE 515-612 | 20 | 15 | 230 | 40 | 257 | M 12 | 80 |
| FSNL 216 | FSNL 516-613 | 24 | 18 | 260 | 50 | 288 | M 16 | 200 |
| FSNL 217 | FSNL 517 | 24 | 18 | 260 | 50 | 292 | M 16 | 200 |
| FSNL 218 | FSNL 518-615 | 24 | 18 | 290 | 50 | 317 | M 16 | 200 |
| | FSNL 519-616 | 24 | 18 | 290 | 50 | 317 | M 16 | 200 |
| | FSNL 520-617 | 24 | 18 | 320 | 60 | 348 | M 16 | 200 |
| | FSNL 522-619 | 24 | 18 | 350 | 70 | 378 | M 16 | 200 |
| | FSNL 524-620 | 24 | 18 | 350 | 70 | 378 | M 16 | 200 |
| | FSNL 526 | 28 | 22 | 380 | 70 | 414 | M 20 | 385 |
| | FSNL 528 | 32 | 26 | 420 | 80 | 458 | M 24 | 665 |
| | FSNL 530 | 32 | 26 | 450 | 90 | 486 | M 24 | 665 |
| | FSNL 532 | 32 | 26 | 470 | 90 | 506 | M 24 | 665 |

¹⁾ Recommended by bolt manufacturers.

- four drilled holes

These variants are available for housings with two cast bolt holes, designation SNL, and for housings made of spheroidal graphite cast iron with a solid base, designation SSNLD.

Dimensions are listed in **table 2**. These housings have the designation suffix /MS2.

All two-bolt housings have dimples, which mark the bolt hole positions for four-bolt mounting.

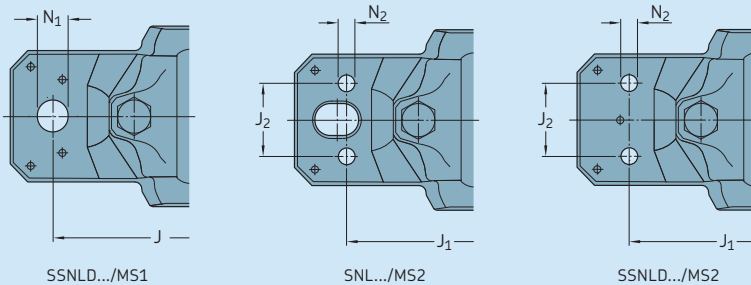
- two drilled holes

This variant is available for housings made of spheroidal graphite cast iron with a solid base, designation SSNLD.

Dimensions are listed in **table 2**. The housings have the designation suffix /MS1.

Table 2

Dimensions for drilled attachment bolt holes



| Housing Size | Two drilled holes (/MS1) | | | | Four drilled holes (/MS2) | | | | |
|-------------------|--------------------------|----------------|-----------------------|-------|---------------------------|----------------|----------------|-----------------------|------|
| | Dimensions J | N ₁ | Appropriate bolt size | | Dimensions J ₁ | J ₂ | N ₂ | Appropriate bolt size | |
| – | mm | – | – | in. | mm | – | – | – | in. |
| SNL 205 | – | – | – | – | 114 | 25 | 9 | M 8 | 5/16 |
| SNL 206-305 | – | – | – | – | 130 | 29 | 9 | M 8 | 5/16 |
| SE 207 | – | – | – | – | 138 | 29 | 9 | M 8 | 5/16 |
| SE 208-307 | – | – | – | – | 160 | 34 | 11 | M 10 | 3/8 |
| SE 209 | – | – | – | – | 160 | 34 | 11 | M 10 | 3/8 |
| (S)SE(D) 210 | 170 | 15 | M 12 | 1/2 | 160 | 34 | 11 | M 10 | 3/8 |
| (S)SE(D) 211 | 210 | 18 | M 16 | 5/8 | 200 | 40 | 14 | M 12 | 1/2 |
| (S)SE(D) 212 | 210 | 18 | M 16 | 5/8 | 200 | 40 | 14 | M 12 | 1/2 |
| (S)SE(D) 213 | 230 | 18 | M 16 | 5/8 | 220 | 48 | 14 | M 12 | 1/2 |
| (S)SE(D) 215 | 230 | 18 | M 16 | 5/8 | 220 | 48 | 14 | M 12 | 1/2 |
| (S)SNL(D) 216 | 260 | 22 | M 20 | 3/4 | 252 | 52 | 18 | M 16 | 5/8 |
| (S)SNL(D) 217 | 260 | 22 | M 20 | 3/4 | 252 | 52 | 18 | M 16 | 5/8 |
| (S)SNL(D) 218 | 290 | 22 | M 20 | 3/4 | 280 | 58 | 18 | M 16 | 5/8 |
| (S)SNL(D) 518-615 | 290 | 22 | M 20 | 3/4 | 280 | 58 | 18 | M 16 | 5/8 |
| (S)SNL(D) 519-616 | 320 | 26 | M 24 | 7/8 | 300 | 66 | 18 | M 16 | 5/8 |
| (S)SNL(D) 522-619 | 350 | 26 | M 24 | 7/8 | 320 | 74 | 18 | M 16 | 5/8 |
| (S)SNL(D) 524-620 | 350 | 26 | M 24 | 7/8 | 330 | 74 | 18 | M 16 | 5/8 |
| (S)SNL(D) 526 | 380 | 28 | M 24 | 1 | 370 | 80 | 22 | M 20 | 3/4 |
| (S)SNL(D) 528 | 420 | 35 | M 30 | 1 1/4 | 400 | 92 | 26 | M 24 | 7/8 |
| (S)SNL(D) 530 | 450 | 35 | M 30 | 1 1/4 | 430 | 100 | 26 | M 24 | 7/8 |
| (S)SNL(D) 532 | 470 | 35 | M 30 | 1 1/4 | 450 | 100 | 26 | M 24 | 7/8 |

Split plummer block housings SNL 2, 3, 5 and 6 series

Bearing seat tolerance

SNL
b
c
r
t
F
a

Housings for oil lubrication

F
p
f
s
ho

s 16-613. The housing with oil seals is identified by the suffix TURU, e.g. SNL 524 URU.

SNL plummer block housings have a small oil sump. Be careful not to overfill the sump, or leaks can result. SONL plummer block housings are specially designed for oil lubrication and may be more advantageous. For detailed information refer to *Split plummer block housings SONL series* (→ [page 349](#)).

Sealing solutions

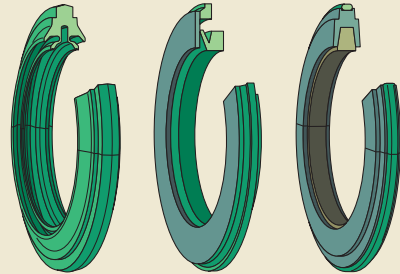
SNL plummer (pillow) block housings are available with different standard sealing solutions (→ [fig. 8](#)):

- four-lip seals (TSN .. L)
- V-ring seals (TSN .. A)
- felt seals (TSN .. C) or felt strips (FS 170)
- labyrinth seals (TSN .. S)
- taconite heavy-duty seals (TSN .. ND)
- end covers (ASNH ..)

Table 3 provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, and does not substitute for testing a seal in its application.

Fig. 8

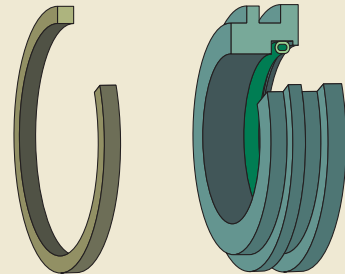
Standard sealing solutions for SNL plummer block housings in the 2, 3, 5 and 6 series



Four-lip seal
TSN .. L

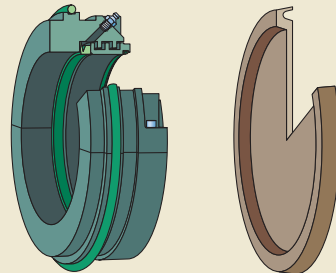
V-ring seal
TSN .. A

Felt seal
TSN .. C



Felt strip
FS 170

Labyrinth ring
TSN .. S



Taconite heavy-duty seal
TSN .. ND

End cover
ASNH ...

Table 3

Standard sealing solutions for SNL plummer block housings



Seal

| Type | Four-lip split | V-ring | Felt seal split | Felt strip split | Labyrinth | Taconite | End cover |
|----------------|-----------------------------------|-----------------------|--------------------------------|-----------------------|-----------------|-----------------------|-------------|
| Designation | TSN .. L | TSN .. A | TSN .. C | FS 170 | TSN .. S | TSN .. ND | ASNH .. |
| Material | thermoplastic polyester elastomer | nitrile rubber, steel | felt, nitrile rubber, aluminum | felt | steel, silicone | steel, nitrile rubber | polymer |
| Seals per pack | 2 seals | 2 seals | 2 seals | 1 strip ²⁾ | 1 seal | 1 seal | 1 end cover |

Application conditions and requirements

| | | | | | | | |
|--|-------------|------------------|-----------------|-----------------|-------------|-------------|-------------|
| Temperature | -40 to +100 | -40 to +100 | -40 to +100 | -40 to +100 | -50 to +200 | -40 to +100 | -40 to +110 |
| Temperature [°F] | -40 to +210 | -40 to +210 | -40 to +210 | -40 to +210 | -60 to +390 | -40 to +210 | -40 to +230 |
| Max. circumferential speed ¹⁾ [m/s] | 13 | 7 ²⁾ | 4 ²⁾ | 4 ²⁾ | not limited | 12 | n/a |
| Max. misalignment [°] | 1 to 0,5 | 1,5 to 1 | 0,5 | 0,5 | 0,3 | 0,5 | n/a |
| Low friction | ++ | ++ | - | - | ++ | + | n/a |
| Axial shaft displacement | ++ | - | ++ | ++ | + | + | n/a |
| Vertical arrangement | + | ++ ³⁾ | -- | -- | -- | - | ++ |
| Replacement | ++ | - | + | + | - | - | ++ |
| Shaft tolerance class | h9(E) | n/a | h9(E) | h9(E) | h9(E) | h9(E) | n/a |
| Shaft roughness R _a [µm] | ≤ 3,2 | n/a | ≤ 3,2 | ≤ 3,2 | ≤ 3,2 | ≤ 3,2 | n/a |

Sealing suitability

| | | | | | | | |
|----------------------|----|----|----|----|----|----|----|
| Dust | ++ | + | - | - | - | ++ | ++ |
| Fine particles | ++ | + | - | - | + | ++ | ++ |
| Coarse particles | ++ | + | + | + | + | ++ | ++ |
| Chips | + | -- | + | + | ++ | ++ | ++ |
| Liquids when sprayed | + | + | - | - | -- | ++ | ++ |
| Direct sunlight | + | -- | ++ | ++ | ++ | ++ | ++ |

Symbols: n/a not applicable, ++ very suitable, + suitable, - limited suitability, -- unsuitable

¹⁾ To convert circumferential speeds to rotational speeds → table 7, page 37

²⁾ Higher speeds are possible. For details, refer to the text about the relevant seal.

³⁾ For details see text about the relevant seal.

Four-lip seals

Four-lip seals replace the former double-lip seals (TSN .. G). When compared to double-lip seals, the new seals are more effective. They also generate less friction, which enables higher shaft speeds. Four-lip seals are horizontally split and easy to mount.

The permissible angular misalignment for seals mounted on shafts ≤ 100 mm in diameter is approximately 1° and approximately $0,5^\circ$ for larger shafts.

V-ring seals

V-ring seals consist of a V-ring and a sheet steel sealing washer with a vulcanized rubber lip. The rubber lip fits into the seal groove in the housing. The washer is protected against corrosion.

V-rings can accommodate circumferential speeds up to 7 m/s. For circumferential speeds between 7 and 12 m/s, they should be located axially on the shaft. At speeds above 12 m/s, a support ring must be used to prevent the seal from lifting. Recommended dimensions for appropriate support rings for axial and radial location are provided in **table 4**. Housing sizes 205 to 211 and 306 to 314 cannot be used with a support ring and are therefore not suitable for V-ring seals at operating speeds above 7 m/s.

The permissible angular misalignment for V-ring seals is approximately $1,5^\circ$ for a 50 mm shaft decreasing to approximately 1° for shaft diameters ≥ 150 mm.

The axial movement of the shaft relative to the housing is limited to ± 1 mm for shaft diameters up to 65 mm, to approximately $\pm 1,2$ mm for shaft diameters up to 100 mm and to approximately $\pm 1,5$ mm for larger shaft diameters.

For arrangements with a vertical shaft, the V-ring of the lower seal should be mounted inside the housing.

Felt seals or strips

Felt seals or strips are simple and effective. At circumferential speeds above 4 m/s, a small gap forms between the felt and shaft, transforming the contact seal into a non-contact, gap-type seal.

In applications where bearings are mounted on a plain shaft with an adapter sleeve, split felt ring seals are typically used.

If the bearings are to be installed on a stepped shaft with a cylindrical seat (housing sizes 205 to 218 inclusive), loose felt strips can be used. The strips are 170 mm in length. They should be cut to the correct length and soaked in hot oil for a few minutes prior to mounting. The required number of strips per housing (for both sides) is listed in the product tables (\rightarrow **pages 86 to 137**).

Labyrinth seals

For applications where there are high speeds or extreme temperatures, SKF recommends using labyrinth seals. Labyrinth rings, mounted on the shaft, form a multi-stage labyrinth seal with the housing seal grooves. Hollow, silicone rubber cords (2×4 mm), supplied with the rings, hold the rings in place on the shaft.

Taconite heavy-duty seals with a radial labyrinth

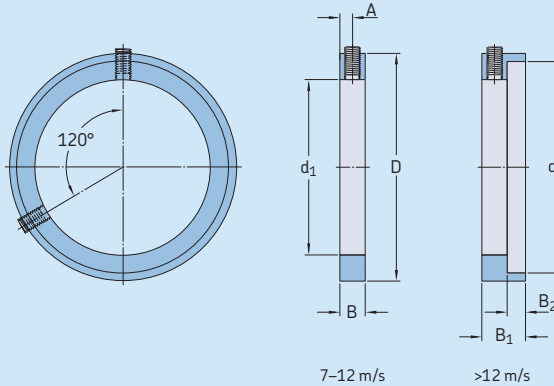
For bearing arrangements that must operate under highly contaminated conditions, such as those encountered in mining, taconite heavy-duty seals, which can be filled with grease, are recommended. Grease enhances the sealing effect and extends the service life of the seals.

Taconite heavy-duty seals are labyrinth seals combined with a V-ring seal. The inner ring of the labyrinth seal is solid but the outer ring is split. They can be relubricated via a grease fitting in the main body of the seal.

The axial movement of the shaft relative to the housing is limited to ± 1 mm for shaft diameters up to 65 mm, approximately $\pm 1,2$ mm for shaft diameters up to 100 mm and $\pm 1,5$ mm for larger shaft diameters.

Table 4

Recommended dimensions for support rings for V-ring seals



| Shaft diameter $d_a, d_b^{1)}$ | Dimensions | | | | | | Grub screw to DIN 913 | V-ring seal Standard designation | Alternative designation | |
|-----------------------------------|------------|-------|----|-------|-------|-----------------|--------------------------|--|----------------------------|-----------|
| | d_1 | d_2 | B | B_1 | B_2 | D | | | | A |
| – | mm | | | | | | – | – | – | |
| 20 | 20 | 27,2 | 5 | 8,5 | 3,5 | 30 | 2,5 | M 3×5 | 20 VAR | CR 400200 |
| 25 | 25 | 32,1 | 5 | 8,5 | 3,5 | 35 | 2,5 | M 3×5 | 25 VAR | CR 400250 |
| 30 | 30 | 37,2 | 5 | 8,5 | 3,5 | 40 | 2,5 | M 3×5 | 30 VAR | CR 400300 |
| 35 | 35 | 42,2 | 5 | 8,5 | 3,5 | 45 | 2,5 | M 3×5 | 35 VAR | CR 400350 |
| 40 | 40 | 49,1 | 7 | 11,5 | 4,5 | 53 | 3,5 | M 4×5 | 40 VAR | CR 400400 |
| 45 | 45 | 54 | 7 | 11,5 | 4,5 | – ²⁾ | 3,5 | M 4×5 | 45 VAR | CR 400450 |
| 50 | 50 | 59,1 | 7 | 11,5 | 4,5 | – ²⁾ | 3,5 | M 4×5 | 50 VAR | CR 400500 |
| 55 | 55 | 64,1 | 7 | 11,5 | 4,5 | – ²⁾ | 3,5 | M 4×5 | 55 VAR | CR 400550 |
| 60 | 60 | 69,1 | 7 | 11,5 | 4,5 | – ²⁾ | 3,5 | M 4×5 | 60 VAR | CR 400600 |
| 65 | 65 | 74,1 | 7 | 11,5 | 4,5 | – ²⁾ | 3,5 | M 4×5 | 65 VAR | CR 400650 |
| 70 | 70 | 81 | 9 | 15 | 6 | 84 | 4,5 | M 5×6 | 70 VAR | CR 400700 |
| 75 | 75 | 86 | 9 | 15 | 6 | 89,5 | 4,5 | M 5×6 | 75 VAR | CR 400750 |
| 80 | 80 | 91 | 9 | 15 | 6 | 94,5 | 4,5 | M 5×6 | 80 VAR | CR 400800 |
| 85 | 85 | 96 | 9 | 15 | 6 | 100 | 4,5 | M 5×6 | 85 VAR | CR 400850 |
| 90 | 90 | 101 | 9 | 15 | 6 | 105 | 4,5 | M 5×6 | 90 VAR | CR 400900 |
| 95 | 95 | 106 | 9 | 15 | 6 | 109 | 4,5 | M 5×6 | 95 VAR | CR 400950 |
| 100 | 100 | 111 | 9 | 15 | 6 | 115 | 4,5 | M 5×6 | 100 VAR | CR 401000 |
| 110 | 110 | 122,9 | 10 | 17,5 | 7,5 | 128 | 5 | M 6×8 | 110 VAR | CR 401100 |
| 115 | 115 | 127,4 | 10 | 17,5 | 7,5 | 133 | 5 | M 6×8 | 110 VAR | CR 401100 |
| 125 | 125 | 138,1 | 10 | 17,5 | 7,5 | 143 | 5 | M 6×8 | 130 VAR | CR 401300 |
| 135 | 135 | 147,5 | 10 | 17,5 | 7,5 | 153 | 5 | M 6×8 | 130 VAR | CR 401300 |
| 140 | 140 | 152,9 | 10 | 17,5 | 7,5 | 158 | 5 | M 6×8 | 140 VAR | CR 401400 |
| 145 | 145 | 158,1 | 10 | 17,5 | 7,5 | 163 | 5 | M 6×8 | 150 VAR | CR 401500 |
| 155 | 155 | 167,5 | 10 | 18,5 | 8,5 | 173 | 5 | M 6×8 | 150 VAR | CR 401500 |
| 165 | 165 | 179,9 | 10 | 18,5 | 8,5 | 185,5 | 5 | M 6×8 | 170 VAR | CR 401700 |
| 175 | 175 | 189,3 | 10 | 18,5 | 8,5 | 195 | 5 | M 6×8 | 170 VAR | CR 401700 |

¹⁾ d_a : shaft diameter for bearings on an adapter sleeve

d_b : shaft diameter for bearings on stepped shafts

²⁾ Contact the SKF application engineering service for more information.

End covers

Housings at the end of a shaft should have an end cover that fits into the seal groove in the housing.

For applications where temperatures exceed 110 °C (230 °F), steel end covers should be used. These can be cut from sheet steel and placed in the seal groove. Use a hollow silicone rubber cord to hold the cover in place. Seal groove dimensions are provided in **table 5**.

Details of the permissible length of the shaft end are listed in **table 6**.

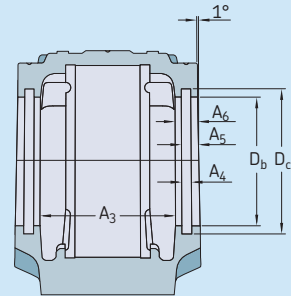
Using sealed bearings

Using sealed bearings in housings with standard seals is a good solution for highly contaminated environments. The sealed bearing together with the housing seal and grease provide three layers of protection (→ *SKF three-barrier solution*, **page 39**).

SNL housing seals can be used together with SKF sealed self-aligning bearings. When using taconite heavy-duty seals, a sealed bearing does not enhance the sealing effect during operation, but still protects the bearing against contaminants during mounting.

Table 5

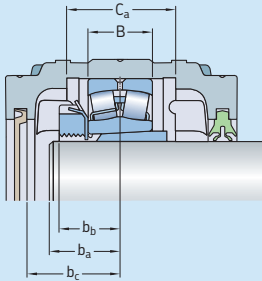
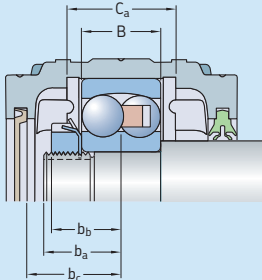
Seal groove dimensions



| Housing Size | Dimensions | | | | | |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | A ₃ | A ₄ | A ₅ | A ₆ | D _b | D _c |
| mm | | | | | | |
| SNL 205 | 44 | 5 | 7,5 | 10 | 36,5 | 44,5 |
| SNL 206-305 | 54 | 5 | 7,5 | 10 | 46,5 | 54,5 |
| SE 207 | 58 | 5 | 8 | 11 | 56,5 | 64,5 |
| SE 208-307 | 61 | 5 | 8 | 11 | 62 | 70,5 |
| SE 209 | 59 | 5 | 9 | 12 | 67 | 75,5 |
| SE 210 | 64 | 5 | 9 | 12 | 72 | 80,5 |
| SE 211 | 69 | 5 | 9 | 12 | 77 | 85,5 |
| SE 212 | 79 | 5 | 9 | 12 | 87 | 95,5 |
| SE 213 | 82 | 5 | 9 | 13 | 92,5 | 101 |
| SE 215 | 87 | 5 | 9 | 13 | 102,5 | 111 |
| SNL 216 | 92 | 5 | 9 | 13 | 108 | 116,5 |
| SNL 217 | 97 | 5 | 9 | 13 | 112 | 120,5 |
| SNL 218 | 112 | 5 | 9 | 13 | 120 | 128,5 |
| SNL 505 | 45 | 5 | 7,5 | 10 | 31,5 | 39,5 |
| SNL 506-605 | 55 | 5 | 7,5 | 10 | 36,5 | 44,5 |
| SE 507-606 | 59 | 5 | 8 | 11 | 46,5 | 54,5 |
| SE 508-607 | 62 | 5 | 8 | 11 | 51,5 | 59,5 |
| SE 509 | 60 | 5 | 9 | 12 | 56,5 | 64,5 |
| SE 510-608 | 65 | 5 | 9 | 12 | 62 | 70,5 |
| SE 511-609 | 70 | 5 | 9 | 12 | 67 | 75,5 |
| SE 512-610 | 80 | 5 | 9 | 12 | 72 | 80,5 |
| SE 513-611 | 83 | 5 | 9 | 13 | 77 | 85,5 |
| SE 515-612 | 88 | 5 | 9 | 13 | 87 | 95,5 |
| SNL 516-613 | 93 | 5 | 9 | 13 | 92,5 | 101 |
| SNL 517 | 98 | 5 | 9 | 13 | 97,5 | 106 |
| SNL 518-615 | 113 | 5 | 9 | 13 | 102,5 | 111 |
| SNL 519-616 | 116 | 6 | 10 | 14 | 131 | 141 |
| SNL 520-617 | 131 | 6 | 10 | 14 | 137,5 | 147,5 |
| SNL 522-619 | 143 | 6 | 10 | 14 | 147,5 | 157,5 |
| SNL 524-620 | 151 | 6 | 11 | 15 | 157,5 | 167,5 |
| SNL 526 | 156 | 6 | 11 | 15 | 167,5 | 177,5 |
| SNL 528 | 171 | 6 | 11 | 15 | 177,5 | 187,5 |
| SNL 530 | 189 | 6 | 11 | 15 | 192,5 | 202,5 |
| SNL 532 | 201 | 6 | 11 | 15 | 202,5 | 212,5 |

Table 6

Permissible length of a shaft end



| Housing Size | Dimensions | | | Widest bearing that fits the housing Designation | Dimensions | |
|--------------------|------------|-------|-------|--|------------|-------|
| | $b_a^{1)}$ | b_c | C_a | | B | b_b |
| – | mm | | | – | mm | |
| SNL 205 | 18 | 24 | 25 | 22205 E | 18 | 17 |
| SNL 206-305 | 20 | 29 | 32 | 2305 E | 24 | 19 |
| SE 207 | 23 | 32 | 34 | 22207 E | 23 | 20,5 |
| SE 208-307 | 26 (22) | 33 | 39 | 2307 E | 31 | 24,5 |
| SE 209 | 25 | 32 | 30 | 22209 E | 23 | 22,5 |
| SE 210 | 28 (24) | 35 | 41 | 22210 E | 23 | 23,5 |
| SE 211 | 30 (25) | 37 | 44 | 22211 E | 25 | 25 |
| SE 212 | 33 (26) | 42 | 48 | 22212 E | 28 | 27 |
| SE 213 | 35 (30) | 45 | 51 | 22213 E | 31 | 29,5 |
| SE 215 | 37 (30) | 47 | 56 | 22215 E | 31 | 30,5 |
| SNL 216 | 39 (33) | 50 | 58 | 22216 E | 33 | 33,5 |
| SNL 217 | 40 (35) | 52 | 61 | 22217 E | 36 | 36 |
| SNL 218 | 45 (35) | 60 | 65 | 23218 CC/W33 | 52,4 | 44,2 |
| SNL 505 | 18 | 24 | 25 | 22205 EK | 18 | 17 |
| SNL 506-605 | 20 | 29 | 32 | 2305 EK | 24 | 19 |
| SE 507-606 | 23 | 32 | 34 | 2306 EK | 27 | 21,5 |
| SE 508-607 | 26 (22) | 33 | 39 | 2307 EK | 31 | 24,5 |
| SE 509 | 25 | 32 | 30 | 22209 EK | 23 | 22,5 |
| SE 510-608 | 28 (24) | 35 | 41 | 22308 EK | 33 | 26,5 |
| SE 511-609 | 30 (25) | 37 | 44 | 22309 EK | 36 | 29 |
| SE 512-610 | 33 (26) | 42 | 48 | 22310 EK | 40 | 32 |
| SE 513-611 | 35 (30) | 45 | 51 | 22311 EK | 43 | 33,5 |
| SE 515-612 | 37 (30) | 47 | 56 | 22312 EK | 46 | 36 |
| SNL 516-613 | 39 (33) | 50 | 58 | 22313 EK | 48 | 38 |
| SNL 517 | 40 (35) | 52 | 61 | 22217 EK | 36 | 36 |
| SNL 518-615 | 45 (35) | 60 | 65 | 22315 EK | 55 | 42,5 |
| SNL 519-616 | 47 (40) | 61 | 68 | 22316 EK | 58 | 46 |
| SNL 520-617 | 51 (45) | 69 | 70 | 23220 CCK/W33 | 60,3 | 50,2 |
| SNL 522-619 | 61 | 75 | 80 | 23222 CCK/W33 | 69,8 | 55,9 |
| SNL 524-620 | 65 | 79 | 86 | 23224 CCK/W33 | 76 | 60 |
| SNL 526 | 65 | 81 | 90 | 23226 CCK/W33 | 80 | 63 |
| SNL 528 | 70 | 89 | 98 | 23228 CCK/W33 | 88 | 68 |
| SNL 530 | 80 | 98 | 106 | 23230 CCK/W33 | 96 | 74 |
| SNL 532 | 85 | 104 | 114 | 23232 CCK/W33 | 104 | 80 |

¹⁾ The dimension b_a is measured from the centre of the housing seat. There are two special cases:

1 For self-aligning ball bearings in the 12 series, values in brackets are suitable.

2 For non-locating bearing arrangements, and in particular for the widest bearings, the values for b_a must be adjusted if the bearing is not centered in the housing seat.

Special seals

In addition to the standard seal assortment, SNL housings are available, on request, with high-temperature seals, taconite heavy-duty seals with an axial labyrinth, or custom seals for special applications.

High-temperature seals

For high operating temperatures, up to 250 °C (480 °F), high-temperature felt seals or strips should be used. The felt seals can accommodate circumferential speeds up to 2 m/s. They are identified by the designation suffix CB, e.g. TSN 516 CB. For additional information about the felt strips, contact the SKF application engineering service.

Taconite heavy-duty seals with an axial labyrinth

Taconite heavy-duty seals with an axial labyrinth (TSN .. NC or TSN .. NB, → **fig. 9**) can be used under the same conditions as taconite seals with a radial labyrinth. The seals are greased via a hole in the housing cap. Therefore, they can only be used with housings with the suffix T (at the end of a shaft) or the suffix TD (for through shafts).

TSN .. NB seals have a V-ring. It limits the axial movement of the shaft relative to the housing to ±1 mm for shaft diameters up to 65 mm and to approximately ±1,2 mm for sizes up to 100 mm and ±1,5 mm for larger shaft diameters.

Specifications for the seals are listed in **table 7**.

Fig. 9

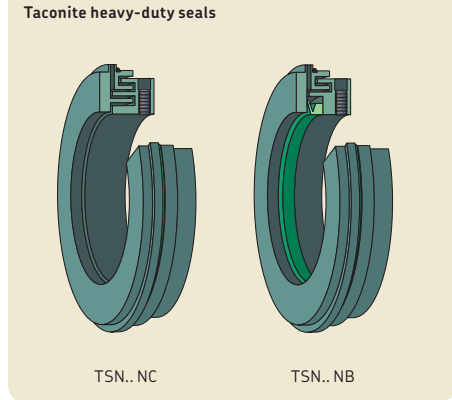


Table 7

Taconite heavy-duty seals with an axial labyrinth

Seal

| Designation | TSN .. NC | TSN .. NB |
|-------------|--------------------------|--------------------------|
| Size range | 515 to 532 612 to 620 | 515 to 532 612 to 620 |

Application conditions and requirements

| | | |
|--|-------------|-------------|
| Temperature [°C] | -40 to +250 | -40 to +100 |
| Temperature [°F] | -40 to +480 | -40 to +210 |
| Max. circumferential speed [m/s] ¹⁾ | not limited | 12 |
| Max. misalignment [°] | 0,5 | 0,5 |
| Max. axial shaft displacement from a central position [mm] | ±2,5 | ±1 to 1,5 |
| Shaft tolerance class | h9(ES) | h9(ES) |

¹⁾ To convert circumferential speeds to rotational speeds, refer to **table 7** on **page 37**.

Custom seals

SNL housings can be equipped with any type of seal that fits the seal groove dimensions in the housing. The relevant dimensions are provided in **table 5** on **page 68**.

If custom seals are to be used, SKF recommends ordering housings in the SNL 2 series rather than those in the 5 or 6 series. Housings in the SNL 2 series have a larger bore at the shaft entrance and can accommodate a wider choice of seal designs.

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Axial load carrying capacity for bearings on sleeves* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

SNL plummer block housings in the 2, 3, 5 and 6 series can accommodate different shaft-bearing combinations (→ **fig. 10**):

- plain shaft with bearing on an adapter sleeve
- stepped shaft with bearing on a cylindrical seat
- stepped shaft with bearing on an adapter sleeve
- stepped shaft with bearing on a withdrawal sleeve

Plain shaft with bearing on an adapter sleeve

This arrangement is standard for housings in the SNL 5 and 6 series. Housings, appropriate parts and dimensions are listed in **product tables 2.1** (→ **page 86**) and **2.2** (→ **page 100**).

Stepped shaft with bearing on a cylindrical seat

This arrangement is standard for housings in the SNL 2 and 3 series, but can also be used for several housings in the SNL 5 and 6 series. Housings, appropriate parts and dimensions are listed in the **product table 2.3**, starting on **page 120**.

The bearing is located axially between a shaft shoulder and a spacer sleeve which is held in place by another component on the shaft. The outside diameter of the spacer sleeve must match the bore diameter of the

seal. The spacer sleeve is not supplied with by SKF.

Stepped shaft with bearing on an adapter sleeve

When using an SNL plummer block housing for this arrangement, the dimensions of the abutment ring and the spacer sleeve must fit the housing. Abutment rings and spacer sleeves are not supplied by SKF.

Stepped shaft with bearing on a withdrawal sleeve

When using an SNL housing for this arrangement, the withdrawal sleeve must be located axially on the shaft. This can be done using a spacer sleeve that is held in place by another component. Using a lock nut can be difficult because of the limited space in the housing. The outside diameter of the spacer sleeve must be the same as the shaft abutment diameter d_b , (→ **product tables**) and it should be in accordance with the h9 (E) tolerance class to fit the seal. The spacer sleeve is not supplied by SKF.

Locating and non-locating bearing positions

SNL housings can be used for both the locating and non-locating bearing positions.

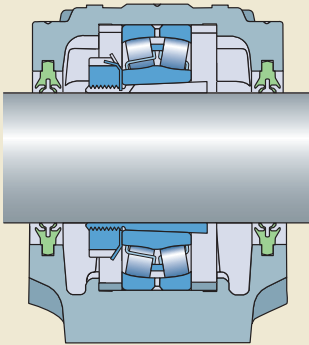
The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing on both sides with locating rings. Appropriate locating rings are listed in the product tables.

Load carrying capacity

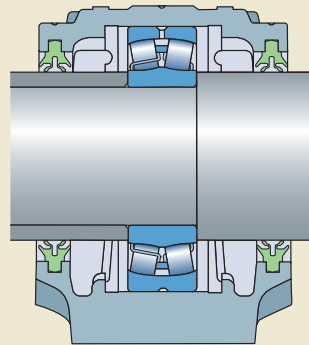
SNL housings are intended for loads acting perpendicularly toward the support surface. If the housing is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing. If loads acting in other directions occur, or if the housing is not supported over its entire base, be sure that the magnitude of the load is permissible for the housing, the cap bolts and the attachment bolts. When housings are subjected to

cyclic loads or dynamic imbalance, contact the SKF application engineering service.

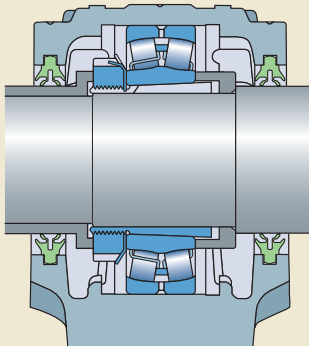
Fig. 10



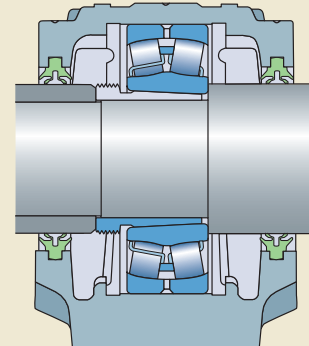
Plain shaft with bearing on an adapter sleeve



Stepped shaft with bearing on a cylindrical seat



Stepped shaft with bearing on an adapter sleeve



Stepped shaft with bearing on a withdrawal sleeve

Breaking loads and safety factors

Guideline values for the breaking loads of housings made of grey cast iron are listed in **table 8**. To obtain the permissible load for a housing, the appropriate breaking load value should be divided by a factor based on the safety requirements. In general engineering, a safety factor of 6 is typical (→ *Load carrying capacity*, **page 44**). The permissible load can only be exploited if the cap bolts are tightened according to the torque values listed in **table 10** on **page 77**.

The limits for P_{0° apply only when the housing is not supported over its entire base.

The load P_a is the axial breaking load of the housing. If the incorporated bearing is mounted on a sleeve, check the permissible axial load for the sleeve.

For housings made of spheroidal graphite cast iron, the values obtained from **tables 8** and **9** on **pages 75** and **76** respectively should be multiplied by a factor of 1,8.

Safe loads

In some countries, safe loads are used instead of breaking loads. Approximate safe loads are listed in **table 9** on **page 76**. These guideline values have been established using accepted engineering practices, taking safety, ultimate tensile strength of the materials and working stresses into account. They reflect a safety factor of 5 against fracture, and a minimum factor of 2 against cap bolt yield.

Additional housing support

When the housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load.

When loads act at angles between 55° and 120° , or when the axial loads are greater than 5% of P_{180° (→ **table 8**), the housing should be pinned to the support surface or a stop should be provided to counter the load. The dowel pins or stop should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 13** on **page 82**. For FSNL housings, refer to **table 1** on **page 62**.

Load carrying capacity of the cap bolts

Approximate values for the yield points for cap bolts are provided in **table 10** on **page 77**. The values in **table 10** apply to 8.8 class cap bolts, which are supplied with SNL housings made of grey cast iron. SSNLD housings made of spheroidal graphite cast iron are supplied with 10.9 class cap bolts. For these cap bolts, the values obtained from **table 10** should be multiplied by a factor of 1,4.

If a safety factor of 6 is used for the permissible load of grey cast iron SNL housings, the cap bolts do not need to be considered. In this case, the permissible load of the housing is less than the permissible load for the cap bolts.

Operating temperature

The permissible operating temperature is mainly limited by the seals (→ **table 3**, **page 65**) and the lubricant in the bearing. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

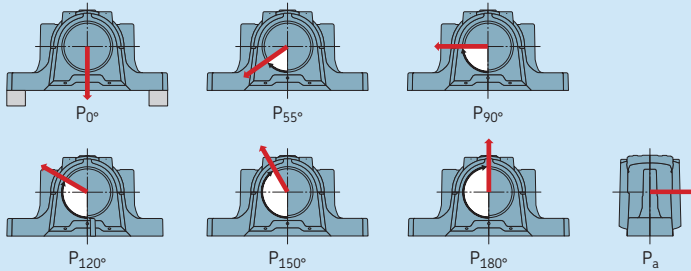
The housing paint is heat resistant up to 80°C (175°F) material temperature or 100°C (210°F) ambient temperature. When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

All seals, except non-contact labyrinth seals, limit the permissible operating speed. Speed limits for seals are provided in **table 3** on **page 65** and in **table 7** on **page 70**. For speed limits of the bearing, refer to the product information available online at skf.com/bearings.

Table 8

Breaking loads for SNL plummer block housings

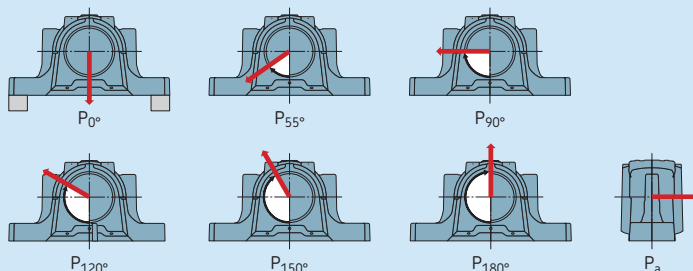


| Housing Size | | Breaking loads | | | | | | |
|--------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-------|
| | | P_{0° | P_{55° | P_{90° | P_{120° | P_{150° | P_{180° | P_a |
| - | | kN | | | | | | |
| SNL 205 | SNL 505 | 100 | 155 | 95 | 70 | 60 | 80 | 52 |
| SNL 206-305 | SNL 506-605 | 130 | 170 | 100 | 80 | 65 | 85 | 55 |
| SE 207 | SE 507-606 | 140 | 190 | 115 | 85 | 80 | 95 | 60 |
| SE 208-307 | SE 508-607 | 150 | 215 | 130 | 95 | 85 | 110 | 70 |
| SE 209 | SE 509 | 160 | 230 | 140 | 100 | 90 | 115 | 75 |
| SE 210 | SE 510-608 | 170 | 265 | 155 | 120 | 110 | 130 | 85 |
| (F)SE 211 | (F)SE 511-609 | 190 | 275 | 170 | 125 | 115 | 140 | 90 |
| (F)SE 212 | (F)SE 512-610 | 210 | 300 | 180 | 130 | 120 | 150 | 100 |
| (F)SE 213 | (F)SE 513-611 | 270 | 340 | 205 | 150 | 130 | 170 | 110 |
| (F)SE 215 | (F)SE 515-612 | 290 | 410 | 250 | 185 | 160 | 205 | 135 |
| (F)SNL 216 | (F)SNL 516-613 | 350 | 430 | 260 | 190 | 175 | 215 | 140 |
| (F)SNL 217 | (F)SNL 517 | 370 | 480 | 290 | 205 | 190 | 240 | 155 |
| (F)SNL 218 | (F)SNL 518-615 | 430 | 550 | 340 | 250 | 215 | 275 | 180 |
| | (F)SNL 519-616 | 450 | 580 | 350 | 260 | 230 | 290 | 190 |
| | (F)SNL 520-617 | 470 | 620 | 370 | 280 | 250 | 310 | 200 |
| | (F)SNL 522-619 | 600 | 680 | 410 | 310 | 275 | 340 | 220 |
| | (F)SNL 524-620 | 800 | 790 | 470 | 350 | 320 | 400 | 260 |
| | (F)SNL 526 | 900 | 900 | 540 | 410 | 360 | 450 | 295 |
| | (F)SNL 528 | 1000 | 1050 | 630 | 470 | 430 | 530 | 345 |
| | (F)SNL 530 | 1100 | 1200 | 730 | 540 | 480 | 600 | 390 |
| | (F)SNL 532 | 1300 | 1450 | 860 | 640 | 570 | 720 | 470 |

Split plummer block housings SNL 2, 3, 5 and 6 series

Table 9

Safe loads for SNL plummer block housings



| Housing Size | | Safe loads for different load directions ¹⁾ | | | | | | |
|--------------|----------------|--|------------------|------------------|-------------------|-------------------|-------------------|----------------|
| | | P _{0°} | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | P _a |
| – kN/lbf. | | | | | | | | |
| SNL 205 | SNL 505 | 20 | 31 | 19 | 14 | 12 | 16 | 10,4 |
| | | 4 500 | 6 975 | 4 275 | 3 150 | 2 700 | 3 600 | 2 340 |
| SNL 206-305 | SNL 506-605 | 26 | 34 | 20 | 16 | 13 | 17 | 11 |
| | | 5 850 | 7 650 | 4 500 | 3 600 | 2 925 | 3 825 | 2 475 |
| SE 207 | SE 507-606 | 28 | 38 | 23 | 17 | 16 | 19 | 12 |
| | | 6 300 | 8 550 | 5 175 | 3 825 | 3 600 | 4 275 | 2 700 |
| SE 208-307 | SE 508-607 | 30 | 43 | 26 | 19 | 17 | 22 | 14 |
| | | 6 750 | 9 675 | 5 850 | 4 275 | 3 825 | 4 950 | 3 150 |
| SE 209 | SE 509 | 32 | 46 | 28 | 20 | 18 | 23 | 15 |
| | | 7 200 | 10 350 | 6 300 | 4 500 | 4 050 | 5 175 | 3 375 |
| SE 210 | SE 510-608 | 34 | 53 | 31 | 24 | 22 | 26 | 17 |
| | | 7 650 | 11 925 | 6 975 | 5 400 | 4 950 | 5 850 | 3 825 |
| (F)SE 211 | (F)SE 511-609 | 38 | 55 | 34 | 25 | 23 | 28 | 18 |
| | | 8 550 | 12 375 | 7 650 | 5 625 | 5 175 | 6 300 | 4 050 |
| (F)SE 212 | (F)SE 512-610 | 42 | 60 | 36 | 26 | 24 | 30 | 20 |
| | | 9 450 | 13 500 | 8 100 | 5 850 | 5 400 | 6 750 | 4 500 |
| (F)SE 213 | (F)SE 513-611 | 54 | 68 | 41 | 30 | 26 | 34 | 22 |
| | | 12 150 | 15 300 | 9 225 | 6 750 | 5 850 | 7 650 | 4 950 |
| (F)SE 215 | (F)SE 515-612 | 58 | 82 | 50 | 37 | 32 | 41 | 27 |
| | | 13 050 | 18 450 | 11 250 | 8 325 | 7 200 | 9 225 | 6 075 |
| (F)SNL 216 | (F)SNL 516-613 | 70 | 86 | 52 | 38 | 35 | 43 | 28 |
| | | 15 750 | 19 350 | 11 700 | 8 550 | 7 875 | 9 675 | 6 300 |
| (F)SNL 217 | (F)SNL 517 | 74 | 96 | 58 | 41 | 38 | 48 | 31 |
| | | 16 650 | 21 600 | 13 050 | 9 225 | 8 550 | 10 800 | 6 975 |
| (F)SNL 219 | (F)SNL 518-615 | 86 | 110 | 68 | 50 | 43 | 55 | 36 |
| | | 19 350 | 24 750 | 15 300 | 11 250 | 9 675 | 12 375 | 8 100 |
| | (F)SNL 519-616 | 90 | 116 | 70 | 52 | 46 | 58 | 38 |
| | | 20 250 | 26 100 | 15 750 | 11 700 | 10 350 | 13 050 | 8 550 |
| | (F)SNL 520-617 | 94 | 124 | 74 | 56 | 50 | 62 | 40 |
| | | 21 150 | 27 900 | 16 650 | 12 600 | 11 250 | 13 950 | 9 000 |
| | (F)SNL 522-619 | 120 | 136 | 82 | 62 | 55 | 68 | 44 |
| | | 27 000 | 30 600 | 18 450 | 13 950 | 12 375 | 15 300 | 9 900 |
| | (F)SNL 524-620 | 160 | 158 | 94 | 70 | 64 | 80 | 52 |
| | | 36 000 | 35 550 | 21 150 | 15 750 | 14 400 | 18 000 | 11 700 |
| | (F)SNL 526 | 180 | 180 | 108 | 82 | 72 | 90 | 59 |
| | | 40 500 | 40 500 | 24 300 | 18 450 | 16 200 | 20 250 | 13 275 |
| | (F)SNL 528 | 200 | 210 | 126 | 94 | 86 | 106 | 69 |
| | | 45 000 | 47 250 | 28 350 | 21 150 | 19 350 | 23 850 | 15 525 |
| | (F)SNL 530 | 220 | 240 | 146 | 108 | 96 | 120 | 78 |
| | | 49 500 | 54 000 | 32 850 | 24 300 | 21 600 | 27 000 | 17 550 |
| | (F)SNL 532 | 260 | 290 | 172 | 128 | 114 | 144 | 94 |
| | | 58 500 | 65 250 | 38 700 | 28 800 | 25 650 | 32 400 | 21 150 |

¹⁾ The values are based on a safety factor of 5.

Attachment bolt recommendations

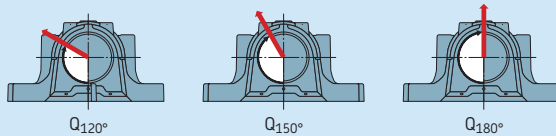
In typical applications, 8.8 class hexagon head bolts in accordance with ISO 4014 can be used together with washers. If the load does not act perpendicular toward the base, it may be necessary to use stronger 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 10**). They are valid for oiled, but otherwise untreated, thread surfaces. SKF

cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Table 10

Load carrying capacity and torque values for cap bolts and attachment bolts



| Housing Size | | Cap bolts Yield point for two bolts | | | Size | Tightening torque | Attachment bolts ¹⁾ Tightening torque ²⁾ | |
|--------------|-------------|--|-------------------|-------------------|---------|-------------------|---|------|
| | | Q _{120°} | Q _{150°} | Q _{180°} | | | Size | Nm |
| – | | kN | | | – | Nm | – | |
| SNL 205 | SNL 505 | 150 | 85 | 75 | M10×40 | 50 | M12 | 80 |
| SNL 206-305 | SNL 506-605 | 150 | 85 | 75 | M10×40 | 50 | M12 | 80 |
| SE 207 | SNL 507-606 | 150 | 85 | 75 | M10×50 | 50 | M12 | 80 |
| SE 208-307 | SNL 508-607 | 150 | 85 | 75 | M10×50 | 50 | M12 | 80 |
| SE 209 | SNL 509 | 150 | 85 | 75 | M10×50 | 50 | M12 | 80 |
| SE 210 | SNL 510-608 | 150 | 85 | 75 | M10×55 | 50 | M12 | 80 |
| SE 211 | SE 511-609 | 220 | 125 | 110 | M12×60 | 80 | M16 | 200 |
| SE 212 | SE 512-610 | 220 | 125 | 110 | M12×60 | 80 | M16 | 200 |
| SE 213 | SE 513-611 | 220 | 125 | 110 | M12×65 | 80 | M16 | 200 |
| SE 215 | SE 515-612 | 220 | 125 | 110 | M12×65 | 80 | M16 | 200 |
| SNL 216 | SNL 516-613 | 220 | 125 | 110 | M12×70 | 80 | M20 | 385 |
| SNL 217 | SNL 517 | 220 | 125 | 110 | M12×80 | 80 | M20 | 385 |
| SNL 218 | SNL 518-615 | 400 | 230 | 200 | M16×90 | 150 | M20 | 385 |
| | SNL 519-616 | 400 | 230 | 200 | M16×90 | 150 | M20 | 385 |
| | SNL 520-617 | 620 | 360 | 310 | M20×100 | 200 | M24 | 665 |
| | SNL 522-619 | 620 | 360 | 310 | M20×100 | 200 | M24 | 665 |
| | SNL 524-620 | 620 | 360 | 310 | M20×110 | 200 | M24 | 665 |
| | SNL 526 | 900 | 520 | 450 | M24×130 | 350 | M24 | 665 |
| | SNL 528 | 900 | 520 | 450 | M24×130 | 350 | M30 | 1310 |
| | SNL 530 | 900 | 520 | 450 | M24×130 | 350 | M30 | 1310 |
| | SNL 532 | 900 | 520 | 450 | M24×130 | 350 | M30 | 1310 |

¹⁾ Valid for SE and SNL housings only. For information about attachment bolts for FSE and FSNL housings, refer to **table 1** on **page 62**.

²⁾ Recommended by bolt manufacturers.

Lubrication

SNL plummer (pillow) block housings in the 2, 3, 5 and 6 series with standard seals are intended for grease lubrication. For oil lubrication, housings with oil seals (→ page 64) or SONL plummer block housings (→ page 349) should be used.

The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 20 to 40% of its volume. A 40% grease fill is required when bearings have to be relubricated from the side, while a 20%

grease fill is used when bearings are relubricated via the outer ring.

For highly contaminated environments and slow speeds, fill the housing to 70–80%. For best protection against contaminants, use the SKF three-barrier solution (→ page 39). For additional information, contact the SKF application engineering service.

Quantities for 20 and 40% grease fills are listed **table 11**. The values are valid for a typical lithium grease (about 0,95 g/cm³). They include grease for the bearing and the four-lip seals or the sealing washers of V-ring seals. The grease to fill labyrinth seals or taconite heavy-duty seals is not included. For sealed bearings, the values have to be adjusted.

In most applications, the initial grease fill will adequately lubricate the bearing until the grease is exchanged during the next planned maintenance interval.

Relubrication

SNL plummer block housings enable relubrication of the incorporated bearings and seals (→ fig. 11):

- SNL housings have two holes that have been drilled and tapped for an AH 1/8-27 PTF grease fitting. On a new housing, the holes are covered by plastic plugs. These plugs should be replaced with the grease fitting and threaded plug supplied with the housing.
- If a larger grease fitting or other equipment has to be used, an adapter to change to a G 1/4 thread is available (→ page 47).
- Dimples cast into the top of the housing cap indicate alternative positions where holes can be drilled and tapped to accommodate a grease fitting for bearing or seal relubrication.

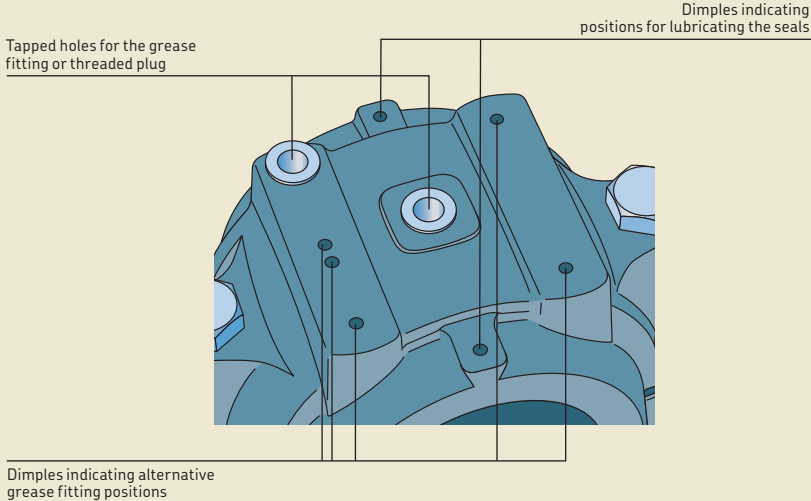
Table 11

| Initial grease fill | | Initial fill | |
|---------------------|----------------|--------------|------|
| Housing Size | | 20% | 40% |
| - | | g | |
| SNL 205 | SNL 505 | 15 | 25 |
| SNL 206-305 | SNL 506-605 | 25 | 40 |
| SE 207 | SE 507-606 | 30 | 50 |
| SE 208-307 | SE 508-607 | 35 | 55 |
| SE 209 | SE 509 | 40 | 60 |
| SE 210 | SE 510-608 | 45 | 70 |
| (F)SE 211 | (F)SE 511-609 | 55 | 90 |
| (F)SE 212 | (F)SE 512-610 | 80 | 135 |
| (F)SE 213 | (F)SE 513-611 | 100 | 160 |
| (F)SE 215 | (F)SE 515-612 | 125 | 210 |
| (F)SNL 216 | (F)SNL 516-613 | 170 | 280 |
| (F)SNL 217 | (F)SNL 517 | 200 | 330 |
| (F)SNL 218 | (F)SNL 518-615 | 260 | 430 |
| | (F)SNL 519-616 | 300 | 480 |
| | (F)SNL 520-617 | 390 | 630 |
| | (F)SNL 522-619 | 530 | 850 |
| | (F)SNL 524-620 | 630 | 1000 |
| | (F)SNL 526 | 700 | 1100 |
| | (F)SNL 528 | 900 | 1400 |
| | (F)SNL 530 | 1100 | 1700 |
| | (F)SNL 532 | 1300 | 2000 |

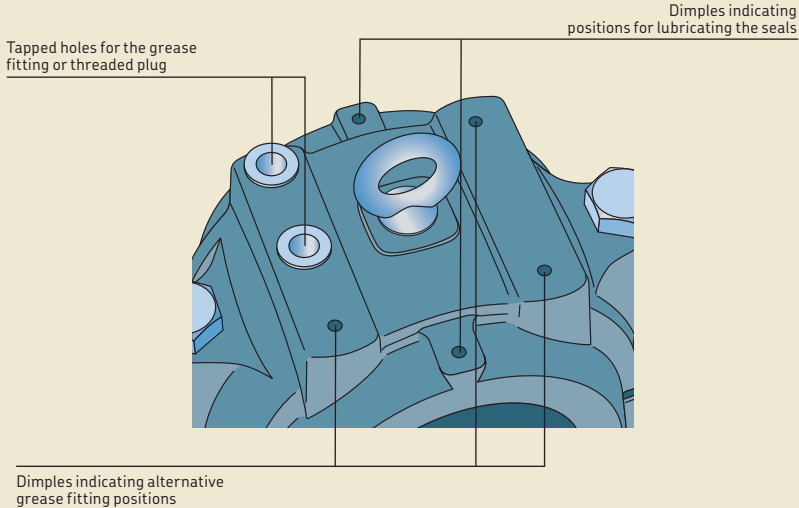
Fig. 11

Relubrication possibilities

SNL housing up to size 218 or 522



SNL housing from size 524 and above



Relubrication via the outer ring

The hole in the centre of the cap should be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring) (→ **fig. 12**). When applying grease via the relubrication feature, the shaft should be rotating. Narrow bearings (dimension series 13 and 22) in the locating position can be displaced axially, so that the relubrication groove in the bearing does not line up with the relubrication hole in the housing cap. Make sure the bearing is sufficiently centred when relubricating.

Relubrication from the side

When relubricating from the side, which is typically necessary for self-aligning ball bearings and CARB toroidal roller bearings, the offset hole in the housing should be used. An integrated flange in the housing guides grease from the grease fitting directly to the rolling elements (→ **fig. 13**). This grease guiding system is available on housings from sizes 216 and 516–613 upwards.

When bearings mounted on an adapter sleeve have to be relubricated from the side, the grease should be introduced from the side opposite the lock nut.

When bearings mounted at the end of a shaft have to be relubricated from the side, the grease should be applied at the point closest to the end cover.

Relubrication from the side for housings with V-ring seals

When relubricating bearings from the side in housings with V-ring seals, mount an additional V-ring inside the housing on the side where grease is applied (→ **fig. 14**). This forces the grease to travel through the bearing and exit the housing on the opposite side.

SKF can supply an appropriate V-ring together with a splash plate that fits in the seal groove to cover a bit more than the top half of the housing. These sets are identified by the series designation ASNA followed by the housing size identification and the suffix V, e.g. ASNA 516 V.

Grease escape hole

When four-lip seals (TSN .. L) or felt seals (TSN .. C or FS 170) are used, grease cannot escape via the seals. If relubrication is required, the housing should have a grease escape hole.

SNL housings can be supplied with a grease escape hole (suffix V). A grease escape hole can be drilled into the housing using the dimensions provided in **table 12**.

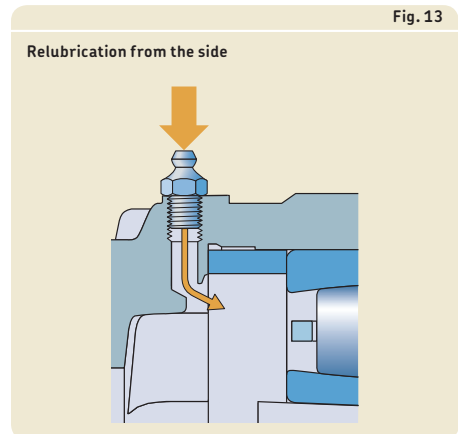
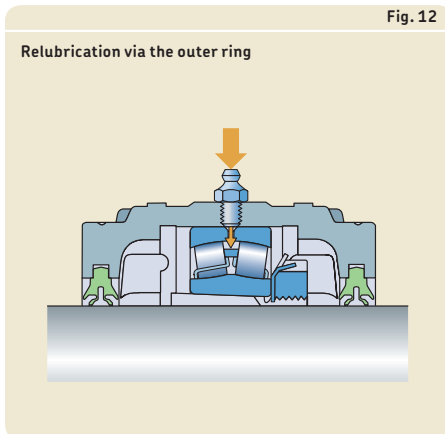
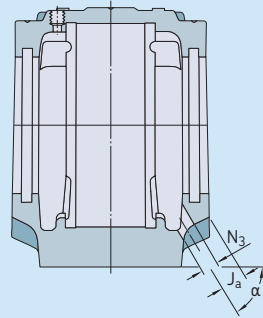


Table 12

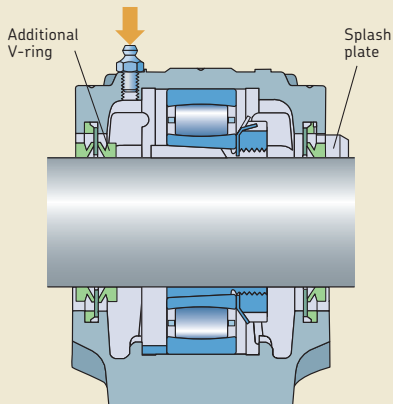
Recommended dimensions for grease escape holes



| Housing Size | | Dimensions | | |
|--------------|----------------|------------|----------------|----|
| | | Ja | N ₃ | α |
| | | mm | | ° |
| SNL 205 | SNL 505 | 8,5 | 10 | 45 |
| SNL 206-305 | SNL 506-605 | 10 | 10 | 45 |
| SE 207 | SNL 507-606 | 10 | 10 | 45 |
| SE 208-307 | SE 508-607 | 9 | 10 | 45 |
| SE 209 | SE 509 | 10 | 10 | 45 |
| SE 210 | SE 510-608 | 11 | 10 | 45 |
| (F)SE 211 | (F)SE 511-609 | 10 | 12 | 45 |
| (F)SE 212 | (F)SE 512-610 | 9 | 12 | 45 |
| (F)SE 213 | (F)SE 513-611 | 13 | 12 | 45 |
| (F)SE 215 | (F)SE 515-612 | 12,5 | 12 | 45 |
| (F)SNL 216 | (F)SNL 516-613 | 14 | 16 | 45 |
| (F)SNL 217 | (F)SNL 517 | 17 | 16 | 45 |
| (F)SNL 218 | (F)SNL 518-615 | 20 | 16 | 40 |
| | (F)SNL 519-616 | 20 | 16 | 50 |
| | (F)SNL 520-617 | 21 | 16 | 50 |
| | (F)SNL 522-619 | 21 | 20 | 50 |
| | (F)SNL 524-620 | 24 | 20 | 55 |
| | (F)SNL 526 | 22 | 20 | 55 |
| | (F)SNL 528 | 23 | 20 | 50 |
| | (F)SNL 530 | 25 | 20 | 55 |
| | (F)SNL 532 | 25 | 20 | 60 |

Fig. 14

V-ring seal and splash plate set mounted in an SNL housing



Mounting

SNL plummer (pillow) block housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces on page 45*).

Mounting instructions for each housing are provided with the seal pack. For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Torque specifications

Cap bolts should be tightened to the torque values listed in **table 10** on **page 77**. For information about attachment bolts, refer to *Attachment bolt recommendations on page 77*.

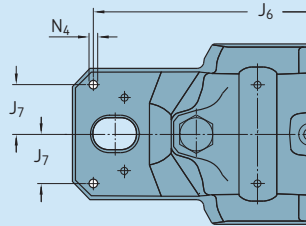
Pinning or supporting the housing

Some load conditions may require the housing to be pinned to its support surface or a stop to accommodate loads acting parallel to the housing support surface (→ *Additional housing support, page 74*).

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 13**. For FSNL housings, refer to **table 1** on **page 62**. Dimples cast into the housing base mark the recommended positions.

Table 13

Position and size of dowel pin holes



| Housing Size | | Dimensions | | |
|--------------|-------------|----------------|----------------|----------------|
| | | J ₆ | J ₇ | N ₄ |
| | | mm | | |
| SNL 205 | SNL 505 | 152 | 16 | 5 |
| SNL 206-305 | SNL 506-605 | 172 | 19 | 5 |
| SE 207 | SE 507-606 | 172 | 19 | 5 |
| SE 208-307 | SE 508-607 | 188 | 22 | 6 |
| SE 209 | SE 509 | 188 | 22 | 6 |
| SE 210 | SE 510-608 | 188 | 22 | 6 |
| SE 211 | SE 511-609 | 234 | 24,5 | 8 |
| SE 212 | SE 512-610 | 234 | 27 | 8 |
| SE 213 | SE 513-611 | 252 | 29 | 8 |
| SE 215 | SE 515-612 | 257 | 29 | 8 |
| SNL 216 | SNL 516-613 | 288 | 33 | 8 |
| SNL 217 | SNL 517 | 292 | 33 | 8 |
| SNL 218 | SNL 518-615 | 317 | 35 | 8 |
| | SNL 519-616 | 317 | 35 | 8 |
| | SNL 520-617 | 348 | 39 | 8 |
| | SNL 522-619 | 378 | 44 | 8 |
| | SNL 524-620 | 378 | 44 | 8 |
| | SNL 526 | 414 | 46 | 12 |
| | SNL 528 | 458 | 54 | 12 |
| | SNL 530 | 486 | 58 | 12 |
| | SNL 532 | 506 | 58 | 12 |

Condition monitoring

SNL housings have appropriate positions for condition monitoring sensors (→ **fig. 15**).

Position 1 is a measurement point perpendicular to the shaft, and should be used when the housing is hung from its support or when loads act away from the support surface.

Position 2 is a measurement point parallel to the shaft and should be used when the loads act toward the support surface.

Both positions 1 and 2 are in accordance with ISO 10816-1.

Position 3 is a measurement point that is approximately 20° to 45° to the shaft axis.



Accessories

The following accessories are available for SNL housings in the 2, 3, 5 and 6 series:

- Adapter for G 1/4 connections
- V-ring and splash plate sets (→ **page 80**)
- Automatic lubricators: SKF SYSTEM 24 and SKF MultiPoint
- Grease meter: LAGM 1000E
- Condition monitoring sensors

For additional information, refer to *SKF tools and products* (→ **page 47**).

Ordering information

For SNL housings in the 2, 3, 5 and 6 series, each of the following items must be ordered separately:

- housing
- seals
- end cover
- locating rings
- bearing
- adapter sleeve

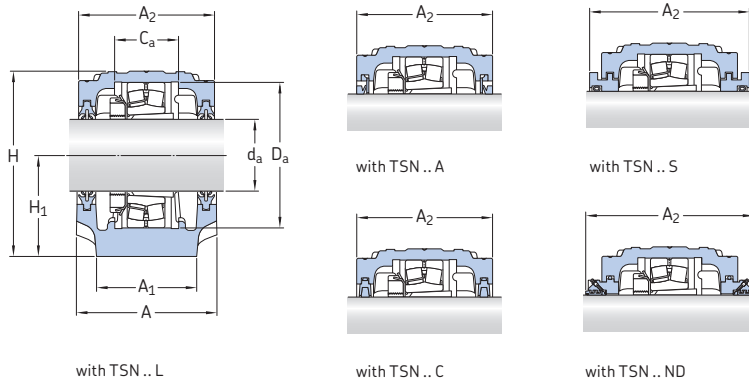
Order example

Two plummer block housings with four-lip seals are required for two 22218 EK spherical roller bearings on H 318 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing and a through shaft.

The following items should be ordered (in addition to the bearings and adapter sleeves):

- 2 housings SNL 518-615
- 2 four-lip seal packs TSN 518 L (each pack contains two seals)
- 1 end cover ASNH 518-615
- 2 locating rings FRB 12.5/160

2.1 SNL and SE plummer block housings for bearings on an adapter sleeve, metric shafts d_a 20 – 30 mm

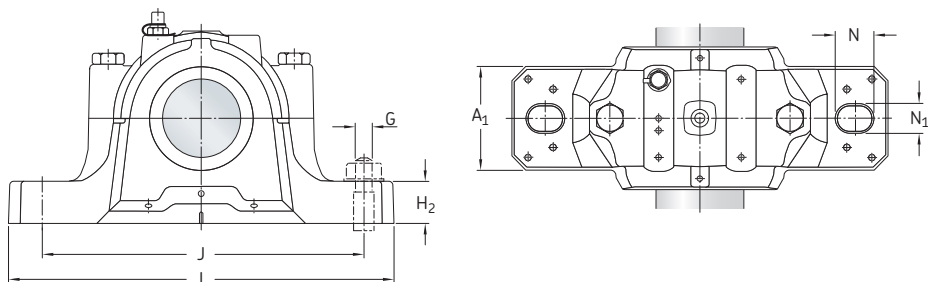


| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|-------------|--|--------------------------------------|-----------------------------|---|--------------|-------------------------------------|
| | | | | | | | |
| 20 | SNL 505 | 1205 EKTN9 | H 205 | FRB 5/52 | TSN 505 A | ASNH 505 | 67 |
| | | 2205 EKTN9 | H 305 | FRB 3.5/52 | TSN 505 C | | 77 |
| 22205 EK | | H 305 | FRB 3.5/52 | TSN 505 S | 80 | | |
| C 2205 KTN9 | | H 305 E | FRB 3.5/52 | TSN 505 ND | 125 | | |
| SNL 506-605 | | 1305 EKTN9 | H 305 | FRB 7.5/62 | TSN 605 A TSN 605 C TSN 605 S TSN 605 ND | | ASNH 506-605 |
| 25 | SNL 506-605 | 1206 EKTN9 | H 206 | FRB 8/62 | TSN 506 A | ASNH 506-605 | 77 |
| | | 2206 EKTN9 | H 306 | FRB 6/62 | TSN 506 C | | 77 |
| | | 22206 EK | H 306 | FRB 6/62 | TSN 506 S | | 89 |
| | | C 2206 KTN9 | H 306 E | FRB 6/62 | TSN 506 ND | | 135 |
| | | SE 507-606 | 1306 EKTN9 | H 306 | FRB 7.5/72 | | TSN 606 A |
| 2306 K | H 2306 | FRB 3.5/72 | TSN 606 C | 82 | | | |
| 21306 CCK | H 306 | FRB 7.5/72 | TSN 606 S TSN 606 ND | 94 140 | | | |
| 30 | SE 507-606 | 1207 EKTN9 | H 207 | FRB 8.5/72 | TSN 507 L | ASNH 507-606 | 82 |
| | | 2207 EKTN9 | H 307 | FRB 5.5/72 | TSN 507 A | | 82 |
| | | 22207 EK | H 307 | FRB 5.5/72 | TSN 507 C | | 82 |
| | | C 2207 KTN9 | H 307 E | FRB 5.5/72 | TSN 507 S TSN 507 ND | | 94 145 |
| | | SE 508-607 | 1307 EKTN9 | H 307 | FRB 9/80 | | TSN 607 L |
| | 2307 EKTN9 | H 2307 | FRB 4/80 | TSN 607 A | 85 | | |
| 21307 CCK | H 307 | FRB 9/80 | TSN 607 C TSN 607 S TSN 607 ND | 97 145 | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

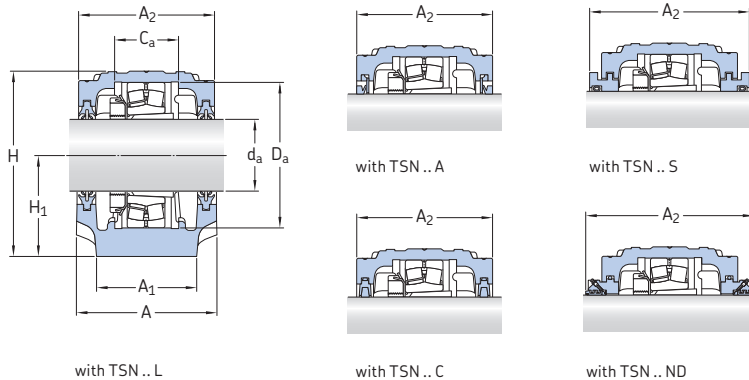
²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing |
|----------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|--------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | |
| mm | mm | | | | | | | | | | | | kg |
| 20 | 67 | 46 | 25 | 52 | 74 | 40 | 19 | 130 | 165 | 20 | 15 | 12 | 1,45 |
| | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 2,00 |
| 25 | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 2,00 |
| | 83 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 2,60 |
| 30 | 83 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 2,60 |
| | 85 | 60 | 39 | 80 | 108 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,40 |

2.1 SNL and SE plummer block housings for bearings on an adapter sleeve, metric shafts d_a 35 – 45 mm

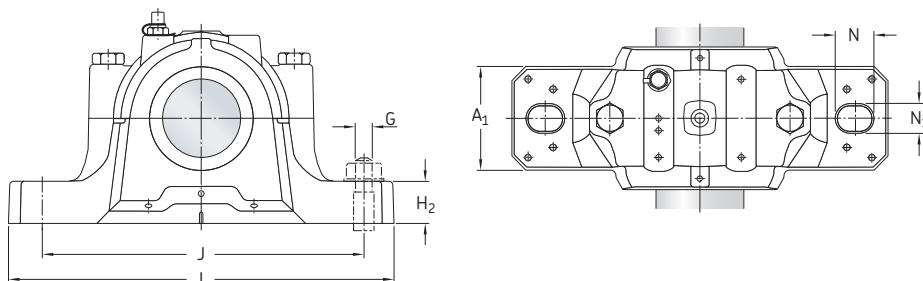


| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|------------|--|------------------------------|-----------------------------|------------|--------------|-------------------------------------|
| mm | - | - | | | | | mm |
| 35 | SE 508-607 | 1208 EKTN9 | H 208 | FRB 10.5/80 | TSN 508 L | ASNH 508-607 | 85 |
| | | 2208 EKTN9 | H 308 | FRB 8/80 | TSN 508 A | | 85 |
| | | 22208 EK | H 308 | FRB 8/80 | TSN 508 C | | 85 |
| | | BS2-2208-2CSK | H 2308 E | FRB 5.5/80 | TSN 508 S | | 97 |
| | | C 2208 KTN9 | H 308 E | FRB 8/80 | TSN 508 ND | | 150 |
| | SE 510-608 | 1308 EKTN9 | H 308 | FRB 9/90 | TSN 608 L | ASNH 510-608 | 90 |
| | | 2308 EKTN9 | H 2308 | FRB 4/90 | TSN 608 A | | 90 |
| | | 21308 EK | H 308 | FRB 9/90 | TSN 608 C | | 90 |
| | | 22308 EK | H 2308 | FRB 4/90 | TSN 608 S | | 102 |
| | | | | | TSN 608 ND | | 150 |
| 40 | SE 509 | 1209 EKTN9 | H 209 | FRB 5.5/85 | TSN 509 L | ASNH 509 | 85 |
| | | 2209 EKTN9 | H 309 | FRB 3.5/85 | TSN 509 A | | 85 |
| | | 22209 EK | H 309 | FRB 3.5/85 | TSN 509 C | | 85 |
| | | BS2-2209-2CSK | H 309 E | FRB 1/85 | TSN 509 S | | 97 |
| | | C 2209 KTN9 | H 309 E | FRB 3.5/85 | TSN 509 ND | | 150 |
| | SE 511-609 | 1309 EKTN9 | H 309 | FRB 9.5/100 | TSN 609 L | ASNH 511-609 | 95 |
| | | 2309 EKTN9 | H 2309 | FRB 4/100 | TSN 609 A | | 95 |
| | | 21309 EK | H 309 | FRB 9.5/100 | TSN 609 C | | 95 |
| | | 22309 EK | H 2309 | FRB 4/100 | TSN 609 S | | 107 |
| | | | | | TSN 609 ND | | 155 |
| 45 | SE 510-608 | 1210 EKTN9 | H 210 | FRB 10.5/90 | TSN 510 L | ASNH 510-608 | 90 |
| | | 2210 EKTN9 | H 310 | FRB 9/90 | TSN 510 A | | 90 |
| | | 22210 EK | H 310 | FRB 9/90 | TSN 510 C | | 90 |
| | | BS2-2210-2CSK | H 310 E | FRB 6.5/90 | TSN 510 S | | 102 |
| | | C 2210 KTN9 | H 310 E | FRB 9/90 | TSN 510 ND | | 155 |
| | SE 512-610 | 1310 EKTN9 | H 310 | FRB 10.5/110 | TSN 610 L | ASNH 512-610 | 105 |
| | | 2310 K | H 2310 | FRB 4/110 | TSN 610 A | | 105 |
| | | 21310 EK | H 310 | FRB 10.5/110 | TSN 610 C | | 105 |
| | | 22310 EK | H 2310 | FRB 4/110 | TSN 610 S | | 117 |
| | | | | | TSN 610 ND | | 165 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

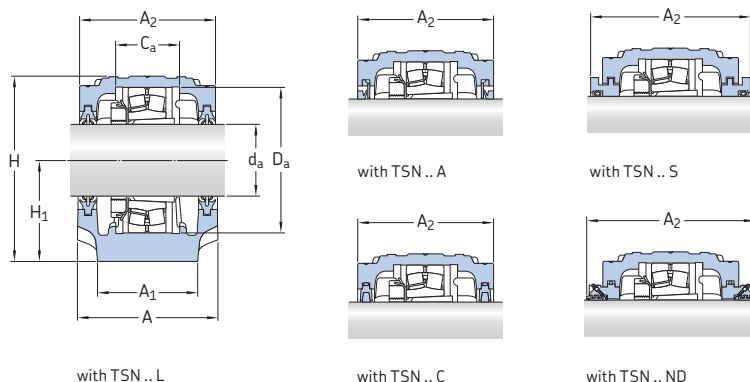
²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing |
|----------------|------------|----|-------|-------|-------|----|-------|-------|-----|----|----|-------|--------------|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | |
| mm | mm | | | | | | | | | | | | kg |
| 35 | 85 | 60 | 39 | 80 | 108 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,40 |
| | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,85 |
| 40 | 85 | 60 | 30 | 85 | 109 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,40 |
| | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | 5,45 |
| 45 | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,85 |
| | 105 | 70 | 48 | 110 | 134 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | 6,15 |

2.1 SNL and SE plummer block housings for bearings on an adapter sleeve, metric shafts d_a 50 – 60 mm

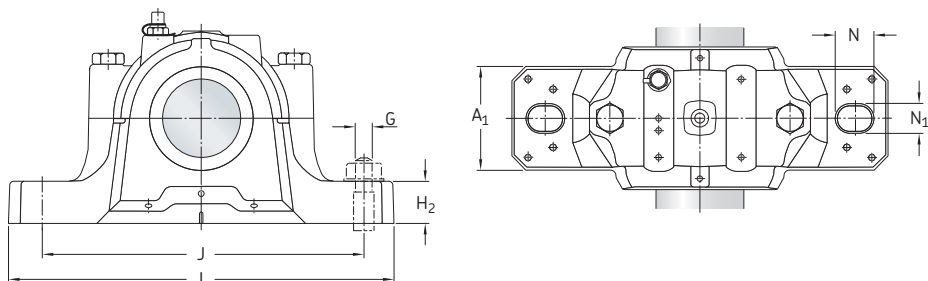


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|-------------|--|------------------------------|-----------------------------|------------|--------------|-------------------------------------|
| d _a | | | | | | | |
| mm | - | - | | | | | mm |
| 50 | SE 511-609 | 1211 EKTN9 | H 211 | FRB 11.5/100 | TSN 511 L | ASNH 511-609 | 95 |
| | | 2211 EKTN9 | H 311 | FRB 9.5/100 | TSN 511 A | | 95 |
| | | 22211 EK | H 311 | FRB 9.5/100 | TSN 511 C | | 95 |
| | | BS2-2211-2CSK | H 311 E | FRB 6.5/100 | TSN 511 S | | 107 |
| | | C 2211 KTN9 | H 311 E | FRB 9.5/100 | TSN 511 ND | | 165 |
| | SE 513-611 | 1311 EKTN9 | H 311 | FRB 11/120 | TSN 611 L | ASNH 513-611 | 110 |
| | | 2311 K | H 2311 | FRB 4/120 | TSN 611 A | | 110 |
| | | 21311 EK | H 311 | FRB 11/120 | TSN 611 C | | 110 |
| | | 22311 EK | H 2311 | FRB 4/120 | TSN 611 S | | 122 |
| | | | | | TSN 611 ND | | 170 |
| 55 | SE 512-610 | 1212 EKTN9 | H 212 | FRB 13/110 | TSN 512 L | ASNH 512-610 | 105 |
| | | 2212 EKTN9 | H 312 | FRB 10/110 | TSN 512 A | | 105 |
| | | 22212 EK | H 312 | FRB 10/110 | TSN 512 C | | 105 |
| | | BS2-2212-2CSK | H 312 E | FRB 7/110 | TSN 512 S | | 117 |
| | | C 2212 KTN9 | H 312 E | FRB 10/110 | TSN 512 ND | | 175 |
| | SE 515-612 | 1312 EKTN9 | H 312 | FRB 12.5/130 | TSN 612 L | ASNH 515-612 | 115 |
| | | 2312 K | H 2312 | FRB 5/130 | TSN 612 A | | 115 |
| | | 21312 EK | H 312 | FRB 12.5/130 | TSN 612 C | | 115 |
| | | 22312 EK | H 2312 | FRB 5/130 | TSN 612 S | | 127 |
| | | | | | TSN 612 ND | | 175 |
| 60 | SE 513-611 | 1213 EKTN9 | H 213 | FRB 14/120 | TSN 513 L | ASNH 513-611 | 110 |
| | | 2213 EKTN9 | H 313 | FRB 10/120 | TSN 513 A | | 110 |
| | | 22213 EK | H 313 | FRB 10/120 | TSN 513 C | | 110 |
| | | BS2-2213-2CSK | H 2313 E | FRB 6.5/120 | TSN 513 S | | 122 |
| | | C 2213 KTN9 | H 313 E | FRB 10/120 | TSN 513 ND | | 180 |
| | SNL 516-613 | 1313 EKTN9 | H 313 | FRB 12.5/140 | TSN 613 L | ASNH 516-613 | 120 |
| | | 2313 K | H 2313 | FRB 5/140 | TSN 613 A | | 120 |
| | | 21313 EK | H 313 | FRB 12.5/140 | TSN 613 C | | 120 |
| | | 22313 EK | H 2313 | FRB 5/140 | TSN 613 S | | 138 |
| | | | | | TSN 613 ND | | 180 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

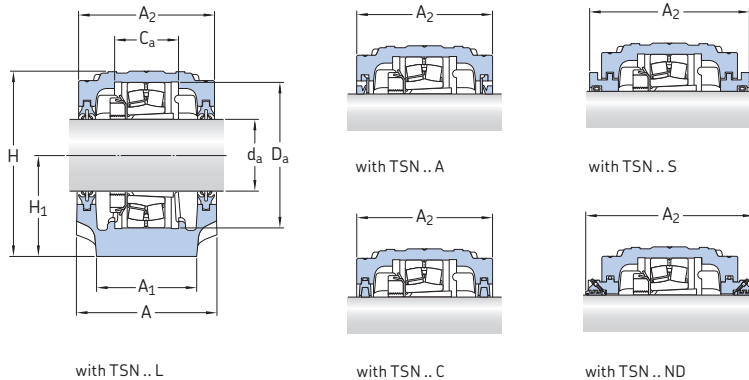
²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing |
|----------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|--------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | |
| mm | mm | | | | | | | | | | | | kg |
| 50 | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | 5,45 |
| | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | 7,90 |
| 55 | 105 | 70 | 48 | 110 | 134 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | 6,15 |
| | 115 | 80 | 56 | 130 | 156 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 8,55 |
| 60 | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | 7,90 |
| | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 9,50 |

2.1 SNL and SE plummer block housings for bearings on an adapter sleeve, metric shafts d_a 65 – 75 mm

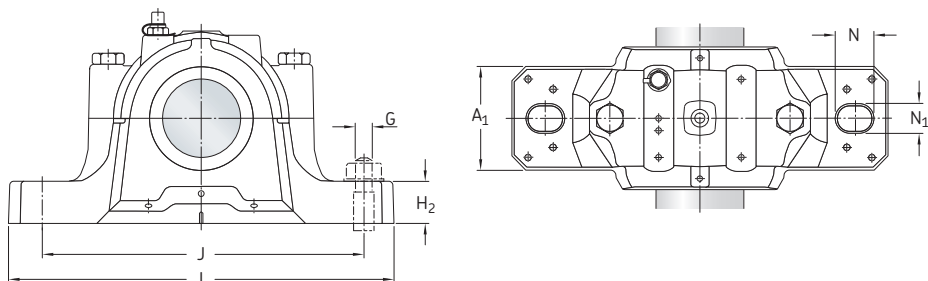


| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|-------------|--|------------------------------|-----------------------------|------------|--------------|-------------------------------------|
| mm | – | – | | | | | mm |
| 65 | SE 515-612 | 1215 K | H 215 | FRB 15.5/130 | TSN 515 L | ASNH 515-612 | 115 |
| | | 2215 EKTN9 | H 315 | FRB 12.5/130 | TSN 515 A | | 115 |
| | | 22215 EK | H 315 | FRB 12.5/130 | TSN 515 C | | 115 |
| | | B52-2215-2CSK | H 315 E | FRB 9/130 | TSN 515 S | | 127 |
| | | C 2215 K | H 315 E | FRB 12.5/130 | TSN 515 ND | | 175 |
| | SNL 518-615 | 1315 K | H 315 | FRB 14/160 | TSN 615 L | ASNH 518-615 | 140 |
| | | 2315 K | H 2315 | FRB 5/160 | TSN 615 A | | 140 |
| | | 21315 EK | H 315 | FRB 14/160 | TSN 615 C | | 140 |
| | | 22315 EK | H 2315 | FRB 5/160 | TSN 615 S | | 158 |
| | | C 2315 K | H 2315 | FRB 5/160 | TSN 615 ND | | 200 |
| 70 | SNL 516-613 | 1216 K | H 216 | FRB 16/140 | TSN 516 L | ASNH 516-613 | 120 |
| | | 2216 EKTN9 | H 316 | FRB 12.5/140 | TSN 516 A | | 120 |
| | | 22216 EK | H 316 | FRB 12.5/140 | TSN 516 C | | 120 |
| | | B52-2216-2CSK | H 316 E | FRB 9/140 | TSN 516 S | | 138 |
| | | C 2216 K | H 316 E | FRB 12.5/140 | TSN 516 ND | | 205 |
| | SNL 519-616 | 1316 K | H 316 | FRB 14.5/170 | TSN 616 L | ASNH 519-616 | 145 |
| | | 2316 K | H 2316 | FRB 5/170 | TSN 616 A | | 145 |
| | | 21316 EK | H 316 | FRB 14.5/170 | TSN 616 C | | 145 |
| | | 22316 EK | H 2316 | FRB 5/170 | TSN 616 S | | 163 |
| | | C 2316 K | H 2316 | FRB 5/170 | TSN 616 ND | | 205 |
| 75 | SNL 517 | 1217 K | H 217 | FRB 16.5/150 | TSN 517 L | ASNH 517 | 125 |
| | | 2217 K | H 317 | FRB 12.5/150 | TSN 517 A | | 125 |
| | | 22217 EK | H 317 | FRB 12.5/150 | TSN 517 C | | 125 |
| | | B52-2217-2CSK | H 317 E | FRB 8.5/150 | TSN 517 S | | 143 |
| | | C 2217 K | H 317 E | FRB 12.5/150 | TSN 517 ND | | 210 |
| | SNL 520-617 | 1317 K | H 317 | FRB 14.5/180 | TSN 617 L | ASNH 520-617 | 160 |
| | | 2317 K | H 2317 | FRB 5/180 | TSN 617 A | | 160 |
| | | 21317 EK | H 317 | FRB 14.5/180 | TSN 617 C | | 160 |
| | | 22317 EK | H 2317 | FRB 5/180 | TSN 617 S | | 178 |
| | | C 2317 K | H 2317 | FRB 5/180 | TSN 617 ND | | 220 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

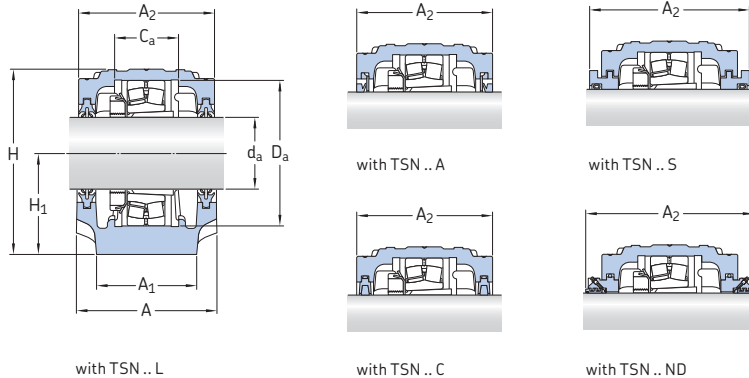
²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing |
|----------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|----|----|-------|--------------|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | |
| mm | mm | | | | | | | | | | | | kg |
| 65 | 115 | 80 | 56 | 130 | 156 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 8,55 |
| | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 12,5 |
| 70 | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 9,50 |
| | 145 | 100 | 68 | 170 | 212 | 112 | 35 | 290 | 345 | 28 | 22 | 20 | 13,7 |
| 75 | 125 | 90 | 61 | 150 | 183 | 95 | 32 | 260 | 320 | 28 | 22 | 20 | 10,0 |
| | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 17,6 |

2.1 SNL and SE plummer block housings for bearings on an adapter sleeve, metric shafts d_a 80 – 90 mm

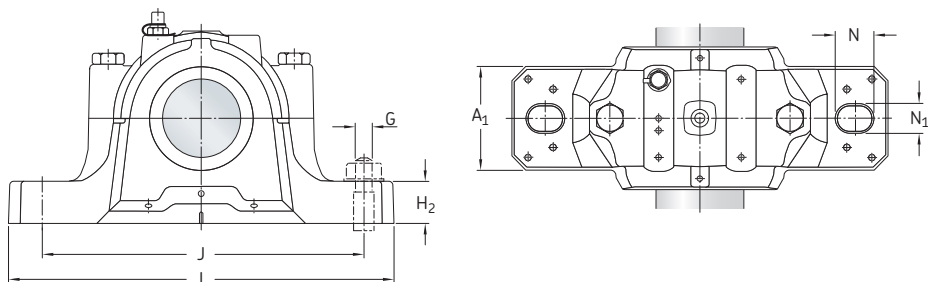


| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|-------------|--|------------------------------|-----------------------------|------------|--------------|-------------------------------------|
| mm | - | - | | | | | mm |
| 80 | SNL 518-615 | 1218 K | H 218 | FRB 17.5/160 | TSN 518 L | ASNH 518-615 | 140 |
| | | 2218 K | H 318 | FRB 12.5/160 | TSN 518 A | | 140 |
| | | 22218 EK | H 318 | FRB 12.5/160 | TSN 518 C | | 140 |
| | | BS2-2218-2CSK | H 2318 E/L73 | FRB 8.5/160 | TSN 518 S | | 158 |
| | | 23218 CCK/W33 | H 2318 | FRB 6.25/160 | TSN 518 ND | | 225 |
| | C 2218 K | H 318 E | FRB 12.5/160 | | | | |
| 85 | SNL 519-616 | 1219 K | H 219 | FRB 18/170 | TSN 519 L | ASNH 519-616 | 145 |
| | | 2219 KM | H 319 | FRB 12.5/170 | TSN 519 A | | 145 |
| | | 22219 EK | H 319 | FRB 12.5/170 | TSN 519 C | | 145 |
| | | C 2219 K | H 319 E | FRB 12.5/170 | TSN 519 S | | 163 |
| | | | | | TSN 519 ND | | 220 |
| | SNL 522-619 | 1319 K | H 319 | FRB 17.5/200 | TSN 619 A | ASNH 522-619 | 175 |
| | | 2319 KM | H 2319 | FRB 6.5/200 | TSN 619 C | | 175 |
| | | 21319 EK | H 319 | FRB 17.5/200 | TSN 619 S | | 191 |
| | | 22319 EK | H 2319 | FRB 6.5/200 | TSN 619 ND | | 235 |
| | | C 2319 K | H 2319 | FRB 6.5/200 | | | |
| 90 | SNL 520-617 | 1220 K | H 220 | FRB 18/180 | TSN 520 L | ASNH 520-617 | 160 |
| | | 2220 KM | H 320 | FRB 12/180 | TSN 520 A | | 160 |
| | | 22220 EK | H 320 | FRB 12/180 | TSN 520 C | | 160 |
| | | BS2-2220-2CS5K | H 2320 E | FRB 7.5/180 | TSN 520 S | | 178 |
| | | 23220 CCK/W33 | H 2320 | FRB 4.85/180 | TSN 520 ND | | 230 |
| | | C 2220 K | H 320 E | FRB 12/180 | | | |
| | SNL 524-620 | 1320 K | H 320 | FRB 19.5/215 | TSN 620 A | ASNH 524-620 | 185 |
| | | 2320 KM | H 2320 | FRB 6.5/215 | TSN 620 C | | 185 |
| | | 21320 EK | H 320 | FRB 19.5/215 | TSN 620 S | | 199 |
| | | 22320 EK | H 2320 | FRB 6.5/215 | TSN 620 ND | | 240 |
| C 2320 K | | H 2320 | FRB 6.5/215 | | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

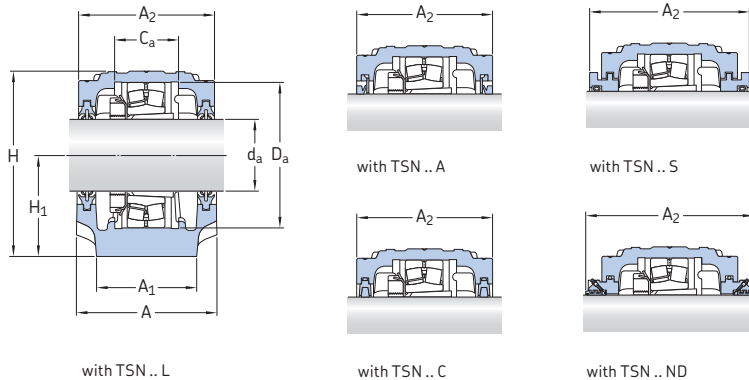
²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing |
|----------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|----|----|-------|--------------|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | |
| mm | mm | | | | | | | | | | | | kg |
| 80 | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 12,5 |
| 85 | 145 | 100 | 68 | 170 | 212 | 112 | 35 | 290 | 345 | 28 | 22 | 20 | 13,7 |
| | 175 | 120 | 80 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | 22,0 |
| 90 | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 17,6 |
| | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | 26,2 |

2.1 SNL and SE plummer block housings for bearings on an adapter sleeve, metric shafts d_a 100 – 135 mm

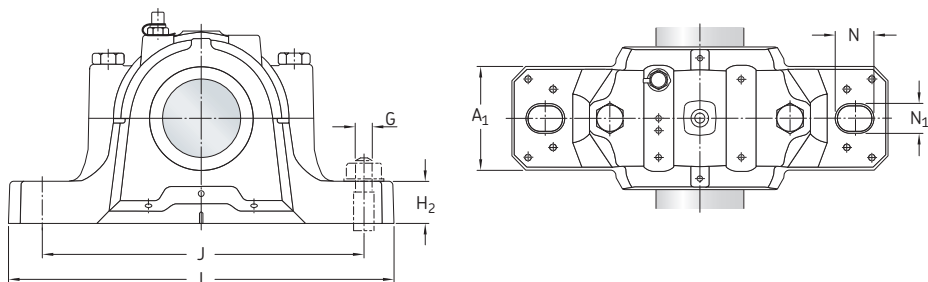


| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|-------------|--|------------------------------|-----------------------------|------------|--------------|-------------------------------------|
| mm | - | - | | | | | mm |
| 100 | SNL 522-619 | 1222 K | H 222 | FRB 21/200 | TSN 522 L | ASNH 522-619 | 175 |
| | | 2222 KM | H 322 | FRB 13.5/200 | TSN 522 A | | 175 |
| | | 22222 EK | H 322 | FRB 13.5/200 | TSN 522 C | | 175 |
| | | B52-2222-2CS5K | H 2322 E | FRB 8.5/200 | TSN 522 S | | 191 |
| | | 23222 CCK/W33 | H 2322 | FRB 5.1/200 | TSN 522 ND | | 250 |
| | | C 2222 K | H 322 E | FRB 13.5/200 | | | |
| 110 | SNL 524-620 | 1224 KM | H 3024 | FRB 22/215 | TSN 524 L | ASNH 524-620 | 185 |
| | | 22224 EK | H 3124 | FRB 14/215 | TSN 524 A | | 185 |
| | | B52-2224-2CS5K | H 2324 EH | FRB 8.5/215 | TSN 524 C | | 185 |
| | | 23224 CCK/W33 | H 2324 | FRB 5/215 | TSN 524 S | | 199 |
| | | C 2224 K | H 3124 L | FRB 14/215 | TSN 524 ND | | 260 |
| | | C 2324 K | H 2324 L | FRB 5/215 | | | |
| 115 | SNL 526 | 22226 EK | H 3126 | FRB 13/230 | TSN 526 L | ASNH 526 | 190 |
| | | B52-2226-2CS5K | H 2326 L | FRB 7.5/230 | TSN 526 A | | 190 |
| | | 23226 CCK/W33 | H 2326 | FRB 5/230 | TSN 526 C | | 190 |
| | | 23226-2CS5K | H 2326 L | FRB 5/230 | TSN 526 S | | 208 |
| | | C 2226 K | H 3126 L | FRB 13/230 | TSN 526 ND | | 265 |
| | | | | | | | |
| 125 | SNL 528 | 22228 CCK/W33 | H 3128 | FRB 15/250 | TSN 528 L | ASNH 528 | 205 |
| | | 22228-2CS5K | H 3128 L | FRB 15/250 | TSN 528 A | | 205 |
| | | 23228 CCK/W33 | H 2328 | FRB 5/250 | TSN 528 C | | 205 |
| | | 23228-2CS5K | H 2328 | FRB 5/250 | TSN 528 S | | 223 |
| | | C 2228 K | H 3128 L | FRB 15/250 | TSN 528 ND | | 285 |
| | | | | | | | |
| 135 | SNL 530 | 22230 CCK/W33 | H 3130 | FRB 16.5/270 | TSN 530 L | ASNH 530 | 220 |
| | | 22230-2CS5K | H 3130 | FRB 16.5/270 | TSN 530 A | | 220 |
| | | 23230 CCK/W33 | H 2330 | FRB 5/270 | TSN 530 C | | 220 |
| | | C 2230 K | H 3130 L | FRB 16.5/270 | TSN 530 S | | 241 |
| | | | | | TSN 530 ND | | 295 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

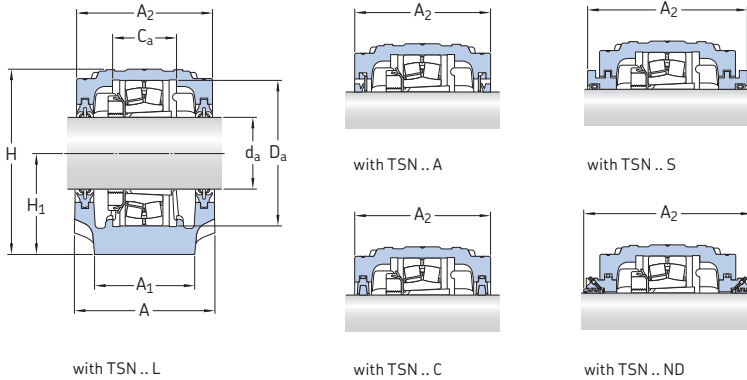
²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Eye bolt acc. to DIN 580 | Mass Housing |
|----------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|----|----|-------|--------------------------|--------------|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | | |
| mm | mm | | | | | | | | | | | | - | kg |
| 100 | 175 | 120 | 80 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | - | 22,0 |
| 110 | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | M10 | 26,2 |
| 115 | 190 | 130 | 90 | 230 | 290 | 150 | 50 | 380 | 445 | 35 | 28 | 24 | M10 | 33,0 |
| 125 | 205 | 150 | 98 | 250 | 302 | 150 | 50 | 420 | 500 | 42 | 35 | 30 | M12 | 40,0 |
| 135 | 220 | 160 | 106 | 270 | 323 | 160 | 60 | 450 | 530 | 42 | 35 | 30 | M12 | 49,0 |

2.1 SNL and SE plummer block housings for bearings on an adapter sleeve, metric shafts d_a 140 mm

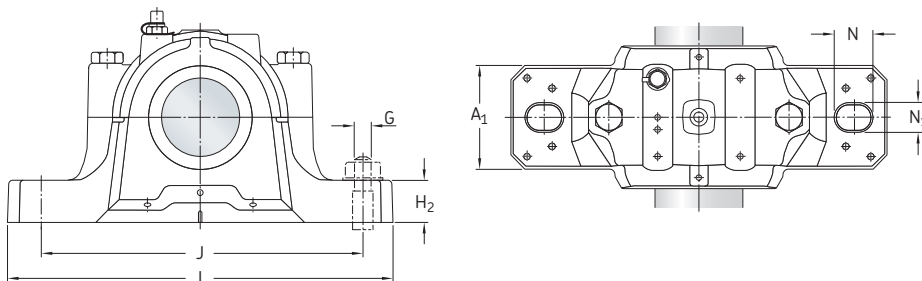


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|---------|---|--|--|--|-----------|---------------------------------|
| d_a | - | - | | | | | mm |
| mm | - | - | | | | | mm |
| 140 | SNL 532 | 22232 CCK/W33 22232-2CS5K 23232 CCK/W33 C 2322 K | H 3132 H 3132 H 2332 H 2332 L | FRB 17/290 FRB 17/290 FRB 5/290 FRB 5/290 | TSN 532 L TSN 532 A TSN 532 C TSN 532 S TSN 532 ND | ASNH 532 | 235 235 235 254 315 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

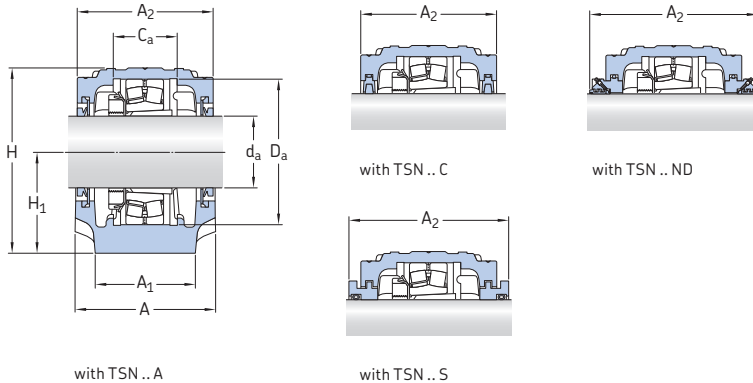


| Shaft diameter | Dimensions | | | | | | | | | | | | Eye bolt acc. to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-----|----|-------|----|--------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | | |
| mm | mm | | | | | | | | | | | | - | kg |
| 140 | 235 | 160 | 114 | 290 | 344 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | M12 | 55,0 |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $\frac{3}{4}$ – 1 in.

19,05 – 25,4 mm

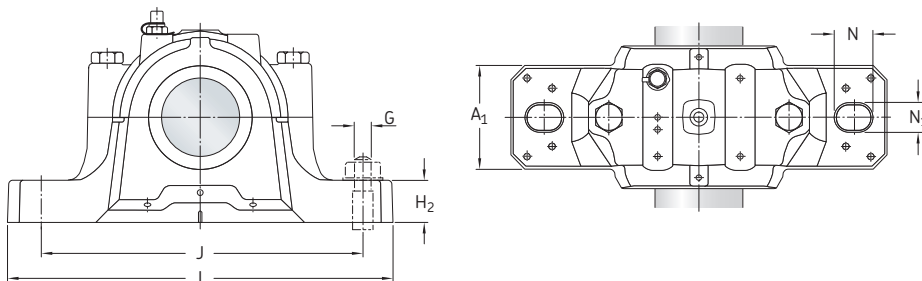


| Shaft diameter d_a | Housing | Appropriate parts | | | | | |
|---------------------------|-------------|-----------------------|------------------------------|-----------------------------|-------------|--------------|----------------------------|
| | | Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
| in./mm | - | - | - | - | - | - | mm |
| $\frac{3}{4}$ 19,05 | SNL 505 | 1205 EKTN9 | HE 205 | FRB 5/52 | TSN 505 A | ASNH 505 | 67 |
| | | 2205 EKTN9 | HE 305 | FRB 3.5/52 | TSN 505 C | | 67 |
| | | 22205 EK | HE 305 | FRB 3.5/52 | TSN 505 SE | | 80 |
| | | C 2205 KTN9 | HE 305 E | FRB 3.5/52 | TSN 505 NDE | | 125 |
| | SNL 506-605 | 1305 EKTN9 | HE 305 | FRB 7.5/62 | TSN 605 A | ASNH 506-605 | 77 |
| | | | | | TSN 605 C | | 77 |
| | | | | | TSN 605 SE | | 89 |
| | | | | | TSN 605 NDE | | 135 |
| $\frac{15}{16}$ 23,813 | SNL 506-605 | 1206 EKTN9 | HA 206 | FRB 8/62 | TSN 506 A | ASNH 506-605 | 77 |
| | | 2206 EKTN9 | HA 306 | FRB 6/62 | TSN 506 C | | 77 |
| | | 22206 EK | HA 306 | FRB 6/62 | TSN 506 SA | | 89 |
| | | C 2206 KTN9 | HA 306 E | FRB 6/62 | TSN 506 NDA | | 135 |
| | SE 507-606 | 1306 EKTN9 | HA 306 | FRB 7.5/72 | TSN 606 A | ASNH 507-606 | 82 |
| | | 2306 K | HA 2306 | FRB 3.5/72 | TSN 606 C | | 82 |
| | | 21306 CCK | HA 306 | FRB 7.5/72 | TSN 606 SA | | 94 |
| | | | | | TSN 606 NDA | | 140 |
| 1 25,4 | SNL 506-605 | 1206 EKTN9 | HE 206 | FRB 8/62 | TSN 506 A | ASNH 506-605 | 77 |
| | | 2206 EKTN9 | HE 306 | FRB 6/62 | TSN 506 C | | 77 |
| | | 22206 EK | HE 306 | FRB 6/62 | TSN 506 SE | | 89 |
| | | C 2206 KTN9 | HE 306 E | FRB 6/62 | TSN 506 NDE | | 135 |
| | SE 507-606 | 1306 EKTN9 | HE 306 | FRB 7.5/72 | TSN 606 A | ASNH 507-606 | 82 |
| | | 2306 K | HE 2306 | FRB 3.5/72 | TSN 606 C | | 82 |
| | | 21306 CCK | HE 2306 | FRB 7.5/72 | TSN 606 SE | | 94 |
| | | | | | TSN 606 NDE | | 140 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

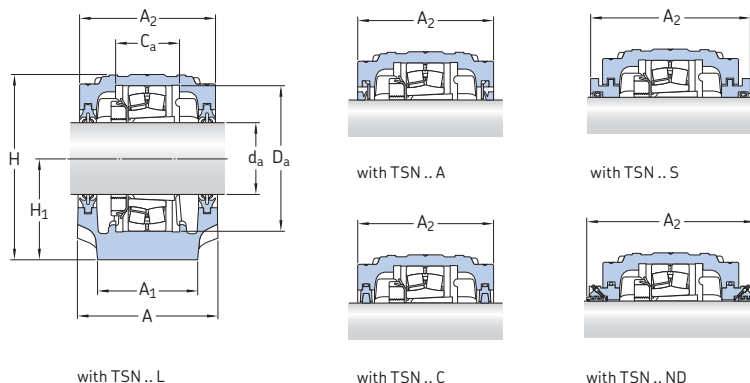
³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing | |
|---------------------------|------------|----|----------------|----------------|----------------|----|----------------|----------------|-----|----|----|----------------|--------------|------|
| | d_a | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | | G |
| in./mm | mm | | | | | | | | | | | | in. | kg |
| $\frac{3}{4}$ 19,05 | 67 | 46 | 25 | 52 | 74 | 40 | 19 | 130 | 165 | 20 | 15 | 12 | 1/2 | 1,45 |
| | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1/2 | 2,00 |
| $\frac{15}{16}$ 23,813 | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1/2 | 2,00 |
| | 82 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1/2 | 2,60 |
| 1 25,4 | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1/2 | 2,00 |
| | 83 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1/2 | 2,60 |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $1\frac{3}{16} - 1\frac{7}{16}$ in.
30,163 – 36,513 mm

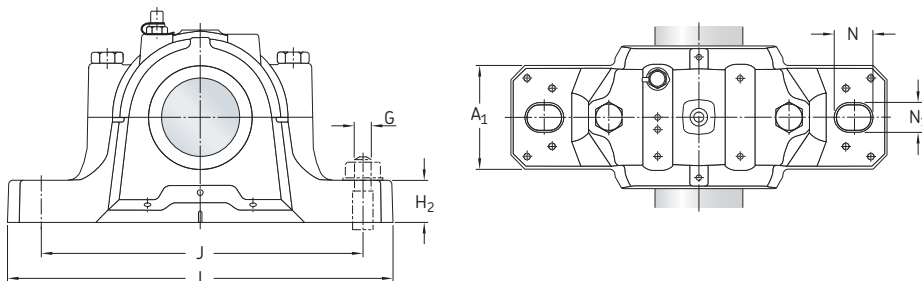


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|---------------------------|-------------------|--|--|--|---|--------------|-----------------------------|
| in./mm | - | - | | | | | mm |
| $1\frac{3}{16}$ 30,163 | SE 507-606 | 1207 EKTN9 2207 EKTN9 22207 EK C 2207 KTN9 | HA 207 HA 307 HA 307 HA 307 E | FRB 8.5/72 FRB 5.5/72 FRB 5.5/72 FRB 5.5/72 | TSN 507 L TSN 507 A TSN 507 C TSN 507 SA TSNA 507 NDA | ASNH 507-606 | 82 82 82 94 145 |
| | SE 508-607 | 1307 EKTN9 2307 EKTN9 21307 CCK | HA 307 HA 2307 HA 307 | FRB 9/80 FRB 4/80 FRB 9/80 | TSN 607 L TSN 607 A TSN 607 C TSN 607 SA TSN 607 NDA | ASNH 508-607 | 85 85 85 97 145 |
| $1\frac{1}{4}$ 31,75 | SE 508-607 | 1208 EKTN9 2208 EKTN9 22208 EK C 2208 KTN9 | HE 208 HE 308 HE 308 HE 308 E | FRB 10.5/80 FRB 8/80 FRB 8/80 FRB 8/80 | TSN 508 AE TSN 508 CE TSN 508 SE TSN 508 NDE | ASNH 508-607 | 85 85 85 150 |
| | SE 510-608 | 1308 EKTN9 2308 EKTN9 21308 EK 22308 EK | HE 308 HE 2308 HE 308 HE 2308 | FRB 9/90 FRB 4/90 FRB 9/90 FRB 4/90 | TSN 608 AE TSN 608 CE TSN 608 SE TSN 608 NDE | ASNH 510-608 | 90 90 102 150 |
| $1\frac{7}{16}$ 36,513 | SE 509 | 1209 EKTN9 2209 EKTN9 22209 EK BS2-2209-2CSK C 2209 KTN9 | HA 209 HA 309 HA 309 HA 309 E HA 309 E | FRB 5.5/85 FRB 3.5/85 FRB 3.5/85 FRB 1/85 FRB 3.5/85 | TSN 509 AE TSN 509 CE TSN 509 SA TSN 509 NDA | ASNH 509 | 85 85 97 150 |
| | SE 511-609 | 1309 EKTN9 2309 EKTN9 21309 EK 22309 EK | HA 309 HA 2309 HA 309 HA 2309 | FRB 9.5/100 FRB 4/100 FRB 9.5/100 FRB 4/100 | TSN 609 AE TSN 609 CE TSN 609 SA TSN 609 NDA | ASNH 511-609 | 95 95 107 155 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

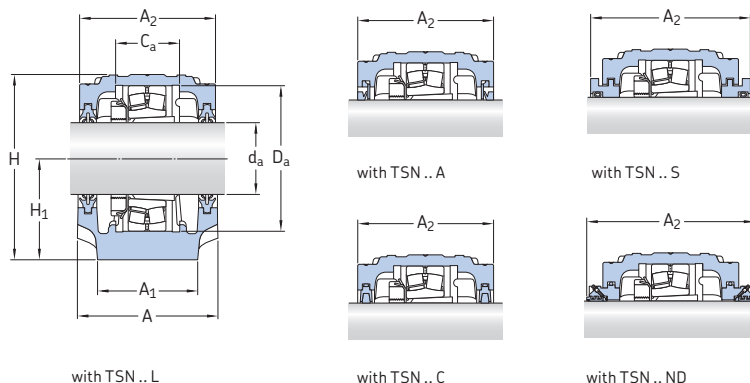
³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | Mass Housing | |
|---------------------------|------------|----|-------|-------|-------|----|-------|-------|-----|----|----|-------|---------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | | G |
| in./mm | mm | | | | | | | | | | | | | in. | kg |
| $1\frac{3}{16}$ 30,163 | 83 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | $\frac{1}{2}$ | 2,60 | |
| | 85 | 60 | 39 | 80 | 108 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | $\frac{1}{2}$ | 2,90 | |
| $1\frac{1}{4}$ 31,75 | 85 | 60 | 39 | 80 | 108 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | $\frac{1}{2}$ | 3,40 | |
| | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 12 | 12 | $\frac{1}{2}$ | 3,85 | |
| $1\frac{7}{16}$ 36,513 | 85 | 60 | 30 | 85 | 109 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | $\frac{1}{2}$ | 3,40 | |
| | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | $\frac{5}{8}$ | 5,45 | |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 1 1/2 – 1 3/4 in.
38,1 – 44,45 mm

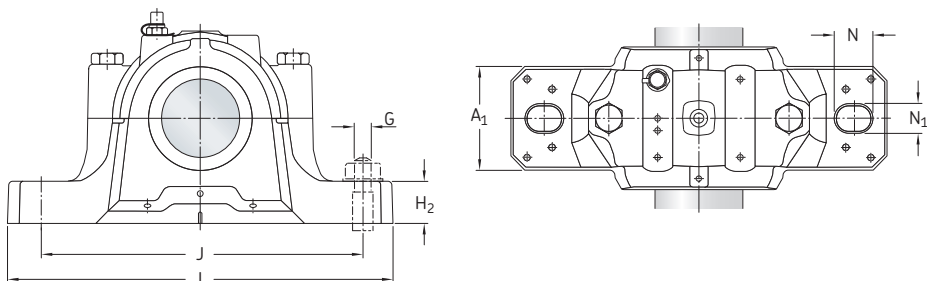


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|------------|--|------------------------------|-----------------------------|-------------|--------------|----------------------------|
| in./mm | - | - | - | - | - | - | mm |
| 1 1/2 38,1 | SE 509 | 1209 EKTN9 | HE 209 | FRB 5.5/85 | TSN 509 AE | ASNH 509 | 85 |
| | | 2209 EKTN9 | HE 309 | FRB 3.5/85 | TSN 509 CE | | 85 |
| | | 22209 EK | HE 309 | FRB 3.5/85 | TSN 509 SE | | 97 |
| | | B52-2209-2CSK | HE 309 E | FRB 1/85 | TSN 509 NDE | | 150 |
| | | C 2209 KTN9 | HE 309 E | FRB 3.5/85 | | | |
| | SE 511-609 | 1309 EKTN9 | HE 309 | FRB 9.5/100 | TSN 609 AE | ASNH 511-609 | 95 |
| | | 2309 EKTN9 | HE 2309 | FRB 4/100 | TSN 609 CE | | 95 |
| | | 21309 EK | HE 309 | FRB 9.5/100 | TSN 609 SE | | 107 |
| | | 22309 EK | HE 2309 | FRB 4/100 | TSN 609 NDE | | 155 |
| 1 11/16 42,863 | SE 510-608 | 1210 EKTN9 | HA 210 | FRB 10.5/90 | TSN 510 A | ASNH 510-608 | 90 |
| | | 2210 EKTN9 | HA 310 | FRB 9/90 | TSN 510 C | | 90 |
| | | 22210 EK | HA 310 | FRB 9/90 | TSN 510 SA | | 102 |
| | | B52-2210-2CSK | HA 310 E | FRB 6.5/90 | TSN 510 NDA | | 155 |
| | | C 2210 KTN9 | HA 310 E | FRB 9/90 | | | |
| | SE 512-610 | 1310 EKTN9 | HA 310 | FRB 10.5/110 | TSN 610 A | ASNH 512-610 | 105 |
| 2310 K | | HA 2310 | FRB 4/110 | TSN 610 C | 105 | | |
| 21310 EK | | HA 310 | FRB 10.5/110 | TSN 610 SA | 117 | | |
| 22310 EK | | HA 2310 | FRB 4/110 | TSN 610 NDA | 165 | | |
| 1 3/4 44,45 | SE 510-608 | 1210 EKTN9 | HE 210 | FRB 10.5/90 | TSN 510 L | ASNH 510-608 | 90 |
| | | 2210 EKTN9 | HE 310 | FRB 9/90 | TSN 510 A | | 90 |
| | | 22210 EK | HE 310 | FRB 9/90 | TSN 510 C | | 90 |
| | | B52-2210-2CSK | HE 310 E | FRB 6.5/90 | TSN 510 SE | | 102 |
| | | C 2210 KTN9 | HE 310 E | FRB 9/90 | TSN 510 NDE | | 155 |
| | | | SE 512-610 | 1310 EKTN9 | HE 310 | | FRB 10.5/110 |
| 2310 K | HE 2310 | FRB 4/110 | | TSN 610 A | 105 | | |
| 21310 EK | HE 310 | FRB 10.5/110 | | TSN 610 C | 105 | | |
| 22310 EK | HE 2310 | FRB 4/110 | | TSN 610 SE | 117 | | |
| | | | | TSN 610 NDE | 165 | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

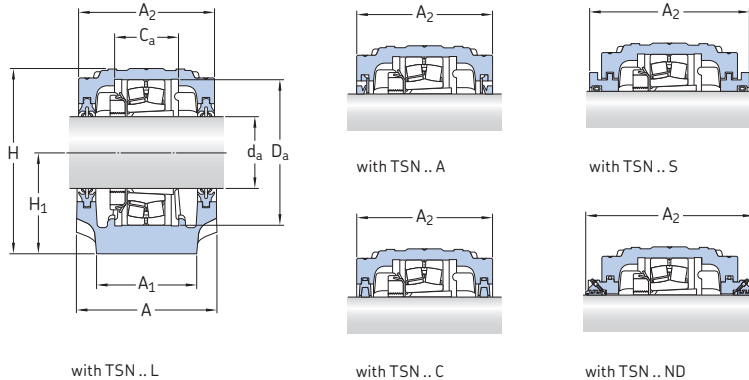
³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing | |
|----------------------------|------------|----|-------|-------|-------|----|-------|-------|-----|----|----|-------|---------------|------|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | | G |
| in./mm | mm | | | | | | | | | | | | in. | kg |
| $1\frac{1}{2}$ 38,1 | 85 | 60 | 30 | 85 | 109 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | $\frac{1}{2}$ | 3,40 |
| | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | $\frac{5}{8}$ | 5,45 |
| $1\frac{11}{16}$ 42,863 | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | $\frac{1}{2}$ | 3,85 |
| | 105 | 70 | 48 | 110 | 134 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | $\frac{5}{8}$ | 6,15 |
| $1\frac{3}{4}$ 44,45 | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | $\frac{1}{2}$ | 3,85 |
| | 105 | 70 | 48 | 110 | 134 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | $\frac{5}{8}$ | 6,15 |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $1\frac{15}{16} - 2\frac{3}{16}$ in.
49,213 – 55,563 mm

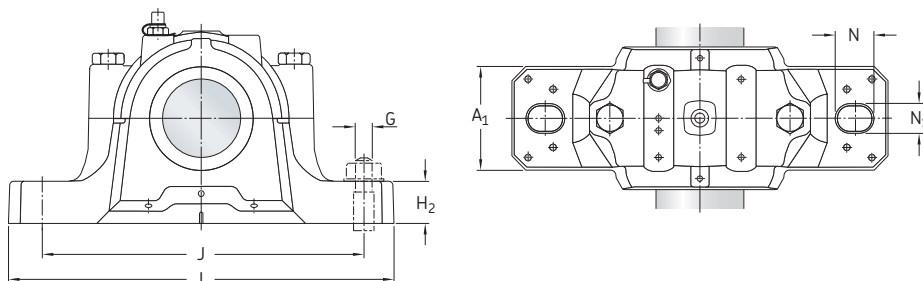


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------------------|---------------|--|------------------------------|-----------------------------|--------------|--------------|----------------------------|
| in./mm | - | - | - | - | - | - | mm |
| $1\frac{15}{16}$ 49,213 | SE 511-609 | 1211 EKTN9 | HA 211 | FRB 11.5/100 | TSN 511 L | ASNH 511-609 | 95 |
| | | 2211 EKTN9 | HA 311 | FRB 9.5/100 | TSN 511 A | | 95 |
| | | 22211 EK | HA 311 | FRB 9.5/100 | TSN 511 C | | 95 |
| | | BS2-2211-2CSK | HA 311 E | FRB 6.5/100 | TSN 511 SA | | 107 |
| | | C 2211 KTN9 | HA 311 E | FRB 9.5/100 | TSN 511 NDA | | 165 |
| | | SE 513-611 | 1311 EKTN9 | HA 311 | FRB 11/120 | | TSN 611 L |
| | 2311 K | HA 2311 | FRB 4/120 | TSN 611 A | 110 | | |
| | 21311 EK | HA 311 | FRB 11/120 | TSN 611 C | 110 | | |
| | 22311 EK | HA 2311 | FRB 4/120 | TSN 611 SA | 122 | | |
| | | | | TSN 611 NDA | 170 | | |
| | | | | | | | |
| | 2 50,8 | SE 511-609 | 1211 EKTN9 | HE 211 B | FRB 11.5/100 | TSN 511 L | ASNH 511-609 |
| 2211 EKTN9 | | | HE 311 B | FRB 9.5/100 | TSN 511 A | 95 | |
| 22211 EK | | | HE 311 B | FRB 9.5/100 | TSN 511 C | 95 | |
| BS2-2211-2CSK | | | HE 311 BE | FRB 6.5/100 | TSN 511 SE | 107 | |
| C 2211 KTN9 | | | HE 311 BE | FRB 9.5/100 | TSN 511 NDE | 165 | |
| SE 513-611 | | | 1311 EKTN9 | HE 311 | FRB 11/120 | TSN 611 L | |
| 2311 K | | HE 2311 B | FRB 4/120 | TSN 611 A | 110 | | |
| 21311 EK | | HE 311 | FRB 11/120 | TSN 611 C | 110 | | |
| 22311 EK | | HE 2311 B | FRB 4/120 | TSN 611 SE | 122 | | |
| | | | | TSN 611 NDE | 170 | | |
| | | | | | | | |
| $2\frac{3}{16}$ 55,563 | | SE 513-611 | 1213 EKTN9 | HA 213 | FRB 14/120 | TSN 513 LA | ASNH 513-611 |
| | 2213 EKTN9 | | HA 313 | FRB 10/120 | TSN 513 AE | 110 | |
| | 22213 EK | | HA 313 | FRB 10/120 | TSN 513 CE | 110 | |
| | BS2-2213-2CSK | | HA 2313 E | FRB 6.5/120 | TSN 513 SA | 122 | |
| | C 2213 KTN9 | | HA 313 E | FRB 10/120 | TSN 513 NDA | 180 | |
| | SNL 516-613 | | 1313 EKTN9 | HA 313 | FRB 12.5/140 | TSN 613 AE | |
| | 2313 K | HA 2313 | FRB 5/140 | TSN 613 CE | 120 | | |
| | 21313 EK | HA 313 | FRB 12.5/140 | TSN 613 SA | 138 | | |
| | 22313 EK | HA 2313 | FRB 5/140 | TSN 613 NDA | 180 | | |
| | | | | | | | |
| | | | | | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

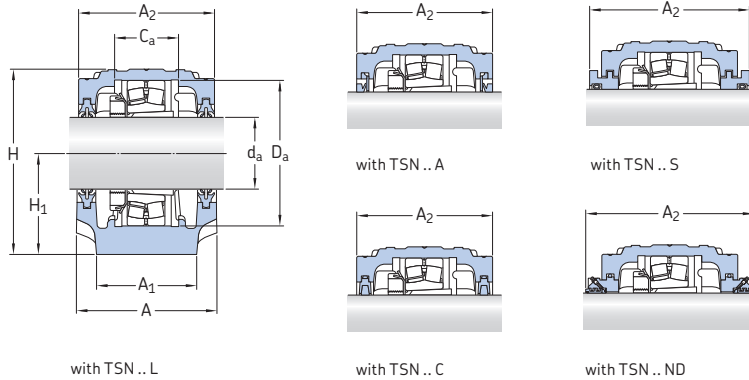
³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | Mass Housing | |
|----------------------------|------------|----|-------|-------|-------|----|-------|-------|-----|----|----|-------|---------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | | G |
| in./mm | mm | | | | | | | | | | | | | in. | kg |
| $1\frac{15}{16}$ 49,213 | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | $\frac{5}{8}$ | 5,45 | |
| | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | $\frac{5}{8}$ | 7,90 | |
| 2 50,8 | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | $\frac{5}{8}$ | 5,45 | |
| | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | $\frac{5}{8}$ | 7,90 | |
| $2\frac{3}{16}$ 55,563 | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | $\frac{5}{8}$ | 7,90 | |
| | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | $\frac{3}{4}$ | 9,50 | |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 2 1/4 – 2 1/2 in.
57,15 – 63,5 mm

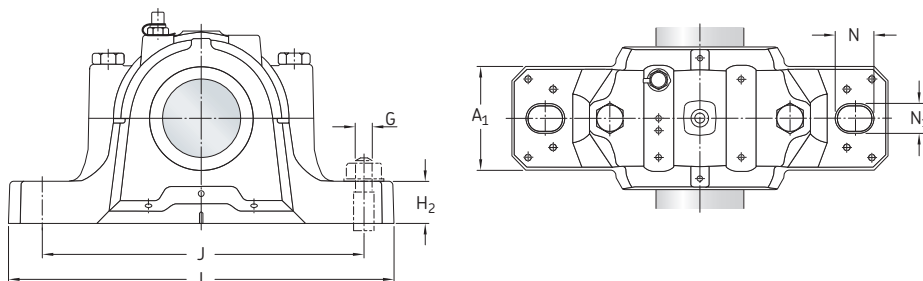


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------|--|------------------------------|-----------------------------|-------------|--------------|----------------------------|
| in./mm | – | – | | | | | mm |
| 2 1/4 57,15 | SE 513-611 | 1213 EKTN9 | HE 213 | FRB 14/120 | TSN 513 A | ASNH 513-611 | 110 |
| | | 2213 EKTN9 | HE 313 | FRB 10/120 | TSN 513 CE | | 110 |
| | | 22213 EK | HE 313 | FRB 10/120 | TSN 513 SE | | 122 |
| | | BS2-2213-2CSK | HE 2313 E | FRB 6.5/120 | TSN 513 NDE | | 180 |
| | | C 2213 KTN9 | HE 313 E | FRB 10/120 | | | |
| | SNL 516-613 | 1313 EKTN9 | HE 313 | FRB 12.5/140 | TSN 613 A | ASNH 516-613 | 120 |
| | | 2313 K | HE 2313 | FRB 5/140 | TSN 613 CE | | 120 |
| | | 21313 EK | HE 313 | FRB 12.5/140 | TSN 613 SE | | 138 |
| | | 22313 EK | HE 2313 | FRB 5/140 | TSN 613 NDE | | 180 |
| 2 7/16 61,913 | SE 515-612 | 1215 K | HA 215 | FRB 15.5/130 | TSN 515 LA | ASNH 515-612 | 115 |
| | | 2215 EKTN9 | HA 315 | FRB 12.5/130 | TSN 515 AE | | 115 |
| | | 22215 EK | HA 315 | FRB 12.5/130 | TSN 515 CE | | 115 |
| | | BS2-2215-2CSK | HA 315 E | FRB 9/130 | TSN 515 SA | | 127 |
| | | C 2215 K | HA 315 E | FRB 12.5/130 | TSN 515 NDA | | 175 |
| | SNL 518-615 | 1315 K | HA 315 | FRB 14/160 | TSN 615 AE | ASNH 518-615 | 140 |
| | | 2315 K | HA 2315 | FRB 5/160 | TSN 615 CE | | 140 |
| | | 21315 EK | HA 315 | FRB 14/160 | TSN 615 SA | | 158 |
| | | 22315 EK | HA 2315 | FRB 5/160 | TSN 615 NDA | | 200 |
| | | C 2315 K | HA 2315 | FRB 5/160 | | | |
| 2 1/2 63,5 | SE 515-612 | 1215 K | HE 215 | FRB 15.5/130 | TSN 515 A | ASNH 515-612 | 115 |
| | | 2215 EKTN9 | HE 315 | FRB 12.5/130 | TSN 515 C | | 115 |
| | | 22215 EK | HE 315 | FRB 12.5/130 | TSN 515 SE | | 127 |
| | | BS2-2215-2CSK | HE 315 E | FRB 9/130 | TSN 515 NDE | | 175 |
| | | C 2215 K | HE 315 E | FRB 12.5/130 | | | |
| | SNL 518-615 | 1315 K | HE 315 | FRB 14/160 | TSN 615 A | ASNH 518-615 | 140 |
| | | 2315 K | HE 2315 | FRB 5/160 | TSN 615 C | | 140 |
| | | 21315 EK | HE 315 | FRB 14/160 | TSN 615 SE | | 158 |
| | | 22315 EK | HE 2315 | FRB 5/160 | TSN 615 NDE | | 200 |
| | | C 2315 K | HE 2315 | FRB 5/160 | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

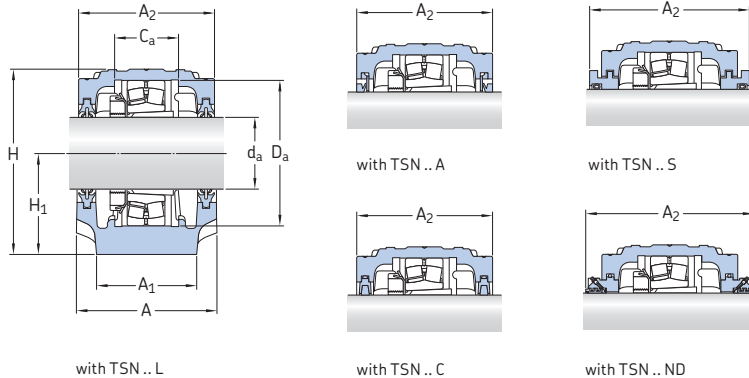
³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | Mass Housing | |
|------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|-----|--------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | G | | |
| in./mm | mm | | | | | | | | | | | | | in. | kg |
| 2 1/4 57,15 | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | 5/8 | 7,90 | |
| | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 3/4 | 9,50 | |
| 2 7/16 61,913 | 115 | 80 | 56 | 130 | 156 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 5/8 | 8,55 | |
| | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 3/4 | 12,5 | |
| 2 1/2 63,5 | 115 | 80 | 56 | 130 | 156 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 5/8 | 8,55 | |
| | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 3/4 | 12,5 | |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $2\frac{11}{16} - 2\frac{15}{16}$ in.
68,263 – 74,613 mm

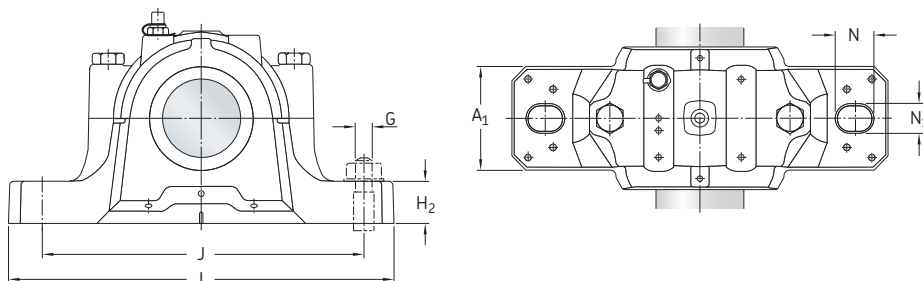


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------------------|-------------|--|------------------------------|-----------------------------|-------------|--------------|----------------------------|
| in./mm | - | - | | | | | mm |
| $2\frac{11}{16}$ 68,263 | SNL 516-613 | 1216 K | HA 216 | FRB 16/140 | TSN 516 A | ASNH 516-613 | 120 |
| | | 2216 EKTN9 | HA 316 | FRB 12.5/140 | TSN 516 C | | 120 |
| | | 22216 EK | HA 316 | FRB 12.5/140 | TSN 516 SA | | 138 |
| | SNL 519-616 | B52-2216-2CSK | HA 316 E | FRB 9/140 | TSN 516 NDA | | 205 |
| | | C 2216 K | HA 316 E | FRB 12.5/140 | | | |
| | | 1316 K | HA 316 | FRB 14.5/170 | TSN 616 A | ASNH 519-616 | 145 |
| $2\frac{3}{4}$ 69,85 | SNL 516-613 | 2316 K | HA 2316 | FRB 5/170 | TSN 616 C | ASNH 519-616 | 145 |
| | | 21316 EK | HA 316 | FRB 14.5/170 | TSN 616 SA | | 163 |
| | | 22316 EK | HA 2316 | FRB 5/170 | TSN 616 NDA | | 205 |
| | SNL 519-616 | C 2316 K | HA 2316 | FRB 5/170 | | | |
| | | 1316 K | HE 316 | FRB 14.5/170 | TSN 616 L | ASNH 519-616 | 145 |
| | | 2316 K | HE 2316 | FRB 5/170 | TSN 616 A | | 145 |
| $2\frac{15}{16}$ 74,613 | SNL 517 | 21316 EK | HE 316 | FRB 14.5/170 | TSN 616 C | ASNH 517 | 145 |
| | | 22316 EK | HE 316 | FRB 14.5/170 | TSN 616 SE | | 163 |
| | | B52-2217-2CSK | HE 316 E | FRB 9/140 | TSN 516 SE | | 138 |
| | SNL 520-617 | C 2216 K | HE 316 E | FRB 12.5/140 | TSN 516 NDE | 205 | |
| | | 1217 K | HA 217 | FRB 16.5/150 | TSN 517 L | ASNH 520-617 | 125 |
| | | 2217 K | HA 317 | FRB 12.5/150 | TSN 517 A | | 125 |
| 22217 EK | HA 317 | FRB 12.5/150 | TSN 517 C | 125 | | | |
| $2\frac{15}{16}$ 74,613 | SNL 517 | B52-2217-2CSK | HA 317 E | FRB 8.5/150 | TSNA 517 SA | ASNH 520-617 | 143 |
| | | C 2217 K | HA 317 E | FRB 12.5/150 | TSN 517 NDA | | 210 |
| | | 1317 K | HA 317 | FRB 14.5/180 | TSN 617 L | | 160 |
| | SNL 520-617 | 2317 K | HA 2317 | FRB 5/180 | TSN 617 A | | 160 |
| | | 21317 EK | HA 317 | FRB 14.5/180 | TSN 617 C | | 160 |
| | | 22317 EK | HA 2317 | FRB 5/180 | TSN 617 SA | | 178 |
| | C 2317 K | HA 2317 | FRB 5/180 | TSN 617 NDA | | 220 | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

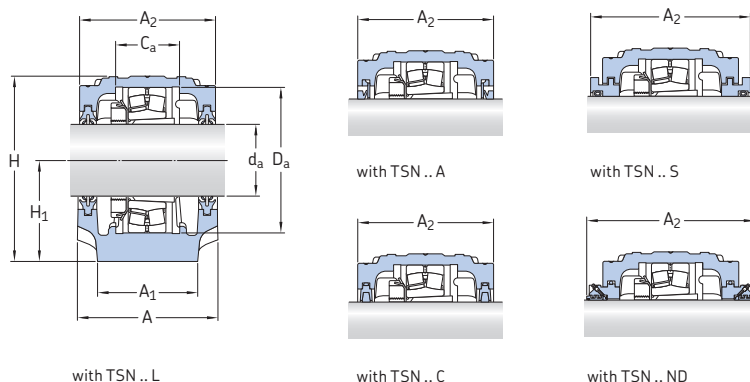


| Shaft diameter | Dimensions | | | | | | | | | | | | | Mass Housing | |
|---|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|-----|--------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | G | in. | kg |
| in./mm | mm | | | | | | | | | | | | | in. | kg |
| 2 ¹⁴ / ₁₆ 68,263 | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 3/4 | 9,50 | |
| | 145 | 100 | 68 | 170 | 212 | 112 | 35 | 290 | 345 | 28 | 22 | 20 | 3/4 | 13,7 | |
| 2 ³ / ₄ 69,85 | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 3/4 | 9,50 | |
| | 145 | 100 | 68 | 170 | 212 | 112 | 35 | 290 | 345 | 28 | 22 | 20 | 3/4 | 13,7 | |
| 2 ¹⁵ / ₁₆ 74,613 | 125 | 90 | 61 | 150 | 183 | 95 | 32 | 260 | 320 | 28 | 22 | 20 | 3/4 | 10,0 | |
| | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 7/8 | 17,6 | |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 3 – 3 1/4 in.

76,2 – 82,55 mm

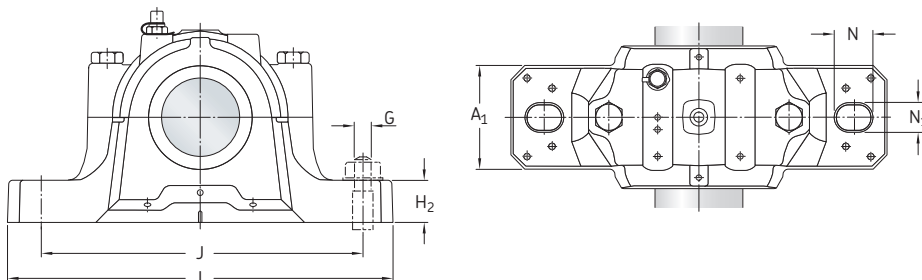


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|--------------------|--|------------------------------|-----------------------------|--------------|--------------|----------------------------|
| in./mm | - | - | | | | | mm |
| 3 76,2 | SNL 517 | 1217 K | HE 217 | FRB 16.5/150 | TSN 517 L | ASNH 517 | 125 |
| | | 2217 K | HE 317 | FRB 12.5/150 | TSN 517 A | | 125 |
| 22217 EK | | HE 317 | FRB 12.5/150 | TSN 517 C | | 125 | |
| B52-2217-2CSK | | HE 317 E | FRB 8.5/150 | TSN 517 SE | | 143 | |
| C 2217 K | | HE 317 E | FRB 12.5/150 | TSN 517 NDE | | 210 | |
| SNL 520-617 | | 1317 K | H 317 | FRB 14.5/180 | TSN 617 L | ASNH 520-617 | 160 |
| | 2317 K | HE 2317 | FRB 5/180 | TSN 617 A | | 160 | |
| | 21317 EK | H 317 | FRB 14.5/180 | TSN 617 C | | 160 | |
| | 22317 EK | HE 2317 | FRB 5/180 | TSN 617 SE | | 178 | |
| | C 2317 K | HE 2317 | FRB 5/180 | TSN 617 NDE | | 220 | |
| | 3 3/16 80,963 | SNL 518-615 | 1218 K | HA 218 | FRB 17.5/160 | TSN 518 L | ASNH 518-615 |
| 2218 K | | | HA 318 | FRB 12.5/160 | TSN 518 A | | 140 |
| 22218 EK | | | HA 318 | FRB 12.5/160 | TSN 518 CE | | 140 |
| B52-2218-2CSK | | | HA 2318 E/L73 | FRB 8.5/160 | TSN 518 SA | | 158 |
| 23218 CCK/W33 | | | HA 2318 | FRB 6.25/160 | TSN 518 NDA | | 225 |
| C 2218 K | | | HA 318 E | FRB 12.5/160 | | | |
| 3 1/4 82,55 | SNL 518-615 | 1218 K | HE 218 | FRB 17.5/160 | TSN 518 A | ASNH 518-615 | 140 |
| | | 2218 K | HE 318 | FRB 12.5/160 | TSN 518 CE | | 140 |
| | | 22218 EK | HE 318 | FRB 12.5/160 | TSN 518 SE | | 158 |
| | | B52-2218-2CSK | HE 2318 E/L73 | FRB 8.5/160 | TSN 518 NDE | | 225 |
| | | 23218 CCK/W33 | HE 2318 | FRB 6.25/160 | | | |
| | | C 2218 K | HE 318 E | FRB 12.5/160 | | | |
| | SNL 522-619 | 1319 K | HE 319 | FRB 17.5/200 | TSN 619 A | ASNH 522-619 | 175 |
| | | 2319 KM | HE 2319 | FRB 6.5/200 | TSN 619 C | | 175 |
| | | 21319 EK | HE 319 | FRB 17.5/200 | TSN 619 SE | | 191 |
| | | 22319 EK | HE 2319 | FRB 6.5/200 | TSN 619 NDE | | 235 |
| | | C 2319 K | HE 2319 | FRB 6.5/200 | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

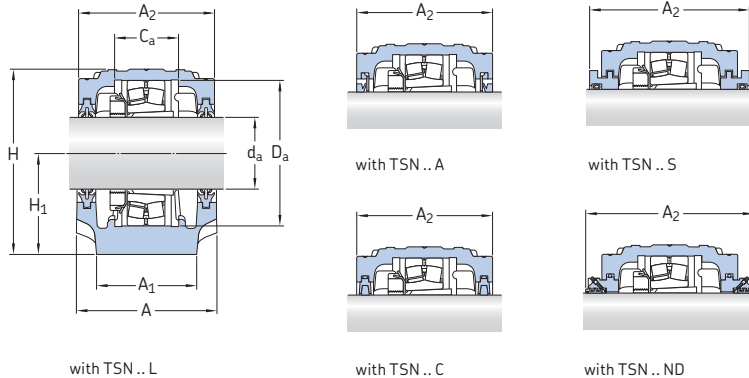


| Shaft diameter | Dimensions | | | | | | | | | | | | Mass Housing | |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|--------------|------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | G | in. |
| in./mm | mm | | | | | | | | | | | | in. | kg |
| 3 76,2 | 125 | 90 | 61 | 150 | 183 | 95 | 32 | 260 | 320 | 28 | 22 | 20 | 3/4 | 10,0 |
| | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 7/8 | 17,6 |
| 3 3/16 80,963 | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 3/4 | 12,5 |
| 3 1/4 82,55 | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 3/4 | 12,5 |
| | 175 | 120 | 80 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | 7/8 | 22,0 |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 3 7/16 – 3 15/16 in.

87,313 – 100,012 mm

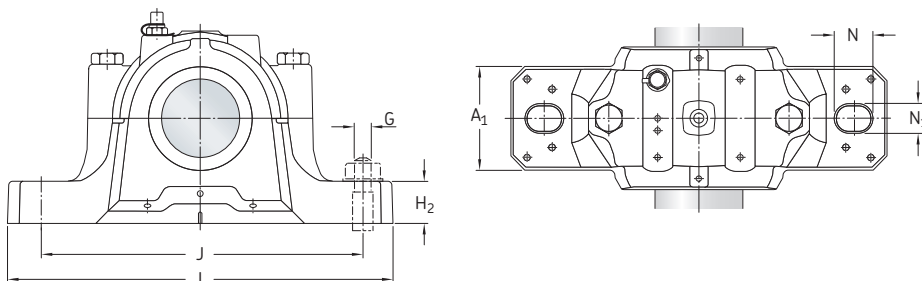


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------|---|--|--|--|--------------|---------------------------------|
| in./mm | - | - | | | | | mm |
| 3 7/16 87,313 | SNL 520-617 | 1220 K 2220 KM 2220 EK B52-2220-2CS5K 23220 CCK/W33 C 2220 K | HA 220 HA 320 HA 320 E HA 2320 HA 320 E | FRB 18/180 FRB 12/180 FRB 12/180 FRB 7.5/180 FRB 4.85/180 FRB 12/180 | TSN 520 A TSN 520 C TSN 520 SA TSN 520 NDA | ASNH 520-617 | 160 160 178 230 |
| | SNL 524-620 | 1320 K 2320 KM 21320 EK 22320 EK C 2320 K | HA 320 HA 2320 HA 320 HA 2320 HA 2320 | FRB 19.5/215 FRB 6.5/215 FRB 19.5/215 FRB 6.5/215 FRB 6.5/215 | TSN 620 A TSN 620 C TSN 620 SA TSN 620 NDA | ASNH 524-620 | 185 185 199 240 |
| 3 1/2 88,9 | SNL 520-617 | 1220 K 2220 KM 2220 EK B52-2220-2CS5K 23220 CCK/W33 C 2220 K | HE 220 HE 320 HE 320 HE 2320 E HE 2320 HE 320 E | FRB 18/180 FRB 12/180 FRB 12/180 FRB 7.5/180 FRB 4.85/180 FRB 12/180 | TSN 520 A TSN 520 C TSN 520 SE TSN 520 NDE | ASNH 520-617 | 160 160 178 230 |
| | SNL 524-620 | 1320 K 2320 KM 21320 EK 22320 EK C 2320 K | HE 320 HE 2320 HE 320 HE 2320 HE 2320 | FRB 19.5/215 FRB 6.5/215 FRB 19.5/215 FRB 6.5/215 FRB 6.5/215 | TSN 620 A TSN 620 C TSN 620 SE TSN 620 NDE | ASNH 524-620 | 185 185 199 240 |
| 3 15/16 100,012 | SNL 522-619 | 1222 K 2222 KM 2222 EK B52-2222-2CS5K 23222 CCK/W33 C 2222 K | H 222 H 322 H 322 H 2322 E H 2322 H 322 E | FRB 21/200 FRB 13.5/200 FRB 13.5/200 FRB 8.5/200 FRB 5.1/200 FRB 13.5/200 | TSN 522 L TSN 522 A TSN 522 C TSN 522 SA TSN 522 NDA | ASNH 522-619 | 175 175 175 191 250 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

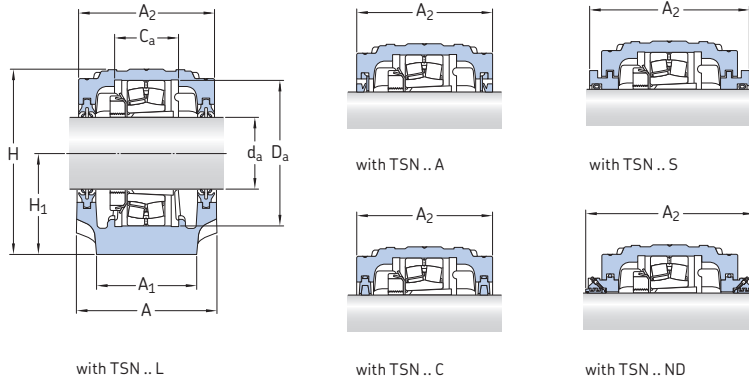


| Shaft diameter | Dimensions | | | | | | | | | | | | | Eye bolt acc. to DIN 580 | Mass Housing | |
|---------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|-----|--------------------------|--------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | in. | - | kg |
| 3 7/16 87,313 | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 7/8 | - | 17,6 | |
| | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | 7/8 | M10 | 26,2 | |
| 3 1/2 88,9 | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 7/8 | - | 17,6 | |
| | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | 7/8 | M10 | 26,2 | |
| 3 15/16 100,012 | 175 | 120 | 80 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | 7/8 | - | 22,0 | |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 4 – 4 1/2 in.

101,6 – 114,3 mm

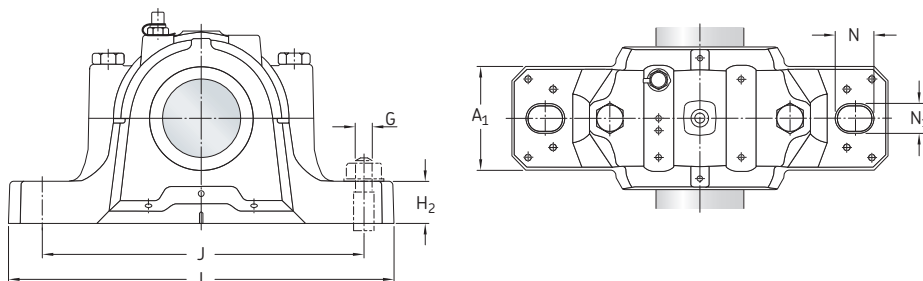


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------|--|------------------------------|-----------------------------|-------------|--------------|----------------------------|
| in./mm | – | – | | | | | mm |
| 4 101,6 | SNL 522-619 | 1222 K | HE 222 | FRB 21/200 | TSN 522 L | ASNH 522-619 | 175 |
| | | 2222 KM | HE 322 | FRB 13.5/200 | TSN 522 A | | 175 |
| | | 22222 EK | HE 322 | FRB 13.5/200 | TSN 522 C | | 175 |
| | | B52-2222-2CS5K | HE 2322 E | FRB 8.5/200 | TSN 522 SE | | 191 |
| | | 23222 CCK/W33 | HE 2322 | FRB 5.1/200 | TSN 522 NDE | | 250 |
| | | C 2222 K | HE 322 E | FRB 13.5/200 | | | |
| 4 3/16 106,363 | SNL 524-620 | 1224 KM | HA 3024 | FRB 22/215 | TSN 524 A | ASNH 524-620 | 185 |
| | | 22224 EK | HA 3124 | FRB 14/215 | TSN 524 CE | | 185 |
| | | B52-2224-2CS5K | HA 2324 EH | FRB 8.5/215 | TSN 524 SA | | 199 |
| | | 23224 CCK/W33 | HA 2324 | FRB 5/215 | TSN 524 NDA | | 260 |
| | | C 3224 K | HA 2324 L | FRB 5/215 | | | |
| | | | | | | | |
| 4 1/4 107,95 | SNL 524-620 | 1224 KM | HE 3024 | FRB 22/215 | TSN 524 A | ASNH 524-620 | 185 |
| | | 22224 EK | HE 3124 | FRB 14/215 | TSN 524 C | | 815 |
| | | B52-2224-2CS5K | HE 2324 EH | FRB 8.5/215 | TSN 524 SE | | 199 |
| | | 23224 CCK/W33 | HE 2324 | FRB 5/215 | TSN 524 NDE | | 260 |
| | | C 2224 K | HE 3124 L | FRB 14/215 | | | |
| | | C 3224 K | HE 2324 L | FRB 5/215 | | | |
| 4 7/16 112,713 | SNL 526 | 22226 EK | HA 3126 | FRB 13/230 | TSN 526 A | ASNH 526 | 190 |
| | | B52-2226-2CS5K | HA 2326 L | FRB 7.5/230 | TSN 526 C | | 190 |
| | | 23226 CCK/W33 | HA 2326 | FRB 5/230 | TSN 526 SA | | 208 |
| | | 23226-2CS5K | HA 2326 | FRB 5/230 | TSN 526 NDA | | 265 |
| | | C 2226 K | HA 3126 L | FRB 13/230 | | | |
| | | | | | | | |
| 4 1/2 114,3 | SNL 526 | 22226 EK | HE 3126 | FRB 13/230 | TSN 526 L | ASNH 526 | 190 |
| | | B52-2226-2CS5K | HE 2326 L | FRB 7.5/230 | TSN 526 A | | 190 |
| | | 23226 CCK/W33 | HE 2326 | FRB 5/230 | TSN 526 C | | 190 |
| | | 23226-2CS5K | HE 2326 | FRB 5/230 | TSN 526 SE | | 208 |
| | | C 2226 K | HE 3126 L | FRB 13/230 | TSN 526 NDE | | 265 |
| | | | | | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00), self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

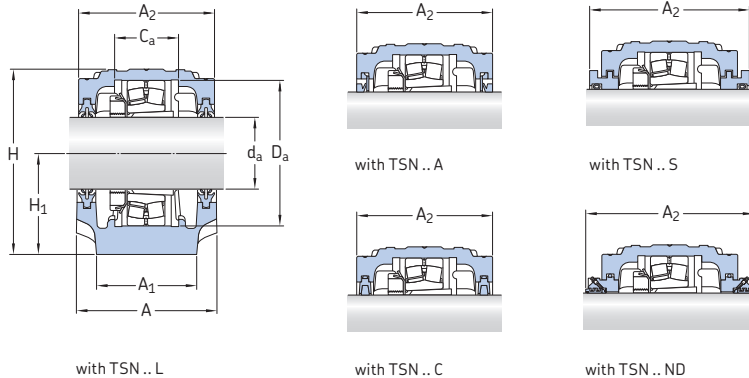


| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt acc. to DIN 580 | Mass Housing | |
|--------------------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|----|----|-------|-----|-----|--------------------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | in. | - | kg |
| 4 101,6 | 175 | 120 | 80 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | 7/8 | - | 22,0 | | |
| 4 3/16 106,363 | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | 7/8 | M10 | 26,2 | | |
| 4 1/4 107,95 | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | 7/8 | M10 | 26,2 | | |
| 4 7/16 112,713 | 190 | 130 | 90 | 230 | 290 | 150 | 50 | 380 | 445 | 35 | 28 | 24 | 1 | M10 | 33,0 | | |
| 4 1/2 114,3 | 190 | 130 | 90 | 230 | 290 | 150 | 50 | 380 | 445 | 35 | 28 | 24 | 1 | M10 | 33,0 | | |

2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 4 15/16 – 5 1/2 in.

125,413 – 139,7 mm

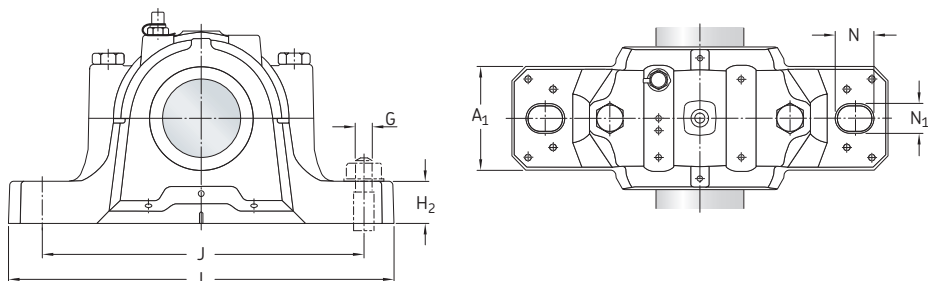


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------|--|------------------------------|-----------------------------|-------------|-----------|----------------------------|
| in./mm | – | – | | | | | mm |
| 4 15/16 125,413 | SNL 528 | 22228 CCK/W33 | HA 3128 | FRB 15/250 | TSN 528 L | ASNH 528 | 205 |
| | | 22228-2CS5K | HA 3128 L | FRB 15/250 | TSN 528 A | | 205 |
| | | 23228 CCK/W33 | HA 2328 | FRB 5/250 | TSN 528 C | | 205 |
| | | 23228-2CS5K | HA 2328 | FRB 5/250 | TSN 528 SA | | 223 |
| | | C 2228 K | HA 3128 L | FRB 15/250 | TSN 528 NDA | | 285 |
| 5 127 | SNL 528 | 22228 CCK/W33 | HE 3128 | FRB 15/250 | TSN 528 A | ASNH 528 | 205 |
| | | 22228-2CS5K | HA 3128 L | FRB 15/250 | TSN 528 C | | 205 |
| | | 23228 CCK/W33 | HE 2328 | FRB 5/250 | TSN 528 SE | | 223 |
| | | 23228-2CS5K | HA 2328 | FRB 5/250 | TSN 528 NDE | | 285 |
| | | C 2228 K | HE 3128 L | FRB 15/250 | | | |
| 5 3/16 131,763 | SNL 530 | 22230 CCK/W33 | HA 3130 | FRB 16.5/270 | TSN 530 A | ASNH 530 | 220 |
| | | 22230-2CS5K | HA 3130 | FRB 16.5/270 | TSN 530 C | | 220 |
| | | 23230 CCK/W33 | HA 2330 | FRB 5/270 | TSN 530 SA | | 241 |
| | | 23230-2CS5K | HA 2330 | FRB 5/270 | TSN 530 NDA | | 295 |
| | | C 2230 K | HA 3130 L | FRB 16.5/270 | | | |
| 5 1/4 133,35 | SNL 530 | 22230 CCK/W33 | HE 3130 | FRB 16.5/270 | TSN 530 A | ASNH 530 | 220 |
| | | 22230-2CS5K | HE 3130 | FRB 16.5/270 | TSN 530 C | | 220 |
| | | 23230 CCK/W33 | HE 2330 | FRB 5/270 | TSN 530 SE | | 241 |
| | | 23230-2CS5K | HE 2330 | FRB 5/270 | TSN 530 NDE | | 295 |
| | | C 2230 K | HE 3130 L | FRB 16.5/270 | | | |
| 5 7/16 138,113 | SNL 532 | 22232 CCK/W33 | HA 3132 | FRB 17/290 | TSN 532 A | ASNH 532 | 235 |
| | | 22232-2CS5K | HA 3132 | FRB 17/290 | TSN 532 C | | 235 |
| | | 23232 CCK/W33 | HA 2332 | FRB 5/290 | TSN 532 SA | | 254 |
| | | C 3232 K | HA 2332 L | FRB 5/290 | TSN 532 NDA | | 315 |
| | | | | | | | |
| 5 1/2 139,7 | SNL 532 | 22232 CCK/W33 | HE 3132 | FRB 17/290 | TSN 532 L | ASNH 532 | 235 |
| | | 22232-2CS5K | HE 3132 | FRB 17/290 | TSN 532 A | | 235 |
| | | 23232 CCK/W33 | HE 2332 | FRB 5/290 | TSN 532 C | | 235 |
| | | C 3232 K | HE 2332 L | FRB 5/290 | TSN 532 SE | | 254 |
| | | | | | TSN 532 NDE | | 315 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 31(00), self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

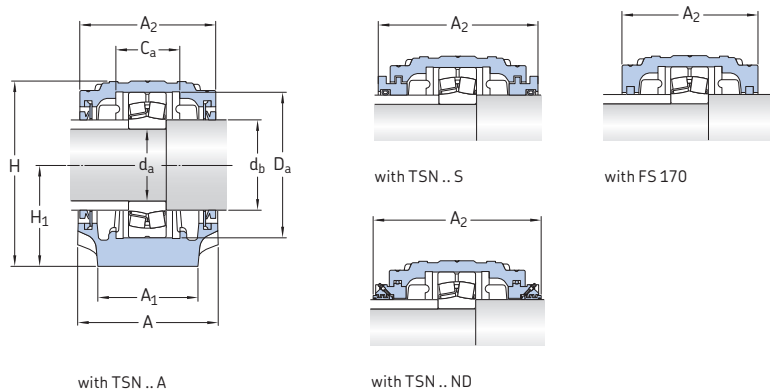
²⁾ The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt acc. to DIN 580 | Mass Housing | |
|-----------------------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|----|----|-------|-----------------|-----------------|--------------------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | in. | - | kg |
| $4\frac{15}{16}$ 125,413 | 205 | 150 | 98 | 250 | 302 | 150 | 50 | 420 | 500 | 42 | 35 | 30 | 1 $\frac{1}{4}$ | 1 $\frac{1}{4}$ | M12 | 40,0 | |
| 5 127 | 205 | 150 | 98 | 250 | 302 | 150 | 50 | 420 | 500 | 42 | 35 | 30 | 1 $\frac{1}{4}$ | 1 $\frac{1}{4}$ | M12 | 40,0 | |
| $5\frac{3}{16}$ 131,763 | 220 | 160 | 106 | 270 | 323 | 160 | 60 | 450 | 530 | 42 | 35 | 30 | 1 $\frac{1}{4}$ | 1 $\frac{1}{4}$ | M12 | 49,0 | |
| $5\frac{1}{4}$ 133,35 | 220 | 160 | 106 | 270 | 323 | 160 | 60 | 450 | 530 | 42 | 35 | 30 | 1 $\frac{1}{4}$ | 1 $\frac{1}{4}$ | M12 | 49,0 | |
| $5\frac{7}{16}$ 138,113 | 235 | 160 | 114 | 290 | 344 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | 1 $\frac{1}{4}$ | 1 $\frac{1}{4}$ | M12 | 55,0 | |
| $5\frac{1}{2}$ 139,7 | 235 | 160 | 114 | 290 | 344 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | 1 $\frac{1}{4}$ | 1 $\frac{1}{4}$ | M12 | 55,0 | |

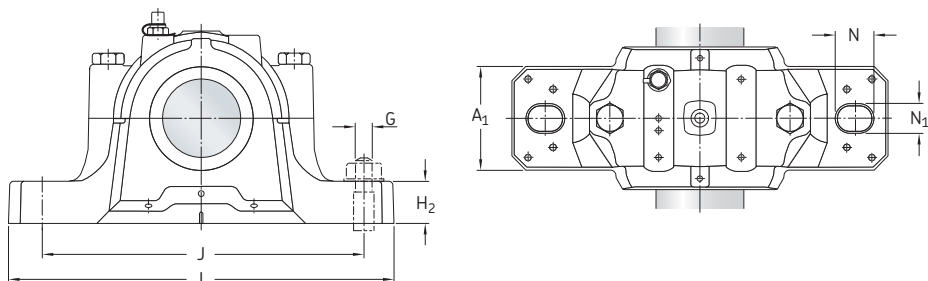
2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 25 – 30 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|-------------|---|--|--------------------------------------|--------------|-------------------------------------|
| mm | - | - | - | - | - | mm |
| 25 | SNL 205 | 1205 ETN9 2205 ETN9 22205 E BS2-2205-2CS C 2205 TN9 | FRB 5/52 FRB 3.5/52 FRB 3.5/52 FRB 1/52 FRB 3.5/52 | TSN 205 S TSN 205 ND | ASNH 505-605 | 90 140 |
| | SNL 505 | 1205 ETN9 2205 ETN9 22205 E BS2-2205-2CS C 2205 TN9 | FRB 5/52 FRB 3.5/52 FRB 3.5/52 FRB 1/52 FRB 3.5/52 | 2 FS 170 | ASNH 505 | 67 |
| | SNL 206-305 | 1305 ETN9 21305 CC 2305 ETN9 | FRB 7.5/62 FRB 7.5/62 FRB 4/62 | TSN 305 A TSN 305 S TSN 305 ND | ASNH 507-606 | 77 89 140 |
| 30 | SNL 206-305 | 1206 ETN9 2206 ETN9 22206 E BS2-2206-2CS C 2206 TN9 | FRB 8/62 FRB 6/62 FRB 6/62 FRB 3.5/62 FRB 6/62 | TSN 206 A TSN 206 S TSN 206 ND | ASNH 507-606 | 77 89 150 |
| | SNL 506-605 | 1206 ETN9 2206 ETN9 22206 E BS2-2206-2CS C 2206 TN9 | FRB 8/62 FRB 6/62 FRB 6/62 FRB 3.5/62 FRB 6/62 | 2 FS 170 | ASNH 506-605 | 77 |
| | SE 507-606 | 1306 ETN9 21306 CC 2306 | FRB 7.5/72 FRB 7.5/72 FRB 3.5/72 | TSN 306 A TSN 306 S TSN 306 ND | ASNH 507-606 | 82 94 155 |

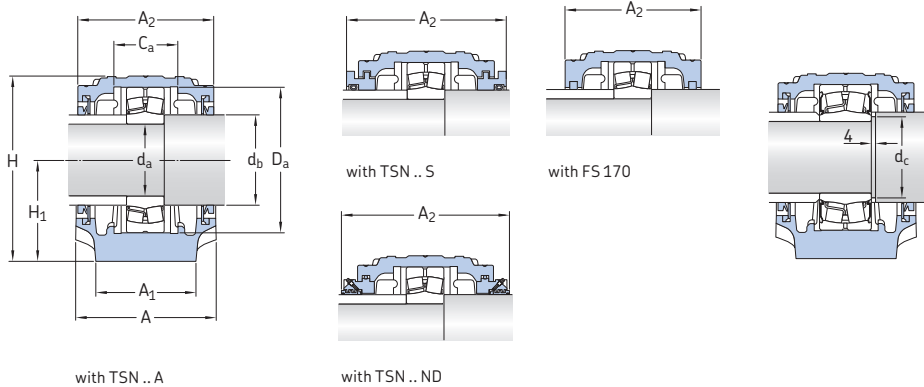
¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | | Dimensions | | | | | | | | | | | Mass Housing | |
|----------------|-------|------------|-------|-------|-------|----|-------|-------|-----|-----|----|-------|--------------|------|
| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | |
| mm | | mm | | | | | | | | | | | kg | |
| 25 | 30 | 67 | 46 | 25 | 52 | 74 | 40 | 19 | 130 | 165 | 20 | 15 | 12 | 1,40 |
| | 30 | 67 | 46 | 25 | 52 | 74 | 40 | 19 | 130 | 165 | 20 | 15 | 12 | 1,40 |
| | 30 | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1,90 |
| 30 | 35 | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1,90 |
| | 35 | 77 | 52 | 32 | 62 | 89 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 1,90 |
| | 35 | 83 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 2,60 |

2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 35 – 40 mm

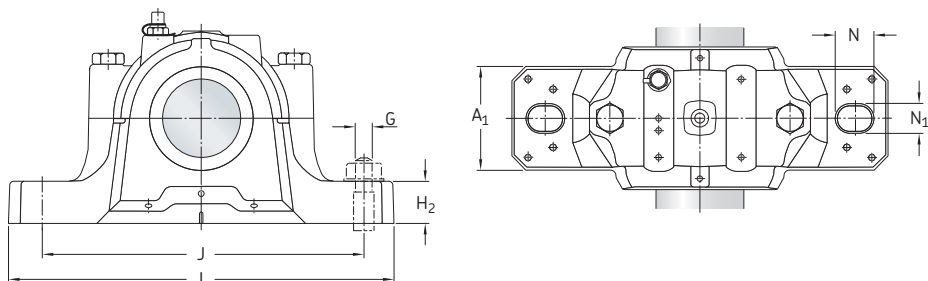


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|------------|--|-----------------------------|------------|--------------|-------------------------------------|
| d _a | | | | | | |
| mm | - | - | | | | mm |
| 35 | SE 207 | 1207 E | FRB 8.5/72 | TSN 207 A | ASNH 509 | 82 |
| | | 2207 ETN9 | FRB 5.5/72 | TSN 207 S | | 96 |
| | | 22207 E | FRB 5.5/72 | TSN 207 ND | | 160 |
| | | BS2-2207-2CS ³⁾ | FRB 3/72 | | | |
| | | C 2207 TN9 | FRB 5.5/72 | | | |
| | SE 507-606 | 1207 E | FRB 8.5/72 | 4 FS 170 | ASNH 507-606 | 82 |
| | | 2207 ETN9 | FRB 5.5/72 | | | |
| | | 22207 E | FRB 5.5/72 | | | |
| | | BS2-2207-2CS ³⁾ | FRB 3/72 | | | |
| | | C 2207 TN9 | FRB 5.5/72 | | | |
| | SE 208-307 | 1307 ETN9 | FRB 9/80 | TSN 307 A | ASNH 510-608 | 85 |
| | | 2307 ETN9 | FRB 4/80 | TSN 307 S | | 99 |
| | | 21307 CC | FRB 9/80 | TSN 307 ND | | 145 |
| 40 | SE 208-307 | 1208 ETN9 | FRB 10.5/80 | TSN 208 A | ASNH 510-608 | 85 |
| | | 2208 ETN9 | FRB 8/80 | TSN 208 S | | 99 |
| | | 22208 E | FRB 8/80 | TSN 208 ND | | 160 |
| | | BS2-2208-2CS ³⁾ | FRB 5.5/80 | | | |
| | | C 2208 TN9 | FRB 8/80 | | | |
| | SE 508-607 | 1208 ETN9 | FRB 10.5/80 | 4 FS 170 | ASNH 508-607 | 85 |
| | | 2208 ETN9 | FRB 8/80 | | | |
| | | 22208 E | FRB 8/80 | | | |
| | | BS2-2208-2CS ³⁾ | FRB 5.5/80 | | | |
| | | C 2208 TN9 | FRB 8/80 | | | |
| | SE 510-608 | 1308 ETN9 | FRB 9/90 | TSN 308 A | ASNH 510-608 | 90 |
| | | 2308 ETN9 | FRB 4/90 | TSN 308 S | | 102 |
| | | 21308 E | FRB 9/90 | TSN 308 ND | | 167 |
| | | 22308 E | FRB 4/90 | | | |
| | | BS2-2308-2CS ³⁾ | FRB 1.5/90 | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

³⁾ The shaft must be modified according to the d_c value for the bearing.

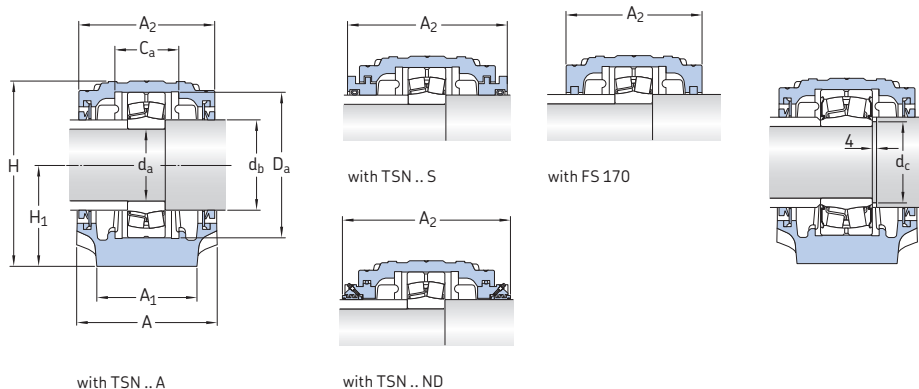


| Shaft diameter | | Dimensions | | | | | | | | | | | | | | Mass Housing |
|----------------|-------|-------------------|-------------------|----|-------|-------|-------|-----|-------|-------|-----|-----|----|-------|----|--------------|
| d_a | d_b | $d_c^{1)}$ min | $d_c^{1)}$ max | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | kg |
| mm | | mm | | | | | | | | | | | | | | kg |
| 35 | 45 | | | 83 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 2,45 |
| | | 42 | 43 | | | | | | | | | | | | | |
| | 45 | | | 83 | 52 | 34 | 72 | 94 | 50 | 22 | 150 | 185 | 20 | 15 | 12 | 2,60 |
| | | 42 | 43 | | | | | | | | | | | | | |
| | 45 | - | - | 85 | 60 | 39 | 80 | 108 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,30 |
| | | | | | | | | | | | | | | | | |
| 40 | 50 | | | 85 | 60 | 39 | 80 | 108 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,30 |
| | | 47 | 47 | | | | | | | | | | | | | |
| | 50 | | | 85 | 60 | 39 | 80 | 108 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,40 |
| | | 47 | 47 | | | | | | | | | | | | | |
| | 50 | | | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,85 |
| | | 47,5 | 47,5 | | | | | | | | | | | | | |

¹⁾ Valid for some sealed spherical roller bearings only.

2.3 SNL and SE plummer block housings for bearings on a cylindrical seat

d_a 45 – 50 mm

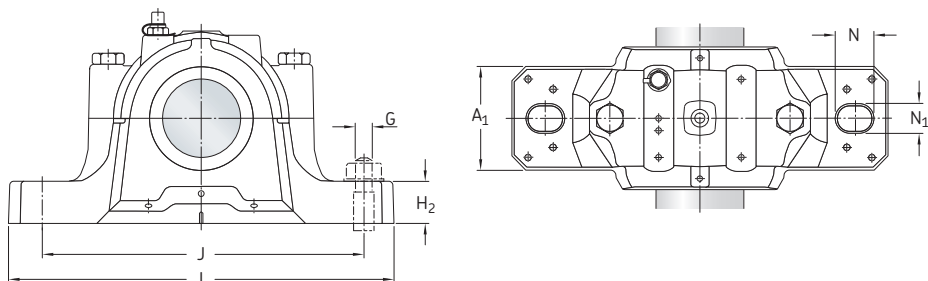


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|------------|--|-----------------------------|------------|--------------|----------------------------|
| d_a | | | | | | |
| mm | - | - | | | | mm |
| 45 | SE 209 | 1209 ETN9 | FRB 5.5/85 | TSN 209 A | ASNH 511-609 | 85 |
| | | 2209 ETN9 | FRB 3.5/85 | TSN 209 S | | 97 |
| | | 22209 E | FRB 3.5/85 | TSN 209 ND | | 160 |
| | | BS2-2209-2CS ³⁾ | FRB 1/85 | | | |
| | | C 2209 TN9 | FRB 3.5/85 | | | |
| 45 | SE 509 | 1209 ETN9 | FRB 5.5/85 | 4 FS 170 | ASNH 509 | 85 |
| | | 2209 ETN9 | FRB 3.5/85 | | | |
| | | 22209 E | FRB 3.5/85 | | | |
| | | BS2-2209-2CS ³⁾ | FRB 1/85 | | | |
| | | C 2209 TN9 | FRB 3.5/85 | | | |
| 45 | SE 511-609 | 1309 ETN9 | FRB 9.5/100 | TSN 309 A | ASNH 511-609 | 95 |
| | | 2309 ETN9 | FRB 4/100 | TSN 309 S | | 107 |
| | | 21309 E | FRB 9.5/100 | TSN 309 ND | | 172 |
| | | 22309 E | FRB 4/100 | | | |
| 50 | SE 210 | 1210 ETN9 | FRB 10.5/90 | TSN 210 A | ASNH 512-610 | 90 |
| | | 2210 ETN9 | FRB 9/90 | TSN 210 S | | 102 |
| | | 22210 E | FRB 9/90 | TSN 210 ND | | 165 |
| | | BS2-2210-2CS ³⁾ | FRB 6.5/90 | | | |
| | | C 2210 TN9 | FRB 9/90 | | | |
| 50 | SE 510-608 | 1210 ETN9 | FRB 10.5/90 | 4 FS 170 | ASNH 510-608 | 90 |
| | | 2210 ETN9 | FRB 9/90 | | | |
| | | 22210 E | FRB 9/90 | | | |
| | | BS2-2210-2CS ³⁾ | FRB 6.5/90 | | | |
| | | C 2210 TN9 | FRB 9/90 | | | |
| 50 | SE 512-610 | 1310 ETN9 | FRB 10.5/110 | TSN 310 A | ASNH 512-610 | 105 |
| | | 2310 | FRB 4/110 | TSN 310 S | | 117 |
| | | 21310 E | FRB 10.5/110 | TSN 310 ND | | 180 |
| | | 22310 E | FRB 4/110 | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

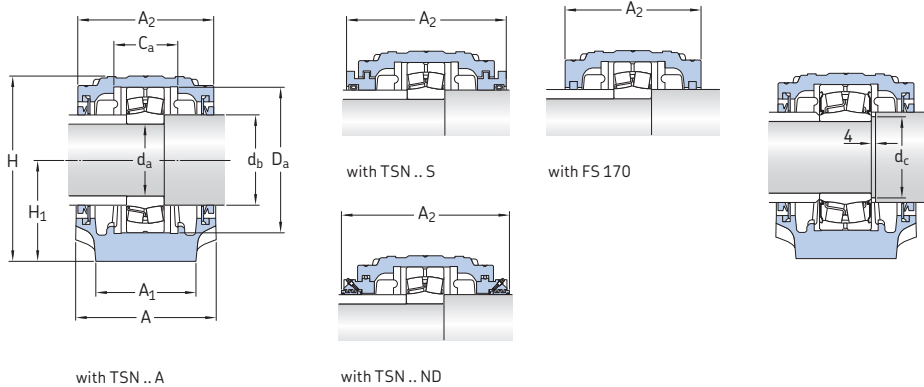
³⁾ The shaft must be modified according to the d_c value for the bearing.



| Shaft diameter | | | | Dimensions | | | | | | | | | | | Mass Housing | | |
|----------------|-------|--------------------|--------------------|------------|-------|-------|-------|-----|-------|-------|-----|-----|-----|-------|--------------|------|------|
| d_a | d_b | $d_c^{(1)}$ min | $d_c^{(1)}$ max | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | kg | |
| mm | | | | mm | | | | | | | | | | | kg | | |
| 45 | 55 | | | 85 | 60 | 30 | 85 | 109 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,20 | |
| | | 52 | 53 | | | | | | | | | | | | | | |
| | | 55 | | | 85 | 60 | 30 | 85 | 109 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,40 |
| | | 52 | 53 | | | | | | | | | | | | | | |
| | 55 | - | - | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | 5,45 | |
| 50 | 60 | | | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,65 | |
| | | 57 | 58 | | | | | | | | | | | | | | |
| | | 60 | | | 90 | 60 | 41 | 90 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,85 |
| | | | 57 | 58 | | | | | | | | | | | | | |
| | 60 | - | - | 105 | 70 | 48 | 110 | 134 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | 6,15 | |

¹⁾ Valid for some sealed spherical roller bearings only.

2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d_a 55 – 60 mm

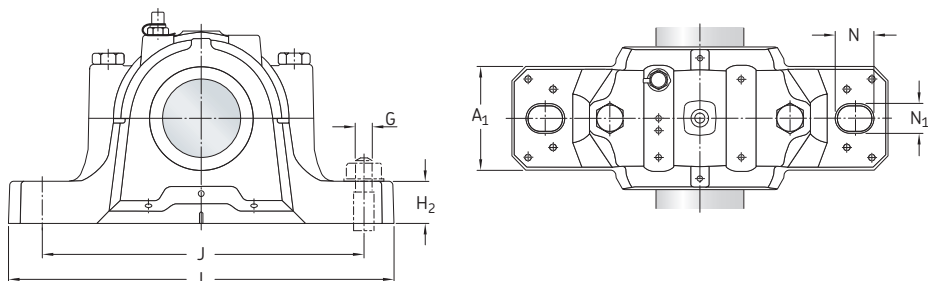


| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|------------|---|--|--------------------------------------|--------------|-------------------------------------|
| mm | - | - | - | - | - | mm |
| 55 | SE 211 | 1211 ETN9 2211 ETN9 22211 E BS2-2211-2CS ³⁾ C 2211 TN9 | FRB 11.5/100 FRB 9.5/100 FRB 9.5/100 FRB 6.5/100 FRB 9.5/100 | TSN 211 A TSN 211 S TSN 211 ND | ASNH 513-611 | 95 107 170 |
| | SE 511-609 | 1211 ETN9 2211 ETN9 22211 E BS2-2211-2CS ³⁾ C 2211 TN9 | FRB 11.5/100 FRB 9.5/100 FRB 9.5/100 FRB 6.5/100 FRB 9.5/100 | 4 FS 170 | ASNH 511-609 | 95 |
| | SE 513-611 | 1311 ETN9 2311 21311 E 22311 E BS2-2311-2CS | FRB 11/120 FRB 4/120 FRB 11/120 FRB 4/120 FRB 1/120 | TSN 311 A TSN 311 S TSN 311 ND | ASNH 513-611 | 110 122 185 |
| 60 | SE 212 | 1212 ETN9 2212 ETN9 22212 E BS2-2212-2CS ³⁾ C 2212 TN9 | FRB 13/110 FRB 10/110 FRB 10/110 FRB 7/110 FRB 10/110 | TSN 212 A TSN 212 S TSN 212 ND | ASNH 515-612 | 105 117 185 |
| | SE 512-610 | 1212 ETN9 2212 ETN9 22212 E BS2-2212-2CS ³⁾ C 2212 TN9 | FRB 13/110 FRB 10/110 FRB 10/110 FRB 7/110 FRB 10/110 | 4 FS 170 | ASNH 512-610 | 105 |
| | SE 515-612 | 1312 ETN9 2312 21312 E 22312 E | FRB 12.5/130 FRB 5/130 FRB 12.5/130 FRB 5/130 | TSN 312 A TSN 312 S TSN 312 ND | ASNH 515-612 | 115 127 197 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

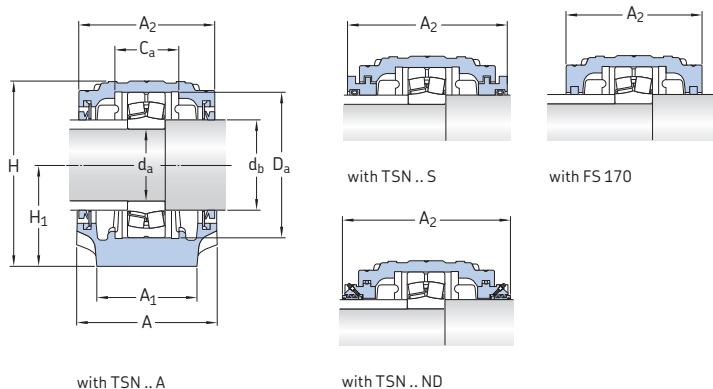
³⁾ The shaft must be modified according to the d_c value for the bearing.



| Shaft diameter | | Dimensions | | | | | | | | | | | Mass Housing | | | | |
|----------------|-------|--------------------|--------------------|-----|-------|-------|-------|-----|-------|-------|-----|-----|--------------|-------|----|------|------|
| d_a | d_b | $d_c^{(1)}$ min | $d_c^{(1)}$ max | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | kg | |
| mm | | | | | | | | | | | | | | | | | |
| 55 | 65 | | | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | 5,85 | |
| | | 64 | 64 | | | | | | | | | | | | | | |
| | | 65 | | | 95 | 70 | 44 | 100 | 129 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | 5,45 |
| | | | 64 | 64 | | | | | | | | | | | | | |
| | 65 | - | - | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | 7,90 | |
| 60 | 70 | | | 105 | 70 | 48 | 110 | 134 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | 5,80 | |
| | | 69 | 69 | | | | | | | | | | | | | | |
| | | 70 | | | 105 | 70 | 48 | 110 | 134 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | 6,15 |
| | | | 69 | 69 | | | | | | | | | | | | | |
| | 70 | - | - | 115 | 80 | 56 | 130 | 156 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 8,55 | |

¹⁾ Valid for some sealed spherical roller bearings only.

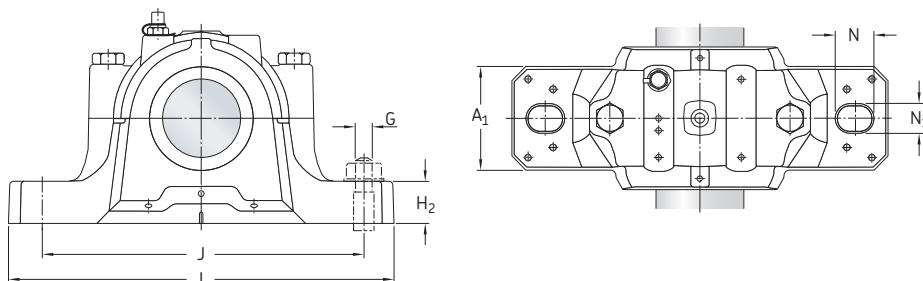
2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 65 – 70 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|------------|--|--------------------------------------|--------------------------------------|--------------|-------------------------------------|
| d _a | | | | | | |
| mm | - | - | | | | mm |
| 65 | SE 213 | 1213 ETN9 | FRB 14/120 | TSN 213 A | ASNH 516-613 | 110 |
| | | 2213 ETN9 | FRB 10/120 | TSN 213 S | | 128 |
| | | 22213 E | FRB 10/120 | TSN 213 ND | | 190 |
| | | BS2-2213-2CS | FRB 6.5/120 | | | |
| | | C 2213 TN9 | FRB 10/120 | | | |
| | SE 513-611 | 1213 ETN9 | FRB 14/120 | 4 FS 170 | ASNH 513-611 | 110 |
| | | 2213 ETN9 | FRB 10/120 | | | |
| | | 22213 E | FRB 10/120 | | | |
| | | BS2-2213-2CS | FRB 6.5/120 | | | |
| SNL 516-613 | 1313 ETN9 | FRB 12.5/140 | TSN 313 A TSN 313 S TSN 313 ND | ASNH 516-613 | 120 | |
| | 2313 | FRB 5/140 | | | 138 | |
| | 21313 E | FRB 12.5/140 | | | 200 | |
| | 22313 E | FRB 5/140 | | | | |
| | | | | | | |
| 70 | SNL 517 | 1314 | FRB 13/150 | TSN 314 A TSN 314 S TSN 314 ND | ASNH 517 | 125 |
| | | 2314 | FRB 5/150 | | | 143 |
| | | 21314 E | FRB 13/150 | | | 205 |
| | | 22314 E | FRB 5/150 | | | |
| | | | | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.


Shaft diameter **Dimensions**
**Mass
Housing**
 d_a d_b A A_1 C_a D_a H H_1 H_2 J L N N_1 G

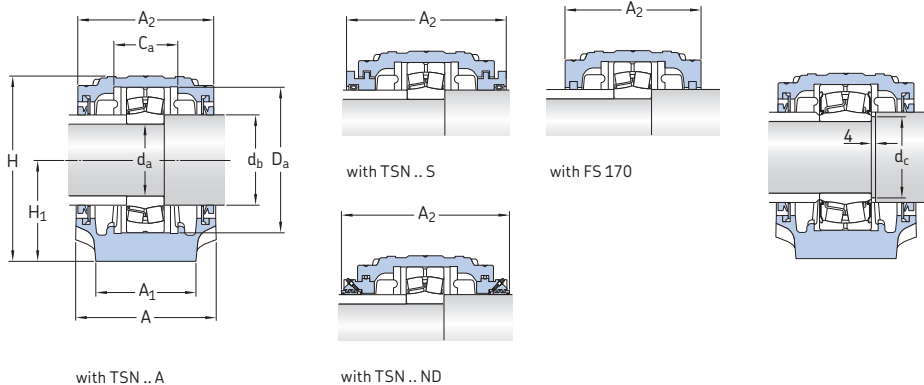
mm

mm

kg

| | | | | | | | | | | | | | | |
|-----------|----|-----|----|----|-----|-----|----|----|-----|-----|----|----|----|------|
| 65 | 75 | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | 7,45 |
| | 75 | 110 | 80 | 51 | 120 | 150 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | 7,90 |
| | 75 | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 9,50 |
| 70 | 80 | 125 | 90 | 61 | 150 | 183 | 95 | 32 | 260 | 320 | 28 | 22 | 20 | 10,0 |

2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 75 – 80 mm

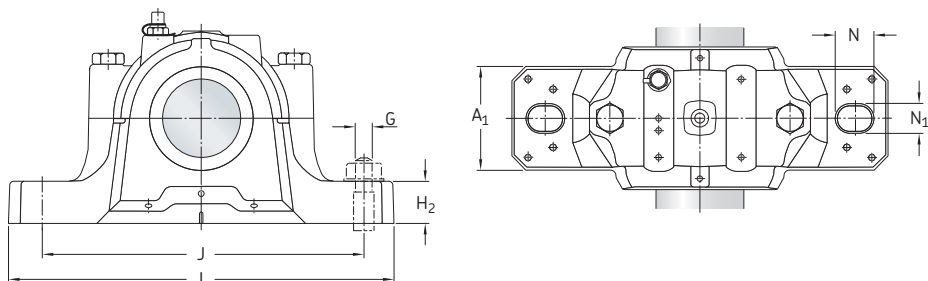


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ | |
|----------------|-------------|--|-----------------------------|--------------|--------------|-------------------------------------|------------|
| d _a | | | | | | | |
| mm | - | - | | | | mm | |
| 75 | SE 215 | 1215 | FRB 15.5/130 | TSN 215 A | ASNH 518-615 | 115 | |
| | | 2215 ETN9 | FRB 12.5/130 | TSN 215 S | | 133 | |
| | | 22215 E | FRB 12.5/130 | TSN 215 ND | | 195 | |
| | | BS2-2215-2CS ³⁾ | FRB 9/130 | | | | |
| | | C 2215 | FRB 12.5/130 | | | | |
| 75 | SE 515-612 | 1215 | FRB 15.5/130 | 4 FS 170 | ASNH 515-612 | 115 | |
| | | 2215 ETN9 | FRB 12.5/130 | | | | |
| | | 22215 E | FRB 12.5/130 | | | | |
| | | BS2-2215-2CS ³⁾ | FRB 9/130 | | | | |
| | | C 2215 | FRB 12.5/130 | | | | |
| 75 | SNL 518-615 | 1315 | FRB 14/160 | TSN 315 A | ASNH 518-615 | 140 | |
| | | 2315 | FRB 5/160 | | | | TSN 315 S |
| | | 21315 E | FRB 14/160 | | | | TSN 315 ND |
| | | 22315 E | FRB 5/160 | | | | |
| | | C 2315 | FRB 5/160 | | | | |
| 80 | SNL 216 | 1216 | FRB 16/140 | TSN 216 A | ASNH 216 | 120 | |
| | | 2216 ETN9 | FRB 12.5/140 | | | | TSN 216 S |
| | | 22216 E | FRB 12.5/140 | | | | TSN 216 ND |
| | | | BS2-2216-2CS | FRB 9/140 | | | |
| | | | C 2216 | FRB 12.5/140 | | | |
| | 80 | SNL 516-613 | 1216 | FRB 16/140 | 4 FS 170 | ASNH 516-613 | 120 |
| | | | 2216 ETN9 | FRB 12.5/140 | | | |
| | | | 22216 E | FRB 12.5/140 | | | |
| | | | BS2-2216-2CS | FRB 9/140 | | | |
| | | C 2216 | FRB 12.5/140 | | | | |
| 80 | SNL 519-616 | 1316 | FRB 14.5/170 | TSN 316 A | ASNH 519-616 | 145 | |
| | | 2316 | FRB 5/170 | | | | TSN 316 S |
| | | 21316 E | FRB 14.5/170 | | | | TSN 316 ND |
| | | 22316 E | FRB 5/170 | | | | |
| | | C 2316 | FRB 5/170 | | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

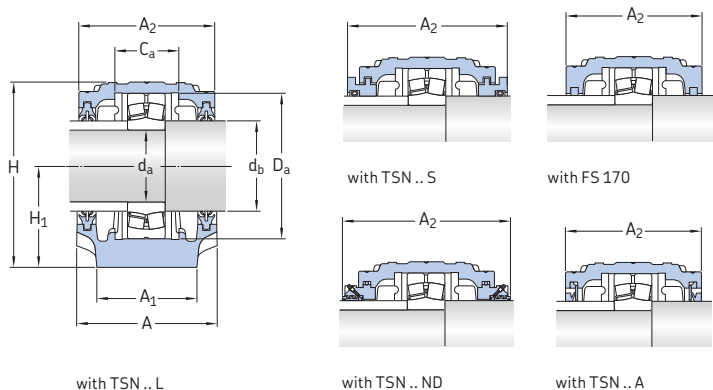
³⁾ The shaft must be modified according to the d_c value for the bearing.



| Shaft diameter | | | | Dimensions | | | | | | | | | | | Mass Housing | | |
|----------------|-------|--------------------|--------------------|------------|-------|-------|-------|-----|-------|-------|-----|-----|-----|-------|--------------|------|------|
| d_a | d_b | $d_c^{(1)}$ min | $d_c^{(1)}$ max | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | kg | |
| mm | | | | mm | | | | | | | | | | | kg | | |
| 75 | 85 | | | 115 | 80 | 56 | 130 | 156 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 8,10 | |
| | | 84 | 84 | | | | | | | | | | | | | | |
| | | 85 | | | 115 | 80 | 56 | 130 | 156 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 8,60 |
| | | 84 | 84 | | | | | | | | | | | | | | |
| | 85 | - | - | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 12,5 | |
| 80 | 90 | - | - | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 9,00 | |
| | | 90 | - | | 120 | 90 | 58 | 140 | 177 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 9,00 |
| | | 90 | - | | 145 | 100 | 68 | 170 | 212 | 112 | 35 | 290 | 345 | 28 | 22 | 20 | 13,7 |

¹⁾ Valid for some sealed spherical roller bearings only.

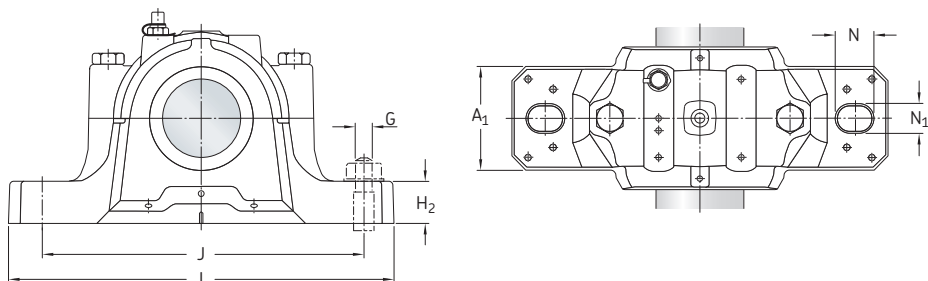
2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 85 – 90 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|-------------|--|-----------------------------|------------|--------------|-------------------------------------|
| d _a | | | | | | |
| mm | - | - | | | | mm |
| 85 | SNL 217 | 1217 | FRB 16.5/150 | TSN 217 A | ASNH 217 | 125 |
| | | 2217 | FRB 12.5/150 | TSN 217 S | | 143 |
| | | 22217 E | FRB 12.5/150 | TSN 217 ND | | 205 |
| | SNL 517 | BS2-2217-2CS | FRB 8.5/150 | | | |
| C 2217 | | FRB 12.5/150 | | | | |
| | | 1217 | FRB 16.5/150 | 4 FS 170 | ASNH 517 | 125 |
| | | 2217 | FRB 12.5/150 | | | |
| | | 22217 E | FRB 12.5/150 | | | |
| | | BS2-2217-2CS | FRB 8.5/150 | | | |
| | | C 2217 | FRB 12.5/150 | | | |
| 90 | SNL 520-617 | 1317 | FRB 14.5/180 | TSN 317 A | ASNH 520-617 | 160 |
| | | 2317 | FRB 5/180 | TSN 317 S | | 178 |
| | | 21317 E | FRB 14.5/180 | TSN 317 ND | | 238 |
| | | 22317 E | FRB 5/180 | | | |
| | | C 2317 | FRB 5/180 | | | |
| 90 | SNL 218 | 1218 | FRB 17.5/160 | TSN 218 L | ASNH 218 | 140 |
| | | 2218 | FRB 12.5/160 | TSN 218 A | | 140 |
| | | 22218 E | FRB 12.5/160 | TSN 218 S | | 158 |
| | | 23218 CC/W33 | FRB 6.25/160 | TSN 218 ND | | 220 |
| | | BS2-2218-2CS | FRB 8.5/160 | | | |
| | | C 2218 | FRB 12.5/160 | | | |
| 90 | SNL 518-615 | 1218 | FRB 17.5/160 | 4 FS 170 | ASNH 518-615 | 140 |
| | | 2218 | FRB 12.5/160 | | | |
| | | 22218 E | FRB 12.5/160 | | | |
| | | 23218 CC/W33 | FRB 6.25/160 | | | |
| | | BS2-2218-2CS | FRB 8.5/160 | | | |
| | | C 2218 | FRB 12.5/160 | | | |

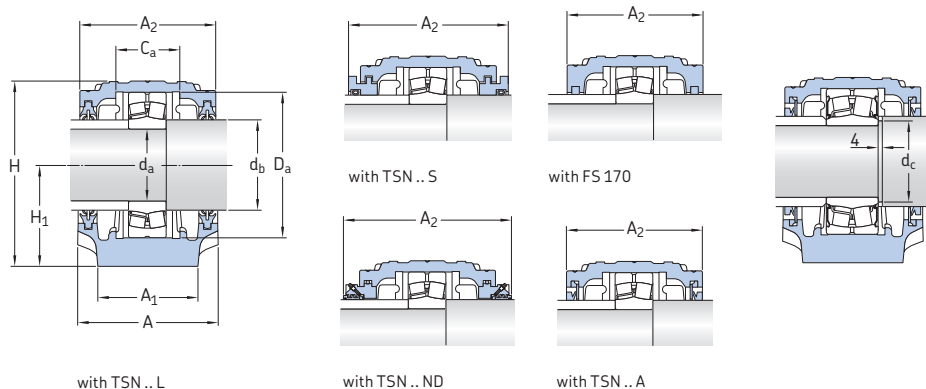
¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.


Shaft diameter **Dimensions**
**Mass
Housing**

| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | kg |
|-----------|-------|-----|-------|-------|-------|-----|-------|-------|-----|-----|----|-------|----|------|
| mm | | mm | | | | | | | | | | | | kg |
| 85 | 95 | 125 | 90 | 61 | 150 | 183 | 95 | 32 | 260 | 320 | 28 | 22 | 20 | 9,50 |
| | 95 | 125 | 90 | 61 | 150 | 183 | 95 | 32 | 260 | 320 | 28 | 22 | 20 | 9,50 |
| | 95 | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 17,6 |
| 90 | 100 | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 11,8 |
| | 100 | 140 | 100 | 65 | 160 | 194 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 11,8 |

2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 95 – 120 mm

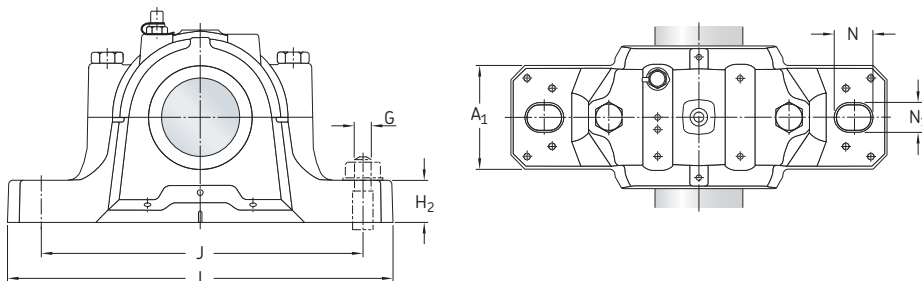


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|-----------------------------|--|-----------------------------|------------|--------------|-------------------------------------|
| d _a | | | | | | |
| mm | - | - | | | | mm |
| 95 | SNL 522-619 | 1319 | FRB 17.5/200 | TSN 319 A | ASNH 522-619 | 175 |
| | | 2319 M | FRB 6.5/200 | TSN 319 S | | 191 |
| | | 21319 E | FRB 17.5/200 | TSN 319 ND | | 253 |
| | | 22319 E | FRB 6.5/200 | | | |
| | | C 2319 | FRB 6.5/200 | | | |
| 100 | SNL 520-617 | 1220 | FRB 18/180 | TSN 220 L | ASNH 520-617 | 160 |
| | | 2220 M | FRB 12/180 | TSN 220 A | | 160 |
| | | 22220 E | FRB 12/180 | TSN 220 S | | 178 |
| | | 23220 CC/W33 | FRB 4.85/180 | TSN 220 ND | | 245 |
| | | 23220-2CS | FRB 4.85/180 | | | |
| | BS2-2220-2CS5 ³⁾ | FRB 7.5/180 | | | | |
| | C 2220 | FRB 12/180 | | | | |
| | SNL 524-620 | 1320 | FRB 19.5/215 | TSN 320 A | ASNH 524-620 | 185 |
| | | 2320 M | FRB 6.5/215 | TSN 320 S | | 199 |
| | | 21320 E | FRB 19.5/215 | TSN 320 ND | | 260 |
| 23220 CC/W33 | | FRB 6.5/215 | | | | |
| C 2320 | | FRB 6.5/215 | | | | |
| 110 | SNL 522-619 | 1222 | FRB 21/200 | TSN 222 L | ASNH 522-619 | 175 |
| | | 2222 M | FRB 13.5/200 | TSN 222 A | | 175 |
| | | 22222 E | FRB 13.5/200 | TSN 222 S | | 191 |
| | | BS2-2222-2CS5 | FRB 8.5/200 | TSN 222 ND | | 255 |
| | | C 2222 | FRB 5.1/200 | | | |
| 120 | SNL 524-620 | 1224 M | FRB 22/215 | TSN 224 L | ASNH 524-620 | 185 |
| | | 22224 E | FRB 14/215 | TSN 224 A | | 185 |
| | | BS2-2224-2CS5 | FRB 8.5/215 | TSN 224 S | | 199 |
| | | 23224 CC/W33 | FRB 5/215 | TSN 224 ND | | 270 |
| | | C 3224 | FRB 5/215 | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), BS2... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

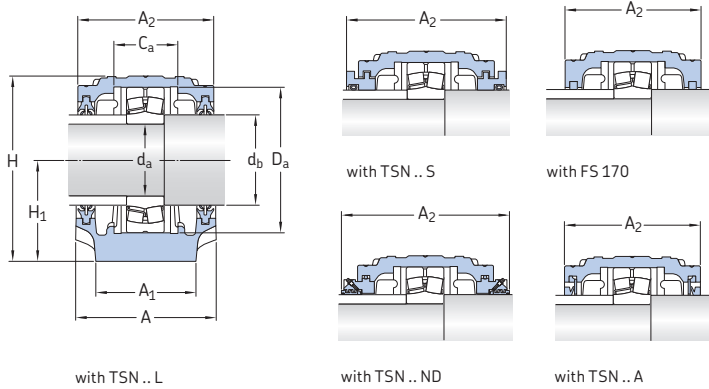
³⁾ The shaft must be modified according to the d_c value for the bearing.



| Shaft diameter | | Dimensions | | | | | | | | | | | | | | Eye bolt acc. to DIN 580 | Mass Housing | |
|----------------|-------|--------------------|--------------------|-----|-------|-------|-------|-----|-------|-------|-----|-----|----|-------|----|--------------------------------|-----------------|----|
| d_a | d_b | $d_c^{(1)}$ min | $d_c^{(1)}$ max | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | | | |
| mm | | | | | | | | | | | | | | | | | - | kg |
| 95 | 110 | - | - | 175 | 120 | 80 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | - | 22,0 | |
| 100 | 115 | | | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | - | 17,6 | |
| | | 112 | 114 | | | | | | | | | | | | | | | |
| | 115 | - | - | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | M10 | 26,2 | |
| 110 | 125 | - | - | 175 | 120 | 80 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | - | 22,0 | |
| 120 | 135 | - | - | 185 | 120 | 86 | 215 | 271 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | M10 | 26,2 | |

¹⁾ Valid for some sealed spherical roller bearings only.

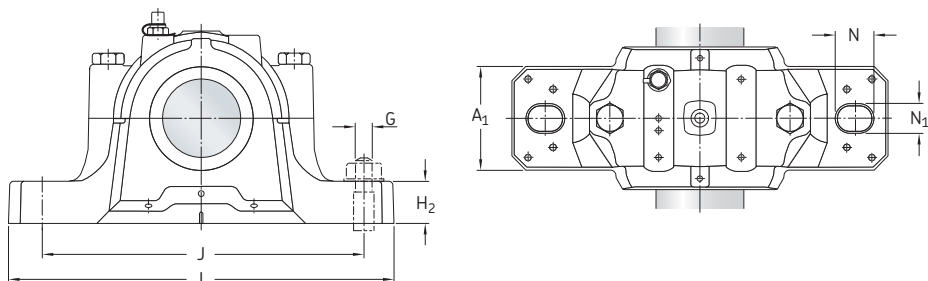
2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 130 – 160 mm



| Shaft diameter d_a mm | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A_2 mm |
|-------------------------------|---------|--|---|---|-----------|----------------------------------|
| 130 | SNL 526 | 1226 M 22226 E B52-2226-2CS5 23226 CC/W33 23226-2CS5 C 2226 | FRB 22/230 FRB 13/230 FRB 7.5/230 FRB 5/230 FRB 5/230 FRB 13/230 | TSN 226 L TSN 226 A TSN 226 S TSN 226 ND | ASNH 26 | 190 190 208 275 |
| 140 | SNL 528 | 22228 CC/W33 22228-2CS5 23228 CC/W33 23228-2CS5 C 2228 | FRB 15/250 FRB 15/250 FRB 5/250 FRB 5/250 FRB 15/250 | TSN 228 L TSN 228 A TSN 228 S TSN 228 ND | ASNH 528 | 205 205 223 290 |
| 150 | SNL 530 | 22230 CC/W33 22230-2CS5 23230 CC/W33 23230-2CS5 C 2230 | FRB 16.5/270 FRB 16.5/270 FRB 5/270 FRB 5/270 FRB 16.5/270 | TSN 230 L TSN 230 A TSN 230 S TSN 230 ND | ASNH 530 | 220 220 241 310 |
| 160 | SNL 532 | 22232 CC/W33 22232-2CS5 23232 CC/W33 C 3232 | FRB 17/290 FRB 17/290 FRB 5/290 FRB 5/290 | TSN 232 A TSN 232 S TSN 232 ND | ASNH 532 | 235 254 325 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



| Shaft diameter | | Dimensions | | | | | | | | | | | | Eye bolt acc. to DIN 580 | Mass Housing |
|----------------|-------|------------|-------|-------|-------|-----|-------|-------|-----|-----|----|-------|----|--------------------------------|-----------------|
| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | | |
| mm | | mm | | | | | | | | | | | | - | kg |
| 130 | 145 | 190 | 130 | 90 | 230 | 290 | 150 | 50 | 380 | 445 | 35 | 28 | 24 | M10 | 33,0 |
| 140 | 155 | 205 | 150 | 98 | 250 | 302 | 150 | 50 | 420 | 500 | 42 | 35 | 30 | M12 | 40,0 |
| 150 | 165 | 220 | 160 | 106 | 270 | 323 | 160 | 60 | 450 | 530 | 42 | 35 | 30 | M12 | 49,0 |
| 160 | 175 | 235 | 160 | 114 | 290 | 344 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | M12 | 55,0 |



Split plummer block housings SE 2, 3, 5 and 6 series

3

Bearing types

- Self-aligning ball bearings
- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 02, 03, 22, 23, 32

Shaft diameter range

- 25 to 75 mm
- 1⁵/₁₆ to 2 1/2 in.

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seals

- Four-lip
- Labyrinth
- Felt
- V-ring
- Heavy-duty

Lubrication

- Grease

Materials

- Grey cast iron
- Spheroidal graphite cast iron

Mounting

- Two-bolt mounting
- Four-bolt mounting

Compliance to standards

- ISO 113
(two-bolt plummer block housings)

Supersedes

- SNL, SN, SNA, SNH series

SE plummer (pillow) block housings are a new generation of the most popular SKF bearing housings on the market – SNL plummer (pillow) block housings. With a number of new features and a stronger material grade, the upgraded housings continue to provide maximum reliability while meeting increasing demands. Different housing variants and seal designs are available, making the use of tailored housings virtually unnecessary and enabling cost-effective bearing arrangements to be made.

SE plummer block housings supersede SNL plummer block housings in the 2, 3, 5 and 6 series, and are available in corresponding sizes, from size 507 up to 515-612. From size 516-613, SNL plummer block housings in the 2, 3, 5 and 6 series remains.

Split plummer block housings SE 2, 3, 5 and 6 series

| | |
|---|------------|
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| 2.2 SNL and SE plummer block housings for bearings on an adapter sleeve, inch shafts | 100 |
| 2.3 SNL and SE plummer block housings for bearings on a cylindrical seat .. | 120 |

Designations

Designation system for SE plummer (pillow) block housings

| | | SE | 512-610 | TD |
|------------------------------|--|----|---------|----|
| Prefix for bolt holes | | | | |
| – | Two oblong cast holes for attachment bolts | | | |
| F | Four oblong cast holes for attachment bolts | | | |
| S | No holes for attachment bolts (drilled holes can be supplied) | | | |
| Series | | | | |
| SE | Standard plummer block housing | | | |
| Material | | | | |
| – | Grey cast iron | | | |
| D | Spheroidal graphite cast iron | | | |
| Size identification | | | | |
| 2(00) | Housing for bearings on a cylindrical seat, diameter series 2 | | | |
| 3(00) | Housing for bearings on a cylindrical seat, diameter series 3 | | | |
| 5(00) | Housing for bearings on an adapter sleeve, diameter series 2 | | | |
| 6(00) | Housing for bearings on an adapter sleeve, diameter series 3 | | | |
| ..(00) | Size code of the bearing, (00) × 5 = bearing bore diameter [mm] | | | |
| Suffixes¹⁾ | | | | |
| V | Grease escape hole in the housing base | | | |
| T | Drilled and tapped hole 1/4-28 UNF at one side of the housing cap to lubricate a seal. Grease fitting AH 1/4-28 SAE-LT supplied with the housing | | | |
| TD | Drilled and tapped hole 1/4-28 UNF at both sides of the housing cap to lubricate the seals. Two grease fittings AH 1/4-28 SAE-LT supplied with the housing | | | |
| /MS1 | Two drilled holes for attachment bolts | | | |
| /MS2 | Four drilled holes for attachment bolts | | | |

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Split plummer block housings SE 2, 3, 5 and 6 series

Designation system for seals

TSN 512 L

Series

| | |
|------------|---|
| TSN | Seal for SE plummer block housings |
| FS | Felt strip |
| FSB | Felt strip for high operating temperature |

Size identification

| | |
|----------------|---|
| 2(00) | Housing for bearings with a cylindrical bore, diameter series 2 |
| 3(00) | Housing for bearings with a cylindrical bore, diameter series 3 |
| 5(00) | Housing for bearings on an adapter sleeve, diameter series 2 |
| 6(00) | Housing for bearings on an adapter sleeve, diameter series 3 |
| ...(00) | Size code of the bearing, (00) x 5 = bearing bore diameter [mm] |
| ... | For felt strips only, number indicating the length of the strip |

Seal type

| | |
|-----------|--|
| A | V-ring seal |
| C | Felt seal |
| CB | Felt seal for high operating temperatures |
| L | Four-lip seal |
| S | Labyrinth seal |
| NB | Taconite seal with axial labyrinth and V-ring |
| NC | Taconite seal with axial labyrinth |
| ND | Taconite seal with radial labyrinth and V-ring |

Indication for an inch shaft

| | |
|-------------|---------------------|
| A, E | Seal for inch shaft |
|-------------|---------------------|

Designation system for end covers

ASNH 512-610

Series

| | |
|-------------|---|
| ASNH | End cover for SE plummer block housings |
|-------------|---|

Size identification

| | |
|------------|-----------------------------|
| ... | Housing size identification |
|------------|-----------------------------|

Designation system for locating rings

FRB 13/110

Series

| | |
|------------|--|
| FRB | Locating ring for SKF bearing housings |
|------------|--|

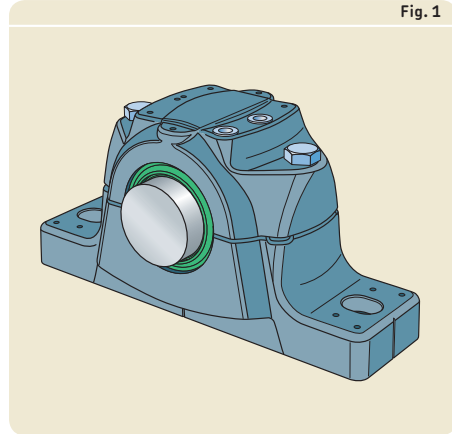
Size identification

| | |
|------------|--|
| ... | Width and outside diameter of the locating ring [mm] |
|------------|--|

Standard housing design

SE plummer (pillow) block housings in the 2, 3, 5 and 6 series are split housings consisting of a cap and base (→ **fig. 1**). They have two holes cast into the base for attachment bolts. The housings are designed on the “building block” principle to enable a wider choice of bearings and seals as well as a variety of shaft-bearing combinations and lubrication methods.

Fig. 1



Split plummer block housings SE 2, 3, 5 and 6 series

Features and benefits

SE plummer block housings in the 2, 3, 5 and 6 series have the following features and benefits:

Stiffer and more robust housing

The new, optimized design together with their stronger material grade make SE housings more robust compared to SNL housings.

With larger ribs in the base, and additional material around the holes for attachment bolts (→ **figs. 2 and 3**), SE housings are stiffer than their predecessors. The attachment bolts can be preloaded to locate the housing without deforming the base or housing bore.

Better heat dissipation

The ribs around the perimeter and in the centre of the base (→ **fig. 3**) are larger, to increase the contact area between the base and support surface. This results in improved heat flow from the bearing outer ring to the support surface.

Improved markings on the housing

The housing cap and base are matched during manufacture and are not interchangeable with the caps and bases of other housings. A unique serial number on both housing parts helps avoid any mismatches (→ **fig. 4**).

The designation on the housing cap has also been enhanced for readability and now contains the complete housing designation, i.e. with variant suffixes, for better traceability (→ **fig. 5**).

Fig. 2

Reinforcement rib in the base

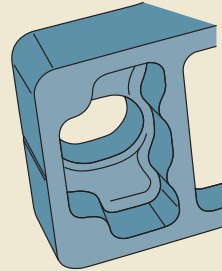


Fig. 3

Enlarged central rib for better support and heat dissipation

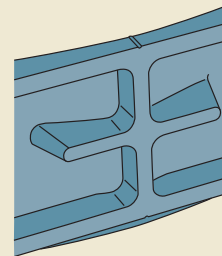
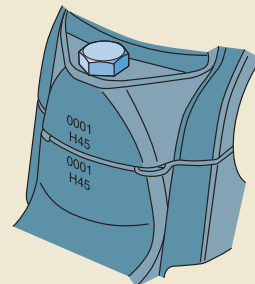


Fig. 4

Individually marked cap and base



Dimples to locate accessories

Dimples cast into the housing cap indicate where grease fittings and condition monitoring sensors can be mounted for best results (→ fig. 5).

Simpler mounting

The grease fitting kit contains torque values for the cap bolts and data for initial grease fills.

To simplify mounting and make alignment more accurate, lines indicating the centre of the bearing seat and housing bore axis are cast into the housing base. Dimples indicate the position for dowel pins (→ fig. 6). Mounting instructions are supplied with each seal pack.

Simpler maintenance

SE housings have a pry slot between the cap and base to ease removal of the cap during dismantling (→ fig. 4).

Fig. 5

Dimples indicate positions for accessories

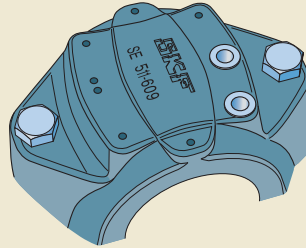
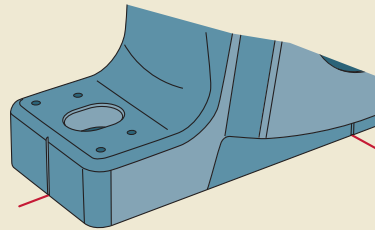


Fig. 6

Cast indications mark the centre of the housing bore and bearing seat



Split plummer block housings SE 2, 3, 5 and 6 series

Grease guiding system

For efficient relubrication from the side, SE housings from size 511 to 515 have an integrated flange that guides grease from the grease fitting directly to the bearing (→ fig. 7). This can reduce grease consumption and disposal costs.

Grease level markings

To avoid over-filling, markings at each corner inside the housing base indicate the proper grease level for an initial 20 or 40% fill of the free space between housing and bearing (→ fig. 8).

Better lubrication facilities

The hole in the housing cap for relubrication through the centre of the bearing is positioned off-centre relative to the shaft axis (→ fig. 9).

Fig. 7

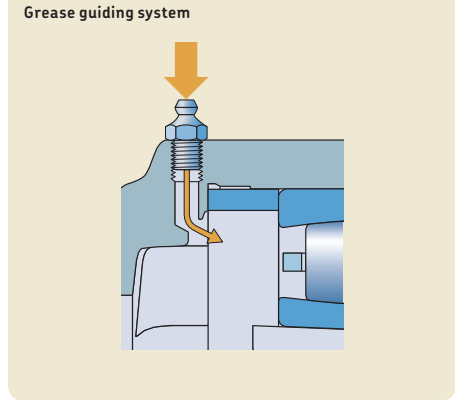


Fig. 8

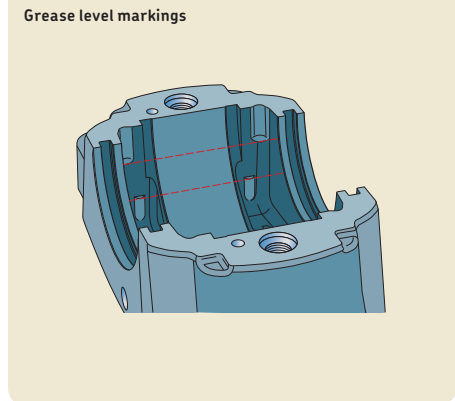
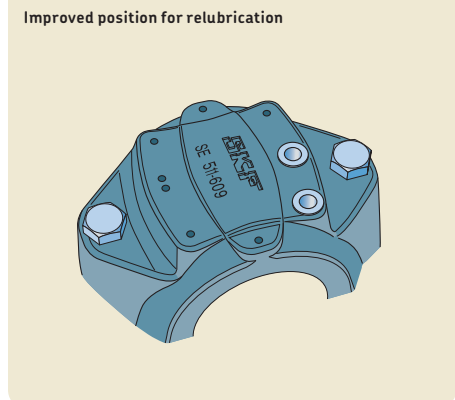


Fig. 9



New position of grease escape hole

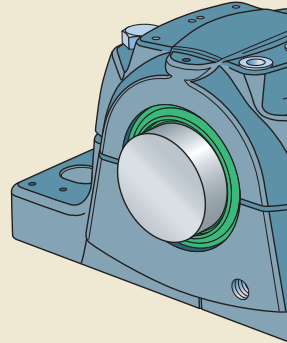
The grease escape hole, on housings with a V suffix, is parallel to the shaft (→ **fig. 10**) for easier access after the housing is mounted. The hole is threaded and plugged.

Improved corrosion protection

SE housings are well protected from corrosion. The corrosivity category of the paint is higher than for SNL housings (→ *Environmental conditions*, **page 36**).

Fig. 10

New position of grease escape hole



Housing material

SE plummer block housings are made of an improved grade of grey cast iron compared to SNL housings.

Paint, corrosion protection

SE plummer block housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C3 (i.e. exterior atmospheres with a moderate level of pollution; coastal areas with low salinity; interior atmospheres with high humidity and some air pollution). It is not affected by most lubricating or engine oils, cutting fluids or alkalescent washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Dimension standards

Boundary dimensions are in accordance with ISO 113 for two-bolt plummer block housings.

Interchangeability

SE plummer block housings in the 2, 3, 5 and 6 series are dimensionally interchangeable with housings in the SNL 2, 3, 5 and 6 series and former plummer block housings in the SN, SNA and SNH series.

Product data

SE plummer (pillow) block housings supersede SNL plummer (pillow) block housings for sizes 507 up to and including 515-612. Technical data for SE housings, such as hole, groove and dowel pin dimensions, shaft end lengths, loads, initial grease fills, and bolt torques, is included in the data tables in the chapter on SNL housings (→ *Split plummer block housings SNL 2, 3, 5 and 6 series*, starting on **page 55**).

The product tables for SE housings are also included in the chapter on SNL housings (→ **page 86**). When in doubt, contact the SKF application engineering service.

Ordering information

For SE housings in the 2, 3, 5 and 6 series, each of the following items must be ordered separately:

- housing
- seals
- end cover
- locating rings
- bearing
- adapter sleeve

Order example

Two plummer block housings with four-lip seals are required for a 22212 EK spherical roller bearing on an H 12 adapter sleeve and a C 2212 KTN9 CARB toroidal roller bearing on an H 312 E adapter sleeve. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing and a through shaft.

The following items should be ordered (in addition to the bearings and adapter sleeves):

- 2 housings SE 512-610
- 2 four-lip seal packs TSN 512 L (each pack contains two seals)
- 1 end cover ASNH 12-610
- 4 locating rings FRB 10/110



Split plummer block housings SNLN 30 series

Bearing types

- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 30, 40

Shaft diameter range

- 110 to 280 mm

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seals

- Four-lip
- V-ring
- Labyrinth
- Heavy-duty
- Felt

Lubrication

- Grease

Materials

- Grey cast iron
- Spheroidal graphite cast iron

Mounting

- Two-bolt mounting
- Four-bolt mounting

Compliance to standards

- ISO 113
(two-bolt plummer block housings)

Supersedes

- SN 30 series

SNLN 30 plummer (pillow) block housings are robust and versatile housings. They are designed for bearings in the 30 dimension series, and can also accommodate some bearings in the 40 dimension series for mounting on a cylindrical shaft seat. They enable the incorporated bearings to achieve maximum service life with less need for maintenance. Different housing variants and seal designs are available, making the use of tailored housings virtually unnecessary and enabling cost-effective bearing arrangements to be made.

Split plummer block housings SNLN 30 series

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Designations

Designation system for SNLN 30 plummer block housings

SNLN_3024 SN

Prefix for bolt holes

- Two oblong cast holes for attachment bolts
- S** No holes for attachment bolts (only for housings made of spheroidal graphite cast iron)

Series

- SNLN** Standard plummer block housing

Material

- Grey cast iron
- D** Spheroidal graphite cast iron

Size identification

- 30(00)** Housings for bearings in the 30 (or 40) dimension series
- ..(00)** Size code for the bearing, (00) × 5 = bearing bore diameter [mm]

Suffixes¹⁾

- V** Grease escape hole in the housing base
- T** Drilled and tapped hole 1/4-28 UNF at one side of the housing cap to lubricate the seal. Grease fitting AH 1/4-28 SAE-LT supplied with the housing.
- TD** Drilled and tapped hole 1/4-28 UNF at both sides of the housing cap to lubricate the seals. Two grease fittings AH 1/4-28 SAE-LT supplied with the housing.
- SN** Drilled and tapped M8 hole for sensor in position 3 (→ **fig. 15, page 178**)
- /MS1** Two drilled holes for attachment bolts
- /MS2** Four drilled holes for attachment bolts

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Split plummer block housings SNLN 30 series

Designation system for seals

TSN 228 L
TNF 3048

Series

TSN Seal for SNLN 30 plummer block housings
TNF Taconite heavy-duty seal with axial labyrinth for housings from size 3034 to 3056

Size identification

30(00) For housings from size 3024 to 3056, for bearings on an adapter sleeve
2(00) For housings from size 3024 to 3032, for bearings on a cylindrical seat
30(00)/... For housings from size 3034 to 3056, for bearings on a cylindrical seat

Seal type

A¹⁾ V-ring seal
C¹⁾ Felt seal
CB¹⁾ Felt seal for high operating temperature
L¹⁾ Four-lip seal
S Labyrinth seal
NB¹⁾ Taconite heavy-duty seal with axial labyrinth and V-ring seal
NC¹⁾ Taconite heavy-duty seal with axial labyrinth
ND¹⁾ Taconite heavy-duty seal with radial labyrinth and V-ring seal

¹⁾ For housings from size 3024 to 3032

Designation system for end covers

ASNH 526
ETS 3038

Series

ASNH End cover of plastic for SNLN 30 plummer block housings, size 3024 to 3032
ETS End cover of grey cast iron for SNLN 30 plummer block housings, size 3034 to 3056

Size identification

524-620 For housings size 3024 (series ASNH)
5(00) For housings from size 3026 to 3032 (series ASNH)
30(00) For housings from size 3034 to 3056 (series ETS)
(00) Size code of the bearing, (00) × 5 = bearing bore diameter [mm]

Designation system for locating rings

FRB 12/180

Series

FRB Locating ring for SKF bearing housings

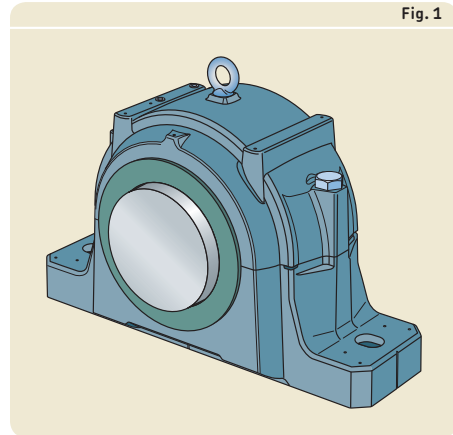
Size identification

... Width and outside diameter of the locating ring [mm]

Standard housing design

SNLN 30 plummer (pillow) block housings are split housings consisting of a cap and base (→ **fig. 1**). They have two holes cast into the base for attachment bolts.

The housings are designed on the “building block” principle to enable a wider choice of bearings and seals as well as a variety of shaft-bearing combinations.



4

Split plummer block housings SNLN 30 series

Features and benefits

SNLN 30 housings have the following features and benefits:

Stiff housing

The housing base is reinforced with ribs and has extra material surrounding the holes for the attachment bolts (→ **fig. 2**). This virtually eliminates any distortion of the base and bearing seat during tightening of the attachment bolts.

Good heat dissipation

The centre cross reinforcement in the housing base (→ **fig. 3**) increases the contact area between the housing base and the support surface to improve the heat flow from the bearing outer ring to the support surface.

Grease guiding system

For more efficient relubrication from the side, SNLN 30 housings have an integrated flange that guides grease from the grease fitting directly to the bearing (→ **fig. 4**). This feature is available for housings up to and including size 3038.

Fig. 2

Reinforcement rib in the base

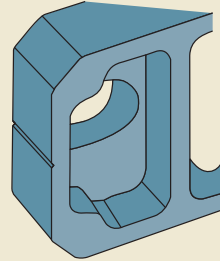


Fig. 3

Centre cross for better heat dissipation

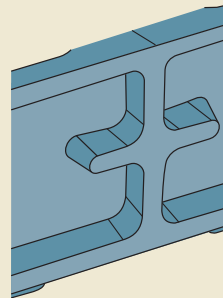
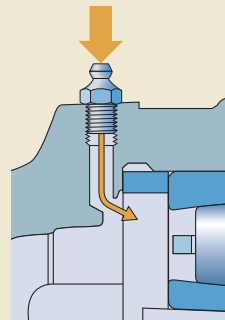


Fig. 4

Grease guiding system



Caps and bases individually marked

The housing cap and base are matched during manufacture and are not interchangeable with the caps and bases of other housings. To prevent any mismatches, a unique serial number is marked on both the housing cap and the base (→ **fig. 5**).

Dimples to locate accessories

Dimples cast into the housing cap indicate where grease fittings and condition monitoring sensors can be mounted for maximum effectiveness (→ **fig. 6**).

Simple mounting

To simplify mounting and make alignment more accurate, lines indicating the centre of the bearing seat and housing bore axis are cast into the housing base. Dimples indicate the position for dowel pins (→ **fig. 7**).

Mounting instructions are supplied with most seal packs¹⁾. Housings from size 3028 and above are supplied with an eye bolt on the cap for safe and easy handling.

Fig. 5

Individually marked cap and base



Fig. 6

Dimples indicate positions for accessories

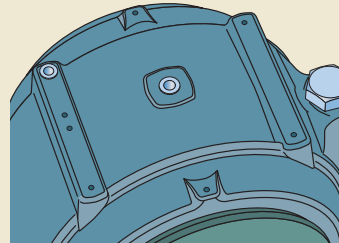
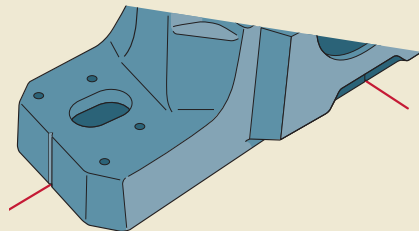


Fig. 7

Cast indications mark the centre of the housing bore



¹⁾ The mounting instructions for housings from size 3024 to 3032, with seals in the 200 series, must be ordered separately.

Housing material

SNLN 30 housings are made of grey cast iron.

Paint, corrosion protection

SNLN 30 housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkalescent washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Dimension standards

Boundary dimensions are in accordance with ISO 113 for two-bolt plummer block housings.

Interchangeability

SNLN 30 plummer block housings are dimensionally interchangeable with the earlier SN 30 housings.

Housing variants

In addition to standard design SNLN 30 housings, a number of variants are also available. Variants include housings made of different materials, alternative attachment bolt hole configurations, different bearing seat tolerance classes and modifications for special applications.

Housing material

For applications where extra strength is needed, SNLN 30 housings are also available in spheroidal graphite cast iron. These housings are supplied with a solid base, designation SSLND.

Attachment bolt holes

SNLN 30 plummer block housings can be supplied with the following bolt hole configurations:

- four drilled holes
These variants are available for housings with two cast bolt holes, designation SNLN, and for housings made of spheroidal graphite cast iron with a solid base, designation SSLND.
Dimensions are listed in **table 1**. These housings have the designation suffix /MS2.
- two drilled holes
These variants are available for housings made of spheroidal graphite cast iron with a solid base, designation SSLND.
Dimensions are listed in **table 1**. These housings have the designation suffix /MS1.

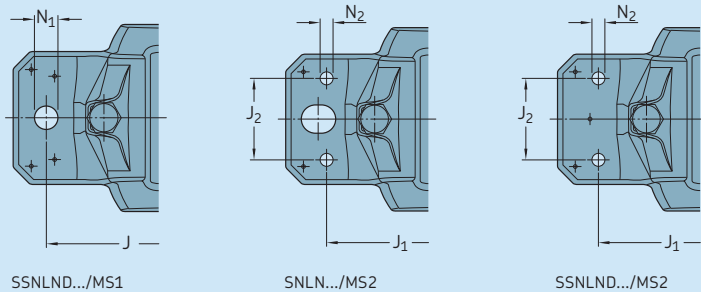
Bearing seat tolerance

SNLN 30 housings can be supplied with different bearing seat tolerance classes, e.g. for applications prone to vibration, with rotating outer ring load or for applications operating at high temperatures.

For additional information, contact the SKF application engineering service.

Table 1

Dimensions for drilled attachment bolt holes



| Housing Size | Two bolt holes (/MS1) | | | Four bolt holes (/MS2) | | | |
|--------------|-----------------------|----------------|-----------------------|---------------------------|----------------|----------------|-----------------------|
| | Dimensions J | N ₁ | Appropriate bolt size | Dimensions J ₁ | J ₂ | N ₂ | Appropriate bolt size |
| – | mm | | | mm | | | |
| SNLN 3024 | 320 | 26 | M24 | 300 | 66 | 18 | M16 |
| SNLN 3026 | 350 | 26 | M24 | 320 | 74 | 18 | M16 |
| SNLN 3028 | 350 | 26 | M24 | 330 | 74 | 18 | M16 |
| SNLN 3030 | 380 | 28 | M24 | 370 | 80 | 22 | M20 |
| SNLN 3032 | 390 | 28 | M24 | 380 | 80 | 22 | M20 |
| SNLN 3034 | 450 | 35 | M30 | 430 | 100 | 26 | M24 |
| SNLN 3036 | 470 | 35 | M30 | 450 | 100 | 26 | M24 |
| SNLN 3038 | 470 | 35 | M30 | 450 | 100 | 26 | M24 |
| SNLN 3040 | 515 | 35 | M30 | 500 | 100 | 26 | M24 |
| SNLN 3044 | 580 | 42 | M36 | 560 | 105 | 28 | M24 |
| SNLN 3048 | 610 | 42 | M36 | 580 | 115 | 28 | M24 |
| SNLN 3052 | 680 | 48 | M42 | 630 | 120 | 35 | M30 |
| SNLN 3056 | 720 | 48 | M42 | 650 | 132 | 35 | M30 |

Sealing solutions

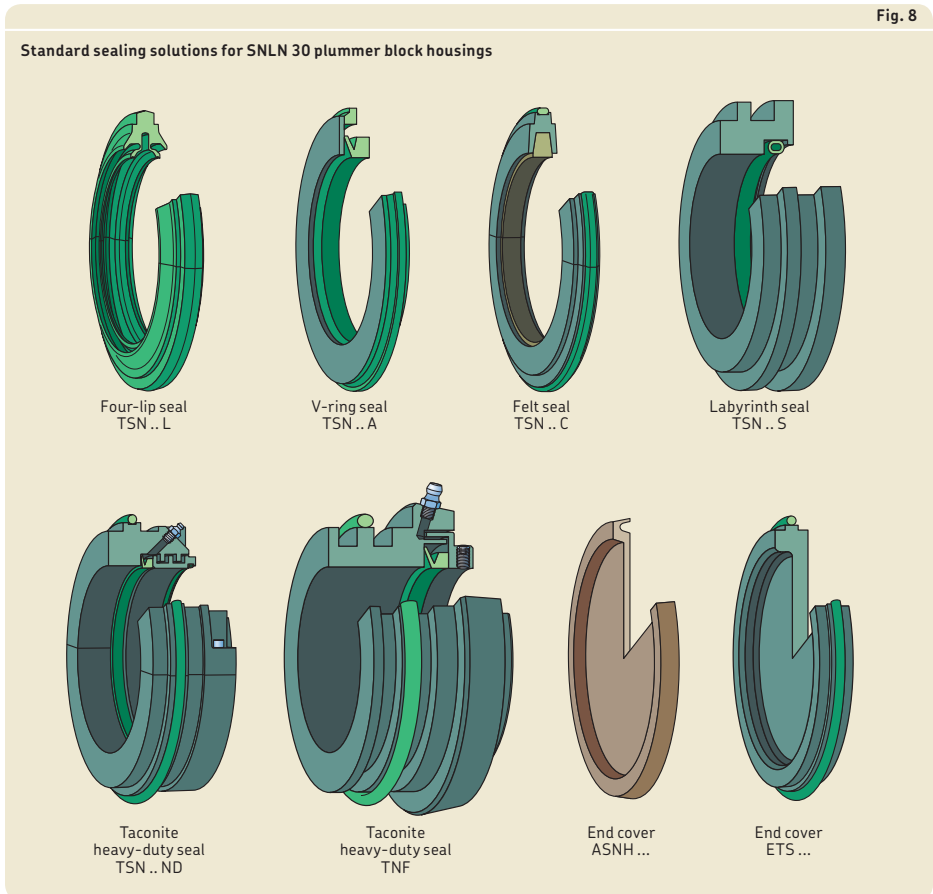
SNLN 30 plummer (pillow) block housings are available with different standard sealing solutions (→ fig. 8).

- four-lip seals (TSN .. L)
- V-ring seals (TSN .. A)
- felt seals (TSN .. C)
- labyrinth seals (TSN .. S)
- taconite heavy-duty seals (TSN .. ND, TNF ..)
- end covers (ASNH .., ETS ..)

The housing size determines which sealing solutions can be used. **Table 2, page 162**, provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, and does not substitute for testing a seal in its application.

Four-lip seals

Four-lip seals replace the former double-lip seals (TSN .. G). When compared to double-lip seals, the new seals are more effective. They also generate less friction, which enables higher shaft speeds. Four-lip seals are radially split and easy to mount.



V-ring seals

V-ring seals consist of a V-ring and a sheet steel sealing washer with a vulcanized rubber lip. The rubber lip fits into the seal groove in the housing. The washer is protected against corrosion.

V-rings can accommodate circumferential speeds up to 7 m/s. For circumferential speeds between 7 and 12 m/s, they should be located axially on the shaft. At speeds above 12 m/s, a support ring must be used to prevent the seal from lifting. Recommended dimensions for appropriate support rings for axial and radial location are provided in **table 3**.

The permissible angular misalignment for seals mounted on shafts < 150 mm in diameter is approximately 1,5° and approximately

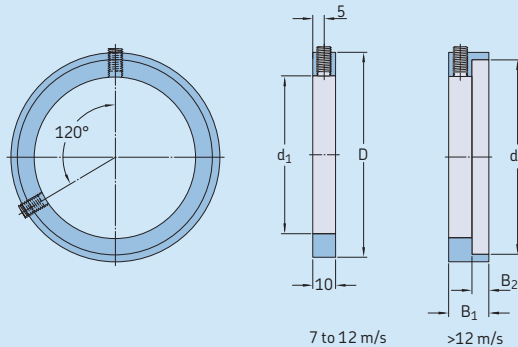
1° for larger shafts. The axial movement of the shaft relative to the housing is limited to $\pm 1,5$ mm.

For arrangements with a vertical shaft, the V-ring of the lower seal should be mounted inside the housing.

4

Table 3

Recommended dimensions for support rings for V-ring seals

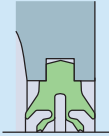
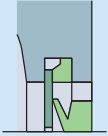
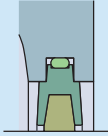


| Shaft diameter d_a , d_b ¹⁾ | Dimensions | | | | | Grub screw to DIN 913 | V-ring seal Standard designation | Alternative designation |
|---|------------|-------|-------|-------|-------|--------------------------|--|----------------------------|
| | d_1 | d_2 | B_1 | B_2 | D | | | |
| mm | mm | | | | | - | - | |
| 110 | 110 | 122,9 | 17,5 | 7,5 | 128 | M6 x 8 | 110 VAR | CR 401100 |
| 115 | 115 | 127,4 | 17,5 | 7,5 | 133 | M6 x 8 | 110 VAR | CR 401100 |
| 125 | 125 | 138,1 | 17,5 | 7,5 | 143 | M6 x 8 | 130 VAR | CR 401300 |
| 135 | 135 | 147,5 | 17,5 | 7,5 | 153 | M6 x 8 | 130 VAR | CR 401300 |
| 140 | 140 | 152,9 | 17,5 | 7,5 | 158 | M6 x 8 | 140 VAR | CR 401400 |
| 145 | 145 | 158,1 | 17,5 | 7,5 | 163 | M6 x 8 | 150 VAR | CR 401500 |
| 155 | 155 | 167,5 | 18,5 | 8,5 | 173 | M6 x 8 | 150 VAR | CR 401500 |
| 165 | 165 | 179,9 | 18,5 | 8,5 | 185,5 | M6 x 8 | 170 VAR | CR 401700 |
| 175 | 175 | 189,3 | 18,5 | 8,5 | 195 | M6 x 8 | 170 VAR | CR 401700 |



¹⁾ d_a : shaft diameter for bearings on an adapter sleeve
 d_b : shaft diameter for bearings on a stepped shaft

Split plummer block housings SNLN 30 series

Standard seals for SNLN 30 plummer block housings

| Seal |  |  |  |
|--|---|---|--|
| Type | Four-lip split | V-ring | Felt split |
| Designation | TSN..L | TSN..A | TSN..C |
| Size range for adapter sleeve mounting | 3024 to 3032 | 3024 to 3032 | 3024 to 3032 |
| Size range for cylindrical seat mounting | 224 to 230 | 224 to 232 | n/a |
| Material | thermoplastic polyester elastomer | nitrile rubber, steel | felt, nitrile rubber, aluminium |
| Seals per pack | 2 seals | 2 seals | 2 seals |

Application conditions and requirements

| | | | |
|--|--|------------------|--|
| Temperature [°C] | -40 to +100 | -40 to +100 | -40 to +100 |
| Temperature [°F] | -40 to +210 | -40 to +210 | -40 to +210 |
| Max. circumferential speed ¹⁾ [m/s] | 13 | 7 ²⁾ | 4 |
| Max. misalignment [°] | 0,5 | 1 to 1,5 | 0,5 |
| Low friction | ++ | ++ | - |
| Axial shaft displacement | ++ | - | ++ |
| Vertical shaft arrangement | + | ++ ³⁾ | -- |
| Replacement | ++ | - | + |
| Shaft tolerance class | h9  | n/a | h9  |
| Shaft roughness R _a [µm] | ≤ 3,2 | n/a | ≤ 3,2 |

Sealing suitability

| | | | |
|----------------------|----|----|----|
| Dust | ++ | + | - |
| Fine particles | ++ | + | - |
| Coarse particles | ++ | + | + |
| Chips | + | -- | + |
| Liquids when sprayed | + | + | - |
| Direct sunlight | + | -- | ++ |

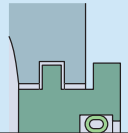
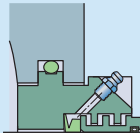
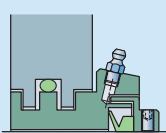
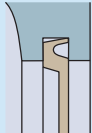




Symbols: n/a not applicable, ++ very suitable, + suitable, - limited suitability, -- unsuitable

¹⁾ To convert circumferential speeds to rotational speeds, refer to **table 7** on **page 37**.

²⁾ Higher speeds are permissible if the V-ring is located axially on the shaft.

³⁾ When the V-ring of the lower seal is mounted inboard

Table 2

|  |  |  |  |  |
|---|---|---|---|---|
| Labyrinth | Taconite | Taconite | End cover | End cover |
| TSN .. S | TSN .. ND | TNF .. | ASNH .. | ETS .. |
| 3024 to 3056 | 3024 to 3032 | 3034 to 3056 | 3024 to 3032 | 3034 to 3056 |
| 224 to 232, 3034/185 to 3056/295 | 224 to 232 | 3034/185 to 3056/295 | | |
| steel or cast iron, silicone | steel, nitrile rubber | steel, nitrile rubber | polymer | cast iron, silicone |
| 1 seal | 1 seal | 1 seal | 1 end cover | 1 end cover |
| -50 to +200 | -40 to +100 | -40 to +100 | -40 to +110 | -50 to +200 |
| -60 to +390 | -40 to +210 | -40 to +210 | -40 to +230 | -60 to +390 |
| not limited | 12 | 12 | n/a | n/a |
| 0,3 | 0,5 | 0,3 | n/a | n/a |
| ++ | + | + | n/a | n/a |
| + | + | + | n/a | n/a |
| -- | - | - | ++ | ++ |
| - | - | - | ++ | ++ |
| h9  | h9  | h9  | n/a | n/a |
| ≤ 3,2 | ≤ 3,2 | n/a | n/a | n/a |
| - | ++ | ++ | ++ | ++ |
| + | ++ | ++ | ++ | ++ |
| + | ++ | ++ | ++ | ++ |
| ++ | ++ | ++ | ++ | ++ |
| -- | ++ | ++ | ++ | ++ |
| ++ | ++ | ++ | ++ | ++ |

Felt seals

Felt seals are simple and effective. At circumferential speeds above 4 m/s, a small gap forms between the felt and shaft, transforming the contact seal into a non-contact, gap-type seal.

Labyrinth seals

For applications where there are high speeds or extreme temperatures, SKF recommends using labyrinth seals. Labyrinth rings, mounted on the shaft, form a multi-stage labyrinth seal with the housing seal grooves. Hollow, silicone rubber cords, supplied with the rings, hold the rings in place on the shaft.

Taconite heavy-duty seals

For bearing arrangements that must operate under highly contaminated conditions, such as those encountered in mining, taconite heavy-duty seals, which can be filled with grease, are recommended. Grease enhances the sealing effect and extends the service life of the seals. Taconite heavy-duty seals are labyrinth seals combined with a V-ring seal. The labyrinth ring is solid but the main body of the seal is split.

SNLN 30 housings from size 3024 to 3032 accommodate taconite seals with a radial labyrinth. SNLN 30 housings from size 3034 to 3056 accommodate solid taconite seals with an axial labyrinth. Both can be relubricated via a grease fitting in the main body of the seal.

The axial movement of the shaft relative to the housing is limited to $\pm 1,5$ mm for shaft diameters ranging from 110 to 150 mm, ± 2 mm for shaft diameters ranging from 160 to 200 mm and ± 4 mm for larger shaft diameters.

End covers

Housings at the end of a shaft should have an end cover that fits into the seal groove in the housing.

For housings from size 3024 to 3032, the end covers are made of plastic and are suitable for operating temperatures from -40 to $+110$ °C (-40 to $+230$ °F). For applications where temperatures exceed 110 °C (230 °F),

steel end covers should be used. These can be cut from sheet steel and placed in the seal groove. Use a hollow silicone rubber cord to hold the cover in place.

For housings from size 3034 to 3056, the end covers are made of grey cast iron and are suitable for operating temperatures from -50 to $+200$ °C (-60 to $+390$ °F). They are inserted, together with a hollow silicone rubber cord, in the housing seal groove.

Details of the permissible length of the shaft end are provided in **table 4**.

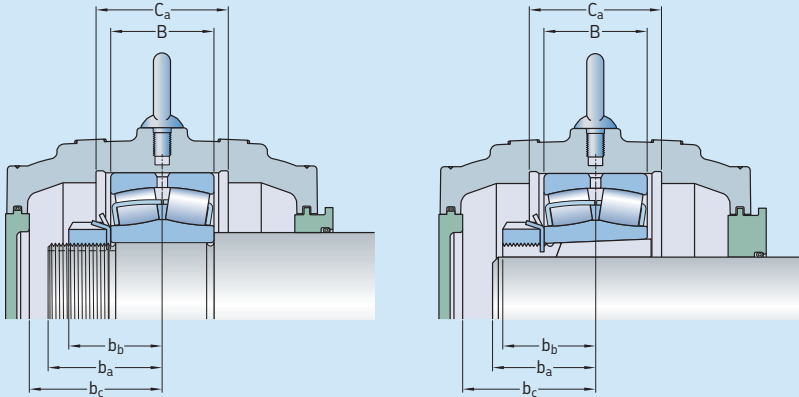
Using sealed bearings

Using sealed bearings in housings with standard seals is a good solution for highly contaminated environments. The sealed bearing together with the housing seal and grease provide three layers of protection (→ *SKF three-barrier solution*, **page 39**).

SNLN 30 housings can be used together with SKF sealed self-aligning bearings. When using taconite heavy-duty seals, a sealed bearing does not enhance the sealing effect during operation, but still protects the bearing against contaminants during mounting.

Table 4

Permissible length of a shaft end



| Housing Size | Dimensions | | | Appropriate bearing Designation | Dimensions | |
|-----------------|------------|-------|-------|------------------------------------|------------|-------|
| | $b_a^{1)}$ | b_c | C_a | | B | b_b |
| – | mm | | | – | mm | |
| SNLN 3024 | 48 | 70 | 70 | 23024 | 46 | 45 |
| SNLN 3026 | 52 | 76 | 79 | 23026 | 52 | 49 |
| SNLN 3028 | 53 | 75 | 79 | 23028 | 53 | 50,5 |
| SNLN 3030 | 57 | 82 | 86 | 23030 | 56 | 54 |
| SNLN 3032 | 60 | 82 | 90 | 23032 | 60 | 57,5 |
| SNLN 3034 | 65 | 87 | 87 | 23034 | 67 | 62 |
| SNLN 3036 | 69 | 94 | 94 | 23036 | 74 | 66,5 |
| SNLN 3038 | 71 | 99 | 95 | 23038 | 75 | 68 |
| SNLN 3040 | 75 | 98 | 102 | 23040 | 82 | 72,5 |
| SNLN 3044 | 89 | 108 | 110 | 23044 | 90 | 86 |
| SNLN 3048 | 95 | 110 | 112 | 23048 | 92 | 92 |
| SNLN 3052 | 101 | 120 | 124 | 23052 | 104 | 98 |
| SNLN 3056 | 106 | 123 | 126 | 23056 | 106 | 103 |

¹⁾ For the non-locating bearing position, the values for b_a must be adjusted if the bearing is not centred in the housing seat.

Special seals

In addition to the standard seal assortment, SNLN 30 housings are available, on request, with high-temperature seals, taconite heavy-duty seals with an axial labyrinth or custom seals for special applications.

High-temperature seals

For high operating temperatures, up to 250 °C (480 °F), high-temperature felt seals should be used. The felt seals can accommodate circumferential speeds up to 2 m/s. They are identified by the designation suffix CB, e.g. TSN 3024 CB.

Taconite heavy-duty seals with an axial labyrinth

Taconite heavy-duty seals with an axial labyrinth (TSN .. NC or TSN .. NB, → **fig. 9**) can be used under the same conditions as taconite seals with a radial labyrinth. The seals are greased via a hole in the housing cap. Therefore, they can only be used with housings with the suffix T (at the end of a shaft) or the suffix TD (for through shafts).

TSN .. NB seals have a V-ring. It limits the axial movement of the shaft relative to the housing to ±1,5 mm.

Specifications for the seals are listed in **table 5**.

Fig. 9

Taconite heavy-duty seals with an axial labyrinth

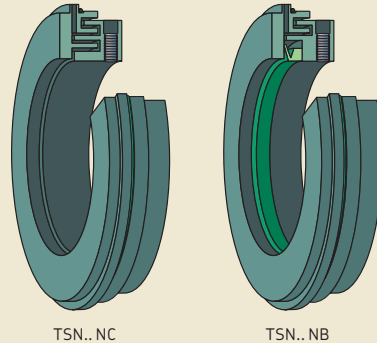


Table 5

Taconite heavy-duty seals with an axial labyrinth

| Seal | | |
|--|-----------------------------|-----------------------------|
| Designation | TSN .. NC | TSN .. NB |
| Size range | 3024 to 3032 | 3024 to 3032 |
| Application conditions and requirements | | |
| Temperature [°C] | -40 to +250 | -40 to +100 |
| Temperature [°F] | -40 to +480 | -40 to +210 |
| Max. circumferential speed ¹⁾ [m/s] | not limited | 12 |
| Max. misalignment [°] | 0,5 | 0,5 |
| Max. axial shaft displacement from a central position [mm] | ±2,5 | ±1,5 |
| Shaft tolerance class | h9 $\text{\textcircled{E}}$ | h9 $\text{\textcircled{E}}$ |

¹⁾ To convert circumferential speeds to rotational speeds, refer to **table 7** on **page 37**.

Custom seals

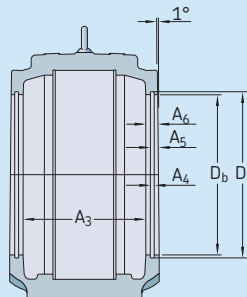
SNLN 30 housings can be equipped with any type of seal that fits the seal groove dimensions in the housing. The relevant dimensions are provided in **table 6**.

Custom seals can be supplied by SKF. For additional information, contact the SKF application engineering service.

4

Table 6

Seal groove dimensions



| Housing Size | Dimensions | | | | | |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | A ₃ | A ₄ | A ₅ | A ₆ | D _b | D _c |
| – | mm | | | | | |
| SNLN 3024 | 130 | 6 | 10 | 15 | 157,5 | 167,5 |
| SNLN 3026 | 142 | 6 | 10 | 15 | 167,5 | 177,5 |
| SNLN 3028 | 141 | 6 | 11 | 16 | 177,5 | 187,5 |
| SNLN 3030 | 154 | 6 | 11 | 16 | 192,5 | 202,5 |
| SNLN 3032 | 156 | 6 | 11 | 15 | 202,5 | 212,5 |
| SNLN 3034 | 177 | 6 | 11 | 15 | 212,5 | 222,5 |
| SNLN 3036 | 192 | 6 | 11 | 15 | 225,5 | 232,5 |
| SNLN 3038 | 198 | 6 | 11 | 17 | 232,5 | 242,5 |
| SNLN 3040 | 197 | 8 | 14 | 20 | 242,5 | 254,5 |
| SNLN 3044 | 217 | 8 | 14 | 20 | 262,5 | 274,5 |
| SNLN 3048 | 217 | 8 | 16,5 | 25 | 282,5 | 294,5 |
| SNLN 3052 | 236 | 8 | 16,5 | 25 | 302,5 | 314,5 |
| SNLN 3056 | 245 | 8 | 16,5 | 25 | 322,5 | 334,5 |

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Axial load carrying capacity for bearings on sleeves* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

For additional information about rolling bearings, refer to the product information available online at skf.com/housings.

Typical shaft-bearing combinations

SNLN 30 housings can accommodate different shaft-bearing combinations (→ **fig. 10**):

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat
- Stepped shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a withdrawal sleeve

Plain shaft with bearing on an adapter sleeve

Housings, appropriate parts and dimensions are listed in **product table 4.1**, starting on **page 180**.

Stepped shaft with bearing on a cylindrical seat

Housings, appropriate parts and dimensions are listed in **product table 4.2**, starting on **page 184**.

The bearing is located axially between a shaft shoulder and a spacer sleeve, which is held in place by another component on the shaft. The outside diameter of the sleeve must match the bore diameter of the seal. The spacer sleeve is not supplied by SKF.

Stepped shaft with bearing on an adapter sleeve

When using an SNLN 30 housing for this arrangement, the dimensions of the abutment ring and the spacer sleeve must fit the housing.

Abutment rings and spacer sleeves are not supplied by SKF.

Stepped shaft with bearing on a withdrawal sleeve

When using an SNLN 30 housing for this arrangement, the withdrawal sleeve must be located axially on the shaft. This can be done using a spacer sleeve that is held in place by another component. Using a lock nut can be difficult because of the limited space in the housing. The outside diameter of the spacer sleeve must be the same as the shaft abutment diameter, d_b , (→ **product tables**) and it should be in accordance with the $h9$ (E) tolerance class to fit the seal. The spacer sleeve is not supplied by SKF.

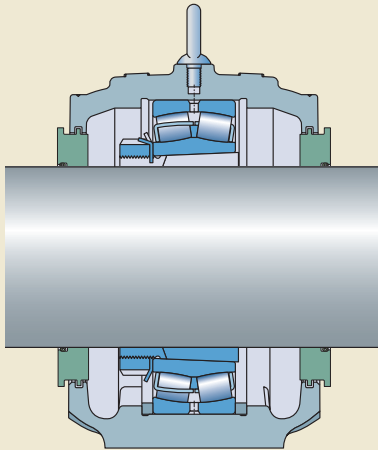
Locating and non-locating bearing positions

SNLN 30 housings can be used for both the locating and non-locating bearing positions.

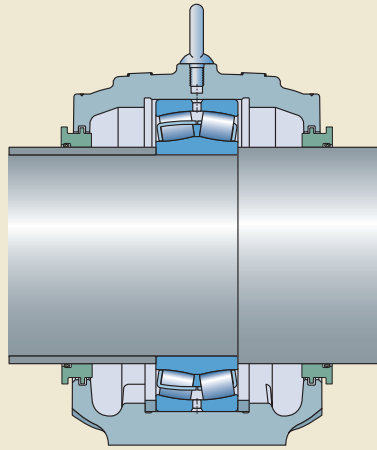
The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing on both sides with locating rings. Appropriate locating rings are listed in the product tables.

Fig. 10

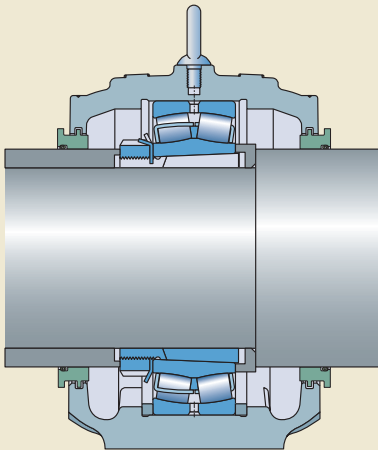
4



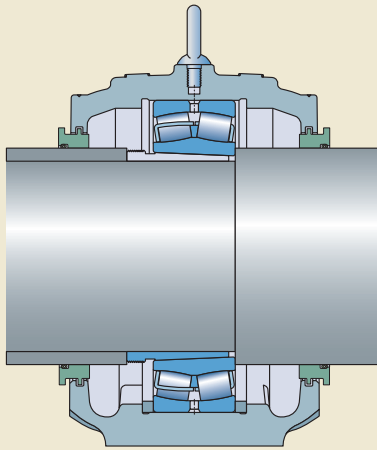
Plain shaft with bearing on an adapter sleeve



Stepped shaft with bearing on a cylindrical seat



Stepped shaft with bearing on an adapter sleeve



Stepped shaft with bearing on a withdrawal sleeve

Load carrying capacity

SNLN 30 housings are intended for loads acting perpendicularly toward the support surface. If the housing is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing. If loads acting in other directions occur, or if the housing is not supported over its entire base, be sure that the magnitude of the load is permissible for the housing, the cap bolts and the attachment bolts. When housings are subjected to cyclic loads or dynamic imbalance, contact the SKF application engineering service.

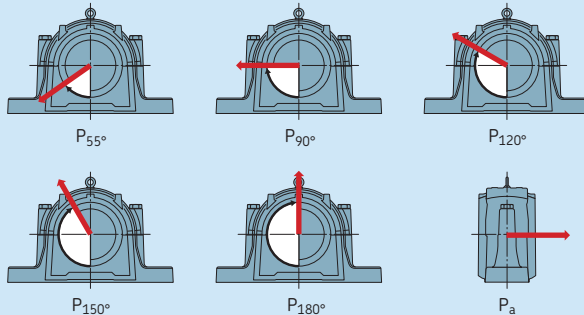
Breaking loads and safety factors

Guideline values for the breaking loads of housings made of grey cast iron are listed in **table 7**. To obtain the permissible load for a housing, the appropriate breaking load value should be divided by a factor based on the safety requirements. In general engineering, a safety factor of 6 is typical (→ *Load carrying capacity*, page 44). The permissible load can only be exploited if the cap bolts are tightened at least to the torque values listed in **table 8**.

If the housing is not supported over its entire base, the load carrying capacity for loads acting perpendicularly to the support surface may be affected. For additional information, contact the SKF application engineering service.

Table 7

Breaking loads for SNLN 30 plummer block housings made of grey cast iron



| Housing Size | Breaking loads | | | | | |
|--------------|------------------|------------------|-------------------|-------------------|-------------------|----------------|
| | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | P _a |
| – | kN | | | | | |
| SNLN 3024 | 520 | 310 | 230 | 210 | 260 | 90 |
| SNLN 3026 | 620 | 370 | 280 | 250 | 310 | 110 |
| SNLN 3028 | 700 | 420 | 310 | 280 | 350 | 120 |
| SNLN 3030 | 780 | 470 | 350 | 310 | 390 | 130 |
| SNLN 3032 | 840 | 500 | 380 | 340 | 420 | 150 |
| SNLN 3034 | 1 000 | 600 | 450 | 400 | 500 | 170 |
| SNLN 3036 | 1 160 | 700 | 520 | 460 | 580 | 200 |
| SNLN 3038 | 1 300 | 780 | 580 | 520 | 650 | 220 |
| SNLN 3040 | 1 480 | 890 | 670 | 590 | 740 | 260 |
| SNLN 3044 | 1 700 | 1 020 | 760 | 680 | 850 | 300 |
| SNLN 3048 | 1 880 | 1 130 | 850 | 750 | 940 | 330 |
| SNLN 3052 | 2 120 | 1 270 | 950 | 850 | 1 060 | 370 |
| SNLN 3056 | 2 240 | 1 340 | 1 000 | 900 | 1 120 | 390 |

For housings made of spheroidal graphite cast iron, the values obtained from **table 7** should be multiplied by a factor of 1,8.

The load P_a is the axial breaking load of the housing. If the incorporated bearing is mounted on a sleeve, check the permissible axial load for the sleeve.

Additional housing support

When a housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load.

When loads act at angles between 55° and 120°, or when the axial loads are greater than 5% of P_{180° (→ **table 7**), the housing should be

pinned to the support surface or a stop should be provided to counter the load. The dowel pins or stop should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 11** on **page 177**.

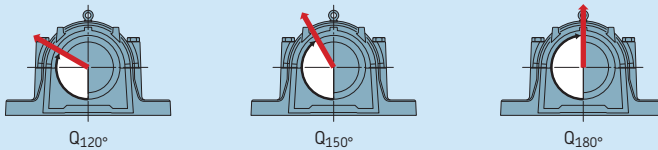
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Load carrying capacity of the cap bolts

Approximate values for the yield points for cap bolts are provided in **table 8**. Recommended torque values are listed in the same table. The values in **table 8** apply to 8.8 class cap bolts, which are supplied with SNLN 30 housings made of spheroidal graphite cast iron are supplied

Table 8

Load carrying capacity and torque values for cap bolts and attachment bolts



| Housing Size | Cap bolts Yield point for two bolts | | | Size | Tightening torque | Attachment bolts | |
|--------------|--|-----------------|-----------------|----------|-------------------|------------------|---------------------------------|
| | Q_{120° | Q_{150° | Q_{180° | | | Size | Tightening torque ¹⁾ |
| – | kN | | | – | Nm | – | Nm |
| SNLN 3024 | 620 | 360 | 310 | M 20×100 | 200 | M 24 | 665 |
| SNLN 3026 | 620 | 360 | 310 | M 20×100 | 200 | M 24 | 665 |
| SNLN 3028 | 620 | 360 | 310 | M 20×110 | 200 | M 24 | 665 |
| SNLN 3030 | 900 | 520 | 450 | M 24×130 | 350 | M 24 | 665 |
| SNLN 3032 | 900 | 520 | 450 | M 24×130 | 350 | M 24 | 665 |
| SNLN 3034 | 900 | 520 | 450 | M 24×130 | 350 | M 30 | 1 310 |
| SNLN 3036 | 900 | 520 | 450 | M 24×130 | 350 | M 30 | 1 310 |
| SNLN 3038 | 900 | 520 | 450 | M 24×140 | 350 | M 30 | 1 310 |
| SNLN 3040 | 900 | 520 | 450 | M 24×140 | 350 | M 30 | 1 310 |
| SNLN 3044 | 1 430 | 825 | 715 | M 30×170 | 400 | M 36 | 2 280 |
| SNLN 3048 | 1 430 | 825 | 715 | M 30×170 | 400 | M 36 | 2 280 |
| SNLN 3052 | 2 100 | 1 200 | 1 050 | M 36×200 | 600 | M 42 | 3 640 |
| SNLN 3056 | 2 100 | 1 200 | 1 050 | M 36×200 | 600 | M 42 | 3 640 |

¹⁾ Recommended by bolt manufacturers

Split plummer block housings SNLN 30 series

with 10.9 class cap bolts. For these cap bolts, the values obtained from **table 8** should be multiplied by a factor of 1,4.

If a safety factor of 6 is used for the permissible load of grey cast iron SNLN 30 housings, the cap bolts do not need to be considered. In this case, the permissible load of the housing is less than the permissible load for the cap bolts.

Operating temperature

The permissible operating temperature is mainly limited by the seals (→ **table 2, page 162**) and the lubricant in the bearing. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

All seals, except non-contact labyrinth seals, limit the permissible operating speed. Speed limits for seals are provided in **table 2** on **page 162**. For speed limits of the bearing, refer to the product information available online at skf.com/bearings.

Attachment bolt recommendations

In typical applications, 8.8 class hexagon head bolts in accordance with ISO 4014 can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 8, page 171**). They are valid for oiled, but otherwise untreated, thread surfaces.

SKF cannot guarantee that tightening to the recommended value provides sufficient

anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Lubrication

SNLN 30 plummer (pillow) block housings with standard seals are intended for grease lubrication.

The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 20 to 40% of its volume.

A 40% grease fill is required when bearings have to be relubricated from the side, while a 20% grease fill is used when bearings are relubricated via the outer ring.

For highly contaminated environments and slow speeds, fill the housing to 70–80%. For best protection against contaminants, use the SKF three-barrier solution (→ [page 39](#)). For additional information, contact the SKF application engineering service.

Quantities for 20 and 40% grease fills are listed in [table 9](#). The values are valid for a typical lithium grease (about 0,95 g/cm³). They include grease for the bearing and the four-lip seals or the sealing washers of V-ring seals. The grease to fill labyrinth seals or taconite heavy-duty seals is not included. For sealed bearings, the values have to be adjusted.

In most applications, the initial grease fill will adequately lubricate the bearing until the grease is exchanged during the next planned maintenance interval.

Table 9

| Initial grease fill | | |
|---------------------|--------------|------|
| Housing Size | Initial fill | |
| | 20% | 40% |
| – | kg | |
| SNLN 3024 | 0,25 | 0,45 |
| SNLN 3026 | 0,35 | 0,65 |
| SNLN 3028 | 0,50 | 0,70 |
| SNLN 3030 | 0,50 | 0,90 |
| SNLN 3032 | 0,50 | 1,0 |
| SNLN 3034 | 0,75 | 1,4 |
| SNLN 3036 | 0,95 | 1,8 |
| SNLN 3038 | 1,0 | 1,9 |
| SNLN 3040 | 1,1 | 2,0 |
| SNLN 3044 | 1,5 | 2,7 |
| SNLN 3048 | 1,5 | 2,8 |
| SNLN 3052 | 2,1 | 3,8 |
| SNLN 3056 | 2,3 | 4,2 |

Relubrication

SNLN 30 plummer block housings enable relubrication of the incorporated bearings and seals (→ **fig. 11**):

- SNLN 30 housings have two holes that have been drilled and tapped for an AH 1/8-27 PTF grease fitting. On a new housing, the holes are covered by plastic plugs. These plugs should be replaced with the grease fitting and threaded plug supplied with the housing.
- If a larger grease fitting or other equipment has to be used, an adapter to change to a G 1/4 thread is available (→ **page 48**).
- Dimples cast into the top of the housing cap indicate alternative positions where holes can be drilled and tapped to accommodate a grease fitting for bearing or seal relubrication.

Relubrication via the outer ring

The hole in the centre of the cap should be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring) (→ **fig. 12**). When applying grease via the relubrication feature, the shaft should be rotating.

Relubrication from the side

When relubricating from the side, which is typically necessary for CARB toroidal roller bearings, the offset hole in the housing should be used. SNLN 30 housings from size 3024 to 3038 have an integral flange that guides

grease from the grease fitting directly to the rolling elements (→ **fig. 13**).

When bearings mounted on an adapter sleeve have to be relubricated from the side, the grease should be introduced from the side opposite the lock nut.

When bearings mounted at the end of a shaft have to be relubricated from the side, the grease should be applied at the point closest to the end cover.

Fig. 12

Relubrication via the outer ring

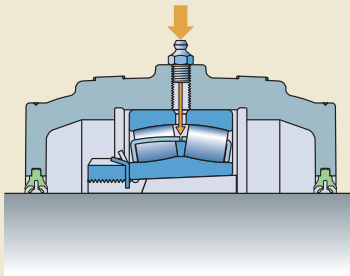


Fig. 13

Relubrication from the side

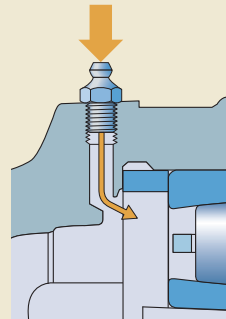
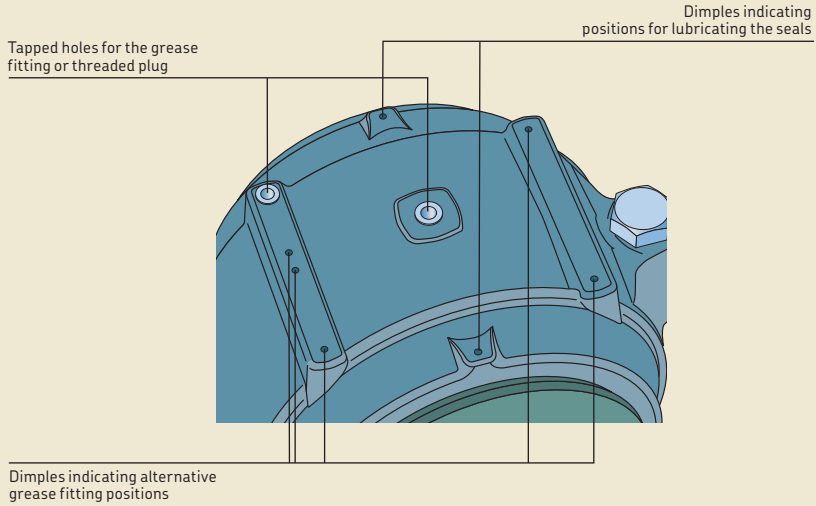


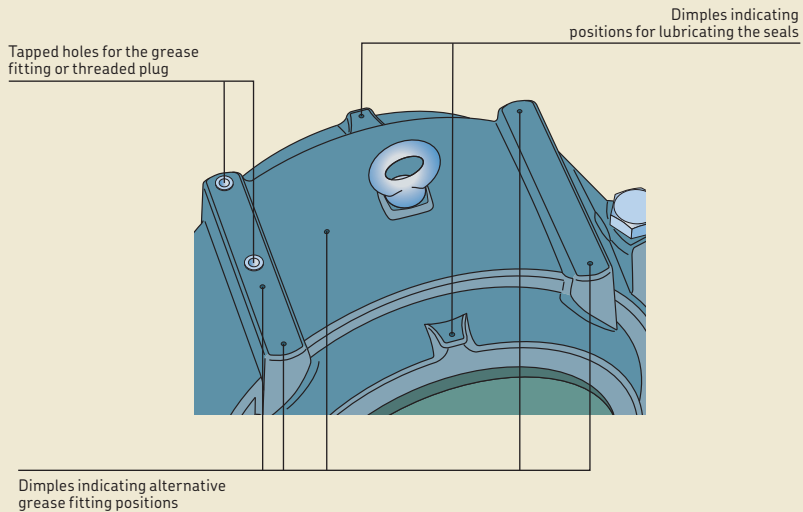
Fig. 11

Relubrication possibilities

SNLN housings up to size 3024



SNLN housings from size 3028 and above



Split plummer block housings SNLN 30 series

Relubrication from the side for housings with V-ring seals

When relubricating bearings from the side in housings with V-ring seals, mount an additional V-ring inside the housing on the side where grease is applied (→ **fig. 14**). This forces the grease to travel through the bearing and exit the housing on the opposite side.

SKF can supply an appropriate V-ring together with a splash plate that fits in the seal groove to cover a bit more than the top half of the housing. The sets are identified by the series designation ASNA followed by the housing size identification and the suffix V, e.g. ASNA 3024 V, and are available from size 3024 to 3032.

Grease escape holes

When four-lip seals (TSN .. L) or felt seals (TSN .. C) are used, grease cannot escape via the seals. If relubrication is required, the housing should have a grease escape hole.

SNLN 30 housings can be supplied with a grease escape hole (designation suffix V). A grease escape hole can be drilled into the housing using the dimensions provided in **table 10**.

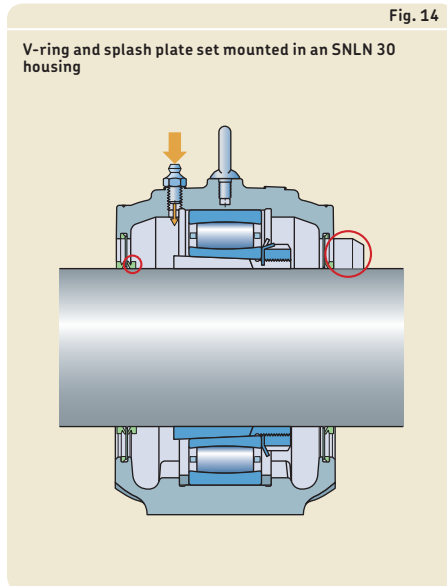
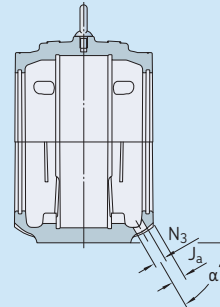


Table 10

Recommended dimensions for grease escape hole



| Housing Size | Dimensions | | |
|--------------|------------|-------|----------|
| | J_a | N_3 | α |
| – | mm | | |
| SNLN 3024 | 21 | 16 | 65 |
| SNLN 3026 | 21,5 | 20 | 60 |
| SNLN 3028 | 24 | 20 | 60 |
| SNLN 3030 | 22 | 20 | 55 |
| SNLN 3032 | 18,5 | 20 | 50 |
| SNLN 3034 | 25 | 20 | 60 |
| SNLN 3036 | 25 | 20 | 60 |
| SNLN 3038 | 25 | 20 | 60 |
| SNLN 3040 | 32 | 20 | 65 |
| SNLN 3044 | 32 | 25 | 60 |
| SNLN 3048 | 32 | 25 | 55 |
| SNLN 3052 | 32 | 25 | 55 |
| SNLN 3056 | 32 | 25 | 50 |

Mounting

SNLN 30 housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces*, page 45).

Mounting instructions for each housing are provided with the seal pack, except for housings from size 3024 to 3032 with seals in the TSN 2(00) series. For these housing/seal combinations, mounting instructions need to be ordered separately. For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Torque specifications

Cap bolts should be tightened to the torque values listed in **table 8** on **page 171**. For information about attachment bolts, refer to *Attachment bolt recommendations* on **page 172**.

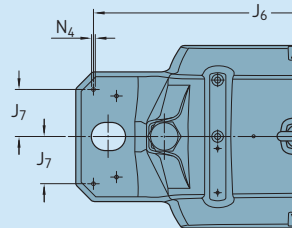
Pinning or supporting the housing

Some load conditions may require the housing to be pinned to its support surface or a stop to accommodate loads acting parallel to the housing support surface (→ *Additional housing support*, page 171).

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 11**. Dimples cast into the housing base mark the recommended positions.

Table 11

Position and size of dowel pin holes



| Housing Size | Dimensions | | |
|--------------|----------------|----------------|----------------|
| | J ₆ | J ₇ | N ₄ |
| – | mm | | |
| SNLN 3024 | 348 | 39 | 8 |
| SNLN 3026 | 378 | 44 | 8 |
| SNLN 3028 | 378 | 44 | 8 |
| SNLN 3030 | 414 | 46 | 12 |
| SNLN 3032 | 424 | 46 | 12 |
| SNLN 3034 | 486 | 58 | 12 |
| SNLN 3036 | 506 | 58 | 12 |
| SNLN 3038 | 506 | 58 | 12 |
| SNLN 3040 | 566 | 63 | 16 |
| SNLN 3044 | 644 | 72 | 16 |
| SNLN 3048 | 672 | 76 | 16 |
| SNLN 3052 | 760 | 80 | 16 |
| SNLN 3056 | 800 | 85 | 16 |

Condition monitoring

SNLN 30 plummer (pillow) block housings have appropriate positions for condition monitoring sensors (→ **fig. 15**).

Position 1 is a measurement point perpendicular to the shaft, and should be used when the housing is hung from its support or when loads act away from the support surface.

Position 2 is a measurement point parallel to the shaft and should be used when loads act toward the support surface. Both positions 1 and 2 are in accordance with ISO 10816-1.

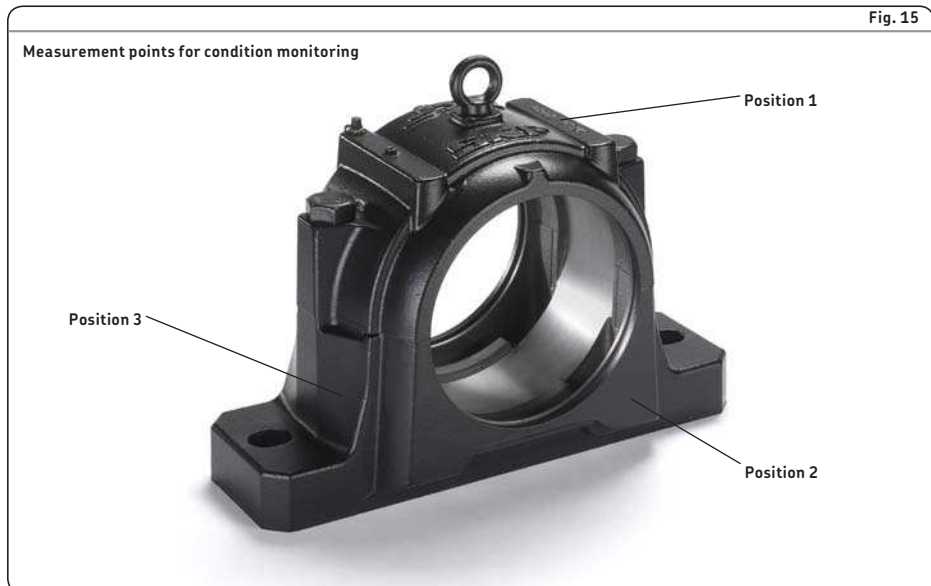
Position 3 is a measurement point that is approximately 20° to 45° to the shaft axis.

Accessories

The following accessories are available for SNLN 30 plummer (pillow) block housings:

- Adapter for G 1/4 connections: LAPN 1/8
- Automatic lubricators: SKF SYSTEM 24 and SKF MultiPoint
- Grease meter: LAGM 1000E
- Condition monitoring sensors

For additional information, refer to *SKF tools and products* (→ **page 47**).



Ordering information

For SNLN 30 plummer (pillow) block housings, each of the following items must be ordered separately:

- housing
- seals
- end cover
- locating rings
- bearing
- adapter sleeve

Order example

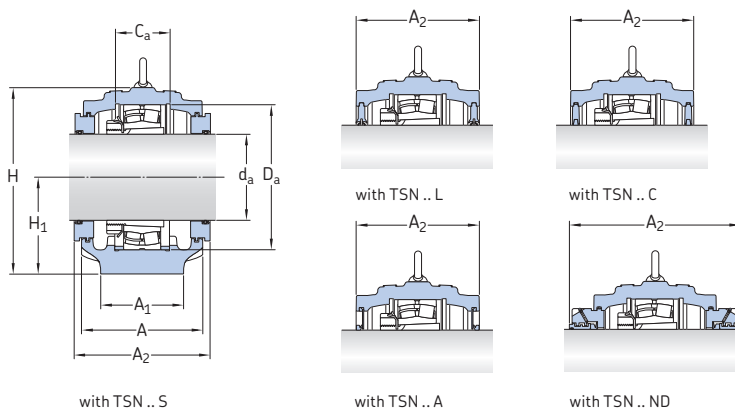
Two plummer block housings with four-lip seals are required for two 23024 CCK/W33 spherical roller bearings on H 3024 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing and a through shaft.

The following items should be ordered (in addition to the bearings and adapter sleeves):

- 2 housings SNLN 3024
- 2 four-lip seal packs TSN 3024
(each pack contains two seals)
- 1 end cover ASNH 524-620
- 2 locating rings FRB 12/180

4.1 SNLN 30 plummer block housings for bearings on an adapter sleeve

d_a 110 – 140 mm



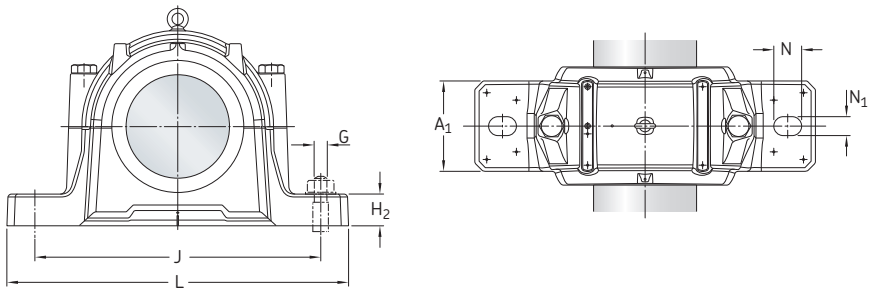
| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------------------|--|--------------------------------|--|-------------|--------------|----------------------------|
| mm | – | – | | | | | mm |
| 110 | SNLN 3024 | 23024 CCK/W33 C 3024 K | H 24 H 3024 E | FRB 12/ FRB 12/180 | TSN 3024 L | ASNH 524-620 | 160 |
| | | | | | TSN 3024 A | | 160 |
| | | | | | TSN 3024 C | | 160 |
| | | | | | TSN 3024 S | | 180 |
| | | | | | TSN 3024 ND | | 240 |
| 115 | SNLN 3026 | 23026 CCK/W33 23026-2CS5K C 3026 K | H 3026 H 3026 E H 3026 | FRB 13,5/200 FRB 13,5/200 FRB 13,5/200 | TSN 3026 L | ASNH 526 | 175 |
| | | | | | TSN 3026 A | | 175 |
| | | | | | TSN 3026 C | | 175 |
| | | | | | TSN 3026 S | | 200 |
| | | | | | TSN 3026 ND | | 245 |
| 125 | SNLN 3028 | 23028 CCK/W33 23028-2CS5K C 3028 K | H 3028 H 3028 E H 3028 E | FRB 13/210 FRB 13/210 FRB 13/210 | TSN 3028 L | ASNH 528 | 175 |
| | | | | | TSN 3028 A | | 175 |
| | | | | | TSN 3028 C | | 175 |
| | | | | | TSN 3028 S | | 195 |
| | | | | | TSN 3028 ND | | 255 |
| 135 | SNLN 3030 | 23030 CCK/W33 23030-2CS5K C 3030 KV | H 3030 H 3030 E H 3030 | FRB 15/225 FRB 15/225 FRB 15/225 | TSN 3030 L | ASNH 530 | 190 |
| | | | | | TSN 3030 A | | 190 |
| | | | | | TSN 3030 C | | 190 |
| | | | | | TSN 3030 S | | 215 |
| | | | | | TSN 3030 ND | | 265 |
| 140 | SNLN 3032 | 23032 CCK/W33 23032-2CS5K C 3032 K | H 3032 H 3032 E H 3032 E | FRB 15/240 FRB 15/240 FRB 15/240 | TSN 3032 L | ASNH 532 | 190 |
| | | | | | TSN 3032 A | | 190 |
| | | | | | TSN 3032 C | | 190 |
| | | | | | TSN 3032 S | | 215 |
| | | | | | TSN 3032 ND | | 270 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

230(00) – spherical roller bearing, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same row only.

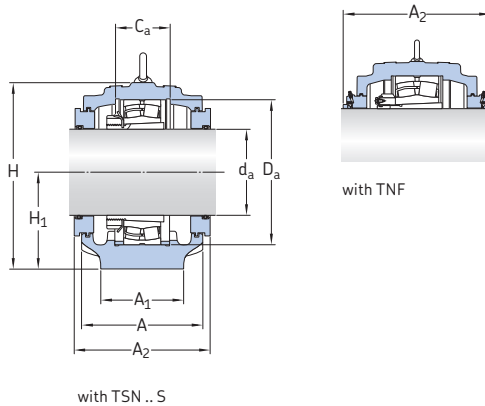
³⁾ The locating ring fits the bearing in the same row only. Two locating rings are required.



| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|-------------------------|--------------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|-------------------------------|--------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | | |
| mm | mm | | | | | | | | | | | | - | kg |
| 110 | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | - | 17,5 |
| 115 | 175 | 120 | 79 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | - | 22,5 |
| 125 | 175 | 120 | 79 | 210 | 270 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | M10 | 30,0 |
| 135 | 190 | 130 | 86 | 225 | 290 | 150 | 50 | 380 | 445 | 35 | 28 | 24 | M10 | 40,0 |
| 140 | 190 | 130 | 90 | 240 | 297 | 150 | 50 | 390 | 460 | 35 | 28 | 24 | M10 | 41,0 |

4.1 SNLN 30 plummer block housings for bearings on an adapter sleeve

d_a 150 – 260 mm



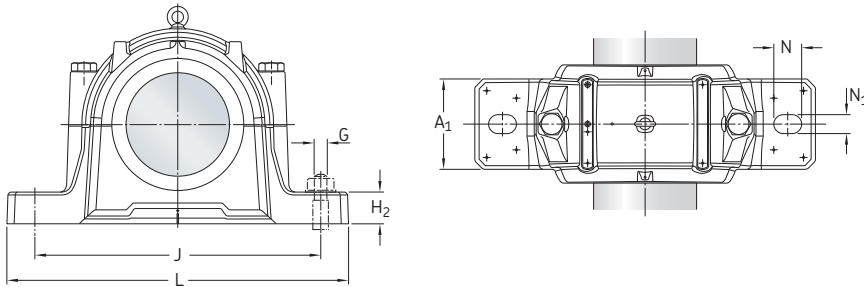
| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals |
|-------------------------|---------------------|--|------------------------------|-----------------------------|------------------------|-----------|-------------------|
| | | | | | | | A_2 |
| mm | – | – | | | | | mm |
| 150 | SNLN 3034 | 23034 CCK/W33 | H 3034 | FRB 10/260 | TSN 3034 S | ETS 3034 | 230 |
| | | 23034-2CS5K C 3034 K | H 034 E H 034 E | FRB 10/260 FRB 10/260 | TNF 3034 | | 266 |
| 160 | SNLN 3036 | 23036 CCK/W33 | H 036 | FRB 10/280 | TSN 3036 S | ETS 3036 | 245 |
| | | 23036-2CS5K C 3036 K | H 036 E H 036 | FRB 10/280 FRB 10/280 | TNF 3036 | | 280 |
| 170 | SNLN 3038 | 23038 CCK/W33 C 3038 K | H 3038 H 3038 | FRB 10/290 FRB 10/290 | TSN 3038 S TNF 3038 | ETS 3038 | 255 290 |
| 180 | SNLN 3040 | 23040 CCK/W33 | H 040 | FRB 10/310 | TSN 3040 S | ETS 3040 | 265 |
| | | 23040-2CS5K C 3040 K | H 040 H 040 | FRB 10/310 FRB 10/310 | TNF 3040 | | 295 |
| 200 | SNLN 3044 | 23044 CCK/W33 | OH 044 H | FRB 10/340 | TSN 3044 S | ETS 3044 | 285 |
| | | 23044-2CS5K C 3044 K | OH 3044 H OH 3044 H | FRB 10/340 FRB 10/340 | TNF 3044 | | 315 |
| 220 | SNLN 3048 | 23048 CCK/W33 | OH 3048 H | FRB 10/360 | TSN 3048 S | ETS 3048 | 295 |
| | | 23048-2CS5K C 3048 K | OH 3048 HE OH 3048 H | FRB 10/360 FRB 10/360 | TNF 3048 | | 355 |
| 240 | SNLN 3052 | 23052 CCK/W33 | OH 3052 H | FRB 10/400 | TSN 3052 S | ETS 3052 | 312 |
| | | 23052-2CS5K C 3052 K | OH 3052 HE OH 3052 H | FRB 10/400 FRB 10/400 | TNF 3052 | | 374 |
| 260 | SNLN 3056 | 23056 CCK/W33 | OH 3056 H | FRB 10/420 | TSN 3056 S | ETS 3056 | 325 |
| | | C 3056 K | OH 3056 H | FRB 10/420 | TNF 3056 | | 384 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

230(00) – spherical roller bearing, C... – CARB toroidal roller bearing

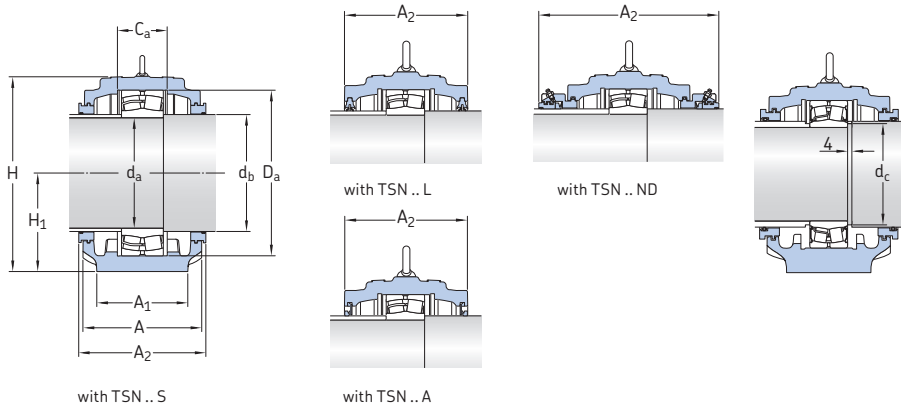
²⁾ The adapter sleeve fits the bearing in the same row only.

³⁾ The locating ring fits the bearing in the same row only. Two locating rings are required.



| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|--------------------|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|----|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | | |
| mm | mm | | | | | | | | | | | | - | kg |
| 150 | 210 | 160 | 87 | 260 | 322 | 160 | 60 | 450 | 530 | 42 | 35 | 30 | M12 | 50,5 |
| 160 | 225 | 160 | 94 | 280 | 342 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | M12 | 58,5 |
| 170 | 235 | 160 | 95 | 290 | 347 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | M12 | 58,5 |
| 180 | 240 | 170 | 102 | 310 | 368 | 180 | 60 | 515 | 610 | 42 | 35 | 30 | M12 | 76,0 |
| 200 | 260 | 190 | 110 | 340 | 403 | 200 | 70 | 580 | 690 | 50 | 42 | 36 | M12 | 103 |
| 220 | 270 | 200 | 112 | 360 | 423 | 210 | 75 | 610 | 720 | 50 | 42 | 36 | M12 | 117 |
| 240 | 290 | 220 | 124 | 400 | 475 | 240 | 80 | 680 | 820 | 70 | 48 | 42 | M12 | 162 |
| 260 | 300 | 230 | 126 | 420 | 496 | 250 | 80 | 720 | 860 | 70 | 48 | 42 | M12 | 184 |

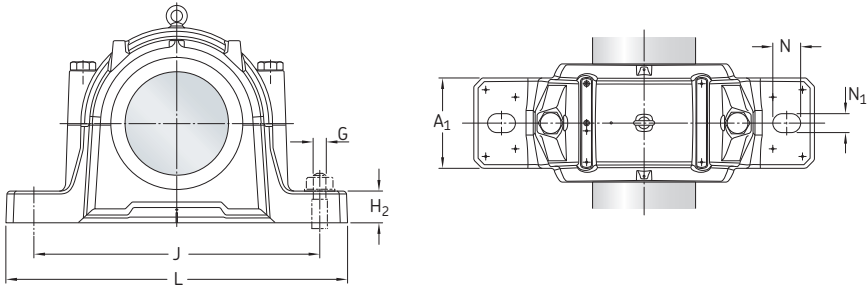
4.2 SNLN 30 plummer block housings for bearings on a cylindrical seat d 120 – 150 mm



| Shaft diameter | Housing Designation | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|---------------------|---|-----------------------------|------------|--------------|----------------------------------|
| d _a | | | | | | |
| mm | - | - | | | | mm |
| 120 | SNLN 3024 | 23024 CC/W33 | FRB 12/180 | TSN 224 L | ASNH 524-620 | 160 |
| | | 23024-2CS5 | FRB 12/180 | TSN 224 A | | 160 |
| | | 24024 CC/W33 | FRB 5/180 | TSN 224 S | | 180 |
| | | 24024-2CS5 | FRB 5/180 | TSN 224 ND | | 250 |
| | | C 3024 | FRB 12/180 | | | |
| | | C 4024 V | FRB 5/180 | | | |
| C 4024-2CS5V | FRB 5/180 | | | | | |
| 130 | SNLN 3026 | 23026 CC/W33 | FRB 13,5/200 | TSN 226 L | ASNH 526 | 175 |
| | | 23026-2CS5 | FRB 13,5/200 | TSN 226 A | | 175 |
| | | 24026 CC/W33 | FRB 5/200 | TSN 226 S | | 197 |
| | | 24026-2CS5 | FRB 5/200 | TSN 226 ND | | 260 |
| | | C 3026 | FRB 13,5/200 | | | |
| | | C 4026 | FRB 5/200 | | | |
| C 4026-2CS5V | FRB 5/200 | | | | | |
| 140 | SNLN 3028 | 23028 CC/W33 | FRB 13/210 | TSN 228 L | ASNH 528 | 175 |
| | | 23028-2CS5 | FRB 13/210 | TSN 228 A | | 175 |
| | | 24028 CC/W33 | FRB 5/210 | TSN 228 S | | 194 |
| | | 24028-2CS5 | FRB 5/210 | TSN 228 ND | | 260 |
| | | C 3028 | FRB 13/210 | | | |
| | | C 4028 V | FRB 5/210 | | | |
| C 4028-2CS5V | FRB 5/210 | | | | | |
| 150 | SNLN 3030 | 23030 CC/W33 | FRB 15/225 | TSN 230 L | ASNH 530 | 190 |
| | | 23030-2CS5 | FRB 15/225 | TSN 230 A | | 190 |
| | | 24030 CC/W33 | FRB 5,5/225 | TSN 230 S | | 213 |
| | | 24030-2CS5 | FRB 5,5/225 | TSN 230 ND | | 280 |
| | | C 3030 V | FRB 15/225 | | | |
| | | C 4030 V | FRB 5,5/225 | | | |
| C 4030-2CS5V | FRB 5,5/225 | | | | | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing.
230(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing

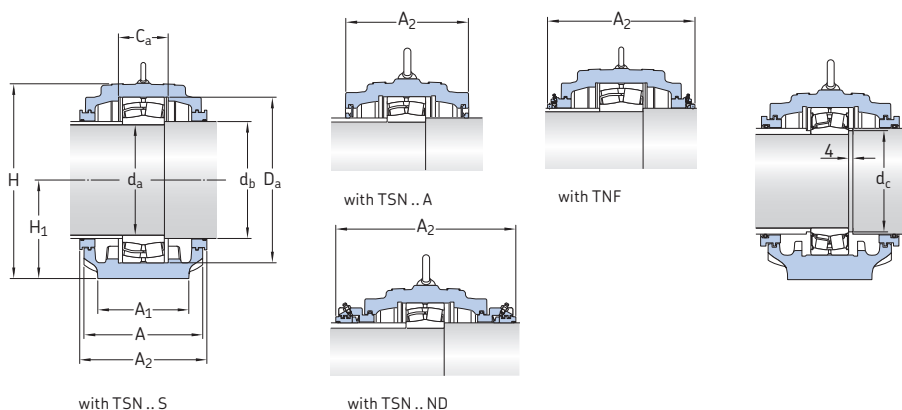
²⁾ The locating ring fits the bearing in the same row only. Two locating rings are required.



| Shaft diameter | | Dimensions Housing | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|-------|--------------------|-------------------|-----|-------|-------|-------|-----|-------|-------|-----|-----|----|-------|----|-------------------------------|--------------|
| d_a | d_b | $d_c^{1)}$ min | $d_c^{1)}$ max | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | L | N | N_1 | G | | |
| mm | | mm | | | | | | | | | | | | | | - | kg |
| 120 | 135 | 129 | 132 | 160 | 110 | 70 | 180 | 218 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | - | 17,5 |
| | | 129 | 130 | | | | | | | | | | | | | | |
| 130 | 145 | | | 175 | 120 | 79 | 200 | 242 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | - | 22,5 |
| | | 139 | 140 | | | | | | | | | | | | | | |
| 140 | 155 | | | 175 | 120 | 79 | 210 | 270 | 140 | 45 | 350 | 410 | 32 | 26 | 24 | M10 | 30,0 |
| | | 149 | 151 | | | | | | | | | | | | | | |
| 150 | 165 | | | 190 | 130 | 86 | 225 | 290 | 150 | 50 | 380 | 445 | 35 | 28 | 24 | M10 | 40,0 |
| | | 161 | 162 | | | | | | | | | | | | | | |

¹⁾ Valid for the sealed spherical roller bearing in the same row only.

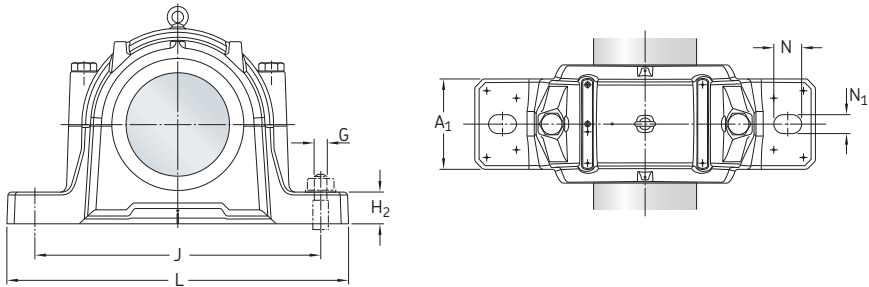
4.2 SNLN 30 plummer block housings for bearings on a cylindrical seat d 160 – 280mm



| Shaft diameter | Housing Designation | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|---------------------|---|-----------------------------|--------------------------------|-----------|----------------------------------|
| d _a | | | | | | |
| mm | - | - | | | | mm |
| 160 | SNLN 3032 | 23032 CC/W33 | FRB 15/240 | TSN 232 A | ASNH 32 | 190 |
| | | 23032-2CS5 | FRB 15/240 | TSN 232 S | | 213 |
| | | 24032 CC/W33 | FRB 5/240 | TSN 232 ND | | 280 |
| | | 24032-2CS5 | FRB 5/240 | | | |
| | | C 3032 | FRB 15/240 | | | |
| 170 | SNLN 3034 | 23034 CC/W33 | FRB 10/260 | TSN 3034/185 S | ETS 3034 | 231 |
| | | 23034-2CS5 | FRB 10/260 | TNF 3034/185 | | 278 |
| | | C 3034 | FRB 10/260 | | | |
| 180 | SNLN 3036 | 23036 CC/W33 | FRB 10/280 | TSN 3036/195 S | ETS 3036 | 246 |
| | | 23036-2CS5 | FRB 10/280 | TNF 3036/195 | | 292 |
| | | C 3036 | FRB 10/280 | | | |
| 190 | SNLN 3038 | 23038 CC/W33 C 3038 | FRB 10/290 FRB 10/290 | TSN 3038/205 S TNF 3038/205 | ETS 3038 | 255 302 |
| 200 | SNLN 3040 | 23040 CC/W33 | FRB 10/310 | TSN 3040/215 S | ETS 3040 | 263 |
| | | 23040-2CS5 | FRB 10/310 | TNF 3040/215 | | 301 |
| | | C 3040 | FRB 10/310 | | | |
| 220 | SNLN 3044 | 23044 CC/W33 | FRB 10/340 | TSN 3044/235 S | ETS 3044 | 283 |
| | | 23044-2CS5 | FRB 10/340 | TNF 3044/235 | | 321 |
| | | C 3044 | FRB 10/340 | | | |
| 240 | SNLN 3048 | 23048 CC/W33 | FRB 10/360 | TSN 3048/255 S | ETS 3048 | 293 |
| | | 23048-2CS5 | FRB 10/360 | TNF 3048/255 | | 355 |
| | | C 3048 | FRB 10/360 | | | |
| 260 | SNLN 3052 | 23052 CC/W33 | FRB 10/400 | TSN 3052/275 S | ETS 3052 | 312 |
| | | 23052-2CS5 | FRB 10/400 | TNF 3052/275 | | 374 |
| | | C 3052 | FRB 10/400 | | | |
| 280 | SNLN 3056 | 23056 CC/W33 | FRB 10/420 | TSN 3056/295 S | ETS 3056 | 322 |
| | | C 3056 | FRB 10/420 | TNF 3056/295 | | 384 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing.
230(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing

²⁾ The locating ring fits the bearing in the same row only. Two locating rings are required.



| Shaft diameter | | Dimensions Housing | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|----------------|-------|--------------------|--------------------|-----|----------------|----------------|----------------|-----|----------------|----------------|-----|-----|----|----------------|-------------------------------|--------------|------|
| d_a | d_b | $d_c^{(1)}$ min | $d_c^{(1)}$ max | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | L | N | N ₁ | G | - | kg |
| mm | | mm | | | | | | | | | | | | | - | kg | |
| 160 | 175 | | | 190 | 130 | 90 | 240 | 297 | 150 | 50 | 390 | 460 | 35 | 28 | 24 | M10 | 41,0 |
| | | 171 | 173 | | | | | | | | | | | | | | |
| 170 | 185 | | | 210 | 160 | 87 | 260 | 322 | 160 | 60 | 450 | 530 | 42 | 35 | 30 | M12 | 50,5 |
| 180 | 195 | | | 225 | 160 | 94 | 280 | 342 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | M12 | 58,5 |
| 190 | 205 | | | 235 | 160 | 95 | 290 | 347 | 170 | 60 | 470 | 550 | 42 | 35 | 30 | M12 | 58,5 |
| 200 | 215 | | | 240 | 170 | 102 | 310 | 368 | 180 | 60 | 515 | 610 | 42 | 35 | 30 | M12 | 76,0 |
| 220 | 235 | | | 260 | 190 | 110 | 340 | 403 | 200 | 70 | 580 | 690 | 50 | 42 | 36 | M12 | 103 |
| 240 | 255 | | | 270 | 200 | 112 | 360 | 423 | 210 | 75 | 610 | 720 | 50 | 42 | 36 | M12 | 117 |
| 260 | 275 | | | 290 | 220 | 124 | 400 | 475 | 240 | 80 | 680 | 820 | 70 | 48 | 42 | M12 | 162 |
| 280 | 295 | | | 300 | 230 | 126 | 420 | 496 | 250 | 80 | 720 | 860 | 70 | 48 | 42 | M12 | 184 |

¹⁾ Valid for the sealed spherical roller bearing in the same row only.



Split plummer block housings SNL 30, 31 and 32 series

SNL plummer (pillow) block housings in the 30, 31 and 32 series are robust and suitable for tough operating conditions. They enable the incorporated bearings to achieve maximum service life with less need for maintenance. Different housing variants and seal designs are available, making the use of tailored housings virtually unnecessary and enabling cost-effective bearing arrangements to be made.

Bearing types

- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 30, 31, 32
- 22, 23, 40 (for some bearings)

Shaft diameter range

- 115 to 530 mm
- 4 7/16 to 19 1/2 in.

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seals

- Labyrinth
- Heavy-duty
- Oil seal

Lubrication

- Grease
- Oil

Materials

- Grey cast iron
- Spheroidal graphite cast iron

Mounting

- Four-bolt mounting

Compliance to standards

- ISO 113
(four-bolt plummer block housings)

Supersedes

- SD, SDD series

Split plummer block housings SNL 30, 31 and 32 series

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Designations

Designation system for SNL plummer block housings

SNLD 3134 SN

Series

SNL Standard plummer block housing

Material

- Grey cast iron
D Spheroidal graphite cast iron

Size identification

30(00) Housing for bearings in the 30 dimension series
31(00) Housing for bearings in the 31 dimension series
32(00) Housing for bearings in the 32 dimension series
..34 to 96 Size code, related to the bearing bore size
../500 to /530 Size code, related to the bearing bore size

Suffixes¹⁾

- Housing for bearings on an adapter sleeve and a plain shaft
G Housing for bearings on a cylindrical seat and a stepped shaft
L Housing for a non-locating bearing arrangement
F Housing for a locating bearing arrangement
TURT Housing prepared for oil lubrication, including seals, for use with spherical roller bearings
TURA Housing prepared for oil lubrication, including seals, for use with CARB toroidal roller bearings
TURP Housing with seals for circulating oil lubrication systems and large axial shaft movements
V Housing with a grease escape hole in the base
T Drilled and tapped hole 1/8-27 NPSF at one side of the housing cap (opposite the lock nut) for a grease fitting
TD Drilled and tapped hole 1/8-27 NPSF at both sides of the housing cap for a grease fitting
SN Drilled and tapped M8 hole for sensors

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Split plummer block housings SNL 30, 31 and 32 series

Designation system for seals

TS 38
TNF 88/380

Series

TS Labyrinth seal
TNF Taconite seal
TSD Seal for oil lubrication

Size identification

34 to 96 Size code, related to the bearing bore size
500 to 560 Size code, related to the bearing bore size
/... Bore diameter of the seal [mm] when differing from the standard

Designation system for end covers

ETS 34
ETS 3184 R

Series

ETS End cover for SNL plummer block housings in the 30, 31 and 32 series

Size identification

... Size code, related to bearing or housing size

Suffix

R End cover for oil lubricated housings

Designation system for locating rings

FRB 12/360

Series

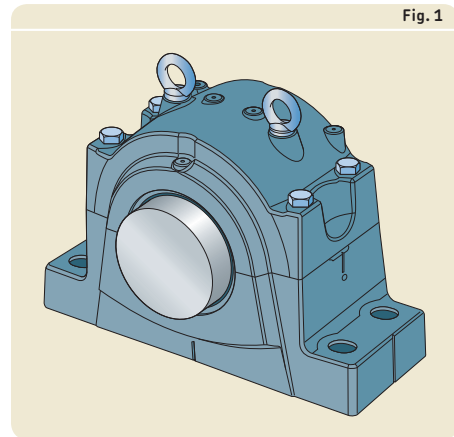
FRB Locating ring for SKF bearing housings

Size identification

... Width and outside diameter of the locating ring [mm]

Standard housing design

SNL plummer (pillow) block housings in the 30, 31 and 32 series, often referred to as “large SNL plummer block housings”, are split housings consisting of a cap and base (→ **fig. 1**). They have four holes cast into the base for attachment bolts. The housings are designed on the “building block” principle to enable a wider choice of bearings and seals as well as a variety of shaft-bearing combinations and lubrication methods.



Split plummer block housings SNL 30, 31 and 32 series

Features and benefits

SNL plummer block housings in the 30, 31 and 32 series have the following features and benefits:

Stiff housing

The housing base is reinforced with ribs and has extra material surrounding the holes for the attachment bolts (→ **fig. 2**). This virtually eliminates any distortion of the base and bearing seat during tightening of the attachment bolts.

Good heat dissipation

The centre cross reinforcement in the housing base (→ **fig. 3**) increases the contact area between the housing base and the support surface to improve the heat flow from the bearing outer ring to the support surface.

Caps and bases individually marked

The housing cap and base are matched during manufacture and are not interchangeable with the caps and bases of other housings. To prevent any mismatches, a unique serial number is marked on both the housing cap and the base (→ **fig. 4**).

Dimples to locate accessories

Dimples cast into the housing cap indicate where grease fittings and condition monitoring sensors can be mounted for maximum effectiveness (→ **fig. 5**).

Simple mounting

To simplify mounting and make alignment more accurate, lines indicating the centre of the bearing seat and housing bore axis are cast into the housing base. Dimples indicate the position for dowel pins (→ **fig. 6**). Mounting instructions are supplied with each seal pack. The housings have two eyebolts on the cap for safe and easy handling.

Fig. 2

Reinforcement rib in the base

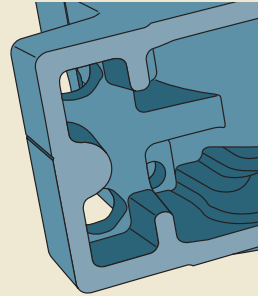


Fig. 3

Centre cross for better heat conduction

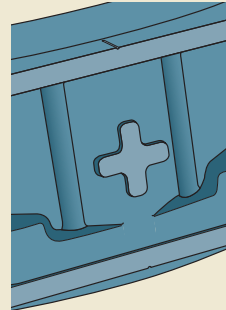


Fig. 4

Individually marked cap and base

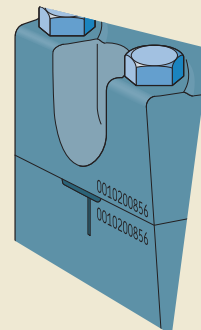


Fig. 5

Dimples indicate positions for accessories

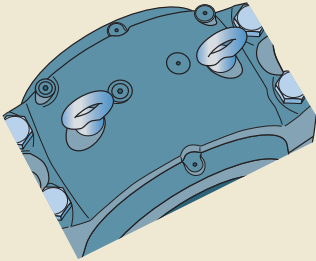
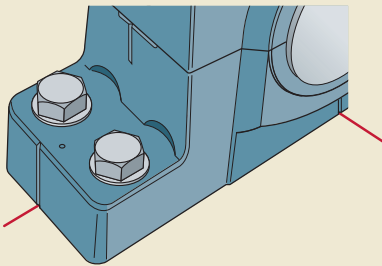


Fig. 6

Cast indications mark the centre of the housing bore



Housing material

SNL plummer block housings are made of grey cast iron.

Paint, corrosion protection

SNL housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Dimension standards

Where applicable, boundary dimensions are in accordance with ISO 113 for four-bolt plummer block housings. ISO 113 applies to housings with a bearing seat diameter $D_a \leq 540$ mm.

Interchangeability

SNL plummer block housings in the 31 series are dimensionally interchangeable with the earlier SD housings.

SNL housings in the 30 and 32 series are dimensionally interchangeable with the earlier SD housings, except for the bearing position. The offset of the bearing centre compared to the centre of the housing differs (dimension s, → product tables).

Housing variants

In addition to standard design SNL housings, a number of variants are also available. Variants include housings made of different materials, different bearing seat tolerance classes and modifications for special applications.

Housing material

For applications where extra strength is needed, SNL housings are also available in spheroidal graphite cast iron.

Bearing seat tolerance

SNL housings can be supplied with different bearing seat tolerance classes, e.g. for applications prone to vibration, with rotating outer ring load or for applications operating at high temperatures.

For additional information, contact the SKF application engineering service.

Housings for oil lubrication

SNL housings in the 30, 31 and 32 series can be used for oil lubrication at relatively high speeds. When they are to be used for oil lubri-

cation, the housings are modified to accommodate the special oil seals. As a result, large SNL housings for oil lubrication are supplied together with the seals, as a unit.

Sealing solutions

SNL plummer (pillow) block housings in the 30, 31 and 32 series are available with different standard sealing solutions (→ fig. 7):

- labyrinth seals (TS ..)
- taconite heavy-duty seals (TNF ..)
- seals for oil lubrication (TSD .. U)
- end covers (ETS ..)

Table 1 provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline and does not substitute for testing a seal in its application.

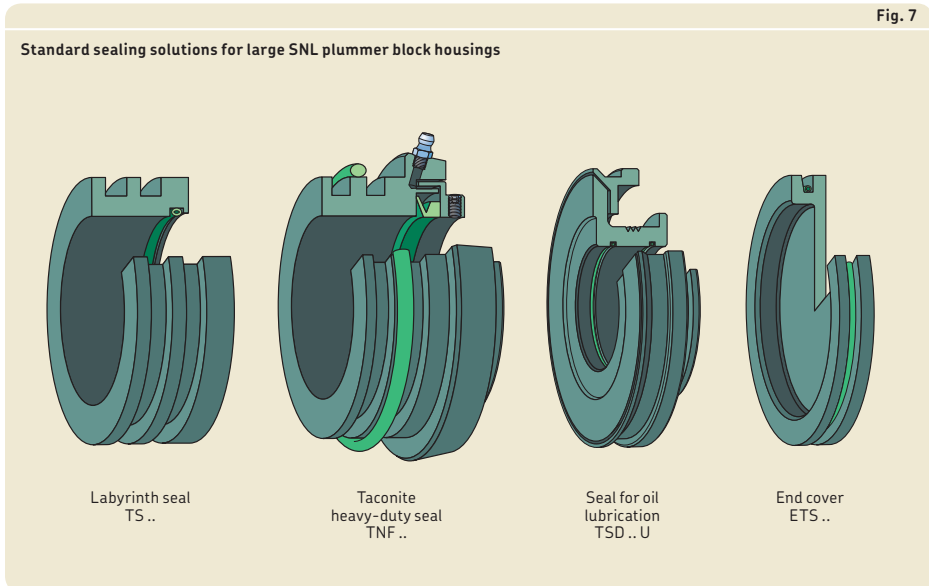
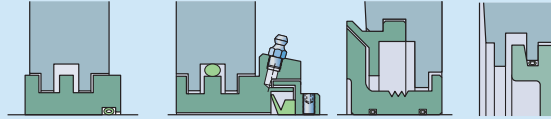


Table 1

Standard seals for large SNL plummer block housings



Seal

| Type | Labyrinth | Taconite | Oil | End cover |
|----------------|-----------------|-----------------------|------------------------|-----------------|
| Designation | TS .. | TNF .. | TSD .. U ¹⁾ | ETS .. |
| Material | steel, silicone | steel, nitrile rubber | steel, silicone | steel, silicone |
| Seals per pack | 1 seal | 1 seal | 1 seal | 1 end cover |

Application conditions and requirements

| | | | | |
|-------------------------------------|-----------------|-----------------|-----------------|-------------|
| Temperature [°C] | -50 to +200 | -40 to +100 | -50 to +200 | -50 to +200 |
| Temperature [°F] | -60 to +390 | -40 to +210 | -60 to +390 | -60 to +390 |
| Max. circumferential speed [m/s] | not limited | 12 | not limited | n/a |
| Max. misalignment [°] | ≤ 0,3° | ≤ 0,3° | ≤ 0,3° | n/a |
| Low friction | ++ | + | ++ | n/a |
| Axial shaft displacement | + | + | + | n/a |
| Vertical shaft arrangement | -- | - | -- | ++ |
| Grease relubrication | + | + | n/a | ++ |
| Oil lubrication | -- | - | ++ | n/a |
| Replacement | - | - | - | ++ |
| Shaft tolerance class | h9 [Ⓔ] | h9 [Ⓔ] | h9 [Ⓔ] | n/a |
| Shaft roughness R _a [μm] | 3,2 | 3,2 | 3,2 | n/a |

Sealing suitability

| | | | | |
|----------------------|----|----|----|----|
| Dust | - | ++ | + | ++ |
| Fine particles | + | ++ | + | ++ |
| Coarse particles | + | ++ | + | ++ |
| Chips | ++ | ++ | ++ | ++ |
| Liquids when sprayed | -- | ++ | - | ++ |
| Direct sunlight | ++ | ++ | ++ | ++ |

Symbols: n/a not applicable, ++ very suitable, + suitable, - limited suitability, -- unsuitable

¹⁾ The designation is valid for ordering spare parts. The oil seals are supplied together with the housing.

Labyrinth seals

For applications where there are high speeds or extreme temperatures, SKF recommends using labyrinth seals. Labyrinth rings, mounted on the shaft, form a multi-stage labyrinth seal with the housing seal grooves. A hollow, silicone rubber cord, supplied with the ring, holds the ring in place on the shaft.

Taconite heavy-duty seals

For shaft-bearing combinations that must operate under highly contaminated conditions, such as those encountered in mining, taconite heavy-duty seals, which can be filled with grease, are recommended. Grease enhances the sealing effect and extends the service life of the seals.

Taconite heavy-duty seals are labyrinth seals combined with a V-ring seal. The inner ring of the labyrinth seal is solid but the outer ring is split. They can be relubricated via a grease fitting in the main body of the seal.

The axial movement of the shaft relative to the housing is limited to ± 2 mm for shaft diameters up to 200 mm and ± 4 mm for larger shaft diameters.

Seals for oil lubrication

Seals for oil bath and circulating oil lubrication systems require a modified housing, and are therefore supplied together with the housing (\rightarrow fig 8).

The oil seals consist of a stationary part, which is fitted in the housing, and a labyrinth ring that rotates with the shaft. The labyrinth ring is held in place by two hollow silicone rubber cords, which also help to prevent oil leakage.

SNL housings with oil seals are identified by the designation suffix TURT for spherical roller bearings and TURA for CARB toroidal roller bearings. The seal by itself is designated TSD .. U.

SNL housings for inch shafts can also be used for oil lubrication. For additional information, contact the SKF application engineering service.

End covers

Housings at the end of a shaft should have an end cover that fits into the seal groove in the housing.

End covers, which are made of grey cast iron, are installed with a hollow, silicone rubber cord that holds the cover in place. End covers are available in two variants, one for grease lubrication and one for oil lubrication.

Details of the permissible length of the shaft end are listed in **table 2** on **page 199**.

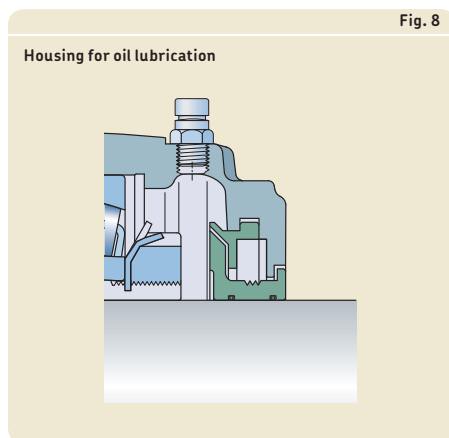
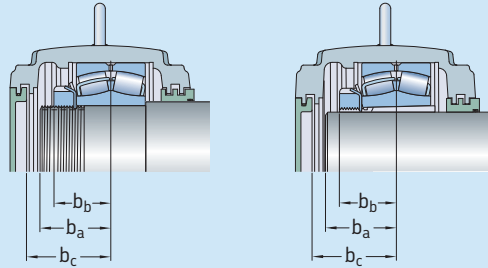


Table 2

Permissible length of a shaft end



| Housing Size | Bearing | Dimensions | | | |
|-------------------|---------|------------|-------------------------|-------|-------|
| | | b_a min | b_a max ¹⁾ | b_b | b_c |
| mm | | | | | |
| – | – | – | – | – | – |
| SNL 3036 | 23036 | 72 | 102 | 66,5 | 107,5 |
| | 24036 | 85 | 102 | 79,5 | 107,5 |
| SNL 3038 | 23038 | 73 | 108 | 68 | 113,5 |
| | 24038 | 86 | 108 | 80,5 | 113,5 |
| SNL 3040 | 23040 | 78 | 112 | 72,5 | 117,5 |
| | 24040 | 91 | 112 | 86 | 117,5 |
| SNL 3044 | 23044 | 91 | 122 | 86 | 127,5 |
| | 24044 | 105 | 122 | 100 | 127,5 |
| SNL 3048 | 23048 | 97 | 128 | 92 | 133,5 |
| | 24048 | 110 | 128 | 105 | 133,5 |
| SNL 3052 | 23052 | 103 | 136 | 98 | 141,5 |
| | 24052 | 121 | 136 | 116 | 141,5 |
| SNL 3056 | 23056 | 108 | 146 | 103 | 151,5 |
| | 24056 | 125 | 146 | 120 | 151,5 |
| SNL 3060 | 23060 | 118 | 149 | 113 | 154,5 |
| | 24060 | 139 | 149 | 134 | 154,5 |
| SNL 3064 | 23064 | 121 | 170 | 115,5 | 175,5 |
| | 24064 | 140 | 170 | 135 | 175,5 |
| SNL 3068 | 23068 | 130 | 181 | 124,5 | 186,5 |
| | 24068 | 153 | 181 | 148 | 186,5 |
| SNL 3072 | 23072 | 130 | 181 | 125 | 186,5 |
| | 24072 | 153 | 181 | 148 | 186,5 |
| SNL 3076 | 23076 | 134,5 | 197 | 129,5 | 202,5 |
| | 24076 | 157 | 197 | 152 | 202,5 |
| SNL 3080 | 23080 | 145 | 203 | 140 | 208,5 |
| | 24080 | 171 | 203 | 166 | 208,5 |
| SNL 3084 | 23084 | 146 | 203 | 141 | 208,5 |
| | 24084 | 171 | 203 | 166 | 208,5 |
| SNL 3088 | 23088 | 160,5 | 218 | 155,5 | 223,5 |
| | 24088 | 188 | 218 | 183 | 223,5 |
| SNL 3092 | 23092 | 163,5 | 238 | 158,5 | 243,5 |
| | 24092 | 191 | 238 | 186 | 243,5 |
| SNL 3096 | 23096 | 164,5 | 238 | 159,5 | 243,5 |
| | 24096 | 191 | 238 | 186 | 243,5 |
| SNL 30/500 | 230/500 | 173,5 | 238 | 168,5 | 243,5 |
| | 240/500 | 199 | 238 | 194 | 243,5 |
| SNL 30/530 | 230/530 | 187,5 | 243 | 182,5 | 248,5 |
| | 240/530 | 220 | 243 | 215 | 248,5 |
| SNL 3134 | 23134 | 78 | 102 | 73 | 107,5 |
| SNL 3136 | 23136 | 83 | 108 | 78 | 113,5 |
| SNL 3138 | 23138 | 88 | 112 | 83 | 117,5 |
| SNL 3140 | 23140 | 93 | 122 | 88 | 127,5 |
| SNL 3144 | 23144 | 100 | 128 | 95 | 133,5 |
| SNL 3148 | 23148 | 106 | 136 | 101 | 141,5 |
| SNL 3152 | 23152 | 116 | 146 | 111 | 151,5 |
| SNL 3156 | 23156 | 119 | 149 | 114 | 154,5 |
| SNL 3160 | 23160 | 138 | 170 | 133 | 175,5 |
| SNL 3164 | 23164 | 149 | 181 | 144 | 186,5 |
| SNL 3168 | 23168 | 172 | 197 | 167 | 202,5 |
| SNL 3172 | 23172 | 176 | 203 | 171 | 208,5 |
| SNL 3176 | 23176 | 179 | 203 | 174 | 208,5 |
| SNL 3180 | 23180 | 187 | 218 | 182 | 223,5 |
| SNL 3184 | 23184 | 207 | 238 | 202 | 243,5 |
| SNL 3188 | 23188 | 208 | 238 | 203 | 243,5 |
| SNL 3192 | 23192 | 220 | 243 | 215 | 248,5 |
| SNL 3196 | 23196 | 224 | 243 | 219 | 248,5 |
| SNL 3234 | 23234 | 78 | 112 | 73 | 117,5 |
| SNL 3236 | 23236 | 91 | 112 | 86 | 117,5 |
| SNL 3238 | 23238 | 96 | 122 | 91 | 127,5 |
| SNL 3240 | 23240 | 101 | 128 | 96 | 133,5 |
| SNL 3244 | 23244 | 112 | 136 | 107 | 141,5 |
| SNL 3248 | 23248 | 122 | 146 | 117 | 151,5 |
| SNL 3252 | 23252 | 131 | 170 | 126 | 175,5 |
| SNL 3256 | 23256 | 134 | 170 | 129 | 175,5 |
| SNL 3260 | 23260 | 154 | 181 | 149 | 186,5 |
| SNL 3264 | 23264 | 165 | 197 | 160 | 202,5 |
| SNL 3268 | 23268 | 189 | 203 | 184 | 208,5 |
| SNL 3272 | 23272 | 196 | 218 | 191 | 223,5 |
| SNL 3276 | 23276 | 202 | 238 | 197 | 243,5 |
| SNL 3280 | 23280 | 215 | 238 | 210 | 243,5 |
| SNL 3284 | 23284 | 231 | 243 | 226 | 248,5 |
| SNL 3288 | 23288 | 235 | 243 | 230 | 248,5 |

¹⁾ For non-locating bearing arrangements, the values for b_a must be adjusted if the bearing is not centred in the housing seat.

Using sealed bearings

Using sealed bearings in housings with standard seals is a good solution for highly contaminated environments. The sealed bearing together with the housing seal and grease provide three layers of protection (→ *SKF three-barrier solution*, page 39).

SNL housing seals in the 30, 31 and 32 series can be used together with sealed, self-aligning SKF bearings. When using taconite heavy-duty seals, a sealed bearing does not enhance the sealing effect during operation, but still protects the bearing against contaminants during mounting.

Special seals

In addition to the standard seal assortment, SNL housings in the 30, 31 and 32 series are also available with seals for large axial movements. Custom seals for special applications are also available on request.

Seals for large axial movements

Large SNL housings are available with seals that can accommodate large axial movements, a typical requirement of drying cylinders and felt rolls in paper machines. The double labyrinth seals are designed for circulating oil lubrication systems. The seals are fitted in a modified housing, designation suffix TURP,

and are always supplied together with the housing.

SNL ... TURP housings are suitable for spherical roller and CARB toroidal roller bearings in the 30 and 31 dimension series from size 3036 to 30/530 and 3134 to 3196.

Custom seals

SNL housings in the 30, 31 and 32 series can be equipped with any type of seal that fits the seal groove dimensions in the housing. The relevant dimensions are provided in **tables 3 and 4** on **pages 201 and 202**.

If custom seals are to be used, SKF recommends ordering housings in the SNL .. G series. Housings in the SNL .. G series have larger bores at the front and back of the housing and can accommodate a wider choice of seal designs.

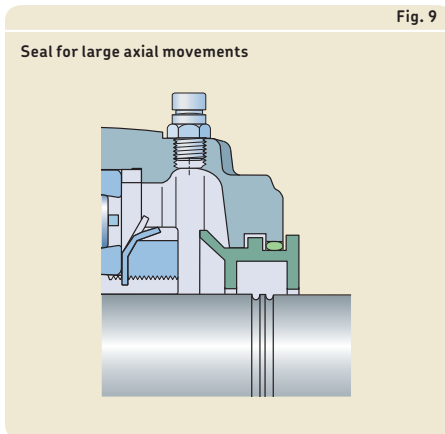
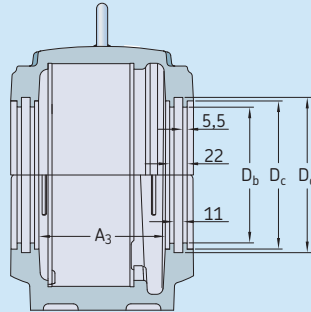


Table 3

Seal groove dimensions

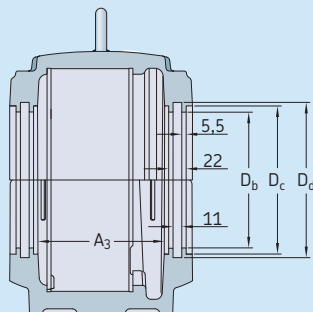


| Housing Size | Dimensions | | | | Housing Size | Dimensions | | | |
|-------------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| | A ₃ | D _b | D _c | D _d | | A ₃ | D _b | D _c | D _d |
| – | mm | | | | – | mm | | | |
| SNL 3036 | 158 | 181,2 | 196,4 | 205,2 | SNL 3176 | 328 | 382,4 | 397,4 | 406,4 |
| SNL 3038 | 168 | 191,4 | 206,4 | 215,4 | SNL 3180 | 358 | 402,8 | 417,8 | 426,8 |
| SNL 3040 | 186 | 201,4 | 216,4 | 225,4 | SNL 3184 | 388 | 422,8 | 437,8 | 446,8 |
| SNL 3044 | 206 | 221,4 | 236,4 | 245,4 | SNL 3188 | 388 | 442,8 | 457,8 | 466,8 |
| SNL 3048 | 214 | 241,4 | 256,4 | 265,4 | SNL 3192 | 398 | 463 | 478 | 487 |
| SNL 3052 | 231 | 261,6 | 276,6 | 285,6 | SNL 3196 | 398 | 483 | 498 | 507 |
| SNL 3056 | 249 | 281,6 | 296,6 | 305,6 | SNL 3234 | 186 | 201,4 | 216,4 | 225,4 |
| SNL 3060 | 249 | 301,6 | 316,6 | 325,6 | SNL 3236 | 187 | 191,4 | 206,4 | 215,4 |
| SNL 3064 | 279 | 321,8 | 336,8 | 345,8 | SNL 3238 | 207 | 201,4 | 216,4 | 225,4 |
| SNL 3068 | 299 | 342,4 | 357,4 | 366,4 | SNL 3240 | 214 | 241,4 | 256,4 | 265,4 |
| SNL 3072 | 297 | 362,4 | 377,4 | 386,4 | SNL 3244 | 231 | 241,4 | 256,4 | 265,4 |
| SNL 3076 | 328 | 382,4 | 397,4 | 406,4 | SNL 3248 | 249 | 261,6 | 276,6 | 285,6 |
| SNL 3080 | 328 | 402,8 | 417,8 | 426,8 | SNL 3252 | 279 | 321,8 | 336,8 | 345,8 |
| SNL 3084 | 328 | 422,8 | 437,8 | 446,8 | SNL 3256 | 280 | 301,6 | 316,8 | 325,6 |
| SNL 3088 | 358 | 442,8 | 457,8 | 466,8 | SNL 3260 | 300 | 321,8 | 336,8 | 345,8 |
| SNL 3092 | 388 | 463 | 478 | 487 | SNL 3264 | 328 | 342,4 | 357,4 | 366,4 |
| SNL 3096 | 388 | 483 | 498 | 507 | SNL 3268 | 328 | 382,4 | 397,4 | 406,4 |
| SNL 30/500 | 388 | 503 | 518 | 527 | SNL 3272 | 358 | 402,8 | 417,8 | 426,8 |
| SNL 30/530 | 398 | 533 | 548 | 557 | SNL 3276 | 388 | 463 | 478 | 487 |
| SNL 3134 | 159 | 171,2 | 186,4 | 195,2 | SNL 3280 | 388 | 442,8 | 457,8 | 466,8 |
| SNL 3136 | 169 | 181,2 | 196,4 | 205,2 | SNL 3284 | 398 | 463 | 478 | 487 |
| SNL 3138 | 187 | 191,4 | 206,4 | 215,4 | SNL 3288 | 398 | 483 | 498 | 507 |
| SNL 3140 | 207 | 201,4 | 216,4 | 225,4 | | | | | |
| SNL 3144 | 215 | 221,4 | 236,4 | 245,4 | | | | | |
| SNL 3148 | 231 | 241,4 | 256,4 | 265,4 | | | | | |
| SNL 3152 | 249 | 261,6 | 276,6 | 285,6 | | | | | |
| SNL 3156 | 249 | 281,6 | 296,6 | 305,6 | | | | | |
| SNL 3160 | 280 | 301,6 | 316,8 | 325,6 | | | | | |
| SNL 3164 | 300 | 321,8 | 336,8 | 345,8 | | | | | |
| SNL 3168 | 328 | 342,4 | 357,4 | 366,4 | | | | | |
| SNL 3172 | 328 | 362,4 | 377,4 | 386,4 | | | | | |

Split plummer block housings SNL 30, 31 and 32 series

Table 4

Seal groove dimensions for SNL .. G housings



| Housing Size | Dimensions | | | | Housing Size | Dimensions | | | |
|---------------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|
| | A ₃ | D _b | D _c | D _d | | A ₃ | D _b | D _c | D _d |
| – | mm | | | | – | mm | | | |
| SNL 3036 G | 156 | 221,4 | 236,4 | 245,4 | SNL 3176 G | 325 | 422,8 | 437,8 | 446,8 |
| SNL 3038 G | 166 | 221,4 | 236,4 | 245,4 | SNL 3180 G | 354 | 463 | 478 | 487 |
| SNL 3040 G | 184 | 241,4 | 256,4 | 265,4 | SNL 3184 G | 384 | 483 | 498 | 507 |
| SNL 3044 G | 203 | 261,6 | 276,6 | 285,6 | SNL 3188 G | 384 | 503 | 518 | 527 |
| SNL 3048 G | 211 | 281,6 | 296,6 | 305,6 | SNL 3192 G | 395 | 533 | 548 | 557 |
| SNL 3052 G | 228 | 301,6 | 316,8 | 325,6 | SNL 3196 G | 394 | 563 | 578 | 587 |
| SNL 3056 G | 247 | 321,8 | 336,8 | 345,8 | SNL 3234 G | 186 | 201,4 | 216,4 | 225,4 |
| SNL 3060 G | 247 | 342,4 | 357,4 | 366,4 | SNL 3236 G | 185 | 221,4 | 236,4 | 245,4 |
| SNL 3064 G | 277 | 362,4 | 377,4 | 386,4 | SNL 3238 G | 204 | 241,4 | 256,4 | 265,4 |
| SNL 3068 G | 295 | 382,4 | 397,4 | 406,4 | SNL 3240 G | 214 | 241,4 | 256,4 | 265,4 |
| SNL 3072 G | 293 | 402,8 | 417,8 | 426,8 | SNL 3244 G | 230 | 281,6 | 296,6 | 305,6 |
| SNL 3076 G | 325 | 422,8 | 437,8 | 446,8 | SNL 3248 G | 248 | 301,6 | 316,8 | 325,6 |
| SNL 3080 G | 325 | 463 | 478 | 487 | SNL 3252 G | 279 | 321,8 | 336,8 | 345,8 |
| SNL 3084 G | 325 | 483 | 498 | 507 | SNL 3256 G | 278 | 341,8 | 356,8 | 365,8 |
| SNL 3088 G | 354 | 503 | 518 | 527 | SNL 3260 G | 297 | 361,8 | 376,8 | 385,8 |
| SNL 3092 G | 384 | 533 | 548 | 557 | SNL 3264 G | 325 | 382,4 | 397,4 | 406,4 |
| SNL 3096 G | 384 | 533 | 548 | 557 | SNL 3268 G | 328 | 382,4 | 397,4 | 406,4 |
| SNL 30/500 G | 384 | 563 | 578 | 587 | SNL 3272 G | 358 | 402,8 | 417,8 | 426,8 |
| SNL 30/530 G | 392 | 603 | 618 | 627 | SNL 3276 G | 387 | 463 | 478 | 487 |
| SNL 3134 G | 157 | 201,4 | 216,4 | 225,4 | SNL 3280 G | 386 | 503 | 518 | 527 |
| SNL 3136 G | 166 | 221,4 | 236,4 | 245,4 | SNL 3284 G | 393 | 533 | 548 | 557 |
| SNL 3138 G | 185 | 221,4 | 236,4 | 245,4 | SNL 3288 G | 392 | 563 | 578 | 587 |
| SNL 3140 G | 204 | 241,4 | 256,4 | 265,4 | | | | | |
| SNL 3144 G | 213 | 261,6 | 276,6 | 285,6 | | | | | |
| SNL 3148 G | 230 | 281,6 | 296,6 | 305,6 | | | | | |
| SNL 3152 G | 248 | 301,6 | 316,8 | 325,6 | | | | | |
| SNL 3156 G | 248 | 321,8 | 336,8 | 345,8 | | | | | |
| SNL 3160 G | 278 | 342,4 | 357,4 | 366,4 | | | | | |
| SNL 3164 G | 297 | 362,4 | 377,4 | 386,4 | | | | | |
| SNL 3168 G | 325 | 382,4 | 397,4 | 406,4 | | | | | |
| SNL 3172 G | 325 | 402,8 | 417,8 | 426,8 | | | | | |

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Axial load carrying capacity for bearings on sleeves* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

SNL housings in the 30, 31 and 32 series can accommodate different shaft-bearing combinations (→ **fig. 10**):

- plain shaft with bearing on an adapter sleeve
- stepped shaft with bearing on a cylindrical seat
- stepped shaft with bearing on a withdrawal sleeve

Plain shaft with bearing on an adapter sleeve

Housings, appropriate parts and dimensions are listed in **product tables 5.1** and **5.2**, starting on **pages 222** and **260** respectively.

Stepped shaft with bearing on a cylindrical seat

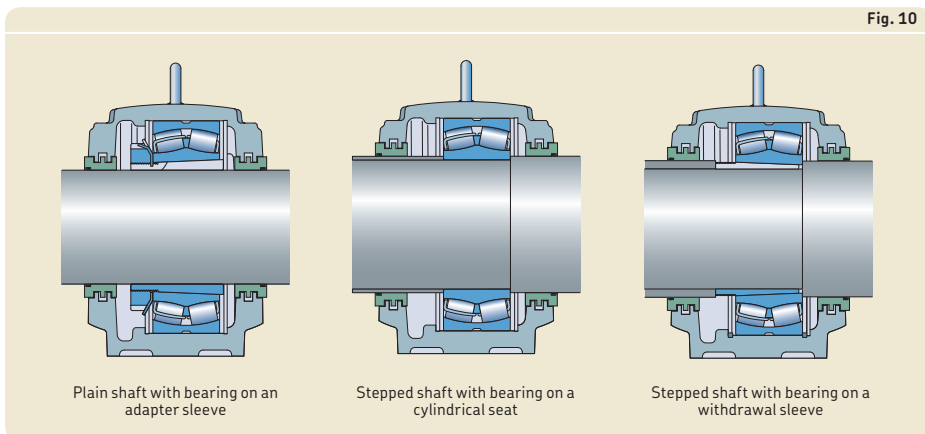
Housings, appropriate parts and dimensions are listed in **product table 5.3**, starting on **page 302**.

The bearing is located axially between a shaft shoulder and a spacer sleeve, which is held in place by another component on the shaft. The outside diameter of the sleeve must match the bore diameter of the seal. The sleeve is not supplied by SKF.

Stepped shaft with bearing on a withdrawal sleeve

When using an SNL housing for this arrangement, the withdrawal sleeve must be located axially on the shaft. This can be done using a spacer sleeve that is held in place by another component. Using a lock nut can be difficult because of the limited space in the housing. The outside diameter of the spacer sleeve must match the bore diameter of the seal. The spacer sleeve is not supplied by SKF.

5



Locating and non-locating bearing positions

SNL housings can be used for both the locating and non-locating bearing positions.

For smaller sizes, the housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing on both sides with locating rings. Appropriate locating rings are listed in the product tables.

Housings from sizes 3076, 3168 and 3264 upwards are supplied in two designs:

- Housings with the suffix F have a bearing seat that matches the bearing width. These housings should be used for spherical roller bearings in the locating position and CARB toroidal roller bearings.
- Housings with the suffix L have a bearing seat that is wider than the bearing. These housings should be used for spherical roller bearings in the non-locating position. The possible axial displacement is at least 20 mm.

Load carrying capacity

SNL housings are intended for loads acting perpendicularly toward the support surface. If the housing is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing. If loads acting in other directions occur, or if the housing is not supported over its entire base, be sure that the magnitude of the load is permissible for the housing, the cap bolts and the attachment bolts. When housings are subjected to cyclic loads or dynamic imbalance, contact the SKF application engineering service.

Breaking loads and safety factors

Guideline values for the breaking loads P for housings made of grey cast iron are listed in **table 5** on **page 205**.

To obtain the permissible load for a housing, the appropriate breaking load value should be divided by a factor based on the safety requirements. In general engineering, a safety factor of 6 is typical (→ *Load carrying capacity*, **page 44**).

The permissible load can only be exploited if the cap bolts are tightened at least to the torque values listed in **table 7** on **page 210**.

The limits for P_{0° apply only when the housing is not supported over its entire base.

The load P_a is the axial breaking load of the housing. If the incorporated bearing is mounted on a sleeve, check the permissible axial load for the sleeve.

For housings made of spheroidal graphite cast iron, the values obtained from **tables 5** and **6** should be multiplied by a factor of 1,8.

Safe loads

In some countries, safe loads are used instead of breaking loads. Approximate safe loads are listed in **table 6** on **page 207**. These guideline values have been established using accepted engineering practices, taking safety, ultimate tensile strength of the materials and working stresses into account. They reflect a safety factor of 5 against fracture, and a minimum factor of 2 against cap bolt yield.

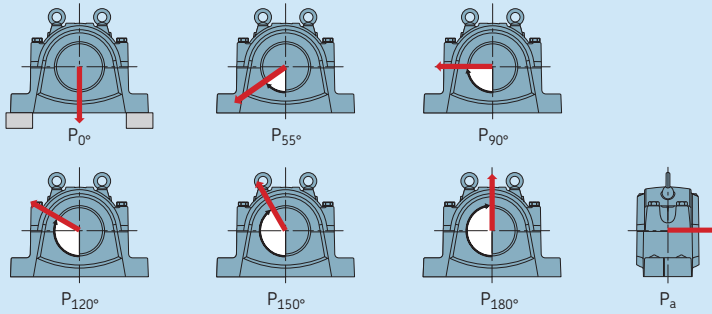
Additional housing support

When the housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load. When loads act at angles between 55° and 120° , or when the axial loads are greater than 5% of P_{180° (→ **table 6** on **page 207**), the housing should be pinned to the support surface or a stop should be provided to counter the load. The dowel pins or stop should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 11** on **page 219**.

Table 5

Breaking loads for large SNL plummer block housings made of grey cast iron



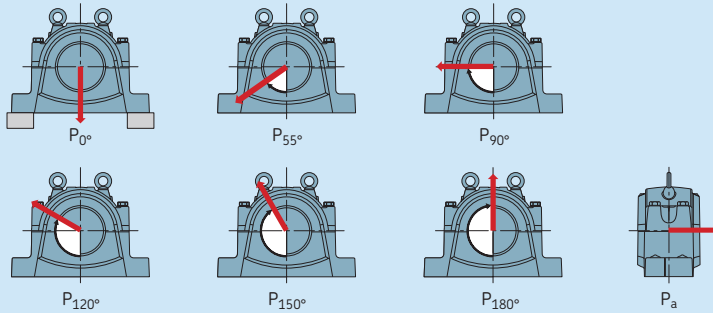
| Housing Size | Breaking loads | | | | | | |
|--------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-------|
| | P_{0° | P_{55° | P_{90° | P_{120° | P_{150° | P_{180° | P_a |
| – | kN | | | | | | |
| SNL 3036 | 1 700 | 2 100 | 1 000 | 760 | 680 | 850 | 550 |
| SNL 3038 | 1 900 | 2 400 | 1 150 | 850 | 760 | 950 | 620 |
| SNL 3040 | 2 200 | 2 700 | 1 300 | 1 000 | 880 | 1 100 | 710 |
| SNL 3044 | 2 600 | 3 200 | 1 600 | 1 100 | 1 000 | 1 300 | 840 |
| SNL 3048 | 3 100 | 4 000 | 1 900 | 1 400 | 1 300 | 1 600 | 1 000 |
| SNL 3052 | 3 400 | 4 200 | 2 000 | 1 500 | 1 400 | 1 700 | 1 100 |
| SNL 3056 | 3 800 | 4 700 | 2 300 | 1 700 | 1 500 | 1 900 | 1 200 |
| SNL 3060 | 4 000 | 5 000 | 2 400 | 1 800 | 1 600 | 2 000 | 1 300 |
| SNL 3064 | 4 800 | 6 000 | 2 900 | 2 200 | 1 900 | 2 400 | 1 500 |
| SNL 3068 | 5 400 | 7 000 | 3 400 | 2 500 | 2 200 | 2 800 | 1 800 |
| SNL 3072 | 5 400 | 7 000 | 3 400 | 2 500 | 2 200 | 2 800 | 1 800 |
| SNL 3076 | 6 000 | 7 500 | 3 600 | 2 600 | 2 300 | 3 000 | 1 900 |
| SNL 3080 | 6 000 | 7 700 | 3 600 | 2 700 | 2 400 | 3 000 | 2 000 |
| SNL 3084 | 6 100 | 8 000 | 3 900 | 2 900 | 2 500 | 3 200 | 2 100 |
| SNL 3088 | 7 000 | 8 700 | 4 200 | 3 100 | 2 700 | 3 500 | 2 200 |
| SNL 3092 | 7 600 | 9 600 | 4 600 | 3 400 | 3 000 | 3 800 | 2 400 |
| SNL 3096 | 7 600 | 9 600 | 4 600 | 3 400 | 3 000 | 3 800 | 2 400 |
| SNL 30/500 | 8 000 | 10 000 | 4 800 | 3 600 | 3 100 | 4 000 | 2 500 |
| SNL 30/530 | 8 000 | 11 200 | 5 400 | 4 000 | 3 500 | 4 400 | 2 800 |
| SNL 3134 | 1 700 | 2 100 | 1 000 | 760 | 680 | 850 | 550 |
| SNL 3136 | 1 900 | 2 400 | 1 150 | 850 | 760 | 950 | 620 |
| SNL 3138 | 2 200 | 2 700 | 1 300 | 1 000 | 880 | 1 100 | 710 |
| SNL 3140 | 2 600 | 3 200 | 1 600 | 1 100 | 1 000 | 1 300 | 840 |
| SNL 3144 | 3 100 | 4 000 | 1 900 | 1 400 | 1 300 | 1 600 | 1 000 |
| SNL 3148 | 3 400 | 4 200 | 2 000 | 1 500 | 1 400 | 1 700 | 1 100 |
| SNL 3152 | 3 800 | 4 700 | 2 300 | 1 700 | 1 500 | 1 900 | 1 200 |
| SNL 3156 | 4 000 | 5 000 | 2 400 | 1 800 | 1 600 | 2 000 | 1 300 |
| SNL 3160 | 4 800 | 6 000 | 2 900 | 2 200 | 1 900 | 2 400 | 1 500 |
| SNL 3164 | 5 400 | 7 000 | 3 400 | 2 500 | 2 200 | 2 800 | 1 800 |
| SNL 3168 | 6 000 | 7 500 | 3 600 | 2 600 | 2 300 | 3 000 | 1 900 |
| SNL 3172 | 6 000 | 7 700 | 3 600 | 2 700 | 2 400 | 3 000 | 2 000 |

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Split plummer block housings SNL 30, 31 and 32 series

cont. Table 5

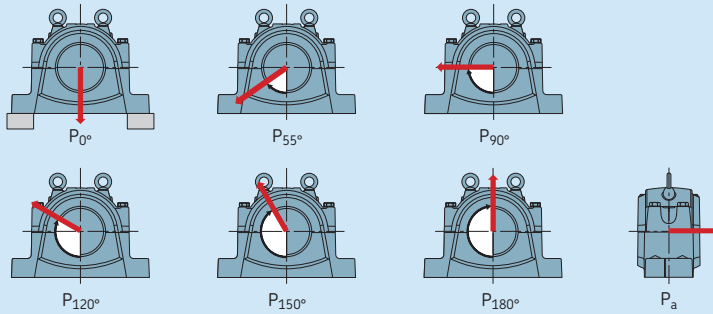
Breaking loads for large SNL plummer block housings made of grey cast iron



| Housing Size | Breaking loads | | | | | | |
|--------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-------|
| | P_{0° | P_{55° | P_{90° | P_{120° | P_{150° | P_{180° | P_a |
| – | kN | | | | | | |
| SNL 3176 | 6 100 | 8 000 | 3 900 | 2 900 | 2 500 | 3 200 | 2 100 |
| SNL 3180 | 7 000 | 8 700 | 4 200 | 3 100 | 2 700 | 3 500 | 2 200 |
| SNL 3184 | 7 600 | 9 600 | 4 600 | 3 400 | 3 000 | 3 800 | 2 400 |
| SNL 3188 | 8 000 | 10 000 | 4 800 | 3 600 | 3 100 | 4 000 | 2 500 |
| SNL 3192 | 8 400 | 10 700 | 5 200 | 3 800 | 3 300 | 4 200 | 2 700 |
| SNL 3196 | 8 800 | 11 200 | 5 400 | 4 000 | 3 500 | 4 400 | 2 800 |
| SNL 3234 | 2 200 | 2 700 | 1 300 | 1 000 | 880 | 1 100 | 710 |
| SNL 3236 | 2 200 | 2 700 | 1 300 | 1 000 | 880 | 1 100 | 710 |
| SNL 3238 | 2 600 | 3 200 | 1 600 | 1 100 | 1 000 | 1 300 | 840 |
| SNL 3240 | 3 100 | 4 000 | 1 900 | 1 400 | 1 300 | 1 600 | 1 000 |
| SNL 3244 | 3 400 | 4 200 | 2 000 | 1 500 | 1 400 | 1 700 | 650 |
| SNL 3248 | 3 800 | 4 700 | 2 300 | 1 700 | 1 500 | 1 900 | 670 |
| SNL 3252 | 4 800 | 6 000 | 2 900 | 2 200 | 1 900 | 2 400 | 1 150 |
| SNL 3256 | 4 800 | 6 000 | 2 900 | 2 200 | 1 900 | 2 400 | 1 200 |
| SNL 3260 | 5 400 | 7 000 | 3 400 | 2 500 | 2 200 | 2 800 | 1 600 |
| SNL 3264 | 6 000 | 7 500 | 3 600 | 2 600 | 2 300 | 3 000 | 1 450 |
| SNL 3268 | 6 100 | 8 000 | 3 900 | 2 900 | 2 500 | 3 200 | 1 850 |
| SNL 3272 | 7 000 | 8 700 | 4 200 | 3 100 | 2 700 | 3 500 | 1 600 |
| SNL 3276 | 7 600 | 9 600 | 4 600 | 3 400 | 3 000 | 3 800 | 2 100 |
| SNL 3280 | 8 000 | 10 000 | 4 800 | 3 600 | 3 100 | 4 000 | 2 400 |
| SNL 3284 | 8 400 | 10 700 | 5 200 | 3 800 | 3 300 | 4 200 | 2 600 |
| SNL 3288 | 8 800 | 11 200 | 5 400 | 4 000 | 3 500 | 4 400 | 2 700 |

Table 6

Safe loads for large SNL plummer block housings made of grey cast iron

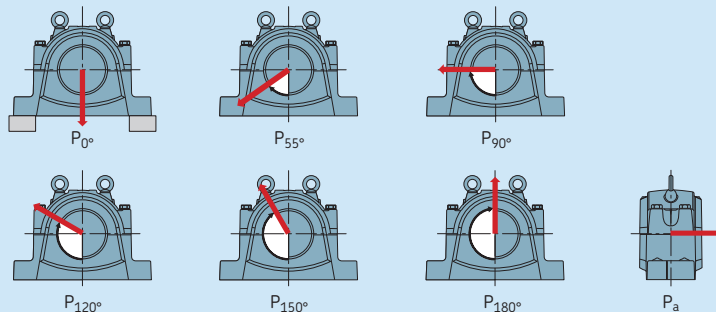


| Housing Size | Safe loads ¹⁾ | | | | | | |
|-------------------|--------------------------|------------------|------------------|-------------------|-------------------|-------------------|----------------|
| | P _{0°} | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | P _a |
| – | kN / lbf. | | | | | | |
| SNL 3036 | 340 76 500 | 420 94 500 | 200 45 000 | 152 34 200 | 136 30 600 | 170 38 250 | 110 24 750 |
| SNL 3038 | 380 85 500 | 480 108 000 | 230 51 750 | 170 38 250 | 152 34 200 | 190 42 750 | 124 27 900 |
| SNL 3040 | 440 99 000 | 540 121 500 | 260 58 500 | 200 45 000 | 176 39 600 | 220 49 500 | 142 31 950 |
| SNL 3044 | 520 117 000 | 640 144 000 | 320 72 000 | 220 49 500 | 200 45 000 | 260 58 500 | 168 37 800 |
| SNL 3048 | 620 139 500 | 800 180 000 | 380 85 500 | 280 63 000 | 260 58 500 | 320 72 000 | 200 45 000 |
| SNL 3052 | 680 153 000 | 840 189 000 | 400 90 000 | 300 67 500 | 280 63 000 | 340 76 500 | 220 49 500 |
| SNL 3056 | 760 171 000 | 940 211 500 | 460 103 500 | 340 76 500 | 300 67 500 | 380 85 500 | 240 54 000 |
| SNL 3060 | 800 180 000 | 1 000 225 000 | 480 108 000 | 360 81 000 | 320 72 000 | 400 90 000 | 260 58 500 |
| SNL 3064 | 960 216 000 | 1 200 270 000 | 580 130 500 | 440 99 000 | 380 85 500 | 480 108 000 | 300 67 500 |
| SNL 3068 | 1 080 243 000 | 1 400 315 000 | 680 153 000 | 500 112 500 | 440 99 000 | 560 126 000 | 360 81 000 |
| SNL 3072 | 1 080 243 000 | 1 080 243 000 | 680 153 000 | 500 112 500 | 440 99 000 | 560 126 000 | 360 81 000 |
| SNL 3076 | 1 200 270 000 | 1 500 337 500 | 720 162 000 | 520 117 000 | 460 103 500 | 600 135 000 | 380 85 500 |
| SNL 3080 | 1 200 270 000 | 1 540 346 500 | 720 162 000 | 540 121 500 | 480 108 000 | 600 135 000 | 400 90 000 |
| SNL 3084 | 1 220 274 500 | 1 600 360 000 | 780 175 500 | 580 130 500 | 500 112 500 | 640 144 000 | 420 94 500 |
| SNL 3088 | 1 400 315 000 | 1 740 391 500 | 840 189 000 | 620 139 500 | 540 121 500 | 700 157 500 | 440 99 000 |
| SNL 3092 | 1 520 342 000 | 1 920 432 000 | 920 207 000 | 680 153 000 | 600 135 000 | 760 171 000 | 480 108 000 |
| SNL 3096 | 1 520 342 000 | 1 920 432 000 | 920 207 000 | 680 153 000 | 600 135 000 | 760 171 000 | 480 108 000 |
| SNL 30/500 | 1 600 360 000 | 2 000 450 000 | 960 216 000 | 720 162 000 | 620 139 500 | 800 180 000 | 500 112 500 |
| SNL 30/530 | 1 760 396 000 | 2 240 504 000 | 1 080 243 000 | 800 180 000 | 700 157 500 | 880 198 000 | 560 126 000 |

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¹⁾ The values are based on a safety factor of 5.

Safe loads for large SNL plummer block housings made of grey cast iron

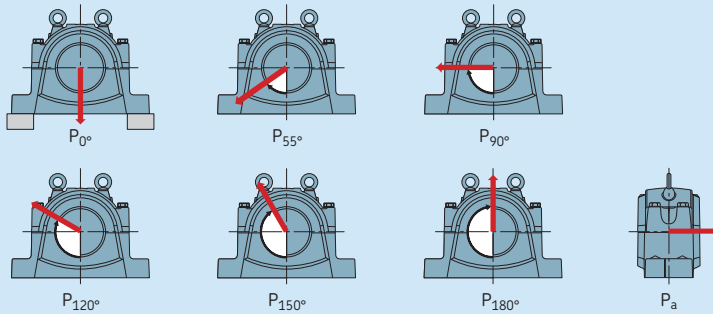


| Housing Size | Safe loads ¹⁾ | | | | | | |
|--------------|--------------------------|------------------|------------------|-------------------|-------------------|-------------------|----------------|
| | P _{0°} | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | P _a |
| – | kN / lbf. | | | | | | |
| SNL 3134 | 340 | 420 | 200 | 152 | 136 | 170 | 110 |
| | 76 500 | 94 500 | 45 000 | 34 200 | 30 600 | 38 250 | 24 750 |
| SNL 3136 | 380 | 480 | 230 | 170 | 152 | 190 | 124 |
| | 85 500 | 108 000 | 51 750 | 38 250 | 34 200 | 42 750 | 27 900 |
| SNL 3138 | 440 | 540 | 260 | 200 | 176 | 220 | 142 |
| | 99 000 | 121 500 | 58 500 | 45 000 | 39 600 | 49 500 | 31 950 |
| SNL 3140 | 520 | 640 | 320 | 220 | 200 | 260 | 168 |
| SNL 3144 | 117 000 | 144 000 | 72 000 | 49 500 | 45 000 | 58 500 | 37 800 |
| | 620 | 800 | 380 | 280 | 260 | 320 | 200 |
| SNL 3148 | 139 500 | 180 000 | 85 500 | 63 000 | 58 500 | 72 000 | 45 000 |
| | 680 | 840 | 400 | 300 | 280 | 340 | 220 |
| SNL 3152 | 153 000 | 189 000 | 90 000 | 67 500 | 63 000 | 76 500 | 49 500 |
| | 760 | 940 | 460 | 340 | 300 | 380 | 240 |
| SNL 3156 | 171 000 | 211 500 | 103 500 | 76 500 | 67 500 | 85 500 | 54 000 |
| | 800 | 1 000 | 480 | 360 | 320 | 400 | 260 |
| SNL 3160 | 180 000 | 225 000 | 108 000 | 81 000 | 72 000 | 90 000 | 58 500 |
| | 960 | 1 200 | 580 | 440 | 480 | 480 | 300 |
| SNL 3164 | 216 000 | 270 000 | 130 500 | 99 000 | 85 500 | 108 000 | 67 500 |
| | 1 080 | 1 400 | 680 | 500 | 440 | 560 | 360 |
| SNL 3168 | 243 000 | 315 000 | 153 000 | 112 500 | 99 000 | 126 000 | 81 000 |
| | 1 200 | 1 500 | 720 | 520 | 460 | 600 | 380 |
| SNL 3172 | 270 000 | 337 500 | 162 000 | 117 000 | 103 500 | 135 000 | 85 500 |
| | 1 200 | 1 540 | 720 | 540 | 480 | 600 | 400 |
| SNL 3176 | 270 000 | 346 500 | 162 000 | 121 500 | 108 000 | 135 000 | 90 000 |
| | 1 220 | 1 600 | 780 | 580 | 500 | 640 | 420 |
| SNL 3180 | 274 500 | 360 000 | 175 500 | 130 500 | 112 500 | 144 000 | 94 500 |
| | 1 400 | 1 740 | 840 | 620 | 540 | 700 | 440 |
| SNL 3184 | 315 000 | 391 500 | 189 000 | 139 500 | 121 500 | 157 500 | 99 000 |
| | 1 520 | 1 920 | 920 | 680 | 600 | 760 | 480 |
| SNL 3188 | 342 000 | 432 000 | 207 000 | 153 000 | 135 000 | 171 000 | 108 000 |
| | 1 600 | 2 000 | 960 | 720 | 620 | 800 | 500 |
| SNL 3192 | 360 000 | 450 000 | 216 000 | 162 000 | 139 500 | 180 000 | 112 500 |
| | 1 680 | 2 140 | 1 040 | 760 | 660 | 840 | 540 |
| SNL 3196 | 378 000 | 481 500 | 234 000 | 171 000 | 148 500 | 189 000 | 121 500 |
| | 1 760 | 2 240 | 1 080 | 800 | 700 | 880 | 560 |
| | 396 000 | 504 000 | 243 000 | 180 000 | 157 500 | 198 000 | 126 000 |

continues on next page

¹⁾ The values are based on a safety factor of 5.

Safe loads for large SNL plummer block housings made of grey cast iron



| Housing Size | Safe loads ¹⁾ | | | | | | |
|--------------|--------------------------|------------------|------------------|-------------------|-------------------|-------------------|----------------|
| | P _{0°} | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | P _a |
| – | kN / lbf. | | | | | | |
| SNL 3234 | 440 | 540 | 260 | 200 | 176 | 220 | 142 |
| | 99 000 | 121 500 | 58 500 | 45 000 | 39 600 | 49 500 | 31 950 |
| SNL 3236 | 440 | 540 | 260 | 200 | 176 | 220 | 142 |
| | 99 000 | 121 500 | 58 500 | 45 000 | 39 600 | 49 500 | 31 950 |
| SNL 3238 | 520 | 640 | 320 | 220 | 200 | 260 | 168 |
| | 117 000 | 144 000 | 72 000 | 49 500 | 45 000 | 58 500 | 37 800 |
| SNL 3240 | 620 | 800 | 380 | 280 | 260 | 320 | 200 |
| SNL 3244 | 139 500 | 180 000 | 85 500 | 63 000 | 58 500 | 72 000 | 45 000 |
| | 680 | 840 | 400 | 300 | 280 | 340 | 130 |
| SNL 3248 | 153 000 | 189 000 | 90 000 | 67 500 | 63 000 | 76 500 | 29 250 |
| | 760 | 940 | 460 | 340 | 300 | 380 | 134 |
| SNL 3252 | 171 000 | 211 500 | 103 500 | 76 500 | 67 500 | 85 500 | 30 150 |
| | 960 | 1 200 | 580 | 440 | 380 | 480 | 230 |
| SNL 3256 | 216 000 | 270 000 | 130 500 | 99 000 | 85 500 | 108 000 | 51 750 |
| | 960 | 1 200 | 580 | 440 | 380 | 480 | 240 |
| SNL 3260 | 216 000 | 270 000 | 130 500 | 99 000 | 85 500 | 108 000 | 54 000 |
| | 1 080 | 1 400 | 680 | 500 | 440 | 560 | 320 |
| SNL 3264 | 243 000 | 315 000 | 153 000 | 112 500 | 99 000 | 126 000 | 72 000 |
| | 1 200 | 1 500 | 720 | 520 | 460 | 600 | 290 |
| SNL 3268 | 270 000 | 337 500 | 162 000 | 117 000 | 103 500 | 135 000 | 65 250 |
| | 1 220 | 1 600 | 780 | 580 | 500 | 640 | 370 |
| SNL 3272 | 274 500 | 360 000 | 175 500 | 130 500 | 112 500 | 144 000 | 83 250 |
| | 1 400 | 1 740 | 840 | 620 | 540 | 700 | 320 |
| SNL 3276 | 315 000 | 391 500 | 189 000 | 139 500 | 121 500 | 157 500 | 72 000 |
| | 1 520 | 1 920 | 920 | 680 | 600 | 760 | 420 |
| SNL 3280 | 342 000 | 432 000 | 207 000 | 153 000 | 135 000 | 171 000 | 94 500 |
| | 1 520 | 1 920 | 920 | 680 | 600 | 760 | 480 |
| SNL 3284 | 342 000 | 432 000 | 207 000 | 153 000 | 135 000 | 171 000 | 108 000 |
| | 1 680 | 2 140 | 1 040 | 760 | 660 | 840 | 520 |
| SNL 3288 | 378 000 | 481 500 | 234 000 | 171 000 | 148 500 | 189 000 | 117 000 |
| | 1 760 | 2 240 | 1 080 | 800 | 700 | 880 | 540 |
| | 396 000 | 504 000 | 243 000 | 180 000 | 157 500 | 198 000 | 121 500 |

¹⁾ The values are based on a safety factor of 5.

Split plummer block housings SNL 30, 31 and 32 series

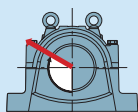
Load carrying capacity of the cap bolts

Approximate values for the yield points for cap bolts are provided in **table 7**. The values in **table 7** apply to 8.8 strength cap bolts, which are supplied with SNL and SNLD housings.

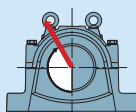
If a safety factor of 6 is used for the permissible load of grey cast iron SNL housings, the cap bolts do not need to be considered. In this case, the permissible load of the housing is less than the permissible load for the cap bolts.

Table 7

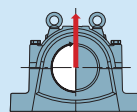
Load carrying capacity and torque values for cap bolts and attachment bolts



Q_{120°



Q_{150°



Q_{180°

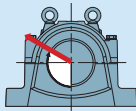
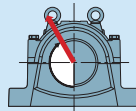
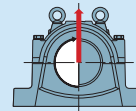
| Housing Size | Cap bolts Yield point for four bolts | | | Size | Tightening torque | Attachment bolts | |
|--------------|---|-----------------|-----------------|----------|-------------------|------------------|---------------------------------|
| | Q_{120° | Q_{150° | Q_{180° | | | Size | Tightening torque ¹⁾ |
| – | kN | | | – | Nm | – | Nm |
| SNL 3036 | 1800 | 1040 | 900 | M 24×140 | 350 | M 24 | 665 |
| SNL 3038 | 1800 | 1040 | 900 | M 24×140 | 350 | M 24 | 665 |
| SNL 3040 | 1800 | 1040 | 900 | M 24×150 | 350 | M 24 | 665 |
| SNL 3044 | 1800 | 1040 | 900 | M 24×160 | 350 | M 30 | 1310 |
| SNL 3048 | 1800 | 1040 | 900 | M 24×160 | 350 | M 30 | 1310 |
| SNL 3052 | 2860 | 1650 | 1430 | M 30×180 | 400 | M 30 | 1310 |
| SNL 3056 | 2860 | 1650 | 1430 | M 30×200 | 400 | M 36 | 2280 |
| SNL 3060 | 2860 | 1650 | 1430 | M 30×200 | 400 | M 36 | 2280 |
| SNL 3064 | 2860 | 1650 | 1430 | M 30×220 | 400 | M 36 | 2280 |
| SNL 3068 | 2860 | 1650 | 1430 | M 30×220 | 400 | M 36 | 2280 |
| SNL 3072 | 2860 | 1650 | 1430 | M 30×220 | 400 | M 36 | 2280 |
| SNL 3076 | 4200 | 2400 | 2100 | M 36×240 | 600 | M 36 | 2280 |
| SNL 3080 | 4200 | 2400 | 2100 | M 36×240 | 600 | M 36 | 2280 |
| SNL 3084 | 4200 | 2400 | 2100 | M 36×240 | 600 | M 36 | 2280 |
| SNL 3088 | 4200 | 2400 | 2100 | M 36×240 | 600 | M 42 | 3640 |
| SNL 3092 | 5800 | 3350 | 2900 | M 42×280 | 850 | M 42 | 3640 |
| SNL 3096 | 5800 | 3350 | 2900 | M 42×280 | 850 | M 42 | 3640 |
| SNL 30/500 | 5800 | 3350 | 2900 | M 42×280 | 850 | M 42 | 3640 |
| SNL 30/530 | 5800 | 3350 | 2900 | M 42×320 | 850 | M 48 | 5450 |
| SNL 3134 | 1800 | 1040 | 900 | M 24×140 | 350 | M 24 | 665 |
| SNL 3136 | 1800 | 1040 | 900 | M 24×140 | 350 | M 24 | 665 |
| SNL 3138 | 1800 | 1040 | 900 | M 24×150 | 350 | M 24 | 665 |
| SNL 3140 | 1800 | 1040 | 900 | M 24×160 | 350 | M 30 | 1310 |
| SNL 3144 | 1800 | 1040 | 900 | M 24×160 | 350 | M 30 | 1310 |
| SNL 3148 | 2860 | 1650 | 1430 | M 30×180 | 400 | M 30 | 1310 |

continues on next page

¹⁾ Recommended by bolt manufacturers

cont. Table 7

Load carrying capacity and torque values for cap bolts and attachment bolts

 Q_{120°  Q_{150°  Q_{180°

| Housing Size | Cap bolts Yield point for four bolts | | | Size | Tightening torque | Attachment bolts | |
|--------------|---|-----------------|-----------------|----------|-------------------|------------------|---------------------------------|
| | Q_{120° | Q_{150° | Q_{180° | | | Size | Tightening torque ¹⁾ |
| – | kN | | | – | Nm | – | Nm |
| SNL 3152 | 2 860 | 1 650 | 1 430 | M 30x200 | 400 | M 36 | 2 280 |
| SNL 3156 | 2 860 | 1 650 | 1 430 | M 30x200 | 400 | M 36 | 2 280 |
| SNL 3160 | 2 860 | 1 650 | 1 430 | M 30x220 | 400 | M 36 | 2 280 |
| SNL 3164 | 2 860 | 1 650 | 1 430 | M 30x220 | 400 | M 36 | 2 280 |
| SNL 3168 | 4 200 | 2 400 | 2 100 | M 36x240 | 600 | M 36 | 2 280 |
| SNL 3172 | 4 200 | 2 400 | 2 100 | M 36x240 | 600 | M 36 | 2 280 |
| SNL 3176 | 4 200 | 2 400 | 2 100 | M 36x240 | 600 | M 36 | 2 280 |
| SNL 3180 | 4 200 | 2 400 | 2 100 | M 36x240 | 600 | M 42 | 3 640 |
| SNL 3184 | 5 800 | 3 350 | 2 900 | M 42x280 | 850 | M 42 | 3 640 |
| SNL 3188 | 5 800 | 3 350 | 2 900 | M 42x280 | 850 | M 42 | 3 640 |
| SNL 3192 | 5 800 | 3 350 | 2 900 | M 42x300 | 850 | M 42 | 3 640 |
| SNL 3196 | 5 800 | 3 350 | 2 900 | M 42x320 | 850 | M 48 | 5 450 |
| SNL 3234 | 1 800 | 1 040 | 900 | M 24x150 | 350 | M 24 | 665 |
| SNL 3236 | 1 800 | 1 040 | 900 | M 24x150 | 350 | M 24 | 665 |
| SNL 3238 | 1 800 | 1 040 | 900 | M 24x160 | 350 | M 30 | 1 310 |
| SNL 3240 | 1 800 | 1 040 | 900 | M 24x160 | 350 | M 30 | 1 310 |
| SNL 3244 | 2 860 | 1 650 | 1 430 | M 30x180 | 400 | M 30 | 1 310 |
| SNL 3248 | 2 860 | 1 650 | 1 430 | M 30x200 | 400 | M 36 | 2 280 |
| SNL 3252 | 2 860 | 1 650 | 1 430 | M 30x220 | 400 | M 36 | 2 280 |
| SNL 3256 | 2 860 | 1 650 | 1 430 | M 30x220 | 400 | M 36 | 2 280 |
| SNL 3260 | 2 860 | 1 650 | 1 430 | M 30x220 | 400 | M 36 | 2 280 |
| SNL 3264 | 4 200 | 2 400 | 2 100 | M 36x240 | 600 | M 36 | 2 280 |
| SNL 3268 | 4 200 | 2 400 | 2 100 | M 36x240 | 600 | M 36 | 2 280 |
| SNL 3272 | 4 200 | 2 400 | 2 100 | M 36x240 | 600 | M 42 | 3 640 |
| SNL 3276 | 5 800 | 3 350 | 2 900 | M 42x280 | 850 | M 42 | 3 640 |
| SNL 3280 | 5 800 | 3 350 | 2 900 | M 42x280 | 850 | M 42 | 3 640 |
| SNL 3284 | 5 800 | 3 350 | 2 900 | M 42x300 | 850 | M 42 | 3 640 |
| SNL 3288 | 5 800 | 3 350 | 2 900 | M 42x320 | 850 | M 48 | 5 450 |

¹⁾ Recommended by bolt manufactures

Operating temperature

The permissible operating temperature is mainly limited by the seals (→ **table 1, page 197**), and the lubricant in the bearing. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

The permissible operating speed is not limited by the housing, except when taconite seals are used. The maximum speeds for taconite seals are provided in **table 1 on page 197**. For speed limits of the bearing, refer to the product information available online at skf.com/bearings.

Attachment bolt recommendations

In typical applications, 8.8 class hexagon head bolts, in accordance with ISO 4014, can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 7**). They are valid for oiled, but otherwise untreated, thread surfaces. SKF cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Lubrication

SNL housings in the 30, 31 and 32 series with labyrinth or taconite seals are intended for grease lubrication. For oil lubrication, modified housings with oil seals (→ **page 198**) or SONL plummer block housings (→ **page 349**) should be used.

The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

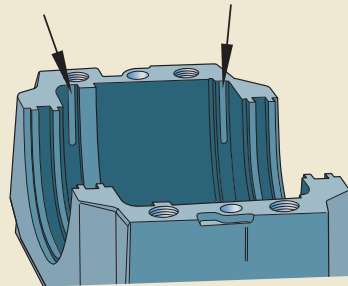
Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 20 to 40% of its volume. A 40% grease fill is required when bearings have to be relubricated from the side, while a 20% grease fill is used when bearings are relubricated via the outer ring.

The housing base has markings to show the height of a 40% grease fill (→ **fig. 11**). For highly contaminated environments and slow speeds, fill the housing to 70–80%. For best protection against contaminants, use the SKF three-barrier solution (→ **page 39**). For additional information, contact the SKF application engineering service.

Quantities for 20 and 40% grease fills are listed in **table 8 on page 213**. The values are valid for a typical lithium grease (about

Fig. 11



0,95 g/cm³). They include the grease for the bearing, but not the grease to fill the seals. For sealed bearings, the values have to be adjusted.

In most applications, the initial grease fill will adequately lubricate the bearing until the grease is exchanged during the next planned maintenance interval.

Relubrication

SNL plummer block housings enable relubrication of the incorporated bearings and seals. There are three drilled and tapped holes for an AH 1/8-27 PTF grease fitting: two in the cap (one centred and one offset), and one in the base. Each hole is sealed at delivery with a threaded plug.

Dimples cast into the top of the housing cap indicate alternative positions where holes can be drilled and tapped to accommodate a grease fitting. The two dimples on the outer sides of the central ridge indicate the position for lubrication holes for the seals.

The following items are supplied with each housing:

- a grease fitting, designation AH 1/8-27 PTF, with a plastic cover (fitting protector)
- a grease fitting, designation M1 G 1/8
- an adapter, designation LAPN 1/8

The adapter transforms the 1/8-27 NPSF thread to a G 1/4, which enables the use of grease lubricators such as SKF MultiPoint.

Table 8

| Initial grease fill | | | | | |
|---------------------|--------------|------|--------------|--------------|------|
| Housing Size | Initial fill | | Housing Size | Initial fill | |
| | 20% | 40% | | 20% | 40% |
| – | kg | | – | kg | |
| SNL 3036 | 0,70 | 1,20 | SNL 3134 | 0,70 | 1,10 |
| SNL 3038 | 0,90 | 1,50 | SNL 3136 | 0,90 | 1,40 |
| SNL 3040 | 1,20 | 2,00 | SNL 3138 | 1,20 | 1,80 |
| SNL 3044 | 1,60 | 2,70 | SNL 3140 | 1,50 | 2,30 |
| SNL 3048 | 1,80 | 3,00 | SNL 3144 | 1,70 | 2,70 |
| SNL 3052 | 2,30 | 3,90 | SNL 3148 | 2,20 | 3,40 |
| SNL 3056 | 2,80 | 4,90 | SNL 3152 | 2,80 | 4,30 |
| SNL 3060 | 3,10 | 5,20 | SNL 3156 | 2,90 | 4,40 |
| SNL 3064 | 4,10 | 7,00 | SNL 3160 | 4,00 | 6,20 |
| SNL 3068 | 5,10 | 8,70 | SNL 3164 | 5,00 | 7,70 |
| SNL 3072 | 6,20 | 11,0 | SNL 3168 | 6,20 | 9,40 |
| SNL 3076 | 6,30 | 11,0 | SNL 3172 | 6,40 | 9,70 |
| SNL 3080 | 6,70 | 11,5 | SNL 3176 | 6,40 | 9,60 |
| SNL 3084 | 7,00 | 12,0 | SNL 3180 | 8,00 | 12,0 |
| SNL 3088 | 8,50 | 14,5 | SNL 3184 | 10,0 | 15,0 |
| SNL 3092 | 11,0 | 19,0 | SNL 3188 | 10,5 | 16,0 |
| SNL 3096 | 11,0 | 18,5 | SNL 3192 | 12,0 | 17,5 |
| SNL 30/500 | 11,5 | 20,0 | SNL 3196 | 12,0 | 17,0 |
| SNL 30/530 | 13,0 | 21,5 | | | |
| SNL 3234 | 1,20 | 1,90 | SNL 3260 | 4,80 | 6,90 |
| SNL 3236 | 1,20 | 1,90 | SNL 3264 | 6,00 | 8,60 |
| SNL 3238 | 1,40 | 2,20 | SNL 3268 | 6,30 | 8,40 |
| SNL 3240 | 1,70 | 2,50 | SNL 3272 | 7,80 | 10,5 |
| SNL 3244 | 2,10 | 3,00 | SNL 3276 | 8,90 | 12,5 |
| SNL 3248 | 2,70 | 3,80 | SNL 3280 | 10,5 | 14,5 |
| SNL 3252 | 3,80 | 5,60 | SNL 3284 | 11,5 | 15,0 |
| SNL 3256 | 3,90 | 5,60 | SNL 3288 | 12,0 | 15,0 |

Split plummer block housings SNL 30, 31 and 32 series

Relubrication via the outer ring

The hole in the centre of the cap or the hole in the base should be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring) (→ **fig. 12**). When applying grease via the relubrication feature, the shaft should be rotating. Narrow bearings (dimension series 13 and 22) in the locating position can be axially displaced, so that the relubrication groove in the bearing does not line up with the relubrication hole in the housing cap. Make sure the bearing is sufficiently centred when relubricating.

Relubrication from the side

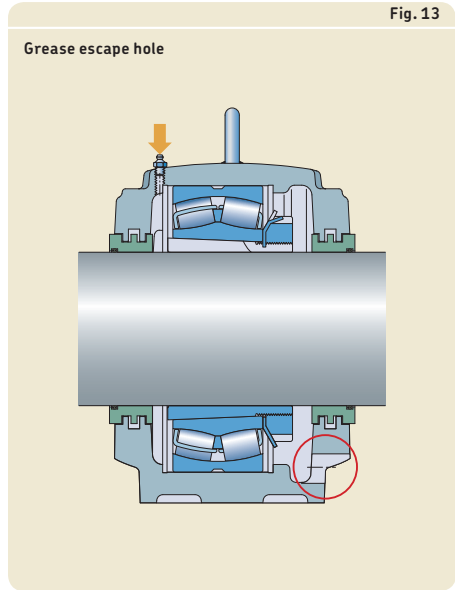
When relubricating from the side, which is typically necessary for CARB toroidal roller bearings, the offset hole in the housing should be used (→ **fig. 12**).

When bearings mounted on an adapter sleeve have to be relubricated from the side, the grease should be introduced from the side opposite the lock nut.

When bearings mounted at the end of a shaft have to be relubricated from the side, the grease should be applied at the point closest to the end cover.

Grease escape holes

If frequent relubrication is required, SKF recommends having grease escape holes (→ **fig. 13**). Dimensions can be found in **table 9**. SNL housings supplied with grease



escape holes are identified by the suffix V, e.g. SNL 3134 V.

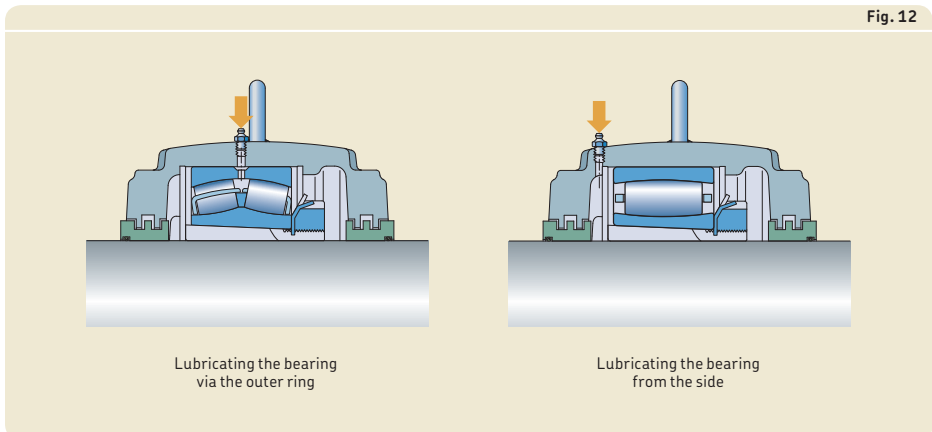
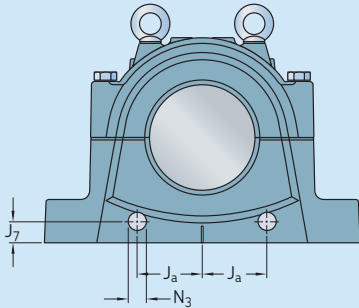


Table 9

Recommended dimensions for grease escape holes



| Housing Size | Dimensions | | | | |
|--------------|------------|----------|-----|----|----|
| | Ja | J7 | N3 | | |
| – | mm | | | | |
| SNL 3036 | SNL 3134 | 105 | 34 | 30 | |
| SNL 3038 | SNL 3136 | 110 | 38 | 30 | |
| SNL 3040 | SNL 3138 | SNL 3234 | 120 | 36 | 30 |
| SNL 3044 | SNL 3140 | SNL 3236 | 120 | 36 | 30 |
| | | SNL 3238 | 120 | 36 | 30 |
| SNL 3048 | SNL 3144 | SNL 3240 | 130 | 42 | 40 |
| SNL 3052 | SNL 3148 | SNL 3244 | 145 | 43 | 40 |
| SNL 3056 | SNL 3152 | SNL 3248 | 150 | 44 | 40 |
| SNL 3060 | SNL 3156 | | 165 | 51 | 40 |
| SNL 3064 | SNL 3160 | SNL 3252 | 180 | 53 | 40 |
| SNL 3068 | SNL 3164 | SNL 3256 | 180 | 53 | 40 |
| SNL 3072 | | SNL 3260 | 180 | 53 | 40 |
| SNL 3076 | SNL 3168 | SNL 3264 | 185 | 51 | 40 |
| SNL 3080 | SNL 3172 | | 220 | 51 | 40 |
| SNL 3084 | SNL 3176 | SNL 3268 | 220 | 53 | 40 |
| SNL 3088 | SNL 3180 | SNL 3272 | 230 | 58 | 40 |
| SNL 3092 | SNL 3184 | SNL 3276 | 260 | 58 | 40 |
| SNL 3096 | SNL 3188 | SNL 3280 | 260 | 58 | 40 |
| SNL 30/500 | | | 260 | 58 | 40 |
| SNL 30/530 | SNL 3192 | SNL 3284 | 280 | 58 | 40 |
| | SNL 3196 | SNL 3288 | 280 | 58 | 40 |

Oil lubrication

SNL housings in the 30, 31 and 32 series can be used in applications where there are relatively high speeds and the bearings are lubricated via an oil bath or circulating oil lubrication system.

The housings must be modified to accommodate one of the following oil seals:

- TURT or TURA for oil bath or circulating oil lubrication system (→ page 198)
- TURP for circulating oil lubrication system and large axial movements (→ page 200)

Recommended oil levels can be found in table 10a, 10b and 10c on page 216–218.

Housings modified for oil lubrication are not stock items. Check availability prior to ordering.

Split plummer block housings SNL 30, 31 and 32 series

Table 10a

| Recommended oil levels ¹⁾ | | | | | | | | | | | |
|--------------------------------------|----------------|---------------------------|------|------|------|------|------|-----------|------|------|------|
| Housing Size | Shaft diameter | Design and bearing series | | | | | | | | | |
| | | TURT | | 222 | | 223 | | TURA | | C 22 | |
| | | 230 min. | max. | min. | max. | min. | max. | C 30 min. | max. | min. | max. |
| – | mm | mm | | | | | | | | | |
| SNL 3036 | 160 | 48 | 54 | | | | | 47 | 55 | | |
| SNL 3038 | 140 | | | 57 | 67 | | | | | | |
| | 170 | 51 | 58 | | | | | 49 | 57 | | |
| SNL 3040 | 150 | | | 58 | 69 | | | | | 55 | 69 |
| | 180 | 53 | 62 | | | | | 50 | 60 | | |
| SNL 3044 | 200 | 59 | 69 | | | | | 57 | 68 | | |
| SNL 3048 | 150 | | | | | 72 | 86 | | | | |
| | 180 | | | 65 | 79 | | | | | | |
| | 220 | 59 | 68 | | | | | 58 | 69 | | |
| SNL 3052 | 240 | 62 | 73 | | | | | 59 | 72 | | |
| SNL 3056 | 180 | | | | | 86 | 103 | | | | |
| | 260 | 72 | 83 | | | | | 68 | 81 | | |
| SNL 3060 | 280 | 75 | 87 | | | | | 74 | 88 | | |
| SNL 3064 | 240 | | | 91 | 112 | | | | | | |
| | 300 | 85 | 97 | | | | | 82 | 96 | | |
| SNL 3068 | 320 | 88 | 102 | | | | | 81 | 99 | | |
| SNL 3072 | 340 | 80 | 94 | | | | | 74 | 92 | | |
| SNL 3076 | 360 | 87 | 102 | | | | | 87 | 105 | | |
| SNL 3080 | 380 | 80 | 97 | | | | | 76 | 97 | | |
| SNL 3084 | 400 | 80 | 97 | | | | | 77 | 99 | | |
| SNL 3088 | 410 | 87 | 104 | | | | | 89 | 111 | | |
| SNL 3092 | 430 | 103 | 122 | | | | | 100 | 119 | | |
| SNL 3096 | 450 | 95 | 113 | | | | | 92 | 111 | | |
| SNL 30/500 | 470 | 93 | 112 | | | | | 94 | 113 | | |
| SNL 30/530 | 500 | 107 | 128 | | | | | 110 | 134 | | |

¹⁾ The oil level is measured from the base of the housing. Mark the min and max level on the oil level gauge.

Table 10b

| Recommended oil levels ¹⁾ | | | | | | | | | | | |
|--------------------------------------|----------------|---------------------------|------|------|------|------|------|-----------|------|------|------|
| Housing Size | Shaft diameter | Design and bearing series | | | | | | | | | |
| | | TURT 231 | | 222 | | 223 | | TURA C 31 | | C 22 | |
| | | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. |
| – | mm | mm | | | | | | | | | |
| SNL 3134 | 115 | | | | | 55 | 66 | | | | |
| SNL 3136 | 150 | 50 | 56 | | | | | 48 | 58 | | |
| SNL 3138 | 125 | 52 | 59 | | | | | 49 | 61 | | |
| | 160 | | | | | | | | | | |
| | 135 | | | | | 53 | 64 | | | | |
| SNL 3140 | 160 | 54 | 61 | | | | | 48 | 61 | | |
| | 170 | | | | | | | | | | |
| | 140 | | | | | | | | | 71 | 84 |
| SNL 3144 | 170 | 65 | 74 | 65 | 77 | | | 60 | 73 | 64 | 80 |
| | 200 | 62 | 71 | | | | | 56 | 70 | | |
| SNL 3148 | 170 | | | | | | | 75 | 91 | | |
| | 200 | | | 69 | 84 | | | | | | |
| | 220 | 68 | 78 | | | | | | | 64 | 81 |
| SNL 3152 | 220 | | | 70 | 87 | | | | | | |
| SNL 3156 | 240 | 72 | 83 | | | | | 65 | 83 | | |
| | 200 | | | | | | | 87 | 106 | | |
| SNL 3160 | 260 | 81 | 93 | | | | | 74 | 92 | | |
| | 220 | | | | | 90 | 112 | | | | |
| | 260 | | | 81 | 102 | | | | | | |
| SNL 3164 | 280 | 85 | 98 | | | | | 78 | 98 | | |
| | 240 | | | | | | | | | | |
| | 280 | | | 83 | 107 | 93 | 116 | | | | |
| SNL 3168 | 300 | 89 | 103 | | | | | 84 | 108 | | |
| | 260 | | | | | 96 | 121 | | | | |
| | 300 | | | 85 | 112 | | | | | | |
| SNL 3172 | 320 | 93 | 108 | | | | | 84 | 110 | | |
| | 340 | 90 | 106 | | | | | 84 | 110 | | |
| SNL 3176 | 360 | 91 | 108 | | | | | 87 | 111 | | |
| SNL 3180 | 340 | | | 98 | 124 | | | | | | |
| | 380 | 99 | 116 | | | | | 88 | 111 | | |
| SNL 3184 | 400 | 108 | 128 | | | | | 103 | 129 | | |
| | | | | | | | | | | | |
| SNL 3188 | 410 | 106 | 125 | | | | | 106 | 133 | | |
| SNL 3192 | 430 | 109 | 130 | | | | | 103 | 131 | | |
| SNL 3196 | 450 | 116 | 137 | | | | | 112 | 139 | | |

¹⁾ The oil level is measured from the base of the housing. Mark the min and max level on the oil level gauge.

Split plummer block housings SNL 30, 31 and 32 series

Table 10c

| Recommended oil levels ¹⁾ | | | | | |
|--------------------------------------|----------------|---------------------------|------|------|------|
| Housing Size | Shaft diameter | Design and bearing series | | | |
| | | TURT 232 | | C 32 | |
| | | min. | max. | min. | max. |
| – | mm | mm | | | |
| SNL 3232 | 140 | | | 54 | 68 |
| SNL 3234 | 150 | 61 | 69 | | |
| SNL 3236 | 160 | 56 | 64 | 47 | 61 |
| SNL 3238 | 170 | 68 | 77 | | |
| SNL 3240 | 180 | 70 | 79 | | |
| SNL 3244 | 200 | 73 | 83 | | |
| SNL 3248 | 220 | 75 | 87 | | |
| SNL 3252 | 240 | 98 | 111 | | |
| SNL 3256 | 260 | 87 | 101 | | |
| SNL 3260 | 280 | 91 | 106 | | |
| SNL 3264 | 300 | 95 | 111 | | |
| SNL 3268 | 320 | 98 | 115 | | |
| SNL 3272 | 340 | 106 | 124 | | |
| SNL 3276 | 360 | 121 | 141 | | |
| SNL 3280 | 380 | 114 | 135 | | |
| SNL 3284 | 400 | 117 | 139 | | |
| SNL 3288 | 410 | 124 | 147 | | |

¹⁾ The oil level is measured from the base of the housing. Mark the min and max level on the oil level gauge.

Mounting

SNL plummer (pillow) block housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces on page 45*).

Mounting instructions for each housing are provided with the seal pack. For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Torque specifications

Cap bolts should be tightened to the torque values listed in **table 7** on **page 210**. For information about attachment bolts, refer to *Attachment bolt recommendations on page 212*.

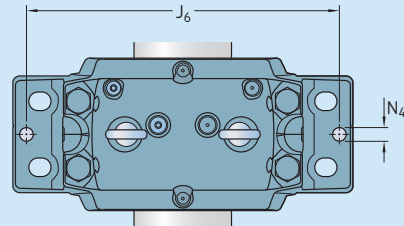
Pinning or supporting the housing

Some load conditions may require the housing to be pinned to its support surface or a stop to accommodate loads acting parallel to the housing support surface (→ *Additional housing support, page 204*).

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 11**.

Table 11

Position and size of dowel pin holes



| Housing Size | Dimensions | |
|--------------|------------|------------------|
| | J_6 | N_4 max |
| mm | | |
| SNL 3036 | SNL 3134 | 470 20 |
| SNL 3038 | SNL 3136 | 490 20 |
| SNL 3040 | SNL 3138 | SNL 3234 520 20 |
| SNL 3044 | SNL 3140 | SNL 3236 520 20 |
| SNL 3048 | SNL 3144 | SNL 3238 560 20 |
| | | SNL 3240 590 20 |
| SNL 3052 | SNL 3148 | SNL 3244 650 20 |
| SNL 3056 | SNL 3152 | SNL 3248 720 20 |
| SNL 3060 | SNL 3156 | 740 20 |
| SNL 3064 | SNL 3160 | SNL 3252 770 25 |
| | | SNL 3256 770 25 |
| SNL 3068 | SNL 3164 | SNL 3260 820 25 |
| SNL 3072 | | 820 25 |
| SNL 3076 | SNL 3168 | SNL 3264 880 25 |
| SNL 3080 | SNL 3172 | 920 30 |
| SNL 3084 | SNL 3176 | SNL 3268 960 30 |
| SNL 3088 | SNL 3180 | SNL 3272 1020 35 |
| SNL 3092 | SNL 3184 | SNL 3276 1070 35 |
| SNL 3096 | | 1070 35 |
| SNL 30/500 | SNL 3188 | SNL 3280 1120 35 |
| | | |
| | SNL 3192 | SNL 3284 1160 40 |
| SNL 30/530 | SNL 3196 | SNL 3288 1210 40 |

Condition monitoring

SNL housings in the 30, 31 and 32 series have appropriate positions for condition monitoring sensors (→ fig. 14).

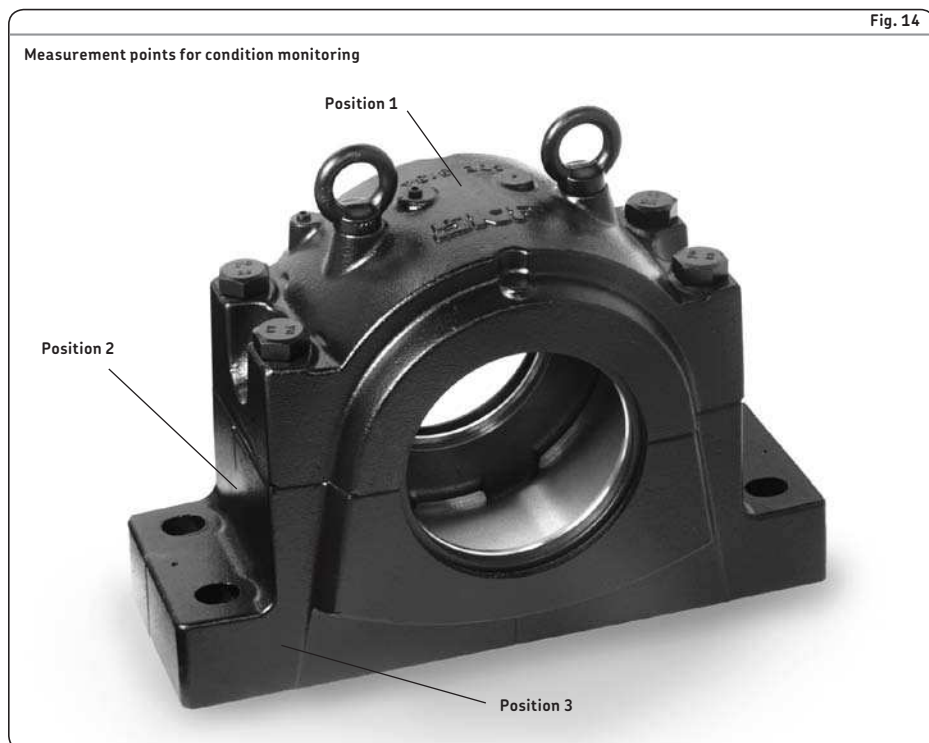
Position 1 is a measurement point perpendicular to the shaft and should be used when loads act away from the support surface.

Position 2 is a measurement point perpendicular to the shaft and should be used when loads act toward the support surface.

Position 3 is a measurement point parallel to the shaft and should be used when loads act toward the support surface.

All three positions are in accordance with ISO 10816-1.

For additional information about condition monitoring, as well as the measurement tools and systems available from SKF, contact your local SKF representative or SKF Authorized Distributor.



Accessories

The following accessories are available for SNL housings in the 30, 31 and 32 series:

- Oil leveller: LAHD
- Automatic lubricators: SKF SYSTEM 24 or SKF MultiPoint. If frequent relubrication is required and SKF SYSTEM 24 is to be used, combine it with LAPM 4 (Manifold 4 to 1).
- Grease meter: LAGM 1000E
- Condition monitoring sensors

For additional information, refer to *SKF tools and products* (→ **page 47**).

Ordering information

For SNL housings in the 30, 31 and 32 series, each of the following items must be ordered separately:

- housing
- seals
- end cover
- locating rings
- bearing
- adapter sleeve

Order example

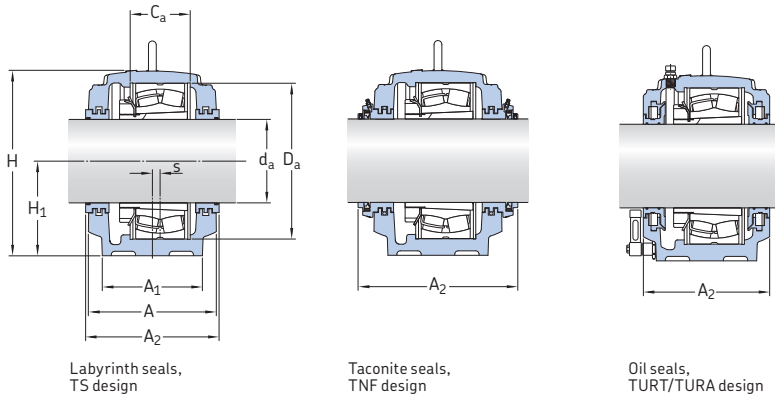
Two plummer block housings with labyrinth seals are required for two 23036 CCK/W33 bearings on H 3036 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housings will accommodate the locating bearing and a through shaft.

The following items should be ordered (in addition to the bearings and adapter sleeves):

- 2 housings SNL 3036
- 3 labyrinth seals TS 36
- 1 end cover ETS 36
- 2 locating rings FRB 17/280

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 115 – 150 mm

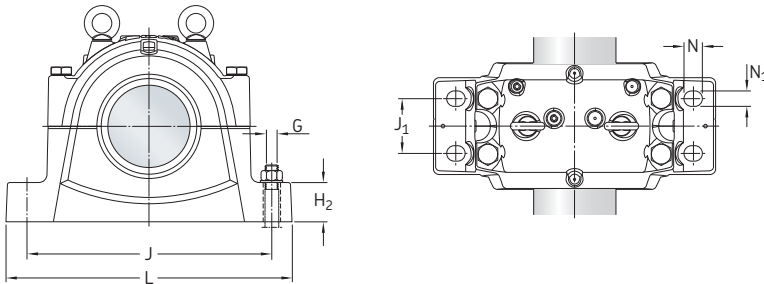


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------------|--|------------------------------|-----------------------------|------------|------------|----------------------------|
| mm | – | – | | | | | mm |
| 115 | SNL 3134 | 22326 CCK/W33 | H 2326 | 2 FRB 7.5/280 | TS 34/115 | ETS 34 | 240 299 |
| | | 22326-2CS5K | H 2326 | 2 FRB 7.5/280 | TNF 34/115 | | |
| 125 | SNL 3136 | 22328 CCK/W33 | H 2328 | 2 FRB 7/300 | TS 36/125 | ETS 36 | 250 310 |
| | | 22328-2CS5K | H 2328 | 2 FRB 7/300 | TNF 36/125 | | |
| 135 | SNL 3138 | 22330 CCK/W33 | H 2330 | 2 FRB 8/320 | TS 38/135 | ETS 38 | 270 330 |
| | | 22330-2CS5K | H 2330 | 2 FRB 8/320 | TNF 38/135 | | |
| 140 | SNL 3038 | 22232 CCK/W33 | H 3132 | 2 FRB 17.5/290 | TS 38/140 | ETS 38 | 250 312 |
| | | 22232-2CS5K | H 3132 | 2 FRB 17.5/290 | TNF 38/140 | | |
| | | 23232 CCK/W33 | H 2332 | 2 FRB 5.5/290 | | | |
| | | C 3232 K | H 2332 L | 2 FRB 5.5/290 | | | |
| 150 | SNL 3140 | 22332 CCK/W33 | H 2332 | 2 FRB 9/340 | TS 40/140 | ETS 40 | 290 347 |
| | | 22332-2CS5K | H 2332 | 2 FRB 9/340 | TNF 40/140 | | |
| 150 | SNL 3134 | 23134 CCK/W33 | H 3134 | 2 FRB 10/280 | TS 34 | ETS 34 | 240 299 |
| | | 23134-2CS5K | H 3134 E | 2 FRB 10/280 | TNF 34 | | |
| | C 3134 K | H 3134 L | 2 FRB 10/280 | | | | |
| | SNL 3134 TURT | 23134 CCK/W33 | H 3134 | 2 FRB 10/280 | included | ETS 3134 R | 225 |
| SNL 3134 TURA | C 3134 K | H 3134 E | 2 FRB 10/280 | included | ETS 3134 R | 225 | |
| SNL 3234 | 23234 CCK/W33 | H 2334 | 2 FRB 6/310 | TS 40/150 | ETS 40 | 270 327 | |
| SNL 3040 | 22234 CCK/W33 | 22234-2CS5K | H 3134 | 2 FRB 18/310 | TS 40/150 | ETS 40 | 270 327 |
| | | | H 3134 | 2 FRB 18/310 | TNF 40/150 | | |
| | | | H 3134 L | 2 FRB 18/310 | | | |
| SNL 3048 | 22334 CCK/W33 | H 2334 | 2 FRB 10/360 | TS 48/150 | ETS 48 | 300 380 | |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

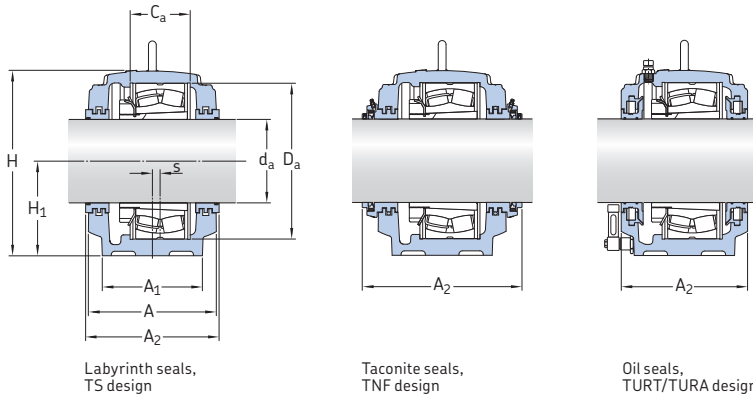
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 115 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| 125 | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 |
| 135 | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| 140 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 |
| 150 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M20 | 139 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 160 mm



Labyrinth seals,
TS design

Taconite seals,
TNF design

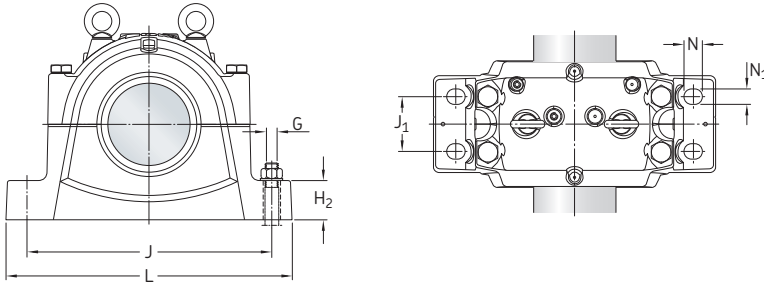
Oil seals,
TURT/TURA design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------------|--|------------------------------|-----------------------------|-------------|------------|----------------------------|
| mm | – | – | | | | | mm |
| 160 | SNL 3036 | 23036 CCK/W33 | H 3036 | 2 FRB 17/280 | TS 36 | ETS 36 | 240 300 |
| | | 23036-2CS5K | H 3036 E | 2 FRB 17/280 | TNF 36 | | |
| | | C 3036 K | H 3036 | 2 FRB 17/280 | | | |
| | SNL 3036 TURT | 23036 CCK/W33 | H 3036 | 2 FRB 17/280 | included | ETS 3036 R | 225 |
| | | C 3036 K | H 3036 | 2 FRB 17/280 | included | ETS 3036 R | 225 |
| | SNL 3136 | 23136 CCK/W33 | H 3136 | 2 FRB 10/300 | TS 36 | ETS 36 | 250 310 |
| | | 23136-2CS5K | H 3136 L | 2 FRB 10/300 | TNF 36 | | |
| | | C 3136 K | H 3136 L | 2 FRB 10/300 | | | |
| | SNL 3136 TURT | 23136 CCK/W33 | H 3136 | 2 FRB 10/300 | included | ETS 3136 R | 235 |
| | SNL 3136 TURA | C 3136 K | H 3136 L | 2 FRB 10/300 | included | ETS 3136 R | 235 |
| | SNL 3236 | 23236 CCK/W33 | H 2336 | 2 FRB 6/320 | TS 38/160 | ETS 38 | 270 330 |
| | | | C 3236 K | H 2336 | 2 FRB 6/320 | | |
| SNL 3138 | 22236 CCK/W33 | H 3136 | 2 FRB 19/320 | TS 38/160 | ETS 38 | 270 330 | |
| | | 22236-2CS5K | H 3136 | 2 FRB 19/320 | | | TNF 38/160 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

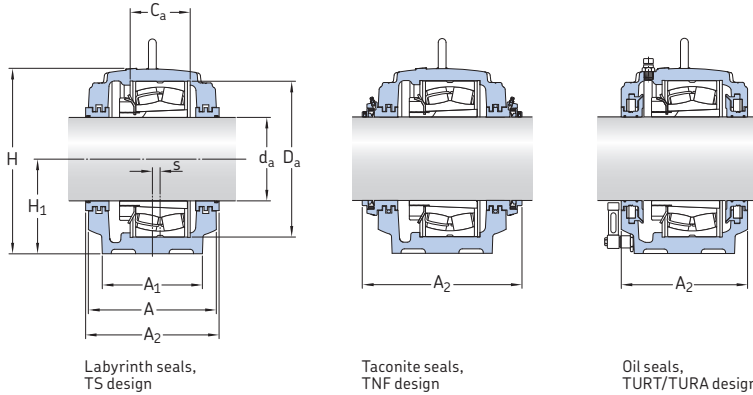
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------------------------------|--------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | | |
| d _a | mm | | | | | | | | | | | | | | - | kg |
| 160 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 |
| | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 |
| | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 170 mm

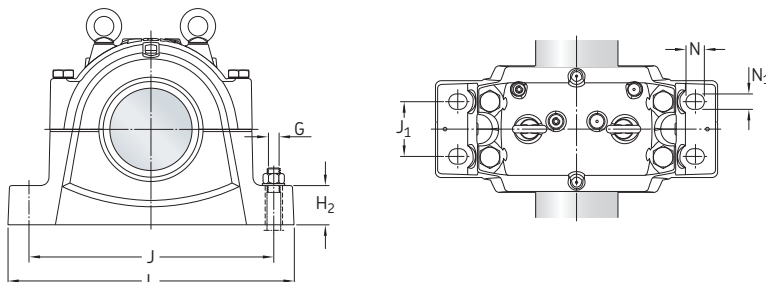


| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------------|--|------------------------------|--|-------------------------|------------|----------------------------|
| mm | – | – | | | | | mm |
| 170 | SNL 3038 | 23038 CCK/W33 C 3038 K | H 3038 H 3038 | 4 FRB 10/290 4 FRB 10/290 | TS 38 TNF 38 | ETS 38 | 250 312 |
| | SNL 3038 TURT | 23038 CCK/W33 | H 3038 | 4 FRB 10/290 | included | ETS 3038 R | 235 |
| | SNL 3038 TURA | C 3038 K | H 3038 | 4 FRB 10/290 | included | ETS 3038 R | 235 |
| | SNL 3138 | 23138 CCK/W33 23138-2C55K C 3138 KV | H 138 H 138 H 138 | 2 FRB 10/320 2 FRB 10/320 2 FRB 10/320 | TS 38 TNF 38 | ETS 38 | 270 330 |
| | SNL 3138 TURT | 23138 CCK/W33 | H 138 | 2 FRB 10/320 | included | ETS 3138 R | 255 |
| | SNL 3138 TURA | C 3138 KV | H 138 | 2 FRB 10/320 | included | ETS 3138 R | 255 |
| | SNL 3238 | 23238 CCK/W33 | H 338 | 2 FRB 6/340 | TS 40/170 TNF 40/170 | ETS 40 | 290 347 |
| | SNL 3140 | 22238 CCK/W33 22238-2C55K C 2238 K | H 138 H 138 H 138 | 4 FRB 10/340 4 FRB 10/340 4 FRB 10/340 | TS 40/170 TNF 40/170 | ETS 40 | 290 347 |
| | SNL 3148 | 22338 CCK/W33 | H 338 | 2 FRB 8/400 | TS 48/170 TNF 48/170 | ETS 48 | 315 396 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

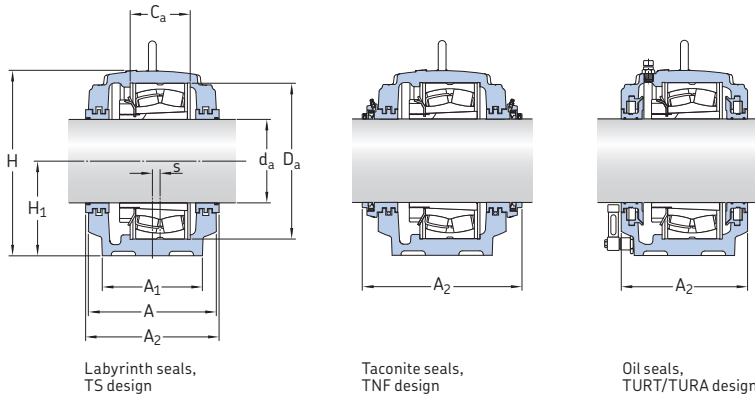
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-----|-------------------------------|--------------------|
| | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 170 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 | |
| | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 | |
| | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M24 | 187 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 180 mm

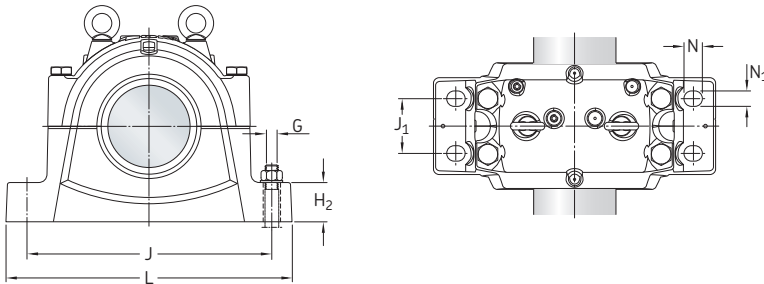


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|---------------|--|------------------------------|-----------------------------|-------------------------|------------|----------------------------|
| d_a | | | | | | | |
| mm | – | – | | | | | mm |
| 180 | SNL 3040 | 23040 CCK/W33 | H 040 | 4 FRB 10/310 | TS 40 | ETS 40 | 270 |
| | | 23040-2CS5K | H 040 | 4 FRB 10/310 | TNF 40 | | 327 |
| | | C 3040 K | H 040 | 4 FRB 10/310 | | | |
| | SNL 3040 TURT | 23040 CCK/W33 | H 040 | 4 FRB 10/310 | included | ETS 3040 R | 255 |
| | SNL 3040 TURA | C 3040 K | H 040 | 4 FRB 10/310 | included | ETS 3040 R | 255 |
| | SNL 3140 | 23140 CCK/W33 | H 140 | 2 FRB 10/340 | TS 40 | ETS 40 | 290 |
| | | 23140-2CS5K | H 140 | 2 FRB 10/340 | TNF 40 | | 347 |
| | | C 3140 K | H 140 | 2 FRB 10/340 | | | |
| | SNL 3140 TURT | 23140 CCK/W33 | H 140 | 2 FRB 10/340 | included | ETS 3140 R | 275 |
| | SNL 3140 TURA | C 3140 K | H 140 | 2 FRB 10/340 | included | ETS 3140 R | 275 |
| | SNL 3240 | 23240 CCK/W33 | H 340 | 2 FRB 6/360 | TS 48/180 TNF 48/180 | ETS 48 | 300 380 |
| | SNL 3048 | 22240 CCK/W33 | H 140 | 2 FRB 21/360 | TS 48/180 | ETS 48 | 300 |
| | | 22240-2CS5K | H 140 | 2 FRB 21/360 | TNF 48/180 | | 380 |
| | SNL 3056 | 22340 CCK/W33 | H 340 | 2 FRB 14/420 | TS 56/180 TNF 56/180 | ETS 56 | 330 404 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

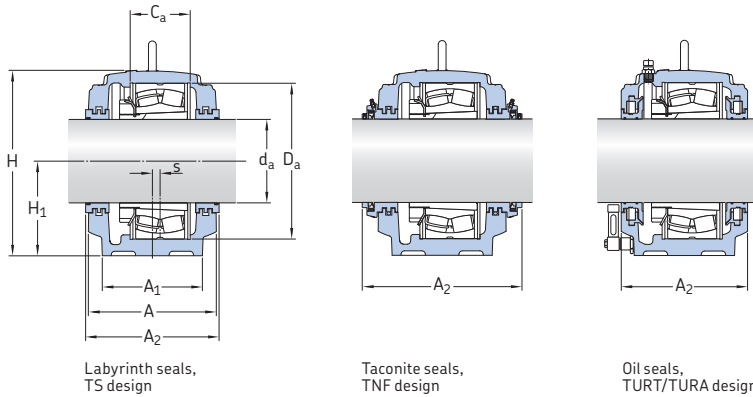
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 180 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M 20 | 97,5 |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M 20 | 97,5 |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M 20 | 97,5 |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M 20 | 123 |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M 20 | 123 |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M 20 | 123 |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 139 |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 139 |
| | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 200 mm

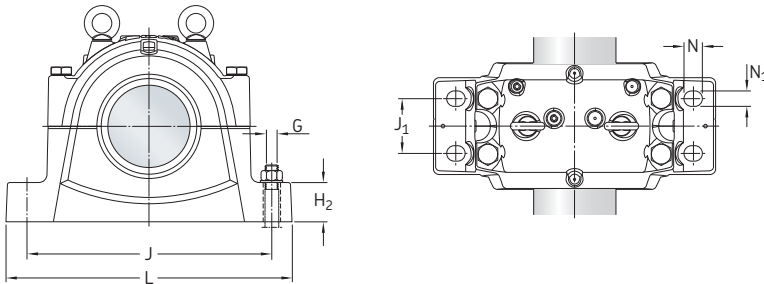


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|---------------|--|------------------------------|-----------------------------|-------------------------|------------|----------------------------|
| d_a | | | | | | | |
| mm | - | - | | | | | mm |
| 200 | SNL 3044 | 23044 CCK/W33 | OH 044 H | 4 FRB 10/340 | TS 44 | ETS 44 | 290 |
| | | 23044-2CS5K | OH 3044 H | 4 FRB 10/340 | TNF 44 | | 349 |
| | | C 3044 K | OH 3044 H | 4 FRB 10/340 | | | |
| | SNL 3044 TURT | 23044 CCK/W33 | OH 3044 H | 4 FRB 10/340 | included | ETS 3044 R | 275 |
| | SNL 3044 TURA | C 3044 K | OH 3044 H | 4 FRB 10/340 | included | ETS 3044 R | 275 |
| | SNL 3144 | 23144 CCK/W33 | OH 3144 H | 2 FRB 10/370 | TS 44 | ETS 44 | 300 |
| | | 23144-2CS5K | OH 3144 HTL | 2 FRB 10/370 | TNF 44 | | 357 |
| | | C 3144 K | OH 3144 HTL | 2 FRB 10/370 | | | |
| | SNL 3144 TURT | 23144 CCK/W33 | OH 3144 H | 2 FRB 10/370 | included | ETS 3144 R | 285 |
| | SNL 3144 TURA | C 3144 K | OH 3144 HTL | 2 FRB 10/370 | included | ETS 3144 R | 285 |
| | SNL 3244 | 23244 CCK/W33 | OH 2344 H | 2 FRB 10/400 | TS 48/200 TNF 48/200 | ETS 48 | 315 396 |
| | SNL 3148 | 22244 CCK/W33 | OH 3144 H | 4 FRB 10/400 | TS 48/200 | ETS 48 | 315 |
| | | 22244-2CS5K | OH 3144 H | 4 FRB 10/400 | TNF 48/200 | | 396 |
| | | C 2244 K | OH 3144 H | 4 FRB 10/400 | | | |
| SNL 3156 | 22344 CCK/W33 | OH 2344 H | 2 FRB 10.5/460 | TS 56/200 TNF 56/200 | ETS 56 | 330 404 | |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

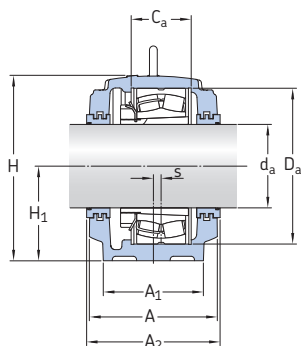
³⁾ The locating rings fit the bearing in the same line only.



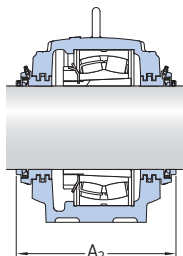
| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 200 | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M 20 | 123 |
| | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M 20 | 123 |
| | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M 20 | 123 |
| | 290 | 240 | 140 | 370 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 138 |
| | 290 | 240 | 140 | 370 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 138 |
| | 290 | 240 | 140 | 370 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 138 |
| | 310 | 260 | 164 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 |
| | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

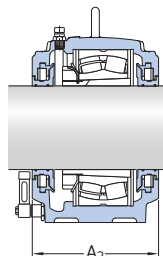
d_a 220 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design



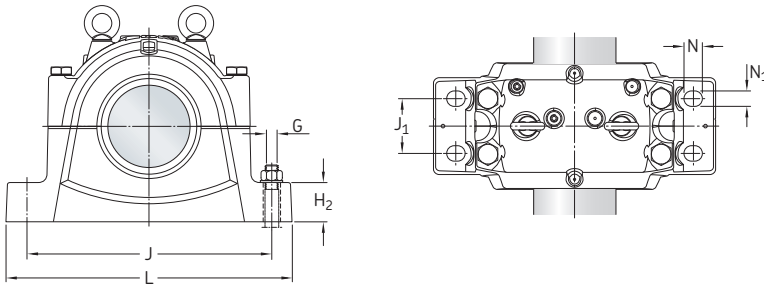
Oil seals,
TURT/TURA design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|---------------|--|------------------------------|-----------------------------|----------|------------|----------------------------|
| d_a | | | | | | | |
| mm | – | – | | | | | mm |
| 220 | SNL 3048 | 23048 CCK/W33 | OH 3048 H | 4 FRB 12/360 | TS 48 | ETS 48 | 300 |
| | | 23048-2CS5K | OH 3048 HE | 4 FRB 12/360 | TNF 48 | | 380 |
| | | C 3048 K | OH 3048 H | 4 FRB 12/360 | | | |
| | SNL 3048 TURT | 23048 CCK/W33 | OH 3048 H | 4 FRB 12/360 | included | ETS 3048 R | 285 |
| | SNL 3048 TURA | C 3048 K | OH 3048 H | 4 FRB 12/360 | included | ETS 3048 R | 285 |
| | SNL 3148 | 23148 CCK/W33 | OH 3148 H | 2 FRB 10/400 | TS 48 | ETS 48 | 315 |
| | | 23148-2CS5K | OH 3148 HTL | 2 FRB 10/400 | TNF 48 | | 396 |
| | | C 3148 K | OH 3148 HTL | 2 FRB 10/400 | | | |
| | SNL 3148 TURT | 23148 CCK/W33 | OH 3148 H | 2 FRB 10/400 | included | ETS 3148 R | 305 |
| | SNL 3148 TURA | C 3148 K | OH 3148 HTL | 2 FRB 10/400 | included | ETS 3148 R | 305 |
| SNL 3248 | 23248 CCK/W33 | OH 2348 H | 2 FRB 10/440 | TS 52/220 TNF 52/220 | ETS 52 | 330 406 | |
| SNL 3152 | 22248 CCK/W33 | OH 3148 H | 2 FRB 22/440 | TS 52/220 TNF 52/220 | ETS 52 | 330 412 | |
| SNL 3160 | 22348 CCK/W33 | OH 2348 H | 2 FRB 12.5/500 | TS 60/220 TNF 60/220 | ETS 60 | 360 434 | |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

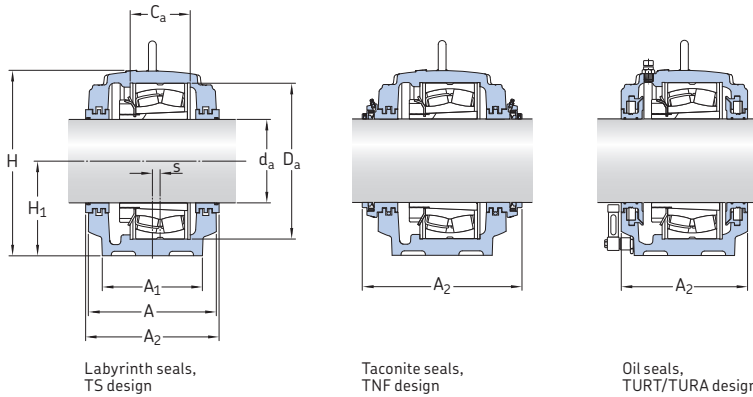
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|------|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 220 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 139 | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 139 | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 139 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 | |
| | 320 | 280 | 180 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 | |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 240 mm

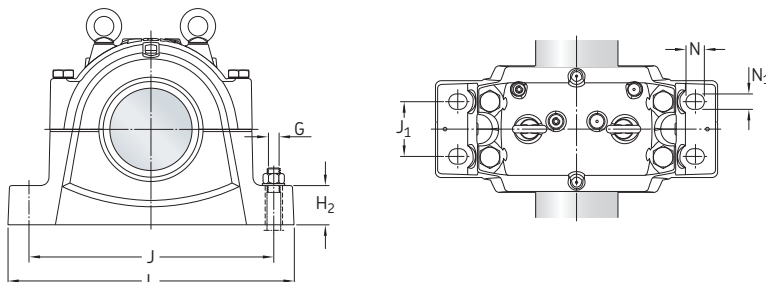


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|---------------|--|------------------------------|------------------------------|-------------------------|------------|----------------------------|
| d_a | | | | | | | |
| mm | - | - | | | | | mm |
| 240 | SNL 3052 | 23052 CCK/W33 | OH 052 H | 2 FRB 22/400 | TS 52 | ETS 52 | 315 |
| | | 23052-2CS5K C 3052 K | OH 3052 HE OH 3052 H | 2 FRB 22/400 2 FRB 22/400 | TNF 52 | | 394 |
| | SNL 3052 TURT | 23052 CCK/W33 | OH 3052 H | 2 FRB 22/400 | included | ETS 3052 R | 305 |
| | SNL 3052 TURA | C 3052 K | OH 3052 H | 2 FRB 22/400 | included | ETS 3052 R | 305 |
| | SNL 3152 | 23152 CCK/W33 | OH 3152 H | 2 FRB 10/440 | TS 52 | ETS 52 | 330 |
| | | 23152-2CS5K C 3152 K | OH 3152 HTL OH 3152 HTL | 2 FRB 10/440 2 FRB 10/440 | TNF 52 | | 412 |
| | SNL 3152 TURT | 23152 CCK/W33 | OH 3152 H | 2 FRB 10/440 | included | ETS 3152 R | 315 |
| | SNL 3152 TURA | C 3152 K | OH 3152 HTL | 2 FRB 10/440 | included | ETS 3152 R | 315 |
| | SNL 3252 | 23252 CCK/W33 | OH 2352 H | 2 FRB 10/480 | TS 64/240 TNF 64/240 | ETS 64 | 360 434 |
| | SNL 3064 | 22252 CCK/W33 | OH 3152 H | 2 FRB 25.5/480 | TS 64/240 TNF 64/240 | ETS 64 | 360 434 |
| SNL 3164 | 22352 CCK/W33 | OH 2352 H | 2 FRB 15.5/540 | TS 64/240 TNF 64/240 | ETS 64 | 380 454 | |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

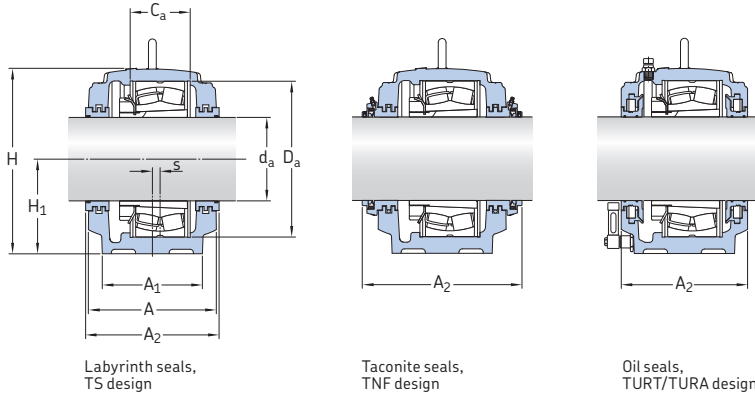
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 240 | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |
| | 350 | 310 | 194 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 260 mm

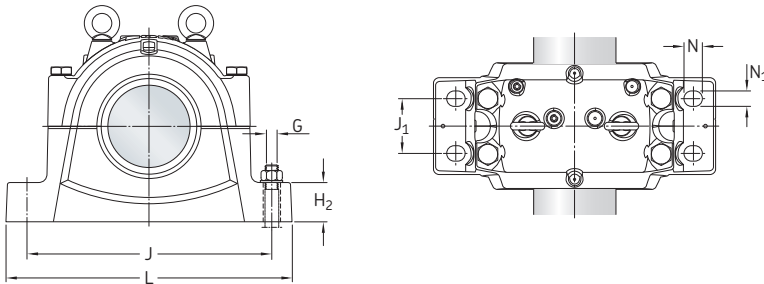


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|---------------|--|---|--|-------------------------|------------|----------------------------|
| d_a | | | | | | | |
| mm | - | - | | | | | mm |
| 260 | SNL 3056 | 23056 CCK/W33 C 3056 K | OH 056 H OH 3056 H | 6 FRB 10/420 6 FRB 10/420 | TS 56 TNF 56 | ETS 56 | 330 404 |
| | SNL 3056 TURT | 23056 CCK/W33 | OH 3056 H | 6 FRB 10/420 | included | ETS 3056 R | 315 |
| | SNL 3056 TURA | C 3056 K | OH 3056 H | 6 FRB 10/420 | included | ETS 3056 R | 315 |
| | SNL 3156 | 23156 CCK/W33 23156-2CS5K C 3156 K | OH 3156 H OH 3156 HTL OH 3156 HTL | 2 FRB 10/460 2 FRB 10/460 2 FRB 10/460 | TS 56 TNF 56 | ETS 56 | 330 404 |
| | SNL 3156 TURT | 23156 CCK/W33 | OH 3156 H | 2 FRB 10/460 | included | ETS 3156 R | 315 |
| | SNL 3156 TURA | C 3156 K | OH 3156 HTL | 2 FRB 10/460 | included | ETS 3156 R | 315 |
| | SNL 3256 | 23256 CCK/W33 | OH 2356 H | 2 FRB 10/500 | TS 60/260 TNF 60/260 | ETS 60 | 360 434 |
| | SNL 3160 | 22256 CCK/W33 | OH 3156 H | 2 FRB 25/500 | TS 60/260 TNF 60/260 | ETS 60 | 360 434 |
| | SNL 3168 L | 22356 CCK/W33 | OH 2356 H | 2 FRB 17.5/580 | TS 68/260 TNF 68/260 | ETS 68 | 410 483 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

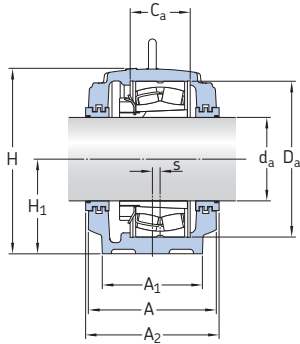
³⁾ The locating rings fit the bearing in the same line only.



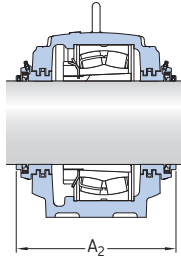
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|------|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 260 | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 | |
| | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 | |
| | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 | |
| | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 | |
| | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 | |
| | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 | |
| | 350 | 310 | 196 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

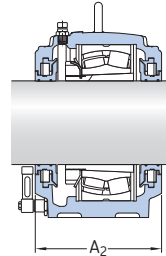
d_a 280 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design



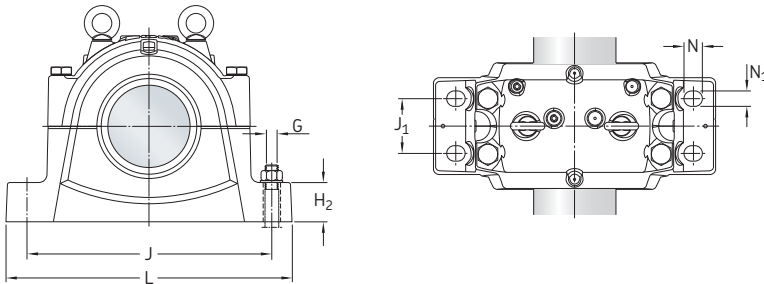
Oil seals,
TURT/TURA design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|---------------|--|--------------------------------------|--|-------------------------|------------|-------------------------------------|
| d_a | | | | | | | |
| mm | – | – | | | | | mm |
| 280 | SNL 3060 | 23060 CCK/W33 C 3060 KM | OH 060 H OH 3060 H | 2 FRB 25/460 2 FRB 25/460 | TS 60 TNF 60 | ETS 60 | 330 404 |
| | SNL 3060 TURT | 23060 CCK/W33 | OH 3060 H | 2 FRB 25/460 | included | ETS 3060 R | 315 |
| | SNL 3060 TURA | C 3060 KM | OH 3060 H | 2 FRB 25/460 | included | ETS 3060 R | 315 |
| | SNL 3160 | 23160 CCK/W33 23160-2CS5K C 3160 K | OH 3160 H OH 3160 HE OH 3160 H | 2 FRB 10/500 2 FRB 10/500 2 FRB 10/500 | TS 60 TNF 60 | ETS 60 | 360 434 |
| | SNL 3160 TURT | 23160 CCK/W33 | OH 3160 H | 2 FRB 10/500 | included | ETS 3160 R | 345 |
| | SNL 3160 TURA | C 3160 K | OH 3160 H | 2 FRB 10/500 | included | ETS 3160 R | 345 |
| | SNL 3260 | 23260 CCK/W33 | OH 3260 H | 2 FRB 10/540 | TS 64/280 TNF 64/280 | ETS 64 | 380 454 |
| | SNL 3164 | 22260 CCK/W33 | OH 3160 H | 2 FRB 28/540 | TS 64/280 TNF 64/280 | ETS 64 | 380 454 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

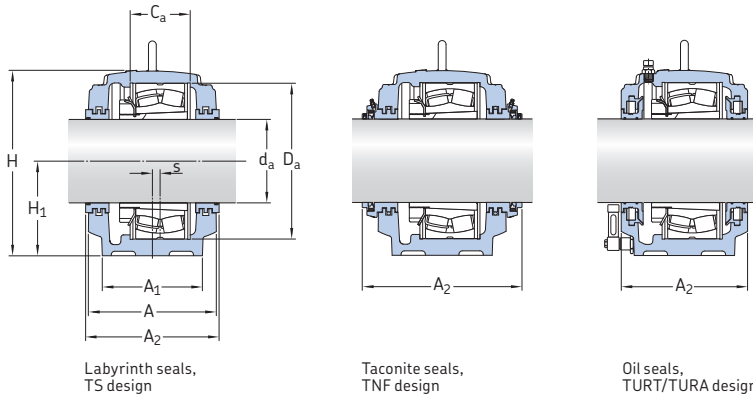
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|------|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 280 | 320 | 280 | 168 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 | |
| | 320 | 280 | 168 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 | |
| | 320 | 280 | 168 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 370 | 330 | 212 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 300 mm



Labyrinth seals,
TS design

Taconite seals,
TNF design

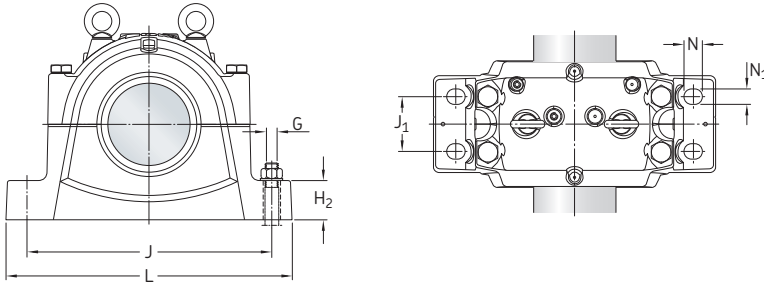
Oil seals,
TURT/TURA design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|----------------------|--|-------------------------------------|--|-------------------------|------------|----------------------------|
| d_a | | | | | | | |
| mm | – | – | | | | | mm |
| 300 | SNL 3064 | 23064 CCK/W33 C 3064 KM | OH 064 H OH 3064 H | 6 FRB 10/480 6 FRB 10/480 | TS 64 TNF 64 | ETS 64 | 360 434 |
| | SNL 3064 TURT | 23064 CCK/W33 | OH 3064 H | 6 FRB 10/480 | included | ETS 3064 R | 345 |
| | SNL 3064 TURA | C 3064 KM | OH 3064 H | 6 FRB 10/480 | included | ETS 3064 R | 345 |
| | SNL 3164 | 23164 CCK/W33 23164-2CS5K C 3164 KM | OH 3164 H OH 3164 H OH 3164 H | 2 FRB 10/540 2 FRB 10/540 2 FRB 10/540 | TS 64 TNF 64 | ETS 64 | 380 454 |
| | SNL 3164 TURT | 23164 CCK/W33 | OH 3164 H | 2 FRB 10/540 | included | ETS 3164 R | 365 |
| | SNL 3164 TURA | C 3164 KM | OH 3164 H | 2 FRB 10/540 | included | ETS 3164 R | 365 |
| | SNL 3264 F | 23264 CCK/W33 | OH 3264 H | – | TS 68/300 TNF 68/300 | ETS 68 | 410 483 |
| | SNL 3264 L | 23264 CCK/W33 | OH 3264 H | – | TS 68/300 TNF 68/300 | ETS 68 | 410 483 |
| | SNL 3168 F | 22264 CCK/W33 | OH 3164 H | 2 FRB 20/580 | TS 68/300 TNF 68/300 | ETS 68 | 410 483 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

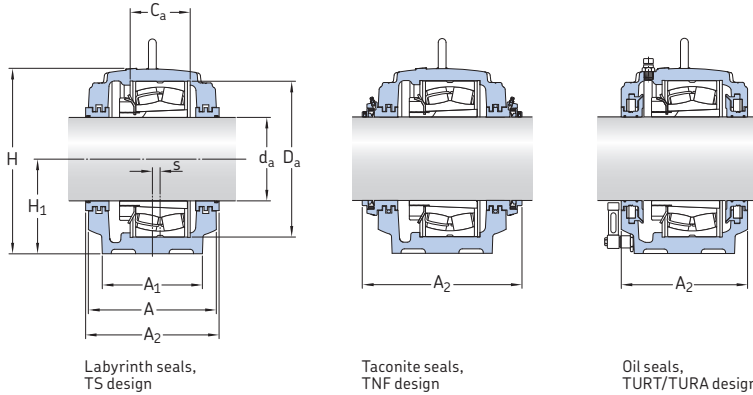
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|------|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 300 | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 400 | 360 | 208 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 | |
| | 400 | 360 | 228 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 | |
| | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 320 mm

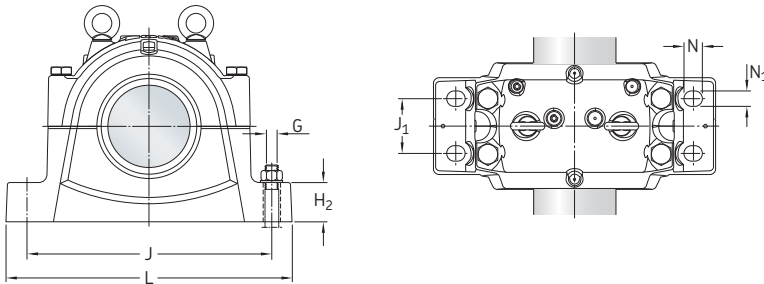


| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|----------------|---|--------------------------------------|------------------------------|-------------------------|------------|----------------------------------|
| d_a | | | | | | | |
| mm | - | - | | | | | mm |
| 320 | SNL 3068 | 23068 CCK/W33 C 3068 KM | OH 3068 H OH 3068 H | 4 FRB 16/520 4 FRB 16/520 | TS 68 TNF 68 | ETS 68 | 380 453 |
| | SNL 3068 TURT | 23068 CCK/W33 | OH 3068 H | 4 FRB 16/520 | included | ETS 3068 R | 365 |
| | SNL 3068 TURA | C 3068 KM | OH 3068 H | 4 FRB 16/520 | included | ETS 3068 R | 365 |
| | SNL 3168 F | 23168 CCK/W33 23168-2CS5K C 3168 KM | OH 3168 H OH 3168 HE OH 3168 H | - - - | TS 68 TNF 68 | ETS 68 | 410 483 |
| | SNL 3168 FTURT | 23168 CCK/W33 | OH 3168 H | - | included | ETS 3168 R | 395 |
| | SNL 3168 FTURA | C 3168 KM | OH 3168 H | - | included | ETS 3168 R | 395 |
| | SNL 3168 L | 23168 CCK/W33 | OH 3168 H | - | TS 68 TNF 68 | ETS 68 | 410 483 |
| | SNL 3168 LTURT | 23168 CCK/W33 | OH 3168 H | - | included | ETS 3168 R | 395 |
| | SNL 3268 F | 23268 CAK/W33 | OH 3268 H | - | TS 76/320 TNF 76/320 | ETS 76 | 410 483 |
| | SNL 3268 L | 23268 CAK/W33 | OH 3268 H | - | TS 76/320 TNF 76/320 | ETS 76 | 410 483 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

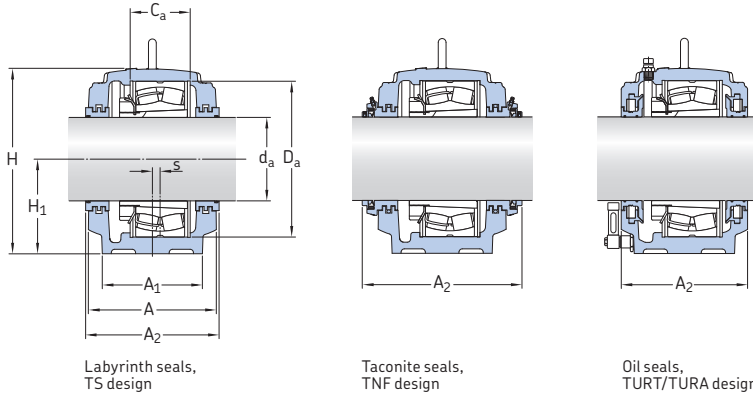
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-------|----|----------------|----|----|------|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 320 | 370 | 330 | 197 | 520 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 370 | 330 | 197 | 520 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 370 | 330 | 197 | 520 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 | |
| | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 | |
| | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 | |
| | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 | |
| | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 | |
| | 400 | 360 | 224 | 620 | 715 | 360 | 120 | 870 | 220 | 1 040 | 50 | 42 | 30 | 36 | M 36 | 473 | |
| | 400 | 360 | 244 | 620 | 715 | 360 | 120 | 870 | 220 | 1 040 | 50 | 42 | 30 | 36 | M 36 | 470 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

d_a 340 mm



Labyrinth seals,
TS design

Taconite seals,
TNF design

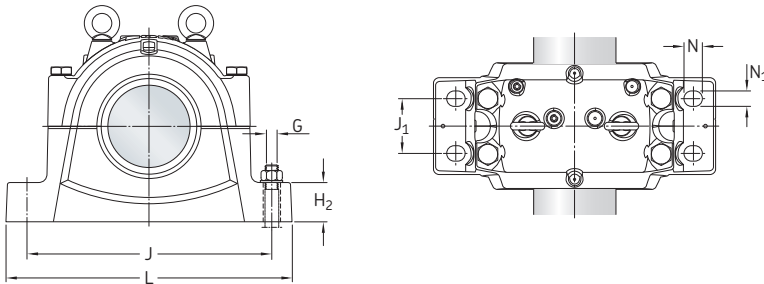
Oil seals,
TURT/TURA design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width |
|-------------------------|----------------|--|--------------------------------------|------------------------------|-------------------------|------------|----------------------|
| | | | | | | | incl. seals A_2 |
| mm | - | - | | | | | mm |
| 340 | SNL 3072 | 23072 CCK/W33 C 3072 KM | OH 072 H OH 3072 H | 4 FRB 16/540 4 FRB 16/540 | TS 72 TNF 72 | ETS 72 | 380 453 |
| | SNL 3072 TURT | 23072 CCK/W33 | OH 3072 H | 4 FRB 16/540 | included | ETS 3072 R | 365 |
| | SNL 3072 TURA | C 3072 KM | OH 3072 H | 4 FRB 16/540 | included | ETS 3072 R | 365 |
| | SNL 3172 F | 23172 CCK/W33 23172-2CS5K C 3172 KM | OH 3172 H OH 3172 HE OH 3172 H | - - - | TS 72 TNF 72 | ETS 72 | 410 483 |
| | SNL 3172 FTURT | 23172 CCK/W33 | OH 3172 H | - | included | ETS 3172 R | 395 |
| | SNL 3172 FTURA | C 3172 KM | OH 3172 H | - | included | ETS 3172 R | 395 |
| | SNL 3172 L | 23172 CCK/W33 23172-2CS5K | OH 3172 H OH 3172 HE | - - | TS 72 TNF 72 | ETS 72 | 410 483 |
| | SNL 3172 LTURT | 23172 CCK/W33 | OH 3172 H | - | included | ETS 3172 R | 395 |
| | SNL 3272 F | 23272 CAK/W33 | OH 3272 H | - | TS 80/340 TNF 80/340 | ETS 80 | 440 513 |
| | SNL 3272 L | 23272 CAK/W33 | OH 3272 H | - | TS 80/340 TNF 80/340 | ETS 80 | 440 513 |
| | SNL 3180 L | 22272 CAK/W33 | OH 3172 H | 2 FRB 25/650 | TS 80/340 TNF 80/340 | ETS 80 | 440 513 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... - spherical roller bearing, C... - CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

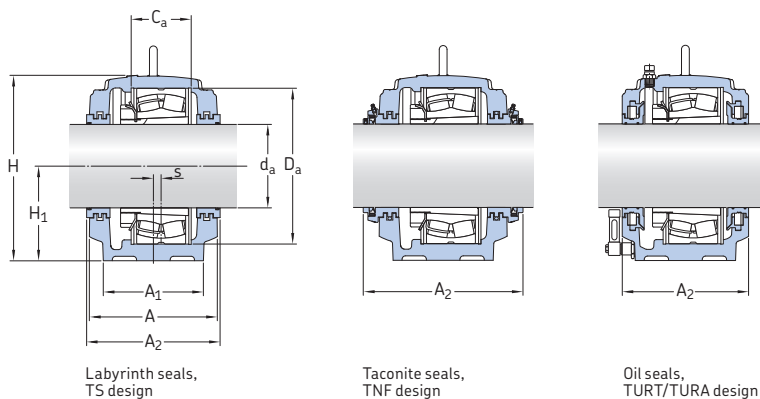
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-------|----|-------|----|----|------|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 340 | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 | |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1 000 | 50 | 42 | 30 | 36 | M 36 | 458 | |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1 000 | 50 | 42 | 30 | 36 | M 36 | 458 | |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1 000 | 50 | 42 | 30 | 36 | M 36 | 458 | |
| | 400 | 360 | 212 | 600 | 695 | 350 | 120 | 840 | 220 | 1 000 | 50 | 42 | 30 | 36 | M 36 | 454 | |
| | 400 | 360 | 212 | 600 | 695 | 350 | 120 | 840 | 220 | 1 000 | 50 | 42 | 30 | 36 | M 36 | 454 | |
| | 430 | 390 | 232 | 650 | 755 | 380 | 125 | 950 | 240 | 1 120 | 60 | 48 | 30 | 42 | M 42 | 595 | |
| | 430 | 390 | 252 | 650 | 755 | 380 | 125 | 950 | 240 | 1 120 | 60 | 48 | 30 | 42 | M 42 | 595 | |
| | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1 120 | 60 | 48 | 30 | 42 | M 42 | 595 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

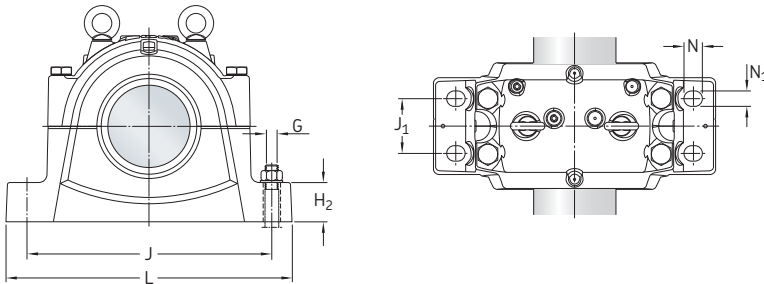
d_a 360 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|----------------|--|------------------------------|-------------------------|------------|-------------------------------------|
| d_a | | | | | | |
| mm | – | – | | | | mm |
| 360 | SNL 3076 F | 23076 CCK/W33 C 3076 KM | OH 076 H OH 3076 H | TS 76 TNF 76 | ETS 76 | 410 483 |
| | SNL 3076 FTURT | 23076 CCK/W33 | OH 3076 H | included | ETS 3076 R | 395 |
| | SNL 3076 FTURA | C 3076 KM | OH 3076 H | included | ETS 3076 R | 395 |
| | SNL 3076 L | 23076 CCK/W33 | OH 3076 H | TS 76 TNF 76 | ETS 76 | 410 483 |
| | SNL 3076 LTURT | 23076 CCK/W33 | OH 3076 H | included | ETS 3076 R | 395 |
| | SNL 3176 F | 23176 CAK/W33 C 3176 KMB | OH 3176 H OH 3176 HE | TS 76 TNF 76 | ETS 76 | 410 483 |
| | SNL 3176 FTURT | 23176 CAK/W33 | OH 3176 H | included | ETS 3176 R | 395 |
| | SNL 3176 FTURA | C 3176 KMB | OH 3176 HE | included | ETS 3176 R | 395 |
| | SNL 3176 L | 23176 CAK/W33 | OH 3176 H | TS 76 TNF 76 | ETS 76 | 410 483 |
| | SNL 3176 LTURT | 23176 CAK/W33 | OH 3176 H | included | ETS 3176 R | 395 |
| | SNL 3276 F | 23276 CAK/W33 | OH 3276 H | TS 92/360 TNF 92/360 | ETS 92 | 470 543 |
| | SNL 3276 L | 23276 CAK/W33 | OH 3276 H | TS 92/360 TNF 92/360 | ETS 92 | 470 543 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

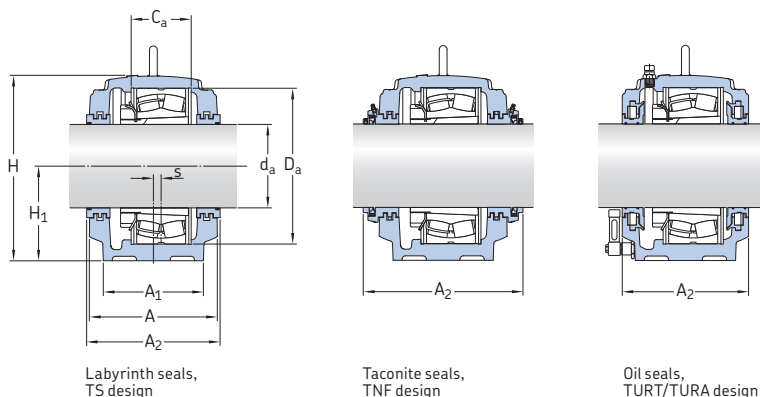
²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 360 | 400 | 360 | 135 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M30 | 430 | |
| | 400 | 360 | 135 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M30 | 430 | |
| | 400 | 360 | 135 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M30 | 430 | |
| | 400 | 360 | 180 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M30 | 427 | |
| | 400 | 360 | 180 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M30 | 427 | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 | |
| | 400 | 360 | 214 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 470 | |
| | 400 | 360 | 214 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 470 | |
| | 460 | 420 | 240 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 | |
| | 460 | 420 | 260 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

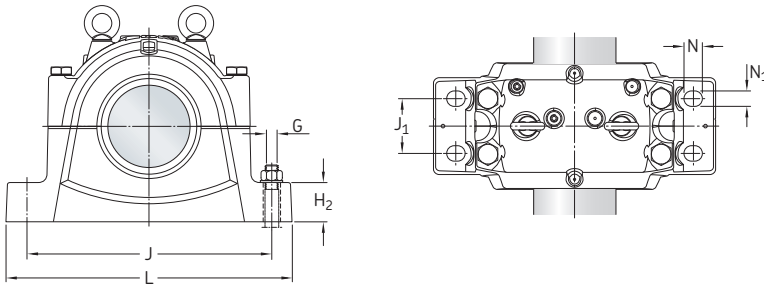
d_a 380 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|----------------|--|--------------------------------------|-------------------------|------------|----------------------------|
| d_a | | | | | | |
| mm | - | - | | | | mm |
| 380 | SNL 3080 F | 23080 CCK/W33 C 3080 KM | OH 3080 H OH 3080 H | TS 80 TNF 80 | ETS 80 | 410 483 |
| | SNL 3080 FTURT | 23080 CCK/W33 | OH 3080 H | included | ETS 3080 R | 395 |
| | SNL 3080 FTURA | C 3080 KM | OH 3080 H | included | ETS 3080 R | 395 |
| | SNL 3080 L | 23080 CCK/W33 | OH 3080 H | TS 80 TNF 80 | ETS 80 | 410 483 |
| | SNL 3080 LTURT | 23080 CCK/W33 | OH 3080 H | included | ETS 3080 R | 395 |
| | SNL 3180 F | 23180 CAK/W33 23180-2CS5K C 3180 KM | OH 3180 H OH 3180 HE OH 3180 H | TS 80 TNF 80 | ETS 80 | 440 513 |
| | SNL 3180 FTURT | 23180 CAK/W33 | OH 3180 H | included | ETS 3180 R | 425 |
| | SNL 3180 FTURA | C 3180 KM | OH 3180 H | included | ETS 3180 R | 425 |
| | SNL 3180 L | 23180 CAK/W33 23180-2CS5K | OH 3180 H OH 3180 HE | TS 80 TNF 80 | ETS 80 | 440 513 |
| | SNL 3180 LTURT | 23180 CAK/W33 | OH 3180 H | included | ETS 3180 R | 425 |
| | SNL 3280 F | 23280 CAK/W33 | OH 3280 H | TS 88/380 TNF 88/380 | ETS 88 | 470 543 |
| | SNL 3280 L | 23280 CAK/W33 | OH 3280 H | TS 88/380 TNF 88/380 | ETS 88 | 470 543 |

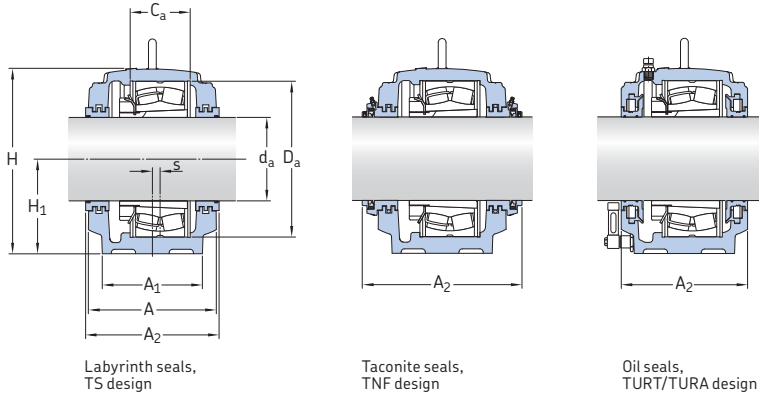
¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 380 | 400 | 360 | 148 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M36 | 458 |
| | 400 | 360 | 148 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M36 | 458 |
| | 400 | 360 | 148 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M36 | 458 |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M36 | 454 |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M36 | 454 |
| | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 460 | 430 | 256 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 755 |
| | 460 | 430 | 276 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 751 |

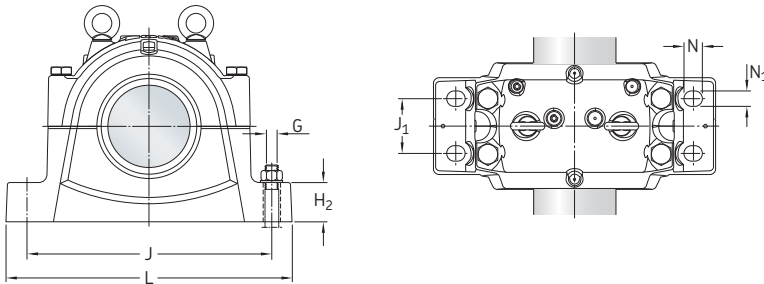
5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts d_a 400 mm



| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|----------------|--|------------------------------|-------------------------|------------|-------------------------------------|
| mm | – | – | | | | mm |
| 400 | SNL 3084 F | 23084 CAK/W33 C 3084 KM | OH 084 H OH 3084 H | TS 84 TNF 84 | ETS 84 | 410 483 |
| | SNL 3084 FTURT | 23084 CAK/W33 | OH 3084 H | included | ETS 3084 R | 395 |
| | SNL 3084 FTURA | C 3084 KM | OH 3084 H | included | ETS 3084 R | 395 |
| | SNL 3084 L | 23084 CAK/W33 | OH 3084 H | TS 84 TNF 84 | ETS 84 | 410 483 |
| | SNL 3084 LTURT | 23084 CAK/W33 | OH 3084 H | included | ETS 3084 R | 395 |
| | SNL 3184 F | 23184 CKJ/W33 C 3184 KM | OH 3184 H OH 3184 H | TS 84 TNF 84 | ETS 84 | 470 543 |
| | SNL 3184 FTURT | 23184 CKJ/W33 | OH 3184 H | included | ETS 3184 R | 450 |
| | SNL 3184 FTURA | C 3184 KM | OH 3184 H | included | ETS 3184 R | 450 |
| | SNL 3184 L | 23184 CKJ/W33 | OH 3184 H | TS 84 TNF 84 | ETS 84 | 470 543 |
| | SNL 3184 LTURT | 23184 CKJ/W33 | OH 3184 H | included | ETS 3184 R | 450 |
| | SNL 3284 F | 23284 CAK/W33 | OH 3284 H | TS 92/400 TNF 92/400 | ETS 92 | 480 553 |
| | SNL 3284 L | 23284 CAK/W33 | OH 3284 H | TS 92/400 TNF 92/400 | ETS 92 | 480 553 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

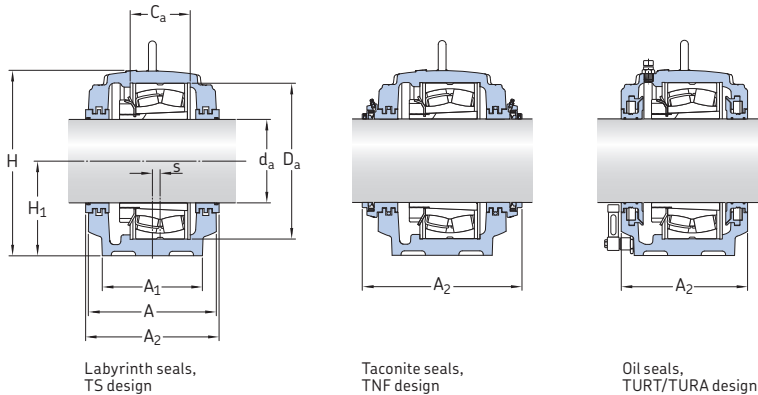
²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 400 | 400 | 360 | 150 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 | |
| | 400 | 360 | 150 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 | |
| | 400 | 360 | 150 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 470 | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 470 | |
| | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 | |
| | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 | |
| | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 | |
| | 460 | 420 | 244 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 | |
| | 460 | 420 | 244 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 | |
| | 470 | 440 | 272 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 40 | 42 | M48 | 865 | |
| | 470 | 440 | 292 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 40 | 42 | M48 | 859 | |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

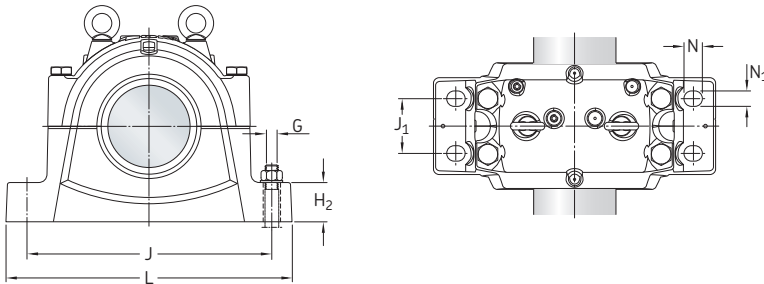
d_a 410 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|----------------|--|------------------------------|-------------------------|------------|----------------------------|
| d_a | | | | | | |
| mm | - | - | | | | mm |
| 410 | SNL 3088 F | 23088 CAK/W33 C 3088 KMB | OH 088 H OH 3088 HE | TS 88 TNF 88 | ETS 88 | 440 513 |
| | SNL 3088 FTURT | 23088 CAK/W33 | OH 3088 H | included | ETS 3088 R | 425 |
| | SNL 3088 FTURA | C 3088 KMB | OH 3088 HE | included | ETS 3088 R | 425 |
| | SNL 3088 L | 23088 CAK/W33 | OH 3088 H | TS 88 TNF 88 | ETS 88 | 440 513 |
| | SNL 3088 LTURT | 23088 CAK/W33 | OH 3088 H | included | ETS 3088 R | 425 |
| | SNL 3188 F | 23188 CAK/W33 C 3188 KMB | OH 3188 H OH 3188 HE | TS 88 TNF 88 | ETS 88 | 470 543 |
| | SNL 3188 FTURT | 23188 CAK/W33 | OH 3188 H | included | ETS 3188 R | 450 |
| | SNL 3188 FTURA | C 3188 KMB | OH 3188 HE | included | ETS 3188 R | 450 |
| | SNL 3188 L | 23188 CAK/W33 | OH 3188 H | TS 88 TNF 88 | ETS 88 | 470 543 |
| | SNL 3188 LTURT | 23188 CAK/W33 | OH 3188 H | included | ETS 3188 R | 450 |
| | SNL 3288 F | 23288 CAK/W33 | OH 3288 H | TS 96/410 TNF 96/410 | ETS 96 | 480 553 |
| | SNL 3288 L | 23288 CAK/W33 | OH 3288 H | TS 96/410 TNF 96/410 | ETS 96 | 480 553 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

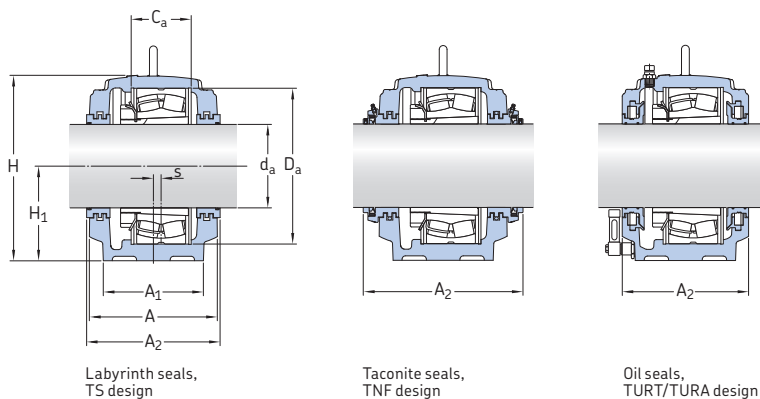
²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | - | kg |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 410 | 430 | 390 | 157 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 430 | 390 | 157 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 430 | 390 | 157 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 755 |
| | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 755 |
| | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 755 |
| | 460 | 430 | 246 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 751 |
| | 460 | 430 | 246 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 751 |
| | 470 | 440 | 280 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 40 | 48 | M 48 | 947 |
| | 470 | 440 | 300 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 40 | 48 | M 48 | 941 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

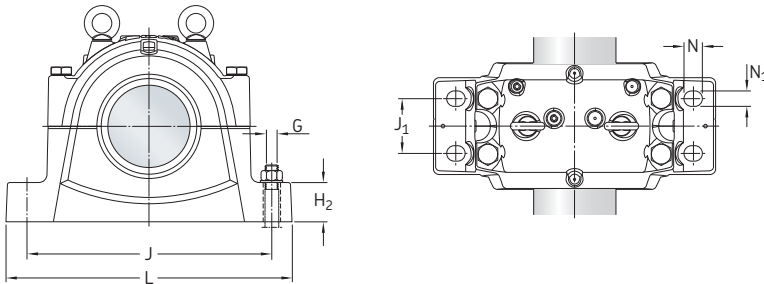
d_a 430 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|----------------|--|------------------------------|-----------------|------------|----------------------------|
| d_a | - | - | | | | mm |
| mm | - | - | | | | mm |
| 430 | SNL 3092 F | 23092 CAK/W33 C 3092 KM | OH 092 H OH 3092 H | TS 92 TNF 92 | ETS 92 | 470 543 |
| | SNL 3092 FTURT | 23092 CAK/W33 | OH 3092 H | included | ETS 3092 R | 455 |
| | SNL 3092 FTURA | C 3092 KM | OH 3092 H | included | ETS 3092 R | 455 |
| | SNL 3092 L | 23092 CAK/W33 | OH 3092 H | TS 92 TNF 92 | ETS 92 | 470 543 |
| | SNL 3092 LTURT | 23092 CAK/W33 | OH 3092 H | included | ETS 3092 R | 455 |
| | SNL 3192 F | 23192 CAK/W33 C 3192 KM | OH 3192 H OH 3192 H | TS 92 TNF 92 | ETS 92 | 480 553 |
| | SNL 3192 FTURT | 23192 CAK/W33 | OH 3192 H | included | ETS 3192 R | 465 |
| | SNL 3192 FTURA | C 3192 KM | OH 3192 H | included | ETS 3192 R | 465 |
| | SNL 3192 L | 23192 CAK/W33 | OH 3192 H | TS 92 TNF 92 | ETS 92 | 480 553 |
| | SNL 3192 LTURT | 23192 CAK/W33 | OH 3192 H | included | ETS 3192 R | 465 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

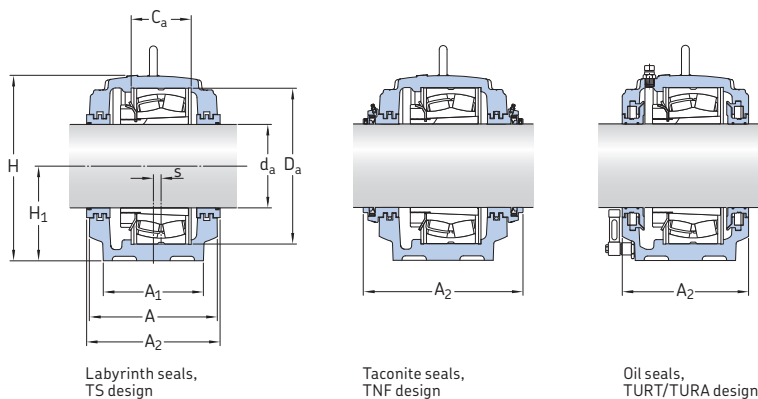
²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 430 | 460 | 420 | 163 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M 42 | 716 |
| | 460 | 420 | 163 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M 42 | 716 |
| | 460 | 420 | 163 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M 42 | 716 |
| | 460 | 420 | 224 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M 42 | 709 |
| | 460 | 420 | 224 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M 42 | 709 |
| | 470 | 440 | 240 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | M 48 | 865 |
| | 470 | 440 | 240 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | M 48 | 865 |
| | 470 | 440 | 240 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | M 48 | 865 |
| | 470 | 440 | 260 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | M 48 | 859 |
| | 470 | 440 | 260 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | M 48 | 859 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

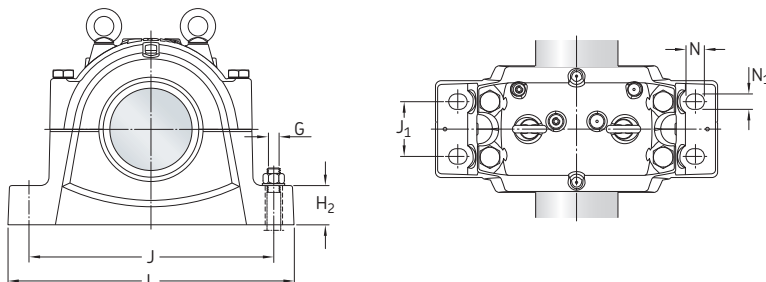
d_a 450 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|----------------|--|------------------------------|-----------------|------------|-------------------------------------|
| d_a | - | - | | | | mm |
| mm | - | - | | | | mm |
| 450 | SNL 3096 F | 23096 CAK/W33 C 3096 KM | OH 096 H OH 3096 H | TS 96 TNF 96 | ETS 96 | 470 543 |
| | SNL 3096 FTURT | 23096 CAK/W33 | OH 3096 H | included | ETS 3096 R | 455 |
| | SNL 3096 FTURA | C 3096 KM | OH 3096 H | included | ETS 3096 R | 455 |
| | SNL 3096 L | 23096 CAK/W33 | OH 3096 H | TS 96 TNF 96 | ETS 96 | 470 543 |
| | SNL 3096 LTURT | 23096 CAK/W33 | OH 3096 H | included | ETS 3096 R | 455 |
| | SNL 3196 F | 23196 CAK/W33 C 3196 KMB | OH 3196 H OH 3196 HE | TS 96 TNF 96 | ETS 96 | 480 553 |
| | SNL 3196 FTURT | 23196 CAK/W33 | OH 3196 H | included | ETS 3196 R | 465 |
| | SNL 3196 FTURA | C 3196 KMB | OH 3196 HE | included | ETS 3196 R | 465 |
| | SNL 3196 L | 23196 CAK/W33 | OH 3196 H | TS 96 TNF 96 | ETS 96 | 480 553 |
| | SNL 3196 LTURT | 23196 CAK/W33 | OH 3196 H | included | ETS 3196 R | 465 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

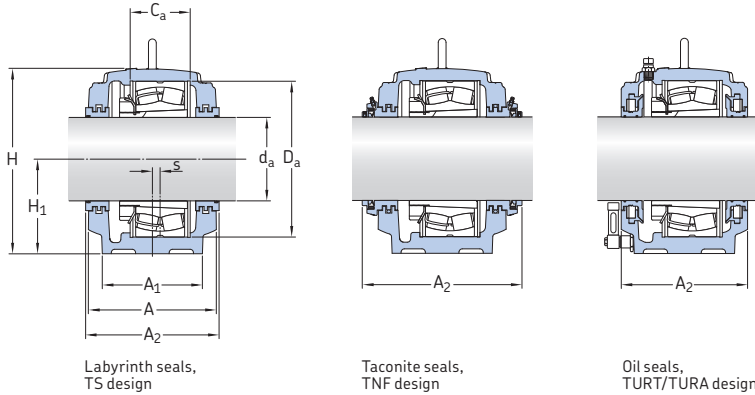
²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-------|----------------|-------|----|----------------|----|----|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 450 | 460 | 420 | 165 | 700 | 810 | 410 | 130 | 1 000 | 260 | 1 170 | 60 | 48 | 35 | 42 | M 42 | 716 |
| | 460 | 420 | 165 | 700 | 810 | 410 | 130 | 1 000 | 260 | 1 170 | 60 | 48 | 35 | 42 | M 42 | 716 |
| | 460 | 420 | 165 | 700 | 810 | 410 | 130 | 1 000 | 260 | 1 170 | 60 | 48 | 35 | 42 | M 42 | 716 |
| | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1 000 | 260 | 1 170 | 60 | 48 | 35 | 42 | M 42 | 709 |
| | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1 000 | 260 | 1 170 | 60 | 48 | 35 | 42 | M 42 | 709 |
| | 470 | 440 | 248 | 790 | 920 | 460 | 155 | 1 110 | 260 | 1 330 | 70 | 56 | 35 | 48 | M 48 | 947 |
| | 470 | 440 | 248 | 790 | 920 | 460 | 155 | 1 110 | 260 | 1 330 | 70 | 56 | 35 | 48 | M 48 | 947 |
| | 470 | 440 | 248 | 790 | 920 | 460 | 155 | 1 110 | 260 | 1 330 | 70 | 56 | 35 | 48 | M 48 | 947 |
| | 470 | 440 | 268 | 790 | 920 | 460 | 155 | 1 110 | 260 | 1 330 | 70 | 56 | 35 | 48 | M 48 | 941 |
| | 470 | 440 | 268 | 790 | 920 | 460 | 155 | 1 110 | 260 | 1 330 | 70 | 56 | 35 | 48 | M 48 | 941 |

5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

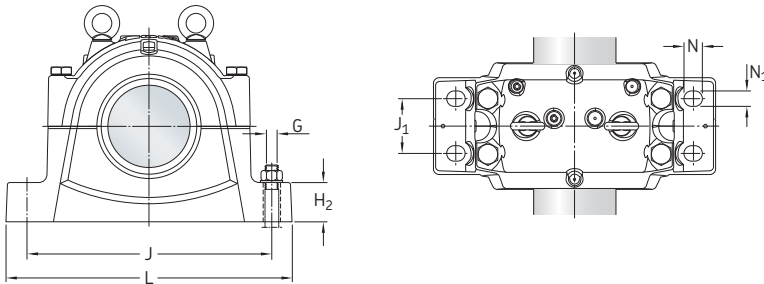
d_a 470 – 500 mm



| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|------------------|--|------------------------------|-------------------|--------------|----------------------------|
| d_a | | | | | | |
| mm | – | – | | | | mm |
| 470 | SNL 30/500 F | 230/500 CAK/W33 C 30/500 KM | OH 0/500 H OH 30/500 H | TS 500 TNF 500 | ETS 500 | 470 543 |
| | SNL 30/500 FTURT | 230/500 CAK/W33 | OH 30/500 H | included | ETS 30/500 R | 455 |
| | SNL 30/500 FTURA | C 30/500 KM | OH 30/500 H | included | ETS 30/500 R | 455 |
| | SNL 30/500 L | 230/500 CAK/W33 | OH 30/500 H | TS 500 TNF 500 | ETS 500 | 470 543 |
| | SNL 30/500 LTURT | 230/500 CAK/W33 | OH 30/500 H | included | ETS 30/500 R | 455 |
| 500 | SNL 30/530 F | 230/530 CAK/W33 C 30/530 KM | OH 30/530 H OH 30/530 H | TS 530 TNF 530 | ETS 530 | 480 553 |
| | SNL 30/530 FTURT | 230/530 CAK/W33 | OH 30/530 H | included | ETS 30/530 R | 465 |
| | SNL 30/530 FTURA | C 30/530 KM | OH 30/530 H | included | ETS 30/530 R | 465 |
| | SNL 30/530 L | 230/530 CAK/W33 | OH 30/530 H | TS 530 TNF 530 | ETS 530 | 480 553 |
| | SNL 30/530 LTURT | 230/530 CAK/W33 | OH 30/530 H | included | ETS 30/530 R | 465 |

¹⁾ 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

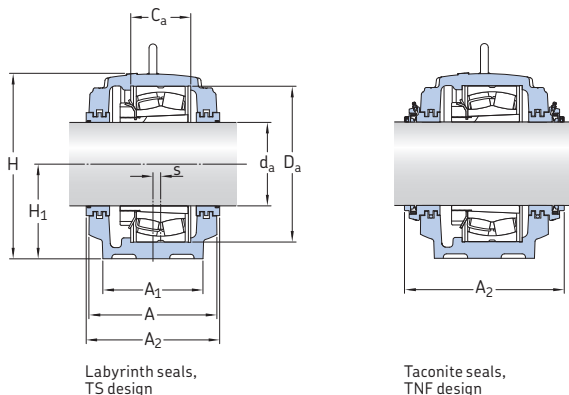
²⁾ The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|------------|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-------------------------------|--------------|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | - | kg |
| 470 | 460 | 430 | 167 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 755 |
| | 460 | 430 | 167 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 755 |
| | 460 | 430 | 167 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 755 |
| | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 751 |
| | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 751 |
| 500 | 470 | 440 | 185 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M 48 | 947 |
| | 470 | 440 | 185 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M 48 | 947 |
| | 470 | 440 | 185 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M 48 | 947 |
| | 470 | 440 | 248 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M 48 | 941 |
| | 470 | 440 | 248 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M 48 | 941 |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 4 7/16 – 5 1/2 in.
112,713 – 139,700 mm



| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|----------|--|---------------------------------|---|---------------------------------|-----------|----------------------------|
| in./mm | – | – | | | | | mm |
| 4 7/16 112,713 | SNL 3134 | 22326 CCK/W33 22326-2CS5K | HA 2326 HA 2326 | 2 FRB 7.5/280 2 FRB 7.5/280 | TS 34/4.7/16 TNF 34/4.7/16 | ETS 34 | 240 299 |
| 4 1/2 114,300 | SNL 3134 | 22326 CCK/W33 22326-2CS5K | HE 2326 HE 2326 | 2 FRB 7.5/280 2 FRB 7.5/280 | TS 34/4.1/2 TNF 34/4.1/2 | ETS 34 | 240 299 |
| 4 15/16 125,413 | SNL 3136 | 22328 CCK/W33 22328-2CS5K | HA 2328 HA 2328 | 2 FRB 7/300 2 FRB 7/300 | TS 36/4.15/16 TNF 36/4.15/16 | ETS 36 | 250 310 |
| 5 127,000 | SNL 3136 | 22328 CCK/W33 22328-2CS5K | HE 2328 HE 2328 | 2 FRB 7/300 2 FRB 7/300 | TS 36/5 TNF 36/5 | ETS 36 | 250 310 |
| 5 3/16 131,763 | SNL 3138 | 22330 CCK/W33 22330-2CS5K | HA 2330 HA 2330 | 2 FRB 8/320 2 FRB 8/320 | TS 38/5.3/16 TNF 38/5.3/16 | ETS 38 | 270 330 |
| 5 1/4 133,350 | SNL 3138 | 22330 CCK/W33 22330-2CS5K | HE 2330 HE 2330 | 2 FRB 8/320 2 FRB 8/320 | TS 38/5.1/4 TNF 38/5.1/4 | ETS 38 | 270 330 |
| 5 7/16 138,113 | SNL 3038 | 22232 CCK/W33 22232-2CS5K C 3232 K | HA 3132 HA 3132 HA 2332 L | 2 FRB 17.5/290 2 FRB 17.5/290 2 FRB 5.5/290 | TS 38/5.7/16 TNF 38/5.7/16 | ETS 38 | 250 312 |
| | SNL 3140 | 22332 CCK/W33 22332-2CS5K | HA 2332 HA 2332 | 2 FRB 9/340 2 FRB 9/340 | TS 40/5.7/16 TNF 40/5.7/16 | ETS 40 | 290 347 |
| 5 1/2 139,700 | SNL 3038 | 22232 CCK/W33 22232-2CS5K C 3232 K | HE 3132 HE 3132 HE 2332 L | 2 FRB 17.5/290 2 FRB 17.5/290 2 FRB 5.5/290 | TS 38/5.1/2 TNF 38/5.1/2 | ETS 38 | 250 312 |
| | SNL 3140 | 22332 CCK/W33 22332-2CS5K | HE 2332 HE 2332 | 2 FRB 9/340 2 FRB 9/340 | TS 40/5.1/2 TNF 40/5.1/2 | ETS 40 | 290 347 |

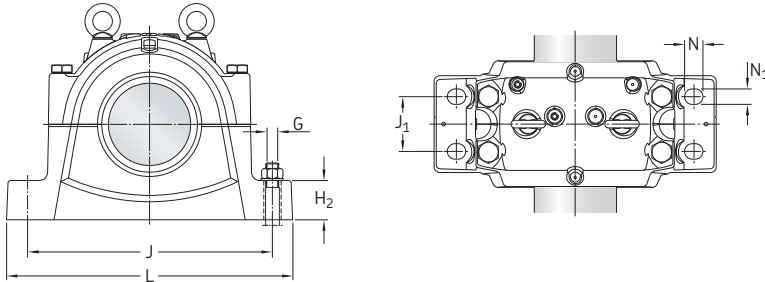
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

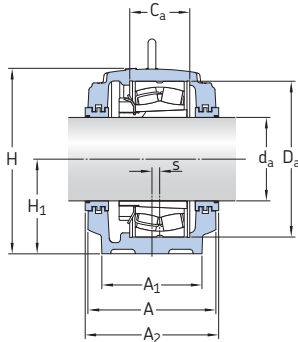
³⁾ The locating rings fit the bearing in the same line only.



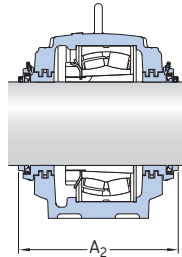
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|---------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------|-----|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 4 7/16 112,713 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M16 | 69,5 | |
| 4 1/2 114,300 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M16 | 69,5 | |
| 4 15/16 125,413 | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | |
| 5 127,000 | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | |
| 5 3/16 131,763 | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |
| 5 1/4 133,350 | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |
| 5 7/16 138,113 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | |
| 5 1/2 139,700 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $5 \frac{13}{16} - 5 \frac{15}{16}$ in.
147,638 – 150,813 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|------------------------------|----------|--|------------------------------|-----------------------------|----------------|-----------|----------------------------|
| in./mm | – | – | | | | | mm |
| $5 \frac{13}{16}$ 147,638 | SNL 3040 | 22234 CCK/W33 | H 3134/5.13/16 | 2 FRB 18/310 | TS 40/5.13/16 | ETS 40 | 270 |
| | | 22234-2CS5K | H 3134/5.13/16 | 2 FRB 18/310 | TNF 40/5.13/16 | | 327 |
| | | C 2234 K | H 134/5.13/16 L | 2 FRB 18/310 | | | |
| | SNL 3234 | 23234 CCK/W33 | H 2334/5.13/16 | 2 FRB 6/310 | TS 40/5.13/16 | ETS 40 | 270 |
| | | | | | TNF 40/5.13/16 | | 327 |
| | | | | | | | |
| | SNL 3048 | 22334 CCK/W33 | H 2334/5.13/16 | 2 FRB 10/360 | TS 48/5.13/16 | ETS 48 | 300 |
| | | | | | TNS 48/5.13/16 | | 380 |
| | | | | | | | |
| $5 \frac{7}{8}$ 149,225 | SNL 3040 | 22234 CCK/W33 | H 3134/5.7/8 | 2 FRB 18/310 | TS 40/5.7/8 | ETS 40 | 270 |
| | | 22234-2CS5K | H 3134/5.7/8 | 2 FRB 18/310 | TNF 40/5.7/8 | | 327 |
| | | C 2234 K | H 134/5.7/8 L | 2 FRB 18/310 | | | |
| | SNL 3234 | 23234 CCK/W33 | H 2334/5.7/8 | 2 FRB 6/310 | TS 40/5.7/8 | ETS 40 | 270 |
| | | | | | TNF 40/5.7/8 | | 327 |
| | | | | | | | |
| | SNL 3048 | 22334 CCK/W33 | H 2334/5.7/8 | 2 FRB 10/360 | TS 48/5.7/8 | ETS 48 | 300 |
| | | | | | TNF 48/5.7/8 | | 380 |
| | | | | | | | |
| $5 \frac{15}{16}$ 150,813 | SNL 3134 | 23134 CCK/W33 | HA 3134 | 2 FRB 10/280 | TS 34/5.15/16 | ETS 34 | 240 |
| | | 23134-2CS5K | HA 3134 | 2 FRB 10/280 | TNF 34/5.15/16 | | 299 |
| | | C 3134 K | HA 3134 E | 2 FRB 10/280 | | | |
| | SNL 3234 | 23234 CCK/W33 | HA 2334 | 2 FRB 6/310 | TS 40/5.15/16 | ETS 40 | 270 |
| | | | | | TNF 40/5.15/16 | | 327 |
| | | | | | | | |
| | SNL 3040 | 22234 CCK/W33 | HA 3134 | 2 FRB 18/310 | TS 40/5.15/16 | ETS 40 | 270 |
| | | 22234-2CS5K | HA 3134 | 2 FRB 18/310 | TNF 40/5.15/16 | | 327 |
| | | | | | | | |
| | SNL 3048 | 22334 CCK/W33 | HA 2334 | 2 FRB 10/360 | TS 48/5.15/16 | ETS 48 | 300 |
| | | | | | TNF 48/5.15/16 | | 380 |
| | | | | | | | |

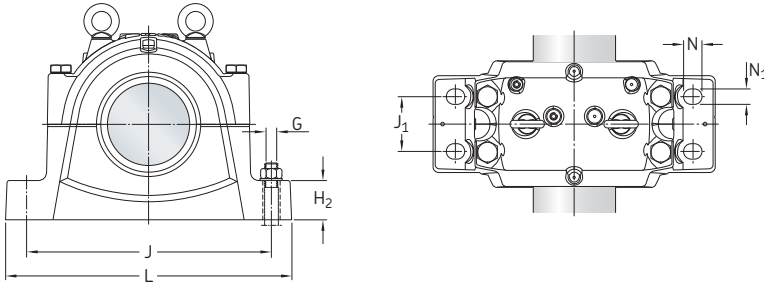
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

³⁾ The locating rings fit the bearing in the same line only.

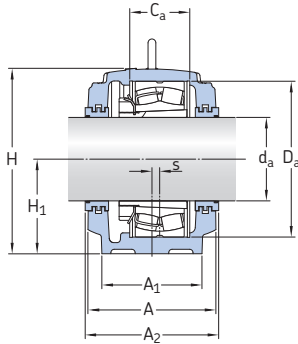


| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|--|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------------------------------|------|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 5¹³/₁₆ 147,638 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 ¹ / ₄ | M 20 | 139 | |
| 5⁷/₈ 149,225 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 ¹ / ₄ | M 20 | 139 | |
| 5¹⁵/₁₆ 150,813 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M 16 | 69,5 | |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 ¹ / ₄ | M 20 | 139 | |

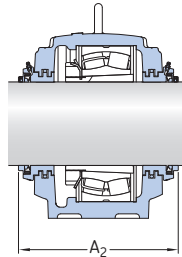
5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 6 – 6 3/8 in.

152,4 – 161,925 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|----------|--|--|--|-------------------------------|-----------|----------------------------|
| in./mm | – | – | | | | | mm |
| 6 152,4 | SNL 3134 | 23134 CCK/W33 23134-2CS5K | HE 3134 HE 3134 | 2 FRB 10/280 2 FRB 10/280 | TS 34/6 TNF 34/6 | ETS 34 | 240 299 |
| | SNL 3234 | 23234 CCK/W33 | HE 2334 | 2 FRB 6/310 | TS 40/6 TNF 40/6 | ETS 40 | 270 327 |
| | SNL 3040 | 22234 CCK/W33 22234-2CS5K | HE 3134 HE 3134 | 2 FRB 18/310 2 FRB 18/310 | TS 40/6 TNF 40/6 | ETS 40 | 270 327 |
| | SNL 3048 | 22334 CCK/W33 | HE 2334 | 2 FRB 10/360 | TS 48/6 TNF 48/6 | ETS 48 | 300 380 |
| 6 5/16 160,338 | SNL 3036 | 23036 CCK/W33 23036-2CS5K C 3036 K | H 036/6.5/16 H 036/6.5/16 E H 036/6.5/16 | 2 FRB 17/280 2 FRB 17/280 2 FRB 17/280 | TS 36/6.5/16 TNF 36/6.5/16 | ETS 36 | 240 300 |
| | SNL 3138 | 22236 CCK/W33 22236-2CS5K | H 136/6.5/16 H 136/6.5/16 | 2 FRB 19/320 2 FRB 19/320 | TS 38/6.5/16 TNF 38/6.5/16 | ETS 38 | 270 330 |
| 6 3/8 161,925 | SNL 3036 | 23036 CCK/W33 23036-2CS5K C 3036 K | H 3036/6.3/8 H 036/6.3/8 E H 3036/6.3/8 | 2 FRB 17/280 2 FRB 17/280 2 FRB 17/280 | TS 36/6.3/8 TNF 36/6.3/8 | ETS 36 | 240 300 |
| | SNL 3138 | 22236 CCK/W33 22236-2CS5K | H 3136/6.3/8 H 3136/6.3/8 | 2 FRB 19/320 2 FRB 19/320 | TS 38/6.3/8 TNF 38/6.3/8 | ETS 38 | 270 330 |

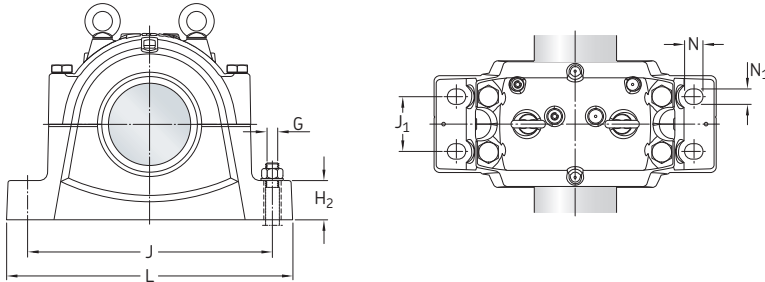
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

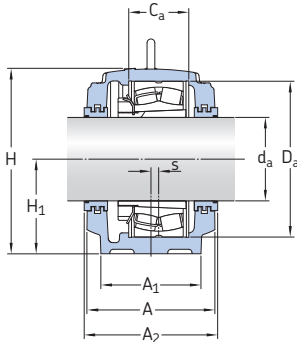
³⁾ The locating rings fit the bearing in the same line only.



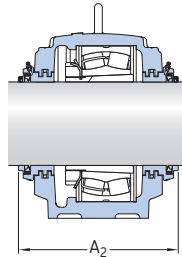
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|--------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|------------------|-----|-------------------------------|--------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 6 152,4 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M16 | 69,5 | |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 ^{1/4} | M20 | 139 | |
| 6 5/16 160,338 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M16 | 69,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |
| 6 3/8 161,925 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M16 | 69,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 6 7/16 – 6 1/2 in.
163,513 – 165,1 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|-------------------|-----------------|--|-----------------------------------|--|-------------------------------|-----------|-------------------------------------|
| d_a | | | | | | | |
| in./mm | – | – | | | | | mm |
| 6 7/16 163,513 | SNL 3036 | 23036 CCK/W33 23036-2CS5K C 3036 K | HA 3036 HA 3036 E HA 3036 | 2 FRB 17/280 2 FRB 17/280 2 FRB 17/280 | TS 36/6.7/16 TNF 36/6.7/16 | ETS 36 | 240 300 |
| | SNL 3136 | 23136 CCK/W33 23136-2CS5K C 3136 K | HA 3136 HA 3136 L HA 3136 L | 2 FRB 10/300 2 FRB 10/300 2 FRB 10/300 | TS 36/6.7/16 TNF 36/6.7/16 | ETS 36 | 250 310 |
| | SNL 3236 | 23236 CCK/W33 C 3236 K | HA 2336 HA 2336 | 2 FRB 6/320 2 FRB 6/320 | TS 38/6.7/16 TNF 38/6.7/16 | ETS 38 | 270 330 |
| | SNL 3138 | 22236 CCK/W33 22236-2CS5K | HA 3136 HA 3136 | 2 FRB 19/320 2 FRB 19/320 | TS 38/6.7/16 TNF 38/6.7/16 | ETS 38 | 270 330 |
| 6 1/2 165,1 | SNL 3036 | 23036 CCK/W33 23036-2CS5K C 3036 K | HE 3036 HE 3036 E HE 3036 | 2 FRB 17/280 2 FRB 17/280 2 FRB 17/280 | TS 36/6.1/2 TNF 36/6.1/2 | ETS 36 | 240 300 |
| | SNL 3136 | 23136 CCK/W33 23136-2CS5K C 3136 K | HE 3136 HE 3136 L HE 3136 L | 2 FRB 10/300 2 FRB 10/300 2 FRB 10/300 | TS 36/6.1/2 TNF 36/6.1/2 | ETS 36 | 250 310 |
| | SNL 3138 | 22236 CCK/W33 22236-2CS5K | HE 3136 HE 3136 | 2 FRB 19/320 2 FRB 19/320 | TS 38/6.1/2 TNF 38/6.1/2 | ETS 38 | 270 330 |
| | SNL 3236 | 23236 CCK/W33 C 3236 K | HE 2336 HE 2336 | 2 FRB 6/320 2 FRB 6/320 | TS 38/6.1/2 TNF 38/6.1/2 | ETS 38 | 270 330 |

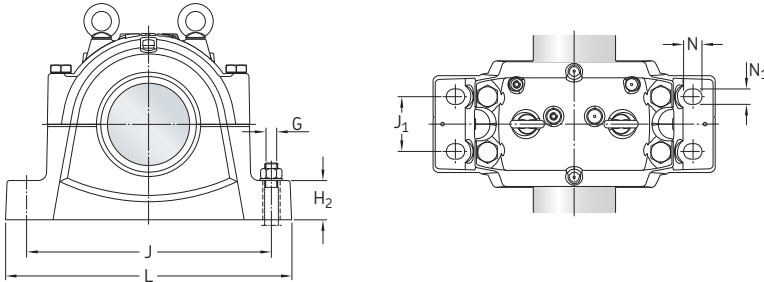
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

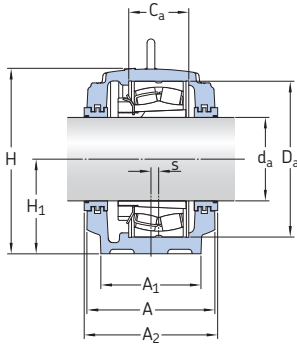
³⁾ The locating rings fit the bearing in the same line only.



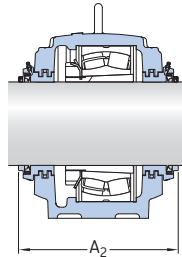
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|---|-----|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 6 7/16 163,513 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M16 | 69,5 | |
| | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |
| 6 1/2 165,1 | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |
| | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | 1 | M16 | 69,5 | |
| | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $6 \frac{3}{4} - 6 \frac{13}{16}$ in.
171,45 – 173,038 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ | |
|------------------------------|---------------|--|------------------------------|-----------------------------|--------------|----------------|-------------------------------------|-----|
| d_a | - | - | | | | | mm | |
| in./mm | - | - | | | | | mm | |
| $6 \frac{3}{4}$ 171,45 | SNL 3038 | 23038 CCK/W33 | HE 3038 | 4 FRB 10/290 | TS 38/6.3/4 | ETS 38 | 250 | |
| | | C 3038 K | HE 3038 | 4 FRB 10/290 | TNF 38/6.3/4 | | 312 | |
| | SNL 3138 | 23138 CCK/W33 | HE 3138 | 2 FRB 10/320 | TS 38/6.3/4 | ETS 38 | 270 | |
| | | 23138-2CS5K | HE 3138 L | 2 FRB 10/320 | TNF 38/6.3/4 | | 330 | |
| | | C 3138 KV | HE 3138 | 2 FRB 10/320 | | | | |
| SNL 3140 | 22238 CCK/W33 | HE 3138 | 4 FRB 10/340 | TS 40/6.3/4 | ETS 40 | 290 | | |
| | 22238-2CS5K | HE 3138 | 4 FRB 10/340 | TNF 40/6.3/4 | | 347 | | |
| $6 \frac{13}{16}$ 173,038 | SNL 3238 | 23238 CCK/W33 | HE 2338 | 2 FRB 6/340 | TS 40/6.3/4 | ETS 40 | 290 | |
| | | C 2238 K | HE 3138 | 4 FRB 10/340 | TNF 40/6.3/4 | | 347 | |
| | SNL 3148 | 22338 CCK/W33 | HE 2338 | 2 FRB 8/400 | TS 48/6.3/4 | ETS 48 | 315 | |
| | | C 2238 K | HE 3138 | 4 FRB 10/340 | TNF 48/6.3/4 | | 396 | |
| | | | | | | | | |
| SNL 3038 | 23038 CCK/W33 | H 3038/6.13/16 | 4 FRB 10/290 | TS 38/6.13/16 | ETS 38 | 250 | | |
| | C 3038 K | H 3038/6.13/16 | 4 FRB 10/290 | TNF 38/6.13/16 | | 312 | | |
| | SNL 3140 | 22238 CCK/W33 | H 3138/6.13/16 | 4 FRB 10/340 | | TS 40/6.13/16 | ETS 40 | 290 |
| | | 22238-2CS5K | H 3138/6.13/16 | 4 FRB 10/340 | | TNF 40/6.13/16 | | 347 |
| SNL 3238 | 23238 CCK/W33 | H 2338/6.13/16 | 2 FRB 6/340 | TS 40/6.13/16 | ETS 40 | 290 | | |
| | C 2238 K | H 3138/6.13/16 | 4 FRB 10/340 | TNF 40/6.13/16 | | 347 | | |
| SNL 3148 | 22338 CCK/W33 | H 2338/6.13/16 | 2 FRB 8/400 | TS 48/6.13/16 | ETS 48 | 315 | | |
| | C 2238 K | H 3138/6.13/16 | 4 FRB 10/340 | TNF 48/6.13/16 | | 396 | | |

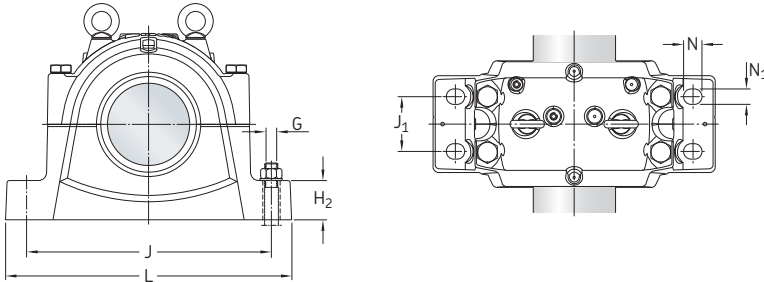
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

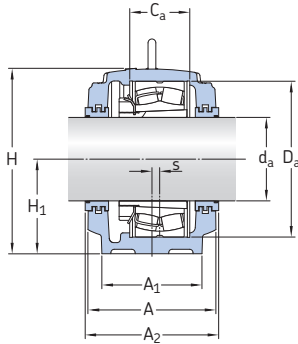
³⁾ The locating rings fit the bearing in the same line only.



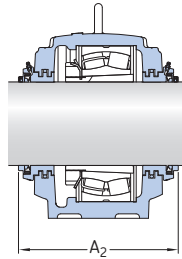
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg | |
|--------------------|----------------|-----|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|----|----|----------------|----|-------|-----|-------------------------------|-----------------|----|
| | d _a | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 6 3/4 171,45 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M24 | 187 | | |
| 6 13/16 173,038 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M24 | 187 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 6 7/8 – 6 15/16 in.
174,625 – 176,213 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-----------------|--|--|--|---------------------------------|-----------|----------------------------|
| in./mm | – | – | | | | | mm |
| 6 7/8 174,625 | SNL 3038 | 23038 CCK/W33 C 3038 K | H 3038/6.7/8 H 3038/6.7/8 | 4 FRB 10/290 4 FRB 10/290 | TS 38/6.7/8 TNF 38/6.7/8 | ETS 38 | 250 312 |
| | SNL 3140 | 22238 CCK/W33 22238-2CS5K C 2238 K | H 3138/6.7/8 H 3138/6.7/8 H 3138/6.7/8 | 4 FRB 10/340 4 FRB 10/340 4 FRB 10/340 | TS 40/6.7/8 TNF 40/6.7/8 | ETS 40 | 290 347 |
| | SNL 3238 | 23238 CCK/W33 | H 2338/6.7/8 | 2 FRB 6/340 | TS 40/6.7/8 TNF 40/6.7/8 | ETS 40 | 290 347 |
| | SNL 3148 | 22338 CCK/W33 | H 2338/6.7/8 | 2 FRB 8/400 | TS 48/6.7/8 TNF 48/6.7/8 | ETS 48 | 315 396 |
| 6 15/16 176,213 | SNL 3038 | 23038 CCK/W33 C 3038 K | HA 3038 HA 3038 | 4 FRB 10/290 4 FRB 10/290 | TS 38/6.15/16 TNF 38/6.15/16 | ETS 38 | 250 312 |
| | SNL 3138 | 23138 CCK/W33 23138-2CS5K C 3138 KV | HA 3138 HA 3138 L HA 3138 | 2 FRB 10/320 2 FRB 10/320 2 FRB 10/320 | TS 38/6.15/16 TNF 38/6.15/16 | ETS 38 | 270 330 |
| | SNL 3238 | 23238 CCK/W33 | HA 2338 | 2 FRB 6/340 | TS 40/6.15/16 TNF 40/6.15/16 | ETS 40 | 290 347 |
| | SNL 3140 | 22238 CCK/W33 22238-2CS5K C 2238 K | HA 3138 HA 3138 HA 3138 | 4 FRB 10/340 4 FRB 10/340 4 FRB 10/340 | TS 40/6.15/16 TNF 40/6.15/16 | ETS 40 | 290 347 |
| | SNL 3148 | 22338 CCK/W33 | HA 2338 | 2 FRB 8/400 | TS 48/6.15/16 TNF 48/6.15/16 | ETS 48 | 315 396 |

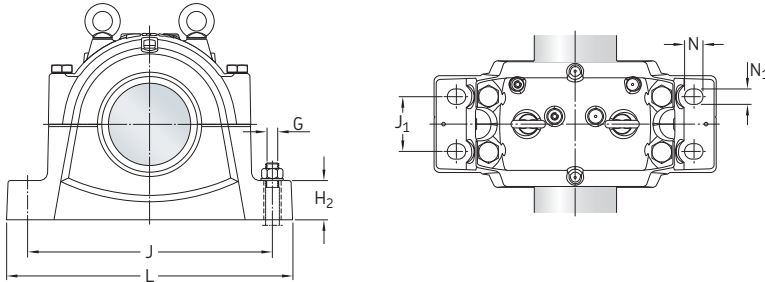
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

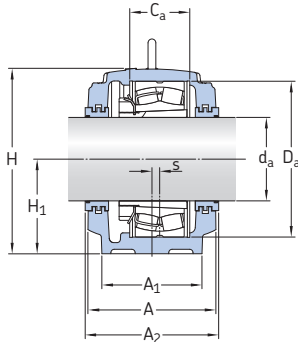
³⁾ The locating rings fit the bearing in the same line only.



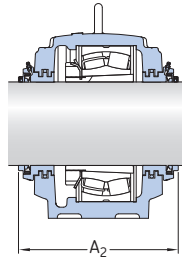
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|---------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------|------|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 6 7/8 174,625 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M 16 | 77,5 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M 20 | 123 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M 20 | 123 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M 24 | 187 | |
| 6 15/16 176,213 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M 16 | 77,5 | |
| | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M 20 | 123 | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M 20 | 123 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M 24 | 187 | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 7 in.
177,8 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|----------|--|------------------------------|-----------------------------|---------------------|-----------|-------------------------------------|
| d_a | | | | | | | |
| in./mm | - | - | | | | | mm |
| 7 177,8 | SNL 3038 | 23038 CCK/W33 | H 3038/7 | 4 FRB 10/290 | TS 38/7 | ETS 38 | 250 |
| | | C 3038 K | H 3038/7 | 4 FRB 10/290 | TNF 38/7 | | 312 |
| | SNL 3140 | 22238 CCK/W33 | H 138/7 | 4 FRB 10/340 | TS 40/7 | ETS 40 | 290 |
| | | 22238-2CS5K | H 138/7 | 4 FRB 10/340 | TNF 40/7 | | 347 |
| | | C 2238 K | H 138/7 | 4 FRB 10/340 | | | |
| | SNL 3238 | 23238 CCK/W33 | H 338/7 | 2 FRB 6/340 | TS 40/7 TNF 40/7 | ETS 40 | 290 347 |
| | SNL 3148 | 22338 CCK/W33 | H 338/7 | 2 FRB 8/400 | TS 48/7 TNF 48/7 | ETS 48 | 315 396 |
| | SNL 3040 | 23040 CCK/W33 | HE 3040 | 4 FRB 10/310 | TS 40/7 | ETS 40 | 270 |
| | | 23040-2CS5K | HE 3040 | 4 FRB 10/310 | TNF 40/7 | | 327 |
| | | C 3040 K | HE 3040 | 4 FRB 10/310 | | | |
| | SNL 3140 | 23140 CCK/W33 | HE 3140 | 2 FRB 10/340 | TS 40/7 | ETS 40 | 290 |
| | | 23140-2CS5K | HE 3140 | 2 FRB 10/340 | TNF 40/7 | | 347 |
| | | C 3140 K | HE 3140 | 2 FRB 10/340 | | | |
| | SNL 3048 | 22240 CCK/W33 | HE 3140 | 2 FRB 21/360 | TS 48/7 | ETS 48 | 300 |
| | | 22240-2CS5K | HE 3140 | 2 FRB 21/360 | TNF 48/7 | | 380 |
| | SNL 3240 | 23240 CCK/W33 | HE 2340 | 2 FRB 6/360 | TS 48/7 TNF 48/7 | ETS 48 | 300 380 |
| | SNL 3056 | 22340 CCK/W33 | HE 2340 | 2 FRB 14/420 | TS 56/7 TNF 56/7 | ETS 56 | 330 404 |

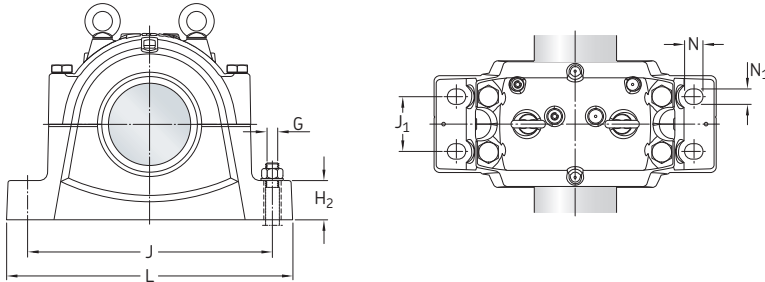
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)...-spherical roller bearing, C...- CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

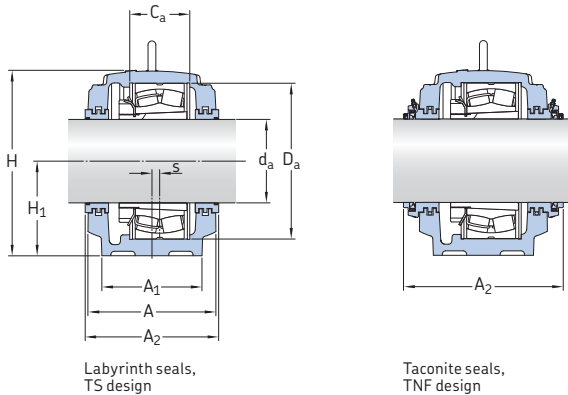
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|-------------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-------|-----|-------------------------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 7 177,8 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | 1 | M16 | 77,5 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M24 | 187 | | |
| | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M20 | 139 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M20 | 139 | | |
| | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M24 | 221 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 7 1/8 – 7 3/16 in.
180,975 – 182,563 mm



| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------------------|--|------------------------------|---------------------------------|-----------------------------|------------|----------------------------|
| in./mm | - | - | | | | | mm |
| 7 1/8 180,975 | SNL 3040 | 23040 CCK/W33 | H 3040/7.1/8 | 4 FRB 10/310 | TS 40/7.1/8 | ETS 40 | 270 |
| | | 23040-2CS5K C 3040 K | H 3040/7.1/8 H 3040/7.1/8 | 4 FRB 10/310 4 FRB 10/310 | TNF 40/7.1/8 | | 327 |
| | SNL 3048 | 22240 CCK/W33 | H 3140/7.1/8 | 2 FRB 21/360 | TS 48/7.1/8 | ETS 48 | 300 |
| | | 22240-2CS5K | H 3140/7.1/8 | 2 FRB 21/360 | TNF 48/7.1/8 | | 380 |
| 7 3/16 182,563 | SNL 3240 | 23240 CCK/W33 | H 2340/7.1/8 | 2 FRB 6/360 | TS 48/7.1/8 TNF 48/7.1/8 | ETS 48 | 300 380 |
| | SNL 3056 | 22340 CCK/W33 | H 2340/7.1/8 | 2 FRB 14/420 | TS 56/7.1/8 TNF 56/7.1/8 | ETS 56 | 330 404 |
| | SNL 3040 | 23040 CCK/W33 | HA 3040 | 4 FRB 10/310 | TS 40/7.3/16 | ETS 40 | 270 |
| | | 23040-2CS5K C 3040 K | HA 3040 HA 3040 | 4 FRB 10/310 4 FRB 10/310 | TNF 40/7.3/16 | | 327 |
| SNL 3140 | 23140 CCK/W33 | HA 3140 | 2 FRB 10/340 | TS 40/7.3/16 | ETS 40 | 290 | |
| | 23140-2CS5K C 3140 K | HA 3140 HA 3140 | 2 FRB 10/340 2 FRB 10/340 | TNF 40/7.3/16 | | 347 | |
| SNL 3240 | 23240 CCK/W33 | HA 2340 | 2 FRB 6/360 | TS 48/7.3/16 TNF 48/7.3/16 | ETS 48 | 300 380 | |
| SNL 3048 | 22240 CCK/W33 | HA 3140 | 2 FRB 21/360 | TS 48/7.3/16 | ETS 48 | 300 | |
| | 22240-2CS5K | HA 3140 | 2 FRB 21/360 | TNF 48/7.3/16 | | 380 | |
| SNL 3056 | 22340 CCK/W33 | HA 2340 | 2 FRB 14/420 | TS 56/7.13/16 TNF 56/7.13/16 | ETS 56 | 330 404 | |

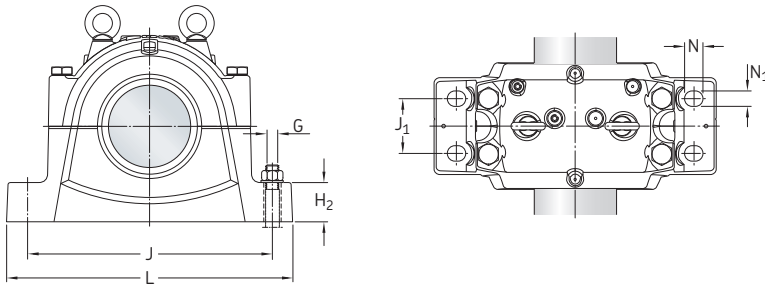
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

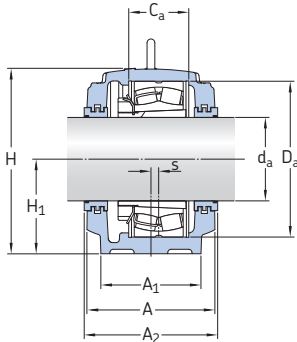
³⁾ The locating rings fit the bearing in the same line only.



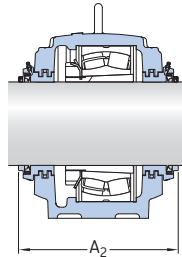
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|--------------------------|----------------|-----|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|----|----|----------------|----|-------|------|-------------------------------|--------------|----|
| | d _a | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 7 1/8 180,975 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M 20 | 139 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M 20 | 139 | | |
| | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| 7 3/16 182,563 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M 20 | 97,5 | | |
| | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M 20 | 123 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M 20 | 139 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M 20 | 139 | | |
| | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 7 1/4 – 7 7/8 in.
184,15 – 200,025 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------------|--|------------------------------|---------------------------------|----------------|------------|----------------------------|
| in./mm | – | – | | | | | mm |
| 7 1/4 184,15 | SNL 3040 | 23040 CCK/W33 | H 3040/7.1/4 | 4 FRB 10/310 | TS 40/7.1/4 | ETS 40 | 270 |
| | | 23040-2CS5K | H 3040/7.1/4 | 4 FRB 10/310 | TNF 40/7.1/4 | | 327 |
| | | C 3040 K | H 3040/7.1/4 | 4 FRB 10/310 | | | |
| | | | | | | | |
| SNL 3048 | 22240 CCK/W33 | H 3140/7.1/4 | 2 FRB 21/360 | TS 48/7.1/4 | ETS 48 | 300 | |
| | 22240-2CS5K | H 3140/7.1/4 | 2 FRB 21/360 | TNF 48/7.1/4 | | 380 | |
| | | | | | | | |
| SNL 3240 | 23240 CCK/W33 | H 2340/7.1/4 | 2 FRB 6/360 | TS 48/7.1/4 TNF 48/7.1/4 | ETS 48 | 300 380 | |
| SNL 3056 | 22340 CCK/W33 | H 2340/7.1/4 | 2 FRB 14/420 | TS 56/7.1/4 TNF 56/7.1/4 | ETS 56 | 330 404 | |
| 7 13/16 198,438 | SNL 3044 | 23044 CCK/W33 | OH 044/7.13/16 H | 4 FRB 10/340 | TS 44/7.13/16 | ETS 44 | 290 |
| | | 23044-2CS5K | OH 3044/7.13/16 H | 4 FRB 10/340 | TNF 44/7.13/16 | | 349 |
| | | C 3044 K | OH 3044/7.13/16 H | 4 FRB 10/340 | | | |
| SNL 3148 | 22244 CCK/W33 | OH 3144/7.13/16 H | 4 FRB 10/400 | TS 48/7.13/16 TNF 48/7.13/16 | ETS 48 | 315 396 | |
| 7 7/8 200,025 | SNL 3044 | 23044 CCK/W33 | OH 3044/7.7/8 H | 4 FRB 10/340 | TS 44/7.7/8 | ETS 44 | 290 |
| | | 23044-2CS5K | OH 3044/7.7/8 H | 4 FRB 10/340 | TNF 44/7.7/8 | | 349 |
| | | C 3044 K | OH 3044/7.7/8 H | 4 FRB 10/340 | | | |
| SNL 3148 | 22244 CCK/W33 | OH 3144/7.7/8 H | 4 FRB 10/400 | TS 48/7.7/8 TNF 48/7.7/8 | ETS 48 | 315 396 | |

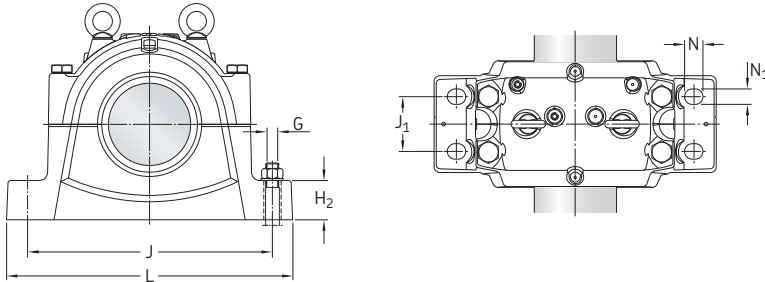
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

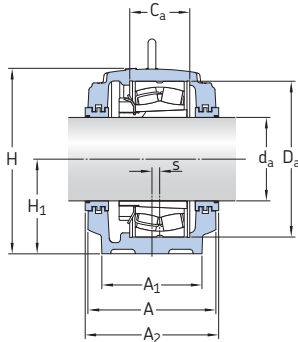
³⁾ The locating rings fit the bearing in the same line only.



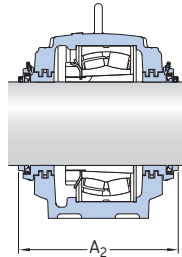
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|---------------------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-------|-----|-------------------------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 7 1/4 184,15 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | 1 | M20 | 97,5 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M20 | 139 | | |
| | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M20 | 139 | | |
| 7 13/16 198,438 | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M24 | 221 | | |
| | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| 7 7/8 200,025 | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M24 | 187 | | |
| | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 1/4 | M20 | 123 | | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M24 | 187 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 7 ¹⁵/₁₆ – 8 ⁷/₁₆ in.
201,613 – 214,312 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|--|---------------|--|------------------------------|-----------------------------|---------------------------------|-----------|----------------------------|
| in./mm | – | – | | | | | mm |
| 7 ¹⁵ / ₁₆ 201,613 | SNL 3044 | 23044 CCK/W33 | H 3044/7.15/16 | 4 FRB 10/340 | TS 44/7.15/16 | ETS 44 | 290 |
| | | 23044-2CS5K | H 3044/7.15/16 | 4 FRB 10/340 | TNF 44/7.15/16 | | 349 |
| | | C 3044 K | H 3044/7.15/16 | 4 FRB 10/340 | | | |
| | SNL 3144 | 23144 CCK/W33 | H 3144/7.15/16 | 2 FRB 10/370 | TS 44/7.15/16 | ETS 44 | 300 |
| | | 23144-2CS5K | H 144/7.15/16 TL | 2 FRB 10/370 | TNF 44/7.15/16 | | 357 |
| | | C 3144 K | H 144/7.15/16 TL | 2 FRB 10/370 | | | |
| 8 203,2 | SNL 3148 | 22244 CCK/W33 | H 3144/7.15/16 | 4 FRB 10/400 | TS 48/7.15/16 | ETS 48 | 315 |
| | | 22244-2CS5K | H 3144/7.15/16 | 4 FRB 10/400 | TNF 48/7.15/16 | | 396 |
| | | C 2244 K | H 3144/7.15/16 | 4 FRB 10/400 | | | |
| | SNL 3244 | 23244 CCK/W33 | H 2344/7.15/16 | 2 FRB 10/400 | TS 48/7.15/16 | ETS 48 | 315 |
| | | | | | TNF 48/7.15/16 | | 396 |
| | SNL 3156 | 22344 CCK/W33 | H 2344/7.15/16 | 2 FRB 10.5/460 | TS 56/7.15/16 TNF 56/7.15/16 | ETS 56 | 330 404 |
| 8 203,2 | SNL 3044 | 23044 CCK/W33 | H 3044/8 | 4 FRB 10/340 | TS 44/8 | ETS 44 | 290 |
| | | 23044-2CS5K | H 3044/8 | 4 FRB 10/340 | TNF 44/8 | | 349 |
| | | C 3044 K | H 3044/8 | 4 FRB 10/340 | | | |
| SNL 3148 | 22244 CCK/W33 | H 3144/8 | 4 FRB 10/400 | TS 48/8 | ETS 48 | 315 | |
| | 22244-2CS5K | H 3144/8 | 4 FRB 10/400 | TNF 48/8 | | 396 | |
| | C 2244 K | H 3144/8 | 4 FRB 10/400 | | | | |
| 8 ⁷ / ₁₆ 214,312 | SNL 3048 | 23048 CCK/W33 | OH 048/8.7/16 H | 4 FRB 12/360 | TS 48/8.7/16 | ETS 48 | 300 |
| | | 23048-2CS5K | OH 3048/8.7/16 HE | 4 FRB 12/360 | TNF 48/8.7/16 | | 380 |
| | | C 3048 K | OH 3048/8.7/16 H | 4 FRB 12/360 | | | |
| | SNL 3152 | 22248 CCK/W33 | OH 3148/8.7/16 | 2 FRB 22/440 | TS 52/8.7/16 TNF 52/8.7/16 | ETS 52 | 330 412 |

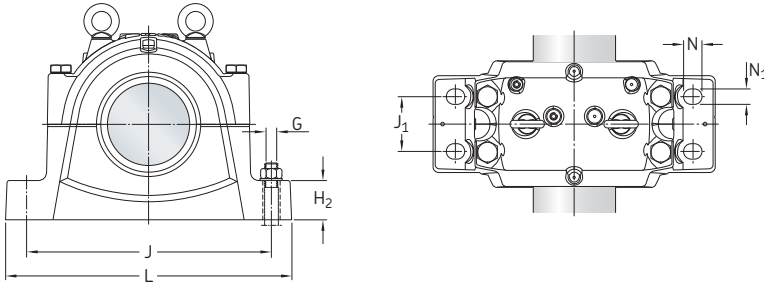
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

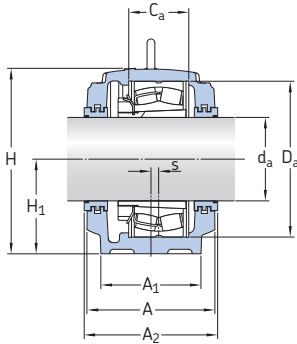
³⁾ The locating rings fit the bearing in the same line only.



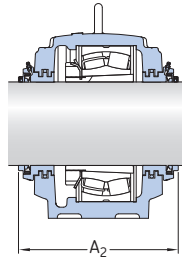
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|--|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------------------------------|------|-------------------------------|--------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 7¹⁵/₁₆ 201,613 | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 ¹ / ₄ | M 20 | 123 | |
| | 290 | 240 | 140 | 370 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 ¹ / ₄ | M 20 | 138 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 ¹ / ₄ | M 24 | 187 | |
| | 310 | 260 | 164 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 25 | 12 | 30 | 1 ¹ / ₄ | M 24 | 187 | |
| | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | 1 ¹ / ₂ | M 24 | 252 | |
| 8 203,2 | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | 1 ¹ / ₄ | M 20 | 123 | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 ¹ / ₄ | M 24 | 187 | |
| 8⁷/₁₆ 214,312 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 ¹ / ₄ | M 20 | 139 | |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 ¹ / ₂ | M 24 | 221 | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 8 1/2 – 9 7/16 in.
215,9 – 239,713 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------------|--|--|---------------------------------|---------------------------------|------------|----------------------------|
| in./mm | – | – | | | | | mm |
| 8 1/2 215,9 | SNL 3048 | 23048 CCK/W33 | OH 3048/8.1/2 H | 4 FRB 12/360 | TS 48/8.1/2 | ETS 48 | 300 380 |
| | | 23048-2CS5K C 3048 K | OH 3048/8.1/2 HE OH 3048/8.1/2 H | 4 FRB 12/360 4 FRB 12/360 | TNF 48/8.1/2 | | |
| 8 1/2 215,9 | SNL 3152 | 22248 CCK/W33 | OH 3148/8.1/2 H | 2 FRB 22/440 | TS 52/8.1/2 TNF 52/8.1/2 | ETS 52 | 330 412 |
| | | | | | | | |
| 8 15/16 227,013 | SNL 3048 | 23048 CCK/W33 | H 3048/8.15/16 | 4 FRB 12/360 | TS 48/8.15/16 | ETS 48 | 300 380 |
| | | 23048-2CS5K C 3048 K | H 3048/8.15/16 E H 3048/8.15/16 | 4 FRB 12/360 4 FRB 12/360 | TNF 48/8.15/16 | | |
| | SNL 3148 | 23148 CCK/W33 | H 3148/8.15/16 | 2 FRB 10/400 | TS 48/8.15/16 | ETS 48 | 315 396 |
| | | 23148-2CS5K C 3148 K | H 3148/8.15/16 TL H 3148/8.15/16 TL | 2 FRB 10/400 2 FRB 10/400 | TNF 48/8.15/16 | | |
| | SNL 3248 | 23248 CCK/W33 | H 2348/8.15/16 | 2 FRB 10/440 | TS 52/8.15/16 TNF 52/8.15/16 | ETS 52 | 330 406 |
| | | | | | | | |
| SNL 3152 | 22248 CCK/W33 | H 3148/8.15/16 | 2 FRB 22/440 | TS 52/8.15/16 TNF 52/8.15/16 | ETS 52 | 330 412 | |
| | | | | | | | |
| SNL 3160 | 22348 CCK/W33 | H 2348/8.15/16 | 2 FRB 12.5/500 | TS 60/8.15/16 TNH 60/8.15/16 | ETS 60 | 360 434 | |
| | | | | | | | |
| 9 7/16 239,713 | SNL 3052 | 23052 CCK/W33 | OH 3052/9.7/16 H | 2 FRB 22/400 | TS 52/9.7/16 | ETS 52 | 315 394 |
| | | 23052-2CS5K C 3052 K | OH 3052/9.7/16 HE OH 3052/9.7/16 H | 2 FRB 22/400 2 FRB 22/400 | TNF 52/9.7/16 | | |
| | SNL 3152 | 23152 CCK/W33 | OH 3152/9.7/16 H | 2 FRB 10/440 | TS 52/9.7/16 | ETS 52 | 330 412 |
| | | 23152-2CS5K C 3152 K | OH 3152/9.7/16 HTL OH 3152/9.7/16 HTL | 2 FRB 10/440 2 FRB 10/440 | TNF 52/9.7/16 | | |
| SNL 3252 | 23252 CCK/W33 | OH 2352/9.7/16 H | 2 FRB 10/480 | TS 64/9.7/16 TNF 64/9.7/16 | ETS 64 | 360 434 | |

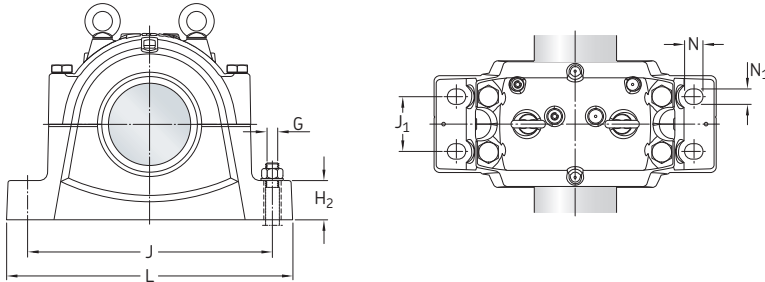
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

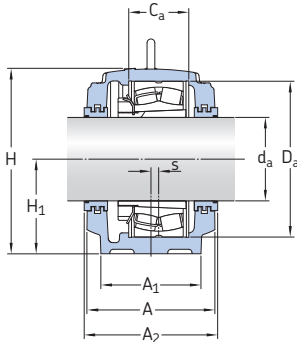
³⁾ The locating rings fit the bearing in the same line only.



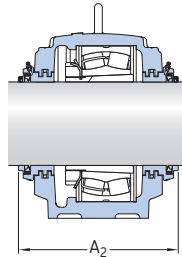
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|---------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------|------|-------------------------------|--------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 8 1/2 215,9 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M 20 | 139 | | |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| 8 25/16 227,013 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | 1 1/4 | M 20 | 139 | | |
| | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M 24 | 187 | | |
| | 320 | 280 | 180 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| 9 7/16 239,713 | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M 24 | 187 | | |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| | 350 | 310 | 194 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 9 1/2 – 10 in.
241,3 – 254 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|----------------------------------|--|----------------------------------|------------------------------|-----------------------------|------------|----------------------------|
| in./mm | – | – | | | | | mm |
| 9 1/2 241,3 | SNL 3052 | 23052 CCK/W33 | H 3052/9.1/2 | 2 FRB 22/400 | TS 52/9.1/2 | ETS 52 | 315 |
| | | 23052-2CS5K C 3052 K | H 052/9.1/2 E H 3052/9.1/2 | 2 FRB 22/400 2 FRB 22/400 | TNF 52/9.1/2 | | 394 |
| | SNL 3152 | 23152 CCK/W33 | H 3152/9.1/2 | 2 FRB 10/440 | TS 52/9.1/2 | ETS 52 | 330 |
| | | 23152-2CS5K C 3152 K | H 152/9.1/2 TL H 152/9.1/2 TL | 2 FRB 10/440 2 FRB 10/440 | TNF 52/9.1/2 | | 412 |
| | SNL 3064 | 22252 CCK/W33 | H 3152/9.1/2 | 2 FRB 25.5/480 | TS 64/9.1/2 TNF 64/9.1/2 | ETS 64 | 360 434 |
| SNL 3252 | 23252 CCK/W33 | H 2352/9.1/2 | 2 FRB 10/480 | TS 64/9.1/2 TNF 64/9.1/2 | ETS 64 | 360 434 | |
| 9 15/16 252,413 | SNL 3056 | 23056 CCK/W33 | OH 056/9.15/16 H | 6 FRB 10/420 | TS 56/9.15/16 | ETS 56 | 330 |
| | | C 3056 K | OH 3056/9.15/16 H | 6 FRB 10/420 | TNF 56/9.15/16 | | 404 |
| | SNL 3056 | 23056 CCK/W33 | OH 3056/10 H | 6 FRB 10/420 | TS 56/10 | ETS 56 | 330 |
| | | C 3056 K | OH 3056/10 H | 6 FRB 10/420 | TNF 56/10 | | 404 |
| | SNL 3156 | 23156 CCK/W33 | OH 3156/10 H | 2 FRB 10/460 | TS 56/10 | ETS 56 | 330 |
| 23156-2CS5K C 3156 K | OH 3156/10 HTL OH 3156/10 HTL | 2 FRB 10/460 2 FRB 10/460 | TS 56/10 TNF 56/10 | 404 | | | |
| SNL 3160 | 22256 CCK/W33 | OH 3156/10 H | 2 FRB 25/500 | TS 60/10 TNF 60/10 | ETS 60 | 360 434 | |

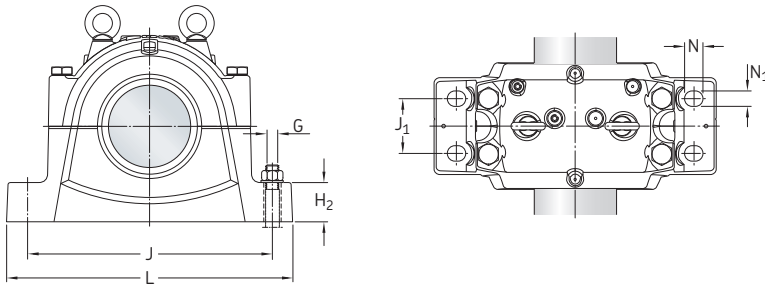
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

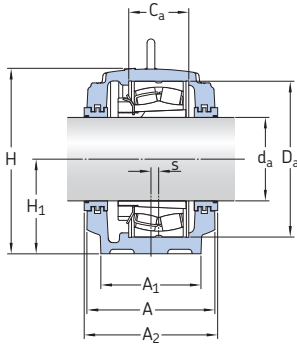
³⁾ The locating rings fit the bearing in the same line only.



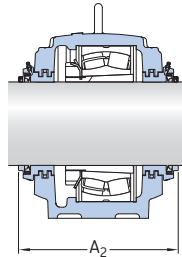
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg | |
|---------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------|------|-------------------------------|--------------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 9 1/2 241,3 | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | 1 1/4 | M 24 | 187 | | |
| | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 350 | 310 | 194 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| 9 15/16 252,413 | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| 10 254 | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | 1 1/2 | M 24 | 252 | | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 10 7/16 – 10 1/2 in.
265,113 – 266,7 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|--------------------|------------|--|--|--|---------------------------------|-----------|-------------------------------------|
| d_a | | | | | | | |
| in./mm | – | – | | | | | mm |
| 10 7/16 265,113 | SNL 3056 | 23056 CCK/W33 C3056 K | H 3056/10.7/16 H 3056/10.7/16 | 6 FRB 10/420 6 FRB 10/420 | TS 56/10.7/16 TNF 56/10.7/16 | ETS 56 | 330 404 |
| | SNL 3156 | 23156 CCK/W33 23156-2CS5K C3156 K | H 3156/10.7/16 H 156/10.7/16 TL H 156/10.7/16 TL | 2 FRB 10/460 2 FRB 10/460 2 FRB 10/460 | TS 56/10.7/16 TNF 56/10.7/16 | ETS 56 | 330 404 |
| | SNL 3256 | 23256 CCK/W33 | H 2356/10.7/16 | 2 FRB 10/500 | TS 60/10.7/16 TNF 60/10.7/16 | ETS 60 | 360 434 |
| | SNL 3160 | 22256 CCK/W33 | H 3156/10.7/16 | 2 FRB 25/500 | TS 60/10.7/16 TNF 60/10.7/16 | ETS 60 | 360 434 |
| | SNL 3168 L | 22356 CCK/W33 | H 2356/10.7/16 | 2 FRB 17.5/580 | TS 68/10.7/16 TNF 68/10.7/16 | ETS 68 | 410 483 |
| 10 1/2 266,7 | SNL 3056 | 23056 CCK/W33 C3056 K | H 3056/10.1/2 H 3056/10.1/2 | 6 FRB 10/420 6 FRB 10/420 | TS 56/10.1/2 TNF 56/10.1/2 | ETS 56 | 330 404 |
| | SNL 3156 | 23156 CCK/W33 23156-2CS5K C3156 K | H 3156/10.1/2 H 156/10.1/2 TL H 156/10.1/2 TL | 2 FRB 10/460 2 FRB 10/460 2 FRB 10/460 | TS 56/10.1/2 TNF 56/10.1/2 | ETS 56 | 330 404 |
| | SNL 3160 | 22256 CCK/W33 | H 3156/10.1/2 | 2 FRB 25/500 | TS 60/10.1/2 TNF 60/10.1/2 | ETS 60 | 360 434 |
| | SNL 3256 | 23256 CCK/W33 | H 356/10.1/2 | 2 FRB 10/500 | TS 60/10.1/2 TNF 60/10.1/2 | ETS 60 | 360 434 |
| | SNL 3168 L | 22356 CCK/W33 | H 356/10.1/2 | 2 FRB 17.5/580 | TS 68/10.1/2 TNF 68/10.1/2 | ETS 68 | 410 483 |

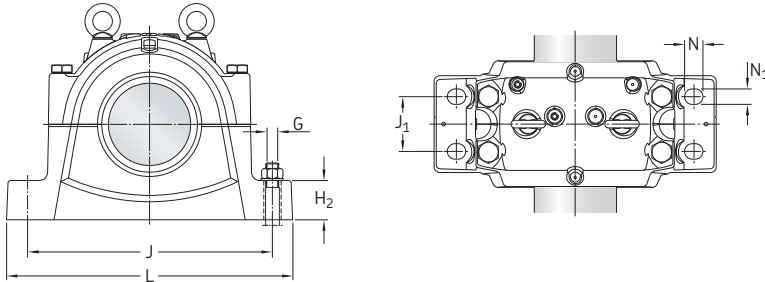
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

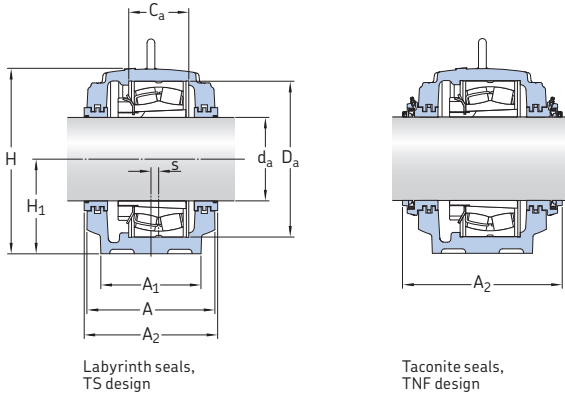
³⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|---------------------------|------------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------|------|-------------------------------|--------------|----|
| d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | G | | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 10 7/16 265,113 | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | 1 1/2 | M 24 | 252 | | |
| | 350 | 310 | 196 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 427 | | |
| 10 1/2 266,7 | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | 1 1/2 | M 24 | 221 | | |
| | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | 1 1/2 | M 24 | 252 | | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 350 | 310 | 196 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 427 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 10^{15/16} – 11^{1/2} in.
277,813 – 292,1 mm



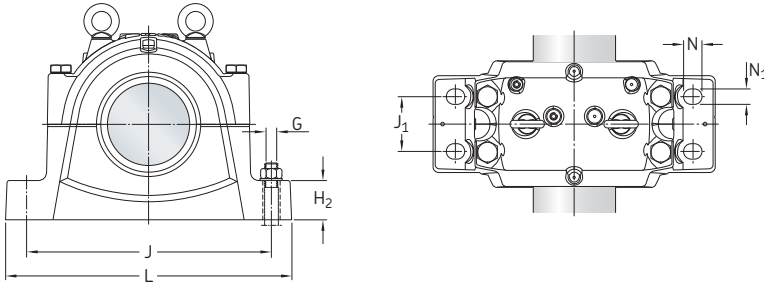
| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|--------------------------------|------------|--|---|--|-----------------------------------|-----------|-------------------------------------|
| d_a | | | | | | | |
| in./mm | – | – | | | | | mm |
| 10 ^{15/16} 277,813 | SNL 3060 | 23060 CCK/W33 C3060 KM | OH 060/10.15/16 H OH 3060/10.15/16 H | 2 FRB 25/460 2 FRB 25/460 | TS 60/10.15/16 TNF 60/10.15/16 | ETS 60 | 330 404 |
| | SNL 3160 | 23160 CCK/W33 23160-2CS5K C3160 K | OH 3160/10.15/16 H OH 3160/10.15/16 HE OH 3160/10.15/16 H | 2 FRB 10/500 2 FRB 10/500 2 FRB 10/500 | TS 60/10.15/16 TNF 60/10.15/16 | ETS 60 | 360 434 |
| | SNL 3260 | 23260 CCK/W33 | OH 3260/10.15/16 H | 2 FRB 10/540 | TS 64/10.15/16 TNF 64/10.15/16 | ETS 64 | 380 454 |
| | SNL 3164 | 22260 CCK/W33 | OH 3160/10.15/16 H | 2 FRB 28/540 | TS 64/10.15/16 TNF 64/10.15/16 | ETS 64 | 380 454 |
| 11 279,4 | SNL 3060 | 23060 CCK/W33 C3060 KM | OH 3060/11 H OH 3060/11 H | 2 FRB 25/460 2 FRB 25/460 | TS 60/11 TNF 60/11 | ETS 60 | 330 404 |
| | SNL 3160 | 23160 CCK/W33 23160-2CS5K C3160 K | OH 3160/11 H OH 3160/11 HE OH 3160/11 H | 2 FRB 10/500 2 FRB 10/500 2 FRB 10/500 | TS 60/11 TNF 60/11 | ETS 60 | 360 434 |
| | SNL 3164 | 22260 CCK/W33 | OH 3160/11 H | 2 FRB 28/540 | TS 64/11 TNF 64/11 | ETS 64 | 380 454 |
| | SNL 3260 | 23260 CCK/W33 | OH 3260/11 H | 2 FRB 10/540 | TS 64/11 TNF 64/11 | ETS 64 | 380 454 |
| 11 ^{7/16} 290,513 | SNL 3064 | 23064 CCK/W33 C3064 KM | OH 3064/11.7/16 H OH 3064/11.7/16 H | 6 FRB 10/480 6 FRB 10/480 | TS 64/11.7/16 TNF 64/11.7/16 | ETS 64 | 360 434 |
| | SNL 3168 F | 22264 CCK/W33 | OH 3164/11.1/2 H | 2 FRB 20/580 | TS 68/11.1/2 TNF 68/11.1/2 | ETS 68 | 410 483 |
| 11 ^{1/2} 292,1 | SNL 3064 | 23064 CCK/W33 C3064 KM | OH 3064/11.1/2 H OH 3064/11.1/2 H | 6 FRB 10/480 6 FRB 10/480 | TS 64/11.1/2 TNF 64/11.1/2 | ETS 64 | 360 434 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

²⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

³⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability. Only typical adapter sleeves are listed. Other variants can also fit the housing.

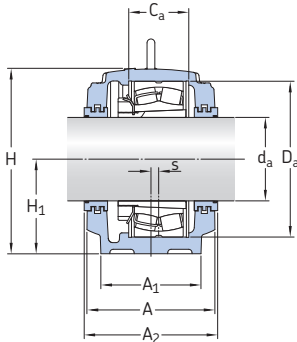
⁴⁾ The locating rings fit the bearing in the same line only.



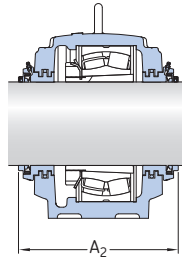
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg | |
|--------------------------------------|------------------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|-----|----------------|----|----|-------|-------|-------------------------------|--------------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 10^{15/16} 277,813 | 320 | 280 | 168 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | 1 1/2 | M 24 | 252 | | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 370 | 330 | 212 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| 11 279,4 | 320 | 280 | 168 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | 1 1/2 | M 24 | 252 | | |
| | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| | 370 | 330 | 212 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| 11^{7/16} 290,513 | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |
| | 11 1/2 292,1 | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 430 | |
| | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $11\frac{15}{16} - 12$ in.
303,213 – 304,8 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|------------------------------|------------|--|---|--|-----------------------------------|-----------|-------------------------------------|
| d_a | | | | | | | |
| in./mm | – | – | | | | | mm |
| $11\frac{15}{16}$ 303,213 | SNL 3064 | 23064 CCK/W33 C 3064 KM | H 3064/11.15/16 H 3064/11.15/16 | 6 FRB 10/480 6 FRB 10/480 | TS 64/11.15/16 TNF 64/11.15/16 | ETS 64 | 360 434 |
| | SNL 3164 | 23164 CCK/W33 23164-2CS5K C 3164 KM | H 3164/11.15/16 H 3164/11.15/16 H 3164/11.15/16 | 2 FRB 10/540 2 FRB 10/540 2 FRB 10/540 | TS 64/11.15/16 TNF 64/11.15/16 | ETS 64 | 380 454 |
| | SNL 3264 F | 23264 CCK/W33 | H 3264/11.15/16 | – | TS 68/11.15/16 TNF 68/11.15/16 | ETS 68 | 410 483 |
| | SNL 3264 L | 23264 CCK/W33 | H 3264/11.15/16 | – | TS 68/11.15/16 TNF 68/11.15/16 | ETS 68 | 410 483 |
| 12 304,8 | SNL 3064 | 23064 CCK/W33 C 3064 KM | H 064/12 H 064/12 | 6 FRB 10/480 6 FRB 10/480 | TS 64/12 TNF 64/12 | ETS 64 | 360 434 |
| | SNL 3164 | 23164 CCK/W33 23164-2CS5K C 3164 KM | H 164/12 H 164/12 H 164/12 | 2 FRB 10/540 2 FRB 10/540 2 FRB 10/540 | TS 64/12 TNF 64/12 | ETS 64 | 380 454 |
| | SNL 3168 F | 22264 CCK/W33 | H 164/12 | 2 FRB 20/580 | TS 68/12 TNF 68/12 | ETS 68 | 410 483 |
| | SNL 3264 F | 23264 CCK/W33 | H 264/12 | – | TS 68/12 TNF 68/12 | ETS 68 | 410 483 |
| | SNL 3264 L | 23264 CCK/W33 | H 264/12 | – | TS 68/12 TNF 68/12 | ETS 68 | 410 483 |

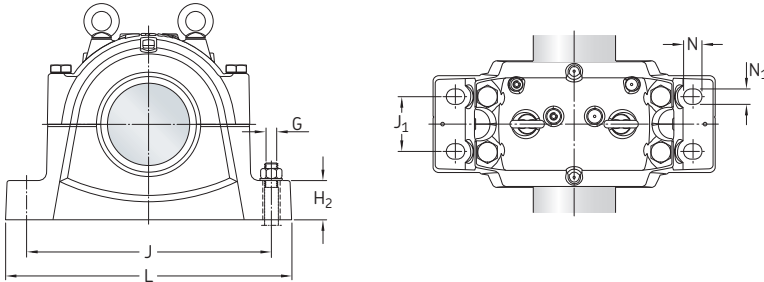
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

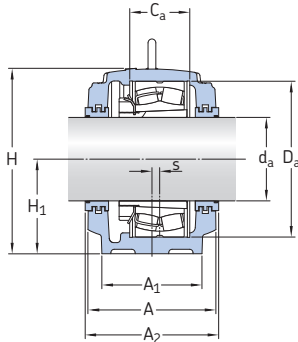
³⁾ The locating rings fit the bearing in the same line only.



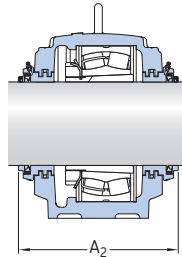
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg | |
|--------------------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----------------|----|----|-------|-------------------------------|--------------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 11^{15/16} 303,213 | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | |
| | 400 | 360 | 208 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 430 | |
| | 400 | 360 | 228 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 427 | |
| 12 304,8 | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | 1 1/2 | M 30 | 301 | |
| | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | |
| | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 430 | |
| | 400 | 360 | 208 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 430 | |
| | 400 | 360 | 228 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 427 | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 12 7/16 – 12 1/2 in.
315,913 – 317,5 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|--------------------|------------|--|--|------------------------------|---------------------------------|-----------|-------------------------------------|
| d_a | | | | | | | |
| in./mm | – | – | | | | | mm |
| 12 7/16 315,913 | SNL 3068 | 23068 CCK/W33 C3068 KM | OH 068/12.7/16 H OH 3068/12.7/16 H | 4 FRB 16/520 4 FRB 16/520 | TS 68/12.7/16 TNF 68/12.7/16 | ETS 68 | 380 453 |
| | SNL 3168 F | 23168 CCK/W33 23168-2CS5K C3168 KM | OH 3168/12.7/16 H OH 3168/12.7/16 HE OH 3168/12.7/16 H | – – | TS 68/12.7/16 TNF 68/12.7/16 | ETS 68 | 410 483 |
| | SNL 3168 L | 23168 CCK/W33 23168-2CS5K | OH 3168/12.7/16 H OH 3168/12.7/16 HE | – | TS 68/12.7/16 TNF 68/12.7/16 | ETS 68 | 410 483 |
| | SNL 3268 F | 23268 CAK/W33 | OH 3268/12.7/16 H | – | TS 76/12.7/16 TNF 76/12.7/16 | ETS 76 | 410 483 |
| | SNL 3268 L | 23268 CAK/W33 | OH 3268/12.7/16 H | – | TS 76/12.7/16 TNF 76/12.7/16 | ETS 76 | 410 483 |
| 12 1/2 317,5 | SNL 3068 | 23068 CCK/W33 C3068 KM | OH 3068/12.1/2 H OH 3068/12.1/2 H | 4 FRB 16/520 4 FRB 16/520 | TS 68/12.1/2 TNF 68/12.1/2 | ETS 68 | 380 453 |
| | SNL 3168 F | 23168 CCK/W33 23168-2CS5K C3168 KM | OH 3168/12.1/2 H OH 3168/12.1/2 HE OH 3168/12.1/2 H | – – – | TS 68/12.1/2 TNF 68/12.1/2 | ETS 68 | 410 483 |
| | SNL 3168 L | 23168 CCK/W33 23168-2CS5K | OH 3168/12.1/2 H OH 3168/12.1/2 HE | – – | TS 68/12.1/2 TNF 68/12.1/2 | ETS 68 | 410 483 |
| | SNL 3268 F | 23268 CAK/W33 | OH 3268/12.1/2 H | – | TS 76/12.1/2 TNF 76/12.1/2 | ETS 76 | 410 483 |
| | SNL 3268 L | 23268 CAK/W33 | OH 3268/12.1/2 H | – | TS 76/12.1/2 TNF 76/12.1/2 | ETS 76 | 410 483 |

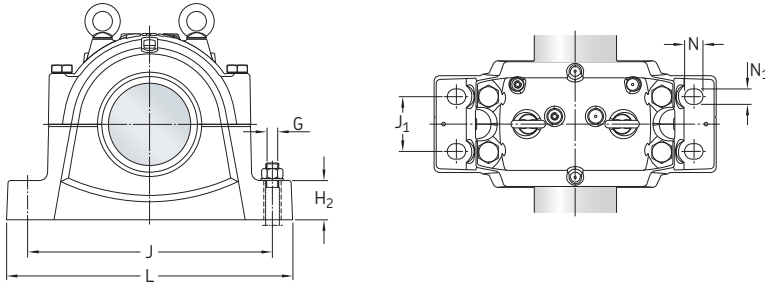
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

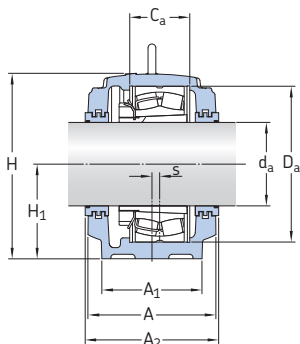
³⁾ The locating rings fit the bearing in the same line only.



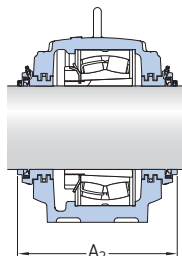
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|------------------------------------|----------------|-----|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|----|----|----------------|----|-------|------|-------------------------------|--------------|----|
| | d _a | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 127₁₆ 315,913 | 370 | 330 | 197 | 520 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 430 | | |
| | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 427 | | |
| | 400 | 360 | 224 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 473 | | |
| | 400 | 360 | 244 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 470 | | |
| 121₂ 317,5 | 370 | 330 | 197 | 520 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 430 | | |
| | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 427 | | |
| | 400 | 360 | 224 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 473 | | |
| | 400 | 360 | 244 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 470 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a $12 \frac{15}{16} - 13 \frac{7}{16}$ in.
328,613 – 341,313 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A ₂ |
|-------------------------------|------------|--|---|------------------------------|-----------------------------------|-----------|-------------------------------------|
| d_a | | | | | | | |
| in./mm | – | – | | | | | mm |
| $12 \frac{15}{16}$ 328,613 | SNL 3072 | 23072 CCK/W33 C 3072 KM | OH 072/12.15/16 H OH 3072/12.15/16 H | 4 FRB 16/540 4 FRB 16/540 | TS 72/12.15/16 TNF 72/12.15/16 | ETS 72 | 380 453 |
| 13 330,2 | SNL 3072 | 23072 CCK/W33 C 3072 KM | OH 3072/13 H OH 3072/13 H | 4 FRB 16/540 4 FRB 16/540 | TS 72/13 TNF 72/13 | ETS 72 | 380 453 |
| | SNL 3180 L | 22272 CAK/W33 | OH 3172/13 H | 2 FRB 25/650 | TS 80/13 TNF 80/13 | ETS 80 | 440 513 |
| $13 \frac{7}{16}$ 341,313 | SNL 3072 | 23072 CCK/W33 C 3072 KM | H 3072/13.7/16 H 3072/13.7/16 | 4 FRB 16/540 4 FRB 16/540 | TS 72/13.7/16 TNF 72/13.7/16 | ETS 72 | 380 453 |
| | SNL 3172 F | 23172 CCK/W33 C 3172 KM | H 3172/13.7/16 H 3172/13.7/16 | – – | TS 72/13.7/16 TNF 72/13.7/16 | ETS 72 | 410 483 |
| | SNL 3172 L | 23172 CCK/W33 | H 3172/13.7/16 | – | TS 72/13.7/16 TNF 72/13.7/16 | ETS 72 | 410 483 |
| | SNL 3272 F | 23272 CAK/W33 | H 3272/13.7/16 | – | TS 80/13.7/16 TNF 80/13.7/16 | ETS 80 | 440 513 |
| | SNL 3272 L | 23272 CAK/W33 | H 3272/13.7/16 | – | TS 80/13.7/16 TNF 80/13.7/16 | ETS 80 | 440 513 |

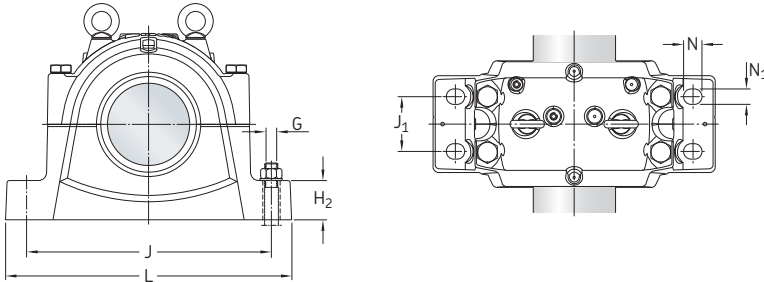
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

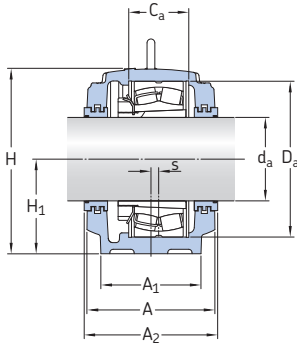
³⁾ The locating rings fit the bearing in the same line only.



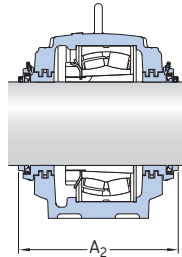
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|--------------------------------------|----------------|-----|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|----|----|----------------|----|-------|------|-------------------------------|--------------|----|
| | d _a | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 12^{15/16} 328,613 | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| 13 330,2 | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 3/4 | M 42 | 595 | | |
| 13^{7/16} 341,313 | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 1/2 | M 30 | 339 | | |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 458 | | |
| | 400 | 360 | 212 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 454 | | |
| | 430 | 390 | 232 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 3/4 | M 42 | 595 | | |
| | 430 | 390 | 252 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 3/4 | M 42 | 595 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 13 1/2 – 13 15/16 in.
342,9 – 354,013 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|------------|--|---|------------------------------|-----------------------------------|-----------|----------------------------|
| in./mm | – | – | | | | | mm |
| 13 1/2 342,9 | SNL 3072 | 23072 CCK/W33 C 3072 KM | H 072/13.1/2 H 072/13.1/2 | 4 FRB 16/540 4 FRB 16/540 | TS 72/13.1/2 TNF 72/13.1/2 | ETS 72 | 380 453 |
| | SNL 3172 F | 23172 CCK/W33 C 3172 KM | H 3172/13.1/2 H 3172/13.1/2 | – | TS 72/13.1/2 TNF 72/13.1/2 | ETS 72 | 410 483 |
| | SNL 3172 L | 23172 CCK/W33 | H 3172/13.1/2 | – | TS 72/13.1/2 TNF 72/13.1/2 | ETS 72 | 410 483 |
| | SNL 3180 L | 22272 CAK/W33 | H 3172/13.1/2 | 2 FRB 25/650 | TS 80/13.1/2 TNF 80/13.1/2 | ETS 80 | 440 513 |
| | SNL 3272 F | 23272 CAK/W33 | H 272/13.1/2 | – | TS 80/13.1/2 TNF 80/13.1/2 | ETS 80 | 440 513 |
| | SNL 3272 L | 23272 CAK/W33 | H 272/13.1/2 | – | TS 80/13.1/2 TNF 80/13.1/2 | ETS 80 | 440 513 |
| 13 15/16 354,013 | SNL 3076 F | 23076 CCK/W33 C 3076 KM | OH 076/13.15/16 H OH 3076/13.15/16 H | – – | TS 76/13.15/16 TNF 76/13.15/16 | ETS 76 | 410 483 |
| | SNL 3076 L | 23076 CCK/W33 | OH 3076/13.15/16 H | – | TS 76/13.15/16 TNF 76/13.15/16 | ETS 76 | 410 483 |
| | SNL 3176 F | 23176 CAK/W33 C 3176 KMB | OH 3176/13.15/16 H OH 3176/13.15/16 HE | – – | TS 76/13.15/16 TNF 76/13.15/16 | ETS 76 | 410 483 |
| | SNL 3176 L | 23176 CAK/W33 | OH 3176/13.15/16 H | – | TS 76/13.15/16 TNF 76/13.15/16 | ETS 76 | 410 483 |
| | SNL 3276 F | 23276 CAK/W33 | OH 3276/13.15/16 H | – | TS 92/13.15/16 TNF 92/13.15/16 | ETS 92 | 470 543 |
| | SNL 3276 L | 23276 CAK/W33 | OH 3276/13.15/16 H | – | TS 92/13.15/16 TNF 92/13.15/16 | ETS 92 | 470 543 |

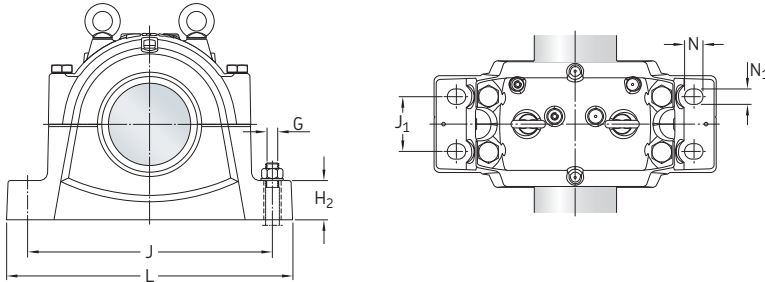
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

³⁾ The locating rings fit the bearing in the same line only.

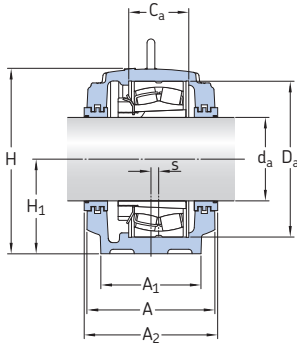


| Shaft diameter | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|------------------------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-----------------|------|-------------------------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| $13\frac{1}{2}$ 342,9 | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | 1 $\frac{1}{2}$ | M 30 | 339 | | |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | 1 $\frac{1}{2}$ | M 36 | 458 | | |
| | 400 | 360 | 212 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | 1 $\frac{1}{2}$ | M 36 | 454 | | |
| | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 $\frac{3}{4}$ | M 42 | 595 | | |
| | 430 | 390 | 232 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 $\frac{3}{4}$ | M 42 | 595 | | |
| | 430 | 390 | 252 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 $\frac{3}{4}$ | M 42 | 595 | | |
| $13\frac{15}{16}$ 354,013 | 400 | 360 | 135 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 $\frac{1}{2}$ | M 30 | 430 | | |
| | 400 | 360 | 180 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 $\frac{1}{2}$ | M 30 | 427 | | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 $\frac{1}{2}$ | M 36 | 473 | | |
| | 400 | 360 | 214 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 $\frac{1}{2}$ | M 36 | 470 | | |
| | 460 | 420 | 240 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 $\frac{3}{4}$ | M 42 | 716 | | |
| | 460 | 420 | 260 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 $\frac{3}{4}$ | M 42 | 709 | | |

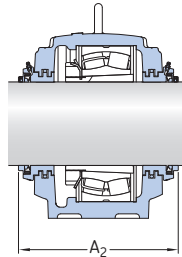
5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 14 – 15 in.

355,6 – 381 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

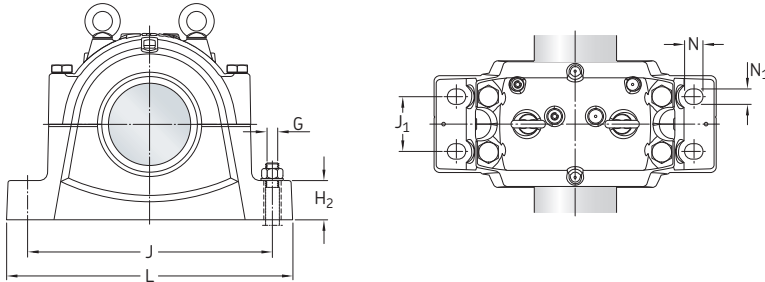
| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|------------|--|-------------------------------|-----------------------|-----------|----------------------------|
| in./mm | – | – | | | | mm |
| 14 355,6 | SNL 3076 F | 23076 CCK/W33 C 3076 KM | OH 076/14 H OH 3076/14 H | TS 76/14 TNF 76/14 | ETS 76 | 410 483 |
| | SNL 3076 L | 23076 CCK/W33 | OH 3076/14 H | TS 76/14 TNF 76/14 | ETS 76 | 410 483 |
| | SNL 3176 F | 23176 CAK/W33 C 3176 KMB | OH 3176/14 H OH 3176/14 HE | TS 76/14 TNF 76/14 | ETS 76 | 410 483 |
| | SNL 3176 L | 23176 CAK/W33 | OH 3176/14 H | TS 76/14 TNF 76/14 | ETS 76 | 410 483 |
| | SNL 3276 F | 23276 CAK/W33 | OH 3276/14 H | TS 92/14 TNF 92/14 | ETS 92 | 470 543 |
| | SNL 3276 L | 23276 CAK/W33 | OH 3276/14 H | TS 92/14 TNF 92/14 | ETS 92 | 470 543 |
| 15 381 | SNL 3080 F | 23080 CCK/W33 C 3080 KM | H 3080/15 H 3080/15 | TS 80/15 TNF 80/15 | ETS 80 | 410 483 |
| | SNL 3080 L | 23080 CCK/W33 | H 3080/15 | TS 80/15 TNF 80/15 | ETS 80 | 410 483 |
| | SNL 3180 F | 23180 CAK/W33 C 3180 KM | H 3180/15 H 3180/15 | TS 80/15 TNF 80/15 | ETS 80 | 440 513 |
| | SNL 3180 L | 23180 CAK/W33 | H 3180/15 | TS 80/15 TNF 80/15 | ETS 80 | 440 513 |
| | SNL 3280 F | 23280 CAK/W33 | H 3280/15 | TS 88/15 TNF 88/15 | ETS 88 | 470 543 |
| | SNL 3280 L | 23280 CAK/W33 | H 3280/15 | TS 88/15 TNF 88/15 | ETS 88 | 470 543 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

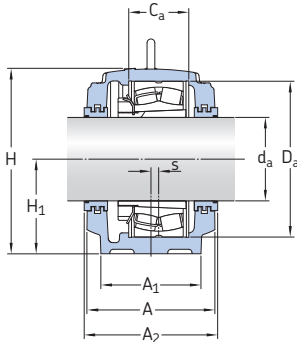
Only typical adapter sleeves are listed. Other variants can also fit the housing.



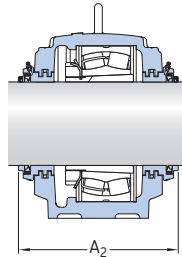
| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg | |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|------|----------------|------|----|----------------|----|----|-------|------|-------------------------------|--------------------|----|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | | |
| in./mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 14 355,6 | 400 | 360 | 135 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 430 | | |
| | 400 | 360 | 180 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | 1 1/2 | M 30 | 427 | | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 473 | | |
| | 400 | 360 | 214 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 470 | | |
| | 460 | 420 | 240 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 716 | | |
| | 460 | 420 | 260 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 709 | | |
| 15 381 | 400 | 360 | 148 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 458 | | |
| | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 454 | | |
| | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 3/4 | M 42 | 595 | | |
| | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 3/4 | M 42 | 595 | | |
| | 460 | 420 | 256 | 720 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 716 | | |
| | 460 | 420 | 276 | 720 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 709 | | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 15 3/4 – 16 1/2 in.
400,05 – 419,1 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

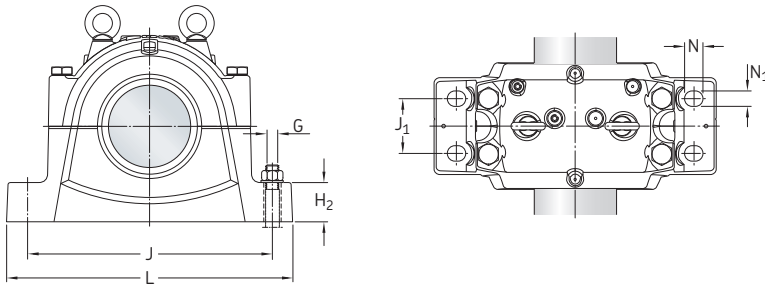
| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|------------|--|---------------------------------------|-------------------------------|-----------|----------------------------|
| in./mm | – | – | | | | mm |
| 15 3/4 400,05 | SNL 3084 F | 23084 CAK/W33 C 3084 KM | H 3084/15.3/4 H 3084/15.3/4 | TS 84/15.3/4 TNF 84/15.3/4 | ETS 84 | 410 483 |
| | SNL 3084 L | 23084 CAK/W33 | H 3084/15.3/4 | TS 84/15.3/4 TNF 84/15.3/4 | ETS 84 | 410 483 |
| | SNL 3184 F | 23184 CKJ/W33 C 3184 KM | H 3184/15.3/4 H 3184/15.3/4 | TS 84/15.3/4 TNF 84/15.3/4 | ETS 84 | 470 543 |
| | SNL 3184 L | 23184 CKJ/W33 | H 3184/15.3/4 | TS 84/15.3/4 TNF 84/15.3/4 | ETS 84 | 470 543 |
| | SNL 3284 F | 23284 CAK/W33 | H 3284/15.3/4 | TS 92/15.3/4 TNF 92/15.3/4 | ETS 92 | 480 553 |
| | SNL 3284 L | 23284 CAK/W33 | H 3284/15.3/4 | TS 92/15.3/4 TNF 92/15.3/4 | ETS 92 | 480 553 |
| 16 1/2 419,1 | SNL 3088 F | 23088 CAK/W33 C 3088 KMB | OH 088/16.1/2 H OH 3088/16.1/2 HE | TS 88/16.1/2 TNF 88/16.1/2 | ETS 88 | 440 513 |
| | SNL 3088 L | 23088 CAK/W33 | OH 3088/16.1/2 H | TS 88/16.1/2 TNF 88/16.1/2 | ETS 88 | 440 513 |
| | SNL 3188 F | 23188 CAK/W33 C 3188 KMB | OH 3188/16.1/2 H OH 3188/16.1/2 HE | TS 88/16.1/2 TNF 88/16.1/2 | ETS 88 | 470 543 |
| | SNL 3188 L | 23188 CAK/W33 | OH 3188/16.1/2 H | TS 88/16.1/2 TNF 88/16.1/2 | ETS 88 | 470 543 |
| | SNL 3288 F | 23288 CAK/W33 | OH 3288/16.1/2 H | TS 96/16.1/2 TNF 96/16.1/2 | ETS 96 | 480 553 |
| | SNL 3288 L | 23288 CAK/W33 | OH 3288/16.1/2 H | TS 96/16.1/2 TNF 96/16.1/2 | ETS 96 | 480 553 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

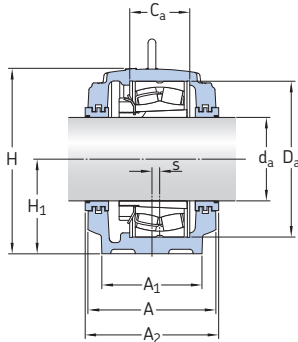
Only typical adapter sleeves are listed. Other variants can also fit the housing.



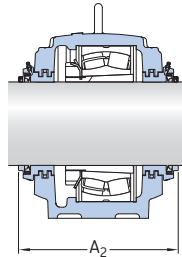
| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|-------------------------|------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-------|-------------------------------|--------------|----|
| | d_a | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | | G |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 15 3/4 400,05 | 400 | 360 | 150 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 473 | |
| | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | 1 1/2 | M 36 | 470 | |
| | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 716 | |
| | 460 | 420 | 244 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 709 | |
| | 470 | 440 | 272 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 40 | 42 | 1 3/4 | M 48 | 865 | |
| | 470 | 440 | 292 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 40 | 42 | 1 3/4 | M 48 | 859 | |
| 16 1/2 419,1 | 430 | 390 | 157 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 3/4 | M 42 | 595 | |
| | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | 1 3/4 | M 42 | 595 | |
| | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 755 | |
| | 460 | 430 | 246 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 751 | |
| | 470 | 440 | 280 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 40 | 48 | 2 | M 48 | 947 | |
| | 470 | 440 | 300 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 40 | 48 | 2 | M 48 | 941 | |

5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 17 – 19 1/2 in.
431,8 – 495,3 mm



Labyrinth seals,
TS design



Taconite seals,
TNF design

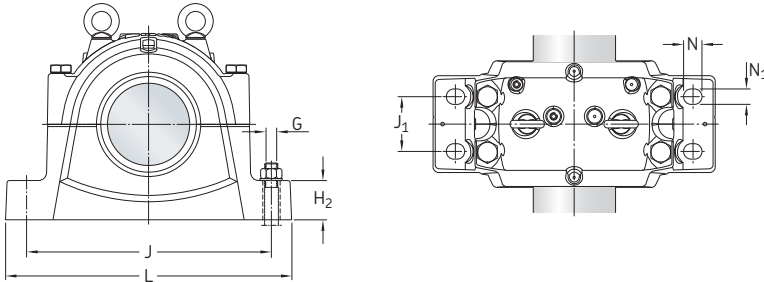
| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|--------------|--|--|---------------------------------------|-----------|----------------------------|
| in./mm | – | – | | | | mm |
| 17 431,8 | SNL 3092 F | 23092 CAK/W33 C 3092 KM | OH 092/17 H OH 3092/17 H | TS 92/17 TNF 92/17 | ETS 92 | 470 543 |
| | SNL 3092 L | 23092 CAK/W33 | OH 3092/17 H | TS 92/17 TNF 92/17 | ETS 92 | 470 543 |
| | SNL 3192 F | 23192 CAK/W33 C 3192 KM | OH 3192/17 H OH 3192/17 H | TS 92/17 TNF 92/17 | ETS 92 | 480 553 |
| | SNL 3192 L | 23192 CAK/W33 | OH 3192/17 H | TS 92/17 TNF 92/17 | ETS 92 | 480 553 |
| 18 457,2 | SNL 3096 F | 23096 CAK/W33 C 3096 KM | OH 3096/18 H OH 3096/18 H | TS 96/18 TNF 96/18 | ETS 96 | 470 543 |
| | SNL 3096 L | 23096 CAK/W33 | OH 3096/18 H | TS 96/18 TNF 96/18 | ETS 96 | 470 543 |
| | SNL 3196 F | 23196 CAK/W33 C 3196 KMB | OH 3196/18 H OH 3196/18 HE | TS 96/18 TNF 96/18 | ETS 96 | 480 553 |
| | SNL 3196 L | 23196 CAK/W33 | OH 3196/18 H | TS 96/18 TNF 96/18 | ETS 96 | 480 553 |
| 18 1/2 469,9 | SNL 30/500 F | 230/500 CAK/W33 C 30/500 KM | OH 30/500/18.1/2 H OH 30/500/18.1/2 H | TS 30/500/18.1/2 TNF 30/500/18.1/2 | ETS 500 | 470 543 |
| | SNL 30/500 L | 230/500 CAK/W33 | OH 30/500/18.1/2 H | TS 30/500/18.1/2 TNF 30/500/18.1/2 | ETS 500 | 470 543 |
| 19 1/2 495,3 | SNL 30/530 F | 230/530 CAK/W33 C 30/530 KM | OH 30/530/19.1/2 H OH 30/530/19.1/2 H | TS 30/530/19.1/2 TNF 30/530/19.1/2 | ETS 530 | 480 553 |
| | SNL 30/530 L | 230/530 CAK/W33 | OH 30/530/19.1/2 H | TS 30/530/19.1/2 TNF 30/530/19.1/2 | ETS 530 | 480 553 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

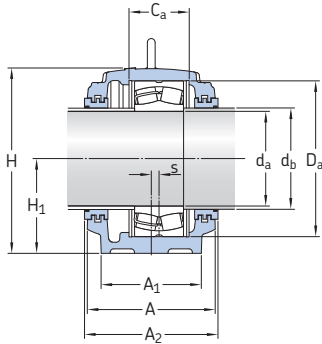
²⁾ The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

Only typical adapter sleeves are listed. Other variants can also fit the housing.

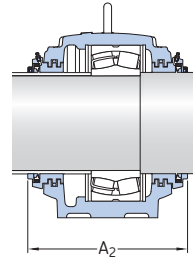


| Shaft diameter d_a | Dimensions | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|------------|----------------|----------------|----------------|-----|----------------|----------------|------|----------------|------|----|----------------|----|----|-------|------|-------------------------------|--------------------|
| | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | in. | - | kg |
| 17 431,8 | 460 | 420 | 163 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 716 | |
| | 460 | 420 | 224 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 709 | |
| | 470 | 440 | 240 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | 1 3/4 | M 48 | 865 | |
| | 470 | 440 | 260 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | 1 3/4 | M 48 | 859 | |
| 18 457,2 | 460 | 420 | 165 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 716 | |
| | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 709 | |
| | 470 | 440 | 248 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | 2 | M 48 | 947 | |
| | 470 | 440 | 268 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | 2 | M 48 | 941 | |
| 18 1/2 469,9 | 460 | 430 | 167 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 755 | |
| | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | 1 3/4 | M 42 | 751 | |
| 19 1/2 495,3 | 470 | 440 | 185 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | 2 | M 48 | 947 | |
| | 470 | 440 | 248 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | 2 | M 48 | 941 | |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 130 – 170 mm



Labyrinth seals,
TS design

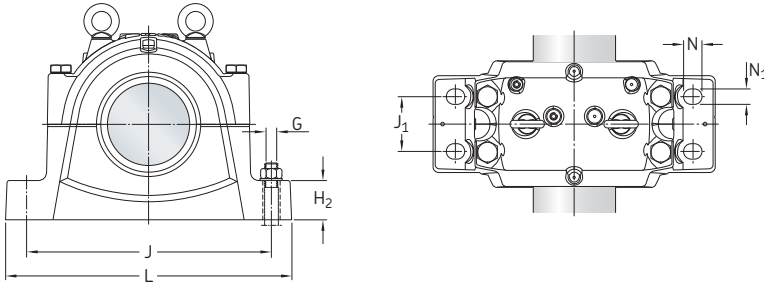


Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|------------|--|--|-------------------------|-----------|----------------------------|
| mm | – | – | | | | mm |
| 130 | SNL 3134 | 22326 CC/W33 22326-2CS5 | 2 FRB 7.5/280 2 FRB 7.5/280 | TS 34 TNF 34 | ETS 34 | 240 299 |
| 140 | SNL 3136 | 22328 CC/W33 22328-2CS5 | 2 FRB 7/300 2 FRB 7/300 | TS 36 TNF 36 | ETS 36 | 250 310 |
| 150 | SNL 3138 | 22330 CC/W33 22330-2CS5 | 2 FRB 8/320 2 FRB 8/320 | TS 38 TNF 38 | ETS 38 | 270 330 |
| 160 | SNL 3038 | 22232 CC/W33 22232-2CS5 23232 CC/W33 C 3232 | 2 FRB 17.5/290 2 FRB 17.5/290 2 FRB 5.5/290 2 FRB 5.5/290 | TS 38/180 TNF 38/180 | ETS 38 | 250 312 |
| | SNL 3140 | 22332 CC/W33 22332-2CS5 | 2 FRB 9/340 2 FRB 9/340 | TS 40 TNF 40 | ETS 40 | 290 347 |
| 170 | SNL 3134 G | 23134 CC/W33 23134-2CS5 | 2 FRB 10/280 2 FRB 10/280 | TS 40 TNF 40 | ETS 40 | 240 299 |
| | SNL 3234 G | 23234 CC/W33 | 2 FRB 6/310 | TS 40/190 TNF 40/190 | ETS 40 | 270 327 |
| | SNL 3040 | 22234 CC/W33 22234-2CS5 C 2234 | 2 FRB 18/310 2 FRB 18/310 2 FRB 18/310 | TS 40/190 TNF 40/190 | ETS 40 | 270 327 |
| | SNL 3048 | 22334 CC/W33 | 2 FRB 10/360 | TS 48/190 TNF 48/190 | ETS 48 | 300 380 |

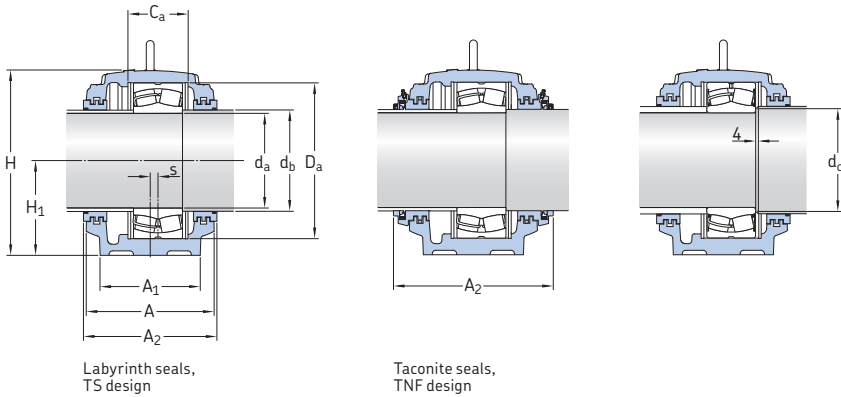
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating rings fit the bearing in the same line only.



| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------------------------------|--------------|
| | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 130 | 150 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| 140 | 160 | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 |
| 150 | 170 | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| 160 | 180 | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 |
| | 180 | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 |
| 170 | 180 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 |
| | 190 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| | 190 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| | 190 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M20 | 139 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 180 – 190 mm



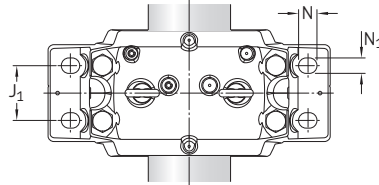
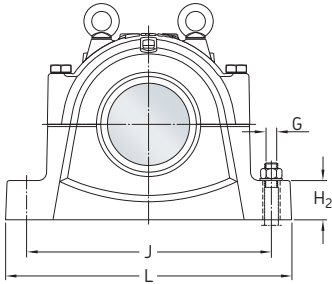
| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|------------|--|--------------------------------|------------|-----------|--|
| mm | – | – | | | | mm |
| 180 | SNL 3036 G | 23036 CC/W33 | 2 FRB 17/280 | TS 44 | ETS 44 | 240 301 |
| | | 23036-2CS5 ³⁾ | 2 FRB 17/280 | TNF 44 | | |
| | | 24036 CC/W33 | 2 FRB 4/280 | | | |
| | | 24036-2CS5 ³⁾ | 2 FRB 4/280 | | | |
| SNL 3136 G | SNL 3136 G | 23136 CC/W33 | 2 FRB 10/300 | TS 44 | ETS 44 | 250 311 |
| | | 23136-2CS5 | 2 FRB 10/300 | TNF 44 | | |
| | | C 3136 | 2 FRB 10/300 | | | |
| | | | | | | |
| SNL 3138 G | SNL 3138 G | 22236 CC/W33 | 2 FRB 19/320 | TS 44 | ETS 44 | 270 329 |
| | | 22236-2CS5 | 2 FRB 19/320 | TNF 44 | | |
| SNL 3236 G | SNL 3236 G | 23236 CC/W33 | 2 FRB 6/320 | TS 44 | ETS 44 | 270 329 |
| | | C 3236 | 2 FRB 6/320 | TNF 44 | | |
| 190 | SNL 3038 G | 23038 CC/W33 | 4 FRB 10/290 | TS 44 | ETS 44 | 250 311 |
| | | 24038 CC/W33 | 2 FRB 7.5/290 | TNF 44 | | |
| | | C 3038 | 4 FRB 10/290 | | | |
| | | C 4038 | 2 FRB 7.5/290 | | | |
| | | C 4038-2CS5V | 2 FRB 7.5/290 | | | |
| | | | | | | |
| SNL 3138 G | SNL 3138 G | 23138 CC/W33 | 2 FRB 10/320 | TS 44 | ETS 44 | 270 329 |
| | | 23138-2CS5 | 2 FRB 10/320 | TNF 44 | | |
| | | C 3138 | 2 FRB 10/320 | | | |
| SNL 3238 G | SNL 3238 G | 23238 CC/W33 | 2 FRB 6/340 | TS 48/210 | ETS 48 | 290 372 |
| | | | | TNF 48/210 | | |
| SNL 3140 G | SNL 3140 G | 22238 CC/W33 | 4 FRB 10/340 | TS 48/210 | ETS 48 | 290 372 |
| | | 22238-2CS5 | 4 FRB 10/340 | TNF 48/210 | | |
| | | C 2238 | 4 FRB 10/340 | | | |
| SNL 3148 | SNL 3148 | 22338 CC/W33 | 2 FRB 8/400 | TS 48/210 | ETS 48 | 315 396 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

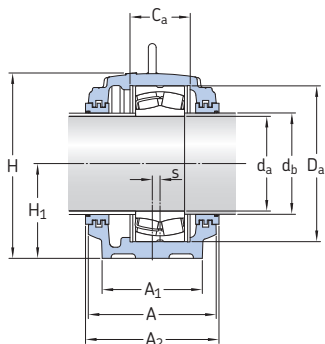
²⁾ The locating rings fit the bearing in the same line only.

³⁾ The shaft must be modified according to the d_c value for the bearing.

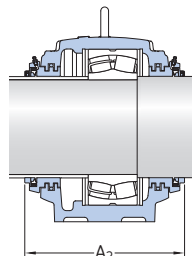


| Shaft diameter | | Dimensions Housings | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | | |
|----------------|-------|---------------------|--------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------------------------------|--------------|---|----|
| d_a | d_b | d_c min | d_c max | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | kg | | |
| mm | | | | mm | | | | | | | | | | | | | | | | - | kg |
| 180 | 200 | 191 | 199 | 230 | 180 | 108 | 280 | 333 | 170 | 70 | 430 | 100 | 510 | 34 | 28 | 14 | 24 | M16 | 69,5 | | |
| | | 191 | 194 | | | | | | | | | | | | | | | | | | |
| | 200 | - | - | 240 | 190 | 116 | 300 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 | | |
| | 200 | - | - | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 | | |
| 190 | 200 | - | - | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 | | |
| | 200 | - | - | 240 | 190 | 115 | 290 | 353 | 180 | 75 | 450 | 110 | 530 | 34 | 28 | 15 | 24 | M16 | 77,5 | | |
| | 200 | - | - | 260 | 210 | 124 | 320 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 | | |
| | 210 | - | - | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 | | |
| | 210 | - | - | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 | | |
| | 210 | - | - | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M24 | 187 | | |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 200 mm



Labyrinth seals,
TS design

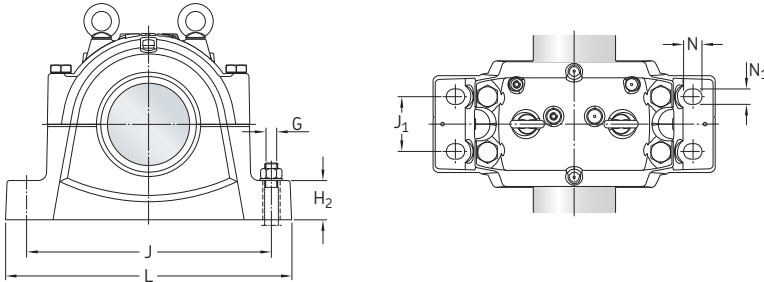


Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|------------|--|-----------------------------|------------|-----------|----------------------------|
| mm | – | – | | | | mm |
| 200 | SNL 3040 G | 23040 CC/W33 | 4 FRB 10/310 | TS 48 | ETS 48 | 270 |
| | | 23040-2CS5 | 4 FRB 10/310 | TNF 48 | | 352 |
| | | 24040 CC/W33 | 2 FRB 6.5/310 | | | |
| | | C 3040 | 4 FRB 10/310 | | | |
| | | C 4040 V | 2 FRB 6.5/310 | | | |
| | | C 4040-2CS5V | 2 FRB 6.5/310 | | | |
| | SNL 3140 G | 23140 CC/W33 | 2 FRB 10/340 | TS 48 | ETS 48 | 290 |
| | | 23140-2CS5 | 2 FRB 10/340 | TNF 48 | | 372 |
| | | C 3140 | 2 FRB 10/340 | | | |
| | SNL 3240 G | 23240 CC/W33 | 2 FRB 6/360 | TS 48 | ETS 48 | 300 |
| | | 23240-2CS5 | 2 FRB 6/360 | TNF 48 | | 380 |
| | SNL 3048 | 22240 CC/W33 | 2 FRB 21/360 | TS 48 | ETS 48 | 300 |
| | | 22240-2CS5 | 2 FRB 21/360 | TNF 48 | | 380 |
| | SNL 3056 | 22340 CC/W33 | 2 FRB 14/420 | TS 56/220 | ETS 56 | 330 |
| | | | | TNF 56/220 | | 404 |

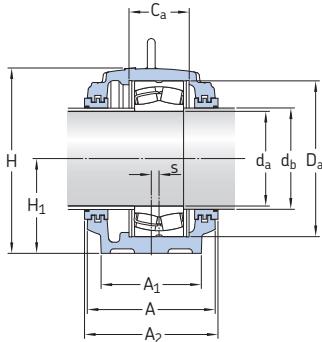
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating rings fit the bearing in the same line only.

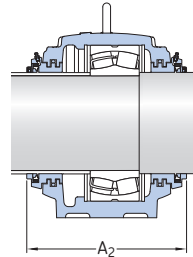


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------------------------------|--------------|
| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 200 | 220 | 260 | 210 | 122 | 310 | 375 | 190 | 80 | 480 | 120 | 560 | 34 | 28 | 10 | 24 | M20 | 97,5 |
| | 220 | 280 | 230 | 132 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 |
| | 220 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M20 | 139 |
| | 220 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M20 | 139 |
| | 220 | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M24 | 221 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 220 mm



Labyrinth seals,
TS design

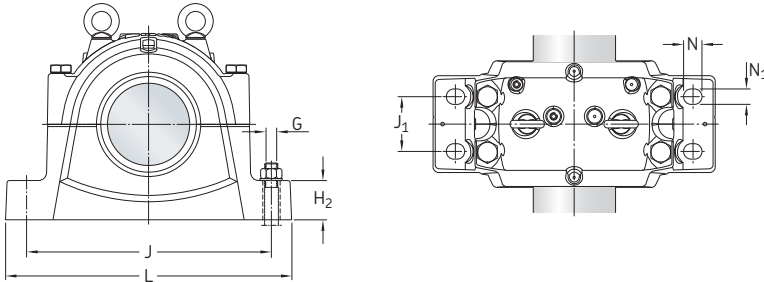


Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A_2 | |
|-------------------------|--------------|--|-----------------------------|-------------------------|-------------------------|----------------------------|------------|
| mm | – | – | | | | mm | |
| 220 | SNL 3044 G | 23044 CC/W33 | 4 FRB 10/340 | TS 52 | ETS 52 | 290 | |
| | | 23044-2CS5 | 4 FRB 10/340 | TNF 52 | | 364 | |
| | SNL 3144 G | 24044 CC/W33 | 2 FRB 6/340 | 2 FRB 10/370 | TS 52 TNF 52 | ETS 52 | 300 372 |
| | | C 3044 | 4 FRB 10/340 | | | | |
| | SNL 3244 G | C 4044 V | 2 FRB 6/340 | 2 FRB 10/370 | TS 56/240 TNF 56/240 | ETS 56 | 315 386 |
| | SNL 3148 G | 22244 CC/W33 | 22244-2CS5 | 4 FRB 10/400 | TS 56/240 | ETS 56 | 315 386 |
| C 2244 | | | 4 FRB 10/400 | TNF 56/240 | | | |
| SNL 3156 | 22344 CC/W33 | 2 FRB 10.5/460 | 2 FRB 10.5/460 | TS 56/240 TNF 56/240 | ETS 56 | 330 404 | |

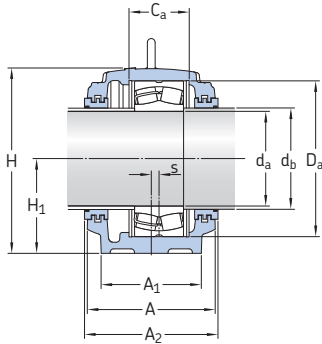
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating rings fit the bearing in the same line only.

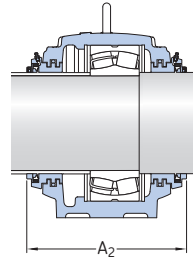


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------------------------------|--------------|
| | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 220 | 240 | 280 | 230 | 130 | 340 | 411 | 210 | 85 | 510 | 130 | 610 | 42 | 35 | 10 | 30 | M20 | 123 |
| | 240 | 290 | 240 | 140 | 370 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M20 | 138 |
| | 240 | 310 | 260 | 164 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M24 | 187 |
| | 240 | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M24 | 187 |
| | 240 | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M24 | 252 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 240 – 260 mm



Labyrinth seals,
TS design

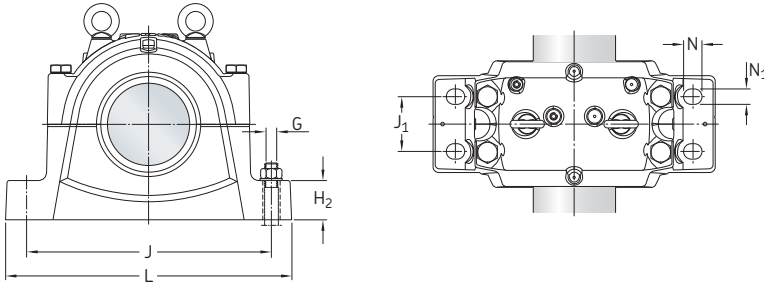


Taconite seals,
TNF design

| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|------------|--|-----------------------------|-------------------------|-----------|--|
| mm | – | – | | | | mm |
| 240 | SNL 3048 G | 23048 CC/W33 | 4 FRB 12/360 | TS 56 | ETS 56 | 300 370 |
| | | 23048-2CS5 | 4 FRB 12/360 | TNF 56 | | |
| | | 24048 CC/W33 | 2 FRB 11/360 | | | |
| | | C 3048 | 4 FRB 12/360 | | | |
| | SNL 3148 G | 23148 CC/W33 | 2 FRB 10/400 | TS 56 | ETS 56 | 315 |
| | | 23148-2CS5 | 2 FRB 10/400 | TNF 56 | | 386 |
| | | C 3148 | 2 FRB 10/400 | | | |
| | SNL 3248 G | 23248 CC/W33 | 2 FRB 10/440 | TS 60/260 TNF 60/260 | ETS 60 | 330 404 |
| | SNL 3152 G | 22248 CC/W33 | 2 FRB 22/440 | TS 60/260 TNF 60/260 | ETS 60 | 330 412 |
| | SNL 3160 | 22348 CC/W33 | 2 FRB 12.5/500 | TS 60/260 TNF 60/260 | ETS 60 | 360 434 |
| 260 | SNL 3052 G | 23052 CC/W33 | 2 FRB 22/400 | TS 60 | ETS 60 | 315 394 |
| | | 23052-2CS5 | 2 FRB 22/400 | TNF 60 | | |
| | | 24052 CC/W33 | 2 FRB 4/400 | | | |
| | | C 3052 | 2 FRB 22/400 | | | |
| | SNL 3152 | 23152 CC/W33 | 2 FRB 10/440 | TS 60 | ETS 60 | 330 |
| | | | 23152-2CS5 | 2 FRB 10/440 | TNF 60 | |
| | | C 3152 | 2 FRB 10/440 | | | |
| | SNL 3252 G | 23252 CC/W33 | 2 FRB 10/480 | TS 64/280 TNF 64/280 | ETS 64 | 360 434 |
| | SNL 3064 | 22252 CC/W33 | 2 FRB 25.5/480 | TS 64/280 TNF 64/280 | ETS 64 | 360 434 |
| | SNL 3164 | 22352 CC/W33 | 2 FRB 15.5/540 | TS 64/290 TNF 64/290 | ETS 64 | 380 454 |

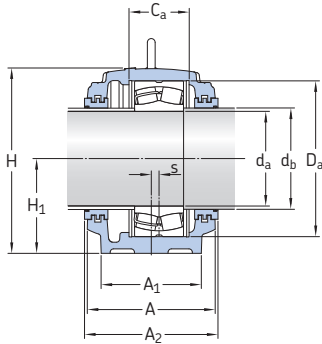
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating rings fit the bearing in the same line only.

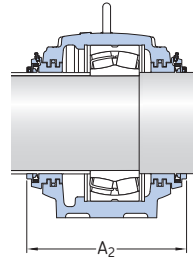


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|----------------|---------------------|-------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-------------------------------|-----------------|
| | d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 240 | 260 | 290 | 240 | 140 | 360 | 434 | 220 | 90 | 540 | 140 | 640 | 42 | 35 | 12 | 30 | M 20 | 139 |
| | 260 | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 |
| | 260 | 320 | 280 | 180 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |
| | 260 | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |
| | 260 | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| 260 | 280 | 310 | 260 | 148 | 400 | 474 | 240 | 95 | 600 | 150 | 700 | 42 | 35 | 12 | 30 | M 24 | 187 |
| | 280 | 320 | 280 | 164 | 440 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |
| | 280 | 350 | 310 | 194 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 280 | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 290 | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 280 – 300 mm



Labyrinth seals,
TS design

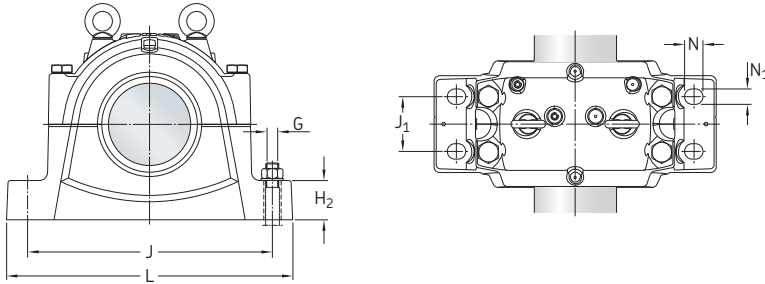


Taconite seals,
TNF design

| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|--------------|--|--------------------------------|-------------------------|------------|--|
| mm | – | – | | | | mm |
| 280 | SNL 3056 G | 23056 CC/W33 | 6 FRB 10/420 | TS 64 | ETS 64 | 330 404 |
| | | 24056 CC/W33 | 2 FRB 13/420 | TNF 64 | | |
| | | C 3056 | 6 FRB 10/420 | | | |
| | SNL 3156 G | 23156 CC/W33 | 2 FRB 10/460 | TS 64 | ETS 64 | 330 404 |
| | | 23156-2CS5 C 3156 | 2 FRB 10/460 2 FRB 10/460 | TNF 64 | | |
| SNL 3256 G | 23256 CC/W33 | 2 FRB 10/500 | TS 68/300 TNF 68/300 | ETS 68 | 360 433 | |
| SNL 3160 G | 22256 CC/W33 | 2 FRB 25/500 | TS 68/300 TNF 68/300 | ETS 68 | 360 433 | |
| SNL 3168 L | 22356 CC/W33 | 2 FRB 17.5/580 | TS 68/310 TNF 68/310 | ETS 68 | 410 483 | |
| 300 | SNL 3060 G | 23060 CC/W33 | 2 FRB 25/460 | TS 68 | ETS 68 | 330 403 |
| | | 24060 CC/W33 | 2 FRB 4/460 | TNF 68 | | |
| | | C 3060 M | 2 FRB 25/460 | | | |
| | | C 4060 M | 2 FRB 4/460 | | | |
| | SNL 3160 G | 23160 CC/W33 | 2 FRB 10/500 | TS 68 | ETS 68 | 360 433 |
| | | 23160-2CS5 C 3160 | 2 FRB 10/500 2 FRB 10/500 | TNF 68 | | |
| | SNL 3260 G | 23260 CC/W33 | 2 FRB 10/540 | TS 72/320 TNF 72/320 | ETS 72 | 380 453 |
| SNL 3164 G | 22260 CC/W33 | 2 FRB 28/540 | TS 72/320 TNF 72/320 | ETS 72 | 380 453 | |

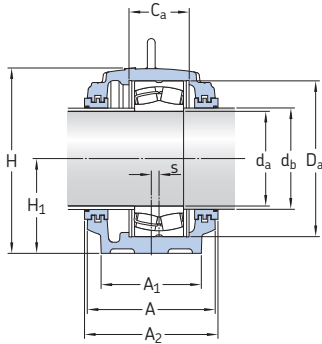
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating rings fit the bearing in the same line only.

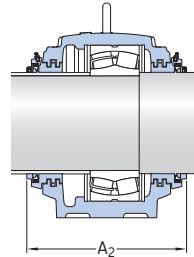


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|-------|----|----|-------------------------------|--------------|
| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 280 | 300 | 320 | 280 | 166 | 420 | 516 | 260 | 100 | 650 | 160 | 770 | 50 | 42 | 13 | 36 | M 24 | 221 |
| | 300 | 320 | 280 | 166 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 |
| | 300 | 350 | 310 | 196 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 300 | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 310 | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 |
| 300 | 320 | 320 | 280 | 168 | 460 | 550 | 280 | 105 | 670 | 160 | 790 | 50 | 42 | 16 | 36 | M 24 | 252 |
| | 320 | 350 | 310 | 180 | 500 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 320 | 370 | 330 | 212 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 |
| | 320 | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 320 – 340 mm



Labyrinth seals,
TS design

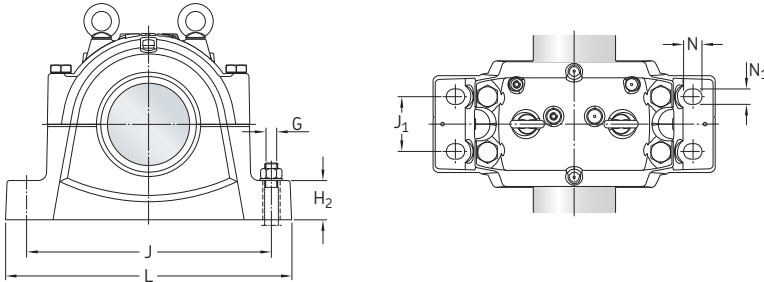


Taconite seals,
TNF design

| Shaft diameter d _a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------------------------|-------------|--|--|-------------------------|-----------|--|
| mm | – | – | | | | mm |
| 320 | SNL 3064 G | 23064 CC/W33 24064 CC/W33 C 3064 M | 6 FRB 10/480 2 FRB 10.5/480 6 FRB 10/480 | TS 72 TNF 72 | ETS 72 | 360 433 |
| | SNL 3164 G | 23164 CC/W33 23164-2CS5 C 3164 M | 2 FRB 10/540 2 FRB 10/540 2 FRB 10/540 | TS 72 TNF 72 | ETS 72 | 380 453 |
| | SNL 3264 GF | 23264 CC/W33 | – | TS 76/340 TNF 76/340 | ETS 76 | 410 483 |
| | SNL 3264 GL | 23264 CC/W33 | – | TS 76/340 TNF 76/340 | ETS 76 | 410 483 |
| | SNL 3168 GF | 22264 CC/W33 | 2 FRB 20/580 | TS 76/340 TNF 76/340 | ETS 76 | 410 483 |
| 340 | SNL 3068 G | 23068 CC/W33 24068 CC/W33 C 3068 M | 4 FRB 16/520 2 FRB 8.5/520 4 FRB 16/520 | TS 76 TNF 76 | ETS 76 | 380 453 |
| | SNL 3168 GF | 23168 CC/W33 23168-2CS5 C 3168 M | – – – | TS 76 TNF 76 | ETS 76 | 410 483 |
| | SNL 3168 GL | 23168 CC/W33 23168-2CS5 | – – | TS 76 TNF 76 | ETS 76 | 410 483 |
| | SNL 3268 GF | 23268 CA/W33 | – | TS 76/370 TNF 76/370 | ETS 76 | 410 483 |
| | SNL 3268 GL | 23268 CA/W33 | – | TS 76/370 TNF 76/370 | ETS 76 | 410 483 |

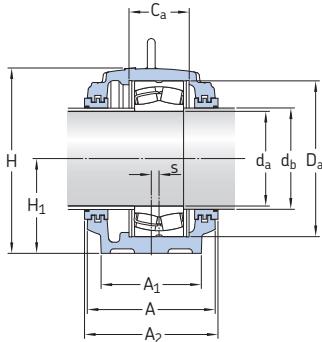
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating rings fit the bearing in the same line only.

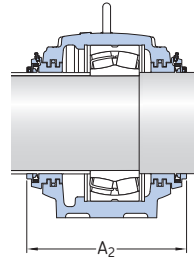


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|------|----|-------|----|----|-------------------------------|--------------|
| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 320 | 340 | 350 | 310 | 181 | 480 | 591 | 300 | 110 | 710 | 190 | 830 | 50 | 42 | 22 | 36 | M 30 | 301 |
| | 340 | 370 | 330 | 196 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 |
| | 340 | 400 | 360 | 208 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 |
| | 340 | 400 | 360 | 228 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 |
| | 340 | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 |
| 340 | 360 | 370 | 330 | 197 | 520 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 |
| | 360 | 400 | 360 | 190 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 |
| | 360 | 400 | 360 | 210 | 580 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 |
| | 370 | 400 | 360 | 224 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M 36 | 473 |
| | 370 | 400 | 360 | 244 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M 36 | 470 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 360 mm



Labyrinth seals,
TS design

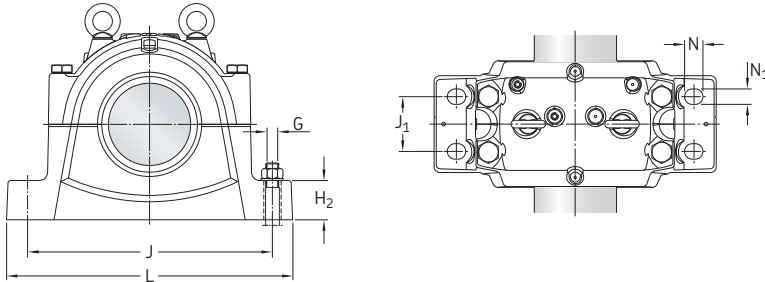


Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Locating ring ²⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------|--|---|-------------------------|-----------|----------------------------|
| mm | – | – | | | | mm |
| 360 | SNL 3072 G | 23072 CC/W33 24072 CC/W33 C 3072 M | 4 FRB 16/540 2 FRB 9/540 4 FRB 16/540 | TS 80 TNF 80 | ETS 80 | 380 453 |
| | SNL 3172 GF | 23172 CC/W33 23172-2CS5 C 3172 M | – – – | TS 80 TNF 80 | ETS 80 | 410 483 |
| | SNL 3172 GL | 23172 CC/W33 23172-2CS5 | – – | TS 80 TNF 80 | ETS 80 | 410 483 |
| | SNL 3272 GF | 23272 CA/W33 | – | TS 80/390 TNF 80/390 | ETS 80 | 440 513 |
| | SNL 3272 GL | 23272 CA/W33 | – | TS 80/390 TNF 80/390 | ETS 80 | 440 513 |
| | SNL 3180 L | 22272 CA/W33 | 2 FRB 25/650 | TS 80/390 TNF 80/390 | ETS 80 | 440 513 |

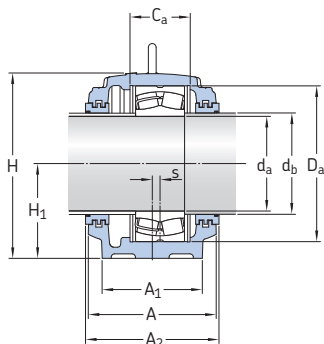
¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.
 Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating rings fit the bearing in the same line only.

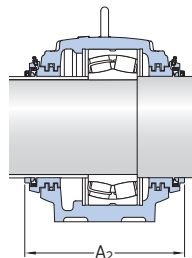


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|-----|-------|------|----|-------|----|----|-------------------------------|--------------|
| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | - | kg |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 360 | 380 | 370 | 330 | 198 | 540 | 631 | 320 | 115 | 750 | 200 | 880 | 50 | 42 | 23 | 36 | M 30 | 339 |
| | 380 | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M 36 | 458 |
| | 380 | 400 | 360 | 212 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M 36 | 454 |
| | 390 | 430 | 390 | 232 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 390 | 430 | 390 | 252 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 390 | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 380 mm



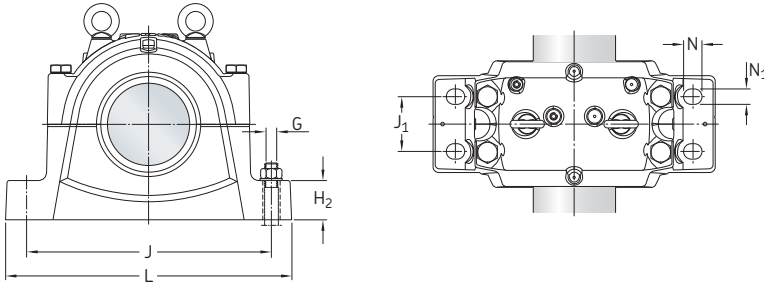
Labyrinth seals,
TS design



Taconite seals,
TNF design

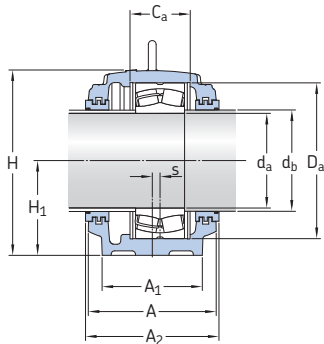
| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Seals | End cover | Width incl. seals A_2 |
|----------------|-------------|--|-------------------------|-----------|-------------------------------|
| d_a | | | | | |
| mm | – | – | | | mm |
| 380 | SNL 3076 GF | 23076 CC/W33 C 3076 M | TS 84 TNF 84 | ETS 84 | 410 483 |
| | SNL 3076 GL | 23076 CC/W33 | TS 84 TNF 84 | ETS 84 | 410 483 |
| | SNL 3176 GF | 23176 CA/W33 | TS 84 TNF 84 | ETS 84 | 410 483 |
| | SNL 3176 GL | 23176 CA/W33 | TS 84 TNF 84 | ETS 84 | 410 483 |
| | SNL 3276 GF | 23276 CA/W33 | TS 92/410 TNF 92/410 | ETS 92 | 470 543 |
| | SNL 3276 GL | 23276 CA/W33 | TS 92/410 TNF 92/410 | ETS 92 | 470 543 |
| | SNL 4076 GF | 24076 CC/W33 | TS 84 TNF 84 | ETS 84 | 410 483 |
| | SNL 4076 GL | 24076 CC/W33 | TS 84 TNF 84 | ETS 84 | 410 483 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.
 Only typical bearings are listed. Other bearing variants can also fit the housing.

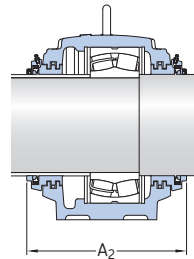


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-------------------------------|--------------|
| | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 380 | 400 | 400 | 360 | 135 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 |
| | 400 | 400 | 360 | 180 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 |
| | 400 | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M 36 | 473 |
| | 400 | 400 | 360 | 214 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M 36 | 470 |
| | 410 | 460 | 420 | 240 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M 42 | 716 |
| | 410 | 460 | 420 | 260 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M 42 | 709 |
| | 400 | 400 | 360 | 180 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 430 |
| | 400 | 400 | 360 | 200 | 560 | 675 | 340 | 120 | 810 | 220 | 950 | 50 | 42 | 24 | 36 | M 30 | 427 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 400 mm



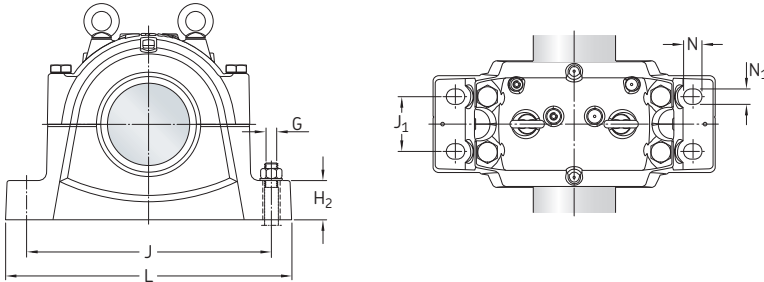
Labyrinth seals,
TS design



Taconite seals,
TNF design

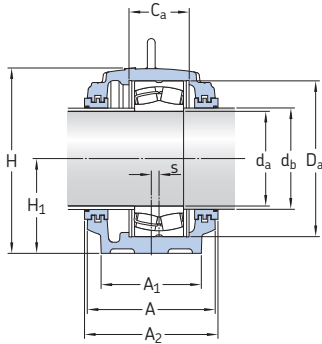
| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------|--|---------------------------|-----------|-------------------------------|
| mm | – | – | | | mm |
| 400 | SNL 3080 GF | 23080 CC/W33 C 3080 M | TS 92 TNF 92 | ETS 92 | 410 483 |
| | SNL 3080 GL | 23080 CC/W33 | TS 92 TNF 92 | ETS 92 | 410 483 |
| | SNL 3180 GF | 23180 CA/W33 23180-2CS5 C 3180 M | TS 92 TNF 92 | ETS 92 | 440 513 |
| | SNL 3180 GL | 23180 CA/W33 23180-2CS5 | TS 92 TNF 92 | ETS 92 | 440 513 |
| | SNL 3280 GF | 23280 CA/W33 | TS 500/430 TNF 500/430 | ETS 500 | 470 543 |
| | SNL 3280 GL | 23280 CA/W33 | TS 500/430 TNF 500/430 | ETS 500 | 470 543 |
| | SNL 4080 GF | 24080 ECCJ/W33 | TS 92 TNF 92 | ETS 92 | 410 483 |
| | SNL 4080 GL | 24080 ECCJ/W33 | TS 92 TNF 92 | ETS 92 | 410 483 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.
 Only typical bearings are listed. Other bearing variants can also fit the housing.

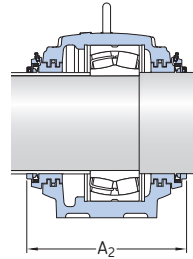


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-------------------------------|--------------|
| | d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 400 | 430 | 400 | 360 | 148 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M 36 | 458 |
| | 430 | 400 | 360 | 192 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M 36 | 454 |
| | 430 | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 430 | 430 | 390 | 220 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M 42 | 595 |
| | 430 | 460 | 430 | 256 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 745 |
| | 430 | 460 | 430 | 276 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M 42 | 740 |
| | 430 | 400 | 360 | 200 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M 36 | 458 |
| | 430 | 400 | 360 | 220 | 600 | 695 | 350 | 120 | 840 | 220 | 1000 | 50 | 42 | 30 | 36 | M 36 | 454 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 420 mm



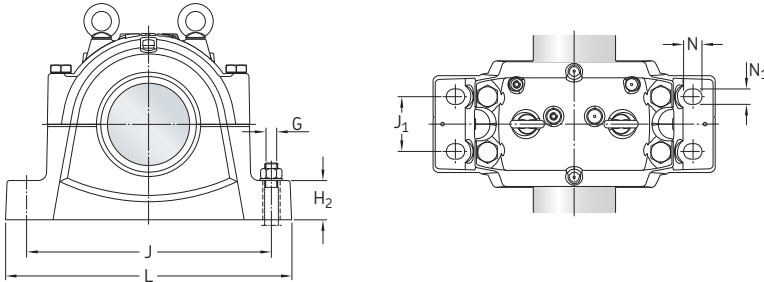
Labyrinth seals,
TS design



Taconite seals,
TNF design

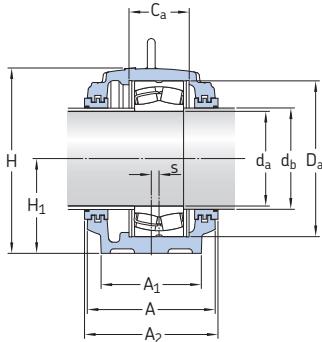
| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------|--|---------------------------|-----------|-------------------------------|
| mm | – | – | | | mm |
| 420 | SNL 3084 GF | 23084 CA/W33 C 3084 M | TS 96 TNF 96 | ETS 96 | 410 483 |
| | SNL 3084 GL | 23084 CA/W33 | TS 96 TNF 96 | ETS 96 | 410 483 |
| | SNL 3184 GF | 23184 CJ/W33 C 3184 M | TS 96 TNF 96 | ETS 96 | 470 543 |
| | SNL 3184 GL | 23184 CJ/W33 | TS 96 TNF 96 | ETS 96 | 470 543 |
| | SNL 3284 GF | 23284 CA/W33 | TS 530/460 TNF 530/460 | ETS 530 | 480 553 |
| | SNL 3284 GL | 23284 CA/W33 | TS 530/460 TNF 530/460 | ETS 530 | 480 553 |
| | SNL 4084 GF | 24084 ECA/W33 | TS 96 TNF 96 | ETS 96 | 410 483 |
| | SNL 4084 GL | 24084 ECA/W33 | TS 96 TNF 96 | ETS 96 | 410 483 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.
 Only typical bearings are listed. Other bearing variants can also fit the housing.

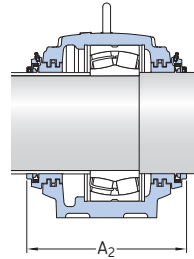


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-----|-------|-------|-------|-----|-------|-------|------|-------|------|----|-------|----|----|-------------------------------|--------------|
| d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | G | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 420 | 450 | 400 | 360 | 150 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 |
| | 450 | 400 | 360 | 194 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 470 |
| | 450 | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 |
| | 450 | 460 | 420 | 244 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 |
| | 460 | 470 | 440 | 272 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 40 | 42 | M48 | 865 |
| | 460 | 470 | 440 | 292 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 40 | 42 | M48 | 859 |
| | 450 | 400 | 360 | 200 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 473 |
| | 450 | 400 | 360 | 220 | 620 | 715 | 360 | 120 | 870 | 220 | 1040 | 50 | 42 | 30 | 36 | M36 | 470 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 440 mm



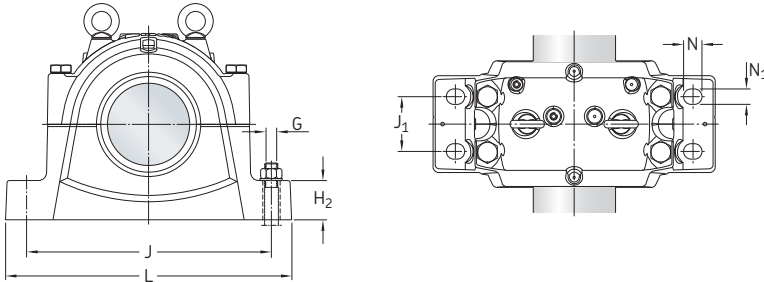
Labyrinth seals,
TS design



Taconite seals,
TNF design

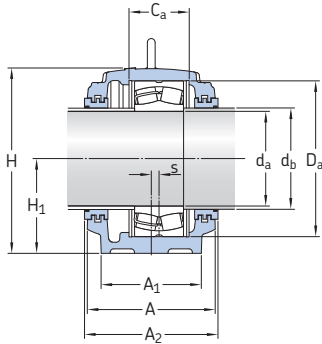
| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|-------------|--|---------------------------|-----------|-------------------------------|
| mm | – | – | | | mm |
| 440 | SNL 3088 GF | 23088 CA/W33 C 3088 MB | TS 500 TNF 500 | ETS 500 | 440 513 |
| | SNL 3088 GL | 23088 CA/W33 | TS 500 TNF 500 | ETS 500 | 440 513 |
| | SNL 3188 GF | 23188 CA/W33 | TS 500 TNF 500 | ETS 500 | 470 543 |
| | SNL 3188 GL | 23188 CA/W33 | TS 500 TNF 500 | ETS 500 | 470 543 |
| | SNL 3288 GF | 23288 CA/W33 | TS 560/480 TNF 560/480 | ETS 560 | 480 553 |
| | SNL 3288 GL | 23288 CA/W33 | TS 560/480 TNF 560/480 | ETS 560 | 480 553 |
| | SNL 4088 GF | 24088 ECA/W33 | TS 500 TNF 500 | ETS 500 | 440 513 |
| | SNL 4088 GL | 24088 ECA/W33 | TS 500 TNF 500 | ETS 500 | 440 513 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.
 Only typical bearings are listed. Other bearing variants can also fit the housing.

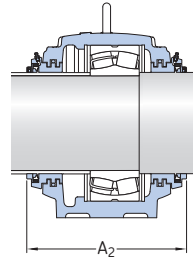


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|-------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-------------------------------|--------------|
| | d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 440 | 470 | 430 | 390 | 157 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 470 | 430 | 390 | 200 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 470 | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 755 |
| | 470 | 460 | 430 | 246 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 751 |
| | 480 | 470 | 440 | 280 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 40 | 48 | M48 | 947 |
| | 480 | 470 | 440 | 300 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 40 | 48 | M48 | 941 |
| | 470 | 430 | 390 | 212 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |
| | 470 | 430 | 390 | 232 | 650 | 755 | 380 | 125 | 950 | 240 | 1120 | 60 | 48 | 30 | 42 | M42 | 595 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 460 – 480 mm



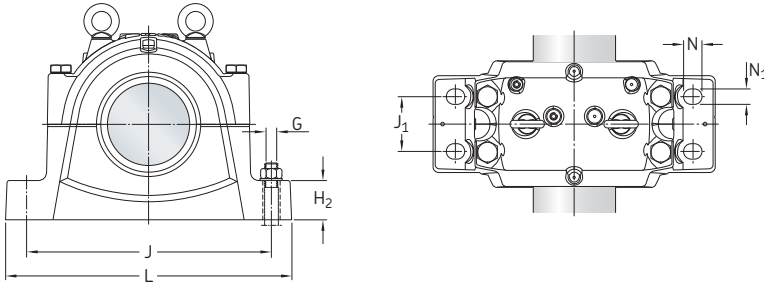
Labyrinth seals,
TS design



Taconite seals,
TNF design

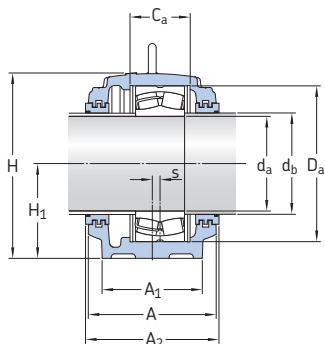
| Shaft diameter | Housing | Appropriate parts Bearing ¹⁾ | Seals | End cover | Width incl. seals A ₂ |
|----------------|-------------|---|---------------------------|-----------|----------------------------------|
| d _a | | | | | |
| mm | – | – | | | mm |
| 460 | SNL 3092 GF | 23092 CA/W33 C 3092 M | TS 530 TNF 530 | ETS 530 | 470 543 |
| | SNL 3092 GL | 23092 CA/W33 | TS 530 TNF 530 | ETS 530 | 470 543 |
| | SNL 3192 GF | 23192 CA/W33 C 3192 M | TS 530 TNF 530 | ETS 530 | 480 553 |
| | SNL 3192 GL | 23192 CA/W33 | TS 530 TNF 530 | ETS 530 | 480 553 |
| | SNL 4092 GF | 24092 ECA/W33 | TS 530 TNF 530 | ETS 530 | 470 543 |
| | SNL 4092 GL | 24092 ECA/W33 | TS 530 TNF 530 | ETS 530 | 470 543 |
| 480 | SNL 3096 GF | 23096 CA/W33 C 3096 M | TS 530/510 TNF 530/510 | ETS 530 | 470 543 |
| | SNL 3096 GL | 23096 CA/W33 | TS 530/510 TNF 530/510 | ETS 530 | 470 543 |
| | SNL 3196 GF | 23196 CA/W33 | TS 560/520 TNF 560/520 | ETS 560 | 480 553 |
| | SNL 3196 GL | 23196 CA/W33 | TS 560/520 TNF 560/520 | ETS 560 | 480 553 |
| | SNL 4096 GF | 24096 ECA/W33 | TS 530/510 TNF 530/510 | ETS 530 | 470 543 |
| | SNL 4096 GL | 24096 ECA/W33 | TS 530/510 TNF 530/510 | ETS 530 | 470 543 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

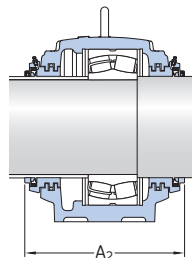


| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|----------------|---------------------|-------|-----|-------|-------|-------|-----|-------|-------|-----|-------|----|----|-------|----|-------------------------------|-----------------|
| | d_a | d_b | A | A_1 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L | N | N_1 | s | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 460 | 500 | 460 | 420 | 163 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 |
| | 500 | 460 | 420 | 224 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 |
| | 500 | 470 | 440 | 240 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | M48 | 865 |
| | 500 | 470 | 440 | 260 | 760 | 880 | 440 | 145 | 1070 | 260 | 1280 | 60 | 48 | 35 | 42 | M48 | 859 |
| | 500 | 460 | 420 | 218 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 |
| | 500 | 460 | 420 | 238 | 680 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 |
| 480 | 510 | 460 | 420 | 165 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 |
| | 510 | 460 | 420 | 224 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 |
| | 520 | 470 | 440 | 248 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M48 | 947 |
| | 520 | 470 | 440 | 268 | 790 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M48 | 941 |
| | 510 | 460 | 420 | 218 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 716 |
| | 510 | 460 | 420 | 238 | 700 | 810 | 410 | 130 | 1000 | 260 | 1170 | 60 | 48 | 35 | 42 | M42 | 709 |

5.3 Large SNL plummer block housings for bearings on a cylindrical seat d_a 500 – 530 mm



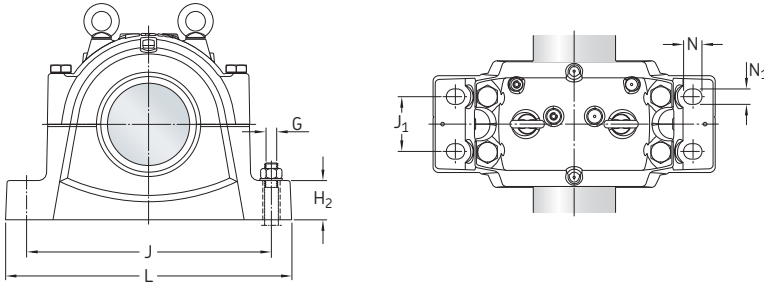
Labyrinth seals,
TS design



Taconite seals,
TNF design

| Shaft diameter d_a | Housing | Appropriate parts Bearing ¹⁾ | Seals | End cover | Width incl. seals A_2 |
|-------------------------|---------------|--|-------------------|-----------|-------------------------------|
| mm | – | – | | | mm |
| 500 | SNL 30/500 GF | 230/500 CA/W33 C 30/500 M | TS 560 TNF 560 | ETS 560 | 470 543 |
| | SNL 30/500 GL | 230/500 CA/W33 | TS 560 TNF 560 | ETS 560 | 470 543 |
| | SNL 40/500 GF | 240/500 ECA/W33 | TS 560 TNF 560 | ETS 560 | 470 543 |
| | SNL 40/500 GL | 240/500 ECA/W33 | TS 560 TNF 560 | ETS 560 | 470 543 |
| 530 | SNL 30/530 GF | 230/530 CA/W33 C 30/530 M | TS 600 TNF 600 | ETS 600 | 480 553 |
| | SNL 30/530 GL | 230/530 CA/W33 | TS 600 TNF 600 | ETS 600 | 480 553 |
| | SNL 40/530 GF | 240/530 ECA/W33 | TS 600 TNF 600 | ETS 600 | 480 553 |
| | SNL 40/530 GL | 240/530 ECA/W33 | TS 600 TNF 600 | ETS 600 | 480 553 |

¹⁾ 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.
 Only typical bearings are listed. Other bearing variants can also fit the housing.



| Shaft diameter | Dimensions Housings | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing |
|----------------|---------------------|----------------|-----|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|----|----|----------------|----|-------------------------------|--------------|
| | d _a | d _b | A | A ₁ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | | |
| mm | mm | | | | | | | | | | | | | | | - | kg |
| 500 | 530 | 460 | 430 | 167 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 755 |
| | 530 | 460 | 430 | 226 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 751 |
| | 530 | 460 | 430 | 218 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 755 |
| | 530 | 460 | 430 | 238 | 720 | 835 | 420 | 135 | 1030 | 260 | 1220 | 60 | 48 | 35 | 42 | M42 | 751 |
| 530 | 560 | 470 | 440 | 185 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M48 | 947 |
| | 560 | 470 | 440 | 248 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M48 | 941 |
| | 560 | 470 | 440 | 250 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M48 | 947 |
| | 560 | 470 | 440 | 270 | 780 | 920 | 460 | 155 | 1110 | 260 | 1330 | 70 | 56 | 35 | 48 | M48 | 941 |



Split plummer block housings SED 30, 31, 32 and 39 series

6

Bearing types

- Spherical roller bearings

Bearing dimension series

- 30, 31, 32 and 39

Shaft diameter range

- 430 to 900 mm

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seal

- Multi-seal

Lubrication

- Grease
- Oil

Material

- Spheroidal graphite cast iron

Mounting

- Eight-bolt mounting

Compliance to standards

- Not standardized

SED plummer (pillow) block housings are large split housings designed to accommodate heavy loads acting perpendicular toward the support surface within an angle of $\pm 55^\circ$. These types of loads are typically encountered in conveyors, mills and crushers.

Split plummer block housings SED 30, 31, 32 and 39 series

| | | | |
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Designations

Designation system for SED plummer block housings

SED 31/530 AL

Series

SED Standard plummer block housing, spheroidal graphite cast iron

Size identification

30.. Housing for bearings in the 30 dimension series
31.. Housing for bearings in the 31 dimension series
32.. Housing for bearings in the 32 dimension series
39.. Housing for bearings in the 39 dimension series
..92 and ..96 Size code, related to the bearing bore size
../500 to /950 Size code, related to the bearing bore size

Suffixes¹⁾

– Housing for bearings on an adapter sleeve and a plain shaft
G Housing for bearings on a cylindrical seat and a stepped shaft
A Housing for shaft end, one side closed
B Housing for a through shaft
F Housing for the locating bearing position
L Housing for the non-locating bearing position
RT Housing prepared for circulating oil lubrication
V Grease escape hole in the cover
P01 to P.. Paint variant according to customer specification (no symbol indicates SKF standard paint)

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Standard housing design

SED plummer (pillow) block housings are large symmetrical, split housings consisting of a housing base, cap and two split covers (→ **fig. 1**). The covers are bolted to the base/cap with hexagon head bolts on each side. The housings have eight drilled attachment bolts holes in the base as standard. Two cast holes in the cap facilitate handling.

The SED housing series consists of six different housing bodies. Each housing body can accommodate multiple bearing series and sizes. The bearing envelope, the outside diameter and width, determine the cover design and the dimensions of both the cover and bearing seat.

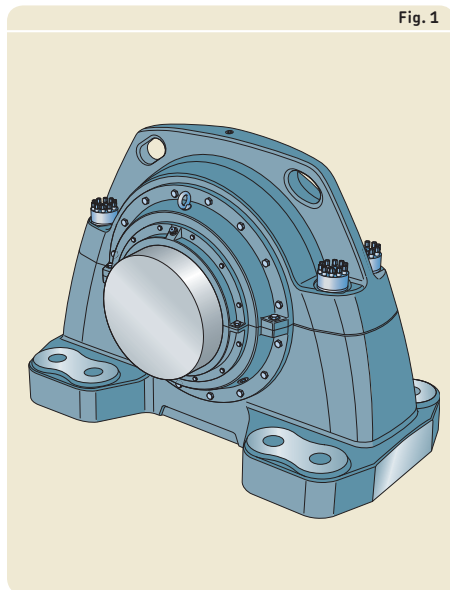


Fig. 1

Features and benefits

SED plummer block housings have the following features and benefits:

Stiff housing

Standard SED housings are made of spheroidal graphite cast iron. The housings are reinforced with ribs in the base, an integral flange on the cap, and additional material around the attachment bolt holes (→ **fig. 2**). This design contributes to the overall stiffness of the housing and minimizes the total weight.

Easy mounting

The housing base and cap are held together by four Superbolt® multi-jack tensioners (up to size M 80) (→ **fig. 3**). Each bolt consists of 10 to 14 M 16 hexagon head bolts that can be installed easily by one person using a torque wrench.

Machined base ends

SED housings have machined base ends. This makes alignment easier and provides good contact with stops when they are used (→ **fig. 4**).

Safe, easy handling

All housing parts are prepared for safe, easy handling and lifting. There are two holes cast into the integral flange on the cap (→ **fig. 5**). The housing base and covers can be lifted with eye bolts inserted into existing threaded holes.

Grease/oil escape holes

SED housings have three drilled and tapped holes in the base for evacuation of grease or oil, as standard (→ **fig. 6**).

© Superbolt is a trademark of the Nord-Lock Group.

Fig. 4

Machined base ends

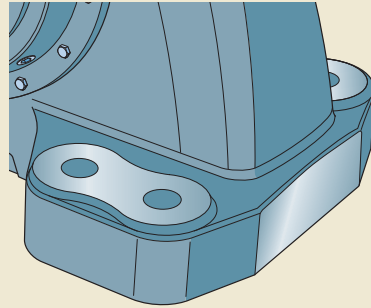


Fig. 2

Stiff housing

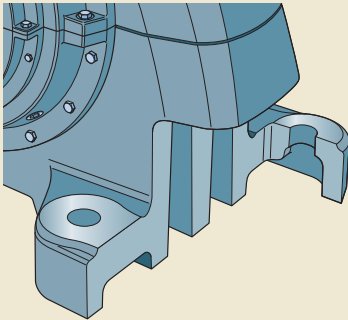


Fig. 5

Lifting holes

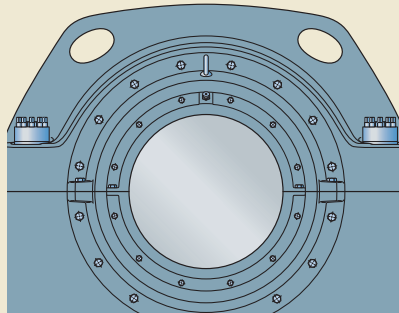


Fig. 3

Superbolts

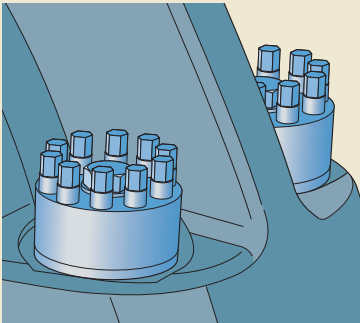
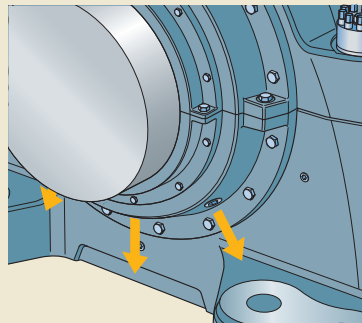


Fig. 6

Grease/oil escape holes



Housing material

SED plummer block housings are made of spheroidal graphite cast iron.

Paint, corrosion protection

SED housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C3, i.e. exterior atmospheres with a moderate level of pollution; coastal areas with low salinity; interior atmospheres with high humidity and some air pollution (→ *Environmental conditions, page 36*). The paint is not affected by most lubricating or engine oils, cutting fluids or alkalescent washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Dimension standards

The dimensions of SED housings are not standardized either nationally or internationally.

Housing variants

In addition to standard design SED housings, a number of variants are also available. Variants include housings painted to other colours and corrosivity categories, housings with a narrower base and differently positioned attachment bolt holes, housings suitable for bearings on a cylindrical seat on stepped shafts, and housings modified for circulating oil lubrication.

For additional information, contact the SKF application engineering service.

Housings for circulating oil lubrication systems

Housings modified for circulating oil lubrication systems have a threaded oil outlet hole in each cover (designation suffix RT). The tapped hole used for grease lubrication can be used as the oil inlet.

Sealing solutions

Multi-seals

SED plummer block housings are supplied standard with a multi-seal on each side, which consists of an integrated labyrinth seal and a three stage labyrinth ring. An O-ring holds the labyrinth ring in place on the shaft. The radial shaft seal is installed in the radial seal cover, which is then mounted onto the labyrinth seal cover.

The multi-seal is designed for both grease and circulating oil lubrication. The seal can be relubricated via a grease fitting in the radial seal cover (→ **fig. 7**).

Table 1 provides an overview of the characteristics and suitability of the multi-seal. This information should be used a guideline, which cannot substitute for testing a seal in its application.

End covers

SED housings are supplied with a cover for either shaft ends or through shafts:

- Housings with a cover for shaft ends have the designation suffix A.
- Housings with a cover for through shafts have the designation suffix B.

For details about the permissible length of the shaft end, contact the SKF application engineering service.

Fig. 7

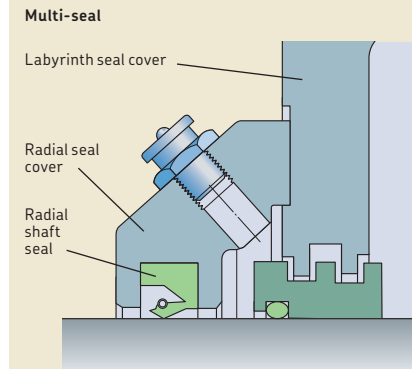


Table 1

Multi-seals for SED plummer block housings

| Seal | |
|--|--|
| Type | Integrated labyrinth and radial shaft seal |
| Material | grey cast iron, nitrile rubber |
| Application conditions and requirements | |
| Temperature [°C] | -40 to +100 |
| Temperature [°F] | -40 to +210 |
| Max. circumferential speed ¹⁾ [m/s] | 7,5 |
| Max. misalignment [°] | 0,3 |
| Low friction | suitable |
| Shaft tolerance class | h9 |
| Shaft roughness R _a [µm] | ≤ 3,2 |
| Sealing suitability | |
| Dust | ++ |
| Fine particles | ++ |
| Coarse particles | ++ |
| Chips | ++ |
| Liquids when sprayed | + |
| Direct sunlight | ++ |
| Symbols: ++ very suitable | + suitable |

¹⁾ Limited by the radial shaft seal

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ page 41)
- *Locating/non-locating bearing arrangements* (→ page 40)
- *Load carrying capacity* (→ page 44)
- *Axial load carrying capacity for bearings on a sleeve* (→ page 44)
- *Specifications for shafts and housing support surfaces* (→ page 45)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

SED housings can accommodate different shaft-bearing combinations:

- plain shaft with bearing on an adapter sleeve (→ fig. 8)
- stepped shaft with bearing on a cylindrical seat

Plain shaft with bearing on an adapter sleeve

This arrangement is standard for SED housings. Housings, appropriate parts and dimensions are listed in **product table 6.1** starting on **page 344**.

Stepped shaft with bearing on a cylindrical seat

Housings to accommodate this shaft arrangement are available on request. For additional information, contact the SKF application engineering service.

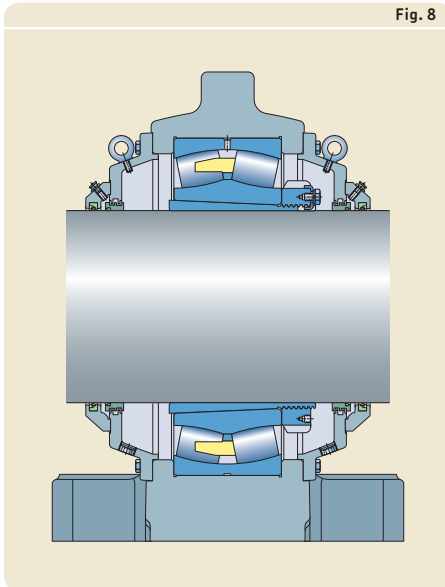
Locating and non-locating bearing positions

SED housings can be used for both the locating and non-locating bearing positions and are supplied in two designs:

- Housings with the designation suffix F have a bearing seat that matches the bearing width. These housings should be used for spherical roller bearings in the locating position and CARB toroidal roller bearings in the non-locating position.
- Housings with the designation suffix L have a bearing seat that is wider than the bearing. These housings should be used for spherical roller bearings in the non-locating position. The possible axial displacement of the bearing is listed in the product tables (parameter "s").

Load carrying capacity

SED housings are intended for loads acting perpendicularly toward the support surface within an angle of $\pm 55^\circ$. If loads acting in other directions occur, contact the SKF application engineering service.



Breaking loads and safety factors

Guideline values for the breaking loads for housings made of spheroidal graphite cast iron are listed in **table 2**. To obtain the permissible load for a housing, the appropriate breaking load value should be divided by a factor based on the safety requirements. In general engineering, a safety factor of 6 is typical (→ *Load carrying capacity*, **page 44**).

The permissible load can only be exploited if the cap bolts are tightened at least to the torque values listed in **table 3** on **page 339**.

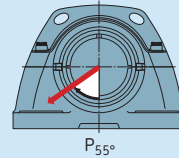
If the housing is not supported over its entire base, the load carrying capacity may be affected. For additional information, contact the SKF application engineering service.

Additional housing support

When loads acting parallel to the support surface occur, a sufficiently strong stop should be provided to counter the load.

Table 2

Breaking loads for SED plummer block housings



| Housing body Size | Breaking loads P_{55° |
|-------------------|-------------------------------|
| – | kN |
| 1 | 26 000 |
| 2 | 30 000 |
| 3 | 35 000 |
| 4 | 48 000 |
| 5 | 49 000 |
| 6 | 69 000 |

Table 3

Tightening torque values for cap bolts

| Housing body Size | Cap bolts (Superbolts) Designation to ISO 262 Grade 10.9 bolt body | Jack bolt Size | Tightening torque |
|-------------------|--|----------------|-------------------|
| – | – | | Nm |
| 1 | SB12-M 68x6x300/W | M 16x1,5 | 350 |
| 2 | SB12-M 68x6x300/W | M 16x1,5 | 350 |
| 3 | SB12-M 72x6x300/W | M 16x1,5 | 350 |
| 4 | SB12-M 80x6x350/W | M 16x1,5 | 350 |
| 5 | SB12-M 80x6x350/W | M 16x1,5 | 350 |
| 6 | SB12-M 80x6x350/W | M 16x1,5 | 350 |

Operating temperature

The permissible operating temperature is mainly limited by the seal (→ **table 3, page 339**) and the lubricant in the bearing. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

The seals can limit the permissible operating speed. They are suitable for circumferential speeds of up to 7,5 m/s.

For speed limits of the bearing, refer to the product information available online at skf.com/bearings.

Attachment bolt recommendations

SKF recommends using Superbolt multi-jack tensioners as attachment bolts for easier and more reliable mounting compared to standard hexagon head bolts. In typical applications, 10.9 class hexagon head bolts in accordance with ISO 4014 can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger, 12.9 class bolts.

Torque values for cover bolts and attachment bolts

| Housing body Size | Cover bolts Cover Size | Tightening torque | Radial seal cover Size | Tightening torque |
|----------------------|------------------------------|----------------------|---------------------------|----------------------|
| – | – | Nm | – | Nm |
| 1 | M 16/M 24 | 200/665 | M 10 | 50 |
| 2 | M 16/M 24 | 200/665 | M 10 | 50 |
| 3 | M 16/M 24 | 200/665 | M 10 | 50 |
| 4 | M 16/M 24 | 200/665 | M 10 | 50 |
| 5 | M 16/M 24 | 200/665 | M 10 | 50 |
| 6 | M 16/M 24 | 200/665 | M 10 | 50 |

¹⁾ L = length

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values typically recommended by bolt manufacturers (→ **table 4**). They are valid for oiled, but otherwise untreated thread surfaces. Hexagon head bolts tightened to the recommended torque value cannot accommodate any load in the direction of the bolt axis. SKF cannot guarantee that tightening to the recommended value provides sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Table 4

| Housing body Size | Attachment bolts Superbolts Grade 10.9 bolt body ¹⁾ | Jack bolt Size | Tightening torque | Hexagon head bolts | |
|----------------------|--|-------------------|----------------------|--------------------|----------------------|
| | | | | Size | Tightening torque |
| – | – | | Nm | – | Nm |
| 1 | SB12-M72x6xL/W | M16x1,5 | 350 | M72 | 26 500 |
| 2 | SB12-M72x6xL/W | M16x1,5 | 350 | M72 | 26 500 |
| 3 | SB12-M80x6xL/W | M16x1,5 | 350 | M80 | 36 600 |
| 4 | SB12-M80x6xL/W | M16x1,5 | 350 | M80 | 36 600 |
| 5 | SB12-M80x6xL/W | M16x1,5 | 350 | M80 | 36 600 |
| 6 | SB12-M80x6xL/W | M16x1,5 | 350 | M80 | 36 600 |

Lubrication

SED plummer block housings are intended for both grease and circulating oil lubrication systems. The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

Initial grease fill

If no other requirements exist, the free space in the bearing as well as the gaps of the labyrinth seal should be completely filled with grease and the free space in the housing should be filled to 20% of its volume. For highly contaminated environments and slow speeds, fill the housing to 70–80%.

For additional information, contact the SKF application engineering service.

Relubrication

SED plummer block housings enable relubrication of the incorporated bearings and seals. They have two holes that have been drilled and tapped for a button-head grease fitting (→ **fig. 9**). The holes are in accordance with DIN 3404 and used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring). When applying grease via the relubrication feature, the shaft should be rotating.

Grease/oil escape holes

SED housings have three drilled and tapped holes in the base for evacuation of grease or oil, as standard (→ **fig. 6, page 335**) as the grease or oil cannot escape via the seal if relubrication is required.

When grease lubrication is used, these escape holes can also be used for spot checks of grease quality.

Oil lubrication

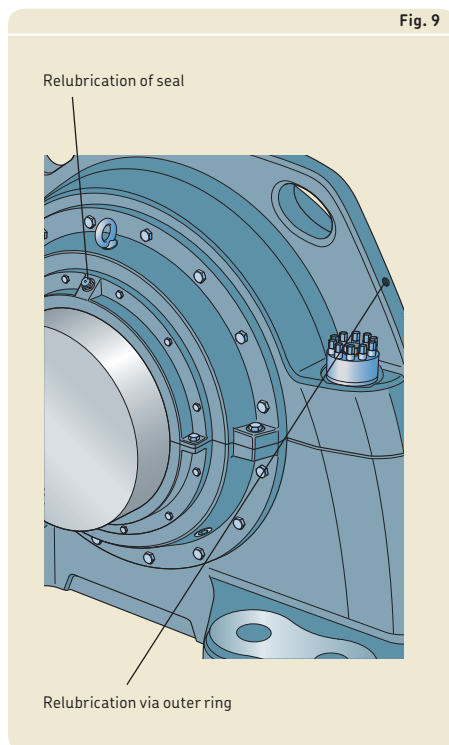
SED housings with the designation suffix RT can be used for circulating oil lubrication systems. The same holes that are used for grease relubrication (via the annular groove and lubrication holes in the outer ring of the bearing) can be used as the oil inlet.

Mounting

SED housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces*, **page 45**). For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Torque specifications

Cap, cover and attachment bolts should be tightened to the torque values listed in **tables 3 and 4, pages 339 and 340**. The cover bolts are in accordance with ISO 4017. For information about attachment bolts, refer to *Attachment bolt recommendations* on **page 340**.



Supporting the housing

A stop should be used to accommodate loads acting parallel to the support surface. The stop also makes alignment during mounting easier.

Eye bolts

All separate components are prepared for lifting. There is an integral flange on the cap with two cast holes. The housing base can be lifted with eye bolts inserted into the threaded holes for the cap bolts.

Various threaded holes in the covers can be used for inserting eye bolts.

Condition monitoring

SED housings have a drilled and tapped hole at the integral flange on the cap specially designed for the SKF wireless vibration sensor, CMWA 8800¹⁾.

The CMWA 8800 Wireless Condition Monitoring Node is a combined sensor and wireless communication node that measures both vibration and temperature. The device uses the WirelessHART communication protocol, which offers a simple, reliable and secure means of transmitting machine vibration and temperature data wirelessly back to a host computer network.

SED housings also have additional positions for other sensors (→ **fig. 10**).

Position 1 is a measurement point perpendicular to the shaft appropriate for temperature sensors.

Position 2 is a measurement point perpendicular or parallel to the shaft appropriate for vibration sensors.

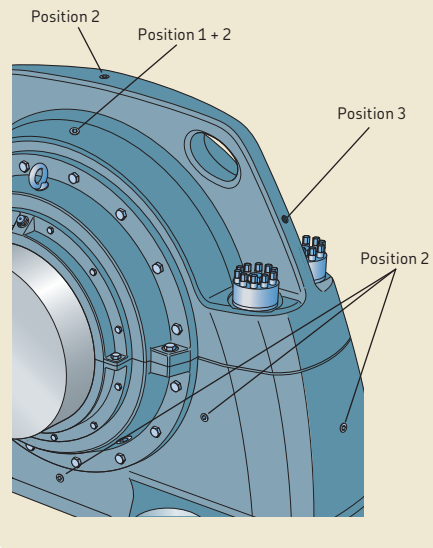
Position 3 is a drilled hole for lubrication perpendicular to the shaft that can be used for both temperature and vibration sensors.

Accessories

There are several accessories available for SED housings, including centralized lubrication systems and condition monitoring sensors. For additional information, refer to *SKF tools and products* (→ **page 47**).

¹⁾ Check availability before ordering.

Fig. 10



6

Ordering information

SED housings are supplied with the appropriate covers, multi-seals and a wireless condition monitoring sensor. Bearings and adapter sleeves must be ordered separately.

Order example

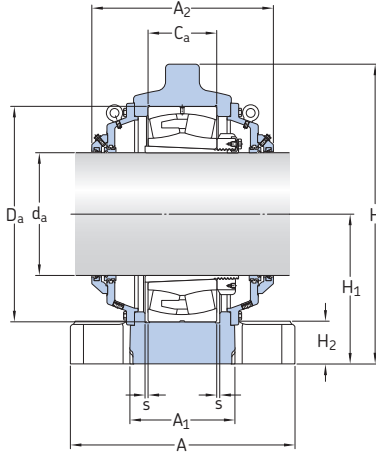
Two plummer block housings are required for two 230/560 CAK/W33 spherical roller bearings on OH 30/560 H adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing and a through shaft.

The following items should be ordered:

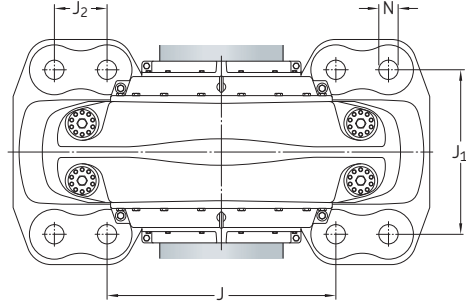
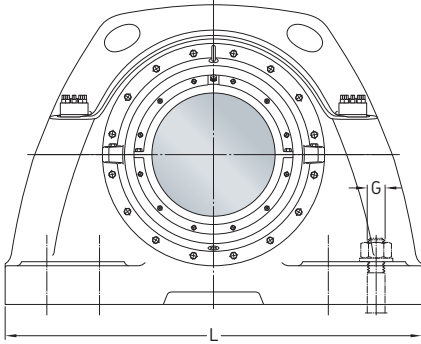
- 1 housing SED 30/560 BF
- 1 housing SED 30/560 AL

6.1 SED plummer block housings for bearings on an adapter sleeve

d_a 430 – 750 mm



| Shaft diameter d_a | Housing | Appropriate parts Bearing | Adapter sleeve | Mass Housing | Housing body Size |
|-------------------------|--|--|--|----------------------------------|----------------------|
| mm | - | - | | kg | - |
| 430 | SED 3292 | 23292 CAK/W33 | OH 292 H | 2 300 | 1 |
| 450 | SED 3296 | 23296 CAK/W33 | OH 3296 H | 2 900 | 2 |
| 470 | SED 31/500 SED 32/500 | 231/500 CAK/W33 232/500 CAK/W33 | OH 31/500 H OH 32/500 H | 2 300 3 550 | 1 4 |
| 500 | SED 31/530 SED 32/530 | 231/530 CAK/W33 232/530 CAK/W33 | OH 31/530 H OH 32/530 H | 2 300 3 550 | 1 4 |
| 530 | SED 30/560 SED 31/560 SED 32/560 | 230/560 CAK/W33 231/560 CAK/W33 232/560 CAK/W33 | OH 30/560 H OH 31/560 H OH 32/560 H | 2 300 2 900 3 550 | 1 2 4 |
| 560 | SED 39/600 SED 30/600 SED 31/600 SED 32/600 | 239/600 CAK/W33 230/600 CAK/W33 231/600 CAK/W33 232/600 CAK/W33 | OH 39/600 H OH 30/600 H OH 31/600 H OH 32/600 H | 2 300 2 300 3 550 3 550 | 1 1 4 4 |
| 600 | SED 39/630 SED 30/630 SED 31/630 | 239/630 CAK/W33 230/630 CAK/W33 231/630 CAK/W33 | OH 39/630 H OH 30/630 H OH 31/630 H | 2 300 2 900 3 550 | 1 2 4 |
| 630 | SED 39/670 SED 30/670 SED 31/670 SED 32/670 | 239/670 CAK/W33 230/670 CAK/W33 231/670 CAK/W33 232/670 CAK/W33 | OH 39/670 H OH 30/670 H OH 31/670 H OH 32/670 H | 2 900 2 900 4 175 6 500 | 2 2 5 6 |
| 670 | SED 39/710 SED 30/710 SED 31/710 SED 32/710 | 239/710 CAK/W33 230/710 CAK/W33 231/710 CAK/W33 232/710 CAK/W33 | OH 39/710 H OH 30/710 H OH 31/710 H OH 32/710 H | 2 900 3 600 4 175 6 500 | 2 3 5 6 |
| 710 | SED 39/750 SED 30/750 SED 31/750 SED 32/750 | 239/750 CAK/W33 230/750 CAK/W33 231/750 CAK/W33 232/750 CAK/W33 | OH 39/750 H OH 30/750 H OH 31/750 H OH 32/750 H | 2 900 3 600 6 500 6 500 | 2 3 6 6 |
| 750 | SED 39/800 SED 30/800 SED 31/800 | 239/800 CAK/W33 230/800 CAK/W33 231/800 CAK/W33 | OH 39/800 H OH 30/800 H OH 31/800 H | 3 600 4 175 6 500 | 3 5 6 |



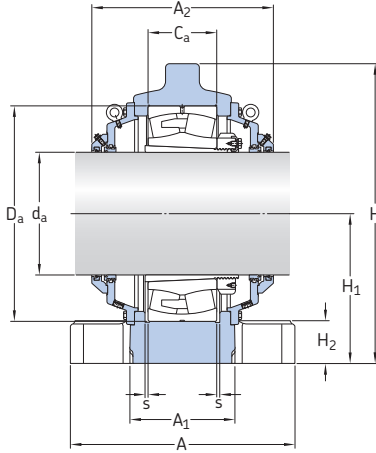
6.1

Shaft diameter **Dimensions**

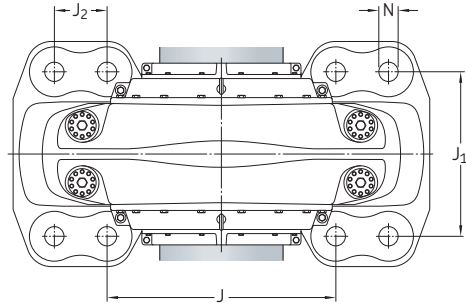
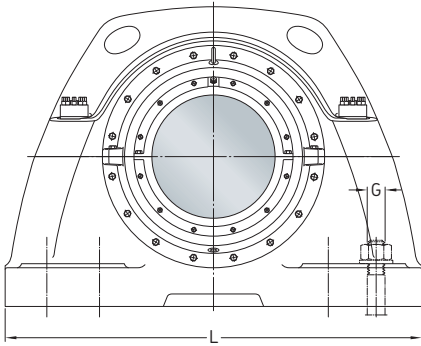
| d_a | A | A_1 | A_2 | D_a | C_a | H | H_1 | H_2 | J | J_1 | L | N | J_2 | G | s |
|------------|------|-------|-------|-------|-------|------|-------|-------|------|-------|------|----|-------|----|----|
| mm | mm | | | | | | | | | | | | | | |
| 430 | 860 | 400 | 696 | 830 | 296 | 1150 | 575 | 165 | 880 | 630 | 1600 | 76 | 200 | 72 | 8 |
| 450 | 920 | 450 | 731 | 870 | 310 | 1230 | 630 | 175 | 940 | 700 | 1700 | 76 | 205 | 72 | 9 |
| 470 | 860 | 400 | 696 | 830 | 264 | 1150 | 575 | 165 | 880 | 630 | 1600 | 76 | 200 | 72 | 8 |
| | 1000 | 500 | 786 | 920 | 336 | 1325 | 675 | 195 | 1100 | 780 | 1900 | 84 | 210 | 80 | 9 |
| 500 | 860 | 400 | 696 | 870 | 272 | 1150 | 575 | 165 | 880 | 630 | 1600 | 76 | 200 | 72 | 9 |
| | 1000 | 500 | 786 | 980 | 355 | 1325 | 675 | 195 | 1100 | 780 | 1900 | 84 | 210 | 80 | 10 |
| 530 | 860 | 400 | 696 | 820 | 195 | 1150 | 575 | 165 | 880 | 630 | 1600 | 76 | 200 | 72 | 8 |
| | 920 | 450 | 731 | 920 | 280 | 1230 | 630 | 175 | 940 | 700 | 1700 | 76 | 205 | 72 | 9 |
| | 1000 | 500 | 786 | 1030 | 365 | 1325 | 675 | 195 | 1100 | 780 | 1900 | 84 | 210 | 80 | 10 |
| 560 | 860 | 400 | 696 | 800 | 150 | 1150 | 575 | 165 | 880 | 630 | 1600 | 76 | 200 | 72 | 8 |
| | 860 | 400 | 696 | 870 | 200 | 1150 | 575 | 165 | 880 | 630 | 1600 | 76 | 200 | 72 | 9 |
| | 1000 | 500 | 786 | 980 | 300 | 1325 | 675 | 195 | 1100 | 780 | 1900 | 84 | 210 | 80 | 10 |
| | 1000 | 500 | 801 | 1090 | 388 | 1325 | 675 | 195 | 1100 | 780 | 1900 | 84 | 210 | 80 | 11 |
| 600 | 860 | 400 | 696 | 850 | 165 | 1150 | 575 | 165 | 880 | 630 | 1600 | 76 | 200 | 72 | 8 |
| | 920 | 450 | 731 | 920 | 212 | 1230 | 630 | 175 | 940 | 700 | 1700 | 76 | 205 | 72 | 9 |
| | 1000 | 500 | 786 | 1030 | 315 | 1325 | 675 | 195 | 1100 | 780 | 1900 | 84 | 210 | 80 | 10 |
| 630 | 920 | 450 | 731 | 900 | 170 | 1230 | 630 | 175 | 940 | 700 | 1700 | 76 | 205 | 72 | 9 |
| | 920 | 450 | 731 | 980 | 230 | 1230 | 630 | 175 | 940 | 700 | 1700 | 76 | 205 | 72 | 10 |
| | 1000 | 480 | 801 | 1090 | 336 | 1650 | 840 | 215 | 1300 | 770 | 2100 | 84 | 210 | 80 | 11 |
| | 1200 | 600 | 898 | 1220 | 438 | 1715 | 840 | 215 | 1350 | 920 | 2200 | 84 | 210 | 80 | 12 |
| 670 | 920 | 450 | 731 | 950 | 180 | 1230 | 630 | 175 | 940 | 700 | 1700 | 76 | 205 | 72 | 9 |
| | 900 | 420 | 711 | 1030 | 236 | 1350 | 675 | 195 | 1110 | 685 | 1900 | 84 | 210 | 80 | 10 |
| | 1000 | 480 | 801 | 1150 | 345 | 1650 | 840 | 215 | 1300 | 770 | 2100 | 84 | 210 | 80 | 11 |
| | 1200 | 600 | 909 | 1280 | 450 | 1715 | 840 | 215 | 1350 | 920 | 2200 | 84 | 210 | 80 | 13 |
| 710 | 920 | 450 | 731 | 1000 | 185 | 1230 | 630 | 175 | 940 | 700 | 1700 | 76 | 205 | 72 | 10 |
| | 900 | 420 | 711 | 1090 | 250 | 1350 | 675 | 195 | 1110 | 685 | 1900 | 84 | 210 | 80 | 11 |
| | 1200 | 600 | 886 | 1220 | 365 | 1715 | 840 | 215 | 1350 | 920 | 2200 | 84 | 210 | 80 | 12 |
| | 1200 | 600 | 929 | 1360 | 475 | 1715 | 840 | 215 | 1350 | 920 | 2200 | 84 | 210 | 80 | 14 |
| 750 | 900 | 420 | 711 | 1060 | 195 | 1350 | 675 | 195 | 1110 | 685 | 1900 | 84 | 210 | 80 | 11 |
| | 1000 | 480 | 796 | 1150 | 258 | 1650 | 840 | 215 | 1300 | 770 | 2100 | 84 | 210 | 80 | 11 |
| | 1200 | 600 | 886 | 1280 | 375 | 1715 | 840 | 215 | 1350 | 920 | 2200 | 84 | 210 | 80 | 13 |

6.1 SED plummer block housings for bearings on an adapter sleeve

d_a 800 – 900 mm



| Shaft diameter | Housing | Appropriate parts Bearing | Adapter sleeve | Mass Housing | Housing body Size |
|----------------|------------|------------------------------|----------------|-----------------|----------------------|
| d_a | | | | | |
| mm | – | – | | kg | – |
| 800 | SED 39/850 | 239/850 CAK/W33 | OH 50 H | 3 600 | 3 |
| | SED 30/850 | 230/850 CAK/W33 | OH 30/850 H | 4 175 | 5 |
| | SED 31/850 | 231/850 CAK/W33 | OH 31/850 H | 6 500 | 6 |
| 850 | SED 39/900 | 239/900 CAK/W33 | OH 39/900 H | 3 600 | 3 |
| | SED 30/900 | 230/900 CAK/W33 | OH 30/900 H | 4 175 | 5 |
| 900 | SED 39/950 | 239/950 CAK/W33 | OH 39/950 H | 4 175 | 5 |
| | SED 30/950 | 230/950 CAK/W33 | OH 30/950 H | 4 175 | 5 |



6.1

Shaft Dimensions
diameter

| d _a | A | A ₁ | A ₂ | D _a | C _a | H | H ₁ | H ₂ | J | J ₁ | L | N | J ₂ | G | s |
|----------------|------|----------------|----------------|----------------|----------------|------|----------------|----------------|------|----------------|------|----|----------------|----|----|
| mm | mm | | | | | | | | | | | | | | |
| 800 | 900 | 420 | 711 | 1120 | 200 | 1350 | 675 | 195 | 1110 | 685 | 1900 | 84 | 210 | 80 | 11 |
| | 1000 | 480 | 796 | 1220 | 272 | 1650 | 840 | 215 | 1300 | 770 | 2100 | 84 | 210 | 80 | 12 |
| | 1200 | 600 | 897 | 1360 | 400 | 1715 | 840 | 215 | 1350 | 920 | 2200 | 84 | 210 | 80 | 14 |
| 850 | 900 | 420 | 711 | 1180 | 206 | 1350 | 675 | 195 | 1110 | 685 | 1900 | 84 | 210 | 80 | 12 |
| | 1000 | 480 | 796 | 1280 | 280 | 1650 | 840 | 215 | 1300 | 770 | 2100 | 84 | 210 | 80 | 13 |
| 900 | 1000 | 480 | 796 | 1250 | 224 | 1650 | 840 | 215 | 1300 | 770 | 2100 | 84 | 210 | 80 | 12 |
| | 1000 | 480 | 796 | 1360 | 300 | 1650 | 840 | 215 | 1300 | 770 | 2100 | 84 | 210 | 80 | 14 |



Split plummer block housings SONL series

Bearing types

- Self-aligning ball bearings
- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 22

Shaft diameter range

- 75 to 240 mm
- 2 ¹⁵/₁₆ to 8 ¹⁵/₁₆ in.

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seals

- Labyrinth

Lubrication

- Oil bath lubrication with a pick-up ring
- Circulating oil lubrication systems

Materials

- Grey cast iron
- Spheroidal graphite cast iron

Mounting

- Four-bolt mounting

Compliance to standards

- Not standardized

Supersedes

- SOFN in the 2(00) and 5(00) series

SONL plummer (pillow) block housings are specially designed for oil lubrication. They can accommodate high temperatures and bearings operating at high speeds. They have a strong, stiff design and are characterized by a number of built-in features that maximize the effects of the lubricant and extend bearing service life.

SONL housings can be found in applications ranging from fans and flywheels to paper machines and emergency power generators.

Split plummer block housings SONL series

| | | | |
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Designations

Designation system for SONLD plummer block housings

SONLD 215-517 RA

Series

SONL Plummer (pillow) block housing for oil lubrication

Material

- Grey cast iron
D Spheroidal graphite cast iron

Size identification

2(00)-5(00) Housing for bearings on a cylindrical seat or adapter sleeve, diameter series 2
..(00) Size code of the bearing, (00) x 5 = bearing bore diameter [mm]

Suffix

RA Housing for CARB toroidal roller and self-aligning ball bearings when using a circulating oil lubrication system

7

Designation system for end covers

ECO 217-517

Series

ECO End cover with two rubber O-rings for SONL plummer block housings

Size identification

2(00)-5(00) Housing size identification

Designation system for seal kits

TSO 217 A

Series

TSO 2 Seal kit for bearings on a cylindrical seat
TSO 5 Seal kit for bearings on an adapter sleeve

Size identification

(00) Size code of the bearing, (00) x 5 = bearing bore diameter [mm]
/... Additional size identification for inch shafts, shaft diameter [in.]

Suffixes

- Seal kit for through shafts
A Seal kit for shaft ends
/VZ643 Seal kit for bearings on a cylindrical seat and a plain shaft

Split plummer block housings SONL series

Designation system for oil level gauges and oil pick up rings when sold separately

GG-TSO 217-517/V51

GG-TSO Oil level gauge

Size identification

2(00)-5(00) Housing size identification

Suffix

/V51 Signifies spare part

GH-TSO 217-517/V51

GH-TSO Oil pick-up ring

Size identification

2(00)-5(00) Housing size identification

Suffixes

/V51 Oil pick-up ring – steel (signifies spare parts with standard performance)
/MB Oil pick-up ring – brass (replacement for standard)

Designation system for oil cooling tubes

AVA-0001/1

Series

AVA Oil cooling tube

Size identification

0001 Basic size to fit G 3/4 to G 1 1/2 oil outlets
/1 For housings SONL 217-517 and SONL 218-518
/2 For housings SONL 220-520 and SONL 222-522
/3 For housings SONL 224-524 to SONL 232-532
/4 For housings SONL 234-534 to SONL 248-548

Designation system for locating rings

FRB 11/230

Series

FRB Locating ring for SKF bearing housings

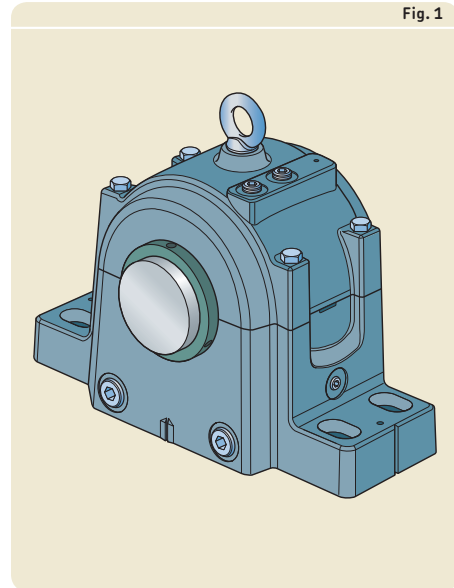
Size identification

.../... Width and outside diameter of the locating ring [mm]

Standard housing design

SONL plummer (pillow) block housings (→ **fig. 1**) are split housings consisting of a cap and base. They have four holes cast into the base for attachment bolts.

The housings incorporate a number of design features that make them suitable for oil lubrication in order to achieve higher speeds.



Features and benefits

SONL plummer block housings have the following features and benefits:

Simple mounting

To simplify mounting and make alignment more accurate, lines indicating the centre of the bearing seat and housing bore axis are cast into the housing base. Dimples indicate the position for dowel pins (→ **fig. 2**).

SONL housings have significantly fewer components than earlier SOFN housings. Their four cap bolts are loosened prior to delivery for easy removal.

Mounting instructions are supplied with each seal kit. The housings have an eye bolt on the cap for safe and easy handling.

Deep sump for lower operating temperatures

SONL housings have a deep sump that holds a large volume of oil so that heat can be dissipated effectively (→ **fig. 3**). This cooling effect extends the service life of both the lubricant and the bearing.

If operating conditions require it, auxiliary oil cooling tubes are available. These can be installed through the oil outlet holes in the housing base.

Strong, stiff and simple design

The simple, sturdy design of SONL housings provides maximum support and reduces the risk of deforming the cap or base during installation. Dowel pins between the cap and base are off-centre so that the cap can only be installed one way.

Comprehensive seal kits

In addition to the seals, seal kits for SONL housings are supplied standard with (→ **fig. 4**):

- an oil level gauge that makes it easy to visually check the level and condition of the oil
- a magnetic plug that screws into one of the four tapped holes in the housing base. This plug attracts metal particles, extending the service life of the lubricant and bearing.

Fig. 2

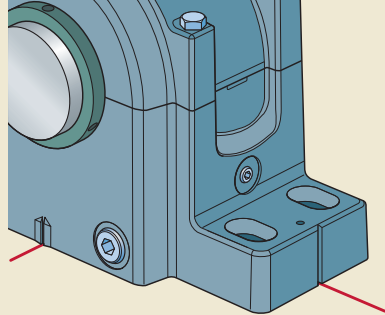


Fig. 3

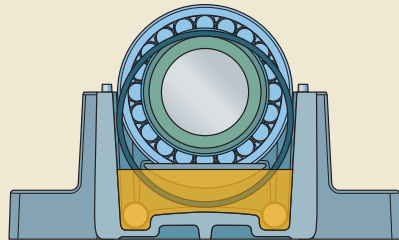
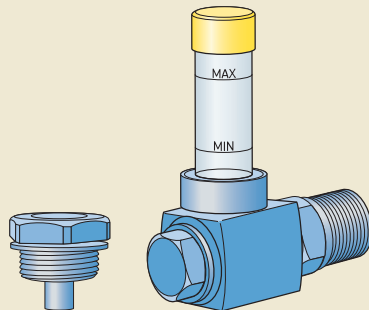


Fig. 4



Caps and bases individually marked

The housing cap and base are matched during manufacture and are not interchangeable with the caps and bases of other housings. To prevent any mismatches, a unique serial number is marked on both the housing cap and the base (→ fig. 5).

Housing material

SONL plumber block housings are made of grey cast iron.

Paint, corrosion protection

SONL plumber block housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Dimension standards

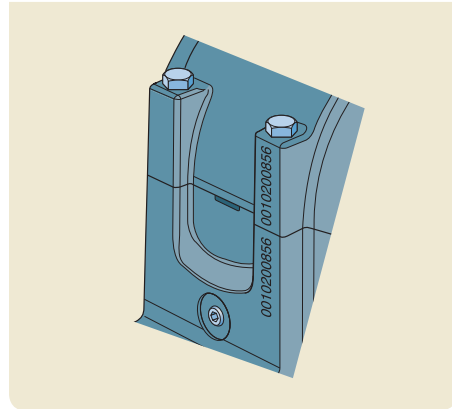
The dimensions of SONL plumber block housings are not standardized either nationally or internationally.

Interchangeability

SONL plumber block housings are dimensionally interchangeable with the earlier SOFN housings in the 2(00) and 5(00) series.

3(00) and 6(00) series SOFN housings are still available. For additional information, contact the SKF application engineering service.

Fig. 5



Housing variants

In addition to standard design SONL plummer (pillow) block housings, a number of variants are also available. Variants include housings made of different materials, different bearing seat tolerance classes and additional tapped holes for circulating oil lubrication systems.

Housing material

For applications where extra strength is needed, SONL housings are also available in spheroidal graphite cast iron.

Bearing seat tolerance

SONL housings can be supplied with different bearing seat tolerance classes, e.g. for applications prone to vibration or with rotating outer ring load.

For additional information, contact the SKF application engineering service.

Housings for circulating oil lubrication systems

In applications where CARB toroidal roller and self-aligning ball bearings are lubricated by a

circulating oil lubrication system, SKF recommends using SONL .. RA housings. These housings are designed for bearings that are lubricated from the side and require a slightly higher oil level than spherical roller bearings.

In SONL .. RA housings, the holes that connect the two halves of the oil sump are positioned higher than in standard housings. This enables oil to reach the rolling elements of the bearing (→ fig. 6).

For additional information, refer to *Using circulating oil lubrication with CARB and self-aligning ball bearings* on **page 367**.

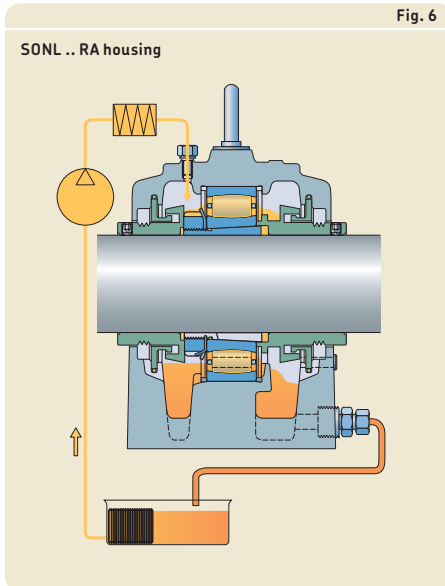
Sealing solutions

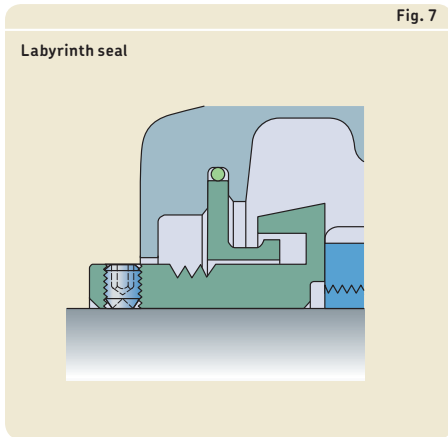
SONL housings are equipped with non-contact labyrinth seals (→ fig. 7). These seals retain the lubricating oil and prevent contaminants from entering the housing. The oil retaining effect is enhanced by oil traps that return oil that has passed through the labyrinth back to the oil reservoir. **Table 1** provides an overview of the seal characteristics and suitability. This information should be used as a guideline and does not substitute for testing the seal in its application.

A labyrinth seal consists of a shaft sleeve and a labyrinth ring, to form a multi-stage labyrinth. The sleeve has a clearance fit on the shaft while the labyrinth ring is stationary and mounted in the housing with an O-ring. To guide the oil pick-up ring, one shaft sleeve is provided with a groove.

The shaft sleeve can be locked onto the shaft in different ways:

- Shaft sleeves for bearings on an adapter sleeve (TSO 5..) are locked by grub screws in the shaft sleeve.
- Shaft sleeves for bearings on a cylindrical seat (TSO 2..) must be locked by an adapter ring, end plate or similar component (not supplied by SKF) on the shaft. Details for locking are shown in **product table 7.3** (→ **page 378**).





Seal kits

The seals for SONL housings are supplied as kits and must be ordered separately.

Seal kits for housings for a through shaft, designation TSO (→ **fig. 8, page 358**), include:

- 2 labyrinth rings with O-rings
- 2 shaft sleeves, one of them for the oil pick-up ring
- 1 oil pick-up ring
- 1 oil level gauge
- 1 magnetic plug
- mounting instructions

7

Table 1

Standard seal kits for SONL plummer block housings

| Seal kit | For through shaft | For shaft end |
|----------------|--------------------------------|--------------------------------|
| Type | Labyrinth | Labyrinth |
| Designation | TS0 | TS0 ..A |
| Material | grey cast iron, nitrile rubber | grey cast iron, nitrile rubber |
| Seals per pack | 2 seals | 1 seal + 1 end cover |

Application conditions and requirements

| | |
|----------------------------|-------------|
| Temperature [°C] | -40 to +110 |
| Temperature [°F] | -40 to +230 |
| Max. misalignment [°] | 0,3 |
| Low friction | ++ |
| Axial shaft displacement | ++ |
| Shaft tolerance class | 1) |
| Shaft roughness R_a [μm] | 3,2 |

Symbol: ++ very suitable

¹⁾ For information about shaft tolerances, refer to the section *Shaft specifications* on **page 362**.

Split plummer block housings SONL series

Seal kits for housings for a shaft end, designation TSO .. A (→ **fig. 9**), include:

- 1 labyrinth ring with O-ring
- 1 shaft sleeve
- 1 end cover with O-rings
- 1 oil pick-up ring
- 1 oil level gauge
- 1 magnetic plug
- mounting instructions

Both the oil level gauge and the oil pick-up ring can be supplied separately.

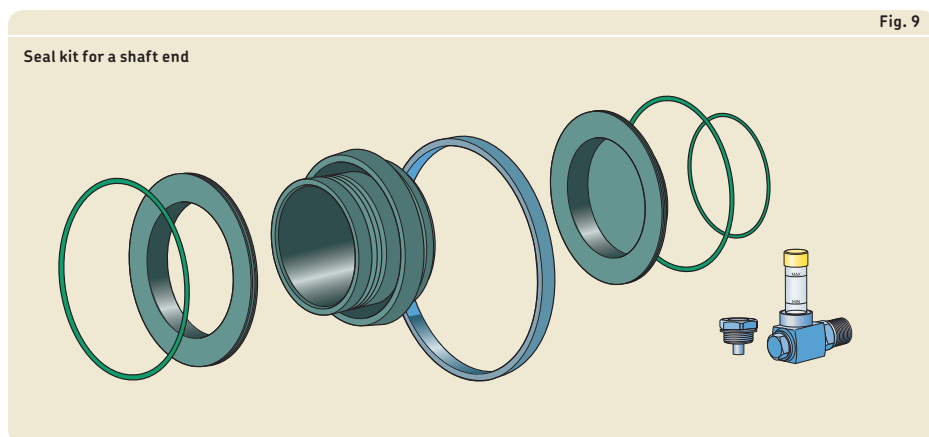
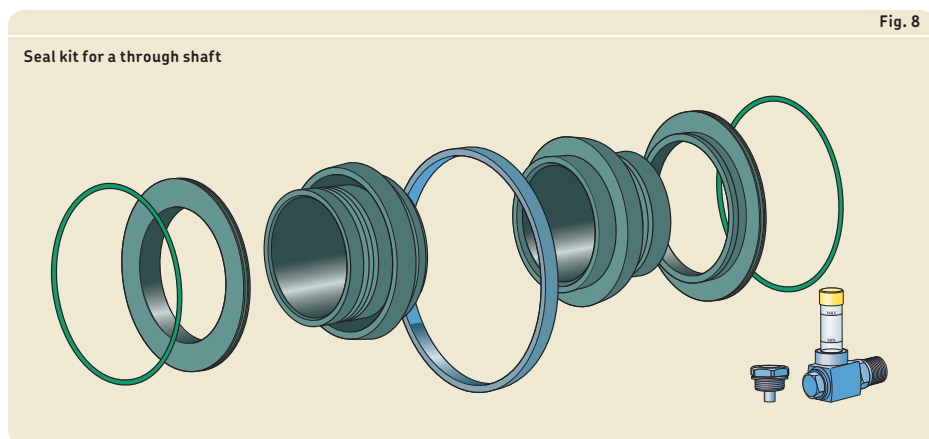
Seal kits for bearings mounted on a cylindrical seat on plain shafts

For bearings mounted on a cylindrical seat on plain shafts, a kit with the designation TSO 2../VZ643 must be used. The seal kit includes two shaft sleeves with the same bore diameter.

End covers

Housings at the end of a shaft should have an end cover that fits into the seal groove in the housing (→ **fig. 10**).

End covers, which are made of grey cast iron, are installed with two O-rings that hold the cover in place.



Details of the permissible length of the shaft end are listed in the product tables.

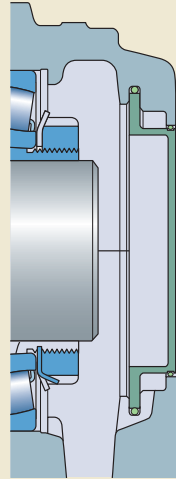
End covers are supplied as a part of the TSO .. A seal kit, but can also be ordered separately.

High-temperature seals

SKF can supply sealing solutions for high operating temperatures. For additional information, contact the SKF application engineering service.

Fig. 10

End cover



Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ page 41)
- *Locating/non-locating bearing arrangements* (→ page 40)
- *Load carrying capacity* (→ page 44)
- *Axial load carrying capacity for bearings on sleeves* (→ page 44)
- *Specifications for shafts and housing support surfaces* (→ page 45)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

SONL plummer (pillow) block housings can accommodate different shaft-bearing combinations (→ fig. 11):

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat
- Plain shaft with bearing on a cylindrical seat

Plain shaft with bearing on an adapter sleeve

Housings, appropriate parts and dimensions are listed in **product tables 7.1** (→ page 370) and **7.2** (→ page 374).

Stepped shaft with bearing on a cylindrical seat

Housings, appropriate parts and dimensions are listed in **product table 7.3** (→ page 378).

The bearing is located axially by an inboard labyrinth seal shaft sleeve that abuts the shaft shoulder, and an outboard labyrinth seal shaft sleeve that is held in place by another component (not supplied by SKF). The outside diameter of this component must be at least as large as that of the sleeve.

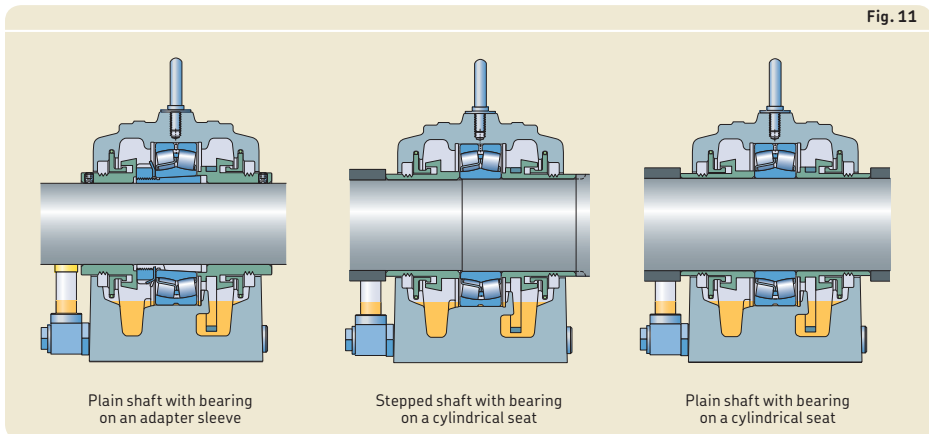
Plain shaft with bearing on a cylindrical seat

When using an SONL housing for this arrangement, a /VZ643 seal kit must be used. The bearing and labyrinth seal shaft sleeves must be located axially on both sides by other components (not supplied by SKF) on the shaft.

Locating and non-locating bearing positions

SONL housings can be used for both the locating and non-locating bearing positions.

The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing on both sides with locating rings. Appropriate locating rings are listed in the product tables.



Load carrying capacity

SONL housings are intended for loads acting perpendicularly toward the support surface. The housings should always be supported over the entire base. Perpendicular loads acting towards the base are limited only by the bearing. If loads acting in other directions occur, be sure that the magnitude of the load is permissible for the housing, the cap bolts and the attachment bolts. When housings are subjected to cyclic loads or dynamic imbalance,

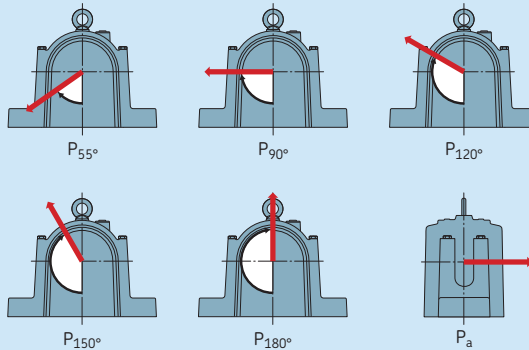
contact the SKF application engineering service.

Breaking loads and safety factors

Guideline values for the breaking loads P for housings made of grey cast iron are listed in **table 2**. To obtain the permissible load for a housing, the appropriate breaking load value should be divided by a factor based on the safety requirements. In general engineering, a safety factor of 6 is typical (→ *Load carrying*

Table 2

Breaking loads for SONL plumber block housings made of grey cast iron



| Housing Size | Breaking loads | | | | | |
|-----------------|----------------|----------------|-----------------|-----------------|-----------------|-------|
| | P_{55° | P_{90° | P_{120° | P_{150° | P_{180° | P_a |
| – | kN | | | | | |
| 217-517 | 690 | 260 | 190 | 180 | 230 | 90 |
| 218-518 | 900 | 350 | 250 | 230 | 300 | 120 |
| 220-520 | 1 080 | 450 | 300 | 280 | 360 | 140 |
| 222-522 | 1 260 | 500 | 350 | 320 | 420 | 170 |
| 224-524 | 2 100 | 780 | 580 | 540 | 700 | 280 |
| 226-526 | 2 550 | 980 | 700 | 650 | 850 | 340 |
| 228-528 | 2 550 | 1 020 | 700 | 650 | 850 | 340 |
| 230-530 | 3 000 | 1 230 | 830 | 770 | 1 000 | 400 |
| 232-532 | 3 000 | 1 230 | 830 | 770 | 1 000 | 400 |
| 234-534 | 3 360 | 1 330 | 940 | 860 | 1 120 | 450 |
| 236-536 | 3 750 | 1 530 | 1 040 | 960 | 1 250 | 500 |
| 238-538 | 3 750 | 1 530 | 1 040 | 960 | 1 250 | 500 |
| 240-540 | 4 950 | 2 000 | 1 380 | 1 270 | 1 650 | 660 |
| 244-544 | 6 350 | 2 550 | 1 750 | 1 600 | 2 100 | 840 |
| 248-548 | 6 350 | 2 550 | 1 750 | 1 600 | 2 100 | 840 |

capacity, page 44). The permissible load can only be exploited if the cap bolts are tightened at least to the torque values listed in table 3. The load P_a is the axial breaking load of the housing. If the incorporated bearing is mounted on a sleeve, check the permissible axial load for the sleeve.

For housings made of spheroidal graphite cast iron, the values obtained from table 2 on page 361 should be multiplied by a factor of 1,8.

Additional housing support

When loads act at angles between 55° and 120°, or when the axial loads are greater than 5% of P_{180° (→ table 2 on page 361), the housing should be pinned to the support surface or a stop should be provided to counter the load. The dowel pins or stop should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Recommendations for the position and size of the holes to accommodate dowel pins are provided in table 8 on page 368.

Load carrying capacity of the cap bolts

Approximate values for the yield points for four cap bolts are provided in table 3. The values in table 3 apply to 8.8 class cap bolts, which are supplied with SONL housings.

Operating temperature

The permissible operating temperature is mainly limited by the seals (→ table 1, page 357), the oil level gauge and the lubricant. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings. The permissible operating temperature for the oil level gauge is 110 °C (230 °F).

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

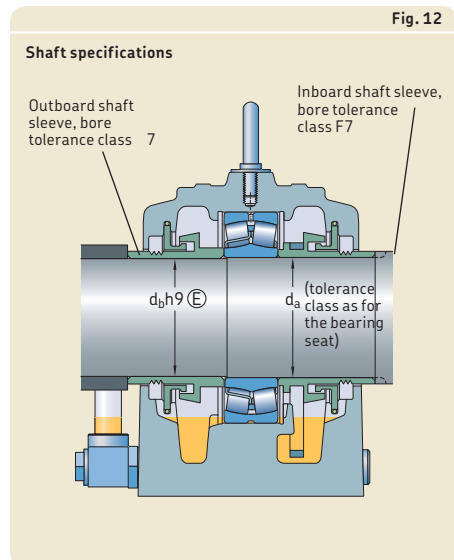
The permissible operating speed of the incorporated bearing is not limited by the housing.

Shaft specifications

For bearings mounted on an adapter sleeve, the recommended shaft tolerance class is h9(E). A cylindricity tolerance of IT5/2 is satisfactory. The same specifications are applicable for the seats of labyrinth seal shaft sleeves.

For bearings mounted on a cylindrical seat on stepped shafts (→ fig. 12), follow the guidelines in the SKF catalogue *Rolling bearings* for the bearing seat. The bore of the shaft sleeve of the inboard labyrinth seal is in accordance with the F7 tolerance class and fits bearing seats machined to typical tolerances. The bore of the shaft sleeve of the outboard labyrinth seal is in accordance with the h9(E) tolerance class and fits shafts machined to the h9(E) tolerance class.

For bearings mounted on a cylindrical seat on plain shafts, the bore of the shaft sleeves of the labyrinth seals is in accordance with F7 tolerance class and fits bearing seats machined to typical tolerances.



Attachment bolt recommendations

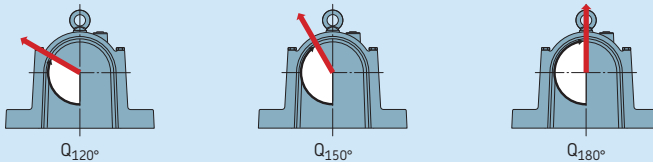
In typical applications, 8.8 class hexagon head bolts, in accordance with ISO 4014, can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 3**). They are valid for oiled, but otherwise untreated thread surfaces. SKF cannot guarantee that tightening to the recommended value provides sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

7

Table 3

Load carrying capacity and torque values for cap bolts and attachment bolts



| Housing Size | Cap bolts | | | Designation to ISO 4014 | Tightening torque | Attachment bolts | |
|--------------|----------------------------|-------------------|-------------------|-------------------------|-------------------|------------------|---------------------------------|
| | Yield point for four bolts | | | | | Size | Tightening torque ¹⁾ |
| | Q _{120°} | Q _{150°} | Q _{180°} | | | | |
| | kN | | | | Nm | | Nm |
| 217-517 | 300 | 170 | 150 | M 10×75 | 50 | M 20 | 385 |
| 218-518 | 440 | 250 | 220 | M 12×80 | 80 | M 20 | 385 |
| 220-520 | 440 | 250 | 220 | M 12×90 | 80 | M 24 | 665 |
| 222-522 | 440 | 250 | 220 | M 12×90 | 80 | M 24 | 665 |
| 224-524 | 800 | 460 | 400 | M 16×110 | 150 | M 24 | 665 |
| 226-526 | 800 | 460 | 400 | M 16×120 | 150 | M 24 | 665 |
| 228-528 | 1 250 | 720 | 620 | M 20×130 | 200 | M 30 | 1 310 |
| 230-530 | 1 250 | 720 | 620 | M 20×140 | 200 | M 30 | 1 310 |
| 232-532 | 1 250 | 720 | 620 | M 20×140 | 200 | M 30 | 1 310 |
| 234-534 | 1 800 | 1 040 | 900 | M 24×160 | 350 | M 30 | 1 310 |
| 236-536 | 1 800 | 1 040 | 900 | M 24×160 | 350 | M 30 | 1 310 |
| 238-538 | 1 800 | 1 040 | 900 | M 24×160 | 350 | M 36 | 2 280 |
| 240-540 | 1 800 | 1 040 | 900 | M 24×160 | 350 | M 36 | 2 280 |
| 244-544 | 1 800 | 1 040 | 900 | M 24×180 | 400 | M 36 | 2 280 |
| 248-548 | 2 860 | 1 650 | 1 430 | M 30×200 | 400 | M 36 | 2 280 |

¹⁾ Recommended by bolt manufacturers.

Lubrication

SONL plummer (pillow) block housings are designed for two methods of oil lubrication:

- oil bath lubrication with a pick-up ring
- circulating oil

The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

Oil bath lubrication with a pick-up ring

Oil bath lubrication with a pick-up ring is typically used with SONL housings (→ **fig. 13**). It provides a uniform supply of lubricant to the bearing.

This oil lubrication method uses a ring that hangs loosely from the labyrinth seal shaft sleeve on one side of the bearing. It hangs deep into the oil reservoir in the bottom half of the housing. As the shaft rotates, the ring follows, picking up oil from the sump and bringing it to a collecting trough. The oil then flows through the bearing and back into the oil sump.

In the fifty years that this lubrication method has been used, there has not been any record of wear where the ring contacts its seat on the labyrinth seal shaft sleeve – regardless of the shaft dimensions, or speed of the application.

Oil quantities

Housings should be filled with the recommended oil quantities listed in **table 4**. Markings on the inside of the housing base and on the oil level gauge indicate the correct oil level. To avoid leakage, do not exceed the recommended oil level. The oil pick-up ring enables a wide range between maximum and minimum oil levels. This results in a correspondingly long period between refills or oil changes.

The minimum and maximum levels indicated on the oil level gauge apply to standstill. The oil level may drop during operation and may vary even more during start-up. If oil is replenished during operation, keep the level 5 mm below the maximum mark.

Fig. 13

Oil bath lubrication with a pick-up ring

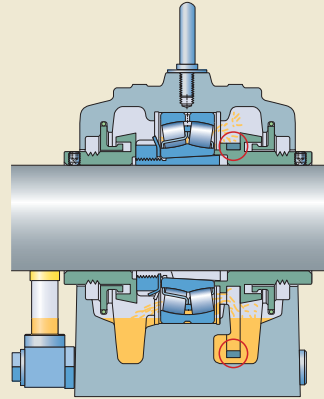


Table 4

Oil quantities

| Housing Size | Oil fill | |
|--------------|----------|-----|
| | min | max |
| – | l | |
| 217-517 | 0,3 | 0,4 |
| 218-518 | 0,3 | 0,5 |
| 220-520 | 0,4 | 0,6 |
| 222-522 | 0,6 | 0,9 |
| 224-524 | 0,9 | 1,3 |
| 226-526 | 0,9 | 1,4 |
| 228-528 | 1 | 1,5 |
| 230-530 | 1 | 1,7 |
| 232-532 | 1,3 | 2 |
| 234-534 | 2,5 | 3,5 |
| 236-536 | 2,9 | 4,2 |
| 238-538 | 3,1 | 4,5 |
| 240-540 | 3 | 4,5 |
| 244-544 | 3,8 | 5,8 |
| 248-548 | 4,8 | 6,9 |

Precaution after machine stops

Before start-up, the oil level should be filled to the maximum mark on the oil level gauge. This is even more important after longer machine stops to avoid the possibility of dry-running the bearing until the oil pick-up ring delivers a sufficient amount of lubricant.

After shorter machine stops, a sufficient amount of oil remains in the oil sump and in the bearing to provide lubricant during start-up.

Magnetic plugs

Each seal kit contains a magnetic plug. The plug can be fitted in one of the oil outlet holes in the housing base. The plug attracts metal contaminants in the oil, to extend bearing service life.

Special oil pick-up ring for use on shafts with electromagnetic clutches

If shafts with electromagnetic clutches are to be supported in SONL housings, the standard steel oil pick-up ring must be replaced by a brass ring (GH-TSO ...-.../MB). Appropriate brass rings are listed in **table 5**.

Oil cooling tubes

In high temperature applications, where an oil pick-up ring is used, auxiliary cooling tubes should be installed (→ **fig. 14, page 366**). They use water, which has to be provided via an external system, to cool the oil in the housing. The pressure of the cooling medium should not exceed 4 bar.

Oil cooling tubes are available in different sizes (→ **table 6**). Depending on the need, one or two cooling tubes can be installed via the oil outlet holes in the housing base. Detailed mounting instructions are provided with the products.

Oil cooling tubes are identified by the basic designation AVA-0001 followed by a size identification, e.g. AVA-0001/3.

Oil outlets

Tapped holes in the housing base that are not used for the oil level gauge or cooling tubes can be used as oil outlets.

Table 5

Brass oil pick-up rings

| Housing Size | Pick-up ring Designation |
|--------------|--------------------------|
| 217-517 | GH-TSO 217-517/MB |
| 218-518 | GH-TSO 218-518/MB |
| 220-520 | GH-TSO 220-520/MB |
| 222-522 | GH-TSO 222-522/MB |
| 224-524 | GH-TSO 224-524/MB |
| 226-526 | GH-TSO 226-526/MB |
| 228-528 | GH-TSO 228-528/MB |
| 230-530 | GH-TSO 230-530/MB |
| 232-532 | GH-TSO 232-532/MB |
| 234-534 | GH-TSO 234-534/MB |
| 236-536 | GH-TSO 236-536/MB |
| 238-538 | GH-TSO 238-538/MB |
| 240-540 | GH-TSO 240-540/MB |
| 244-544 | GH-TSO 244-544/MB |
| 248-548 | GH-TSO 248-548/MB |

Table 6

Oil cooling tubes

| Housing Size | Oil cooling tube Designation |
|---------------------|------------------------------|
| 217-517 and 218-518 | AVA-0001/1 |
| 220-520 and 222-522 | AVA-0001/2 |
| 224-524 to 232-532 | AVA-0001/3 |
| 234-534 to 248-548 | AVA-0001/4 |

Fig. 14

Oil cooling tubes

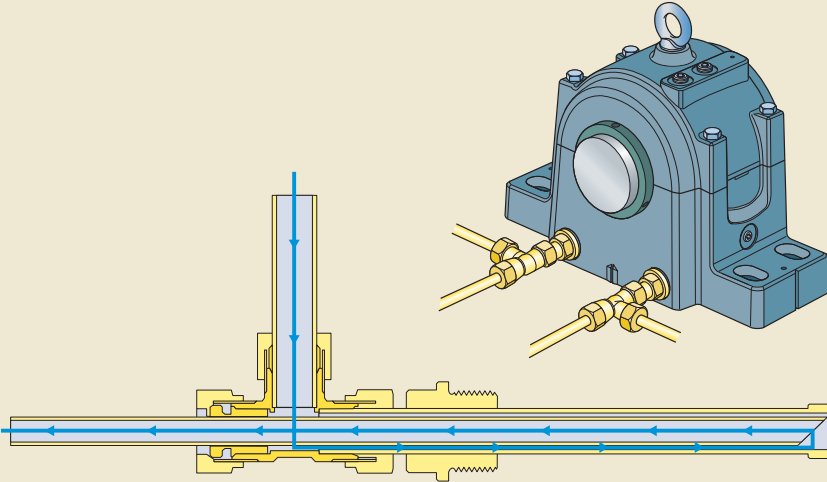
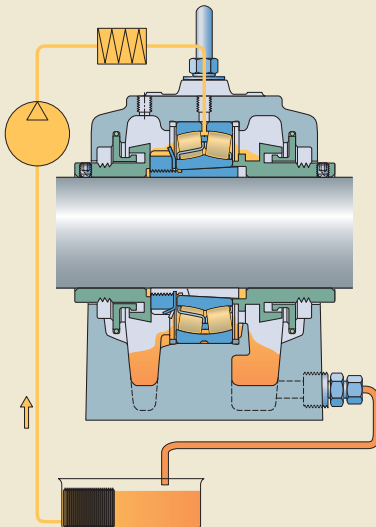


Fig. 15

Circulating oil lubrication system



Circulating oil lubrication systems

Circulating oil lubrication systems are generally preferred when high speeds generate an excessive amount of heat, or when there are high ambient temperatures. For this lubrication method, the oil pick-up ring should not be used and the oil level gauge is not needed.

A circulating oil lubrication system typically has supply lines attached to the housing cap and drain lines attached to the base (→ fig. 15). Circulation is normally produced with the aid of a pump. After the oil has passed through the bearing, it drains from the housing and flows into a tank. It is filtered and, if required, cooled before being returned to the housing. Proper filtering and cooling of the oil are important factors for bearing and oil service life, and can provide improved machinery performance as well as cost savings.

SKF supplies different standard solutions for circulating oil lubrication systems. For smaller systems, e.g. 1–2 fans or pumps, the SM-100 Oil Circulating Unit is available. For larger systems, SKF Flowline is available.

Relevant abutment dimensions for connecting a circulating oil lubrication system to an SONL housing are listed in table 7.

Using a circulating oil lubrication system with spherical roller bearings

SONL housings have two tapped holes in the cap that can be used as oil inlets. The hole in the centre of the cap should be used to lubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring).

The housing base has four tapped holes that can be used as oil outlets.

Using a circulating oil lubrication system with CARB and self-aligning ball bearings

In a circulating oil lubrication system, CARB toroidal roller bearings and self-aligning ball bearings, which are relubricated from the side, require another design compared to spherical

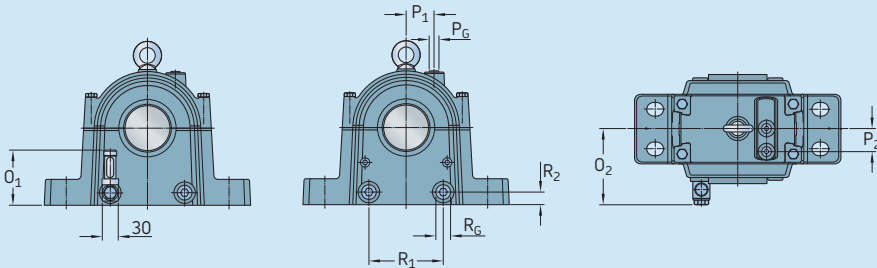
roller bearings, to allow the oil to pass through the bearing. Therefore, SONL housings with the designation suffix RA (→ **page 356**) are recommended.

SONL .. RA housings have two tapped holes in the cap that can be used as oil inlets. For CARB toroidal roller and self-aligning ball bearings, always use the offset oil inlet hole in the housing cap, and two oil outlet holes on the opposite side of the housing, to make sure the oil has to pass through the bearing and to get enough outlet capacity.

7

Table 7

Abutment dimensions for circulating oil lubrication systems and oil bath lubrication with a pick-up ring



| Housing Size | Dimensions | | P ₂ | R _G | R ₁ | R ₂ | O ₁ | O ₂ |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | P _G | P ₁ | | | | | | |
| – | in. | mm | – | in. | mm | – | – | – |
| 217-517 | G 3/8 | 47,5 | 40 | G 3/4 | 118 | 22 | 97 | 138 |
| 218-518 | G 3/8 | 50 | 41 | G 3/4 | 128 | 22 | 97 | 142 |
| 220-520 | G 3/8 | 50 | 47 | G 3/4 | 144 | 22 | 97 | 150 |
| 222-522 | G 3/8 | 55 | 53 | G 3/4 | 162 | 23 | 98 | 163 |
| 224-524 | G 3/8 | 55 | 65 | G 3/4 | 178 | 25 | 100 | 179 |
| 226-526 | G 3/8 | 60 | 69 | G 3/4 | 192 | 25 | 120 | 184 |
| 228-528 | G 3/8 | 65 | 72 | G 3/4 | 200 | 26 | 121 | 187 |
| 230-530 | G 3/8 | 65 | 73 | G 3/4 | 220 | 26 | 121 | 187 |
| 232-532 | G 3/8 | 65 | 78 | G 3/4 | 252 | 26 | 121 | 196 |
| 234-534 | G 3/4 | 85 | 88 | G 1.1/2 | 268 | 41 | 136 | 215 |
| 236-536 | G 3/4 | 85 | 93 | G 1.1/2 | 278 | 41 | 136 | 220 |
| 238-538 | G 3/4 | 85 | 98 | G 1.1/2 | 298 | 41 | 166 | 225 |
| 240-540 | G 3/4 | 85 | 100 | G 1.1/2 | 320 | 41 | 166 | 229 |
| 244-544 | G 3/4 | 105 | 108 | G 1.1/2 | 360 | 41 | 166 | 239 |
| 248-548 | G 3/4 | 110 | 115 | G 1.1/2 | 400 | 41 | 216 | 244 |

Mounting

SONL plummer (pillow) block housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces on page 45*).

Mounting instructions for each housing are provided with the seal kit. For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Torque specifications

Cap bolts should be tightened to the torque values listed in **table 3 on page 363**. For information about attachment bolts, refer to *Attachment bolt recommendations on page 363*.

Pinning or supporting the housing

Some load conditions may require the housing to be pinned to its support surface or a stop to accommodate loads acting parallel to the housing support surface (→ *Additional housing support, on page 362*).

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 8**. Dimples cast into the housing base mark the recommended positions.

Condition monitoring

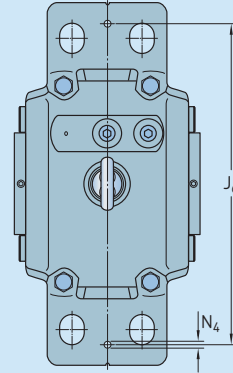
SONL plummer (pillow) block housings have appropriate positions for condition monitoring sensors (→ **fig. 16**).

Position 1 is a measurement point perpendicular to the shaft and is in accordance with ISO 10816-1.

Position 2 is a measurement point parallel to the shaft and should be used when loads act toward the support surface.

Table 8

Position and size of dowel pin holes



| Housing Size | Dimensions | |
|--------------|------------|-----------|
| | J_6 | N_4 max |
| mm | | |
| – | | |
| 217-517 | 290 | 6 |
| 218-518 | 320 | 8 |
| 220-520 | 350 | 8 |
| 222-522 | 370 | 8 |
| 224-524 | 370 | 8 |
| 226-526 | 390 | 8 |
| 228-528 | 430 | 8 |
| 230-530 | 460 | 12 |
| 232-532 | 480 | 12 |
| 234-534 | 530 | 20 |
| 236-536 | 570 | 20 |
| 238-538 | 640 | 20 |
| 240-540 | 630 | 20 |
| 244-544 | 690 | 20 |
| 248-548 | 800 | 20 |

Accessories

Condition monitoring sensors are available for SONL plummer (pillow) block housings.

For additional information, refer to *SKF tools and products* (→ **page 47**).

Ordering information

For SONL plummer (pillow) block housings, each of the following items must be ordered separately:

- housing
- seal kit (see **page 358** for details)
- locating rings
- bearing
- adapter sleeve

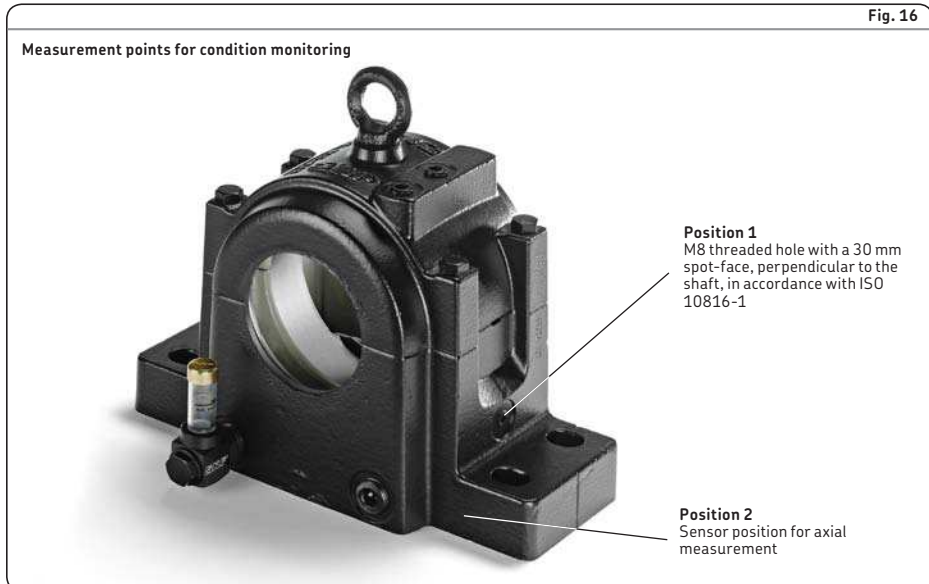
Order example

Two plummer block housings are required for two 22224 EK spherical roller bearings on H 3124 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing on a through shaft. The oil needs to be cooled by two oil cooling tubes per housing.

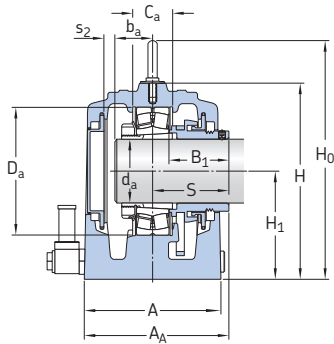
The following items should be ordered:

- 2 housings SONL 224-524
- 1 seal kit TSO 524
- 1 seal kit TSO 524 A
- 2 locating rings FRB 12/215
- 4 oil cooling tubes AVA 0001/3

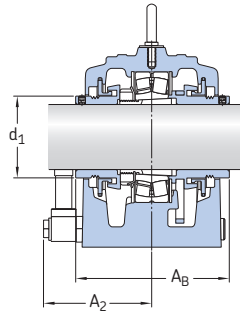
7



7.1 SONL plummer block housings for bearings on an adapter sleeve, metric shafts d_a 75 – 150 mm



Housing for shaft end



Housing for through shaft

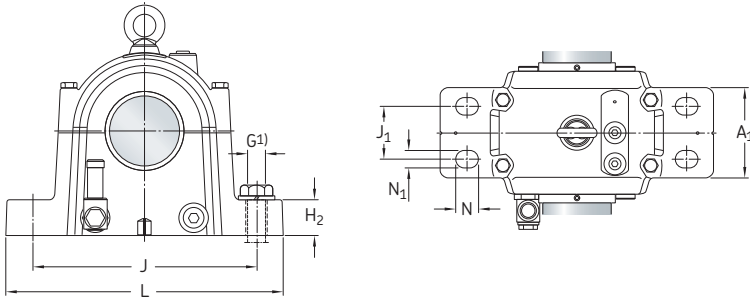
| Shaft diameter d _a | Housing Designation | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seal kit for through shaft ⁴⁾ | End cover | Dimensions Housing | | | |
|----------------------------------|---------------------|--|------------------------------|-------------------------------------|--|-------------|--------------------|----------------|----------------|----------------|
| | | | | | | | A | A ₁ | A ₂ | A _A |
| mm | - | - | | | | | mm | | | |
| 75 | SONL 217-517 | 2217 K 22217 EK C 2217 K | H 317 H 317 H 317 E | FRB 5/150 FRB 5/150 FRB 5/150 | TSO 517 | ECO 217-517 | 163 | 110 | 138 | 172 |
| 80 | SONL 218-518 | 2218 K 22218 EK C 2218 K | H 318 H 318 H 318 E | FRB 5/160 FRB 5/160 FRB 5/160 | TSO 518 | ECO 218-518 | 170 | 120 | 142 | 180 |
| 90 | SONL 220-520 | 2220 KM 22220 EK C 2220 K | H 320 H 320 H 320 E | FRB 7/180 FRB 7/180 FRB 7/180 | TSO 520 | ECO 220-520 | 186 | 130 | 150 | 196 |
| 100 | SONL 222-522 | 2222 KM 22222 EK C 2222 K | H 322 H 322 H 322 E | FRB 9/200 FRB 9/200 FRB 9/200 | TSO 522 | ECO 222-522 | 213 | 145 | 163 | 221 |
| 110 | SONL 224-524 | 22224 EK C 2224 K | H 3124 H 3124 L | FRB 12/215 FRB 12/215 | TSO 524 | ECO 224-524 | 245 | 170 | 179 | 261 |
| 115 | SONL 226-526 | 22226 EK C 2226 K | H 3126 H 3126 L | FRB 11/230 FRB 11/230 | TSO 526 | ECO 226-526 | 255 | 180 | 184 | 263 |
| 125 | SONL 228-528 | 22228 CCK/W33 C 2228 K | H 3128 H 3128 L | FRB 11/250 FRB 11/250 | TSO 528 | ECO 228-528 | 260 | 190 | 187 | 270 |
| 135 | SONL 230-530 | 22230 CCK/W33 C 2230 K | H 3130 H 3130 L | FRB 10/270 FRB 10/270 | TSO 530 | ECO 230-530 | 260 | 190 | 187 | 270 |
| 140 | SONL 232-532 | 22232 CCK/W33 | H 3132 | FRB 12/290 | TSO 532 | ECO 232-532 | 278 | 205 | 196 | 297 |
| 150 | SONL 234-534 | 22234 CCK/W33 C 2234 K | H 3134 H 3134 L | FRB 14/310 FRB 14/310 | TSO 534 | ECO 234-534 | 310 | 230 | 215 | 330 |

¹⁾ 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing
Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

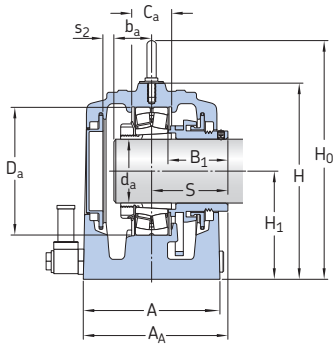
⁴⁾ Seal kits for a shaft end have the designation suffix A, i.e. TSO...A.



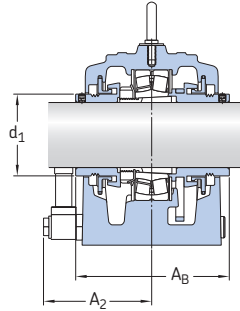
| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|--------------------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-----|-------|-----|----|-------|-------|-------------------------------|--------------------|
| | A_B | d_1 | B_1 | C_a | D_a | b_a | s_2 | H | H_0 | H_1 | H_2 | J | J_1 | L | N | N_1 | S | | |
| mm | mm | | | | | | | | | | | | | | | | | - | kg |
| 75 | 180 | 96 | 72 | 46 | 150 | 40 | 19 | 230 | 283 | 125 | 35 | 260 | 60 | 330 | 28 | 22 | 90 | M10 | 26 |
| 80 | 190 | 100 | 75 | 50 | 160 | 42 | 19 | 245 | 298 | 135 | 45 | 290 | 70 | 360 | 28 | 22 | 95 | M12 | 33 |
| 90 | 206 | 112 | 80 | 60 | 180 | 46 | 25 | 270 | 323 | 145 | 50 | 320 | 75 | 400 | 32 | 26 | 103 | M12 | 42 |
| 100 | 229 | 120 | 88 | 71 | 200 | 52 | 32,5 | 290 | 343 | 160 | 50 | 347 | 75 | 420 | 32 | 26 | 114,5 | M12 | 53 |
| 110 | 276 | 135 | 109 | 82 | 215 | 56 | 47 | 315 | 386 | 170 | 55 | 347 | 90 | 420 | 32 | 26 | 138 | M16 | 72 |
| 115 | 270 | 145 | 103 | 86 | 230 | 60 | 43 | 335 | 406 | 180 | 60 | 377 | 100 | 450 | 35 | 28 | 135 | M16 | 87 |
| 125 | 280 | 160 | 106 | 90 | 250 | 63 | 42 | 355 | 426 | 190 | 65 | 415 | 100 | 500 | 42 | 35 | 140 | M20 | 102 |
| 135 | 280 | 170 | 103,5 | 93 | 270 | 67,5 | 37,5 | 375 | 446 | 200 | 65 | 450 | 115 | 540 | 42 | 35 | 140 | M20 | 115 |
| 140 | 316 | 178 | 118 | 104 | 290 | 73 | 42 | 406 | 477 | 215 | 65 | 470 | 120 | 560 | 42 | 35 | 158 | M20 | 141 |
| 150 | 350 | 195 | 132 | 114 | 310 | 77 | 54 | 440 | 530 | 235 | 70 | 515 | 130 | 610 | 42 | 35 | 175 | M24 | 190 |

¹⁾ For sizes and tightening torques of the attachment bolts refer to table 3 on page 363.

7.1 SONL plummer block housings for bearings on an adapter sleeve, metric shafts d_a 160 – 220 mm



Housing for shaft end



Housing for through shaft

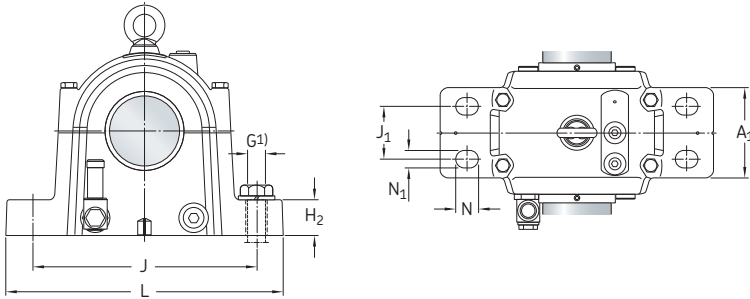
| Shaft diameter d _a | Housing Designation | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seal kit for through shaft ⁴⁾ | End cover | Dimensions Housing | | | |
|----------------------------------|---------------------|--|------------------------------|-----------------------------|--|-------------|--------------------|----------------|----------------|----------------|
| | | | | | | | A | A ₁ | A ₂ | A _A |
| mm | - | - | | | | | mm | | | |
| 160 | SONL 236-536 | 22236 CCK/W33 | H 3136 | FRB 14/320 | TSO 536 | ECO 236-536 | 320 | 240 | 220 | 340 |
| 170 | SONL 238-538 | 22238 CCK/W33 C 2238 K | H 3138 H 3138 | FRB 14/340 FRB 14/340 | TSO 538 | ECO 238-538 | 330 | 250 | 225 | 350 |
| 180 | SONL 240-540 | 22240 CCK/W33 | H 3140 | FRB 14/360 | TSO 540 | ECO 240-540 | 338 | 260 | 229 | 358 |
| 200 | SONL 244-544 | 22244 CCK/W33 C 2244 K | OH 3144 H OH 3144 H | FRB 14/400 FRB 14/400 | TSO 544 | ECO 244-544 | 358 | 280 | 239 | 381 |
| 220 | SONL 248-548 | 22248 CCK/W33 | OH 3148 H | FRB 14/440 | TSO 548 | ECO 248-548 | 368 | 290 | 244 | 394 |

¹⁾ 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing
Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

⁴⁾ Seal kits for a shaft end have the designation suffix A, i.e. TSO ... A.

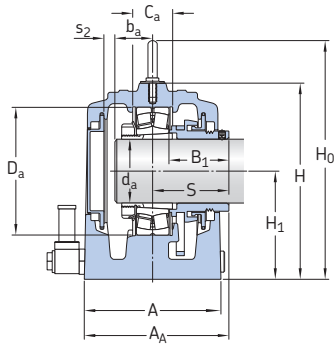


| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing kg |
|-------------------------|--------------------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-----|-------|-----|----|-------|-----|------|-------------------------------|--------------------|
| | A_B | d_1 | B_1 | C_a | D_a | b_a | s_2 | H | H_0 | H_1 | H_2 | J | J_1 | L | N | N_1 | S | | | |
| mm | mm | | | | | | | | | | | | | | | | | | - | kg |
| 160 | 360 | 205 | 137 | 114 | 320 | 78 | 53,5 | 455 | 545 | 245 | 75 | 545 | 150 | 650 | 42 | 35 | 180 | M 24 | 213 | |
| 170 | 370 | 220 | 139 | 120 | 340 | 82 | 52,5 | 480 | 570 | 260 | 85 | 590 | 150 | 720 | 50 | 42 | 185 | M 24 | 249 | |
| 180 | 378 | 227 | 140 | 126 | 360 | 86 | 51 | 510 | 600 | 275 | 85 | 600 | 160 | 730 | 50 | 42 | 189 | M 24 | 273 | |
| 200 | 404 | 255 | 148 | 136 | 400 | 95 | 50 | 565 | 674 | 305 | 95 | 670 | 180 | 820 | 50 | 42 | 202 | M 24 | 361 | |
| 220 | 420 | 270 | 150 | 148 | 440 | 105 | 45,5 | 625 | 734 | 340 | 100 | 740 | 190 | 900 | 50 | 42 | 210 | M 24 | 456 | |

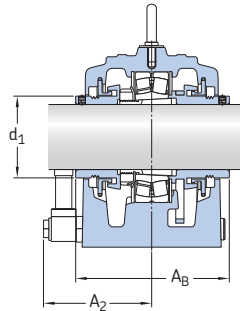
¹⁾ For sizes and tightening torques of the attachment bolts refer to table 3 on page 363.

7.2 SONL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 2 15/16 – 5 3/16 in.
74,613 – 131,763 mm



Housing for shaft end



Housing for through shaft

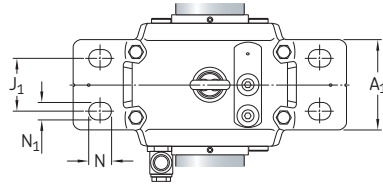
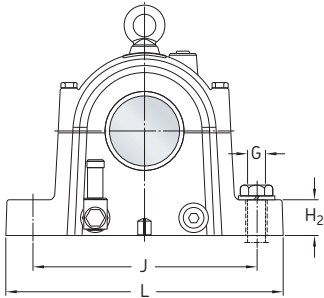
| Shaft diameter d_a | Housing Designation | Appropriate parts | | | | End cover | Dimensions Housing | | | |
|-------------------------|---------------------|---------------------------------|------------------------------|-------------------------------------|--|-------------|--------------------|----------------|----------------|----------------|
| | | Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring ³⁾ | Seal kit for through shaft ⁴⁾ | | A | A ₁ | A ₂ | A _A |
| in./mm | - | - | - | - | - | mm | | | | |
| 2 15/16 74,613 | SONL 217-517 | 2217 K 22217 EK C 2217 K | HA 317 HA 317 HA 317 E | FRB 5/150 FRB 5/150 FRB 5/150 | TSO 517/2.15/16 | ECO 217-517 | 163 | 110 | 138 | 172 |
| 3 3/16 80,963 | SONL 218-518 | 2218 K 22218 EK C 2218 K | HA 318 HA 318 HA 318 E | FRB 5/160 FRB 5/160 FRB 5/160 | TSO 518/3.3/16 | ECO 218-518 | 170 | 120 | 142 | 180 |
| 3 7/16 87,313 | SONL 220-520 | 2220 KM 22220 EK C 2220 K | HA 320 HA 320 HA 320 E | FRB 7/180 FRB 7/180 FRB 7/180 | TSO 520/3.7/16 | ECO 220-520 | 186 | 130 | 150 | 196 |
| 3 15/16 100,013 | SONL 222-522 | 2222 KM 22222 EK C 2222 K | H 22 H 22 H 322 E | FRB 9/200 FRB 9/200 FRB 9/200 | TSO 522/3.15/16 | ECO 222-522 | 213 | 145 | 163 | 221 |
| 4 3/16 106,363 | SONL 224-524 | 22224 EK C 2224 K | HA 3124 HA 3124 L | FRB 12/215 FRB 12/215 | TSO 524/4.3/16 | ECO 224-524 | 245 | 170 | 179 | 261 |
| 4 7/16 112,713 | SONL 226-526 | 22226 EK C 2226 K | HA 3126 HA 3126 L | FRB 11/230 FRB 11/230 | TSO 526/4.7/16 | ECO 226-526 | 255 | 180 | 184 | 263 |
| 4 15/16 125,413 | SONL 228-528 | 22228 CCK/W33 C 2228 K | HA 3128 HA 3128 L | FRB 11/250 FRB 11/250 | TSO 528/4.15/16 | ECO 228-528 | 260 | 190 | 187 | 270 |
| 5 3/16 131,763 | SONL 230-530 | 22230 CCK/W33 C 2230 K | HA 3130 HA 3130 L | FRB 10/270 FRB 10/270 | TSO 530/5.3/16 | ECO 230-530 | 260 | 190 | 187 | 270 |

1) 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing
Only typical bearings are listed. Other bearing variants can also fit the housing.

2) The adapter sleeve fits the bearing in the same line only.

3) The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

4) Seal kits for a shaft end have the designation suffix A, i.e. TSO...A.

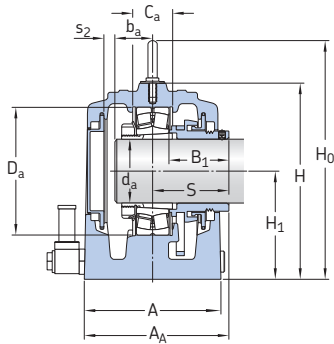


7.2

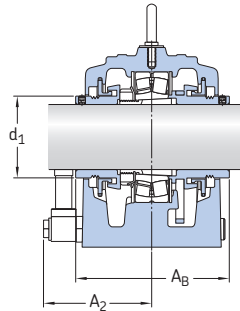
| Shaft diameter | Dimensions Housing | | | | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | |
|--|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|----------------|-----|----------------|-----|----|----------------|-------|----|-------------------------------|-------------------------------|--------------|----|
| | A _B | d ₁ | B ₁ | C _a | D _a | b _a | s ₂ | H | H ₀ | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | S | G | G | | | |
| in./mm | mm | | | | | | | | | | | | | | | | | | | in. | - | kg |
| 2¹⁵/₁₆ 74,613 | 180 | 96 | 72 | 46 | 150 | 40 | 19 | 230 | 283 | 125 | 35 | 260 | 60 | 330 | 28 | 22 | 90 | 20 | 3/4 | M10 | 26 | |
| 3³/₁₆ 80,963 | 190 | 100 | 75 | 50 | 160 | 42 | 19 | 245 | 298 | 135 | 45 | 290 | 70 | 360 | 28 | 22 | 95 | 20 | 3/4 | M12 | 33 | |
| 3⁷/₁₆ 87,313 | 206 | 112 | 80 | 60 | 180 | 47 | 25 | 270 | 323 | 145 | 50 | 320 | 75 | 400 | 32 | 26 | 103 | 24 | 7/8 | M12 | 42 | |
| 3¹⁵/₁₆ 100,013 | 229 | 120 | 88 | 71 | 200 | 52 | 32,5 | 290 | 343 | 160 | 50 | 347 | 75 | 420 | 32 | 26 | 114,5 | 24 | 7/8 | M12 | 53 | |
| 4³/₁₆ 106,363 | 276 | 135 | 109 | 82 | 215 | 56 | 47 | 315 | 386 | 170 | 55 | 347 | 90 | 420 | 32 | 26 | 138 | 24 | 7/8 | M16 | 72 | |
| 4⁷/₁₆ 112,713 | 270 | 145 | 103 | 86 | 230 | 60 | 43 | 335 | 406 | 180 | 60 | 377 | 100 | 450 | 35 | 28 | 135 | 24 | 1 | M16 | 87 | |
| 4¹⁵/₁₆ 125,413 | 280 | 160 | 106 | 90 | 250 | 63 | 42 | 355 | 426 | 190 | 65 | 415 | 100 | 500 | 42 | 35 | 140 | 30 | 1 ¹ / ₄ | M20 | 102 | |
| 5³/₁₆ 131,763 | 280 | 170 | 103,5 | 93 | 270 | 67,5 | 37,5 | 375 | 446 | 200 | 65 | 450 | 115 | 540 | 42 | 35 | 140 | 30 | 1 ¹ / ₄ | M20 | 115 | |

7.2 SONL plummer block housings for bearings on an adapter sleeve, inch shafts

d_a 5 7/16 – 8 15/16 in.
138,113 – 227,013 mm



Housing for shaft end



Housing for through shaft

| Shaft diameter d_a | Housing Designation | Appropriate parts | | Locating ring ³⁾ | Seal kit for through shaft ⁴⁾ | End cover | Dimensions Housing | | | |
|-------------------------|---------------------|---------------------------|----------------------------------|-----------------------------|--|-------------|--------------------|----------------|----------------|----------------|
| | | Bearing ¹⁾ | Adapter sleeve ²⁾ | | | | A | A ₁ | A ₂ | A _A |
| in./mm | - | - | | | | | mm | | | |
| 5 7/16 138,113 | SONL 232-532 | 22232 CCK/W33 | HA 3132 | FRB 12/290 | TSO 532/5.7/16 | ECO 232-532 | 278 | 205 | 196 | 297 |
| 5 15/16 150,813 | SONL 234-534 | 22234 CCK/W33 C 2234 K | HA 3134 HA 3134 L | FRB 14/310 FRB 14/310 | TSO 534/5.15/16 | ECO 234-534 | 310 | 230 | 215 | 330 |
| 6 7/16 163,513 | SONL 236-536 | 22236 CCK/W33 | HA 3136 | FRB 14/320 | TSO 536/6.7/16 | ECO 236-536 | 320 | 240 | 220 | 340 |
| 6 15/16 176,213 | SONL 238-538 | 22238 CCK/W33 C 2238 K | HA 3138 HA 3138 | FRB 14/340 FRB 14/340 | TSO 538/6.15/16 | ECO 238-538 | 330 | 250 | 225 | 350 |
| 7 3/16 182,563 | SONL 240-540 | 22240 CCK/W33 | HA 3140 | FRB 14/360 | TSO 540/7.3/16 | ECO 240-540 | 338 | 260 | 229 | 358 |
| 7 15/16 201,613 | SONL 244-544 | 22244 CCK/W33 C 2244 K | H 3044/7.15/16 H 3044/7.15/16 | FRB 14/400 FRB 14/400 | TSO 544/7.15/16 | ECO 244-544 | 358 | 280 | 239 | 381 |
| 8 15/16 227,013 | SONL 248-548 | 22248 CCK/W33 | H 3148/8.15/16 | FRB 14/440 | TSO 548/8.15/16 | ECO 248-548 | 368 | 290 | 244 | 394 |

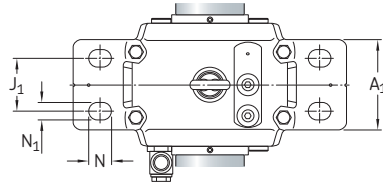
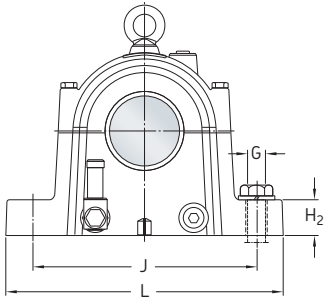
¹⁾ 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The adapter sleeve fits the bearing in the same line only.

³⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

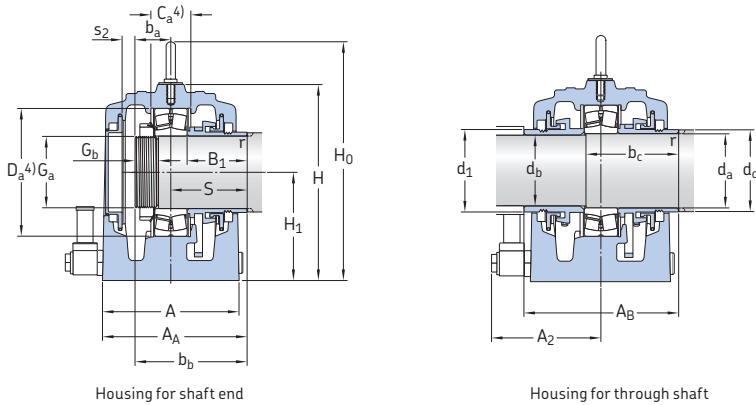
⁴⁾ Seal kits for a shaft end have the designation suffix A, i.e. TSO ... A.



7.2

| Shaft diameter | Dimensions Housing | | | | | | | | | | | | | | | | | Eye bolt according to DIN 580 | Mass Housing | | | | |
|---------------------------|--------------------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-----|-------|-----|-----|-------|-------------------------------|--------------|------|-----|-----|-----|
| | d_a | A_B | d_1 | B_1 | C_a | D_a | b_a | s_2 | H | H_0 | H_1 | H_2 | J | J_1 | L | N | N_1 | | | S | G | G | in. |
| in./mm | mm | | | | | | | | | | | | | | | | | | | | in. | - | kg |
| 5 7/16 138,113 | 316 | 178 | 118 | 104 | 290 | 73 | 42 | 406 | 477 | 215 | 65 | 470 | 120 | 560 | 42 | 35 | 158 | 30 | 1 1/4 | M 20 | 141 | | |
| 5 15/16 150,813 | 350 | 195 | 132 | 114 | 310 | 77 | 54 | 440 | 530 | 235 | 70 | 515 | 130 | 610 | 42 | 35 | 175 | 30 | 1 1/4 | M 24 | 190 | | |
| 6 7/16 163,513 | 360 | 205 | 137 | 114 | 320 | 78 | 53,5 | 455 | 545 | 245 | 75 | 545 | 150 | 650 | 42 | 35 | 180 | 30 | 1 1/4 | M 24 | 213 | | |
| 6 15/16 176,213 | 370 | 220 | 139 | 120 | 340 | 82 | 52,5 | 480 | 570 | 260 | 85 | 590 | 150 | 720 | 50 | 42 | 185 | 36 | 1 1/2 | M 24 | 249 | | |
| 7 3/16 182,563 | 378 | 227 | 140 | 126 | 360 | 86 | 51 | 510 | 600 | 275 | 85 | 600 | 160 | 730 | 50 | 42 | 189 | 36 | 1 1/2 | M 24 | 273 | | |
| 7 15/16 201,613 | 404 | 255 | 148 | 136 | 400 | 95 | 50 | 565 | 674 | 305 | 95 | 670 | 180 | 820 | 50 | 42 | 202 | 36 | 1 1/2 | M 24 | 361 | | |
| 8 15/16 227,013 | 420 | 270 | 150 | 148 | 440 | 105 | 45,5 | 625 | 734 | 340 | 100 | 740 | 190 | 900 | 50 | 42 | 210 | 36 | 1 1/2 | M 24 | 456 | | |

7.3 SONL plummer block housings for bearings on a cylindrical seat and a stepped shaft d_a 85 – 160 mm



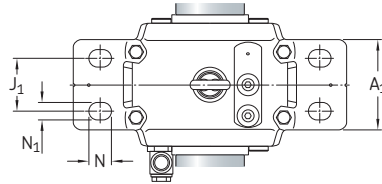
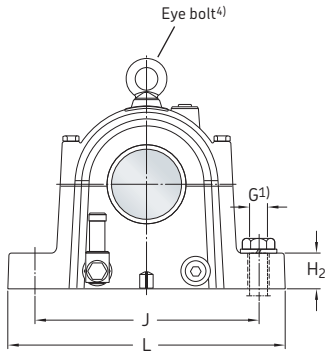
| Shaft diameter d_a | Housing Designation | Appropriate parts | | Lock nut | Locking washer | Seal kit for through shaft ³⁾ | End cover | Dimensions Housing | | | | | |
|-------------------------|---------------------|-----------------------|-----------------------------|----------|----------------|--|-------------|--------------------|----------------|----------------|----------------|----------------|----------------|
| | | Bearing ¹⁾ | Locating ring ²⁾ | | | | | A | A ₁ | A ₂ | A _A | A _B | d ₁ |
| mm | - | - | - | - | - | - | - | mm | | | | | |
| 85 | SONL 217-517 | 2217 | FRB 5/150 | KM 17 | MB 17 | TSO 217 | ECO 217-517 | 163 | 110 | 138 | 172 | 180 | 96 |
| | | 22217 E | FRB 5/150 | KM 17 | MB 17 | - | - | - | - | - | - | - | - |
| | | C 2217 | FRB 5/150 | KMFE 17 | - | - | - | - | - | - | - | - | - |
| 90 | SONL 218-518 | 2218 | FRB 5/160 | KM 18 | MB 18 | TSO 218 | ECO 218-518 | 170 | 120 | 142 | 180 | 190 | 100 |
| | | 22218 E | FRB 5/160 | KM 18 | MB 18 | - | - | - | - | - | - | - | - |
| | | C 2218 | FRB 5/160 | KMFE 18 | - | - | - | - | - | - | - | - | - |
| 100 | SONL 220-520 | 2220 M | FRB 7/180 | KM 20 | MB 20 | TSO 220 | ECO 220-520 | 186 | 130 | 150 | 196 | 206 | 112 |
| | | 22220 E | FRB 7/180 | KM 20 | MB 20 | - | - | - | - | - | - | - | - |
| | | C 2220 | FRB 7/180 | KMFE 20 | - | - | - | - | - | - | - | - | - |
| 110 | SONL 222-522 | 2222 M | FRB 9/200 | KM 22 | MB 22 | TSO 222 | ECO 222-522 | 213 | 145 | 163 | 221 | 229 | 120 |
| | | 22222 E | FRB 9/200 | KM 22 | MB 22 | - | - | - | - | - | - | - | - |
| | | C 2222 | FRB 9/200 | KMFE 22 | - | - | - | - | - | - | - | - | - |
| 120 | SONL 224-524 | 22224 E | FRB 12/215 | KM 24 | MB 24 | TSO 224 | ECO 224-524 | 245 | 170 | 179 | 261 | 276 | 135 |
| | | C 2224 | FRB 12/215 | KML 24 | MBL 24 | - | - | - | - | - | - | - | - |
| 130 | SONL 226-526 | 22226 E | FRB 11/230 | KM 26 | MB 26 | TSO 226 | ECO 226-526 | 255 | 180 | 184 | 263 | 270 | 145 |
| | | C 2226 | FRB 11/230 | KML 26 | MBL 26 | - | - | - | - | - | - | - | - |
| 140 | SONL 228-528 | 22228 CC | FRB 11/250 | KM 28 | MB 28 | TSO 228 | ECO 228-528 | 260 | 190 | 187 | 270 | 280 | 160 |
| | | C 2228 | FRB 11/250 | KML 28 | MBL 28 | - | - | - | - | - | - | - | - |
| 150 | SONL 230-530 | 22230 CC | FRB 10/270 | KM 30 | MB 30 | TSO 230 | ECO 230-530 | 260 | 190 | 187 | 270 | 280 | 170 |
| | | C 2230 | FRB 10/270 | KML 30 | MBL 30 | - | - | - | - | - | - | - | - |
| 160 | SONL 232-532 | 22232 CC | FRB 12/290 | KM 32 | MB 32 | TSO 232 | ECO 232-532 | 278 | 205 | 196 | 297 | 316 | 178 |

¹⁾ 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing
 Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

³⁾ TSO .. is the seal kit for through shaft. For shaft ends, order TSO .. A. ECO .. is the end cover.

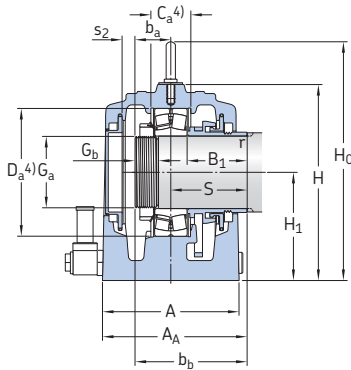
⁴⁾ For C_a, D_a and eye bolt sizes, refer to **product tables 7.1 and 7.2.**


Shaft Dimensions
diam-

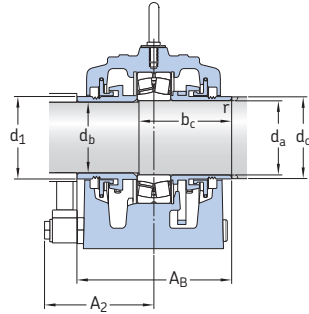
| Housing | | | | | | | | | | | | | | Shaft | | | | | Mass Housing | | |
|----------------|----------------|----------------|-----|----------------|----------------|----------------|-----|----------------|-----|----|----------------|-------|----------------|----------------|----------------|----------------|-----------------------|----------------|----------------|-----|-----|
| d _a | B ₁ | s ₂ | H | H ₀ | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | S | b _a | b _b | b _c | d _b | d _c min | G _a | G _b | r | |
| mm | mm | | | | | | | | | | | | | | | | | | | | kg |
| 85 | 72 | 19 | 230 | 283 | 125 | 35 | 260 | 60 | 330 | 28 | 22 | 90 | 40 | 130 | 105 | 83 | 91 | M85×2 | 24 | 1,6 | 26 |
| 90 | 75 | 19 | 245 | 298 | 135 | 45 | 290 | 70 | 360 | 28 | 22 | 95 | 42 | 137 | 112 | 88 | 96 | M90×2 | 24 | 1,6 | 33 |
| 100 | 80 | 25 | 270 | 323 | 145 | 50 | 320 | 75 | 400 | 32 | 26 | 103 | 46 | 150 | 123 | 98 | 106 | M100×2 | 26 | 1,6 | 42 |
| 110 | 88 | 32,5 | 290 | 343 | 160 | 50 | 347 | 75 | 420 | 32 | 26 | 114,5 | 52 | 167 | 138 | 108 | 116 | M110×2 | 28 | 1,6 | 52 |
| 120 | 109 | 47 | 315 | 386 | 170 | 55 | 347 | 90 | 420 | 32 | 26 | 138 | 56 | 194 | 164 | 118 | 126 | M120×2 | 29 | 1,6 | 70 |
| 130 | 103 | 43 | 335 | 406 | 180 | 60 | 377 | 100 | 450 | 35 | 28 | 135 | 60 | 195 | 164 | 128 | 138 | M130×2 | 31 | 1,6 | 84 |
| 140 | 106 | 42 | 355 | 426 | 190 | 65 | 415 | 100 | 500 | 42 | 35 | 140 | 63 | 203 | 170 | 138 | 148 | M140×2 | 32 | 1,6 | 100 |
| 150 | 103,5 | 37,5 | 375 | 446 | 200 | 65 | 450 | 115 | 540 | 42 | 35 | 140 | 68 | 207,5 | 173 | 148 | 158 | M150×2 | 34 | 1,6 | 113 |
| 160 | 118 | 42 | 406 | 477 | 215 | 65 | 470 | 120 | 560 | 42 | 35 | 158 | 73 | 231 | 195 | 158 | 168 | M160×3 | 36 | 1,6 | 136 |

¹⁾ For sizes and tightening torques of the attachment bolts refer to **table 3** on **page 363**.

7.3 SONL plummer block housings for bearings on a cylindrical seat and a stepped shaft d_a 170 – 240 mm



Housing for shaft end



Housing for through shaft

| Shaft diameter d_a | Housing Designation | Appropriate parts | | | | Seal kit for through shaft ³⁾ | End cover | Dimensions Housing | | | | |
|-------------------------|---------------------|------------------------|-----------------------------|--------------------|-----------------|--|-------------|--------------------|----------------|----------------|----------------|----------------|
| | | Bearing ¹⁾ | Locating ring ²⁾ | Lock nut | Locking washer | | | A | A ₁ | A ₂ | A _A | A _B |
| mm | - | - | - | - | - | - | - | mm | | | | |
| 170 | SONL 234-534 | 22234 CC/W33 C 2234 | FRB 14/310 FRB 14/310 | KM 34 KML 34 | MB 34 MBL 34 | TSO 234 | ECO 234-534 | 310 | 230 | 215 | 330 | 350 |
| 180 | SONL 236-536 | 22236 CC/W33 | FRB 14/320 | KM 36 | MB 36 | TSO 236 | ECO 236-536 | 320 | 240 | 220 | 340 | 360 |
| 190 | SONL 238-538 | 22238 CC/W33 C 2238 | FRB 14/340 FRB 14/340 | KM 38 KML 38 | MB 38 MBL 38 | TSO 238 | ECO 238-538 | 330 | 250 | 225 | 350 | 370 |
| 200 | SONL 240-540 | 22240 CC/W33 | FRB 14/360 | KM 40 | MB 40 | TSO 240 | ECO 240-540 | 338 | 260 | 229 | 358 | 378 |
| 220 | SONL 244-544 | 22244 CC/W33 C 2244 | FRB 14/400 FRB 14/400 | HM 44 T HM 44 T | MB 44 MB 44 | TSO 244 | ECO 244-544 | 358 | 280 | 239 | 381 | 404 |
| 240 | SONL 248-548 | 22248 CC/W33 | FRB 14/440 | HM 48 T | MB 48 | TSO 248 | ECO 248-548 | 368 | 290 | 244 | 394 | 420 |

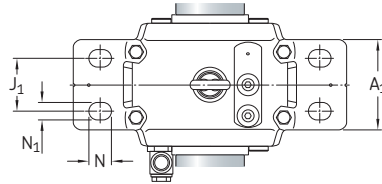
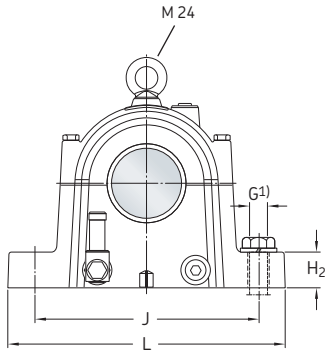
¹⁾ 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.

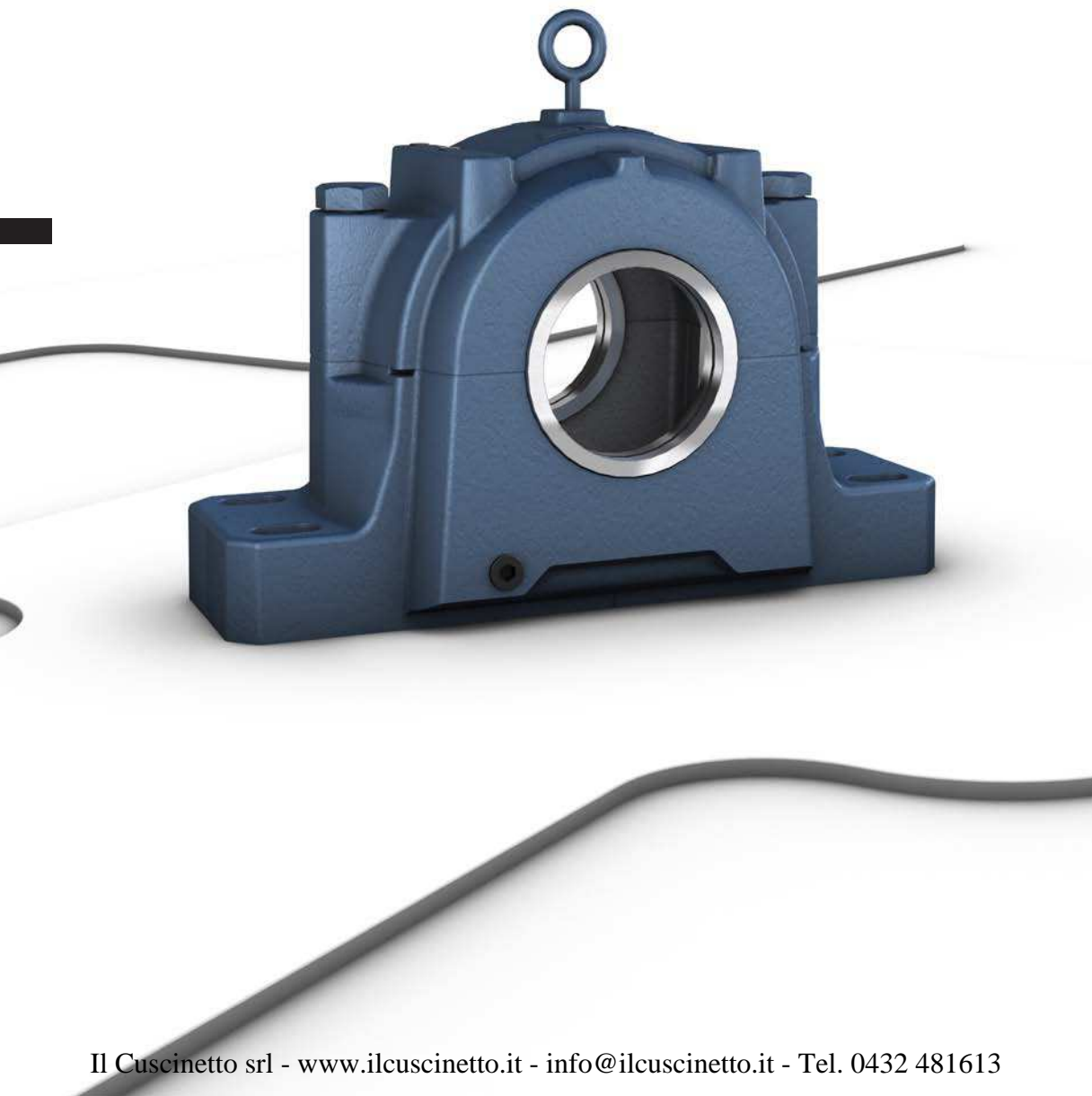
³⁾ Seal kits for a shaft end have the designation suffix A, i.e. TSO ... A.

⁴⁾ The values for C_a and D_a can be found, for each housing size, in **product tables 7.1 and 7.2**.



| Shaft diameter | Dimensions | | | | | | | | | | | | | | | Shaft | | | Mass Housing | | | | |
|----------------|----------------|----------------|----------------|-----|----------------|----------------|----------------|-----|----------------|-----|----|----------------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----|
| | Housing | | | | | | | | | | | | | | | b _a | b _b | b _c | d _c | G _a | G _b | r | |
| d _a | d ₁ | B ₁ | s ₂ | H | H ₀ | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | S | b _a | b _b | b _c | d _b | d _c | G _a | G _b | r | kg | |
| mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| 170 | 195 | 132 | 54 | 440 | 530 | 235 | 70 | 515 | 130 | 610 | 42 | 35 | 175 | 77 | 252 | 213 | 168 | 180 | M170×3 | 38 | 3 | 185 | |
| 180 | 205 | 137 | 53,5 | 455 | 545 | 245 | 75 | 545 | 150 | 650 | 42 | 35 | 180 | 78 | 258 | 223 | 177 | 196 | M180×3 | 39 | 4 | 208 | |
| 190 | 220 | 139 | 52,5 | 480 | 570 | 260 | 85 | 590 | 150 | 720 | 50 | 42 | 185 | 82 | 267 | 231 | 188 | 208 | M190×3 | 40 | 4 | 244 | |
| 200 | 227 | 140 | 51 | 510 | 600 | 275 | 85 | 600 | 160 | 730 | 50 | 42 | 189 | 86 | 275 | 233 | 198 | 218 | M200×3 | 41 | 4 | 267 | |
| 220 | 255 | 148 | 50 | 565 | 674 | 305 | 95 | 670 | 180 | 820 | 50 | 42 | 202 | 95 | 297 | 256 | 218 | 238 | Tr220×4 | 45 | 4 | 355 | |
| 240 | 270 | 150 | 45,5 | 625 | 734 | 340 | 100 | 740 | 190 | 900 | 50 | 42 | 210 | 105 | 315 | 270 | 238 | 258 | Tr240×4 | 49 | 4 | 450 | |

¹⁾ For sizes and tightening torques of the attachment bolts refer to **table 3** on **page 363**.



Split pillow blocks SAF and SAW series (inch dimensions)

Bearing types

- Spherical roller bearings (SAF and SAW)
- Self-aligning ball bearings (SAF)
- CARB toroidal roller bearings (SAF)

Bearing dimension series

- 12, 13, 22, 23, 30 (SAF)
- 22, 32 (SAW)

Shaft diameter range

- 1 ³/₁₆ to 10 ¹/₂ in. (SAF)
- 3 ³/₁₆ to 7 ¹⁵/₁₆ in. (SAW)

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seals

- Labyrinth
- Contact
- Heavy-duty

Lubrication

- Grease
- Oil

Materials

- Grey cast iron
- Cast steel
- Spheroidal graphite cast iron

Mounting

- Two-bolt mounting
- Four-bolt mounting

SAF and SAW split pillow (plummer) block housings are popular SKF bearing housings with inch dimensions, developed to be the first choice for design, quality and economy.

SAF and SAW housings enable the incorporated bearings to achieve maximum service life with less need for maintenance. Different housing variants and seal designs are available, making the use of tailored housings virtually unnecessary and enabling cost-effective bearing arrangements.



Units of measurement

In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on **page 10**.

Split pillow blocks SAF and SAW series (inch dimensions)

| | | | |
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| Sealing solutions | 389 | 8.1 SAF pillow blocks with self-aligning ball bearings on an adapter sleeve (Series 15(00), 16(00)) | 418 |
| Labyrinth seals | 400 | 8.2 SAF and SAW pillow blocks with spherical roller bearings on an adapter sleeve (Series 225(00), 226(00), 230(00)KA, 235(00)) ... | 422 |
| Labyrinth rings with an internal contact element | 400 | 8.3 SAF pillow blocks with CARB bearings on an adapter sleeve (Series C25(00), C26(00), C30(00)KA) | 430 |
| Taconite heavy-duty seals | 400 | 8.4 SAF pillow blocks with self-aligning ball bearings with a cylindrical bore (Series 13(00)) | 434 |
| Contact seals | 400 | 8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore (Series 222(00), 223(00), 232(00)) | 436 |
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| Initial grease fill | 408 | | |
| Relubrication | 410 | | |
| Oil lubrication | 411 | | |

Designations

Designation system for SAF and SAW pillow (plummer) blocks

SAF 22634 TA

Prefix for bolt holes

F Four-bolt base (SAF housings)

Series

S Standard pillow block housing
A Inch dimensions
F Labyrinth seal
W Wide bearing seat
B Pillow block with sealed bearing

Material

- Cast iron (standard)
D Ductile iron
S Cast steel

Size identification

13(00) Kits with self-aligning ball bearings with a cylindrical bore, diameter series 3
15(00) Kits with self-aligning ball bearings on an adapter sleeve, diameter series 2
16(00) Kits with self-aligning ball bearings on an adapter sleeve, diameter series 3
222(00) Kits with spherical roller bearings with a cylindrical bore, diameter series 2
223(00) Kits with spherical roller bearings with a cylindrical bore, diameter series 3

225(00) Kits with spherical roller bearings on an adapter sleeve, diameter series 2
226(00) Kits with spherical roller bearings on an adapter sleeve, diameter series 3
230(00) Kits with spherical roller bearings on an adapter sleeve, diameter series 0
232(00) Kits with spherical roller bearings with a cylindrical bore, diameter series 2
235(00) Kits with spherical roller bearings on an adapter sleeve, diameter series 2

C22(00) Kits with CARB toroidal roller bearings with a cylindrical bore, diameter series 2
C23(00) Kits with CARB toroidal roller bearings with a cylindrical bore, diameter series 3
C25(00) Kits with CARB toroidal roller bearings on an adapter sleeve, diameter series 2
C26(00) Kits with CARB toroidal roller bearings on an adapter sleeve, diameter series 3
C30(00) KA Kits with CARB toroidal roller bearings on an adapter sleeve, diameter series 0
..(00) Size code of the bearing, (00) x 5 = bearing bore diameter [mm]

Suffixes¹⁾

T Taconite seal with contact element
TV Taconite seal with V-ring
TA or TVA Taconite seal with button head grease fitting
TB or TVB Taconite seal with giant button head grease fitting
TLC PosiTrac Plus seal
Y One end closed (i.e. supplied with end plug)
-11 Four-bolt base (cast steel SAFS only)
/VZ... Special feature / modification

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Standard housing design

SAF and SAW housings are split pillow (plummer) block housings consisting of a cap and base. SAF housings have two or four holes cast into the base for attachment bolts. SAW housings have four cast holes.

SAF housings are available in two designs depending on the series. The designs share the same dimensions. SAF housings in the 2(00) and 5(00) series follow the M5 design (→ **fig. 1**), while housings in the 3(00) and 6(00) series follow the A design (→ **fig. 2**).

SAF and SAW (→ **fig. 3**) housings share the same external dimensions, except for the width of a few SAW sizes. These housings are wider to accommodate wider 32 series bearings or to accommodate the larger axial displacement of bearings in the 22 series.

Fig. 1

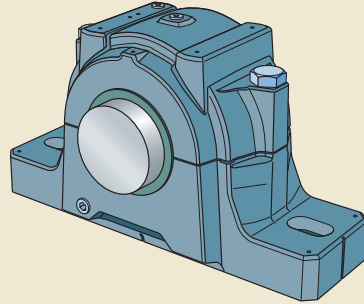


Fig. 2

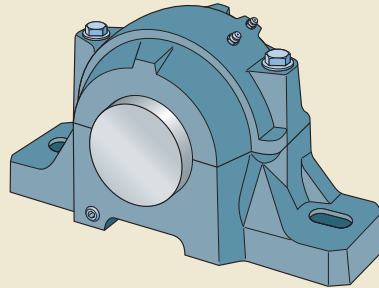
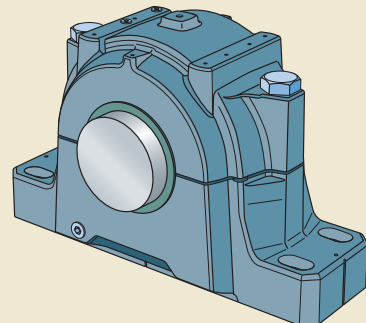


Fig. 3



Features and benefits

SAF and SAW housings share some of the following features and benefits:

Simple mounting and dismounting

To simplify mounting and make alignment more accurate, the feet of SAF and SAW housings have a flat, square design.

To make it easier to separate the cap and base, pry slots are cast into the housing. Smaller sizes have sphered dowel pins to further ease cap removal.

Mounting instructions are supplied with each housing.

Caps and bases individually marked

The housing base and cap are matched during manufacture and are not interchangeable with the caps and bases of other housings. To help avoid mismatch, each cap and base are numbered (→ **fig. 4**).

Grease or oil lubrication

These housings are designed to accommodate both grease and oil lubrication. The sump in the housing base acts as a reservoir to provide an adequate quantity of grease or oil.

Housing material

SAF and SAW housings are made of grey cast iron.

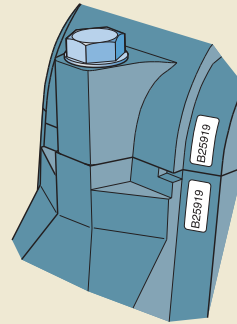
Paint, corrosion protection

SAF and SAW pillow block housings are painted blue (RAL 5001) using a water based alkyd/ acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Special paints or preservatives can be supplied on request. Unpainted surfaces are protected by a solventless rust inhibitor.

Fig. 4

Individually marked cap and base



Housing variants

In addition to standard design SAF and SAW pillow (plummer) block housings, a number of variants are also available. Additional features include:

- milled foot pads to provide a uniform flat surface for fasteners
- special machining for lubrication and condition monitoring systems
- different bearing seat tolerance classes
- special seals
- machined base ends, to enable precision positioning

For additional information contact the SKF application engineering service.

Housing material

For applications where extra strength is needed, SAF housings are also available in cast steel, designation SAFS. Check availability prior to ordering. Cast steel housings come in three different designs. The different designs share the same dimensions as SAF housings made of grey cast iron.

SAF housings are also available in ductile iron (spheroidal graphite cast iron), designation SAFD, from size 509 to 544 and from size 215 to 244. For additional information, contact the SKF application engineering service.

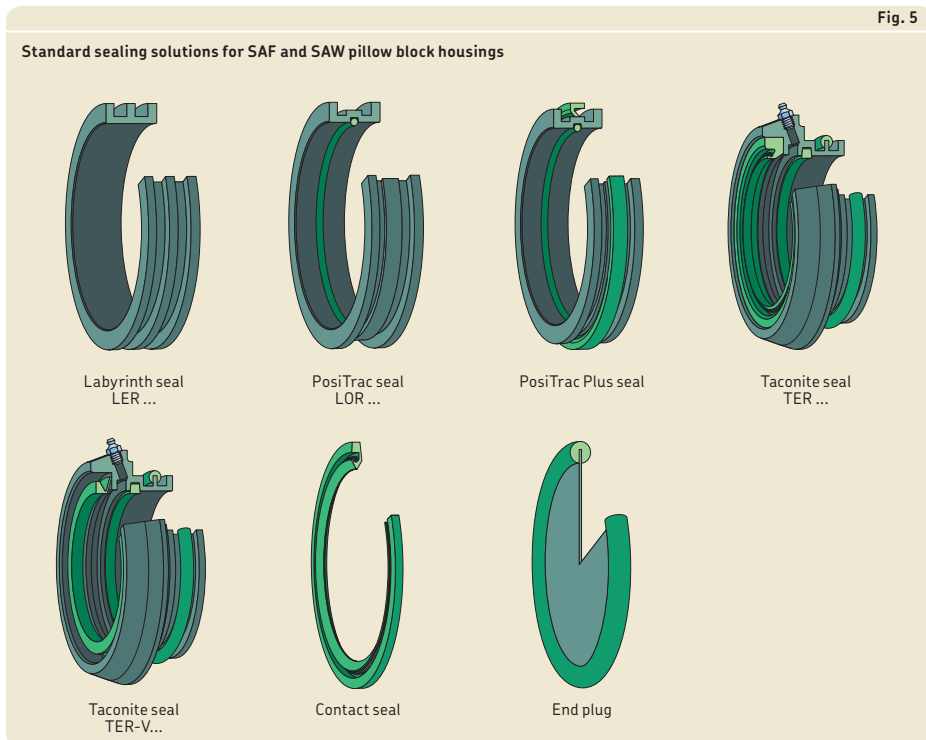
Sealing solutions

SAF and SAW pillow (plummer) block housings are available with different standard sealing solutions (→ **fig. 5**):

- labyrinth seals (standard or PosiTrac)
- labyrinth seals with internal contact element (PosiTrac Plus)
- taconite heavy-duty seals
- contact seals
- end plugs (end covers)

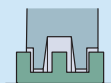
Table 1, page 390 provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, which cannot substitute for testing a seal in its application. **Table 2 on page 392** provides an overview about which seals fit what housing.

8



Split pillow blocks SAF and SAW series

Standard seals for SAF and SAW housings



Seal

| Type | Labyrinth | PosiTrac | PosiTrac Plus |
|-------------|-----------|-----------------------------|-----------------------------|
| Designation | LER | LOR | LOR and B-10724 |
| Material | aluminum | aluminum and nitrile rubber | aluminum and nitrile rubber |

Application conditions and requirements

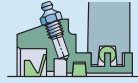
| | | | |
|----------------------------|-----------------|-----------------|------------|
| Temperature [°F] | -30 to 300 | -30 to 220 | -30 to 220 |
| Max. circumferential speed | same as bearing | same as bearing | limited |
| Misalignment [°] | 0.3 | 0.3 | 0.3 |
| Low friction | ++ | ++ | + |
| Axial shaft displacement | ++ | + | - |
| Vertical arrangement | - | - | ++ |
| Grease relubrication | + | + | + |
| Oil lubrication | - | - | ++ |
| Replacement | - | - | - |

Sealing suitability

| | | | |
|----------------------|----|----|---|
| Dust | - | - | + |
| Fine particles | - | - | + |
| Coarse particles | + | + | + |
| Chips | + | + | - |
| Liquids when sprayed | -- | -- | - |
| Direct sunlight | + | + | + |

Symbols: n/a not applicable, ++ very suitable, + suitable, - limited suitability, -- unsuitable

Table 1



| Contact | Taconite | Taconite (V-ring seal) | End plug |
|----------------|--------------------------------|--------------------------------|--------------------------|
| B-9784 | TER | TER V | EPR |
| nitrile rubber | steel, felt and nitrile rubber | steel, felt and nitrile rubber | steel and nitrile rubber |
| -30 to 220 | -30 to 220 | -30 to 220 | -30 to 220 |
| limited | limited | limited | n/a |
| 0.1 | 0.1 | 0.5 | n/a |
| - | -- | -- | n/a |
| + | + | - | n/a |
| ++ | ++ | ++ | ++ |
| + | ++ | ++ | n/a |
| ++ | + | + | ++ |
| + | + | + | + |
| + | ++ | ++ | + |
| + | ++ | ++ | + |
| + | ++ | ++ | + |
| - | ++ | ++ | - |
| - | + | + | + |
| + | + | + | + |

Split pillow blocks SAF and SAW series

Seal chart for SAF and SAW housings

| Shaft diameter | d _a 0(00) | d _a 5(00) | d _a 6(00) | d _b 2(00) | d _c 2(00) | d _b 3(00) | d _c 3(00) | Labyrinth seal ¹⁾ Ring seal | O-ring for LOR ²⁾ |
|----------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|------------------------------|
| | Series | Series | Series | Series | Series | Series | Series | | |
| in. | - | | | | | | | | |
| 1 1/8 | | 507 | | | | | | LER-13 | - |
| 1 3/16 | | 507* | | | | | | LER-14 | - |
| 1 1/4 | | 507 | | | | | | LER-15 | - |
| 1 3/8 | | 509 | 609 | | | | | LER-16 | - |
| 1 7/16 | | 509* | 609* | | | | 308* | LER-17 | - |
| 1 1/2 | | 509 | 609 | | | | | LER-18 | - |
| 1 5/8 | | 510 | 610 | | | | | LER-19 | - |
| 1 11/16 | | 510* | 610* | | | | 309* | LER-20 | - |
| 1 3/4 | | 510 | 610 | | | | | LER-21 | - |
| 1 13/16 | | 511 | 611 | | | | | LER-22 | - |
| 1 7/8 | | 511 | 611 | | | | 310* | LER-23 | - |
| 1 15/16 | | 511* | 611* | | | 308* | | LER-24 | - |
| 2 | | 511 | 611 | | | | | LER-25 | - |
| 2 | | 513 | | | | | | LER-26 | - |
| 2 1/16 | | 513 | | | | | 311* | LER-27 | - |
| 2 1/8 | | 513 | | | | 309* | | LER-28 | - |
| 2 1/8 | | | 613 | | | | 312 | LOR-31 | AS-568-034 |
| 2 3/16 | | 513* | | | | | | LER-29 | - |
| 2 3/16 | | | 613* | | | | 312 | LOR-32 | AS-568-035 |
| 2 1/4 | | 513 | | | | | | LER-30 | - |
| 2 1/4 | | | 613 | | | | 312* | LOR-33 | AS-568-035 |
| 2 5/16 | | | | 210 | | 310 | | LER-34 | - |
| 2 3/8 | | | | 210 | | 310* | | LER-35 | - |
| 2 3/8 | | 515 | 615 | | 213 | | 313 | LOR-36 | AS-568-036 |
| 2 7/16 | | 515* | 615* | | 213* | | 313* | LOR-37 | AS-568-037 |
| 2 1/2 | | | | | | 311 | | LER-39 | - |
| 2 1/2 | | 515 | 615 | | 213 | | 313 | LOR-38 | AS-568-037 |
| 2 9/16 | | | | | | 311* | | LER-40 | - |
| 2 9/16 | | 516 | 616 | | | | 314 | LOR-42 | AS-568-038 |
| 2 5/8 | | | | | | 311 | | LER-41 | - |
| 2 5/8 | | 516 | 616 | | | | 314* | LOR-43 | AS-568-038 |
| 2 11/16 | | 516* | 616* | | | | 314 | LOR-44 | AS-568-039 |
| 2 3/4 | | 516 | 616 | | | | 314 | LOR-45 | AS-568-039 |
| 2 13/16 | | | 617 | | | | | LOR-182 | AS-568-149 |
| 2 13/16 | | | | | 215* | 312 | 315* | LOR-46 | AS-568-040 |
| 2 13/16 | | 517 | | 213 | 216 | 313 | | LOR-51 | AS-568-040 |
| 2 3/16 | | | | | | | 316 | LOR-57 | AS-568-150 |
| 2 7/8 | | | 617 | | | | | LOR-183 | AS-568-150 |
| 2 7/8 | | | | | 215 | 312* | 315 | LOR-47 | AS-568-040 |
| 2 7/8 | | 517 | | 213 | 216 | 313 | | LOR-52 | AS-568-040 |
| 2 7/8 | | | | | | | 316 | LOR-58 | AS-568-150 |
| 2 15/16 | | | 617* | | | | | LOR-184 | AS-568-151 |

The table continues on next spread.

* = Standard shaft diameter, all others are optional shaft diameters

1) Speed rating is the same as bearing speed rating

2) O-ring supplied with LOR is for replacement only, AS-568-### are industry standard O-rings available at most SKF authorized distributors

Table 2

| Contact seal ³⁾ | Speed limit ⁴⁾ | Taconite seals with contact seal ⁵⁾ | with V-ring seal | Speed limit ⁴⁾ | End plug |
|----------------------------|---------------------------|--|------------------|---------------------------|----------|
| | r/min | – | | r/min | – |
| – | – | TER-13 | TER-13 V | 2 250 | EPR-2 |
| – | – | TER-14 | TER-14 V | 2 250 | EPR-2 |
| – | – | TER-15 | TER-15 V | 2 250 | EPR-2 |
| – | – | TER-16 | TER-16 V | 2 175 | EPR-3 |
| B-9784-12 | 3 800 | TER-17 | TER-17 V | 2 175 | EPR-3 |
| – | – | TER-18 | TER-18 V | 2 175 | EPR-3 |
| – | – | TER-19 | TER-19 V | 1 800 | EPR-4 |
| B-9784-15 | 3 400 | TER-20 | TER-20 V | 1 800 | EPR-4 |
| – | – | TER-21 | TER-21 V | 1 800 | EPR-4 |
| – | – | TER-22 | TER-22 V | 1 575 | EPR-5 |
| – | – | TER-23 | TER-23 V | 1 575 | EPR-5 |
| B-9784-19 | 2 950 | TER-24 | TER-24 V | 1 575 | EPR-5 |
| – | – | TER-25 | TER-25 V | 1 575 | EPR-5 |
| B-9784-21 | 2 950 | TER-26 | TER-26 V | 1 450 | EPR-6 |
| – | – | TER-27 | TER-27 V | 1 450 | EPR-6 |
| – | – | TER-28 | TER-28 V | 1 450 | EPR-6 |
| B-10724-32 | 2 600 | TER-31 | TER-31 V | 1 400 | EPR-7 |
| B-9784-24 | 2 600 | TER-29 | TER-29 V | 1 400 | EPR-6 |
| B-10724-32 | 2 600 | TER-32 | TER-32 V | 1 400 | EPR-7 |
| – | – | TER-30 | TER-30 V | 1 400 | EPR-6 |
| B-10724-32 | 2 600 | TER-33 | TER-33 V | 1 075 | EPR-7 |
| – | – | TER-34 | TER-34 V | 1 300 | – |
| – | – | TER-35 | TER-35 V | 1 300 | – |
| B-10724-37 | 2 350 | TER-36 | TER-36 V | 1 250 | EPR-7 |
| B-10724-37 | 2 350 | TER-37 | TER-37 V | 1 250 | EPR-7 |
| B-9784-37 | – | TER-39 | TER-39 V | 1 250 | – |
| B-10724-37 | 2 350 | TER-38 | TER-38 V | 1 250 | EPR-7 |
| B-9784-35 | – | TER-40 | TER-40 V | 1 200 | – |
| B-10724-44 | 2 150 | TER-42 | TER-42 V | 1 150 | EPR-8 |
| – | – | TER-41 | TER-41 V | 1 150 | – |
| B-10724-44 | 2 150 | TER-43 | TER-43 V | 1 150 | EPR-8 |
| B-10724-44 | 2 150 | TER-44 | TER-44 V | 1 150 | EPR-8 |
| B-10724-44 | 2 150 | TER-45 | TER-45 V | 1 150 | EPR-8 |
| B-10724-184 | 1 950 | TER-182 | TER-182 V | 1 050 | EPR-10 |
| B-10724-44 | 2 150 | TER-46 | TER-46 V | 900 | EPR-8 |
| B-10724-53 | 1 950 | TER-51 | TER-51 V | 1 050 | EPR-9 |
| B-10724-184 | 1 900 | TER-57 | TER-57 V | 850 | EPR-10 |
| B-10724-184 | 1 950 | TER-183 | TER-183 V | 1 050 | EPR-10 |
| B-10724-44 | 2 150 | TER-47 | TER-47 V | 1 075 | EPR-8 |
| B-10724-53 | 1 950 | TER-52 | TER-52 V | 1 050 | EPR-9 |
| B-10724-184 | 1 900 | TER-58 | TER-58 V | 850 | EPR-10 |
| B-10724-184 | 1 950 | TER-184 | TER-184 V | 1 050 | EPR-10 |

³⁾ B-10724-###'s are the SKF PosiTrac Plus seal and require the LOR

⁴⁾ For stepped shaft housing designs, the largest shaft diameter is the speed limit

⁵⁾ Most taconite seals and all V-ring versions are made to order, contact SKF for availability

Split pillow blocks SAF and SAW series

Seal chart for SAF and SAW housings

| Shaft diameter | d _a 0(00) | d _a 5(00) | d _a 6(00) | d _b 2(00) | d _c 2(00) | d _b 3(00) | d _c 3(00) | Labyrinth seal ¹⁾ Ring seal | O-ring for LOR ²⁾ |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|--|
| | Series | Series | Series | Series | Series | Series | Series | | |
| in. | - | | | | | | | | |
| 2 ¹⁵ / ₁₆ 2 ¹⁵ / ₁₆ 3 | | 517* | | 213 | 216 | 313 | | LOR-53 LOR-59 LOR-185 | AS-568-141 AS-568-151 AS-568-151 |
| 3 3 3 ¹ / ₁₆ | | 517 518 | | 213 | 216* | 313 | | LOR-54 LOR-60 LOR-186 | AS-568-041 AS-568-151 38309-186 |
| 3 ¹ / ₁₆ 3 ¹ / ₁₆ 3 ¹ / ₈ | | | 618 | 213* | 216 217 | 313* | | LOR-55 LOR-61 LOR-187 | 38309-55 38309-61 AS-568-152 |
| 3 ¹ / ₈ 3 ¹ / ₈ 3 ³ / ₁₆ | | 518* | 618* | 213 | 216 217 | 313 314 | | LOR-56 LOR-62 LOR-188 | AS-568-042 AS-568-042 AS-568-152 |
| 3 ³ / ₁₆ 3 ¹ / ₄ 3 ¹ / ₄ | | 518 | 618 | | 217* | 314 | | LOR-63 LOR-189 LOR-64 | AS-568-042 AS-568-152 AS-568-042 |
| 3 ⁵ / ₁₆ 3 ⁵ / ₁₆ 3 ⁵ / ₁₆ | | 520 | 620 | | 220 217 218 | | | LOR-100 LOR-65 LOR-190 | 38309-100 38309-65 38309-190 |
| 3 ³ / ₈ 3 ³ / ₈ 3 ³ / ₈ | | | 620 | 215/216 | 217 220 | 315 | | LOR-78 LOR-66 LOR-101 | AS-568-043 AS-568-043 AS-568-153 |
| 3 ³ / ₈ 3 ⁷ / ₁₆ 3 ⁷ / ₁₆ | | 520* | 620* | 215*/216 | 220 | 315* | | LOR-191 LOR-79 LOR-102 | AS-568-153 AS-568-043 AS-568-153 |
| 3 ¹ / ₂ 3 ¹ / ₂ 3 ⁹ / ₁₆ | | 520 | 620 | 215/216 215/216 | 220 | 315 | | LOR-80 LOR-103 LOR-81 | AS-568-043 AS-568-153 38309-81 |
| 3 ⁹ / ₁₆ 3 ⁵ / ₈ 3 ⁵ / ₈ | | | | 215/216* | | 316 315 316* | | LOR-83 LOR-82 LOR-84 | 38309-83 AS-568-044 AS-568-154 |
| 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ³ / ₄ | | | | | | 316 316 | 320 | LOR-85 LOR-104 LOR-86 | AS-568-154 AS-568-154 AS-568-154 |
| 3 ³ / ₄ 3 ¹³ / ₁₆ 3 ¹³ / ₁₆ | | | | | | 316 220* | 320 | LOR-105 LOR-87 LOR-106 | AS-568-154 38309-87 38309-106 |
| 3 ¹³ / ₁₆ 3 ⁷ / ₈ 3 ⁷ / ₈ | | 522 522 | 622 622 | | 217 | 317 317 | | LOR-107 LOR-108 LOR-88 | 38309-107 AS-568-155 AS-568-045 |
| 3 ¹⁵ / ₁₆ 3 ¹⁵ / ₁₆ 4 | | 522* | 622* | | 217* | 317* | | LOR-109 LOR-89 LOR-110 | AS-568-155 AS-568-045 AS-568-155 |

The table continues on next spread.

* = Standard shaft diameter, all others are optional shaft diameters

1) Speed rating is the same as bearing speed rating

2) O-ring supplied with LOR is for replacement only, AS-568-### are industry standard O-rings available at most SKF authorized distributors

cont. Table 2

| Contact seal ³⁾ | Speed limit ⁴⁾ | Taconite seals with contact seal ⁵⁾ | with V-ring seal | Speed limit ⁴⁾ | End plug |
|----------------------------|---------------------------|--|---------------------|---------------------------|----------|
| | r/min | – | | r/min | – |
| B-10724-53 | 1 950 | TER-53 | TER-53 V | 1 050 | EPR-9 |
| B-10724-184 | 1 900 | TER-59 | TER-59 V | 850 | EPR-10 |
| B-10724-184 | 1 950 | TER-185 | TER-185 V | 1 050 | EPR-10 |
| B-10724-53 | 1 950 | TER-54 | TER-54 V | 850 | EPR-9 |
| B-10724-184 | 1 900 | TER-60 | TER-60 V | 850 | EPR-10 |
| B-10724-188 | 1 800 | TER-186 | TER-186 V | 950 | EPR-11 |
| B-10724-53 | 1 950 | TER-55 | TER-55 V | 1 000 | EPR-9 |
| B-10724-64 | 1 450 | TER-61 | TER-61 V | 775 | EPR-9 |
| B-10724-188 | 1 800 | TER-187 | TER-187 V | 950 | EPR-11 |
| B-10724-53 | 1 950 | TER-56 | TER-56 V | 1 000 | EPR-9 |
| B-10724-64 | 1 450 | TER-62 | TER-62 V | 775 | EPR-9 |
| B-10724-188 | 1 800 | TER-188 | TER-188 V | 950 | EPR-11 |
| B-10724-64 | 1 450 | TER-63 | TER-63 V | 775 | EPR-9 |
| B-10724-188 | 1 800 | TER-189 | TER-189 V | 950 | EPR-11 |
| B-10724-64 | 1 450 | TER-64 | TER-64 V | 925 | EPR-9 |
| B-10724-102 | 1 650 | TER-100 | TER-100 V | 900 | EPR-12 |
| B-10724-64 | 1 450 | TER-65 | TER-65 V | 775 | EPR-9 |
| B-10724-188 | 1 800 | TER-190 | TER-190 V | 750 | EPR-11 |
| B-10724-79 | 1 650 | TER-78 | TER-78 V | 900 | – |
| B-10724-64 | 1 450 | TER-66 | TER-66 V | 775 | EPR-9 |
| B-10724-102 | 1 650 | TER-101 | TER-101 V | 900 | EPR-12 |
| B-10724-188 | 1 800 | TER-191 | TER-191 V | 750 | EPR-11 |
| B-10724-79 | 1 450 | TER-79 | TER-79 V | 900 | – |
| B-10724-102 | 1 650 | TER-102 | TER-102 V | 900 | EPR-12 |
| B-10724-79 | 1 450 | TER-80 | TER-80 V | 900 | – |
| B-10724-102 | 1 650 | TER-103 | TER-103 V | 900 | EPR-12 |
| B-10724-79 | 1 450 | TER-81 | TER-81 V | 900 | – |
| B-10724-106 | 1 275 | TER-83 | TER-83 V | 850 | EPR-12 |
| B-10724-79 | 1 450 | TER-82 | TER-82 V | 850 | – |
| B-10724-106 | 1 275 | TER-84 | TER-84 V | 850 | EPR-12 |
| B-10724-106 | 1 275 | TER-85 | TER-85 V | 850 | EPR-12 |
| B-10724-106 | 1 275 | TER-104 | TER-104 V | 675 | EPR-12 |
| B-10724-106 | 1 275 | TER-86 | TER-86 V | 850 | EPR-12 |
| B-10724-106 | 1 275 | TER-105 | TER-105 V | 675 | EPR-12 |
| B-10724-106 | 1 275 | TER-87 | TER-87 V | 850 | EPR-12 |
| B-10724-106 | 1 275 | TER-106 | TER-106 V | 675 | EPR-12 |
| B-10724-109 | 1 450 | TER-107 | TER-107 V | 775 | EPR-13 |
| B-10724-109 | 1 450 | TER-108 | TER-108 V | 775 | EPR-13 |
| B-10724-89 | 1 450 | TER-88 | TER-88 V | 775 | – |
| B-10724-109 | 1 450 | TER-109 | TER-109 V | 775 | EPR-13 |
| B-10724-89 | 1 450 | TER-89 | TER-89 V | 775 | – |
| B-10724-109 | 1 450 | TER-110 | TER-110 V | 775 | EPR-13 |

³⁾ B-10724-###'s are the SKF PosiTrac Plus seal and require the LOR

⁴⁾ For stepped shaft housing designs, the largest shaft diameter is the speed limit

⁵⁾ Most taconite seals and all V-ring versions are made to order, contact SKF for availability

Split pillow blocks SAF and SAW series

Seal chart for SAF and SAW housings

| Shaft diameter | d _a 0(00) | d _a 5(00) | d _a 6(00) | d _b 2(00) | d _c 2(00) | d _b 3(00) | d _c 3(00) | Labyrinth seal ¹⁾ Ring seal | O-ring for LOR ²⁾ |
|----------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|------------------------------|
| | Series | Series | Series | Series | Series | Series | Series | | |
| in. | - | | | | | | | | |
| 4 | | | | 217 | | | | LOR-90 | AS-568-045 |
| 4 1/16 | 024 | 524 | 624 | 218 | 222 | 318 | 322 | LOR-111 | 38309-111 |
| 4 1/8 | 024 | 524 | 624 | 218* | 222 | 318* | 322 | LOR-112 | AS-568-156 |
| 4 3/16 | 024* | 524* | 624* | 218 | 222* | 318 | 322* | LOR-113 | AS-568-156 |
| 4 1/4 | 024 | 524 | 624 | 218 | 222 | 318 | 322 | LOR-114 | AS-568-156 |
| 4 5/16 | 026 | 526 | 626 | 220 | 224 | 320 | 324 | LOR-115 | 38309-115 |
| 4 3/8 | 026 | 526 | 626 | 220 | 224 | 320 | 324 | LOR-116 | AS-568-157 |
| 4 7/16 | 026* | 526* | 626* | 220 | 224 | 320 | 324 | LOR-117 | AS-568-157 |
| 4 1/2 | 026 | 526 | 626 | 220* | 224 | 320* | 324 | LOR-118 | AS-568-157 |
| 4 9/16 | | | | 220 | 224* | 320 | 324* | LOR-119 | 38309-119 |
| 4 13/16 | 028 | 528 | 628 | 222 | 226 | 322 | 326 | LOR-120 | 38309-120 |
| 4 7/8 | 028 | 528 | 628 | 222* | 226 | 322* | 326 | LOR-121 | AS-568-159 |
| 4 15/16 | 028* | 528* | 628* | 222 | 226* | 322 | 326* | LOR-122 | AS-568-159 |
| 5 1/8 | 030 | 530 | 630 | 224 | 228 | 324 | 328 | LOR-124 | AS-568-160 |
| 5 3/16 | 030* | 530* | 630* | 224 | 228 | 324 | 328 | LOR-125 | AS-568-160 |
| 5 1/4 | 030 | 530 | 630 | 224 | 228 | 324 | 328 | LOR-126 | AS-568-160 |
| 5 5/16 | 030 | | | 224* | 228* | 324* | 328* | LOR-127 | 38309-127 |
| 5 3/8 | 30 | | | 224 | 228 | 324 | 328 | LOR-128 | AS-568-161 |
| 5 3/8 | 032 | 532 | 632 | | | | | LOR-129 | AS-568-253 |
| 5 7/16 | 032* | 532* | 632* | | | | | LOR-130 | AS-568-254 |
| 5 1/2 | 032 | 532 | 632 | | | | | LOR-131 | AS-568-254 |
| 5 5/8 | | | | 226 | 230 | 326 | 330 | LOR-132 | AS-568-162 |
| 5 11/16 | | | | 226 | 230 | 326 | 330 | LOR-133 | AS-568-162 |
| 5 3/4 | | | | 226 | 230* | 326 | 330* | LOR-134 | AS-568-162 |
| 5 13/16 | 034 | 534 | 634 | | 232 | | 332 | LOR-138 | AS-568-257 |
| 5 13/16 | | | | 226 | 230 | 326 | 330 | LOR-135 | 38309-135 |
| 5 7/8 | 034 | 534 | 634 | | 232 | | 332 | LOR-139 | AS-568-257 |
| 5 7/8 | | | | 226* | 230 | 326* | 330 | LOR-136 | AS-568-163 |
| 5 15/16 | 034* | 534* | 634* | | 232 | | 332 | LOR-140 | AS-568-258 |
| 5 15/16 | | | | 226 | 230 | 326 | 330 | LOR-137 | AS-568-163 |
| 6 | 034 | 534 | 634 | | 232 | | 332 | LOR-141 | AS-568-258 |
| 6 1/16 | | | | | 232* | | 332* | LOR-142 | 38309-142 |
| 6 3/16 | | | | 228 | | 328 | | LOR-143 | AS-568-164 |
| 6 1/4 | | | | 228* | | 328* | | LOR-144 | AS-568-164 |
| 6 5/16 | | | | 228 | | 328 | | LOR-145 | 38309-145 |
| 6 5/16 | 036 | 536 | | | 234 | | 334 | LOR-146 | 38309-146 |
| 6 3/8 | 036 | 536 | | | 234 | | 334 | LOR-147 | AS-568-260 |
| 6 7/16 | 036* | 536* | | | 234 | | 334* | LOR-148 | AS-568-260 |
| 6 1/2 | 036 | 536 | | | 234 | | 334 | LOR-149 | AS-568-260 |
| 6 9/16 | | | | 230 | | 330 | | LOR-150 | 38309-150 |

The table continues on next spread.

* = Standard shaft diameter, all others are optional shaft diameters

1) Speed rating is the same as bearing speed rating

2) O-ring supplied with LOR is for replacement only, AS-568-### are industry standard O-rings available at most SKF authorized distributors

cont. Table 2

| Contact seal ³⁾ | Speed limit ⁴⁾ | Taconite seals with contact seal ⁵⁾ | with V-ring seal | Speed limit ⁴⁾ | End plug |
|----------------------------|---------------------------|--|---------------------|---------------------------|----------|
| | r/min | – | | r/min | – |
| B-10724-89 | 1 450 | TER-90 | TER-90 V | 775 | – |
| B-10724-113 | 1 350 | TER-111 | TER-111 V | 750 | EPR-14 |
| B-10724-113 | 1 350 | TER-112 | TER-112 V | 750 | EPR-14 |
| B-10724-113 | 1 350 | TER-113 | TER-113 V | 725 | EPR-14 |
| B-10724-113 | 1 350 | TER-114 | TER-114 V | 725 | EPR-14 |
| B-10724-117 | 1 300 | TER-115 | TER-115 V | 700 | EPR-15 |
| B-10724-117 | 1 300 | TER-116 | TER-116 V | 700 | EPR-15 |
| B-10724-117 | 1 300 | TER-117 | TER-117 V | 700 | EPR-15 |
| B-10724-117 | 1 300 | TER-118 | TER-118 V | 675 | EPR-15 |
| B-10724-117 | 1 300 | TER-119 | TER-119 V | 675 | EPR-15 |
| B-10724-122 | 1 150 | TER-120 | TER-120 V | 625 | EPR-27 |
| B-10724-122 | 1 150 | TER-121 | TER-121 V | 625 | EPR-27 |
| B-10724-122 | 1 150 | TER-122 | TER-122 V | 625 | EPR-27 |
| B-10724-125 | 1 075 | TER-124 | TER-124 V | 590 | EPR-16 |
| B-10724-125 | 1 075 | TER-125 | TER-125 V | 590 | EPR-16 |
| B-10724-125 | 1 075 | TER-126 | TER-126 V | 575 | EPR-16 |
| B-10724-125 | 1 075 | TER-127 | TER-127 V | 575 | EPR-16 |
| B-10724-125 | 1 075 | TER-128 | TER-128 V | 575 | EPR-16 |
| B-10724-130 | 1 050 | TER-129 | TER-129 V | 560 | EPR-16 |
| B-10724-130 | 1 050 | TER-130 | TER-130 V | 560 | EPR-16 |
| B-10724-130 | 1 050 | TER-131 | TER-131 V | 560 | EPR-16 |
| B-10724-134 | 850 | TER-132 | TER-132 V | 460 | EPR-17 |
| B-10724-134 | 850 | TER-133 | TER-133 V | 460 | EPR-17 |
| B-10724-134 | 850 | TER-134 | TER-134 V | 460 | EPR-17 |
| B-10724-140 | 950 | TER-138 | TER-138 V | 520 | EPR-18 |
| B-10724-134 | 850 | TER-135 | TER-135 V | 520 | EPR-17 |
| B-10724-140 | 950 | TER-139 | TER-139 V | 520 | EPR-18 |
| B-10724-134 | 850 | TER-136 | TER-136 V | 520 | EPR-17 |
| B-10724-140 | 950 | TER-140 | TER-140 V | 520 | EPR-18 |
| B-10724-134 | 850 | TER-137 | TER-137 V | 520 | EPR-17 |
| B-10724-140 | 950 | TER-141 | TER-141 V | 500 | EPR-18 |
| B-10724-140 | 950 | TER-142 | TER-142 V | 500 | EPR-18 |
| B-10724-144 | 925 | TER-143 | TER-143 V | 490 | – |
| B-10724-144 | 925 | TER-144 | TER-144 V | 490 | – |
| B-10724-144 | 925 | TER-145 | TER-145 V | 490 | – |
| B-10724-148 | 875 | TER-146 | TER-146 V | 460 | EPR-19 |
| B-10724-148 | 875 | TER-147 | TER-147 V | 460 | EPR-19 |
| B-10724-148 | 875 | TER-148 | TER-148 V | 460 | EPR-19 |
| B-10724-148 | 875 | TER-149 | TER-149 V | 460 | EPR-19 |
| B-10724-151 | 850 | TER-150 | TER-150 V | 460 | – |

³⁾ B-10724-###'s are the SKF PosiTrac Plus seal and require the LOR

⁴⁾ For stepped shaft housing designs, the largest shaft diameter is the speed limit

⁵⁾ Most taconite seals and all V-ring versions are made to order, contact SKF for availability

Split pillow blocks SAF and SAW series

Seal chart for SAF and SAW housings

| Shaft diameter | d _a 0(00) | d _a 5(00) | d _a 6(00) | d _b 2(00) | d _c 2(00) | d _b 3(00) | d _c 3(00) | Labyrinth seal ¹⁾ Ring seal | O-ring for LOR ²⁾ |
|----------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---|------------------------------|
| | Series | Series | Series | Series | Series | Series | Series | | |
| in. | - | | | | | | | | |
| 6 5/8 | | | | 230* | | 330* | | LOR-151 | AS-568-166 |
| 6 11/16 | | | | 230 | | 330 | | LOR-152 | AS-568-166 |
| 6 13/16 | 038 | 538 | 638 | 232 | 236 | 332 | | LOR-153 | 38309-153 |
| 6 7/8 | 038 | 538 | 638 | 232 | 236* | 332 | | LOR-154 | AS-568-262 |
| 6 15/16 | 038* | 538* | 638* | 232 | 236 | 332 | | LOR-155 | AS-568-262 |
| 7 | 038 | 538 | 638 | 232* | 236 | 332* | | LOR-156 | AS-568-262 |
| 7 1/16 | | | | 232 | 236 | 332 | | LOR-157 | 38309-157 |
| 7 1/8 | 040 | 540 | 640 | | 238 | | 338 | LOR-158 | AS-568-263 |
| 7 3/16 | 040* | 540* | 640* | | 238 | | 338 | LOR-159 | AS-568-263 |
| 7 1/4 | 040 | 540 | 640 | | 238* | | 338* | LOR-160 | AS-568-263 |
| 7 7/16 | | | | 234* | 240 | 334* | 340 | LOR-161 | AS-568-264 |
| 7 1/2 | | | | 234 | 240 | 334 | 340 | LOR-162 | AS-568-264 |
| 7 9/16 | | | | 234 | 240 | 334 | 340 | LOR-163 | AS-568-265 |
| 7 5/8 | | | | 234 | 240* | 334 | 340* | LOR-164 | AS-568-265 |
| 7 13/16 | 044 | 544 | | 236* | | | | LOR-165 | AS-568-266 |
| 7 7/8 | 044 | 544 | | 236 | | | | LOR-166 | AS-568-266 |
| 7 15/16 | 044* | 544* | | 236 | | | | LOR-167 | AS-568-266 |
| 8 | 044 | 544 | | 236 | | | | LOR-168 | AS-568-266 |
| 8 1/4 | | | | 238 | 244 | 338 | | LOR-169 | AS-568-267 |
| 8 5/16 | | | | 238 | 244* | 338 | | LOR-170 | AS-568-268 |
| 8 3/8 | | | | 238* | 244 | 338* | | LOR-171 | AS-568-268 |
| 8 7/16 | | | | 238 | 244 | 338 | | LOR-172 | AS-568-268 |
| 8 7/16 | 048 | | | | | | | LOR-550 | AS-568-268 |
| 8 1/2 | | | | 238 | 244 | 338 | | LOR-173 | AS-568-268 |
| 8 1/2 | 048 | | | | | | | LOR-551 | AS-568-268 |
| 8 11/16 | | | | 240 | | 340 | | LOR-174 | AS-568-269 |
| 8 3/4 | | | | 240* | | 340* | | LOR-175 | AS-568-269 |
| 8 13/16 | | | | 240 | | 340 | | LOR-176 | AS-568-270 |
| 8 7/8 | | | | 240 | | 340 | | LOR-177 | AS-568-270 |
| 8 15/16 | 048* | | | | | | | LOR-552 | AS-568-270 |
| 9 | 048 | | | | | | | LOR-513 | AS-568-270 |
| 9 7/16 | 052* | | | | | | | LOR-553 | AS-568-272 |
| 9 1/2 | 052 | | | 244 | | | | LOR-178 | AS-568-272 |
| 9 9/16 | | | | 244* | | | | LOR-179 | AS-568-273 |
| 9 5/8 | | | | 244 | | | | LOR-180 | AS-568-273 |
| 9 11/16 | | | | 244 | | | | LOR-181 | AS-568-273 |
| 9 15/16 | 056* | | | | | | | LOR-607 | AS-568-274 |
| 10 | 056 | | | | | | | LOR-568 | AS-568-274 |
| 10 7/16 | 056* | | | | | | | LOR-606 | AS-568-275 |
| 10 1/2 | 056 | | | | | | | LOR-519 | AS-568-275 |

* = Standard shaft diameter, all others are optional shaft diameters

1) Speed rating is the same as bearing speed rating

2) O-ring supplied with LOR is for replacement only, AS-568-### are industry standard O-rings available at most SKF authorized distributors

cont. Table 2

| Contact seal ³⁾ | Speed limit ⁴⁾ | Taconite seals with contact seal ⁵⁾ | with V-ring seal | Speed limit ⁴⁾ | End plug |
|----------------------------|---------------------------|--|---------------------|---------------------------|----------|
| | r/min | – | | r/min | – |
| B-10724-151 | 850 | TER-151 | TER-151 V | 460 | – |
| B-10724-151 | 850 | TER-152 | TER-152 V | 460 | – |
| B-10724-155 | 825 | TER-153 | TER-153 V | 440 | EPR-21 |
| B-10724-155 | 825 | TER-154 | TER-154 V | 440 | EPR-21 |
| B-10724-155 | 825 | TER-155 | TER-155 V | 440 | EPR-21 |
| B-10724-155 | 825 | TER-156 | TER-156 V | 440 | EPR-21 |
| B-10724-155 | 825 | TER-157 | TER-157 V | 440 | EPR-21 |
| B-10724-159 | 800 | TER-158 | TER-158 V | 425 | EPR-21 |
| B-10724-159 | 800 | TER-159 | TER-159 V | 425 | EPR-21 |
| B-10724-159 | 800 | TER-160 | TER-160 V | 425 | EPR-21 |
| B-10724-161 | 650 | TER-161 | TER-161 V | 410 | EPR-22 |
| B-10724-161 | 650 | TER-162 | TER-162 V | 410 | EPR-22 |
| B-10724-161 | 650 | TER-163 | TER-163 V | 410 | EPR-22 |
| B-10724-161 | 650 | TER-164 | TER-164 V | 390 | EPR-22 |
| B-10724-167 | 725 | TER-165 | TER-165 V | 390 | EPR-23 |
| B-10724-167 | 725 | TER-166 | TER-166 V | 390 | EPR-23 |
| B-10724-167 | 725 | TER-167 | TER-167 V | 385 | EPR-23 |
| B-10724-167 | 725 | TER-168 | TER-168 V | 385 | EPR-23 |
| B-10724-170 | 600 | TER-169 | TER-169 V | 365 | EPR-24 |
| B-10724-170 | 600 | TER-170 | TER-170 V | 365 | EPR-24 |
| B-10724-170 | 600 | TER-171 | TER-171 V | 365 | EPR-24 |
| B-10724-170 | 600 | TER-172 | TER-172 V | 365 | EPR-24 |
| B-10724-552 | 680 | TER-550 | TER-550 V | 360 | X-5217-4 |
| B-10724-170 | 600 | TER-173 | TER-173 V | 360 | EPR-24 |
| B-10724-552 | 680 | TER-551 | TER-551 V | 360 | X-5217-4 |
| B-10724-175 | 650 | TER-174 | TER-174 V | 350 | EPR-25 |
| B-10724-175 | 650 | TER-175 | TER-175 V | 350 | EPR-25 |
| B-10724-175 | 650 | TER-176 | TER-176 V | 350 | EPR-25 |
| B-10724-175 | 650 | TER-177 | TER-177 V | 350 | EPR-25 |
| B-10724-552 | 640 | TER-552 | TER-552 V | 340 | X-5217-4 |
| B-10724-552 | 640 | TER-513 | TER-513 V | 340 | X-5217-4 |
| B-10724-178 | 600 | TER-553 | TER-553 V | 325 | X-5217-2 |
| B-10724-178 | 600 | TER-178 | TER-178 V | 320 | X-5217-2 |
| B-10724-178 | 600 | TER-179 | TER-179 V | 315 | X-5217-2 |
| B-10724-178 | 600 | TER-180 | TER-180 V | 315 | X-5217-2 |
| B-10724-178 | 600 | TER-181 | TER-181 V | 315 | X-5217-2 |
| B-10724-607 | 575 | TER-607 | TER-607 V | 310 | X-5217-2 |
| B-10724-607 | 575 | TER-568 | TER-568 V | 305 | X-5217-2 |
| B-10724-606 | 550 | TER-606 | TER-606 V | 295 | X-5217-1 |
| B-10724-606 | 550 | TER-519 | TER-519 V | 290 | X-5217-1 |

³⁾ B-10724-###'s are the SKF PosiTrac Plus seal and require the LOR

⁴⁾ For stepped shaft housing designs, the largest shaft diameter is the speed limit

⁵⁾ Most taconite seals and all V-ring versions are made to order, contact SKF for availability

Labyrinth seals

Labyrinth seals are the standard sealing solution for SAF and SAW housings. They are available in two variants depending on housing size:

- Labyrinth seals with the designation LER, also called triple ring seals, are supplied standard with small SAF housings (shaft diameter $\leq 2 \frac{5}{8}$ inch). The rings form a multistage labyrinth seal with the housing seal grooves. If operating conditions warrant it, the sealing effect can be enhanced by filling the cavity between the housing and seal ring with grease.
- PosiTrac labyrinth seals, designation LOR, are supplied standard with larger SAF (shaft diameter $\geq 2 \frac{1}{8}$ inch) and all SAW housings. These seals have an additional O-ring made of acrylonitrile-butadiene rubber (NBR) to make the labyrinth ring rotate with the shaft.

Labyrinth rings with an internal contact element

PosiTrac Plus seals consist of a PosiTrac labyrinth ring (designation LOR) and a contact element made of acrylonitrile-butadiene rubber (NBR). The labyrinth ring is located on the shaft and held in place by an O-ring. The contact element is located in the seal groove in the housing. It can be mounted either for best contaminant exclusion or for best lubricant retention (→ fig. 6). When the contact element

is mounted for best contaminant exclusion, the sealing effect can be enhanced by filling the seal cavity with grease. The designation for the contact element is B 10724 followed by a size code, for example B 10724-122.

Taconite heavy-duty seals

Taconite seals consist of an inboard felt seal, a grease cavity and an outboard seal that is available in two designs:

- Seals in the TER series have a split contact seal.
- Seals in the TER-V series have a V-ring seal.

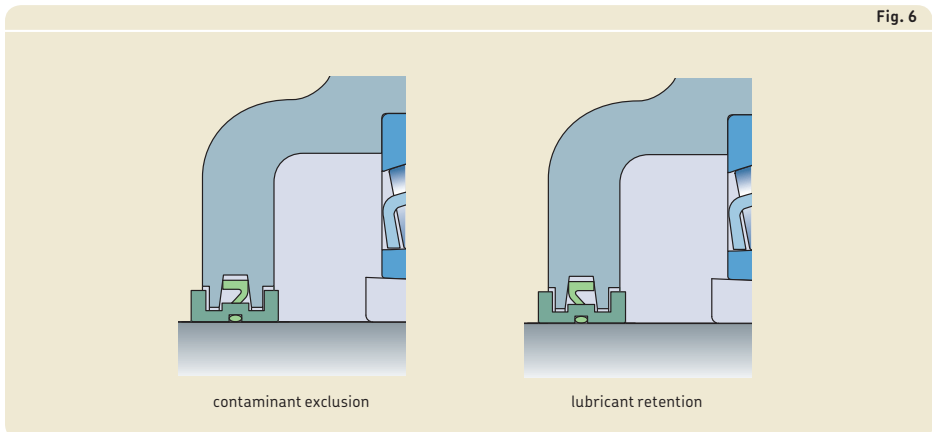
To further protect against the ingress of contaminants, SKF taconite seals have a grease fitting to purge grease and any trapped contaminants from the seal cavity, through the outboard seal.

Contact seals

Contact seals are solid seals that fit into the seal groove. Contact seals are available for smaller housing sizes (SAF 513 and smaller) where PosiTrac Plus seals are not available. The designation for contact seals is B 9784 followed by a size code, e.g. B 9784-15.

End plugs

Housings at the end of a shaft should have an end plug (end cover) that fits into the seal



groove in the housing. The plug consists of a metal plate with a strip made of acrylonitrile-butadiene rubber (NBR). Details of the permissible length of the shaft end are listed in the product tables. End plugs are identified by the designation EPR, followed by a size code, for example EPR 7.

Using sealed bearings

Using sealed bearings in housings with standard seals is a good solution for highly contaminated environments. The sealed bearing together with the housing seal and grease provide three layers of protection (→ *SKF three-barrier solution*, **page 39**).

SAF housings for sealed spherical roller bearings are identified by the designation SAF 5(00) W. Complete pillow blocks are identified by the designation SAF B225(00). For additional information, contact the SKF application engineering service.

When using taconite heavy-duty seals, a sealed bearing does not enhance the sealing effect during operation, but still protects the bearing against contaminants during mounting.

Special seals

In addition to the standard seal assortment, SAF and SAW pillow (plummer) block housings are available, on request, with high-temperature contact seals or high-speed contact seals.

High-temperature seals

High-temperature contact seals (designation LORP) consist of a PTFE labyrinth ring with an FKM (fluoro rubber) O-ring and a PTFE contact element. The PTFE contact element is available separately (designation B-10785). High-temperature seals can accommodate operating temperatures up to 400 °F. The limiting speed for the bearing can be attained.

High-speed seals

High-speed contact seals consist of an aluminium labyrinth ring with an NBR O-ring (designation LOR) and a PTFE contact element (designation B-10785). With PTFE contact elements, the limiting speed for the bearing can be attained.

8

WARNING!

Seals made of FKM (fluoro rubber) exposed to an open flame or temperatures above 570 °F are a health and environmental hazard! Contact SKF for detailed safety instructions.

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Axial load carrying capacity for bearings on sleeves* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

SAF and SAW pillow (plummer) block housings can accommodate different shaft-bearing combinations (→ **fig. 7**):

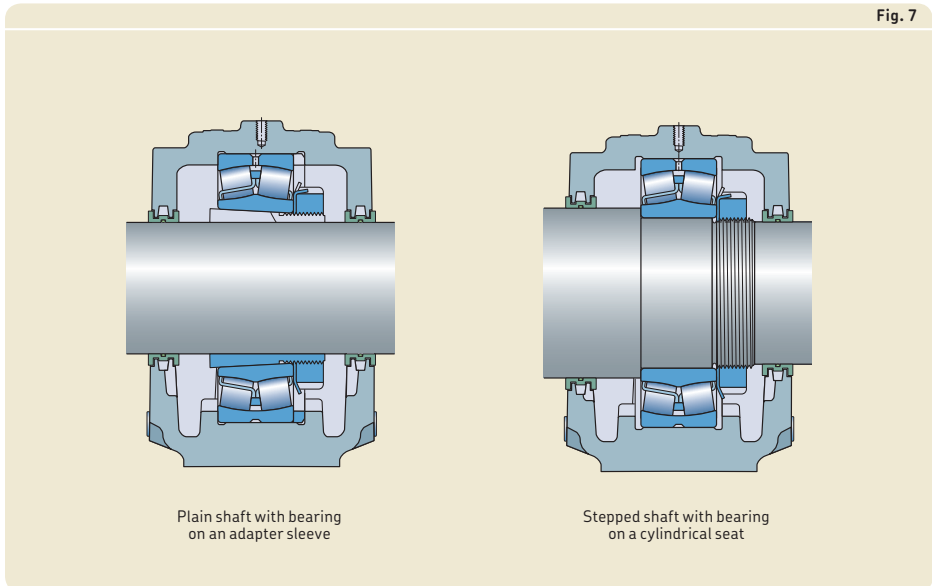
- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Plain shaft with bearing on an adapter sleeve

SAF pillow blocks in the 15, 16, 225, 226, 230, C25, C26 and C30 series and SAW pillow blocks in the 235 series accommodate bearings on an adapter sleeve on plain shafts. Housings, appropriate parts and dimensions are listed in **product tables 8.1** (→ **page 418**), **8.2** (→ **page 424**) and **8.3** (→ **page 430**).

Stepped shaft with bearing on a cylindrical seat

SAF pillow blocks in the 13, 222, 223, C22 and C23 series and SAW pillow blocks in the 232 series accommodate bearings on a cylindrical seat on stepped shafts. Housings, appropriate parts and dimensions are listed in the **product tables 8.4** (→ **page 434**), **8.5** (→ **page 436**) and **8.6** (→ **page 444**).



Locating and non-locating bearing positions

SAF and SAW housings can be used for both the locating and non-locating bearing position.

The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing with one or two stabilizing (locating) rings. Appropriate stabilizing rings are listed in the product tables.

Load carrying capacity

SAF and SAW housings are intended for loads acting perpendicularly toward the support surface. If the housing is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing.

If loads acting in other directions occur, check that the magnitude of the load is permissible for the housing and the attachment bolts. Guideline values for the safe loads of the housings are provided in **tables 3 to 5** on **pages 404 to 407**. The safe loads have been calculated using a safety factor of 5 against fracture and a factor of 2 against cap bolt yield. For housings made of spheroidal graphite cast iron the values obtained from **table 3** on **page 404** should be multiplied by a factor of 1,8.

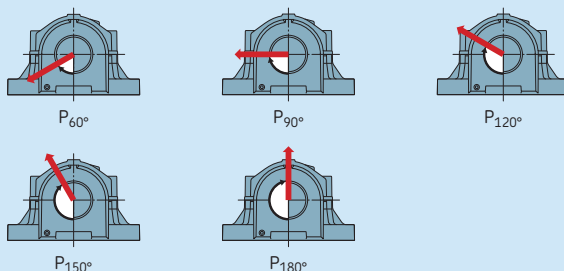
If the housing is not supported over its entire base, the load carrying capacity for vertical loads may be affected. For additional information, contact the SKF application engineering service.

For a purely axial force, static or dynamic, the permissible load on the pillow block housing should not exceed 65% of P_{180° . If the incorporated bearing is mounted on a sleeve, check the permissible axial load for the sleeve.

When housings are subjected to cyclic loads or dynamic imbalance, contact the SKF application engineering service.

Table 3

Safe loads and cap bolt information for SAF cast iron housings



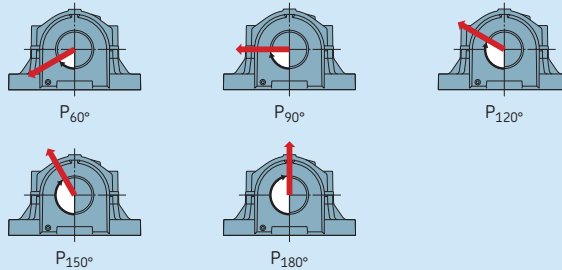
| Housing Size | | Recommended safe loads | | | | | Cap bolt (no.) Size | Torque | SAE grade |
|--------------|------|------------------------|------------------|-------------------|-------------------|-------------------|---------------------|----------|-----------|
| | | P _{60°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | | | |
| - | | lbf. | | | | | in. | ft.-lbs. | |
| 308 | 509 | 4 700 | 2 800 | 1 700 | 1 500 | 1 800 | (2) 7/16-14 | 45 | 5 |
| | 510 | 7 300 | 4 400 | 2 800 | 2 500 | 3 100 | (2) 1/2-13 | 110 | 8 |
| | | 6 500 | 3 900 | 2 500 | 2 200 | 2 800 | (2) 7/16-14 | 45 | 5 |
| 309 | 609 | 7 900 | 4 700 | 3 000 | 2 700 | 3 300 | (2) 1/2-13 | 110 | 8 |
| 310 | 511 | 10 100 | 6 100 | 3 900 | 3 500 | 4 300 | (2) 1/2-13 | 60 | 5 |
| | 610 | 8 800 | 5 300 | 3 200 | 2 900 | 3 500 | (2) 1/2-13 | 110 | 8 |
| 311 | 513 | 11 300 | 6 800 | 4 000 | 3 600 | 4 300 | (2) 1/2-13 | 60 | 5 |
| | 611 | 9 700 | 5 800 | 3 600 | 3 300 | 4 000 | (2) 1/2-13 | 110 | 8 |
| 311* | 611* | 8 000 | 4 800 | 3 000 | 2 700 | 3 200 | (2) 1/2-13 | 110 | 8 |
| 312 | | 11 100 | 6 700 | 4 100 | 3 700 | 4 500 | (2) 1/2-13 | 110 | 8 |
| | 312* | 9 500 | 5 700 | 3 500 | 3 100 | 3 800 | (2) 1/2-13 | 110 | 8 |
| | 515 | 17 000 | 10 200 | 6 300 | 5 700 | 6 800 | (2) 1/2-13 | 60 | 5 |
| 313 | 515* | 12 200 | 7 300 | 4 500 | 4 100 | 5 000 | (2) 1/2-13 | 60 | 5 |
| | 613 | 18 700 | 11 200 | 6 800 | 6 000 | 7 100 | (2) 5/8-11 | 220 | 8 |
| 313* | 613* | 13 600 | 8 100 | 4 900 | 4 400 | 5 200 | (2) 5/8-11 | 220 | 8 |
| 216 | 516 | 18 700 | 11 200 | 6 800 | 6 000 | 7 100 | (2) 5/8-11 | 110 | 5 |
| | 216* | 13 600 | 8 100 | 4 900 | 4 400 | 5 200 | (2) 5/8-11 | 110 | 5 |
| | 314 | 20 800 | 12 500 | 7 800 | 6 900 | 8 500 | (2) 5/8-11 | 220 | 8 |
| | 314* | 20 800 | 12 500 | 7 800 | 6 900 | 8 500 | (2) 5/8-11 | 220 | 8 |
| 217 | 517 | 19 000 | 11 400 | 7 100 | 6 400 | 7 800 | (2) 5/8-11 | 110 | 5 |
| | 217* | 13 800 | 8 300 | 5 200 | 4 700 | 5 700 | (2) 5/8-11 | 110 | 5 |
| 218 | 518 | 27 200 | 16 300 | 10 200 | 9 100 | 11 200 | (2) 5/8-11 | 110 | 5 |
| | 218* | 22 800 | 13 700 | 8 600 | 7 800 | 9 500 | (2) 5/8-11 | 110 | 5 |
| | 315 | 27 200 | 16 300 | 10 200 | 9 100 | 11 200 | (2) 5/8-11 | 220 | 8 |
| | 315* | 22 800 | 13 700 | 8 600 | 7 800 | 9 500 | (2) 5/8-11 | 220 | 8 |
| | 316 | 19 300 | 11 600 | 7 200 | 6 500 | 7 800 | (2) 3/4-10 | 380 | 8 |
| | 316* | 20 800 | 12 500 | 7 600 | 6 900 | 8 300 | (2) 3/4-10 | 380 | 8 |

continues on next page

* When the bearing housing can be supplied with either a two- or four-bolt base, the asterisk allowable loads for the four-bolt base option

cont. Table 3

Safe loads and cap bolt information for SAF cast iron housings

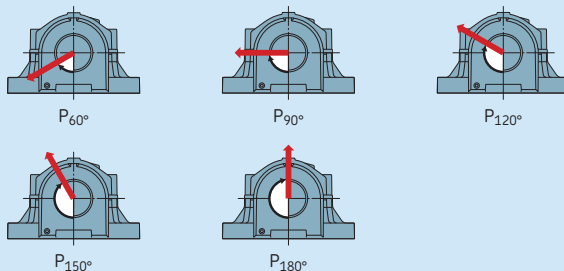


| Housing Size | Recommended safe loads | | | | | Cap bolt (no.) Size | Torque | SAE grade | | | |
|--------------|------------------------|------------------|-------------------|-------------------|-------------------|---------------------|----------|-----------|-------------|-----|---|
| | P _{60°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | | | | | | |
| | lbf. | | | | | in. | ft.-lbs. | | | | |
| 024 | 220 | 317 | 617 | 21 200 | 12 700 | 8 000 | 7 200 | 8 600 | (2) 3/4-10 | 380 | 8 |
| | | 317* | 617* | 23 300 | 14 000 | 8 800 | 8 000 | 9 600 | (2) 3/4-10 | 380 | 8 |
| 024* | 220* | 520 | 618 | 30 500 | 18 300 | 11 400 | 10 400 | 12 500 | (2) 3/4-10 | 150 | 5 |
| | | 318 | 618 | 28 800 | 17 300 | 11 000 | 10 000 | 12 200 | (2) 3/4-10 | 380 | 8 |
| 026 | 222 | 522 | 624 | 33 400 | 20 000 | 12 500 | 11 400 | 13 700 | (2) 3/4-10 | 150 | 5 |
| 028 | 224 | 524 | 620 | 41 700 | 25 000 | 16 300 | 15 000 | 18 300 | (2) 1-8 | 295 | 5 |
| | 320 | 620 | 620 | 41 700 | 25 000 | 16 300 | 15 000 | 18 300 | (2) 1-8 | 900 | 8 |
| 030/032 | 226 | 526 | 622 | 42 500 | 25 500 | 16 600 | 15 300 | 19 000 | (2) 1-8 | 295 | 5 |
| | 228 | 528 | 622 | 42 500 | 25 500 | 16 600 | 15 300 | 19 000 | (2) 1-8 | 900 | 8 |
| 034 | 228 | 528 | 622 | 55 900 | 33 500 | 21 200 | 19 300 | 23 200 | (2) 1-8 | 295 | 5 |
| | | | | | | | | | | | |
| 036/038 | 230 | 530 | 630 | 51 700 | 31 000 | 19 600 | 18 000 | 21 600 | (4) 3/4-10 | 150 | 5 |
| | 232 | 532 | 626 | 50 900 | 30 500 | 19 300 | 17 600 | 21 200 | (4) 3/4-10 | 150 | 5 |
| | 234 | 534 | 628 | 52 600 | 31 500 | 19 300 | 17 300 | 20 800 | (4) 3/4-10 | 150 | 5 |
| 040 | 236 | 536 | 630 | 52 600 | 31 500 | 19 000 | 17 000 | 20 000 | (4) 3/4-10 | 150 | 5 |
| | 238 | 538 | 632 | 65 100 | 39 000 | 24 000 | 21 200 | 25 500 | (4) 7/8-9 | 200 | 5 |
| | 240 | 540 | 634 | 81 800 | 49 000 | 30 500 | 27 000 | 32 500 | (4) 7/8-9 | 200 | 5 |
| 044 | 244 | 544 | 638 | 95 100 | 57 000 | 36 000 | 32 500 | 39 000 | (4) 1-8 | 295 | 5 |
| | 240 | 540 | 640 | 101 000 | 61 000 | 38 000 | 34 000 | 41 500 | (4) 1 1/2-6 | 750 | 5 |

* When the bearing housing can be supplied with either a two- or four-bolt base, the asterisk allowable loads for the four-bolt base option

Table 4

Safe loads and cap bolt information for SAFS cast steel housings

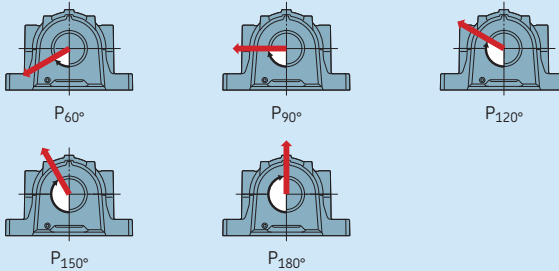


| Housing Size | Recommended safe loads | | | | | Cap bolt (no.) | Size | Torque | SAE grade | | | | |
|--------------|------------------------|------------------|-------------------|-------------------|-------------------|----------------|------------|------------|-----------|-------------|-------------|------|---|
| | P _{60°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | | | | | | | | |
| | | lb. | | | | | in. | | ft.-lbs. | | | | |
| 216 | 515 | 23 300 | 13 400 | 8 300 | 7 500 | 9 000 | (2) 1/2-13 | 110 | 8 | | | | |
| | 515* | 17 000 | 10 200 | 6 400 | 5 700 | 6 900 | (2) 1/2-13 | 110 | 8 | | | | |
| | 516 | 31 000 | 18 600 | 11 200 | 10 000 | 11 800 | (2) 5/8-11 | 220 | 8 | | | | |
| | 216* | 516* | 31 000 | 18 600 | 11 200 | 10 000 | 11 800 | (2) 5/8-11 | 220 | 8 | | | |
| | 217 | 517 | 17 700 | 10 600 | 6 500 | 6 000 | 7 200 | (2) 5/8-11 | 220 | 8 | | | |
| | 217* | 517* | 18 700 | 11 200 | 7 100 | 6 400 | 7 600 | (2) 5/8-11 | 220 | 8 | | | |
| 024 | 218 | 518 | 31 700 | 19 000 | 12 000 | 10 800 | 13 200 | (4) 1/2-13 | 110 | 8 | | | |
| | 218* | 518* | 35 400 | 21 200 | 13 400 | 12 200 | 14 600 | (4) 1/2-13 | 110 | 8 | | | |
| | 220 | 520 | 31 700 | 19 000 | 11 800 | 10 800 | 12 900 | (4) 5/8-11 | 220 | 8 | | | |
| 024* | 220* | 520* | 39 400 | 23 600 | 14 600 | 13 200 | 16 000 | (4) 5/8-11 | 220 | 8 | | | |
| 026 | 222 | 522 | 40 000 | 24 000 | 15 000 | 13 400 | 16 300 | (4) 5/8-11 | 220 | 8 | | | |
| | 224 | 524 | 55 900 | 33 500 | 21 200 | 19 600 | 24 000 | (4) 5/8-11 | 220 | 8 | | | |
| 028 | 320 | 620 | 55 900 | 33 500 | 21 200 | 19 600 | 24 000 | (4) 5/8-11 | 220 | 8 | | | |
| 030 | 226 | 322 | 526 | 622 | 69 300 | 41 500 | 28 000 | 26 500 | 34 000 | (4) 3/4-10 | 380 | 8 | |
| 032 | | | 69 300 | 41 500 | 28 000 | 26 500 | 34 000 | (4) 3/4-10 | 380 | 8 | | | |
| 034 | 228 | 528 | 67 600 | 40 500 | 26 000 | 23 600 | 28 500 | (4) 7/8-9 | 600 | 8 | | | |
| | | | 67 600 | 40 500 | 26 000 | 23 600 | 28 500 | (4) 7/8-9 | 600 | 8 | | | |
| | 230 | 324 | 530 | 624 | 88 500 | 53 000 | 33 500 | 30 500 | 36 500 | (4) 7/8-9 | 600 | 8 | |
| 036 | 232 | 326 | 532 | 626 | 77 600 | 46 500 | 30 000 | 27 000 | 32 500 | (4) 7/8-9 | 600 | 8 | |
| 038 | | | 77 600 | 46 500 | 30 000 | 27 000 | 32 500 | (4) 7/8-9 | 600 | 8 | | | |
| 040 | 234 | 328 | 534 | 628 | 77 600 | 46 500 | 28 500 | 25 500 | 30 000 | (4) 1-8 | 900 | 8 | |
| 044 | 238 | 330 | 536 | 630 | 120 200 | 72 000 | 44 000 | 39 000 | 45 500 | (2) 1 3/8-6 | 2380 | 8 | |
| | 238 | 332 | 538 | 632 | 93 500 | 56 000 | 34 000 | 30 500 | 36 000 | (4) 1 1/8-7 | 1280 | 8 | |
| | 048 | 240 | 334 | 540 | 634 | 125 200 | 75 000 | 46 500 | 41 500 | 50 000 | (4) 1 1/4-7 | 1820 | 8 |
| | | | | | | | | | | | | | |
| 052 | 244 | 338 | 544 | 638 | 155 300 | 93 000 | 58 500 | 53 000 | 64 000 | (4) 1 1/2-6 | 3160 | 8 | |
| 056 | | 340 | 640 | | 150 300 | 90 000 | 56 000 | 50 000 | 60 000 | (4) 1 1/2-6 | 3160 | 8 | |

* When the bearing housing can be supplied with either a two- or four-bolt base, the asterisk indicates safe loads for the four-bolt base option

Table 5

Safe loads and cap bolt information for SAW housings made of grey cast iron



| Housing Size | Recommended safe loads | | | | | Cap bolt (no.) size | Torque | SAE grade |
|--------------|------------------------|------------------|-------------------|-------------------|-------------------|---------------------|----------|-----------|
| | P _{60°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | | | |
| – | lbf. | | | | | in. | ft.-lbs. | |
| 520 | 26 720 | 16 000 | 10 000 | 9 000 | 11 000 | (2) 3/4-10 | 380 | 8 |
| 526 | 42 585 | 25 500 | 16 600 | 15 300 | 19 000 | (2) 1-8 | 900 | 8 |
| 528 | 43 420 | 26 000 | 16 600 | 15 000 | 18 300 | (4) 7/8-9 | 165 | 2 |
| 538 | 65 130 | 39 000 | 24 000 | 21 200 | 25 500 | (4) 7/8-9 | 600 | 8 |
| 540 | 81 830 | 49 000 | 30 500 | 27 000 | 32 500 | (4) 7/8-9 | 600 | 8 |
| 544 | 95 190 | 57 000 | 36 000 | 32 500 | 39 000 | (4) 1-8 | 900 | 8 |

Additional housing support

When the housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load.

When loads act at angles between 60° and 120°, or when the axial loads are greater than 25% of P_{180°}, the housing should be pinned to the support surface or a stop should be provided to counter the load. The dowel pins or stop should be sufficiently strong to accommodate the loads acting parallel to the support surface. Dimples indicating the recommended positions for dowel pins are cast into the base of the housing.

Operating temperature

The permissible operating temperature is mainly limited by the seals (→ **table 1, page 390**) and the lubricant in the bearing. For temperature limits of SKF bearings and lubricants,

refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor. The housing paint is heat resistant up to 175 °F material temperature or 210 °F ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

All seals, except non-contact labyrinth seals, limit the permissible operating speed. Speed limits for seals are provided in **table 2 on page 392**. For speed limits of the bearing, refer to the product information available online at skf.com/bearings.

Shaft specifications

Table 6 lists the recommended shaft diameter tolerances. The values d_a , d_b and d_c are listed in the product tables starting on **page 418**. The tolerance class for the bearing shaft seat should be selected from the SKF catalogue *Rolling bearings*.

Attachment bolt recommendations

In typical applications, 8.8 class (SAE J429, Grade 5) hexagon head bolts can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger, 10.9 class (SAE J429, Grade 8) bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers. SKF cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Lubrication

SAF and SAW pillow (plummer) blocks can accommodate grease, oil bath or circulating oil lubrication systems. Any sealing solution can be used with grease lubrication, while for oil lubrication SKF does not recommend using labyrinth rings in the LER series.

The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 20 to 40% of its volume. A 40% grease fill is required when bearings have to be relubricated from the side, while a 20% grease fill is used when bearings are relubricated via the outer ring.

For highly contaminated environments and slow speeds, fill the housing to 70 to 80%. For best protection against contaminants, use the SKF three-barrier solution (→ **page 39**). For additional information, contact the SKF application engineering service.

Quantities for 20% and 40% grease fills are listed in **tables 7** and **8**. The values are valid for a typical lithium grease (about 0.57 oz/in³). The grease to fill labyrinth seals or taconite heavy-duty seals is not included. For sealed bearings, the values have to be adjusted.

In most applications, the initial grease fill will adequately lubricate the bearing until the grease is exchanged during the next planned maintenance interval.

Table 6

| Recommended shaft diameter tolerances | | | | | |
|---------------------------------------|----|--|--------|--|--------|
| Nominal diameter over incl. | | Diameter tolerance limits | | | |
| | | Adapter mounting d_a high low | | Cylindrical mounting d_b and d_c high low | |
| in. | | | | | |
| 1/2 | 1 | 0.000 | -0.002 | - | - |
| 1 | 2 | 0.000 | -0.003 | 0.000 | -0.003 |
| 2 | 4 | 0.000 | -0.004 | 0.000 | -0.003 |
| 4 | 6 | 0.000 | -0.005 | 0.000 | -0.003 |
| 6 | 10 | 0.000 | -0.006 | 0.000 | -0.004 |
| 10 | 15 | 0.000 | -0.006 | 0.000 | -0.005 |
| 15 | | 0.000 | -0.006 | 0.000 | -0.006 |

Table 7

| Initial grease fill for SAF housings | | | | | |
|--------------------------------------|--------------|-----|-----|------|------|
| Housing Size | Initial fill | | | | |
| | 20% | | 40% | | |
| oz | | | | | |
| | | 507 | | 0.7 | 1.3 |
| | | 509 | | 0.9 | 1.8 |
| | | 510 | | 1.1 | 2.3 |
| | 308 | | | 1.1 | 2.3 |
| | 309 | 609 | | 1.4 | 2.9 |
| | | 511 | | 1.4 | 2.9 |
| | 310 | 610 | | 1.9 | 3.8 |
| | | 513 | | 1.9 | 3.8 |
| | 311 | 611 | | 2.4 | 4.8 |
| | | 515 | | 2.4 | 4.8 |
| | | 312 | | 3.1 | 6.2 |
| 216 | 313 | 516 | 613 | 3.1 | 6.2 |
| | 217 | 517 | | 3.9 | 7.7 |
| | | 314 | | 3.9 | 7.7 |
| 218 | 315 | 518 | 615 | 5.0 | 10.1 |
| | | 316 | | 6.4 | 12.9 |
| | | 317 | | 6.4 | 12.9 |
| 024 | 220 | 520 | | 6.4 | 12.9 |
| | | 318 | 618 | 8.2 | 17 |
| 026 | 222 | 522 | | 8.2 | 17 |
| 028 | 224 | 524 | 620 | 13.4 | 27 |
| | | 322 | 526 | 622 | 13.5 |
| 030 | 226 | 526 | 622 | 13.5 | 27 |
| 032 | | | | 17 | 35 |
| 034 | 228 | 528 | | | |
| | | 324 | 530 | 624 | 22 |
| 036 | 232 | 532 | 626 | 28 | 57 |
| 038 | | | | 28 | 57 |
| | 040 | 234 | 328 | 534 | 628 |
| | | 236 | 330 | 536 | 630 |
| | | 330 | 536 | 630 | 46 |
| 044 | 238 | 332 | 538 | 632 | 59 |
| | | | | 59 | 119 |
| | 048 | 240 | 334 | 540 | 634 |
| | | 244 | 338 | 544 | 638 |
| 052 | | | | 97 | 194 |
| 056 | | 340 | 640 | 124 | 248 |

Table 8

| Initial grease fill for SAW housings | | | |
|--------------------------------------|--------------|------|------|
| Housing Size | Initial fill | | |
| | 20% | | 40% |
| oz | | | |
| 218 | 518 | 5.0 | 10.1 |
| 220 | 520 | 6.4 | 12.9 |
| 222 | 522 | 15 | 30 |
| 224 | 524 | 13.4 | 27 |
| 226 | 526 | 13.5 | 27 |
| 228 | 528 | 30 | 60 |
| 230 | 530 | 22 | 44 |
| 323 | 532 | 28 | 57 |
| 234 | 534 | 31 | 62 |
| 236 | 536 | 46 | 93 |
| 238 | 538 | 59 | 119 |
| 240 | 540 | 76 | 152 |
| 244 | 544 | 97 | 194 |

Relubrication

SAF and SAW housing caps have two drilled and tapped lubrication holes, one centred and one offset, (→ **fig. 8**) that are sealed with standard pipe plugs.

The housings also have dimples on the cap where holes can be drilled and tapped if other positions are required. Two dimples on the outer sides of the central ridge indicate the position of lubrication holes to lubricate labyrinth seals. All SAF and SAW housing bases are equipped with a drain plug on each side (→ **fig. 9**) to purge or drain old lubricants or to serve as an outlet for circulating oil. The sump in the housing base is large enough to accommodate a sufficient quantity of lubricant to provide reliable long-term operation.

Relubrication via the outer ring

The hole in the centre of the cap should be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring) (→ **fig. 10**). When applying grease via the relubrication feature, the shaft should be rotating.

Narrow bearings (dimension series 13 and 22) in the locating position can be displaced axially, so that the relubrication groove in the bearing does not line up with the relubrication hole in the housing cap. Make sure the bearing is sufficiently centred when relubricating.

Relubrication from the side

When relubricating from the side, which is typically necessary for self-aligning ball bearings and CARB toroidal roller bearings, the offset hole in the housing should be used.

SAF housings from size 507 to 528 have an integral flange that guides grease from the grease fitting directly to the rolling elements (→ **fig. 11**).

When bearings mounted on an adapter sleeve have to be relubricated from the side, the grease should be introduced from the side opposite the lock nut.

When bearings mounted at the end of a shaft have to be relubricated from the side, the grease should be applied at the point closest to the end plug.

Fig. 8

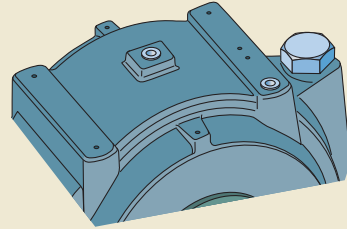


Fig. 9

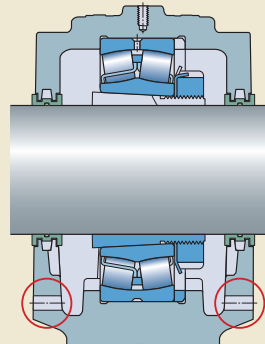


Fig. 10

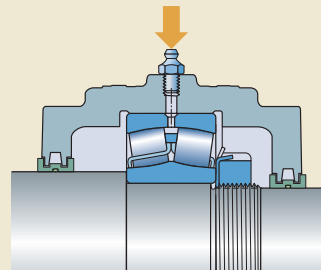
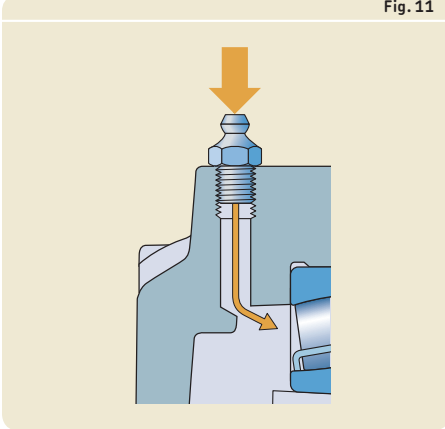


Fig. 11



Oil lubrication

Oil bath lubrication

The level of oil should be at about the centre of the lowermost rolling element when the bearing is stationary. Values for the oil level are listed in **tables 9** and **table 10** (→ **page 412**). For higher speeds, the level should be slightly lower to reduce the effects of lubricant churning – about 1/8 in. above the corner of the outer ring raceway of the bearing. For additional information contact the SKF application engineering service.

An oil sight glass should be used to monitor the oil level during operation. It can be mounted to one of the drain holes in the housing base. The static oil level should be marked on the sight glass during installation and a running level should be marked immediately after start-up. Depending on the type of bearing and the speed and direction of rotation, the running level will either rise or fall from the static level.

Table 9

Oil level for SAW housings

| Housing series | | Oil level ¹⁾ |
|----------------|---------|--------------------------------|
| 232(00) | 235(00) | |
| – | | in. |
| 23226 | 23528 | 2 ¹ / ₁₆ |
| 23220 | 23526 | 2 ³ / ₈ |
| 23236 | | 2 ⁷ / ₁₆ |
| 23238 | 23538 | 2 ¹ / ₂ |
| 23240 | 23540 | 2 ¹ / ₂ |
| 23244 | 23544 | 3 ³ / ₁₆ |

¹⁾ The oil level is measured from the base of the housing. Mark the static and running level on the oil level gauge.

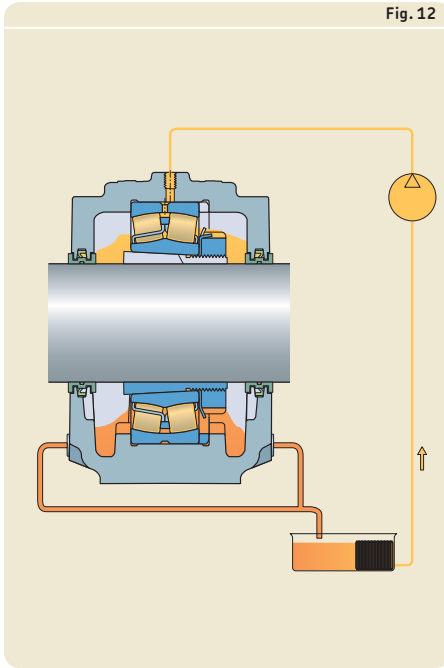
Split pillow blocks SAF and SAW series

| Oil level for SAF housings | | | | | | | |
|-------------------------------|----------------|--------------|------------|-------------------------|-------------------------|--------------------------------|-------------------------|
| Oil level ¹⁾ | Housing series | 13(00) | 16(00) | 222(00) | 223(00) | 225(00) | 226(00) |
| in. | - | | | | | | |
| 7/8 31/32 1 | | 1507 1509 | | | | 22507 22509 | |
| 1 3/32 1 1/8 1 3/16 | | 1510 1513 | | | | 22510, 22513 22515 22511 | |
| 1 7/32 1 1/4 1 9/32 | 1308 | 1511, 1515 | | 22216 | 22309 | 22516 | 22609 |
| 1 5/16 1 13/32 1 3/8 | 1309 | 1516 | 1609 | | 22312 22313 | | 22613 |
| | 1312 | | | 22217 | 22310 | 22517 | 22610 |
| 1 7/16 1 15/32 1 1/2 | 1310, 1313 | 1517 | 1610, 1613 | | 22311 22314 | | 22611 |
| | 1311 | 1518 | 1611 | 22218 | | 22518 | |
| 1 9/16 1 19/32 1 21/32 | 1314 | | | | 22315 | | 22615 |
| | | 1520 | | 22220 | | 22520 | |
| 1 11/16 1 23/32 1 3/4 | 1315 | | 1615 | | 22316 | | 22616 |
| | | | | | 22317 | | 22617 |
| 1 25/32 1 13/16 1 27/32 | 1316 | 1522 | 1616 | 22222 22224 | 22308 | 22520 22524 | |
| 1 7/8 1 15/16 2 | 1317 | | 1617 | | 22318 | | 22618 |
| | 1318 | | 1618 | 22230 | | 22530 | |
| 2 1/32 2 1/16 2 5/32 | | | | 22228 22232 22234 | 22320 | 22528 22532 22534 | 22620 |
| 2 3/16 2 7/32 2 1/4 | 1320 | | 1620 | | | | |
| 2 11/32 2 3/8 2 13/32 | | | | 22226 22236 | 22324 22322 | 22526 22536 | 22624 22622 |
| 2 7/16 2 15/32 2 1/2 | 1322 | | 1622 | 22238 22240 | 22326 | 22538 22540 | 22626 |
| 2 9/16 2 5/8 2 11/16 | | | | | 22328 22330 22332 | | 22628 22630 22632 |
| 2 3/4 2 7/8 3 1/8 | | | | 22244 | 22334 | | 22634 |
| 3 3/8 3 7/16 | | | | | 22338 22340 | | 22638 22640 |

¹⁾ The oil level is measured from the base of the housing. Mark the min. and max. level on the oil level gauge.

Table 10

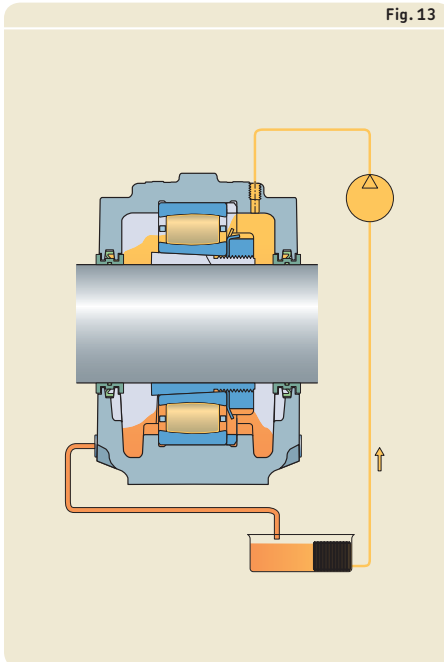
| 230(00)KA | C22(00) | C23(00) | C25(00) | C26(00) | C30(00)KA | Oil level ¹⁾ |
|--------------------------------|----------------|----------------|--------------------------------|----------------|----------------------|--|
| | | | | | | in. |
| | | | C2507 C2509 | | | $\frac{7}{8}$ $\frac{31}{32}$ 1 |
| | | | C2510, C2513 C2515 C2511 | | | $\frac{13}{32}$ $\frac{11}{8}$ $\frac{13}{16}$ |
| | C2216 | | C2516 | | | $\frac{17}{32}$ $\frac{11}{4}$ $\frac{19}{32}$ |
| | C2217 | | C2517 | | | $\frac{15}{16}$ $\frac{13}{32}$ $\frac{13}{8}$ |
| | C2218 | C2314 | C2518 | | | $\frac{17}{16}$ $\frac{15}{32}$ $\frac{11}{2}$ |
| 23024 KA | C2220 | C2315 | C2520 | C2615 | | $\frac{19}{16}$ $\frac{19}{32}$ $\frac{21}{32}$ |
| 23026 KA 23034 KA | | C2316 C2317 | | C2616 C2617 | | $\frac{11}{16}$ $\frac{23}{32}$ $\frac{13}{4}$ |
| 223028 KA | C2222 | | C2520 | | | $\frac{25}{32}$ $\frac{13}{16}$ $\frac{27}{32}$ |
| 23038 KA 23040 KA | C2230 | C2318 | C2530 | C2618 | C3038 KA C3040 KA | $\frac{17}{8}$ $\frac{15}{16}$ 2 |
| 23032 KA 23036 KA | C2228 C2234 | C2320 | C2528 C2534 | C2620 | C3036 KA | $\frac{21}{32}$ $\frac{21}{16}$ $\frac{25}{32}$ |
| 23030 KA, 23048 KA 23044 KA | | | | | C3048 KA C3044 KA | $\frac{23}{16}$ $\frac{27}{32}$ $\frac{21}{4}$ |
| | C2226 | | C2526 | | | $\frac{211}{32}$ $\frac{23}{8}$ $\frac{213}{32}$ |
| | C2238 | | C2538 | | | $\frac{27}{16}$ $\frac{215}{32}$ $\frac{21}{2}$ |
| | | | | | | $\frac{29}{16}$ $\frac{25}{8}$ $\frac{211}{16}$ |
| 23052 KA 23056 KA | C2224 | | C2544 | | C3052 KA C3056 KA | $\frac{23}{4}$ $\frac{27}{8}$ $\frac{31}{8}$ |
| | | | | | | $\frac{33}{8}$ $\frac{37}{16}$ |



Circulating oil lubrication systems

When using a circulating oil lubrication system with SAF and SAW pillow blocks, oil is introduced through one of the inlet holes in the housing cap and drained from one or both holes in the base. For spherical roller bearings, oil should be introduced through the centre hole in the cap and drained from both sides of the base (→ **fig. 12**). For self-aligning ball bearings and CARB toroidal roller bearings, oil should be introduced through the offset hole in the cap and drained from the opposite side of the base so that oil is forced through the bearing (→ **fig. 13**).

Drains should lead downward immediately outside of the housing to prevent the accumulation of oil in the housing. Too high an oil level can result in higher operating temperatures due to churning of the lubricant. The drain piping must be adequately sized and arranged to provide adequate drainage. Additional considerations may be necessary when using circulating oil. These can include special seals, cross drillings in the housing, wet sump requirements, flow rates, and enlarged drain holes. For additional information, contact the SKF application engineering service.



Mounting

SAF and SAW pillow (plummer) block housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces* on **page 45**). Mounting instructions are provided with each housing. For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Cap bolt torque specifications

Cap bolts should be tightened to the torque values listed in **tables 3 to 5** on **pages 404 to 407**.

Pinning or supporting the housing

Some load conditions may require the housing to be pinned to its support surface or a stop to accommodate loads acting parallel to the

housing support surface (→ *Additional housing support*, page 407).

Condition monitoring

SAF and SAW pillow (plummer) block housings have appropriate positions for condition monitoring sensors. These housings provide a flat area to attach sensors for different condition monitoring equipment. (→ **fig. 14**)

Position 1 is a measurement point perpendicular to the shaft, and should be used when the housing is hung from its support or when loads act away from the support surface.

Position 2 is a measurement point parallel to the shaft and should be used when loads act toward the support surface.

Both positions 1 and 2 are in accordance with ISO 10816-1.

Position 3 is a measurement point that is approximately 20° to 45° to the shaft axis.

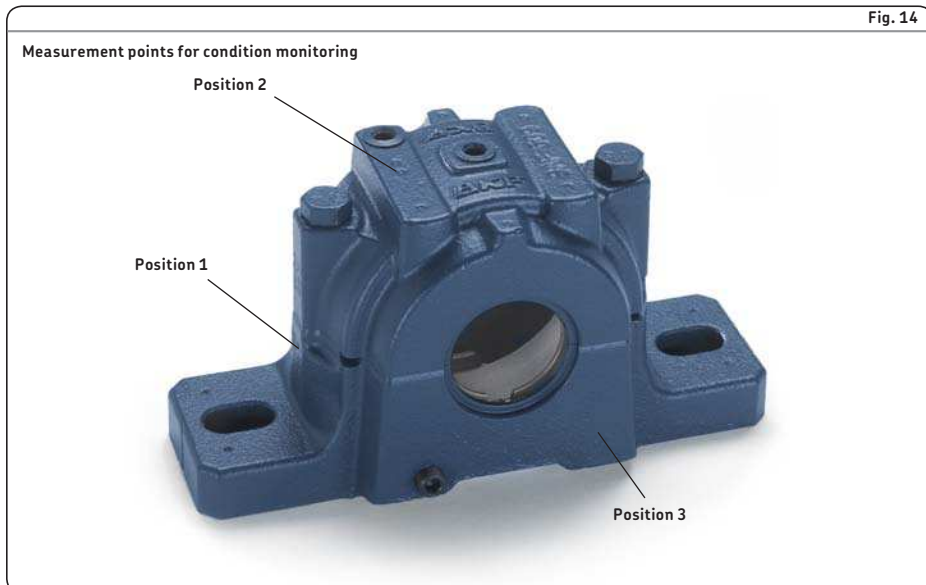
SAF and SAW housings have dimples cast into the housing cap to show where condition monitoring sensors can be mounted for maximum effectiveness.

Accessories

The following accessories are available for SAF and SAW pillow (plummer) block housings:

- Automatic lubricators: SKF SYSTEM 24 and SKF SYSTEM Multipoint
- Grease meter: LAGM 1000E
- Condition monitoring sensors

For additional information, refer to *SKF tools and products* (→ **page 47**).



Ordering information

SAF and SAW pillow (plummer) blocks are typically supplied as complete kits including housing, seals, bearing, adapter sleeve (or nut and washer) and a standard stabilizing (locating) ring. A complete pillow block is specified by a designation provided in the product tables. Optional features can be specified with a prefix and suffixes. If several suffixes are required, put them in alphabetical order.

All pillow block parts can also be supplied separately. Designations for the different parts are listed in the product tables.

Optional components are listed in the product tables and in **table 2 on page 392**.

Order example

A shaft with 4 ³/₁₆ inch diameter has to be supported by two SAF pillow blocks with 22224 EK spherical roller bearings on an adapter sleeve, one at the shaft end for the non-locating bearing position and one for a through shaft at the locating bearing position. The housings should be sealed with PosiTrac Plus seals.

The following items should be ordered:

- 1 pillow block SAF 22524 TLCY
- 1 pillow block SAF 22524 TLC

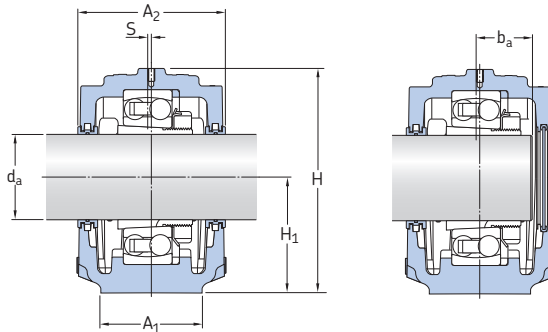
The delivery will contain:

- 2 housings SAF 524
- 2 spherical roller bearings 22224 EK
- 2 adapter sleeves with lock nuts SNW 24x4.3/16
- 2 locating rings SR 24-20
- 4 labyrinth rings with O-rings LOR 113
- 3 contact elements B-10724-113
- 1 end plug EPR 14

8.1 SAF pillow blocks with self-aligning ball bearings on an adapter sleeve

Series SAF 15(00) and 16(00)

d_a 1 3/16 – 2 11/16 in.

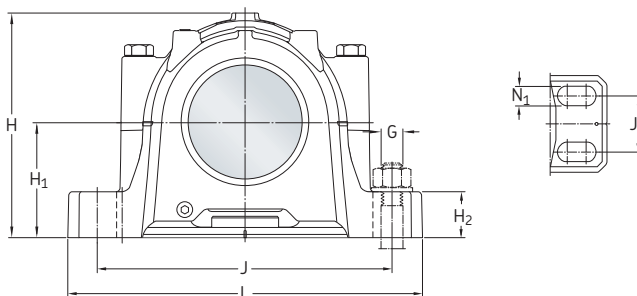


Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter d_a | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | (Qty), Stabilizing Ring, required ²⁾ | Labyrinth ring (2 incl.) | Mass |
|-------------------------|-----------------------|------------------------------------|-----------------------|------------------|---|--------------------------|------|
| in. | - | - | | | | | lb. |
| 1 3/16 | SAF 1507 | SAF 507 | 1207 EKTN9 | SNW 7x1.3/16 | (1) SR 7-6 | LER 14 | 8 |
| 1 7/16 | SAF 1509 | SAF 509 | 1209 EKTN9 | SNW 9x1.7/16 | (1) SR 9-0 | LER 17 | 12 |
| | SAF 1609 | SAF 609 | 1309 EKTN9 | SNW 9x1.7/16 | (2) SR 1609 | LER 17 | 19 |
| 1 11/16 | SAF 1510 | SAF 510 | 1210 EKTN9 | SNW 10x1.11/16 | (1) SR 10-8 | LER 20 | 13 |
| | SAF 1610 | SAF 610 | 1310 EKTN9 | SNW 10x1.11/16 | (2) SR 1610 | LER 20 | 22 |
| 1 15/16 | SAF 1511 | SAF 511 | 1211 EKTN9 | SNW 11x1.15/16 | (1) SR 11-9 | LER 24 | 16 |
| | SAF 1611 | SAF 611 | 1311 EKTN9 | SNW 11x1.15/16 | (2) SR 1611 | LER 24 | 27 |
| | FSAF 1611 | FSAF 611 | 1311 EKTN9 | SNW 11x1.15/16 | (2) SR 1611 | LER 24 | 27 |
| 2 3/16 | SAF 1513 | SAF 513 | 1213 EKTN9 | SNW 13x2.3/16 | (2) SR 13-0 | LER 29 | 20 |
| | SAF 1613 | SAF 613 | 1313 EKTN9 | SNW 13x2.3/16 | (2) SR 1613 | LOR 32 | 38 |
| | FSAF 1613 | FSAF 613 | 1313 EKTN9 | SNW 13x2.3/16 | (2) SR 1613 | LOR 32 | 38 |
| 2 7/16 | SAF 1515 | SAF 515 | 1215 K | SNW 15x2.7/16 | (2) SR 15-0 | LOR 37 | 28 |
| | FSAF 1515 | FSAF 515 | 1215 K | SNW 15x2.7/16 | (2) SR 15-0 | LOR 37 | 28 |
| | SAF 1615 | SAF 615 | 1315 K | SNW 15x2.7/16 | (2) SR 1615 | LOR 37 | 47 |
| | FSAF 1615 | FSAF 615 | 1315 K | SNW 15x2.7/16 | (2) SR 1615 | LOR 37 | 47 |
| 2 11/16 | SAF 1516 | SAF 516 | 1216 K | SNW 16x2.11/16 | (2) SR 1516 | LOR 44 | 37 |
| | FSAF 1516 | FSAF 516 | 1216 K | SNW 16x2.11/16 | (2) SR 1516 | LOR 44 | 37 |
| | SAF 1616 | SAF 616 | 1316 K | SNW 16x2.11/16 | (2) SR 1616 | LOR 44 | 66 |
| | FSAF 1616 | FSAF 616 | 1316 K | SNW 16 2.11/16 | (2) SR 1616 | LOR 44 | 66 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ For SAF 1513, 1515 and FSAF 1515 one stabilizing ring is included in each kit. For all others, discard enclosed stab rings (for SRB) and purchase stab rings separately



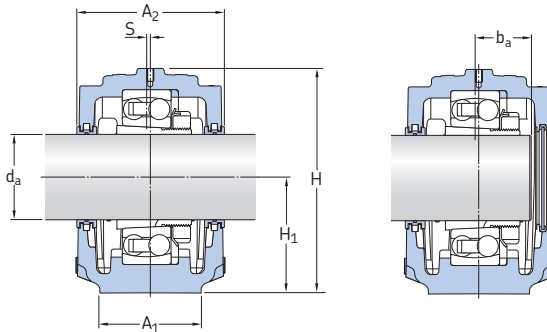
Complete pillow block
Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------|-------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|----------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|---------------------------------|-------------------------------|
| - | in. | | | | | | | | | | | | |
| SAF 1507 | 2 | 3 ¹ / ₄ | 3 ³ / ₁₆ | 1 ³ / ₁₆ | 3 ²⁹ / ₃₂ | 2.000 | 1 ³ / ₁₆ | 5 ⁵ / ₈ | 6 ¹ / ₈ | - | 7 ¹ / ₂ | 5 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 1509 | 2 ³ / ₈ | 3 ¹ / ₂ | 3 ³ / ₁₆ | 1 ⁵ / ₁₆ | 4 ⁷ / ₁₆ | 2.250 | 1 ³ / ₁₆ | 6 ¹ / ₄ | 7 | - | 8 ¹ / ₄ | 5 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 1609 | 2 ³ / ₄ | 4 ¹ / ₄ | 0 | 1 ¹ / ₁₆ | 5 ⁵ / ₁₆ | 2.750 | 1 | 7 ³ / ₈ | 7 ⁷ / ₈ | - | 9 ⁵ / ₈ | 3 ³ / ₄ | 5 ⁵ / ₈ |
| SAF 1510 | 2 ³ / ₈ | 3 ¹ / ₂ | 3 ³ / ₁₆ | 1 ¹ / ₆₄ | 4 ¹³ / ₁₆ | 2.500 | 1 ⁵ / ₁₆ | 6 ¹ / ₂ | 7 | - | 8 ¹ / ₄ | 5 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 1610 | 2 ³ / ₄ | 4 ⁵ / ₈ | 0 | 1 ⁵ / ₃₂ | 5 ¹³ / ₁₆ | 3.000 | 1 ¹ / ₈ | 7 ³ / ₄ | 9 | - | 10 ⁵ / ₈ | 3 ³ / ₄ | 5 ⁵ / ₈ |
| SAF 1511 | 2 ³ / ₄ | 3 ⁷ / ₈ | 3 ³ / ₁₆ | 1 ¹ / ₃₂ | 5 ¹ / ₄ | 2.750 | 1 ⁵ / ₁₆ | 7 ³ / ₈ | 8 ¹ / ₄ | - | 9 ⁵ / ₈ | 3 ³ / ₄ | 5 ⁵ / ₈ |
| SAF 1611 | 3 ¹ / ₈ | 4 ⁷ / ₈ | 0 | 1 ³ / ₁₆ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 9 ¹ / ₂ | 8 ¹ / ₈ | - | 11 | 3 ³ / ₄ | 5 ⁵ / ₈ |
| FSAF 1611 | 3 ¹ / ₈ | 4 ⁷ / ₈ | 0 | 1 ³ / ₁₆ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 9 ¹ / ₂ | 8 ¹ / ₈ | 2 | 11 | 5 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 1513 | 3 ¹ / ₈ | 4 ¹ / ₂ | 0 | 1 ⁹ / ₆₄ | 5 ¹³ / ₁₆ | 3.000 | 1 | 8 ¹ / ₈ | 9 ¹ / ₂ | - | 11 | 3 ³ / ₄ | 5 ⁵ / ₈ |
| SAF 1613 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 0 | 1 ¹¹ / ₃₂ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 11 | 9 ⁵ / ₈ | - | 13 | 7 ⁷ / ₈ | 3 ³ / ₄ |
| FSAF 1613 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 0 | 1 ¹¹ / ₃₂ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 11 | 9 ⁵ / ₈ | 2 ¹ / ₈ | 13 | 3 ³ / ₄ | 5 ⁵ / ₈ |
| SAF 1515 | 3 ¹ / ₈ | 4 ¹¹ / ₁₆ | 0 | 1 ⁷ / ₃₂ | 6 ⁷ / ₃₂ | 3.250 | 1 ¹ / ₈ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | - | 11 ¹ / ₄ | 3 ³ / ₄ | 5 ⁵ / ₈ |
| FSAF 1515 | 3 ¹ / ₈ | 4 ¹¹ / ₁₆ | 0 | 1 ⁷ / ₃₂ | 6 ⁷ / ₃₂ | 3.250 | 1 ¹ / ₈ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | 1 ⁷ / ₈ | 11 ¹ / ₄ | 5 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 1615 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 0 | 1 ¹⁵ / ₃₂ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 11 ⁵ / ₈ | 10 ³ / ₈ | - | 13 ³ / ₄ | 7 ⁷ / ₈ | 3 ³ / ₄ |
| FSAF 1615 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 0 | 1 ¹⁵ / ₃₂ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 11 ⁵ / ₈ | 10 ³ / ₈ | 2 ¹ / ₈ | 13 ³ / ₄ | 3 ³ / ₄ | 5 ⁵ / ₈ |
| SAF 1516 | 3 ¹ / ₂ | 5 | 0 | 1 ¹ / ₄ | 6 ¹¹ / ₁₆ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | - | 13 | 7 ⁷ / ₈ | 3 ³ / ₄ |
| FSAF 1516 | 3 ¹ / ₂ | 5 | 0 | 1 ¹ / ₄ | 6 ¹¹ / ₁₆ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | 2 ¹ / ₈ | 13 | 11 ¹ / ₁₆ | 5 ⁵ / ₈ |
| SAF 1616 | 3 ⁷ / ₈ | 6 ¹ / ₂ | 0 | 1 ¹ / ₂ | 8 ¹ / ₄ | 4.250 | 1 ³ / ₄ | 12 ⁵ / ₈ | 10 ⁵ / ₈ | - | 14 ¹ / ₄ | 7 ⁷ / ₈ | 3 ³ / ₄ |
| FSAF 1616 | 3 ⁷ / ₈ | 6 ¹ / ₂ | 0 | 1 ¹ / ₂ | 8 ¹ / ₄ | 4.250 | 1 ³ / ₄ | 12 ⁵ / ₈ | 10 ⁵ / ₈ | 2 ¹ / ₈ | 14 ¹ / ₄ | 3 ³ / ₄ | 5 ⁵ / ₈ |

8.1 SAF pillow blocks with self-aligning ball bearings on an adapter sleeve

Series SAF 15(00) and 16(00)

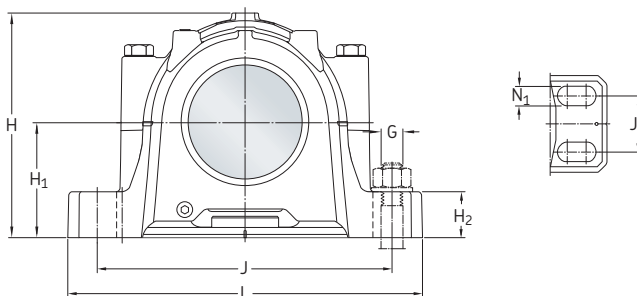
d_a 2 ¹⁵/₁₆ – 3 ¹⁵/₁₆ in.



| Shaft diameter d_a | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | (Qty), Stabilizing Ring, required ²⁾ | Labyrinth ring (2 incl.) | Mass |
|---------------------------------|-----------------------|------------------------------------|-----------------------|------------------|---|--------------------------|------|
| in. | - | - | | | | | lb. |
| 2 ¹⁵ / ₁₆ | SAF 1517 | SAF 517 | 1217 K | SNW 17x2.15/16 | (2) SR 1517 | LOR 53 | 38 |
| | FSAF 1517 | FSAF 517 | 1217 K | SNW 17x2.15/16 | (2) SR 1517 | LOR 53 | 38 |
| | SAF 1617 | SAF 617 | 1317 K | SNW 17x2.15/16 | (2) SR 1617 | LOR 184 | 69 |
| | FSAF 1617 | FSAF 617 | 1317 K | SNW 17x2.15/16 | (2) SR 1617 | LOR 184 | 69 |
| 3 ³ / ₁₆ | SAF 1518 | SAF 518 | 1218 K | SNW 18x3.3/16 | (2) SR 1518 | LOR 188 | 47 |
| | FSAF 1518 | FSAF 518 | 1218 K | SNW 18x3.3/16 | (2) SR 1518 | LOR 188 | 47 |
| | SAF 1618 | SAF 618 | 1318 K | SNW 18x3.3/16 | (2) SR 1618 | LOR 188 | 91 |
| 3 ⁷ / ₁₆ | SAF 1520 | SAF 520 | 1220 K | SNW 20x3.7/16 | (2) SR 1520 | LOR 102 | 62 |
| | FSAF 1520 | FSAF 520 | 1220 K | SNW 20x3.7/16 | (2) SR 1520 | LOR 102 | 62 |
| | SAF 1620 | SAF 620 | 1320 K | SNW 20x3.7/16 | (2) SR 1620 | LOR 102 | 101 |
| 3 ¹⁵ / ₁₆ | SAF 1522 | SAF 522 | 1222 K | SNW 22x3.15/16 | (2) SR 1522 | LOR 109 | 73 |
| | SAF 1622 | SAF 622 | 1322 KM | SNW 22x3.15/16 | (2) SR 1622 | LOR 109 | 138 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ For SAF 1513,1515 and FSAF 1515 one stabilizing ring is included in each kit. For all others, discard enclosed stab rings (for SRB) and purchase stab rings separately



Complete pillow block
Designation **Dimensions**

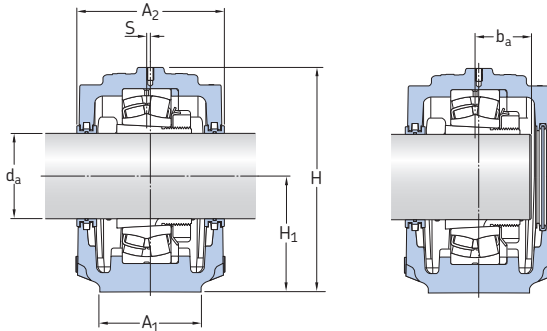
| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------|----------------|----------------|---|----------------|---------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-----|
| - | in. | | | | | | | | | | | | |
| SAF 1517 | 3 1/2 | 5 | 0 | 1 5/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | - | 13 | 7/8 | 3/4 |
| FSAF 1517 | 3 1/2 | 5 | 0 | 1 5/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | 2 1/8 | 13 | 3/4 | 5/8 |
| SAF 1617 | 4 3/8 | 6 3/4 | 0 | 1 9/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | - | 15 1/4 | 1 | 7/8 |
| FSAF 1617 | 4 3/8 | 6 3/4 | 0 | 1 9/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 7/8 | 3/4 |
| SAF 1518 | 3 7/8 | 5 7/8 | 0 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 1/4 | 11 3/4 | - | 13 3/4 | 7/8 | 3/4 |
| FSAF 1518 | 3 7/8 | 5 7/8 | 0 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 11/16 | 5/8 |
| SAF 1618 | 4 3/8 | 6 7/8 | 0 | 1 11/16 | 9 3/16 | 4.750 | 2 | 12 | 13 1/2 | 2 1/4 | 15 1/2 | 7/8 | 3/4 |
| SAF 1520 | 4 3/8 | 6 1/32 | 0 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | - | 15 1/4 | 1 | 7/8 |
| FSAF 1520 | 4 3/8 | 6 1/32 | 0 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 13/16 | 3/4 |
| SAF 1620 | 4 3/4 | 7 5/16 | 0 | 1 27/32 | 10 3/16 | 5.250 | 2 1/8 | 14 1/2 | 13 1/4 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 1522 | 4 3/4 | 6 1/2 | 0 | 2 1/8 | 9 7/16 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 1622 | 5 1/4 | 8 1/8 | 0 | 1 5/16 | 11 5/16 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 1 | 7/8 |

8.1

8.2 SAF and SAW pillow blocks with spherical roller bearings on an adapter sleeve

Series SAF 225(00), 226(00), 230(00)KA and SAW series 235(00)

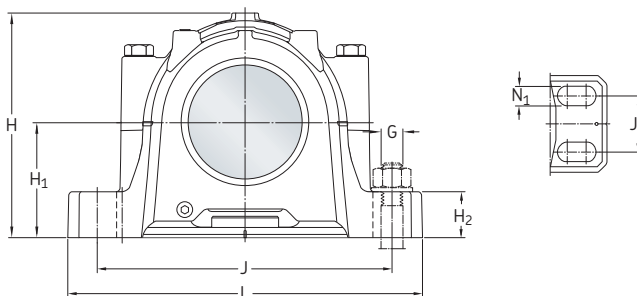
d_a 1 3/16 – 2 11/16 in.



Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter d_a | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | Stabilizing ring (1 incl.) | Labyrinth ring (2 incl.) | Mass |
|-------------------------|-----------------------|------------------------------------|-----------------------|------------------|----------------------------|--------------------------|------|
| in. | – | – | | | | | lb. |
| 1 3/16 | SAF 22507 | SAF 507 | 22207 EK | SNW 7x1.3/16 | 36053-6 | LER 14 | 8 |
| 1 7/16 | SAF 22509 | SAF 509 | 22209 EK | SNW 9x1.7/16 | SR 9-9 | LER 17 | 12 |
| | SAF 22609 | SAF 609 | 22309 EK | SNW 109x1.7/16 | SR 11-9 | LER 17 | 20 |
| 1 11/16 | SAF 22510 | SAF 510 | 22210 EK | SNW 10x1.11/16 | SR 10-0 | LER 20 | 13 |
| | SAF 22610 | SAF 610 | 22310 EK | SNW 110x1.11/16 | SR 0-10 | LER 20 | 24 |
| 1 15/16 | SAF 22511 | SAF 511 | 22211 EK | SNW 11x1.15/16 | SR 11-0 | LER 24 | 16 |
| | SAF 22611 | SAF 611 | 22311 EK | SNW 111x1.15/16 | SR 13-11 | LER 24 | 29 |
| | FSAF 22611 | FSAF 611 | 22311 EK | SNW 111x1.15/16 | SR 13-11 | LER 24 | 29 |
| 2 3/16 | SAF 22513 | SAF 513 | 22213 EK | SNW 13x2.3/16 | SR 13-0 | LER 29 | 23 |
| | SAF 22613 | SAF 613 | 22313 EK | SNW 113x2.3/16 | SR 16-13 | LOR 32 | 40 |
| | FSAF 22613 | FSAF 613 | 22313 EK | SNW 113x2.3/16 | SR 16-13 | LOR 32 | 40 |
| 2 7/16 | SAF 22515 | SAF 515 | 22215 EK | SNW 15x2.7/16 | SR 15-0 | LOR 37 | 28 |
| | SAF 22615 | SAF 615 | 22315 CCK/W33 | SNW 115x2.7/16 | SR 18-15 | LOR 37 | 52 |
| | FSAF 22515 | FSAF 515 | 22215 EK | SNW 15x2.7/16 | SR 15-0 | LOR 37 | 28 |
| | FSAF 22615 | FSAF 615 | 22315 CCK/W33 | SNW 115x2.7/16 | SR 18-15 | LOR 37 | 52 |
| | FSAF 22615 | FSAF 615 | 22315 CCK/W33 | SNW 115x2.7/16 | SR 18-15 | LOR 37 | 52 |
| 2 11/16 | SAF 22516 | SAF 516 | 22216 EK | SNW 16x2.11/16 | SR 16-13 | LOR 44 | 37 |
| | SAF 22616 | SAF 616 | 22316 CCK/W33 | SNW 116x2.11/16 | SR 19-16 | LOR 44 | 71 |
| | FSAF 22516 | FSAF 516 | 22216 EK | SNW 16x2.11/16 | SR 16-13 | LOR 44 | 37 |
| | FSAF 22616 | FSAF 616 | 22316 CCK/W33 | SNW 116x2.11/16 | SR 19-16 | LOR 44 | 71 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request



Complete pillow block

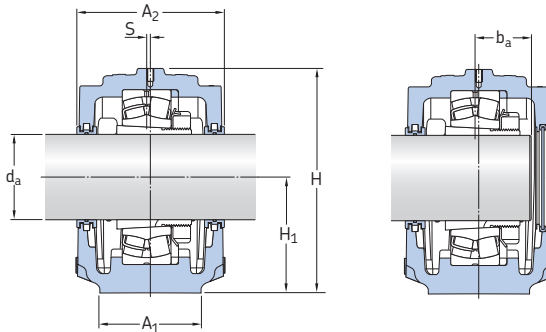
Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------|-------------------------------|---------------------------------|------|---------------------------------|---------------------------------|----------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|-----|
| – | in. | | | | | | | | | | | | |
| SAF 22507 | 2 | 3 ¹ / ₄ | 5/64 | 1 ³ / ₁₆ | 3 ²⁹ / ₃₂ | 2.000 | 1 ³ / ₁₆ | 5 ⁵ / ₈ | 6 ¹ / ₈ | – | 7 ¹ / ₂ | 5/8 | 1/2 |
| SAF 22509 | 2 ³ / ₈ | 3 ¹ / ₂ | 7/64 | 1 ⁵ / ₁₆ | 4 ⁷ / ₁₆ | 2.250 | 1 ³ / ₁₆ | 6 ¹ / ₄ | 7 | – | 8 ¹ / ₄ | 5/8 | 1/2 |
| SAF 22609 | 2 ³ / ₄ | 4 ¹ / ₄ | 3/16 | 1 ⁵ / ₁₆ | 5 ⁵ / ₁₆ | 2.750 | 1 | 7 ³ / ₈ | 7 ⁷ / ₈ | – | 9 ⁵ / ₈ | 3/4 | 5/8 |
| SAF 22510 | 2 ³ / ₈ | 3 ¹ / ₂ | 9/64 | 1 ¹ / ₆₄ | 4 ¹³ / ₁₆ | 2.500 | 1 ⁵ / ₁₆ | 6 ¹ / ₂ | 7 | – | 8 ¹ / ₄ | 5/8 | 1/2 |
| SAF 22610 | 2 ³ / ₄ | 4 ⁵ / ₈ | 3/16 | 1 ⁷ / ₁₆ | 5 ¹³ / ₁₆ | 3.000 | 1 ¹ / ₈ | 7 ³ / ₄ | 9 | – | 10 ⁵ / ₈ | 3/4 | 5/8 |
| SAF 22511 | 2 ³ / ₄ | 3 ⁷ / ₈ | 1/8 | 1 ¹³ / ₆₄ | 5 ¹ / ₄ | 2.750 | 1 ⁵ / ₁₆ | 7 ³ / ₈ | 8 ¹ / ₄ | – | 9 ⁵ / ₈ | 3/4 | 5/8 |
| SAF 22611 | 3 ¹ / ₈ | 4 ⁷ / ₈ | 3/16 | 1 ¹ / ₂ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 8 ¹ / ₈ | 9 ¹ / ₂ | – | 11 | 3/4 | 5/8 |
| FSAF 22611 | 3 ¹ / ₈ | 4 ⁷ / ₈ | 3/16 | 1 ¹ / ₂ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 8 ¹ / ₈ | 9 ¹ / ₂ | 2 | 11 | 5/8 | 1/2 |
| SAF 22513 | 3 ¹ / ₈ | 4 ¹ / ₂ | 5/32 | 1 ²⁵ / ₆₄ | 5 ¹³ / ₁₆ | 3.000 | 1 | 8 ¹ / ₈ | 9 ¹ / ₂ | – | 11 | 3/4 | 5/8 |
| SAF 22613 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 3/16 | 1 ¹¹ / ₁₆ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | – | 13 | 7/8 | 3/4 |
| FSAF 22613 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 3/16 | 1 ¹¹ / ₁₆ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | 2 ¹ / ₈ | 13 | 3/4 | 5/8 |
| SAF 22515 | 3 ¹ / ₈ | 4 ¹¹ / ₁₆ | 1/8 | 1 ⁷ / ₁₆ | 6 ⁷ / ₃₂ | 3.250 | 1 ¹ / ₈ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | – | 11 ¹ / ₄ | 3/4 | 5/8 |
| SAF 22615 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 3/16 | 1 ⁷ / ₈ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 10 ³ / ₈ | 11 ⁵ / ₈ | – | 13 ³ / ₄ | 7/8 | 3/4 |
| FSAF 22515 | 3 ¹ / ₈ | 4 ¹¹ / ₁₆ | 1/8 | 1 ⁷ / ₁₆ | 6 ⁷ / ₃₂ | 3.250 | 1 ¹ / ₈ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | 1 ⁷ / ₈ | 11 ¹ / ₄ | 5/8 | 1/2 |
| FSAF 22615 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 3/16 | 1 ⁷ / ₈ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 10 ³ / ₈ | 11 ⁵ / ₈ | 2 ¹ / ₈ | 13 ³ / ₄ | 3/4 | 5/8 |
| SAF 22516 | 3 ¹ / ₂ | 5 | 3/16 | 1 ¹⁵ / ₃₂ | 6 ¹¹ / ₁₆ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | – | 13 | 7/8 | 3/4 |
| SAF 22616 | 3 ⁷ / ₈ | 6 ¹ / ₂ | 3/16 | 1 ¹⁵ / ₁₆ | 8 ¹ / ₄ | 4.250 | 1 ³ / ₄ | 10 ⁵ / ₈ | 12 ⁵ / ₈ | – | 14 ¹ / ₄ | 7/8 | 3/4 |
| FSAF 22516 | 3 ¹ / ₂ | 5 | 3/16 | 1 ¹⁵ / ₃₂ | 6 ¹¹ / ₁₆ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | 2 ¹ / ₈ | 13 | 1 ¹ / ₁₆ | 5/8 |
| FSAF 22616 | 3 ⁷ / ₈ | 6 ¹ / ₂ | 3/16 | 1 ¹⁵ / ₁₆ | 8 ¹ / ₄ | 4.250 | 1 ³ / ₄ | 10 ⁵ / ₈ | 12 ⁵ / ₈ | 2 ¹ / ₈ | 14 ¹ / ₄ | 3/4 | 5/8 |

8.2 SAF and SAW pillow blocks with spherical roller bearings on an adapter sleeve

Series SAF 225(00), 226(00), 230(00)KA and SAW series 235(00)

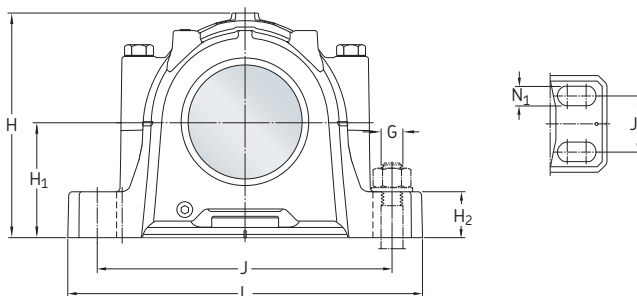
d_a 2 ¹⁵/₁₆ – 4 ³/₁₆ in.



| Shaft diameter d_a | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | Stabilizing ring (1 incl.) | Labyrinth ring (2 incl.) | Mass |
|---------------------------------|------------------------|---------------------------------|-----------------------|------------------|----------------------------|--------------------------|------|
| in. | - | - | | | | | lb. |
| 2 ¹⁵ / ₁₆ | SAF 22517 | SAF 517 | 22217 EK | SNW 17x2.15/16 | SR 17-14 | LOR 53 | 39 |
| | SAF 22617 | SAF 617 | 22317 CCK/W33 | SNW 117x2.15/16 | SR 20-17 | LOR 184 | 75 |
| | FSAF 22517 | FSAF 517 | 22217 EK | SNW 17x2.15/16 | SR 17-14 | LOR 53 | 39 |
| | FSAF 22617 | FSAF 617 | 22317 CCK/W33 | SNW 117x2.15/16 | SR 20-17 | LOR 184 | 75 |
| 3 ³ / ₁₆ | SAF 22518 | SAF 518 | 22218 EK | SNW 18x3.3/16 | SR 18-15 | LOR 188 | 47 |
| | SAF 22618 | SAF 618 | 22318 CCK/W33 | SNW 118x3.3/36 | SR 21-18 | LOR 188 | 97 |
| | FSAF 22518 | FSAF 518 | 22218 EK | SNW 18x3.3/16 | SR 18-15 | LOR 188 | 47 |
| | SAW 23518 | SAW 518 | 23218 CCK/W33 | SNW 118x3.3/16 | SR 18-15 | LOR 188 | 50 |
| 3 ⁷ / ₁₆ | SAF 22520 | SAF 520 | 22220 EK | SNW 20x3.7/16 | SR 20-17 | LOR 102 | 62 |
| | SAF 22620 | SAF 620 | 22320 CCK/W33 | SNW 120x3.7/16 | SR 24-20 | LOR 102 | 113 |
| | FSAF 22520 | FSAF 520 | 22220 EK | SNW 20x3.7/16 | SR 20-17 | LOR 102 | 62 |
| | SAW 23520 | SAW 520 | 23220 CCK/W33 | SNW 120x3.7/16 | SR 20-17 | LOR 102 | 75 |
| 3 ¹⁵ / ₁₆ | SAF 22522 | SAF 522 | 22222 EK | SNW 22x3.15/16 | SR 22-19 | LOR 109 | 73 |
| | SAF 22622 | SAF 622 | 22322 CCK/W33 | SNW 122x3.15/16 | SR 0-22 | LOR 109 | 153 |
| | SAWS 23522 | SAWS 522 | 23222 CCK/W33 | SNW 122x3.15/16 | SR 22-19 | LOR 109 | 96 |
| 4 ³ / ₁₆ | SAF 22524 | SAF 524 | 22224 EK | SNW 24x4.3/16 | SR 24-20 | LOR 113 | 104 |
| | SAF 22624 | SAF 624 | 22324 CCK/W33 | SNW 124x4.3/16 | SR 0-24 | LOR 113 | 206 |
| | SAF 23024 KA x 4.3/16 | SAF 024 x 4.3/16 | 23024 CCK/W33 | SNW 3024x4.3/16 | 38151-24 ²⁾ | LOR 113 | 63 |
| | FSAF 23024 KA x 4.3/16 | FSAF 024 x 4.3/16 | 23024 CCK/W33 | SNW 3024x4.3/16 | 38151-24 ²⁾ | LOR 113 | 63 |
| | SAW 22524 | SAW 524 | 23224 CCK/W33 | SNW 124x4.3/16 | SR 24-20 | LOR 113 | 110 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ Two stabilizing rings are required, but none are included.



Complete pillow block
Designation

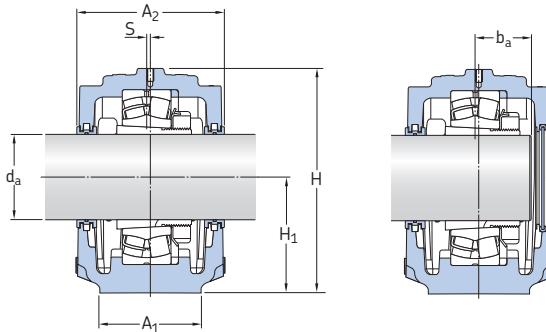
Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------------|----------------|----------------|------|----------------|---------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-----|
| - | in. | | | | | | | | | | | | |
| SAF 22517 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | - | 13 | 7/8 | 3/4 |
| SAF 22617 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | - | 15 1/4 | 1 | 7/8 |
| FSAF 22517 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | 2 1/8 | 13 | 3/4 | 5/8 |
| FSAF 22617 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 7/8 | 3/4 |
| SAF 22518 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 1/4 | 11 3/4 | - | 13 3/4 | 7/8 | 3/4 |
| SAF 22618 | 4 3/8 | 6 7/8 | 3/16 | 2 3/16 | 9 1/4 | 4.750 | 2 | 12 | 13 1/2 | 2 1/4 | 15 1/2 | 7/8 | 3/4 |
| FSAF 22518 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 11/16 | 5/8 |
| SAW 23518 | 3 7/8 | 5 7/8 | 3/16 | 1 29/32 | 7 19/32 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 11/16 | 5/8 |
| SAF 22520 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | - | 15 1/4 | 1 | 7/8 |
| SAF 22620 | 4 3/4 | 7 5/16 | 3/16 | 2 7/16 | 10 3/16 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| FSAF 22520 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 13/16 | 3/4 |
| SAW 23520 | 4 3/8 | 6 13/16 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 5/8 | 1/2 |
| SAF 22522 | 4 3/4 | 6 1/2 | 3/16 | 2 1/8 | 9 7/16 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 22622 | 5 1/4 | 8 1/8 | 3/16 | 2 5/8 | 11 5/16 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 1 | 7/8 |
| SAWS 23522 | 4 3/4 | 7 7/8 | 3/16 | 2 3/82 | 9 5/8 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 22524 | 4 3/4 | 7 3/8 | 3/16 | 2 9/32 | 10 1/8 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 22624 | 6 1/4 | 8 3/8 | 3/16 | 2 13/16 | 12 1/2 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 1/8 | 1 |
| SAF 23024 KA x 4.3/16 | 4 3/8 | 6 1/8 | 0 | 1 29/32 | 8 9/16 | 4 1/2 | 1 3/4 | 11 5/8 | 13 1/8 | - | 15 1/4 | 1 | 7/8 |
| FSAF 23024 KA x 4.3/16 | 4 3/8 | 6 1/8 | 0 | 1 29/32 | 8 9/16 | 4 1/2 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 13/16 | 3/4 |
| SAW 22524 | 4 3/4 | 7 3/8 | 3/16 | 2 17/32 | 10 1/8 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |

8.2 SAF and SAW pillow blocks with spherical roller bearings on an adapter sleeve

Series SAF 225(00), 226(00), 230(00)KA and SAW series 235(00)

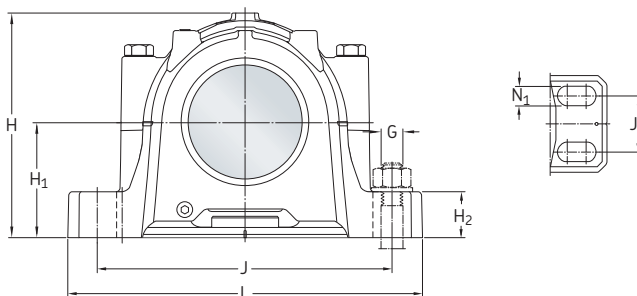
d_a 4 7/16 – 5 15/16 in.



| Shaft diameter d_a | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | Stabilizing ring (1 incl.) | Labyrinth ring (2 incl.) | Mass |
|-------------------------|------------------------|------------------------------------|-----------------------|------------------|----------------------------|--------------------------|------|
| in. | – | – | | | | | lb. |
| 4 7/16 | SAF 22526 | SAF 526 | 22226 EK | SNW 26x4.7/16 | SR 26-0 | LOR 117 | 144 |
| | SAF 22626 | SAF 626 | 22326 CCK/W33 | SNW 126x4.7/16 | SR 0-26 | LOR 117 | 233 |
| | SAF 23026 KA x 4.7/16 | SAF 026 KA x 4.7/16 | 23026 CCK/W33 | SNW 3026x4.7/16 | 38151-26 ²⁾ | LOR 117 | 74 |
| | SAW 23526 | SAW 526 | 23226 CCK/W33 | SNW 126x4.7/16 | SR 26-0 | LOR 117 | 155 |
| 4 15/16 | SAF 22528 | SAF 528 | 22228 CCK/W33 | SNW 28x4.15/16 | SR 28-0 | LOR 122 | 157 |
| | SAF 22628 | SAF 628 | 22328 CCK/W33 | SNW 128x4.15/16 | SR 0-28 | LOR 122 | 296 |
| | SAF 23028 KA x 4.15/16 | SAF 028 KA x 4.15/16 | 23028 CCK/W33 | SNW 3028x4.15/16 | 36053-50 ²⁾ | LOR 122 | 138 |
| | SAW 23528 | SAW 528 | 23228 CCK/W33 | SNW 128x4.15/16 | SR 28-0 | LOR 122 | 180 |
| 5 3/16 | SAF 22530 | SAF 530 | 22230 CCK/W33 | SNW 30x5.3/16 | SR 30-0 | LOR 125 | 202 |
| | SAF 22630 | SAF 630 | 22330 CCK/W33 | SNW 130x5.3/16 | SR 36-30 | LOR 125 | 322 |
| | SAF 23030 KA x 5.3/16 | SAF 030 KA x 5.3/16 | 23030 CCK/W33 | SNW 3030x5.3/16 | SR 0-21 ²⁾ | LOR 125 | 149 |
| | SAW 23530 | SAW 530 | 23230 CCK/W33 | SNW 130x5.3/16 | SR 30-0 | LOR 125 | 220 |
| 5 7/16 | SAF 22532 | SAF 532 | 22232 CCK/W33 | SNW 32x5.7/16 | SR 32-0 | LOR 130 | 223 |
| | SAF 22632 | SAF 632 | 22332 CCK/W33 | SNW 132x5.7/16 | SR 38-32 | LOR 130 | 401 |
| | SAF 23032 KA x 5.7/16 | SAF 032 KA x 5.7/16 | 23032 CCK/W33 | SNW 3032x5.7/16 | 38151-32 ²⁾ | LOR 130 | 175 |
| | SAW 23532 | SAW 532 | 23232 CCK/W33 | SNW 132x5.7/16 | SR 32-0 | LOR 130 | 240 |
| 5 15/16 | SAF 22534 | SAF 534 | 22234 CCK/W33 | SNW 34x5.15/16 | SR 34-0 | LOR 140 | 278 |
| | SAF 22634 | SAF 634 | 22334 CCK/W33 | SNW 134x5.15/16 | SR 40-34 | LOR 140 | 510 |
| | SAF 23034 KA x 5.15/16 | SAF 034 KA x 5.15/16 | 23034 CCK/W33 | SNW 3034x5.15/16 | SR 0-24 ²⁾ | LOR 140 | 148 |
| | SAW 23534 | SAW 534 | 23234 CCK/W33 | SNW 134x5.15/16 | SR 34-0 | LOR 140 | 297 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ Two stabilizing rings are required, but none are included.



Complete pillow block
Designation

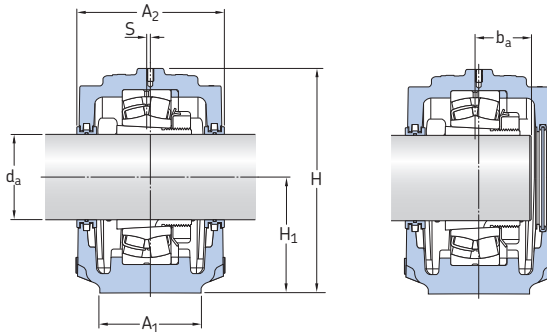
Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------------|----------------|----------------|------|----------------|----------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-------|
| – | in. | | | | | | | | | | | | |
| SAF 22526 | 5 1/4 | 7 5/8 | 3/16 | 2 15/32 | 11 5/8 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 15/16 | 7/8 |
| SAF 22626 | 6 1/4 | 8 3/4 | 3/16 | 3 | 13 5/16 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAF 23026 KA x 4.7/16 | 4 3/4 | 6 1/2 | 0 | 2 3/32 | 9 7/16 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAW 23526 | 5 1/4 | 7 5/8 | 3/16 | 2 3/4 | 11 5/8 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 15/16 | 7/8 |
| SAF 22528 | 5 7/8 | 7 5/8 | 3/16 | 2 29/64 | 12 1/32 | 6.000 | 2 3/8 | 15 5/8 | 17 3/8 | 3 3/8 | 20 1/8 | 1 1/8 | 1 |
| SAF 22628 | 6 3/4 | 9 5/8 | 3/16 | 3 1/4 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAF 23028 KA x 4.15/16 | 4 3/4 | 7 3/8 | 0 | 2 5/32 | 10 3/16 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAW 23528 | 5 7/8 | 9 1/8 | 3/16 | 2 31/32 | 11 3/4 | 6.000 | 2 3/8 | 16 | 17 1/8 | 3 3/8 | 20 1/8 | 1 1/8 | 1 |
| SAF 22530 | 6 1/4 | 8 1/2 | 3/16 | 2 39/64 | 12 5/8 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 1/8 | 1 |
| SAF 22630 | 7 1/8 | 9 3/4 | 3/16 | 3 7/16 | 14 7/8 | 7.500 | 3 | 20 7/8 | 23 5/8 | 4 5/8 | 26 3/4 | 1 1/8 | 1 |
| SAF 23030 KA x 5.3/16 | 5 1/4 | 8 1/8 | 0 | 2 9/32 | 11 5/16 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 1 | 7/8 |
| SAW 23530 | 6 1/4 | 8 1/2 | 3/16 | 3 1/8 | 12 5/8 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 1/8 | 1 |
| SAF 22532 | 6 1/4 | 8 3/4 | 3/16 | 2 31/32 | 13 1/4 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAF 22632 | 7 1/2 | 10 3/4 | 3/16 | 3 5/8 | 15 11/16 | 7.875 | 3 1/8 | 21 5/8 | 24 3/8 | 4 1/2 | 28 | 1 3/8 | 1 1/4 |
| SAF 23032 KA x 5.7/16 | 5 1/4 | 8 1/8 | 0 | 2 7/16 | 11 5/16 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 1 | 7/8 |
| SAW 23532 | 6 1/4 | 8 3/4 | 3/16 | 3 7/16 | 13 1/4 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAF 22534 | 6 3/4 | 9 9/16 | 3/16 | 3 1/8 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAF 22634 | 8 | 11 1/4 | 3/16 | 3 3/4 | 16 1/2 | 8.250 | 3 3/8 | 22 1/2 | 25 | 5 | 29 1/2 | 1 3/8 | 1 1/4 |
| SAF 23034 KA x 5.15/16 | 5 7/8 | 7 5/8 | 0 | 2 19/32 | 12 1/32 | 6.000 | 2 3/8 | 15 5/8 | 17 3/8 | 3 3/8 | 20 1/8 | 1 1/8 | 1 |
| SAW 23534 | 6 3/4 | 9 9/16 | 3/16 | 3 9/12 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |

8.2 SAF and SAW pillow blocks with spherical roller bearings on an adapter sleeve

Series SAF 225(00), 226(00), 230(00)KA and SAW series 235(00)

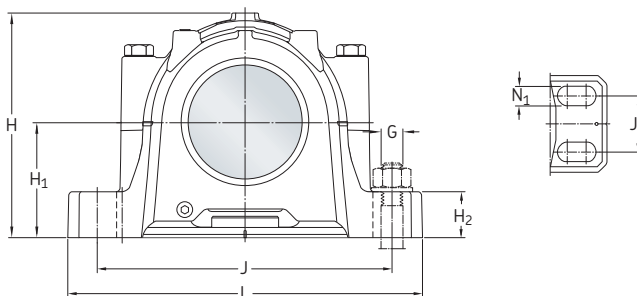
d_a 6 7/16 – 10 7/16 in.



| Shaft diameter d_a | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | Stabilizing ring (1 incl.) | Labyrinth ring (2 incl.) | Mass |
|-------------------------|------------------------|------------------------------------|-----------------------|------------------|----------------------------|--------------------------|------|
| in. | - | - | | | | | lb. |
| 6 7/16 | SAF 22536 | SAF 536 | 22236 CCK/W33 | SNW 36x6.7/16 | SR 36-30 | LOR 148 | 301 |
| | SAF 23036 KA x 6.7/17 | SAF 036 KA x 6.7/16 | 23036 CCK/W33 | SNW 3036x6.7/16 | 38151-36 ²⁾ | LOR 148 | 209 |
| | SAW 23536 | SAW 536 | 23236 CCK/W33 | SNW 136x6.7/16 | SR 36-30 | LOR 148 | 325 |
| 6 15/16 | SAF 22538 | SAF 538 | 22238 CCK/W33 | SNW 38x6.15/16 | SR 38-32 | LOR 155 | 374 |
| | SAF 22638 | SAF 638 | 22338 CCK/W33 | SNW 138x6.15/16 | SR 44-38 | LOR 155 | 609 |
| | SAF 23038 KA x 6.15/16 | SAF 038 KA x 6.15/16 | 23038 CCK/W33 | SNW 3038x6.15/16 | 38151-38 ²⁾ | LOR 155 | 200 |
| 7 3/16 | SAW 23538 | SAW 538 | 23238 CCK/W33 | SNW 138x6.15/16 | SR 38-32 | LOR 155 | 430 |
| | SAF 22540 | SAF 540 | 22240 CCK/W33 | SNW 40x7.3/16 | SR 40-34 | LOR 159 | 443 |
| | SAF 22640 | SAF 640 | 22340 CCK/W33 | SNW 140x7.3/16 | SR 0-40 | LOR 159 | 902 |
| 7 15/16 | SAF 23040 KA x 7.3/16 | SAF 040 KA x 7.3/16 | 23040 CCK/W33 | SNW 3040x7.3/16 | 38151-40 ²⁾ | LOR 159 | 259 |
| | SAW 23540 | SAW 540 | 23240 CCK/W33 | SNW 140x7.3/16 | SR 40-34 | LOR 159 | 515 |
| | SAF 22544 | SAF 544 | 22244 CCK/W33 | SNW 44x7.15/16 | SR 44-38 | LOR 167 | 577 |
| 8 15/16 | SAF 23044 KA x 7.15/16 | SAF 044 KA x 7.15/16 | 23044 CCK/W33 | SNW 3044x7.15/16 | 36053-140 ²⁾ | LOR 167 | 386 |
| | SAW 23544 | SAW 544 | 23244 CCK/W33 | SNW 144x7.15/16 | SR 44-38 | LOR 167 | 710 |
| | SAF 23048 KA x 8.15/16 | SAF 048 KA x 8.15/16 | 23048 CCK/W33 | SNP 3048x8.15/16 | A-8897 ²⁾ | LOR 552 | 474 |
| 9 7/16 | SAF 23052 KA x 9.7/16 | SAF 052 KA x 9.7/16 | 23052 CCK/W33 | SNP 3052x9.7/16 | A-8898 ²⁾ | LOR 553 | 530 |
| 9 15/16 | SAF 23056 KA x 9.15/16 | SAF 056 KA x 9.15/16 | 23056 CACK/W33 | SNP 3056x9.15/16 | A-8819 ²⁾ | LOR 607 | 800 |
| 10 7/16 | SAF 23056 KA x 10.7/16 | SAF 056 KA x 10.7/16 | 23056 CACK/W33 | SNP 3056x10.7/16 | A-8819 ²⁾ | LOR 606 | 800 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ Two stabilizing rings are required, but none are included.



Complete pillow block

Designation

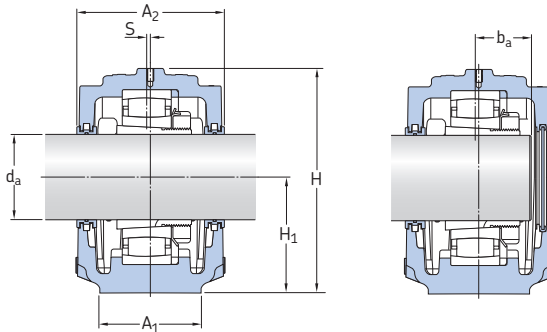
Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------------|-------------------------------|--------------------------------|--------------------------------|---------------------------------|----------------------------------|----------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|
| - | in. | | | | | | | | | | | | |
| SAF 22536 | 7 ¹ / ₈ | 10 | 3 ¹ / ₁₆ | 3 ⁹ / ₆₄ | 14 ⁷ / ₈ | 7.500 | 3 | 20 ⁷ / ₈ | 23 ⁵ / ₈ | 4 ⁵ / ₈ | 26 ³ / ₄ | 1 ¹ / ₈ | 1 |
| SAF 23036 KA x 6.7/16 | 6 ¹ / ₄ | 8 ³ / ₄ | 0 | 2 ²⁵ / ₃₂ | 13 ¹ / ₄ | 6.688 | 2 ⁵ / ₈ | 17 ³ / ₈ | 19 ¹ / ₄ | 3 ³ / ₄ | 22 | 1 ¹ / ₈ | 1 |
| SAW 23536 | 7 ¹ / ₈ | 10 | 3 ¹ / ₁₆ | 3 ²¹ / ₃₂ | 14 ⁷ / ₈ | 7.500 | 3 | 20 ⁷ / ₈ | 23 ⁵ / ₈ | 4 ⁵ / ₈ | 26 ³ / ₄ | 1 ¹ / ₈ | 1 |
| SAF 22538 | 7 ¹ / ₂ | 10 ³ / ₄ | 3 ¹ / ₁₆ | 3 ¹⁹ / ₆₄ | 15 ¹¹ / ₁₆ | 7.875 | 3 ¹ / ₈ | 21 ⁵ / ₈ | 24 ³ / ₈ | 4 ¹ / ₂ | 28 | 1 ³ / ₈ | 1 ¹ / ₄ |
| SAF 22638 | 8 ³ / ₄ | 12 | 3 ¹ / ₁₆ | 4 ¹ / ₁₆ | 18 ⁵ / ₈ | 9.500 | 3 ³ / ₄ | 24 ³ / ₄ | 27 ⁷ / ₈ | 5 ¹ / ₄ | 32 ³ / ₄ | 1 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 23038 KA x 6.15/16 | 6 ¹ / ₄ | 8 ³ / ₄ | 0 | 2 ¹³ / ₁₆ | 13 ¹ / ₄ | 6.688 | 2 ⁵ / ₈ | 17 ³ / ₈ | 19 ¹ / ₄ | 3 ³ / ₄ | 22 | 1 ¹ / ₈ | 1 |
| SAW 23538 | 7 ¹ / ₂ | 10 ⁷ / ₈ | 3 ¹ / ₁₆ | 3 ²⁷ / ₃₂ | 15 ¹¹ / ₁₆ | 7.875 | 3 ¹ / ₈ | 21 ⁵ / ₈ | 24 ³ / ₈ | 4 ¹ / ₂ | 28 | 1 ³ / ₈ | 1 ¹ / ₄ |
| SAF 22540 | 8 | 11 ¹ / ₄ | 3 ¹ / ₁₆ | 3 ¹ / ₂ | 16 ¹ / ₂ | 8.250 | 3 ³ / ₈ | 22 ¹ / ₂ | 25 | 5 | 29 ¹ / ₂ | 1 ³ / ₈ | 1 ¹ / ₄ |
| SAF 22640 | 9 | 12 ³ / ₈ | 3 ¹ / ₁₆ | 4 ¹ / ₈ | 19 ¹ / ₂ | 9.875 | 4 | 26 ¹ / ₄ | 29 ¹ / ₂ | 5 ¹ / ₂ | 34 ¹ / ₄ | 1 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 23040 KA x 7.3/16 | 6 ³ / ₄ | 9 ⁹ / ₁₆ | 0 | 3 ¹ / ₃₂ | 14 ³ / ₁₆ | 7.062 | 2 ³ / ₄ | 19 ³ / ₈ | 21 ⁵ / ₈ | 4 ¹ / ₄ | 24 ³ / ₄ | 1 ¹ / ₈ | 1 |
| SAW 23540 | 8 | 11 ³ / ₈ | 3 ¹ / ₁₆ | 4 ¹ / ₁₆ | 16 ¹ / ₂ | 8.250 | 3 ³ / ₈ | 22 ¹ / ₂ | 25 | 5 | 29 ¹ / ₂ | 1 ³ / ₈ | 1 ¹ / ₄ |
| SAF 22544 | 8 ³ / ₄ | 12 | 3 ¹ / ₁₆ | 3 ⁵ / ₈ | 18 ⁵ / ₈ | 9.500 | 3 ³ / ₄ | 24 ³ / ₄ | 27 ⁷ / ₈ | 5 ¹ / ₄ | 32 ³ / ₄ | 1 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 23044 KA x 7.15/16 | 7 ¹ / ₂ | 10 ³ / ₄ | 0 | 3 ⁷ / ₃₂ | 15 ¹¹ / ₁₆ | 7.875 | 3 ¹ / ₈ | 21 ⁵ / ₈ | 24 ³ / ₈ | 4 ¹ / ₂ | 28 | 1 ³ / ₈ | 1 ¹ / ₄ |
| SAW 23544 | 8 ³ / ₄ | 12 ¹ / ₈ | 3 ¹ / ₁₆ | 4 ¹⁵ / ₃₂ | 18 ⁵ / ₈ | 9.500 | 3 ³ / ₄ | 24 ³ / ₄ | 27 ⁷ / ₈ | 5 ¹ / ₄ | 32 ³ / ₄ | 1 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 23048 KA x 8.15/16 | 8 | 11 ¹ / ₄ | 0 | 3 ⁹ / ₁₆ | 16 ¹ / ₂ | 8.250 | 3 ³ / ₈ | 22 ¹ / ₂ | 25 | 5 | 29 ¹ / ₂ | 1 ³ / ₈ | 1 ¹ / ₄ |
| SAF 23052 KA x 9.7/16 | 8 ³ / ₄ | 12 | 0 | 3 ⁷ / ₈ | 18 ⁵ / ₈ | 9.500 | 3 ³ / ₄ | 24 ³ / ₄ | 27 ⁷ / ₈ | 5 ¹ / ₄ | 32 ³ / ₄ | 1 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 23056 KA x 9.15/16 | 9 | 12 ³ / ₈ | 0 | 4 | 19 ¹ / ₂ | 9.875 | 4 | 26 ¹ / ₄ | 29 ¹ / ₂ | 5 ¹ / ₂ | 34 ¹ / ₄ | 1 ⁵ / ₈ | 1 ¹ / ₂ |
| SAF 23056 KA x 10.7/16 | 9 | 12 ³ / ₈ | 0 | 4 | 19 ¹ / ₂ | 9.875 | 4 | 26 ¹ / ₄ | 29 ¹ / ₂ | 5 ¹ / ₂ | 34 ¹ / ₄ | 1 ⁵ / ₈ | 1 ¹ / ₂ |

8.3 SAF pillow blocks with CARB bearings on an adapter sleeve

Series SAF C25(00), C26(00) and C30(00)

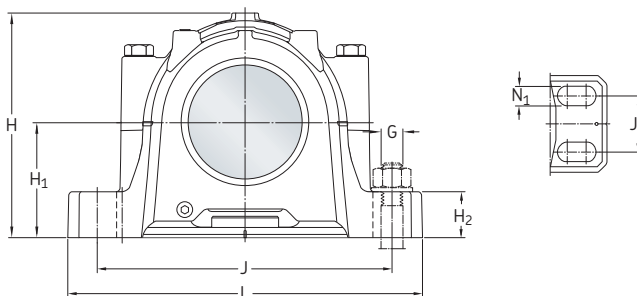
d_a 1 3/16 – 3 3/16 in.



Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter d | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | Stabilizing ring (1 incl.) | Labyrinth ring (2 incl.) | Mass |
|-----------------------|-----------------------|------------------------------------|-----------------------|------------------|-------------------------------|-----------------------------|------|
| in. | – | – | | | | | lb. |
| 1 3/16 | SAF C2507 | SAF 507 | C 2207 KTN9 | HA 307 E | 36053-6 | LER 14 | 8 |
| 1 7/16 | SAF C2509 | SAF 509 | C 2209 KTN9 | HA 309 E | SR 9-9 | LER 17 | 12 |
| 1 11/16 | SAF C2510 | SAF 510 | C 2210 KTN9 | HA 310 E | SR 10-0 | LER 20 | 13 |
| 1 15/16 | SAF C2511 | SAF 511 | C 2211 KTN9 | HA 311 E | SR 11-0 | LER 24 | 16 |
| 2 3/16 | SAF C2513 | SAF 513 | C 2213 KTN9 | HA 313 E | SR 13-0 | LER 29 | 23 |
| 2 7/16 | SAF C2515 | SAF 515 | C 2215 K | HA 315 E | SR 15-0 | LOR 37 | 28 |
| | SAF C2615 | SAF 615 | C 2315 K | HA 2315 | SR 18-15 | LOR 37 | 52 |
| | FSAF C2515 | FSAF 515 | C 2215 K | HA 315 E | SR 15-0 | LOR 37 | 28 |
| | FSAF C2615 | FSAF 615 | C 2315 K | HA 2315 | SR 18-15 | LOR 37 | 52 |
| 2 11/16 | SAF C2516 | SAF 516 | C 2216 K | HA 316 E | SR 16-13 | LOR 44 | 37 |
| | SAF C2616 | SAF 616 | C 2316 K | HA 2316 | SR 19-16 | LOR 44 | 71 |
| | FSAF C2516 | FSAF 516 | C 2216 K | HA 316 E | SR 16-13 | LOR 44 | 37 |
| | FSAF C2616 | FSAF 616 | C 2316 K | HA 2316 | SR 19-16 | LOR 44 | 71 |
| 2 15/16 | SAF C2517 | SAF 517 | C 2217 K | HA 317 E | SR 17-14 | LOR 53 | 38 |
| | SAF C2617 | SAF 617 | C 2317 K | HA 2317 | SR 20-17 | LOR 184 | 75 |
| | FSAF C2517 | FSAF 517 | C 2217 K | HA 317 E | SR 17-14 | LOR 53 | 38 |
| | FSAF C2617 | FSAF 617 | C 2317 K | HA 2317 | SR 20-17 | LOR 184 | 75 |
| 3 3/16 | SAF C2518 | SAF 518 | C 2218 K | HA 318 E | SR 18-15 | LOR 188 | 46 |
| | SAF C2618 | SAF 618 | C 2318 K | HA 2318 | SR 21-18 | LOR 188 | 97 |
| | FSAF C2518 | FSAF 518 | C 2218 K | HA 318 E | SR 18-15 | LOR 188 | 46 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

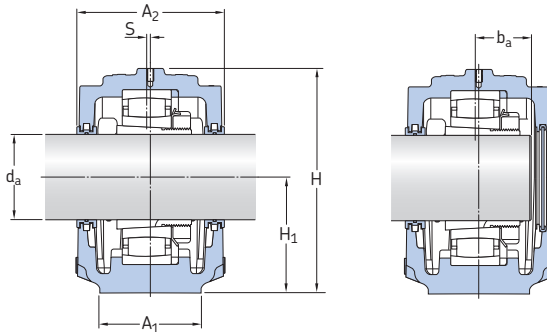


Complete pillow block

| Designation | Dimensions | | | | | | | | | | | | |
|-------------|----------------|----------------|------|----------------|---------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-----|
| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
| – | in. | | | | | | | | | | | | |
| SAF C2507 | 2 | 3 1/4 | 5/64 | 13/16 | 3 29/32 | 2.000 | 13/16 | 5 5/8 | 6 1/8 | – | 7 1/2 | 5/8 | 1/2 |
| SAF C2509 | 2 3/8 | 3 1/2 | 7/64 | 1 3/32 | 4 7/16 | 2.250 | 13/16 | 6 1/4 | 7 | – | 8 1/4 | 5/8 | 1/2 |
| SAF C2510 | 2 3/8 | 3 1/2 | 9/64 | 1 5/32 | 4 13/16 | 2.500 | 15/16 | 6 1/2 | 7 | – | 8 1/4 | 5/8 | 1/2 |
| SAF C2511 | 2 3/4 | 3 7/8 | 1/8 | 1 13/64 | 5 1/4 | 2.750 | 15/16 | 7 3/8 | 8 1/4 | – | 9 5/8 | 3/4 | 5/8 |
| SAF C2513 | 3 1/8 | 4 1/2 | 5/32 | 1 25/64 | 5 13/16 | 3.000 | 1 | 8 1/8 | 9 1/2 | – | 11 | 3/4 | 5/8 |
| SAF C2515 | 3 1/8 | 4 11/16 | 1/8 | 1 7/16 | 6 7/32 | 3.250 | 1 1/8 | 8 5/8 | 9 5/8 | – | 11 1/4 | 3/4 | 5/8 |
| SAF C2615 | 3 7/8 | 5 7/8 | 3/16 | 1 7/8 | 7 9/16 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | – | 13 3/4 | 7/8 | 3/4 |
| FSAF C2515 | 3 1/8 | 4 11/16 | 1/8 | 1 7/16 | 6 7/32 | 3.250 | 1 1/8 | 8 5/8 | 9 5/8 | 1 7/8 | 11 1/4 | 5/8 | 1/2 |
| FSAF C2615 | 3 7/8 | 5 7/8 | 3/16 | 1 7/8 | 7 9/16 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 3/4 | 5/8 |
| SAF C2516 | 3 1/2 | 5 | 3/16 | 1 15/32 | 6 11/16 | 3.500 | 1 1/4 | 9 5/8 | 11 | – | 13 | 7/8 | 3/4 |
| SAF C2616 | 3 7/8 | 6 1/2 | 3/16 | 1 15/16 | 8 1/4 | 4.250 | 1 3/4 | 10 5/8 | 12 5/8 | – | 14 1/4 | 7/8 | 3/4 |
| FSAF C2516 | 3 1/2 | 5 | 3/16 | 1 15/32 | 6 11/16 | 3.500 | 1 1/4 | 9 5/8 | 11 | 2 1/8 | 13 | 11/16 | 5/8 |
| FSAF C2616 | 3 7/8 | 6 1/2 | 3/16 | 1 15/16 | 8 1/4 | 4.250 | 1 3/4 | 10 5/8 | 12 5/8 | 2 1/8 | 14 1/4 | 3/4 | 5/8 |
| SAF C2517 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | – | 13 | 7/8 | 3/4 |
| SAF C2617 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | – | 15 1/4 | 1 | 7/8 |
| FSAF C2517 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | 2 1/8 | 13 | 3/4 | 5/8 |
| FSAF C2617 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 7/8 | 3/4 |
| SAF C2518 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 1/4 | 11 3/4 | – | 13 3/4 | 7/8 | 3/4 |
| SAF C2618 | 4 3/8 | 6 7/8 | 3/16 | 2 3/16 | 9 1/4 | 4.750 | 2 | 12 | 13 1/2 | 2 1/4 | 15 1/2 | 7/8 | 3/4 |
| FSAF C2518 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 11/16 | 5/8 |

8.3 SAF pillow blocks with CARB bearings on an adapter sleeve Series SAF C25(00), C26(00) and C30(00)

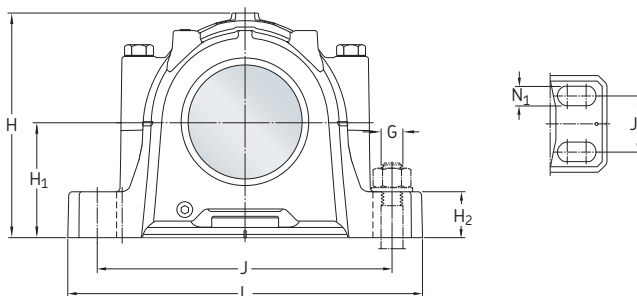
d_a 3 7/16 – 10 7/16 in.



| Shaft diameter d | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Adapter assembly | Stabilizing ring (1 incl.) | Labyrinth ring (2 incl.) | Mass |
|-----------------------|------------------------|------------------------------------|-----------------------|------------------|-------------------------------|-----------------------------|------|
| in. | – | – | | | | | lb. |
| 3 7/16 | SAF C2520 | SAF 520 | C 2220 K | HA 320 E | SR 20-17 | LOR 102 | 61 |
| | SAF C2620 | SAF 620 | C 2320 K | HA 2320 | SR 24-20 | LOR 102 | 113 |
| | FSAF C2520 | FSAF 520 | C 2220 K | HA 320 E | SR 20-17 | LOR 102 | 61 |
| 3 15/16 | SAF C2522 | SAF 522 | C 2222 K | H 22 E | SR 22-19 | LOR 109 | 72 |
| 4 7/16 | SAF C2526 | SAF 526 | C 2226 K | HA 3126 E | SR 26-0 | LOR 117 | 143 |
| 4 15/16 | SAF C2528 | SAF 528 | C 2228 K | HA 3128 E | SR 28-0 | LOR 122 | 155 |
| 5 3/16 | SAF C2530 | SAF 530 | C 2230 K | HA 3130 L | SR 30-0 | LOR 125 | 194 |
| 5 15/16 | SAF C2534 | SAF 534 | C 2234 K | HA 3134 L | SR 34-0 | LOR 140 | 273 |
| 6 7/16 | SAF C3036 KA x 6.7/16 | SAF 036 KA x 6.7/16 | C 3036 K | HA 3036 | 38151-36 ²⁾ | LOR 148 | 272 |
| 6 15/16 | SAF C2538 | SAF 538 | C 2238 K | HA 3138 | SR 38-32 | LOR 155 | 364 |
| | SAF C3038 KA x 6.15/16 | SAF 038 KA x 6.15/16 | C 3038 K | HA 3038 | 38151-38 ²⁾ | LOR 155 | 284 |
| 7 3/16 | SAF C3040 KA x 7.3/16 | SAF 040 KA x 7.3/16 | C 3040 K | HA 3040 | 38151-40 ²⁾ | LOR 159 | 367 |
| 7 15/16 | SAF C2544 | SAF 544 | C 2244 K | H 3144/201.612 | SR 44-38 | LOR 167 | 569 |
| | SAF C3044 KA x 7.15/16 | SAF 044 KA x 7.15/16 | C 3044 K | H 3044/201.6 | 36053-140 ²⁾ | LOR 167 | 386 |
| 8 15/16 | SAF C3048 KA x 8.15/16 | SAF 048 KA x 8.15/16 | C 3048 K | H 048/227 | A-8897 ²⁾ | LOR 552 | 474 |
| 9 7/16 | SAF C3052 KA x 9.7/16 | SAF 052 KA x 9.7/16 | C 3052 K | H 3052/239.7 | A-8898 ²⁾ | LOR 553 | 530 |
| 9 15/16 | SAF C3056 KA x 9.15/16 | SAF 056 KA x 9.15/16 | C 3056 K | H 3056/252.4 | A-8819 ²⁾ | LOR 607 | 800 |
| 10 7/16 | SAF C3056 KA x 10.7/16 | SAF 056 KA x 10.7/16 | C 3056 K | H 3056/265.1 | A-8819 ²⁾ | LOR 606 | 800 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ Two stabilizing rings are required, but none are included.



Complete pillow block

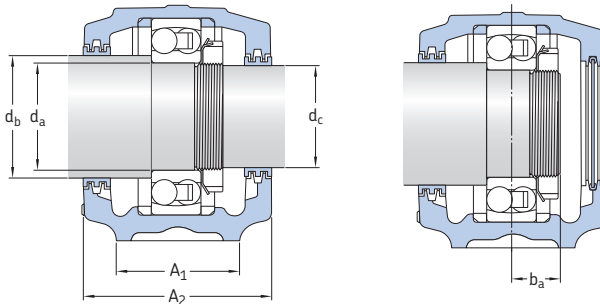
Designation

Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------------|----------------|----------------|------|----------------|----------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-------|
| - | in. | | | | | | | | | | | | |
| SAF C2520 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | - | 15 1/4 | 1 | 7/8 |
| SAF C2620 | 4 3/4 | 7 5/16 | 3/16 | 2 7/16 | 10 3/16 | 5.250 | 2 1/8 | 13 3/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| FSAF C2520 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 13/16 | 3/4 |
| SAF C2522 | 4 3/4 | 6 1/2 | 3/16 | 2 1/8 | 9 7/16 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF C2526 | 5 1/4 | 7 5/8 | 3/16 | 2 15/32 | 11 5/8 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 15/16 | 7/8 |
| SAF C2528 | 5 7/8 | 7 5/8 | 3/16 | 2 29/64 | 12 1/32 | 6.000 | 2 3/8 | 15 5/8 | 17 3/8 | 3 3/8 | 20 1/8 | 1 1/8 | 1 |
| SAF C2530 | 6 1/4 | 8 1/2 | 3/16 | 2 39/64 | 12 5/8 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 1/8 | 1 |
| SAF C2534 | 6 3/4 | 9 9/16 | 3/16 | 3 1/8 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAF C3036 KA x 6.7/16 | 6 1/4 | 8 3/4 | 0 | 2 25/32 | 13 1/4 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAF C2538 | 7 1/2 | 10 3/4 | 3/16 | 3 19/64 | 15 11/16 | 7.875 | 3 1/8 | 21 5/8 | 24 3/8 | 4 1/2 | 28 | 1 3/8 | 1 1/4 |
| SAF C3038 KA x 6.15/16 | 6 1/4 | 8 3/4 | 0 | 2 13/16 | 13 1/4 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAF C3040 KA x 7.3/16 | 6 3/4 | 9 9/16 | 0 | 3 1/32 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAF C2544 | 8 3/4 | 12 | 3/16 | 3 5/8 | 18 5/8 | 9.500 | 3 3/4 | 24 3/4 | 27 7/8 | 5 1/4 | 32 3/4 | 1 5/8 | 1 1/2 |
| SAF C3044 KA x 7.15/16 | 7 1/2 | 10 3/4 | 0 | 3 7/32 | 15 11/16 | 7.875 | 3 1/8 | 21 5/8 | 24 3/8 | 4 1/2 | 28 | 1 3/8 | 1 1/4 |
| SAF C3048 KA x 8.15/16 | 8 | 11 1/4 | 0 | 3 9/16 | 16 1/2 | 8.250 | 3 3/8 | 22 1/2 | 25 | 5 | 29 1/2 | 1 3/8 | 1 1/4 |
| SAF C3052 KA x 9.7/16 | 8 3/4 | 12 | 0 | 3 7/8 | 18 5/8 | 9.500 | 3 3/4 | 24 3/4 | 27 7/8 | 5 1/4 | 32 3/4 | 1 5/8 | 1 1/2 |
| SAF C3056 KA x 9.15/16 | 9 | 12 3/8 | 0 | 4 | 19 1/2 | 9.875 | 4 | 26 1/4 | 29 1/2 | 5 1/2 | 34 1/4 | 1 5/8 | 1 1/2 |
| SAF C3056 KA x 10.7/16 | 9 | 12 3/8 | 0 | 4 | 19 1/2 | 9.875 | 4 | 26 1/4 | 29 1/2 | 5 1/2 | 34 1/4 | 1 5/8 | 1 1/2 |

8.4 SAF pillow blocks with self-aligning ball bearings with a cylindrical bore Series SAF 13(00)

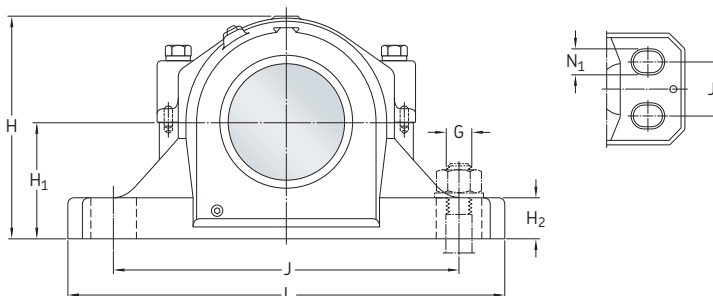
d_a 40 – 110 mm



Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter | | | Complete pillow block | Components | | Stabilizing ring (2 required) | Labyrinth seals Shaft diameter d_b | Labyrinth seals Shaft diameter d_c | Lock nut | Locking washer | Mass |
|----------------|---------------------------------|---------------------------------|-----------------------|----------------------|-----------------------|----------------------------------|---|---|----------|----------------|------|
| d_a | d_b | d_c | | Pillow block housing | Bearing ¹⁾ | | | | | | |
| mm | in. | | – | – | | | | | | | lb. |
| 40 | 1 ¹⁵ / ₁₆ | 1 ⁷ / ₁₆ | SAF 1308 | SAF 308 | 1308 ETN9 | SR 1608 | LER 24 | LER 17 | N 08 | W 08 | 14 |
| 45 | 2 ¹ / ₈ | 1 ¹¹ / ₁₆ | SAF 1309 | SAF 309 | 1309 ETN9 | SR 1609 | LER 28 | LER 20 | N 09 | W 09 | 18 |
| 50 | 2 ³ / ₈ | 1 ⁷ / ₈ | SAF 1310 | SAF 310 | 1310 ETN9 | SR 1610 | LER 35 | LER 23 | N 10 | W 10 | 21 |
| 55 | 2 ⁹ / ₁₆ | 2 ¹ / ₁₆ | SAF 1311 | SAF 311 | 1311 ETN9 | SR 1611 | LER 40 | LER 27 | N 11 | W 11 | 25 |
| | | | FSAF 1311 | FSAF 311 | 1311 ETN9 | SR 1611 | LER 40 | LER 27 | N 11 | W 11 | 25 |
| 60 | 2 ⁷ / ₈ | 2 ¹ / ₄ | SAF 1312 | SAF 312 | 1312 ETN9 | SR 1612 | LOR 47 | LOR 33 | N 12 | W 12 | 29 |
| | | | FSAF 1312 | FSAF 312 | 1312 ETN9 | SR 1612 | LOR 47 | LOR 33 | N 12 | W 12 | 29 |
| 65 | 3 ¹ / ₁₆ | 2 ⁷ / ₁₆ | SAF 1313 | SAF 313 | 1313 ETN9 | SR 1613 | LOR 55 | LOR 37 | N 13 | W 13 | 35 |
| | | | FSAF 1313 | FSAF 313 | 1313 ETN9 | SR 1613 | LOR 55 | LOR 37 | N 13 | W 13 | 35 |
| 70 | 3 ¹ / ₄ | 2 ⁵ / ₈ | SAF 1314 | SAF 314 | 1314 | SR 1614 | LOR 64 | LOR 43 | N 14 | W 14 | 40 |
| | | | FSAF 1314 | FSAF 314 | 1314 | SR 1614 | LOR 64 | LOR 43 | N 14 | W 14 | 40 |
| 75 | 3 ⁷ / ₁₆ | 2 ¹³ / ₁₆ | SAF 1315 | SAF 315 | 1315 | SR 1615 | LOR 79 | LOR 46 | AN 15 | W 15 | 44 |
| | | | FSAF 1315 | FSAF 315 | 1315 | SR 1615 | LOR 79 | LOR 46 | AN 15 | W 15 | 44 |
| 80 | 3 ⁵ / ₈ | 3 | SAF 1316 | SAF 316 | 1316 | SR 1616 | LOR 84 | LOR 60 | AN 16 | W 16 | 63 |
| | | | FSAF 1316 | FSAF 316 | 1316 | SR 1616 | LOR 84 | LOR 60 | AN 16 | W 16 | 63 |
| 85 | 3 ¹⁵ / ₁₆ | 3 ³ / ₁₆ | SAF 1317 | SAF 317 | 1317 | SR 1617 | LOR 109 | LOR 188 | AN 17 | W 17 | 66 |
| | | | FSAF 1317 | FSAF 317 | 1317 | SR 1617 | LOR 109 | LOR 188 | AN 17 | W 17 | 66 |
| 90 | 4 ¹ / ₈ | 3 ³ / ₈ | SAF 1318 | SAF 318 | 1318 | SR 1618 | LOR 112 | LOR 191 | AN 18 | W 18 | 86 |
| 100 | 4 ¹ / ₂ | 3 ¹³ / ₁₆ | SAF 1320 | SAF 320 | 1320 | SR 1620 | LOR 118 | LOR 106 | AN 20 | W 20 | 97 |
| 110 | 4 ⁷ / ₈ | 4 ³ / ₁₆ | SAF 1322 | SAF 322 | 1322 | SR 1622 | LOR 121 | LOR 113 | AN 22 | W 22 | 132 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request



Complete pillow block

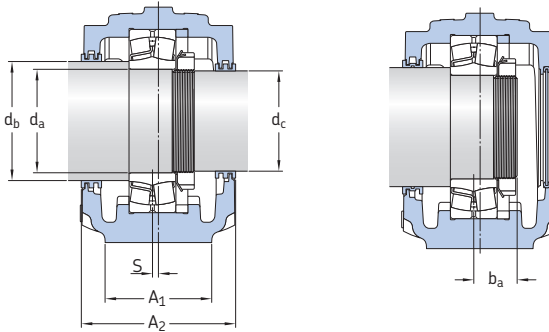
Designation

Dimensions

| | A ₁ | A ₂ | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------|-------------------------------|--------------------------------|---------------------------------|---------------------------------|----------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|-----------------|-----------------|
| - | in. | | | | | | | | | | | |
| SAF 1308 | 2 ³ / ₈ | 4 | 1 ¹ / ₆₄ | 4 ¹³ / ₁₆ | 2.500 | 1 | 6 ¹ / ₂ | 7 | - | 8 ¹ / ₄ | 5/ ₈ | 1/ ₂ |
| SAF 1309 | 2 ³ / ₄ | 4 ¹ / ₄ | 1 ¹ / ₁₆ | 5 ⁵ / ₁₆ | 2.750 | 1 | 7 ³ / ₈ | 7 ⁷ / ₈ | - | 9 ⁵ / ₈ | 3/ ₄ | 5/ ₈ |
| SAF 1310 | 2 ³ / ₄ | 4 ⁵ / ₈ | 1 ⁵ / ₃₂ | 5 ¹³ / ₁₆ | 3.000 | 11/ ₈ | 7 ³ / ₄ | 9 | - | 10 ⁵ / ₈ | 3/ ₄ | 5/ ₈ |
| SAF 1311 | 3 ¹ / ₈ | 5 | 1 ³ / ₁₆ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 8 ¹ / ₈ | 9 ¹ / ₂ | - | 11 | 3/ ₄ | 5/ ₈ |
| FSAF 1311 | 3 ¹ / ₈ | 5 | 1 ³ / ₁₆ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 8 ¹ / ₈ | 9 ¹ / ₂ | 2 | 11 | 5/ ₈ | 1/ ₂ |
| SAF 1312 | 3 ¹ / ₈ | 5 ¹ / ₄ | 1 ¹ / ₄ | 6 ³ / ₈ | 3.250 | 1 ³ / ₁₆ | 9 ⁵ / ₈ | 8 ⁵ / ₈ | - | 11 ¹ / ₄ | 3/ ₄ | 5/ ₈ |
| FSAF 1312 | 3 ¹ / ₈ | 5 ¹ / ₄ | 1 ¹ / ₄ | 6 ³ / ₈ | 3.250 | 1 ³ / ₁₆ | 9 ⁵ / ₈ | 8 ⁵ / ₈ | 1 ⁷ / ₈ | 11 ¹ / ₄ | 5/ ₈ | 1/ ₂ |
| SAF 1313 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 1 ¹¹ / ₃₂ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | - | 13 | 7/ ₈ | 3/ ₄ |
| FSAF 1313 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 1 ¹¹ / ₃₂ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | 2 ¹ / ₈ | 13 | 3/ ₄ | 5/ ₈ |
| SAF 1314 | 3 ¹ / ₂ | 5 ³ / ₈ | 1 ³ / ₈ | 7 ³ / ₈ | 3.750 | 1 ¹ / ₄ | 9 ⁷ / ₈ | 11 | - | 13 | 7/ ₈ | 3/ ₄ |
| FSAF 1314 | 3 ¹ / ₂ | 5 ³ / ₈ | 1 ³ / ₈ | 7 ³ / ₈ | 3.750 | 1 ¹ / ₄ | 9 ⁷ / ₈ | 11 | 2 ¹ / ₈ | 13 | 3/ ₄ | 5/ ₈ |
| SAF 1315 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 1 ¹⁵ / ₃₂ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 10 ³ / ₈ | 11 ⁵ / ₈ | - | 13 ³ / ₄ | 7/ ₈ | 3/ ₄ |
| FSAF 1315 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 1 ¹⁵ / ₃₂ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 10 ³ / ₈ | 11 ⁵ / ₈ | 2 ¹ / ₈ | 13 ³ / ₄ | 3/ ₄ | 5/ ₈ |
| SAF 1316 | 3 ⁷ / ₈ | 6 ¹ / ₂ | 1 ¹ / ₂ | 8 ¹ / ₄ | 4.250 | 1 ³ / ₄ | 10 ⁵ / ₈ | 12 ⁵ / ₈ | - | 14 ¹ / ₄ | 7/ ₈ | 3/ ₄ |
| FSAF 1316 | 3 ⁷ / ₈ | 6 ¹ / ₂ | 1 ¹ / ₂ | 8 ¹ / ₄ | 4.250 | 1 ³ / ₄ | 10 ⁵ / ₈ | 12 ⁵ / ₈ | 2 ¹ / ₈ | 14 ¹ / ₄ | 3/ ₄ | 5/ ₈ |
| SAF 1317 | 4 ³ / ₈ | 6 ³ / ₄ | 1 ⁹ / ₁₆ | 8 ³ / ₄ | 4.500 | 1 ³ / ₄ | 11 ⁵ / ₈ | 13 ¹ / ₈ | - | 15 ¹ / ₄ | 1 | 7/ ₈ |
| FSAF 1317 | 4 ³ / ₈ | 6 ³ / ₄ | 1 ⁹ / ₁₆ | 8 ³ / ₄ | 4.500 | 1 ³ / ₄ | 11 ⁵ / ₈ | 13 ¹ / ₈ | 2 ³ / ₈ | 15 ¹ / ₄ | 7/ ₈ | 3/ ₄ |
| SAF 1318 | 4 ³ / ₈ | 6 ⁷ / ₈ | 1 ¹¹ / ₁₆ | 9 ¹ / ₄ | 4.750 | 2 | 12 | 13 ¹ / ₂ | 2 ¹ / ₄ | 15 ¹ / ₂ | 7/ ₈ | 3/ ₄ |
| SAF 1320 | 4 ³ / ₄ | 7 ³ / ₈ | 1 ²⁷ / ₃₂ | 10 ³ / ₁₆ | 5.250 | 2 ¹ / ₈ | 13 ¹ / ₄ | 14 ¹ / ₂ | 2 ³ / ₄ | 16 ¹ / ₂ | 7/ ₈ | 3/ ₄ |
| SAF 1322 | 5 ¹ / ₄ | 8 ¹ / ₈ | 1 ¹⁵ / ₁₆ | 11 ⁵ / ₁₆ | 6.000 | 2 ³ / ₈ | 14 ⁵ / ₈ | 16 | 3 ¹ / ₄ | 18 ³ / ₈ | 1 | 7/ ₈ |

8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore Series SAF 222(00), 223(00) and SAW series 232(00)

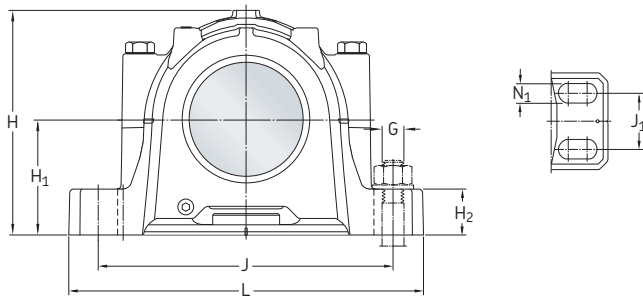
d_a 40 – 75 mm



Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter | | | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Stabilizing ring (1 incl.) | Labyrinth seals Shaft diameter d_b | Lock nut Shaft diameter d_c | Locking washer | Mass | |
|----------------|---------------------------------|---------------------------------|-----------------------|------------------------------------|-----------------------|-------------------------------|---|----------------------------------|----------------|------|----|
| d_a | d_b | d_c | | | | | | | | | |
| mm | in. | | - | - | | | | | | lb. | |
| 40 | 1 ¹⁵ / ₁₆ | 1 ⁷ / ₁₆ | SAF 22308 | SAF 308 | 22308 E | SR 10-8 | LER 24 | LER 17 | N 08 | W 08 | 15 |
| 45 | 2 ¹ / ₈ | 1 ¹¹ / ₁₆ | SAF 22309 | SAF 309 | 22309 E | SR 11-9 | LER 28 | LER 20 | N 09 | W 09 | 19 |
| 50 | 2 ³ / ₈ | 1 ⁷ / ₈ | SAF 22310 | SAF 310 | 22310 E | SR 0-10 | LER 35 | LER 23 | N 10 | W 10 | 22 |
| 55 | 2 ⁹ / ₁₆ | 2 ¹ / ₁₆ | SAF 22311 | SAF 311 | 22311 E | SR 13-11 | LER 40 | LER 27 | N 11 | W 11 | 27 |
| | | | FSAF 22311 | FSAF 311 | 22311 E | SR 13-11 | LER 40 | LER 27 | N 11 | W 11 | 27 |
| 60 | 2 ⁷ / ₈ | 2 ¹ / ₄ | SAF 22312 | SAF 312 | 22312 E | SR 15-12 | LOR 47 | LOR 33 | N 12 | W 12 | 31 |
| | | | FSAF 22312 | FSAF 312 | 22312 E | SR 15-12 | LOR 47 | LOR 33 | N 12 | W 12 | 31 |
| 65 | 3 ¹ / ₁₆ | 2 ⁷ / ₁₆ | SAF 22213 | SAF 213 | 22213 E | SR 13-0 | LOR 55 | LOR 37 | N 13 | W 13 | 22 |
| | | | SAF 22313 | SAF 313 | 22313 E | SR 16-13 | LOR 55 | LOR 37 | N 13 | W 13 | 38 |
| | | | FSAF 22313 | FSAF 313 | 22313 E | SR 16-13 | LOR 55 | LOR 37 | N 13 | W 13 | 38 |
| 70 | 3 ¹ / ₄ | 2 ⁵ / ₈ | SAF 22314 | SAF 314 | 22314 CC/W33 | SR 17-14 | LOR 64 | LOR 43 | N 14 | W 14 | 42 |
| | | | FSAF 22314 | FSAF 314 | 22314 CC/W33 | SR 17-14 | LOR 64 | LOR 43 | N 14 | W 14 | 42 |
| 75 | 3 ⁷ / ₁₆ | 2 ¹³ / ₁₆ | SAF 22215 | SAF 215 | 22215 E | SR 15-0 | LOR 79 | LOR 46 | AN 15 | W 15 | 27 |
| | | | SAF 22315 | SAF 315 | 22315 CC/W33 | SR 18-15 | LOR 79 | LOR 46 | AN 15 | W 15 | 48 |
| | 3 ⁷ / ₁₆ | 2 ¹³ / ₁₆ | FSAF 22215 | FSAF 215 | 22215 E | SR 15-0 | LOR 79 | LOR 46 | AN 15 | W 15 | 27 |
| | | | FSAF 22315 | FSAF 315 | 22315 CC/W33 | SR 18-15 | LOR 79 | LOR 46 | AN 15 | W 15 | 48 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request



Complete pillow block

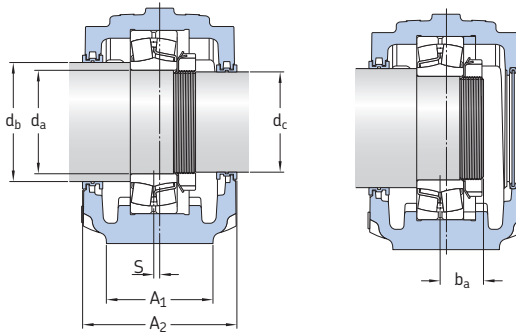
Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------|-------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|----------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|
| - | in. | | | | | | | | | | | | |
| SAF 22308 | 2 ³ / ₈ | 4 | 3 ¹ / ₁₆ | 1 ⁵ / ₃₂ | 4 ¹³ / ₁₆ | 2.500 | 1 | 6 ¹ / ₂ | 7 | - | 8 ¹ / ₄ | 5 ⁸ / ₈ | 1 ² / ₂ |
| SAF 22309 | 2 ³ / ₄ | 4 ¹ / ₄ | 3 ¹ / ₁₆ | 1 ⁵ / ₁₆ | 5 ⁵ / ₁₆ | 2.750 | 1 | 7 ³ / ₈ | 7 ⁷ / ₈ | - | 9 ⁵ / ₈ | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| SAF 22310 | 2 ³ / ₄ | 4 ⁵ / ₈ | 3 ¹ / ₁₆ | 1 ⁷ / ₁₆ | 5 ¹³ / ₁₆ | 3.000 | 1 ¹ / ₈ | 7 ³ / ₄ | 9 | - | 10 ⁵ / ₈ | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| SAF 22311 | 3 ¹ / ₈ | 4 ⁷ / ₈ | 3 ¹ / ₁₆ | 1 ¹ / ₂ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 8 ¹ / ₈ | 9 ¹ / ₂ | - | 11 | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| FSAF 22311 | 3 ¹ / ₈ | 4 ⁷ / ₈ | 3 ¹ / ₁₆ | 1 ¹ / ₂ | 6 ³ / ₁₆ | 3.250 | 1 ³ / ₁₆ | 8 ¹ / ₈ | 9 ¹ / ₂ | 2 | 11 | 5 ⁸ / ₈ | 1 ² / ₂ |
| SAF 22312 | 3 ¹ / ₈ | 5 ¹ / ₄ | 3 ¹ / ₁₆ | 1 ⁹ / ₁₆ | 6 ³ / ₈ | 3.250 | 1 ³ / ₁₆ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | - | 11 ¹ / ₄ | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| FSAF 22312 | 3 ¹ / ₈ | 5 ¹ / ₄ | 3 ¹ / ₁₆ | 1 ⁹ / ₁₆ | 6 ³ / ₈ | 3.250 | 1 ³ / ₁₆ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | 1 ⁷ / ₈ | 11 ¹ / ₄ | 5 ⁸ / ₈ | 1 ² / ₂ |
| SAF 22213 | 3 ¹ / ₈ | 4 ¹ / ₂ | 5 ⁵ / ₃₂ | 1 ²⁵ / ₆₄ | 5 ¹³ / ₁₆ | 3.000 | 1 | 8 ¹ / ₈ | 9 ¹ / ₂ | - | 11 | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| SAF 22313 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 3 ¹ / ₁₆ | 1 ¹¹ / ₁₆ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | - | 13 | 7 ⁸ / ₈ | 3 ⁴ / ₄ |
| FSAF 22313 | 3 ¹ / ₂ | 5 ⁵ / ₁₆ | 3 ¹ / ₁₆ | 1 ¹¹ / ₁₆ | 6 ¹⁹ / ₃₂ | 3.500 | 1 ¹ / ₄ | 9 ⁵ / ₈ | 11 | 2 ¹ / ₈ | 13 | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| SAF 22314 | 3 ¹ / ₂ | 5 ³ / ₈ | 3 ¹ / ₁₆ | 1 ¹¹ / ₁₆ | 7 ³ / ₈ | 3.750 | 1 ¹ / ₄ | 9 ⁷ / ₈ | 11 | - | 13 | 7 ⁸ / ₈ | 3 ⁴ / ₄ |
| FSAF 22314 | 3 ¹ / ₂ | 5 ³ / ₈ | 3 ¹ / ₁₆ | 1 ¹¹ / ₁₆ | 7 ³ / ₈ | 3.750 | 1 ¹ / ₄ | 9 ⁷ / ₈ | 11 | 2 ¹ / ₈ | 13 | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| SAF 22215 | 3 ¹ / ₈ | 4 ¹¹ / ₁₆ | 1 ⁸ / ₈ | 1 ⁷ / ₁₆ | 6 ⁷ / ₃₂ | 3.250 | 1 ¹ / ₈ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | - | 11 ¹ / ₄ | 3 ⁴ / ₄ | 5 ⁸ / ₈ |
| SAF 22315 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 3 ¹ / ₁₆ | 1 ⁷ / ₈ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 10 ³ / ₈ | 11 ⁵ / ₈ | - | 13 ³ / ₄ | 7 ⁸ / ₈ | 3 ⁴ / ₄ |
| FSAF 22215 | 3 ¹ / ₈ | 4 ¹¹ / ₁₆ | 1 ⁸ / ₈ | 1 ⁷ / ₁₆ | 6 ⁷ / ₃₂ | 3.250 | 1 ¹ / ₈ | 8 ⁵ / ₈ | 9 ⁵ / ₈ | 1 ⁷ / ₈ | 11 ¹ / ₄ | 5 ⁸ / ₈ | 1 ² / ₂ |
| FSAF 22315 | 3 ⁷ / ₈ | 5 ⁷ / ₈ | 3 ¹ / ₁₆ | 1 ⁷ / ₈ | 7 ⁹ / ₁₆ | 4.000 | 1 ⁵ / ₈ | 10 ³ / ₈ | 11 ⁵ / ₈ | 2 ¹ / ₈ | 13 ³ / ₄ | 3 ⁴ / ₄ | 5 ⁸ / ₈ |

8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore

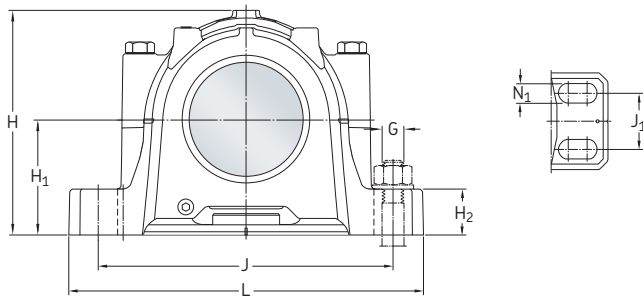
Series SAF 222(00), 223(00) and SAW series 232(00)

d_a 80 – 110 mm



| Shaft diameter | | | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Stabilizing ring (1 incl.) | Labyrinth seals Shaft diameter d_b | Lock nut | Locking washer | Mass | | |
|----------------|-------|---------|-----------------------|------------------------------------|-----------------------|-------------------------------|---|----------|----------------|-------|------|----|
| d_a | d_b | d_c | | | | | | | | | | |
| mm | in. | | | | | | | | | lb. | | |
| 80 | 3 5/8 | 3 | SAF 22216 | SAF 216 | 22216 E | SR16-13 | LOR 82 | LOR 54 | AN 16 | W 16 | 34 | |
| | | | SAF 22316 | SAF 316 | 22316 CC/W33 | SR19-16 | LOR 84 | LOR 60 | AN 16 | W 16 | 67 | |
| | 3 5/8 | 3 | FSAF 22216 | FSAF 216 | 22216 E | SR16-13 | LOR 82 | LOR 54 | AN 16 | W 16 | 34 | |
| | | | FSAF 22316 | FSAF 316 | 22316 CC/W33 | SR19-16 | LOR 84 | LOR 60 | AN 16 | W 16 | 67 | |
| | 85 | 3 15/16 | 3 3/16 | SAF 22217 | SAF 217 | 22217 E | SR17-14 | LOR 89 | LOR 63 | AN 17 | W 17 | 37 |
| | | | | SAF 22317 | SAF 317 | 22317 CC/W33 | SR20-17 | LOR109 | LOR188 | AN 17 | W 17 | 71 |
| 3 15/16 | | 3 3/16 | FSAF 22217 | FSAF 217 | 22217 E | SR17-14 | LOR 89 | LOR 63 | AN 17 | W 17 | 35 | |
| 90 | 4 1/8 | 3 3/8 | SAF 22218 | SAF 218 | 22218 E | SR18-15 | LOR 112 | LOR191 | AN 18 | W 18 | 44 | |
| | | | SAF 22318 | SAF 318 | 22318 CC/W33 | SR21-18 | LOR 112 | LOR191 | AN 18 | W 18 | 92 | |
| | 4 1/8 | 3 3/8 | FSAF 22218 | FSAF 218 | 22218 E | SR18-15 | LOR 112 | LOR191 | AN 18 | W 18 | 44 | |
| 100 | 4 1/2 | 3 13/16 | SAF 22220 | SAF 220 | 22220 E | SR20-17 | LOR 118 | LOR106 | AN 20 | W 20 | 59 | |
| | | | SAF 22320 | SAF 320 | 22320 CC/W33 | SR24-20 | LOR 118 | LOR106 | AN 20 | W 20 | 107 | |
| | 4 1/2 | 3 13/16 | FSAF 22220 | FSAF 220 | 22220 E | SR20-17 | LOR 118 | LOR106 | AN 20 | W 20 | 59 | |
| | | | SAW 23220 | SAW 220 | 23220 CC/W33 | SR20-17 | LOR 118 | LOR106 | AN 20 | W 20 | 80 | |
| 110 | 4 7/8 | 4 3/16 | SAF 22222 | SAF 222 | 22222 E | SR22-19 | LOR121 | LOR113 | AN 22 | W 22 | 68 | |
| | | | SAF 22322 | SAF 322 | 22322 CC/W33 | SR0-22 | LOR121 | LOR113 | AN 22 | W 22 | 145 | |
| | | | SAWS 23222 | SAWS 222 | 23222 CC/W33 | SR22-19 | LOR121 | LOR113 | AN 22 | W 22 | 91 | |

¹⁾ Optional internal radial clearance (e.g. C3) available on request



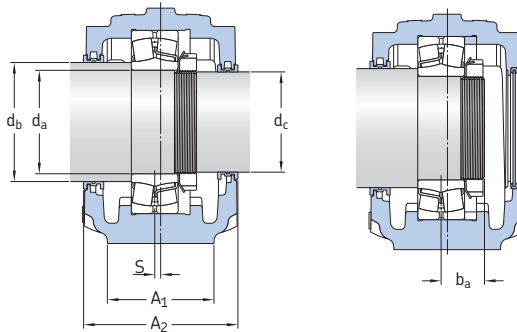
Complete pillow block

Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|-------------------|----------------|----------------|------|----------------|---------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-----|
| – | in. | | | | | | | | | | | | |
| SAF 22216 | 3 1/2 | 5 | 3/16 | 1 15/32 | 6 11/16 | 3.500 | 1 1/4 | 9 5/8 | 11 | – | 13 | 7/8 | 3/4 |
| SAF 22316 | 3 7/8 | 6 1/2 | 3/16 | 1 15/16 | 8 1/4 | 4.250 | 1 3/4 | 10 5/8 | 12 5/8 | – | 14 1/4 | 7/8 | 3/4 |
| FSAF 22216 | 3 1/2 | 5 | 3/16 | 1 15/32 | 6 11/16 | 3.500 | 1 1/4 | 9 5/8 | 11 | 2 1/8 | 13 | 1 1/16 | 5/8 |
| FSAF 22316 | 3 7/8 | 6 1/2 | 3/16 | 1 15/16 | 8 1/4 | 4.250 | 1 3/4 | 10 5/8 | 12 5/8 | 2 1/8 | 14 1/4 | 3/4 | 5/8 |
| SAF 22217 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | – | 13 | 7/8 | 3/4 |
| SAF 22317 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | – | 15 1/4 | 1 | 7/8 |
| FSAF 22217 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | 2 1/8 | 13 | 3/4 | 5/8 |
| FSAF 22317 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 7/8 | 3/4 |
| SAF 22218 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 1/4 | 11 3/4 | – | 13 3/4 | 7/8 | 3/4 |
| SAF 22318 | 4 3/8 | 6 7/8 | 3/16 | 2 3/16 | 9 1/4 | 4.750 | 2 | 12 | 13 1/2 | 2 1/4 | 15 1/2 | 7/8 | 3/4 |
| FSAF 22218 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 1 1/16 | 5/8 |
| SAW 23218 | 3 7/8 | 5 7/8 | 3/16 | 1 29/32 | 7 19/32 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 1 1/16 | 5/8 |
| SAF 22220 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | – | 15 1/4 | 1 | 7/8 |
| SAF 22320 | 4 3/4 | 7 5/16 | 3/16 | 2 7/16 | 10 3/16 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| FSAF 22220 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 1 3/16 | 3/4 |
| SAW 23220 | 4 3/8 | 6 3/16 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 5/8 | 1/2 |
| SAF 22222 | 4 3/4 | 6 1/2 | 3/16 | 2 1/8 | 9 7/16 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 22322 | 5 1/4 | 8 1/8 | 3/16 | 2 5/8 | 11 5/16 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 1 | 7/8 |
| SAWS 23222 | 4 3/4 | 7 7/8 | 3/16 | 2 3/8 | 9 5/8 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |

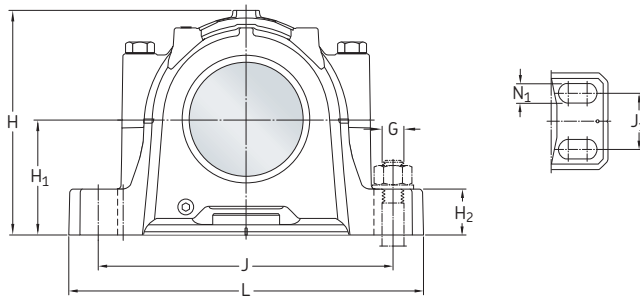
8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore Series SAF 222(00), 223(00) and SAW series 232(00)

d_a 120 – 180 mm



| Shaft diameter | | | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Stabilizing ring (1 incl.) | Labyrinth seals Shaft diameter d_b | Shaft diameter d_c | Lock nut | Locking washer | Mass |
|----------------|---------|---------|-----------------------|------------------------------------|-----------------------|-------------------------------|---|----------------------|----------|----------------|------|
| d_a | d_b | d_c | | | | | | | | | |
| mm | in. | | | | | | | | | | lb. |
| 120 | 5 5/16 | 4 9/16 | SAF 22224 | SAF 224 | 22224 E | SR 24-20 | LOR 127 | LOR 119 | AN 24 | W 24 | 97 |
| | | | SAF 22324 | SAF 324 | 22324 CC/W33 | SR 0-24 | LOR 127 | LOR 119 | AN 24 | W 24 | 201 |
| | | | SAW 23224 | SAW 224 | 23224 CC/W33 | SR 24-20 | LOR 127 | LOR 119 | AN 24 | W 24 | 105 |
| 130 | 5 7/8 | 4 15/16 | SAF 22226 | SAF 226 | 22226 E | SR 26-0 | LOR 136 | LOR 122 | AN 26 | W 26 | 134 |
| | | | SAF 22326 | SAF 326 | 22326 CC/W33 | SR 0-26 | LOR 136 | LOR 122 | AN 26 | W 26 | 221 |
| | | | SAW 23226 | SAW 226 | 23226 CC/W33 | SR 26-0 | LOR 136 | LOR 122 | AN 26 | W 26 | 155 |
| 140 | 6 1/4 | 5 5/16 | SAF 22228 | SAF 228 | 22228 CC/W33 | SR 28-0 | LOR 144 | LOR 127 | AN 28 | W 28 | 149 |
| | | | SAF 22328 | SAF 328 | 22328 CC/W33 | SR 0-28 | LOR 144 | LOR 127 | AN 28 | W 28 | 283 |
| | | | SAW 23228 | SAW 228 | 23228 CC/W33 | SR 28-0 | LOR 144 | LOR 127 | AN 28 | W 28 | 180 |
| 150 | 6 5/8 | 5 3/4 | SAF 22230 | SAF 230 | 22230 CC/W33 | SR 30-0 | LOR 151 | LOR 134 | AN 30 | W 30 | 187 |
| | | | SAF 22330 | SAF 330 | 22330 CC/W33 | SR 36-30 | LOR 151 | LOR 134 | AN 30 | W 30 | 313 |
| | | | SAW 23230 | SAW 230 | 23230 CC/W33 | SR 30-0(1) | LOR 151 | LOR 134 | AN 30 | W 30 | 204 |
| 160 | 7 | 6 1/16 | SAF 22232 | SAF 232 | 22232 CC/W33 | SR 32-0 | LOR 156 | LOR 142 | AN 32 | W 32 | 208 |
| | | | SAF 22332 | SAF 332 | 22332 CC/W33 | SR 38-32 | LOR 156 | LOR 142 | AN 32 | W 32 | 385 |
| | | | SAW 23232 | SAW 232 | 23232 CC/W33 | SR 32-0(1) | LOR 156 | LOR 142 | AN 32 | W 32 | 245 |
| 170 | 7 7/16 | 6 7/16 | SAF 22234 | SAF 234 | 22234 CC/W33 | SR 34-0 | LOR 161 | LOR 148 | AN 34 | W 34 | 263 |
| | | | SAF 22334 | SAF 334 | 22334 CC/W33 | SR 40-34 | LOR 161 | LOR 148 | AN 34 | W 34 | 449 |
| | | | SAW 23234 | SAW 234 | 23234 CC/W3 | SR 34-0(1) | LOR 161 | LOR 148 | AN 34 | W 34 | 298 |
| 180 | 7 13/16 | 6 7/8 | SAF 22236 | SAF 236 | 22236 CC/W33 | SR 36-30 | LOR 165 | LOR 154 | AN 36 | W 36 | 286 |
| | | | SAW 23236 | SAW 236 | 23236 CC/W33 | SR 36-30 | LOR 165 | LOR 154 | AN 36 | W 36 | 286 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request



Complete pillow block

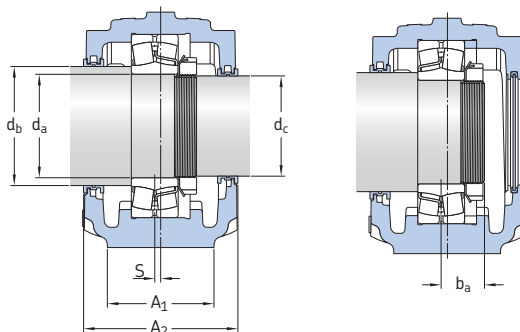
Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|-----------|----------------|----------------|------|----------------|----------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-------|
| – | in. | | | | | | | | | | | | |
| SAF 22224 | 4 3/4 | 7 3/8 | 3/16 | 2 9/32 | 10 1/8 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 22324 | 6 1/4 | 8 3/8 | 3/16 | 2 13/32 | 12 1/2 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 1/8 | 1 |
| SAW 23224 | 4 3/4 | 7 3/8 | 3/16 | 2 17/32 | 10 1/8 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF 22226 | 5 1/4 | 7 5/8 | 3/16 | 2 15/32 | 11 5/8 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 15/16 | 7/8 |
| SAF 22326 | 6 1/4 | 8 3/4 | 3/16 | 3 | 13 5/16 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAW 23226 | 5 1/4 | 7 5/8 | 3/16 | 2 3/4 | 11 5/8 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 15/16 | 7/8 |
| SAF 22228 | 5 7/8 | 7 5/8 | 3/16 | 2 29/64 | 12 1/32 | 6.000 | 2 3/8 | 15 5/8 | 17 3/8 | 3 3/8 | 20 1/8 | 1 1/8 | 1 |
| SAF 22328 | 6 3/4 | 9 3/8 | 3/16 | 3 1/4 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAW 23228 | 5 7/8 | 9 1/8 | 3/16 | 2 31/32 | 11 3/4 | 6.000 | 2 3/8 | 16 | 17 1/8 | 3 3/8 | 20 1/8 | 1 1/8 | 1 |
| SAF 22230 | 6 1/4 | 8 1/2 | 3/16 | 2 39/64 | 12 5/8 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 1/8 | 1 |
| SAF 22330 | 7 1/8 | 9 3/4 | 3/16 | 3 7/16 | 14 7/8 | 7.500 | 3 | 20 7/8 | 23 5/8 | 4 5/8 | 26 3/4 | 1 1/8 | 1 |
| SAW 23230 | 6 1/4 | 8 1/2 | 3/16 | 3 1/16 | 12 1/2 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 3/4 | 1 |
| SAF 22232 | 6 1/4 | 8 3/4 | 3/16 | 2 31/32 | 13 1/4 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAF 22332 | 7 1/2 | 10 3/4 | 3/16 | 3 5/8 | 15 11/16 | 7.875 | 3 1/8 | 21 5/8 | 24 3/8 | 4 1/2 | 28 | 1 3/8 | 1 1/4 |
| SAW 23232 | 6 1/4 | 8 7/8 | 3/16 | 3 1/4 | 13 1/4 | 6.688 | 2 5/8 | 17 3/8 | 19 1/4 | 3 3/4 | 22 | 1 1/8 | 1 |
| SAF 22234 | 6 3/4 | 9 9/16 | 3/16 | 3 1/8 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAF 22334 | 8 | 11 1/4 | 3/16 | 3 3/4 | 16 1/2 | 8.250 | 3 3/8 | 22 1/2 | 25 | 5 | 29 1/2 | 1 3/8 | 1 1/4 |
| SAW 23234 | 6 3/4 | 9 1/2 | 3/16 | 3 15/32 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAF 22236 | 7 1/8 | 10 | 3/16 | 3 9/64 | 14 7/8 | 7.500 | 3 | 20 7/8 | 23 5/8 | 4 5/8 | 26 3/4 | 1 1/8 | 1 |
| SAW 23236 | 7 1/8 | 10 | 3/16 | 3 21/32 | 14 7/8 | 7.500 | 3 | 20 7/8 | 23 5/8 | 4 5/8 | 26 3/4 | 1 1/8 | 1 |

8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore

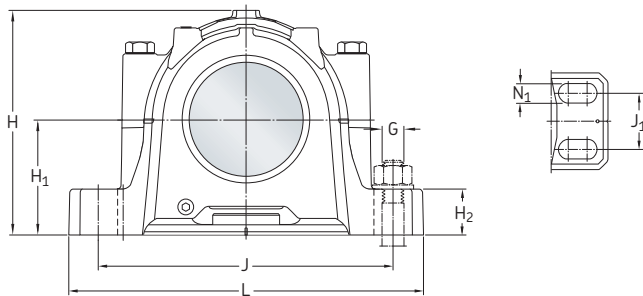
Series SAF 222(00), 223(00) and SAW series 232(00)

d_a 190 – 220 mm



| Shaft diameter | | | Complete pillow block | Components | | Stabilizing ring (1 incl.) | Labyrinth seals Shaft diameter d_b | Shaft diameter d_c | Lock nut | Locking washer | Mass lb. |
|----------------|--------|--------|-----------------------|----------------------|-----------------------|-------------------------------|--|-------------------------|----------|----------------|-------------|
| d_a | d_b | d_c | | Pillow block housing | Bearing ¹⁾ | | | | | | |
| mm | in. | | – | – | | | | | | | |
| 190 | 8 3/8 | 7 1/4 | SAF 22238 | SAF 238 | 22238 CC/W33 | SR 38-32 | LOR 171 | LOR 160 | AN 38 | W 38 | 356 |
| | | | SAF 22338 | SAF 338 | 22338 CC/W33 | SR 44-38 | LOR 171 | LOR 160 | AN 38 | W 38 | 589 |
| | | | SAW 23238 | SAW 238 | 23238 CC/W33 | SR 38-32 | LOR 171 | LOR 160 | AN 38 | W 38 | 430 |
| 200 | 8 3/4 | 7 5/8 | SAF 22240 | SAF 240 | 22240 CC/W33 | SR 40-34 | LOR 175 | LOR 164 | AN 40 | W 40 | 408 |
| | | | SAF 22340 | SAF 340 | 22340 CC/W33 | SR 0-40 | LOR 175 | LOR 164 | AN 40 | W 40 | 809 |
| | | | SAW 23240 | SAW 240 | 23240 CC/W33 | SR 40-34 | LOR 175 | LOR 164 | AN 40 | W 40 | 515 |
| 220 | 9 9/16 | 8 5/16 | SAF 22244 | SAF 244 | 22244 CC/W33 | SR 44-38 | LOR 179 | LOR 170 | N 44 | W 44 | 535 |
| | | | SAW 23244 | SAW 244 | 23244 CC/W33 | SR 44-38 | LOR 179 | LOR 170 | N 44 | W 44 | 710 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request



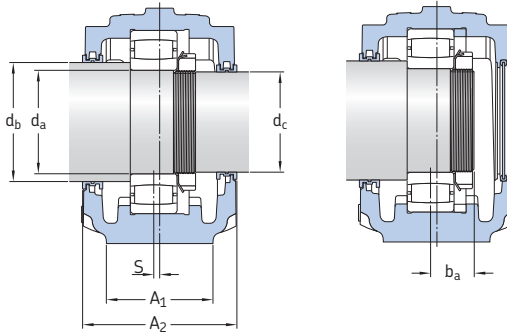
Complete pillow block

Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------------|----------------|----------------|------|----------------|----------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-------|
| - | in. | | | | | | | | | | | | |
| SAF 22238 | 7 1/2 | 10 3/4 | 3/16 | 3 19/64 | 15 11/16 | 7.875 | 3 1/8 | 21 5/8 | 24 3/8 | 4 1/2 | 28 | 1 3/8 | 1 1/4 |
| SAF 22338 | 8 3/4 | 12 | 3/16 | 4 1/16 | 18 5/8 | 9.500 | 3 3/4 | 24 3/4 | 27 7/8 | 5 1/4 | 32 3/4 | 1 5/8 | 1 1/2 |
| SAW 23238 | 7 1/2 | 10 7/8 | 3/16 | 3 27/32 | 15 11/16 | 7.875 | 3 1/8 | 21 5/8 | 24 3/8 | 4 1/2 | 28 | 1 3/8 | 1 1/4 |
| SAF 22240 | 8 | 11 1/4 | 3/16 | 3 1/2 | 16 1/2 | 8.250 | 3 3/8 | 22 1/2 | 25 | 5 | 29 1/2 | 1 3/8 | 1 1/4 |
| SAF 22340 | 9 | 12 3/8 | 3/16 | 4 1/8 | 19 1/2 | 9.875 | 4 | 26 1/4 | 29 1/2 | 5 1/2 | 34 1/4 | 1 5/8 | 1 1/2 |
| SAW 23240 | 8 | 11 3/8 | 3/16 | 4 1/16 | 16 1/2 | 8.250 | 3 3/8 | 22 1/2 | 25 | 5 | 29 1/2 | 1 3/8 | 1 1/4 |
| SAF 22244 | 8 3/4 | 12 | 3/16 | 3 5/8 | 18 5/8 | 9.500 | 3 3/4 | 24 3/4 | 27 7/8 | 5 1/4 | 32 3/4 | 1 5/8 | 1 1/2 |
| SAW 23244 | 8 3/4 | 12 1/8 | 3/16 | 4 15/32 | 18 5/8 | 9.500 | 3 3/4 | 24 3/4 | 27 7/8 | 5 1/4 | 32 3/4 | 1 5/8 | 1 1/2 |

8.6 SAF pillow blocks with CARB bearings with a cylindrical bore Series SAF C22(00) and C23(00)

d_a 65 – 90 mm

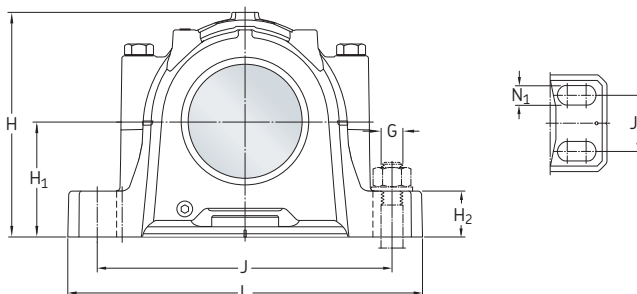


Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter | | | Complete pillow block | Components | | Stabilizing ring | Labyrinth seals ²⁾ | | Lock nut | Locking washer | | Mass |
|----------------|---------|---------|-----------------------|----------------------|-----------------------|------------------|-------------------------------|----------------------|----------|----------------|-----|------|
| d_a | d_b | d_c | | Pillow block housing | Bearing ¹⁾ | | Shaft diameter d_b | Shaft diameter d_c | | Locking washer | | |
| mm | in. | | – | – | | (1 incl.) | | | | | lb. | |
| 65 | 3 1/16 | 2 7/16 | SAF C2213 | SAF 213 | C 2213 TN9 | SR 13-0 | LOR 55 | LOR 37 | KMFE 13 | – | 22 | |
| 70 | 3 1/4 | 2 5/8 | SAF C2314 | SAF 314 | C 2314 | SR 17-14 | LOR 64 | LOR 43 | N 14 | W 14 | 42 | |
| | | | FSAF C2314 | FSAF 314 | C 2314 | SR 17-14 | LOR 64 | LOR 43 | N 14 | W 14 | 42 | |
| 75 | 3 7/16 | 2 13/16 | SAF C2215 | SAF 215 | C 2215 | SR 15-0 | LOR 79 | LOR 46 | KMFE 15 | – | 27 | |
| | | | SAF C2315 | SAF 315 | C 2315 | SR 18-15 | LOR 79 | LOR 46 | AN 15 | W 15 | 48 | |
| | 3 7/16 | 2 13/16 | FSAF C2215 | FSAF 215 | C 2215 | SR 15-0 | LOR 79 | LOR 46 | KMFE 15 | – | 27 | |
| | | | FSAF C2315 | FSAF 315 | C 2315 | SR 18-15 | LOR 79 | LOR 46 | AN 15 | W 15 | 48 | |
| 80 | 3 5/8 | 3 | SAF C2216 | SAF 216 | C 2216 | SR 16-13 | LOR 82 | LOR 54 | KMFE 16 | – | 34 | |
| | | | SAF C2316 | SAF 316 | C 2316 | SR 19-16 | LOR 84 | LOR 60 | AN 16 | W 16 | 67 | |
| | 3 5/8 | 3 | FSAF C2216 | FSAF 216 | C 2216 | SR 16-13 | LOR 82 | LOR 54 | KMFE 16 | – | 34 | |
| | | | FSAF C2316 | FSAF 316 | C 2316 | SR 19-16 | LOR 84 | LOR 60 | AN 16 | W 16 | 67 | |
| 85 | 3 15/16 | 3 3/16 | SAF C2217 | SAF 217 | C 2217 | SR 17-14 | LOR 89 | LOR 63 | KMFE 17 | – | 35 | |
| | | | SAF C2317 | SAF 317 | C 2317 | SR 20-17 | LOR 109 | LOR 188 | AN 17 | W 17 | 71 | |
| | 3 15/16 | 3 3/16 | FSAF C2217 | FSAF 217 | C 2217 | SR 17-14 | LOR 89 | LOR 63 | KMFE 17 | – | 35 | |
| | | | FSAF C2317 | FSAF 317 | C 2317 | SR 20-17 | LOR 109 | LOR 188 | AN 17 | W 17 | 71 | |
| 90 | 4 1/8 | 3 3/8 | SAF C2218 | SAF 218 | C 2218 | SR 18-15 | LOR 112 | LOR 191 | KMFE 18 | – | 44 | |
| | | | SAF C2318 | SAF 318 | C 2318 | SR 21-18 | LOR 112 | LOR 191 | AN 18 | W 18 | 92 | |
| | 4 1/8 | 3 3/8 | FSAF C2218 | FSAF 218 | C 2218 | SR 18-15 | LOR 112 | LOR 191 | KMFE 18 | – | 44 | |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ For the best possible axial displacement capability, an LER type seal can be used instead of the LOR type seal that comes standard with the housing (→ table 1, page 390)



Complete pillow block

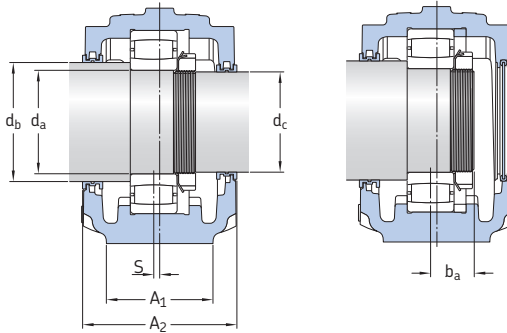
Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|------------|----------------|----------------|------|----------------|---------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-----|
| – | in. | | | | | | | | | | | | |
| SAF C2213 | 3 1/8 | 4 1/2 | 5/32 | 1 25/64 | 5 13/16 | 3.000 | 1 | 8 1/8 | 9 1/2 | – | 11 | 3/4 | 5/8 |
| SAF C2314 | 3 1/2 | 5 3/8 | 3/16 | 1 11/16 | 7 3/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | – | 13 | 7/8 | 3/4 |
| FSAF C2314 | 3 1/2 | 5 3/8 | 3/16 | 1 11/16 | 7 3/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | 2 1/8 | 13 | 3/4 | 5/8 |
| SAF C2215 | 3 1/8 | 4 11/16 | 1/8 | 1 7/16 | 6 7/32 | 3.250 | 1 1/8 | 8 5/8 | 9 5/8 | – | 11 1/4 | 3/4 | 5/8 |
| SAF C2315 | 3 7/8 | 5 7/8 | 3/16 | 1 7/8 | 7 9/16 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | – | 13 3/4 | 7/8 | 3/4 |
| FSAF C2215 | 3 1/8 | 4 11/16 | 1/8 | 1 7/16 | 6 7/32 | 3.250 | 1 1/8 | 8 5/8 | 9 5/8 | 1 7/8 | 11 1/4 | 5/8 | 1/2 |
| FSAF C2315 | 3 7/8 | 5 7/8 | 3/16 | 1 7/8 | 7 9/16 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 3/4 | 5/8 |
| SAF C2216 | 3 1/2 | 5 | 3/16 | 1 15/32 | 6 11/16 | 3.500 | 1 1/4 | 9 5/8 | 11 | – | 13 | 7/8 | 3/4 |
| SAF C2316 | 3 7/8 | 6 1/2 | 3/16 | 1 15/16 | 8 1/4 | 4.250 | 1 3/4 | 10 5/8 | 12 5/8 | – | 14 1/4 | 7/8 | 3/4 |
| FSAF C2216 | 3 1/2 | 5 | 3/16 | 1 15/32 | 6 11/16 | 3.500 | 1 1/4 | 9 5/8 | 11 | 2 1/8 | 13 | 11/16 | 5/8 |
| FSAF C2316 | 3 7/8 | 6 1/2 | 3/16 | 1 15/16 | 8 1/4 | 4.250 | 1 3/4 | 10 5/8 | 12 5/8 | 2 1/8 | 14 1/4 | 3/4 | 5/8 |
| SAF C2217 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | – | 13 | 7/8 | 3/4 |
| SAF C2317 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | – | 15 1/4 | 1 | 7/8 |
| FSAF C2217 | 3 1/2 | 5 | 3/16 | 1 9/16 | 7 1/8 | 3.750 | 1 1/4 | 9 7/8 | 11 | 2 1/8 | 13 | 3/4 | 5/8 |
| FSAF C2317 | 4 3/8 | 6 3/4 | 3/16 | 2 1/16 | 8 3/4 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 7/8 | 3/4 |
| SAF C2218 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 1/4 | 11 3/4 | – | 13 3/4 | 7/8 | 3/4 |
| SAF C2318 | 4 3/8 | 6 7/8 | 3/16 | 2 3/16 | 9 3/16 | 4.750 | 2 | 12 | 13 1/2 | 2 1/4 | 15 1/2 | 7/8 | 3/4 |
| FSAF C2218 | 3 7/8 | 5 7/8 | 3/16 | 1 3/4 | 7 19/32 | 4.000 | 1 5/8 | 10 3/8 | 11 5/8 | 2 1/8 | 13 3/4 | 11/16 | 5/8 |

8.6

8.6 SAF pillow blocks with CARB bearings with a cylindrical bore Series SAF C22(00) and C23(00)

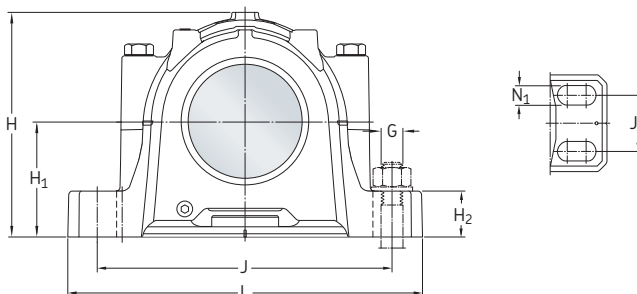
d_a 100 – 220 mm



| Shaft diameter | | | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Stabilizing ring (1 incl.) | Labyrinth Shaft diameter d_b | seals ²⁾ Shaft diameter d_c | Lock nut | Locking washer | Mass |
|----------------|--------|---------|-----------------------|------------------------------------|-----------------------|-------------------------------|--------------------------------|--|----------|----------------|------|
| d_a | d_b | d_c | | | | | | | | | |
| mm | in. | | | | | | | | | | lb. |
| 100 | 4 1/2 | 3 13/16 | SAF C2220 | SAF 220 | C 2220 | SR 20-17 | LOR 118 | LOR 106 | KMFE 20 | – | 59 |
| | | | SAF C2320 | SAF 320 | C 2320 | SR 24-20 | LOR 118 | LOR 106 | AN 20 | W 20 | 107 |
| | 4 1/2 | 3 13/16 | FSAF C2220 | FSAF 220 | C 2220 | SR 20-17 | LOR 118 | LOR 106 | KMFE 20 | – | 59 |
| 110 | 4 7/8 | 4 3/16 | SAF C2222 | SAF 222 | C 2222 | SR 22-19 | LOR 121 | LOR 113 | KMFE 22 | – | 88 |
| 130 | 5 7/8 | 4 15/16 | SAF C2226 | SAF 226 | C 2226 | SR 26-0 | LOR 136 | LOR 122 | KML 26 | MBL 26 | 134 |
| 140 | 6 1/4 | 5 5/16 | SAF C2228 | SAF 228 | C 2228 | SR 28-0 | LOR 144 | LOR 127 | KML 28 | MBL 28 | 149 |
| 150 | 6 5/8 | 5 3/4 | SAF C2230 | SAF 230 | C 2230 | SR 30-0 | LOR 151 | LOR 134 | KML 30 | MBL 30 | 187 |
| 170 | 7 7/16 | 6 7/16 | SAF C2234 | SAF 234 | C 2234 | SR 34-0 | LOR 161 | LOR 148 | KML 34 | MBL 34 | 263 |
| 190 | 8 3/8 | 7 1/4 | SAF C2238 | SAF 238 | C 2238 | SR 38-32 | LOR 171 | LOR 160 | KML 38 | MBL 38 | 356 |
| 220 | 9 9/16 | 8 5/16 | SAF C2244 | SAF 244 | C 2244 | SR 44-38 | LOR 179 | LOR 170 | KML 44 | MBL 44 | 535 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request

²⁾ For improved axial displacement capability, an LER type seal can be used instead of the LOR type seal that comes standard with the housing (→ table 1, page 390)



Complete pillow block

Designation Dimensions

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | N ₁ | G |
|-------------------|----------------|----------------|------|----------------|----------|----------------|----------------|------------------|------------------|----------------|--------|----------------|-------|
| - | in. | | | | | | | | | | | | |
| SAF C2220 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | - | 15 1/4 | 1 | 7/8 |
| SAF C2320 | 4 3/4 | 7 5/16 | 3/16 | 2 7/16 | 10 3/16 | 5.250 | 2 1/8 | 13 1/4 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| FSAF C2220 | 4 3/8 | 6 1/32 | 3/16 | 1 59/64 | 8 9/16 | 4.500 | 1 3/4 | 11 5/8 | 13 1/8 | 2 3/8 | 15 1/4 | 13/16 | 3/4 |
| SAF C2222 | 4 3/4 | 6 1/2 | 3/16 | 2 1/8 | 9 7/16 | 4.938 | 2 | 12 5/8 | 14 1/2 | 2 3/4 | 16 1/2 | 7/8 | 3/4 |
| SAF C2226 | 5 1/4 | 7 5/8 | 3/16 | 2 15/32 | 11 5/8 | 6.000 | 2 3/8 | 14 5/8 | 16 | 3 1/4 | 18 3/8 | 15/16 | 7/8 |
| SAF C2228 | 5 7/8 | 7 5/8 | 3/16 | 2 29/64 | 12 1/32 | 6.000 | 2 3/8 | 15 5/8 | 17 3/8 | 3 3/8 | 20 1/8 | 1 1/8 | 1 |
| SAF C2230 | 6 1/4 | 8 1/2 | 3/16 | 2 39/64 | 12 5/8 | 6.312 | 2 1/2 | 17 | 18 1/4 | 3 3/4 | 21 1/4 | 1 1/8 | 1 |
| SAF C2234 | 6 3/4 | 9 9/16 | 3/16 | 3 1/8 | 14 3/16 | 7.062 | 2 3/4 | 19 3/8 | 21 5/8 | 4 1/4 | 24 3/4 | 1 1/8 | 1 |
| SAF C2238 | 7 1/2 | 10 3/4 | 3/16 | 3 19/64 | 15 11/16 | 7.875 | 3 1/8 | 21 5/8 | 24 3/8 | 4 1/2 | 28 | 1 3/8 | 1 1/4 |
| SAF C2244 | 8 3/4 | 12 | 3/16 | 3 5/8 | 18 5/8 | 9.500 | 3 3/4 | 24 3/4 | 27 7/8 | 5 1/4 | 32 3/4 | 1 5/8 | 1 1/2 |



Split pillow blocks SDAF series including the extended range (inch dimensions)

Bearing types

- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 22, 23 (SDAF)
- 30, 31, 32 (SDAF extended range)

Shaft diameter range

- 2 ¹⁵/₁₆ to 9 ⁹/₁₆ in. (SDAF)
- 9 in. and larger (SDAF extended range)

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Seals

- Labyrinth
- Contact
- Heavy-duty

Lubrication

- Grease
- Oil

Materials

- Grey cast iron
- Ductile iron (Spheroidal graphite cast iron)
- Cast steel

Mounting

- Four-bolt mounting

Compliance to standards

- Not standardized

All SDAF housings, which include the SDAF extended range, are heavy duty split pillow (plummer) block housings designed for tough operating conditions where heavy loads and shock loads require a housing that is exceptionally sturdy. All SDAF housings are made to order.

SDAF housings can accommodate bearings in the 22 and 23 dimension series for shaft diameters ranging from 2 ¹⁵/₁₆ to 9 ⁹/₁₆ inches. SDAF extended range housings can accommodate bearings in the 30, 31 and 32 dimension series for shaft diameters ranging from 8 ¹⁵/₁₆ to 20 inches and larger. Housings in the extended range are typically customized to meet the needs of a particular application.



Units of measurement

In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on **page 10**.

Split pillow blocks SDAF series including the extended range (inch dimensions)

| | | | |
|--|------------|--|------------|
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| Paint, corrosion protection | 453 | 9.3 SDAF extended range pillow blocks with spherical roller bearings on an adapter sleeve (Series 230(00) KA, 231(00) KA, 232(00) KA) | 476 |
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| Lubrication | 467 | | |
| Initial grease fill | 467 | | |
| Relubrication | 468 | | |
| Oil lubrication | 468 | | |

Designations

Designation system for SDAF housings and standard SDAF extended range housings

SDAF_22634 TA

Housing series

| | |
|----------|-----------------------|
| S | Standard pillow block |
| D | Heavy-duty series |
| A | Inch dimensions |
| F | Labyrinth seal |

Material

| | |
|----------|--|
| - | Cast iron (standard) |
| D | Ductile iron (spheroidal graphite cast iron) |
| S | Cast steel |

Size identification

| | |
|-----------------------|--|
| 222(00) | Kits with spherical roller bearings with a cylindrical bore, diameter series 2 |
| 223(00) | Kits with spherical roller bearings with a cylindrical bore, diameter series 3 |
| 225(00) | Kits with spherical roller bearings on an adapter sleeve, diameter series 2 |
| 226(00) | Kits with spherical roller bearings on an adapter sleeve, diameter series 3 |
| 230(00) | Kits with spherical roller bearings with a cylindrical bore, diameter series 0 |
| 230(00) KA | Kits with spherical roller bearings on an adapter sleeve, diameter series 0 |
| 231(00) | Kits with spherical roller bearings with a cylindrical bore, diameter series 1 |
| 231(00) KA | Kits with spherical roller bearings on an adapter sleeve, diameter series 1 |
| 232(00) | Kits with spherical roller bearings with a cylindrical bore, diameter series 2 |
| 232(00) KA | Kits with spherical roller bearings on an adapter sleeve, diameter series 2 |
| ..20 to 96 | Size code, related to the bearing bore size |
| ../500 to /530 | Size code, related to the bearing bore size |

Suffix¹⁾

| | |
|------------------|---|
| T | Taconite seal with contact seal or bolt-on taconite seals |
| TV | Taconite seal with V-ring |
| TA or TVA | Taconite seal with button head grease fitting |
| TB or TVB | Taconite seal with giant button head grease fitting |
| Y | One end closed (i.e. supplied with end plugs) |
| /VZ... | Special feature / modification |

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Standard housing design

All SDAF housings, which include the extended range, are split pillow (plummer) block housings consisting of a cap and base (→ **fig. 1**). Their robust design can accommodate shock loads and heavy loads from any direction. All SDAF housings have four holes in the base for attachment bolts and tapped holes in their caps for eye bolts.

Features and benefits

All SDAF housings share the following features and benefits:

Stiff housing

The caps and bases are reinforced with extra material (→ **fig. 2**). This improves heat flow away from the bearing outer ring and avoids distortion of the housing bore.

Caps and bases individually marked

The housing base and cap of all SDAF housings are matched during manufacture and are not interchangeable with the caps and bases of other housings. To help avoid mismatch, each cap and base are numbered (→ **fig. 3**).

Fig. 1

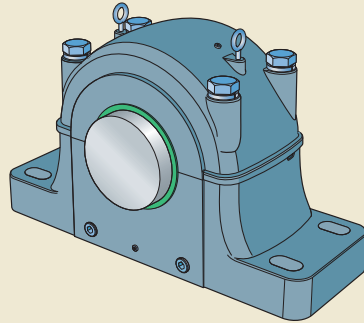


Fig. 2

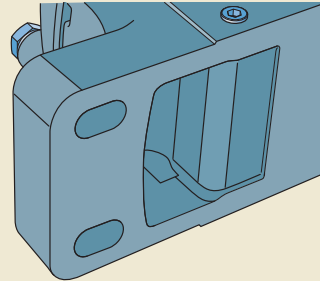
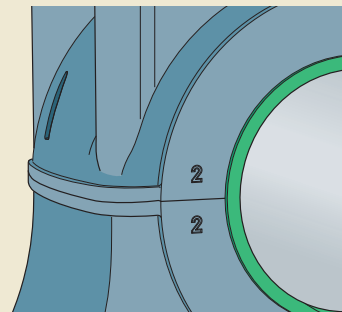


Fig. 3



Housing material

SDAF housings are made standard from ASTM A48 grade 30 grey cast iron, which is equivalent to ISO 185 grade 200. SDAF extended range housings are made standard from ASTM A48 grade 40 grey cast iron, which is equivalent to ISO 185 grade 275.

Paint, corrosion protection

All SDAF housings are painted blue (RAL 5001). The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low levels of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water solvent based 1- or 2-component paints.

Unpainted surfaces are protected with a rust inhibitor. Special paints or preservatives can be supplied on request.

Housing variants and customization

SDAF and SDAF extended range housings are available with design variants. All variants are individually engineered to meet the requirements of the specific application. Customized variants can include:

- drilled bolt holes in the base
- solid base
- special machining for lubrication
- special housing bore tolerances
- special seals
- milled base ends
- special machining for condition monitoring systems

Because of the highly customized nature of the SDAF extended range housings, the SKF application engineering service and the customer work together to specify and design each housing. This flexible approach provides a host of options tailored to the application, to provide a safe, reliable and cost-effective solution. For additional information contact the SKF application engineering service.

SDAF extended range housings are made-to-order to accommodate any special features that may be required.

Housing material

For applications where extra strength is needed, all SDAF housings are also available in the following materials:

- ductile iron, ASTM A339 grade 60-45-10
- ductile iron, ASTM A339 grade 80-60-03
- cast steel, ASTM A27 grade U-60-30

Sealing solutions

SDAF housings are available with the following sealing solutions (→ fig. 4):

- labyrinth seals (standard)
- labyrinth seals with an internal contact element (PosiTrac Plus)
- taconite heavy-duty seals
- contact seals
- end plugs (end covers)

PosiTrac, PosiTrac Plus and contact seals are not available for SDAF extended range housings.

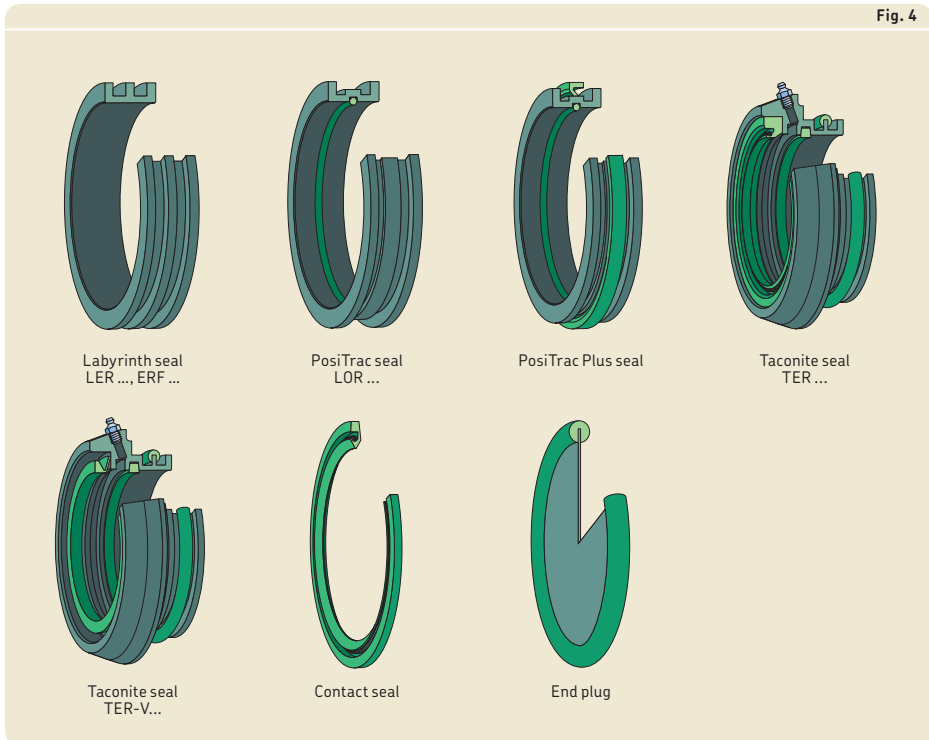
Table 1, page 456, provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, and does not substitute for testing a seal in its application. **Tables 2 and 3 on page 458 and 460** provide an overview about which seals fit what housing.

Labyrinth seals

Labyrinth seals are the standard sealing solution for all SDAF housings. They form a multi-stage labyrinth seal with the seal grooves in the housing. If operating conditions require it, the sealing effect can be enhanced by filling the cavity between the housing and labyrinth ring with grease.

Labyrinth seals for SDAF housings

SDAF housings are supplied with either standard labyrinth seals (designation LER) or PosiTrac labyrinth seals (designation LOR). Both are made of aluminium (→ fig. 4). The PosiTrac labyrinth seals have an additional O-ring made of acrylonitrile-butadiene rubber (NBR) to make the labyrinth ring rotate with the shaft. Whether the standard labyrinth seal or the PosiTrac seal are supplied depends on housing size.

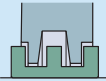
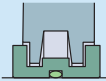



Labyrinth seals for SDAF extended range housings

SDAF extended range housings are supplied as standard with labyrinth rings made of steel, designation ERF (→ **fig. 4**). Special labyrinth rings with O-ring bore inserts are available on request.

Split pillow blocks SDAF series including the extended range (inch dimensions)

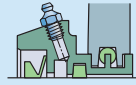
Standard seals for SDAF and SDAF extended range plummer block housings

| Seal |  |  |  |
|--|--|---|---|
| Type | Labyrinth | PosiTrac | PosiTrac Plus |
| Designation | LER, ERF | LOR | LOR with B-10724 |
| Material | aluminum or steel | aluminum, nitrile rubber | aluminum, nitrile rubber |
| Application conditions and requirements | | | |
| Temperature [°F] | -30 to 300 | -30 to 220 | -30 to 220 |
| Max. circumferential speed | same as bearing | same as bearing | limited ¹⁾ |
| Misalignment [°] | 0,3 | 0,3 | 0,3 |
| Low friction | ++ | ++ | + |
| Axial shaft displacement | ++ | + | - |
| Vertical shaft arrangement | - | - | ++ |
| Grease relubrication | + | + | + |
| Oil lubrication | - | - | ++ |
| Replacement | + | + | + |
| Sealing suitability | | | |
| Dust | - | - | + |
| Fine particles | - | - | + |
| Coarse particles | + | + | + |
| Chips | + | + | - |
| Liquids when sprayed | -- | -- | - |
| Direct sunlight | + | + | + |
| Symbol: | n/a not applicable ++ very suitable + suitable - limited suitability -- unsuitable | | |

¹⁾ For speed limits → tables 2 and 3.

²⁾ For more information, contact the SKF application engineering service.

Table 1



Contact
B-9784

Taconite
TER

Taconite (V-ring seal)
TER V

Bolt-on taconite
split
-²⁾

End plug
EPR, X 5217

nitrile rubber

steel, felt,
nitrile rubber

steel, felt,
nitrile rubber

cast iron, steel,
nitrile rubber

steel,
nitrile rubber

-30 to 220

-30 to 220

-30 to 220

-30 to 220

-30 to 220

limited¹⁾

limited¹⁾

limited¹⁾

limited

n/a

0,1

0,1

0,5

0,5

n/a

-

--

--

--

n/a

+

+

-

-

n/a

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n/a

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Split pillow blocks SDAF series including the extended range (inch dimensions)

| Seal chart for SDAF and SDAFS split pillow block housings | | | | | | | | |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|---|------------------------------|
| Shaft diameter | d _a 5(00) Series | d _a 6(00) Series | d _b 2(00) Series | d _c 2(00) Series | d _b 3(00) Series | d _c 3(00) Series | Labyrinth seal ¹⁾ Ring seal | O-Ring for LOR ²⁾ |
| in. | in. | | | | | | | |
| 2 ¹³ / ₁₆ | | 617 | | | | | LOR-57 | AS-568-150 |
| 2 ⁷ / ₈ | | 617 | | | | | LOR-58 | AS-568-150 |
| 2 ¹⁵ / ₁₆ | | 617* | | | | | LOR-59 | AS-568-151 |
| 3 | | 617 | | | | | LOR-60 | AS-568-151 |
| 3 ¹ / ₁₆ | | 618 | | | | | LER-67 | – |
| 4 ⁹ / ₁₆ | 526 | 626 | | | | | LOR-119 | 38309-119 |
| 4 ¹ / ₂ | | | 220* | | 320* | | LER-205 | – |
| 4 ⁹ / ₁₆ | 528 | | | 224* | | 324* | LOR-119 | 38309-119 |
| 4 ⁷ / ₈ | 528 | | 222* | | 322* | | LOR-121 | AS-568-159 |
| 4 ¹⁵ / ₁₆ | 528* | | | 226* | | 326* | LOR-122 | AS-568-159 |
| 5 ¹ / ₈ | 530 | 630 | | | | | LOR-124 | AS-568-160 |
| 5 ³ / ₁₆ | 530* | 630* | | | | | LOR-125 | AS-568-160 |
| 5 ¹ / ₄ | 530 | 630 | | | | | LOR-126 | AS-568-160 |
| 5 ⁵ / ₁₆ | 530 | 630 | 224* | 228* | 324* | | LOR-127 | 38309-127 |
| 5 ³ / ₈ | 530 | 630 | | | | | LOR-128 | AS-568-161 |
| 5 ³ / ₈ | 532 | | | | | | LOR-129 | AS-568-253 |
| 5 ⁷ / ₁₆ | 532* | | | | | | LOR-130 | AS-568-254 |
| 5 ¹ / ₂ | 532 | | | | | | LOR-131 | AS-568-254 |
| 5 ⁷ / ₁₆ | | 632* | | | | | LER-211 | – |
| 5 ³ / ₄ | | | | 230* | | 330* | LOR-134 | AS-568-162 |
| 5 ⁷ / ₈ | | | 226* | | 326* | | LOR-136 | AS-568-163 |
| 5 ¹⁵ / ₁₆ | | 634* | | | | | LER-215 | – |
| 6 ¹ / ₁₆ | | | | 232* | | | LOR-142 | 38309-142 |
| 6 ¹ / ₁₆ | | | | | | 332* | LER-217 | – |
| 6 ¹ / ₄ | | | | | 228* | | LOR-144 | AS-568-164 |
| 6 ⁵ / ₁₆ | 536 | | | | | | LOR-146 | 38309-146 |
| 6 ³ / ₈ | 536 | | | | | | LOR-147 | AS-568-260 |
| 6 ⁷ / ₁₆ | 536* | | | | | | LOR-148 | AS-568-260 |
| 6 ¹ / ₂ | 536 | | | | | | LOR-149 | AS-568-260 |
| 6 ⁷ / ₁₆ | | 636* | | | | 334* | LER-220 | – |
| 6 ⁵ / ₈ | | | 230* | | 330* | | LOR-151 | AS-568-166 |
| 6 ⁷ / ₈ | | | | 236* | | | LOR-154 | AS-568-262 |
| 6 ⁷ / ₈ | | | | | | 336* | LER-223 | – |
| 6 ¹⁵ / ₁₆ | 538* | 638* | | | | | LER-224 | – |
| 7 | | | 232* | | | | LOR-156 | AS-568-262 |
| 7 | | | | | 332* | | LER-225 | – |
| 7 ³ / ₁₆ | 540* | 640* | | | | | LER-228 | – |
| 7 ¹ / ₄ | | | | 238* | | 338* | LER-229 | – |
| 7 ⁷ / ₁₆ | | | | | 334* | | LER-230 | – |
| 7 ⁵ / ₈ | | | | 240* | | | LER-233 | – |
| 7 ¹³ / ₁₆ | | | 236* | | | | LOR-165 | AS-568-266 |
| 7 ¹³ / ₁₆ | | | | | 336* | | LER-234 | – |
| 7 ¹⁵ / ₁₆ | 544* | | | | | | LER-236 | – |
| 8 ⁵ / ₁₆ | | | | 244* | | | LER-239 | – |
| 8 ³ / ₈ | | | 238* | | 338* | | LER-240 | – |
| 8 ³ / ₄ | | | 240* | | | | LER-244 | – |
| 9 ⁹ / ₁₆ | | | 244* | | | | LER-248 | – |

* = Standard shaft diameter, all others are optional shaft diameters
 1) Speed rating is the same as bearing speed rating.
 2) O-ring supplied with LOR is for replacement only, AS-568-... are industry standard O-rings available.
 3) B-10724-... contact seals together with LOR labyrinth seals form PosiTrac Plus seals.

Table 2

| Contact seal ³⁾ | Speed limit ⁴⁾ | Taconite seals with contact seal ⁵⁾ | with V-Ring seal | Speed limit ⁴⁾ | End plug |
|--------------------------------|---------------------------|--|---------------------|---------------------------|----------|
| – | r/min | – | – | r/min | – |
| B-10724-184 | 1950 | TER-57 | TER-57 V | 1050 | EPR-10 |
| B-10724-184 | 1950 | TER-58 | TER-58 V | 1050 | EPR-10 |
| B-10724-184 | 1950 | TER-59 | TER-59 V | 1050 | EPR-10 |
| B-10724-184 – ⁶⁾ | 1950 | TER-60 | TER-60 V | 1050 | EPR-10 |
| B-10724-117 | 1300 | TER-67 | TER-67 V | 950 | EPR-11 |
| | | TER-119 | TER-119 V | 700 | EPR-15 |
| – ⁶⁾ | – | TER-205 | TER-205 V | 675 | – |
| B-10724-117 | 1300 | TER-119 | TER-119 V | 575 | EPR-15 |
| B-10724-122 | 1150 | TER-121 | TER-121 V | 625 | – |
| B-10724-122 | 1150 | TER-122 | TER-122 V | 520 | EPR-27 |
| B-10724-125 | 1075 | TER-124 | TER-124 V | 590 | EPR-16 |
| B-10724-125 | 1075 | TER-125 | TER-125 V | 590 | EPR-16 |
| B-10724-125 | 1075 | TER-126 | TER-126 V | 590 | EPR-16 |
| B-10724-125 | 1075 | TER-127 | TER-127 V | 575 | – |
| B-10724-125 | 1075 | TER-128 | TER-128 V | 575 | EPR-16 |
| B-10724-130 | 1050 | TER-129 | TER-129 V | 575 | EPR-16 |
| B-10724-130 | 1050 | TER-130 | TER-130 V | 560 | EPR-16 |
| B-10724-130 | 1050 | TER-131 | TER-131 V | 560 | EPR-16 |
| – ⁶⁾ | – | TER-211 | TER-211 V | 560 | EPR-17 |
| B-10724-130 | 1050 | TER-134 | TER-134 V | 460 | EPR-17 |
| B-10724-130 | 1050 | TER-136 | TER-136 V | 520 | – |
| – ⁶⁾ | – | TER-215 | TER-215 V | 515 | EPR-19 |
| B-10724-140 | 950 | TER-142 | TER-142 V | 435 | EPR-18 |
| – ⁶⁾ | – | TER-217 | TER-217 V | 435 | EPR-19 |
| B-10724-144 | 925 | TER-144 | TER-144 V | – | – |
| B-10724-148 | 875 | TER-146 | TER-146 V | 475 | EPR-19 |
| B-10724-148 | 875 | TER-147 | TER-147 V | 475 | EPR-19 |
| B-10724-148 | 875 | TER-148 | TER-148 V | 475 | EPR-19 |
| B-10724-148 | 875 | TER-149 | TER-149 V | 475 | EPR-19 |
| – ⁶⁾ | – | TER-220 | TER-220 V | 475 | EPR-26 |
| B-10724-151 | 850 | TER-151 | TER-151 V | 460 | – |
| B-10724-155 | 825 | TER-154 | TER-154 V | 390 | EPR-21 |
| B-9784-130 | 750 | TER-223 | TER-223 V | 390 | EPR-21 |
| – ⁶⁾ | – | TER-224 | TER-224 V | 440 | EPR-21 |
| B-10724-155 | 825 | TER-156 | TER-156 V | 435 | – |
| – ⁶⁾ | – | TER-225 | TER-225 V | 435 | – |
| B-9784-140 | 800 | TER-228 | TER-228 V | 425 | EPR-22 |
| B-9784-141 | 700 | TER-229 | TER-229 V | 365 | EPR-22 |
| – ⁶⁾ | – | TER-230 | TER-230 V | 410 | – |
| B-9784-146 | 650 | TER-233 | TER-233 V | 350 | EPR-23 |
| B-17024-167 | 725 | TER-165 | TER-165 V | 390 | – |
| B-9784-148 | 750 | TER-234 | TER-234 V | 390 | – |
| – ⁶⁾ | – | TER-236 | TER-236 V | 385 | EPR-24 |
| – ⁶⁾ | – | TER-239 | TER-239 V | 315 | EPR-25 |
| – ⁶⁾ | – | TER-240 | TER-240 V | 365 | – |
| B-9784-159 | 650 | TER-244 | TER-244 V | 350 | – |
| – ⁶⁾ | – | TER-248 | TER-248 V | 315 | – |

⁴⁾ For stepped shaft housing designs, the largest shaft diameter defines the speed limit.

⁵⁾ Most taconite seals are made to order; contact SKF for availability, all V ring versions are made to order.

⁶⁾ For more information contact the SKF application engineering service.

Split pillow blocks SDAF series including the extended range (inch dimensions)

Table 3

| Seal chart for SDAF extended range housings | | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|---|--|-----------|-------------|-----------|
| Shaft diameter | d _a 230(00) Series | d _a 231(00) Series | d _a 232(00) Series | Labyrinth seal ¹⁾ Ring seal | Taconite seal ²⁾ with contact seal with V-ring seal | | Speed limit | End plug |
| in. | – | – | – | – | – | – | r/min. | – |
| 8 ¹⁵ / ₁₆ | | | 3248 KA* ³⁾ | ERF-914 | TER-914 | TER-914 V | 280 | X-5217-25 |
| 9 | | | 3248 KA | ERF-828 | TER-828 | TER-828 V | 280 | X-5217-25 |
| 9 ⁷ / ₁₆ | | 3152 KA* ³⁾ | 3252 KA* ³⁾ | ERF-891 | TER-891 | TER-891 V | 275 | X-5217-53 |
| 9 ¹ / ₂ | | 3152 KA | 3252 KA | ERF-842 | TER-842 | TER-842 V | 275 | X-5217-53 |
| 9 ¹⁵ / ₁₆ | | 3156 KA | | ERF-845 | TER-845 | TER-845 V | 270 | X-5217-35 |
| 14 | 3076 KA | 3176 KA | | ERF-876 | TER-876 | TER-876 V | 215 | X-5217-12 |
| 14 ¹⁵ / ₁₆ | 3080 KA* ³⁾ | | | ERF-882 | TER-882 | TER-882 V | 200 | – |
| 14 ¹⁵ / ₁₆ | | 3180 KA* ³⁾ | 3280 KA* ³⁾ | ERF-976 | TER-976 | TER-976 V | 200 | – |
| 15 | 3080 KA* ³⁾ | | | ERF-847 | TER-847 | TER-847 V | 200 | X-5217-21 |
| 15 ³ / ₄ | 3084 KA* ³⁾ | | | ERF-969 | TER-969 | TER-969 V | 185 | X-5217-23 |
| 15 ³ / ₄ | | 3184 KA* ³⁾ | 3284 KA* ³⁾ | ERF-907 | TER-907 | TER-907 V | 185 | X-5217-5 |
| 16 ¹ / ₂ | 3088 KA* ³⁾ | 3188 KA* ³⁾ | 3288 KA* ³⁾ | ERF-958 | TER-958 | TER-958 V | 180 | – |
| 17 | 3092 KA* ³⁾ | 3192 KA* ³⁾ | | ERF-838 | TER-838 | TER-838 V | 175 | X-5217-48 |
| 18 | 3096 KA* ³⁾ | 3196 KA* ³⁾ | | ERF-888 | TER-888 | TER-888 V | 170 | – |
| 18 ¹ / ₂ | 230/500 KA* ³⁾ | | | ERF-978 | TER-978 | TER-978 V | 170 | – |
| 19 ¹ / ₂ | 230/500 KA* ³⁾ | | | ERF-926 | TER-926 | TER-926 V | 165 | – |

* = Standard shaft diameter, all others are optional shaft diameters

1) Speed rating same as bearing speed rating

2) Bolt-on taconite seals should be used when taconite seals in the TER series are not available.

3) Contact the SKF application engineering service to review alternative optional shaft diameters as special machining of housing labyrinth grooves may be required.

Labyrinth rings with an internal contact element

PosiTrac Plus seals consist of a PosiTrac labyrinth ring (designation LOR) and a contact element made of acrylonitrile-butadiene rubber (NBR). The labyrinth ring is located on the shaft and held in place by an O-ring. The contact element is located in the seal groove in the housing. It can be mounted either for best contaminant exclusion or for best lubricant retention (→ fig. 5). When the contact element is mounted for best contaminant exclusion, the sealing effect can be enhanced by filling the seal cavity with grease. The designation for the contact element is B 10724 followed by a size code, for example B 10724-122.

Taconite heavy-duty seals

Taconite seals consist of an inboard felt seal, a grease cavity and an outboard seal that is available in two designs (→ fig. 4, page 454):

- Seals in the TER series include a split radial shaft seal made of NBR.
- Seals in the TER-V series include a V-ring seal.

To further protect against the ingress of contaminants, SKF taconite seals have a grease fitting to purge old grease and any trapped contaminants from the seal cavity, through the outboard seal.

Taconite heavy-duty seals are available for all smaller SDAF housings, but not all housings in the extended range.

Bolt-on taconite seals

Bolt-on taconite seals consist of a split cast iron auxiliary cover, a split radial shaft seal, a grease fitting and all mounting hardware. Bolt-on taconite seals were developed to accommodate the SDAF extended range housing and provide the equivalent sealing protection as the other taconite heavy-duty seals. All bolt-on taconite seals are custom manu-

factured during the production of the housing and should be ordered together with the housing.

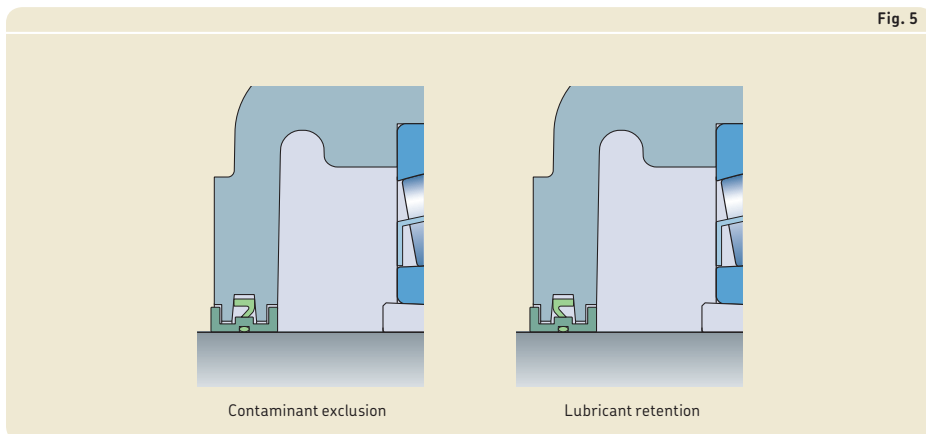
Bolt-on taconite seals are available for all SDAF extended range housings. For SDAF extended range housings, the designation suffix T indicates bolt-on taconite seals, e.g. SDAF 23272 KAT x 13 ⁷/₁₆.

Contact seals

Contact seals are spring-loaded radial shaft seals made of NBR and fit into the seal groove in the housing (→ **fig. 4, page 454**). Contact seals are available for shaft diameters 6 ⁷/₈ and larger, where PosiTrac seals are not available. The designation for contact seals is B 9784 followed by a size code, e.g. B 9784-130.

End plugs

Housings at the end of a shaft should have an end plug (end cover) that fits into the seal groove in the housing (→ **fig. 4, page 454**). The plug consists of a metal plate with a strip made of acrylonitrile-butadiene rubber (NBR). Details of the permissible length of the shaft end are listed in the product tables. End plugs for SDAF and SDAF extended range housings are identified by the series designation EPR or X 5217, followed by the size identification.



Special seals

In addition to the standard seal assortment, high-temperature contact seals and high-speed seals are available on request, for SDAF housings.

High-temperature seals

High-temperature contact seals (designation LORP) consist of a PTFE labyrinth ring with an FKM (fluoro rubber) O-ring and a PTFE contact element. The PTFE contact element is available separately (designation B-10785).

High-temperature seals can accommodate operating temperatures up to 400 °F. The limiting speed for the bearing can be attained.

High-speed seals

High-speed contact seals consist of an aluminium labyrinth ring with an NBR O-ring (designation LOR) and a PTFE contact element (designation B-10785). With PTFE contact elements, the limiting speed for the bearing can be attained.

WARNING!

Seals made of FKM (fluoro rubber) or PTFE exposed to an open flame or temperatures above 570 °F are a health and environmental hazard! Contact SKF for detailed safety instructions.

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Axial load carrying capacity for bearings on sleeves* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

All SDAF housings can accommodate different shaft-bearing combinations (→ **fig. 6**):

- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

Plain shaft with bearing on an adapter sleeve

This arrangement is standard for SDAF pillow blocks in the 225 and 226 series and for SDAF extended range housings in the 230..KA, 231..KA and 232..KA series. Housings, appropriate parts and dimensions are listed in product **tables 9.1** (→ **page 472**) and **9.3** (→ **page 476**).

Stepped shaft with bearing on a cylindrical seat

This arrangement is standard for SDAF housings in the 222 and 223 series and for SDAF extended range housings in the 230, 231 and 232 series. Housings, appropriate parts and dimensions are listed in product **tables 9.2** (→ **page 474**) and **9.4** (→ **page 480**).

Locating and non-locating bearing positions

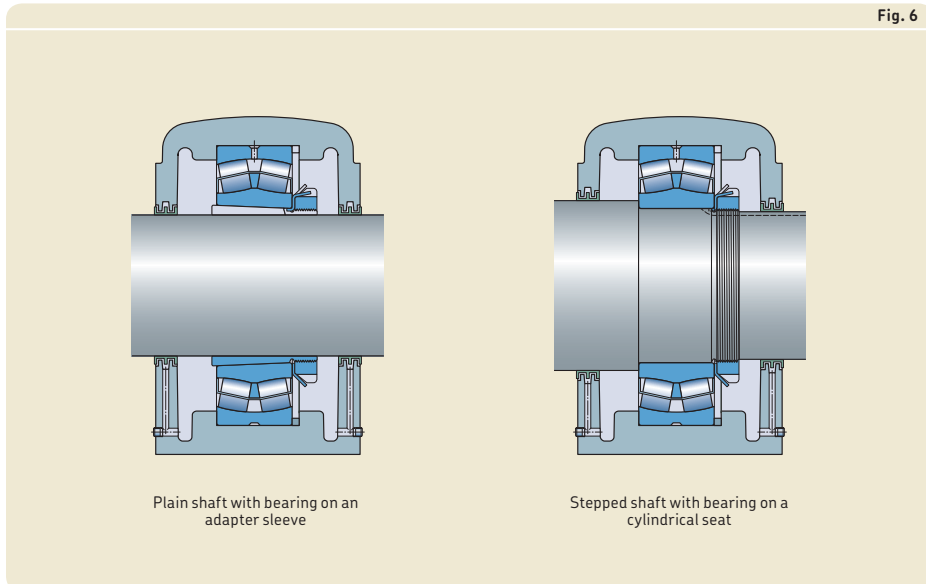
All SDAF housings can be used for both the locating and non-locating bearing positions.

The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing with stabilizing (locating) rings. Appropriate stabilizing rings are supplied with smaller SDAF housings. For SDAF extended range housings, the stabilizing rings must be ordered separately.

Load carrying capacity

All SDAF housings are intended for loads acting perpendicularly toward the support surface. If the housing is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing.

If loads acting in other directions occur, or if the housing is not supported over its entire base, be sure that the magnitude of the load is permissible for the housing and the attachment bolts.



Split pillow blocks SDAF series including the extended range (inch dimensions)

Load carrying capacity of the housing

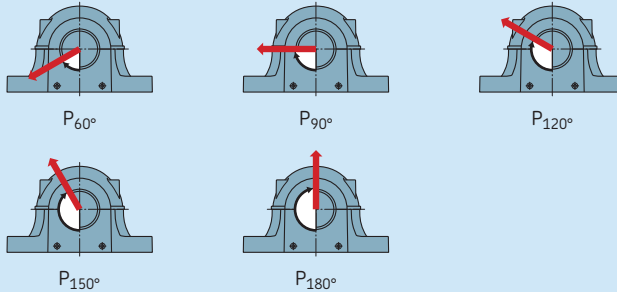
Guideline values for the safe loads of housings made of grey cast iron are listed in **tables 4** and **5**. The safe loads have been calculated using a safety factor of 5 against base fracture and a factor of 2 against cap bolt yield.

For housings made of ductile iron, the values obtained from **tables 4** and **5** should be multiplied by a factor of 1,5 for ASTM A339 grade 60-45-10. For information about ASTM A339 grade 80-60-03, contact the SKF

application engineering service. For purely axial loads, static or dynamic, the loads on the housing should not exceed 65% of P_{180° . For bearings mounted on adapter sleeves, the permissible axial load is dependent on the adapter sleeve.

Table 4

Safe loads and cap bolt information for SDAF cast iron housings



| Housing Size | | | | Recommended safe loads | | | | | Cap bolt information | | |
|--------------|-----|-----|-----|------------------------|------------------|-------------------|-------------------|-------------------|----------------------|----------|-----------|
| | | | | P _{60°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | Cap bolt size | Torque | SAE grade |
| – | | | | lbf. | | | | | in. | ft.-lbs. | |
| 220 | 317 | 520 | 617 | 40 080 | 24 000 | 15 000 | 13 700 | 16 600 | 3/4-10 | 175 | 2 |
| | 318 | | 618 | 45 900 | 27 500 | 17 300 | 16 000 | 19 300 | 3/4-10 | 175 | 2 |
| 222 | | 522 | | 51 700 | 31 000 | 19 600 | 17 600 | 21 200 | 7/8-9 | 165 | 2 |
| 224 | 320 | 524 | 620 | 54 000 | 36 500 | 23 600 | 21 600 | 26 500 | 7/8-9 | 165 | 2 |
| 226 | 322 | 526 | 622 | 60 100 | 36 000 | 23 600 | 21 600 | 27 000 | 7/8-9 | 165 | 2 |
| 230 | 324 | 530 | 624 | 85 100 | 51 000 | 32 000 | 29 000 | 35 500 | 1.1/8-7 | 350 | 2 |
| 232 | 326 | 532 | 626 | 83 500 | 50 000 | 31 500 | 28 500 | 34 500 | 1.1/8-7 | 350 | 2 |
| 238 | 332 | 538 | 632 | 127 000 | 76 500 | 47 500 | 43 000 | 52 000 | 1.1/4-7 | 350 | 2 |
| 240 | 334 | 540 | 634 | 150 000 | 90 000 | 56 000 | 50 000 | 60 000 | 1.1/4-7 | 350 | 2 |
| 244 | 336 | 544 | 636 | 141 000 | 85 000 | 53 000 | 48 000 | 57 000 | 1.3/8-6 | 350 | 2 |
| | 338 | | 638 | 152 000 | 91 500 | 57 000 | 52 000 | 63 000 | 1.3/8-6 | 660 | 2 |
| | 340 | | 640 | 144 000 | 86 500 | 54 000 | 49 000 | 58 500 | 1.3/8-6 | 660 | 2 |

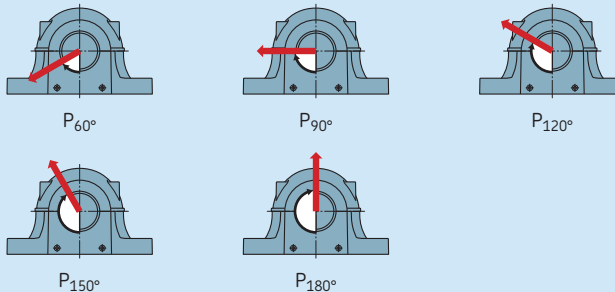
Additional housing support

When the housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load. When loads act at angles between 60° and 120°, or when the axial loads are greater than 5% of P_{180°}, the housing should be pinned to the support surface or a stop should be provided to counter the load. The dowel pins or stop should be sufficiently strong to accom-

modate the loads acting parallel to the support surface.

Table 5

Safe loads and cap bolt information for SDAF extended range cast iron housings



| Housing Size | Recommended safe loads | | | | | | Cap bolt information | | | |
|--------------|------------------------|------------------|-------------------|-------------------|-------------------|---------------|----------------------|-------------|------|---|
| | P _{60°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | Cap bolt size | Torque | SAE grade | | |
| | lbf. | | | | | | in. | ft.-lbs. | | |
| 3060 | 3152 | 3248 | 294 000 | 17 600 | 110 000 | 98 000 | 118 000 | 1.1/2-6 | 1950 | 5 |
| 3064 | 3156 | 3252 | 408 000 | 245 000 | 156 000 | 143 000 | 176 000 | 1.1/2-6 | 1950 | 5 |
| 3068 | 3160 | 3256 | 408 000 | 245 000 | 156 000 | 143 000 | 176 000 | 1.1/2-6 | 1950 | 5 |
| 3072 | 3164 | 3260 | 442 000 | 265 000 | 170 000 | 153 000 | 186 000 | 1.3/4-5 | 2280 | 5 |
| 3076 | | | 442 000 | 265 000 | 170 000 | 153 000 | 186 000 | 1.3/4-5 | 2280 | 5 |
| 3080 | 3168 | 3264 | 517 000 | 310 000 | 200 000 | 186 000 | 228 000 | 1.7/8-5 | 2860 | 5 |
| 3084 | 3172 | 3268 | 650 000 | 390 000 | 245 000 | 224 000 | 275 000 | 1.3/4-5 | 2280 | 5 |
| 3088 | 3176 | | 650 000 | 390 000 | 245 000 | 224 000 | 275 000 | 1.3/4-5 | 2280 | 5 |
| 3088 | 3180 | 3272 | 717 000 | 430 000 | 275 000 | 250 000 | 305 000 | 1.7/8-5 | 2860 | 5 |
| 3092 | 3172 | 3276 | 717 000 | 430 000 | 275 000 | 250 000 | 305 000 | 1.7/8-5 | 2860 | 5 |
| 3096 | 3184 | 3280 | 1 050 000 | 630 000 | 405 000 | 375 000 | 465 000 | 2-4.1/4 | 3440 | 5 |
| 30/500 | 3188 | | 1 050 000 | 630 000 | 405 000 | 375 000 | 465 000 | 2-4.1/4 | 3440 | 5 |
| 30/530 | 3192 | 3284 | 900 000 | 540 000 | 345 000 | 320 000 | 400 000 | 2.1/4-4.1/2 | 5030 | 5 |
| | 3196 | 3288 | 900 000 | 540 000 | 345 000 | 320 000 | 400 000 | 2.1/4-4.1/2 | 5030 | 5 |

Operating temperature

The permissible operating temperature is mainly limited by the seals (→ **table 1** on **page 456**) and the lubricant in the bearing. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor. For additional information, contact the SKF application engineering service.

The housing paint is heat resistant up to 175 °F material temperature or 210 °F ambient temperature. When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

All seals, except non-contact labyrinth seals, limit the permissible operating speed. Speed limits for seals are provided in **table 1** on **page 456**. For speed limits of the bearing, refer to the product information available online at skf.com/bearings.

Shaft specifications

Table 6 lists the recommended shaft diameter tolerances. The values d_a , d_b and d_c are listed in the product tables starting on **page 472**. The tolerance class for the bearing shaft seat should be selected from the SKF rolling bearings catalogue.

Attachment bolt recommendations

In typical applications, 8.8 class (SAE J429, Grade 5) hexagon head bolts can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger, 10.9 class (SAE J429, Grade 8) bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers. They are valid for oiled, but otherwise untreated, thread surfaces. SKF cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Table 6

| Shaft tolerances | | | | | |
|--------------------------|-------|---------------------------|--------|------------------------------------|--------|
| Nominal diameter over | incl. | Diameter tolerance limits | | | |
| | | Adapter mounting d_a | | Cylindrical mounting d_b, d_c | |
| | | high | low | high | low |
| in. | | in. | | | |
| 1/2 | 1 | 0 | -0.002 | - | - |
| 1 | 2 | 0 | -0.003 | 0 | -0.003 |
| 2 | 4 | 0 | -0.004 | 0 | -0.003 |
| 4 | 6 | 0 | -0.005 | 0 | -0.003 |
| 6 | 10 | 0 | -0.006 | 0 | -0.004 |
| 10 | 15 | 0 | -0.006 | 0 | -0.005 |
| 15 | | 0 | -0.006 | 0 | -0.006 |

Lubrication

All SDAF pillow blocks can accommodate grease, oil bath or circulating oil lubrication systems. Any sealing solution can be used with grease lubrication, while for oil lubrication SKF does not recommend using labyrinth rings in the LER series.

The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the information available online at skf.com/bearings.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled 20 to 40% of its volume. A 40% grease fill is required when bearings have to be relubricated from the side, while a 20% grease fill

is used when bearings are relubricated via the outer ring.

For highly contaminated environments and slow speeds, fill the housing to 70 to 80%. For additional information, contact the SKF application engineering service.

Quantities for 20 and 40% fills are listed in **tables 7** and **8**. The values are valid for a typical lithium grease (about 0.57 oz/in³). The grease to fill labyrinth seals or taconite heavy-duty seals is not included.

In most applications, the initial grease fill will adequately lubricate the bearing until the grease is exchanged during the next planned maintenance interval.

Table 7

Initial grease fill for SDAF pillow block housings

| Housing Size | Initial fill | |
|--------------|--------------|-----|
| | 20% | 40% |
| – | oz. | |
| 220 | 316 | 616 |
| | 317 | 617 |
| | 318 | 618 |
| 222 | 522 | 622 |
| | 524 | 620 |
| | 526 | 622 |
| 224 | 320 | 620 |
| | 322 | 622 |
| | 526 | 622 |
| 228 | 528 | 628 |
| | 530 | 624 |
| | 532 | 626 |
| 230 | 324 | 624 |
| | 326 | 626 |
| | 532 | 626 |
| 232 | 326 | 626 |
| | 532 | 626 |
| | 626 | 626 |
| 234 | 328 | 628 |
| | 330 | 630 |
| | 332 | 632 |
| 236 | 330 | 630 |
| | 332 | 632 |
| | 538 | 632 |
| 238 | 332 | 632 |
| | 538 | 632 |
| | 632 | 632 |
| 240 | 334 | 634 |
| | 336 | 636 |
| | 340 | 640 |
| 244 | 338 | 638 |
| | 544 | 638 |
| | 640 | 640 |

Table 8

Initial grease fill for SDAF extended range pillow block housings

| Housing Size | Initial fill | |
|--------------|--------------|------|
| | 20% | 40% |
| – | lb. | |
| 3060 | 3152 | 3248 |
| | 3156 | 3252 |
| | 3160 | 3256 |
| 3072 | 3164 | 3260 |
| | 3168 | 3264 |
| | 3264 | 3264 |
| 3080 | 3172 | 3268 |
| | 3176 | 3272 |
| | 3180 | 3276 |
| 3088 | 3180 | 3276 |
| | 3184 | 3280 |
| | 3276 | 3276 |
| 3092 | 3184 | 3280 |
| | 3188 | 3284 |
| | 3276 | 3276 |
| 3096 | 3184 | 3280 |
| | 3188 | 3284 |
| | 3276 | 3276 |
| 30/500 | 3188 | 3280 |
| | 3192 | 3284 |
| | 3284 | 3284 |
| 30/530 | 3192 | 3284 |
| | 3196 | 3288 |
| | 3288 | 3288 |

Split pillow blocks SDAF series including the extended range (inch dimensions)

Relubrication

All SDAF housings have one drilled and tapped lubrication hole in the centre of the cap (→ **fig. 7**). The hole is plugged on delivery.

All housing bases are equipped with a drain plug on each side to purge or drain old lubricant or to serve as an outlet for circulating oil (→ **fig. 8**). The sump in the housing base is large enough to accommodate a sufficient quantity of lubricant to provide reliable long-term operation.

Relubrication via the outer ring

The hole in the centre of the cap should be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring) (→ **fig. 9**). When applying grease via the relubrication feature, the shaft should be rotating.

Oil lubrication

Oil bath lubrication

The level of oil should be at about the centre of the lowermost rolling element when the bearing is stationary. For more information about oil levels, contact the SKF application engineering service. For higher speeds, the level should be slightly lower to reduce the effects of lubricant churning – about $\frac{1}{8}$ inch above the corner of the outer ring raceway of the bearing.

An oil sight glass should be used to monitor the oil level during operation. It can be mounted into one of the drain holes in the housing base. The static oil level should be marked on the sight glass prior to operation and a running level should be marked after start up. Depending on the type of bearing and the speed and direction of rotation, the running level will either rise or fall from the static level.

Fig. 7

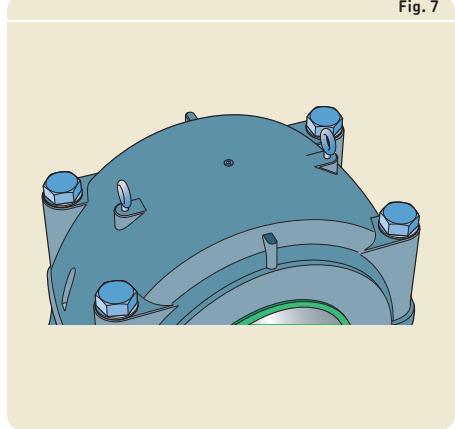


Fig. 8

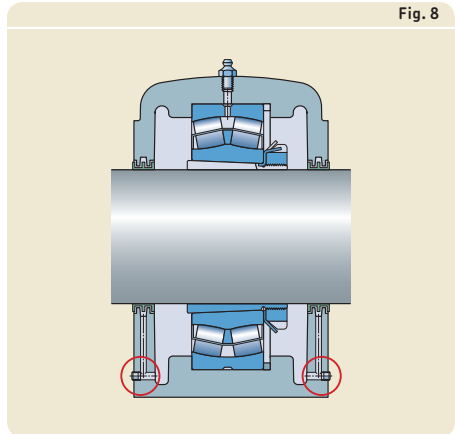
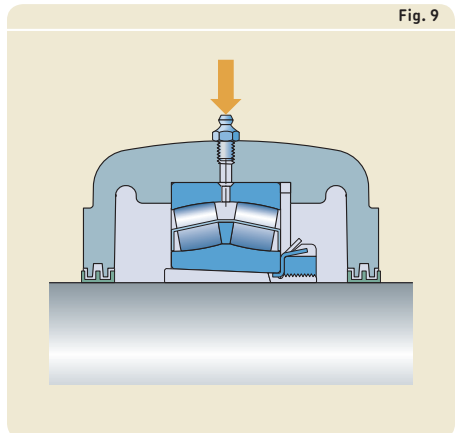


Fig. 9



Circulating oil lubrication system

When using a circulating oil lubrication system with any SDAF housing, oil is introduced through the inlet holes in the housing cap and drained from one or both sides of the base.

Drains should lead downward immediately outside of the housing to prevent oil from accumulating in the housing. Too high an oil level can result in higher operating temperatures due to churning of the lubricant. The drain pipes must be adequately sized and arranged to allow oil to drain from the housing. Additional considerations may be necessary when using a circulating oil system. These can include special housing seals, cross drilling the housing sump, wet sump requirements, flow rates, and drain hole dimensions. For more information, contact the SKF application engineering service.

Mounting

All SDAF housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces* on **page 45**). Mounting instructions are provided with the housing. For information about mounting rolling bearings, refer to skf.com/mount.

Cap bolt torque specifications

Cap bolts should be tightened to the torque values listed in **tables 4 and 5** on **page 464** and **465**.

Pinning or supporting the housing

Some load conditions may require the housing to be pinned to its support surface or a stop to accommodate loads acting parallel to the housing support surface (→ *Additional housing support*, **page 465**).

Condition monitoring

All SDAF pillow block housings support condition monitoring during operation. They offer space to attach sensors on the cap, side and front faces of the housing for different condition monitoring equipment.

For additional information about condition monitoring and the measurement tools and systems available from SKF, contact the SKF application engineering service.

Ordering information

SDAF pillow blocks are available as complete kits including housing, seals, bearing (and adapter sleeve), locking device and a standard locating ring. A complete pillow block is specified by a designation provided in the product tables for the different series. Optional features can be specified with prefix and suffixes. If several suffixes are required, put them in alphabetical order.

SDAF extended range pillow blocks are typically sold as housing only including labyrinth seals. Complete kits are available that include housing, seals, bearing, adapter assembly or locking device and locating ring.

All pillow block parts can also be supplied as individual components. Order designations for the different parts are listed in the product tables for the different series.

Order example

A shaft with 4 ³/₁₆ inch diameter has to be supported by two SDAF pillow (plummer) blocks with 22224 EK spherical roller bearings on adapter sleeves, one at the shaft end for a non-locating bearing position and one for a through shaft at the locating bearing position. The housings should be sealed with PosiTrac Plus seals.

Order:

- 1 pillow block SDAF 22524 TLCY
- 1 pillow block SDAF 22524 TLC

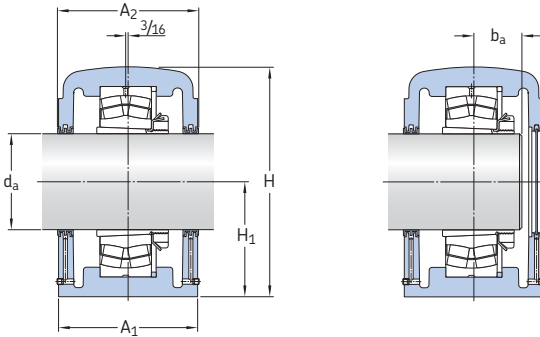
The delivery will contain:

- 2 housings SDAF 524
- 2 spherical roller bearings 22224 EK
- 2 adapter sleeves with lock nuts SNW 24x4.3/16
- 2 locating rings SR 24-20
- 3 labyrinth rings with O-rings LOR 113
- 3 contact elements B-10724-113
- 1 end plug EPR 14

9.1 SDAF pillow blocks with spherical roller bearings on an adapter sleeve

Series SDAF 225(00), 226(00)

d_a 2 ¹⁵/₁₆ – 7 ¹⁵/₁₆ in.



Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

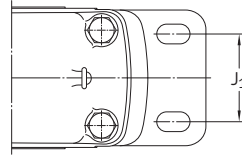
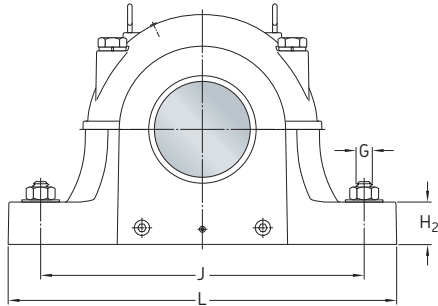
| Shaft diameter | | Complete pillow block | Components | | Adapter assembly | Stabilizing ring ³⁾ (1 incl.) | Labyrinth ring (2 incl.) | Mass |
|---------------------------------|--|--|-----------------------|--------------------------------|-------------------|--|--------------------------|------------|
| Standard | Optional ¹⁾ | | Pillow block housing | Bearing ²⁾ | | | | |
| d_a | | | | | | | | |
| in. | | - | - | | | | | lb. |
| 2 ¹⁵ / ₁₆ | 2 ¹³ / ₁₆ , 2 ⁷ / ₈ , 3 | SDAF 22617 | SDAF 617 | 22317 EK | SNW 117 | SR 20-17 | LER 59 | 84 |
| 3 ⁷ / ₁₆ | 3 ⁵ / ₁₆ , 3 ³ / ₈ , 3 ¹ / ₂ | SDAF 22520 SDAF 22620 | SDAF 520 SDAF 620 | 22220 EK 22320 EK | SNW 20 SNW 120 | SR 20-17 SR 24-20 | LER 75 LER 75 | 96 164 |
| 3 ¹⁵ / ₁₆ | 3 ¹³ / ₁₆ , 3 ⁷ / ₈ , 4 | SDAFS 22522⁴⁾ SDAF 22622 | SDAFS 522 SDAF 622 | 22222 EK 22322 EK | SNW 22 SNW 122 | SR 22-19 SR 0-22 | LER 93 LER 93 | 105 178 |
| 4 ³ / ₁₆ | 4 ¹ / ₁₆ , 4 ¹ / ₈ , 4 ¹ / ₄ | SDAF 22524 SDAF 22624 | SDAF 524 SDAF 624 | 22224 EK 22324 CCK/W33 | SNW 24 SNW 124 | SR 24-20 SR 0-24 | LOR 113 LOR 113 | 125 272 |
| 4 ⁷ / ₁₆ | 4 ⁵ / ₁₆ , 4 ³ / ₈ , 4 ¹ / ₂ | SDAF 22526 SDAF 22626 | SDAF 526 SDAF 626 | 22226 EK 22326 CCK/W33 | SNW 26 SNW 126 | SR 26-0 SR 0-26 | LOR 117 LOR 117 | 199 340 |
| 4 ¹⁵ / ₁₆ | 4 ¹³ / ₁₆ , 4 ⁷ / ₈ , 5 | SDAFS 22528⁴⁾ | SDAFS 528 | 22228 CCK/W33 | SNW 28 | SR 28-0 | LOR 122 | 220 |
| 5 ³ / ₁₆ | 5 ¹ / ₈ , 5 ¹ / ₄ | SDAF 22530 | SDAF 530 | 22230 CCK/W33 | SNW 30 | SR 30-0 | LOR 125 | 259 |
| 5 ⁷ / ₁₆ | 5 ³ / ₈ , 5 ¹ / ₂ | SDAF 22532 SDAF 22632 | SDAF 532 SDAF 632 | 22232 CCK/W33 22332 CCK/W33 | SNW 32 SNW 132 | SR 32-0 SR 38-32 | LOR 130 LER 211 | 330 455 |
| 5 ¹⁵ / ₁₆ | 5 ¹³ / ₁₆ , 5 ⁷ / ₈ , 6 | SDAF 22634 | SDAF 634 | 22334 CCK/W33 | SNW 134 | SR 40-34 | LER 215 | 530 |
| 6 ⁷ / ₁₆ | 6 ⁵ / ₁₆ , 6 ³ / ₈ , 6 ¹ / ₂ | SDAF 22536 | SDAF 536 | 22236 CCK/W33 | SNW 36 | SR 36-30 | LOR 148 | 403 |
| 6 ⁷ / ₁₆ | 6 ⁵ / ₁₆ , 6 ³ / ₈ , 6 ¹ / ₂ | SDAF 22636 | SDAF 636 | 22336 CCK/W33 | SNW 136 | SR 0-36 | LER 220 | 630 |
| 6 ¹⁵ / ₁₆ | 6 ¹³ / ₁₆ , 6 ⁷ / ₈ , 7 | SDAF 22538 SDAF 22638 | SDAF 538 SDAF 638 | 22238 CCK/W33 22338 CCK/W33 | SNW 38 SNW 138 | SR 38-32 SR 44-38 | LER 224 LER 224 | 454 792 |
| 7 ³ / ₁₆ | 7 ¹ / ₈ , 7 ¹ / ₄ | SDAF 22540 | SDAF 540 | 22240 CCK/W33 | SNW 40 | SR 40-34 | LER 228 | 544 |
| 7 ¹⁵ / ₁₆ | 7 ¹³ / ₁₆ , 7 ⁷ / ₈ , 8 | SDAF 22544 | SDAF 544 | 22244 CCK/W33 | SNW 44 | SR 44-38 | LER 236 | 795 |

¹⁾ Optional shaft diameters require different adapter sleeve and seals.

²⁾ Optional internal radial clearance (e.g. C3) available on request.

³⁾ For a free unit, discard the enclosed stabilizing ring.

⁴⁾ Available only in steel.



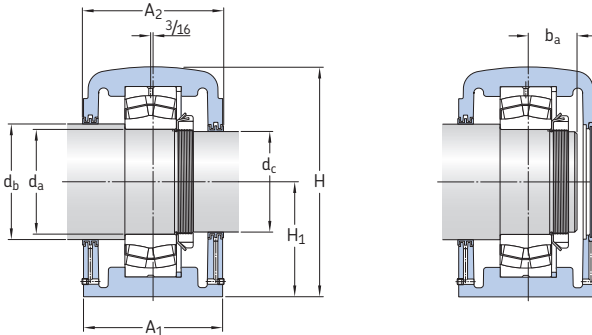
Complete pillow block

Designation Dimensions

| | A ₁ | A ₂ | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | G |
|--------------------|--------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|-------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|
| - | in. | | | | | | | | | | |
| SDAF 22617 | 6 | 6 ³ / ₄ | 2 ¹ / ₁₆ | 8 ¹⁵ / ₁₆ | 4 ¹ / ₂ | 1 ⁷ / ₈ | 11 ⁵ / ₈ | 13 ¹ / ₈ | 3 ³ / ₈ | 15 ¹ / ₄ | 3 ³ / ₄ |
| SDAF 22520 | 6 | 6 ³ / ₄ | 1 ⁵⁹ / ₆₄ | 8 ¹⁵ / ₁₆ | 4 ¹ / ₂ | 1 ⁷ / ₈ | 11 ⁵ / ₈ | 13 ¹ / ₈ | 3 ³ / ₈ | 15 ¹ / ₄ | 3 ³ / ₄ |
| SDAF 22620 | 6 ⁷ / ₈ | 7 ³ / ₈ | 2 ⁷ / ₁₆ | 10 ¹ / ₂ | 5 ¹ / ₄ | 2 ¹ / ₄ | 13 ¹ / ₄ | 14 ¹ / ₂ | 4 ¹ / ₈ | 16 ¹ / ₂ | 7 ⁷ / ₈ |
| SDAFS 22522 | 6 ³ / ₄ | 7 ¹ / ₄ | 2 ¹ / ₈ | 9 ⁷ / ₈ | 4 ¹⁵ / ₁₆ | 2 ¹ / ₈ | 12 ⁵ / ₈ | 14 ¹ / ₂ | 4 | 16 ¹ / ₂ | 7 ⁷ / ₈ |
| SDAF 22622 | 7 ¹ / ₂ | 8 | 2 ⁵ / ₈ | 11 ⁷ / ₈ | 6 | 2 ³ / ₈ | 14 ⁵ / ₈ | 16 | 4 ¹ / ₂ | 18 ³ / ₈ | 1 |
| SDAF 22524 | 6 ⁷ / ₈ | 7 ³ / ₈ | 2 ⁹ / ₃₂ | 10 ¹ / ₂ | 5 ¹ / ₄ | 2 ¹ / ₄ | 13 ¹ / ₄ | 14 ¹ / ₂ | 4 ¹ / ₈ | 16 ¹ / ₂ | 7 ⁷ / ₈ |
| SDAF 22624 | 7 ⁷ / ₈ | 8 ³ / ₈ | 2 ¹³ / ₁₆ | 12 ⁹ / ₁₆ | 6 ⁵ / ₁₆ | 2 ¹ / ₂ | 17 | 18 ¹ / ₄ | 4 ³ / ₄ | 21 ¹ / ₄ | 11 ³ / ₈ |
| SDAF 22526 | 7 ¹ / ₂ | 8 | 2 ¹⁵ / ₃₂ | 11 ⁷ / ₈ | 6 | 2 ³ / ₈ | 14 ⁵ / ₈ | 16 | 4 ¹ / ₂ | 18 ³ / ₈ | 1 |
| SDAF 22626 | 8 ¹ / ₄ | 8 ³ / ₄ | 3 | 13 ⁷ / ₁₆ | 6 ¹¹ / ₁₆ | 2 ¹ / ₂ | 17 ³ / ₈ | 19 ¹ / ₄ | 5 | 22 | 1 ¹ / ₈ |
| SDAFS 22528 | 7 ¹ / ₂ | 7 ¹³ / ₁₆ | - | 12 ¹ / ₁₆ | 6 | 2 ³ / ₈ | 16 | 17 ¹ / ₈ | 4 ¹ / ₂ | 20 ¹ / ₈ | 1 ¹ / ₈ |
| SDAF 22530 | 7 ⁷ / ₈ | 8 ³ / ₈ | 2 ⁴⁹ / ₆₄ | 12 ⁹ / ₁₆ | 6 ⁵ / ₁₆ | 2 ¹ / ₂ | 17 | 18 ¹ / ₄ | 4 ³ / ₄ | 21 ¹ / ₄ | 1 ¹ / ₈ |
| SDAF 22532 | 8 ¹ / ₄ | 8 ³ / ₄ | 2 ³¹ / ₃₂ | 13 ⁷ / ₁₆ | 6 ¹¹ / ₁₆ | 2 ¹ / ₂ | 17 ³ / ₈ | 19 ¹ / ₄ | 5 | 22 | 1 ¹ / ₈ |
| SDAF 22632 | 10 | 10 ⁵ / ₈ | 3 ⁵ / ₈ | 16 | 7 ⁷ / ₈ | 3 | 21 ¹ / ₂ | 23 ¹ / ₂ | 6 ¹ / ₄ | 27 ⁵ / ₈ | 1 ³ / ₈ |
| SDAF 22634 | 10 ¹ / ₂ | 11 ¹ / ₈ | 3 ³ / ₄ | 16 ⁷ / ₈ | 8 ¹ / ₄ | 3 ¹ / ₄ | 23 | 25 | 6 ³ / ₄ | 28 ³ / ₄ | 1 ³ / ₈ |
| SDAF 22536 | 9 ³ / ₈ | 10 | 3 ⁹ / ₆₄ | 15 ³ / ₁₆ | 7 ¹ / ₂ | 2 ³ / ₄ | 20 ⁷ / ₈ | 23 ⁵ / ₈ | 5 ⁷ / ₈ | 26 ³ / ₄ | 1 ¹ / ₄ |
| SDAF 22636 | 10 ³ / ₄ | 11 ³ / ₈ | 3 ¹⁵ / ₁₆ | 17 ¹⁵ / ₁₆ | 8 ⁷ / ₈ | 3 ¹ / ₄ | 24 ¹ / ₈ | 26 ³ / ₈ | 6 ⁷ / ₈ | 30 ¹ / ₂ | 1 ¹ / ₂ |
| SDAF 22538 | 10 | 10 ⁵ / ₈ | 3 ¹⁹ / ₆₄ | 16 | 7 ⁷ / ₈ | 3 | 21 ¹ / ₂ | 23 ¹ / ₂ | 6 ¹ / ₄ | 27 ⁵ / ₈ | 1 ³ / ₈ |
| SDAF 22638 | 11 ¹ / ₄ | 11 ⁷ / ₈ | 4 ¹ / ₁₆ | 19 | 9 ¹ / ₂ | 3 ¹ / ₂ | 25 ⁵ / ₈ | 27 ⁷ / ₈ | 7 ¹ / ₄ | 32 | 1 ¹ / ₂ |
| SDAF 22540 | 10 ¹ / ₂ | 11 ¹ / ₈ | 3 ¹ / ₂ | 16 ⁷ / ₈ | 8 ¹ / ₄ | 3 ¹ / ₄ | 23 | 25 | 6 ³ / ₄ | 28 ³ / ₄ | 1 ³ / ₈ |
| SDAF 22544 | 11 ¹ / ₄ | 11 ⁷ / ₈ | 3 ⁵ / ₈ | 19 | 9 ¹ / ₂ | 3 ¹ / ₂ | 25 ⁵ / ₈ | 27 ⁷ / ₈ | 7 ¹ / ₄ | 32 | 1 ¹ / ₂ |

9.2 SDAF pillow blocks with spherical roller bearings with a cylindrical bore Series SDAF 222(00), 223(00)

d_a 85 – 220 mm



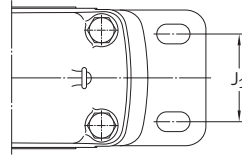
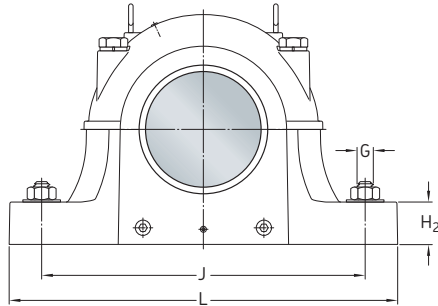
Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter | | | Complete pillow block | Components | | Stabilizing ring ²⁾ (1 incl.) | Labyrinth seal | | Lock nut | Lock washer | | Mass |
|----------------|---------|---------|---------------------------------|----------------------|-----------------------|---|----------------|-------------|----------|-------------|-----|------|
| d_a | d_b | d_c | | Pillow block housing | Bearing ¹⁾ | | Shaft d_b | Shaft d_c | | | | |
| mm | in. | | - | - | | | | | | | lb. | |
| 85 | 3 15/16 | 3 3/16 | SDAF 22317 | SDAF 317 | 22317 E | SR 20-17 | LER 93 | LER 69 | AN 17 | W 17 | 83 | |
| 100 | 4 1/2 | 3 13/16 | SDAF 22220 | SDAF 220 | 22220 E | SR 20-17 | LER 205 | LER 87 | AN 20 | W 20 | 80 | |
| | | | SDAF 22320 | SDAF 320 | 22320 E | SR 24-20 | LER 205 | LER 87 | AN 20 | W 20 | 141 | |
| 110 | 4 7/8 | 4 3/16 | SDAFS 22222³⁾ | SDAFS 222 | 22222 E | SR 22-19 | LOR 121 | LOR 113 | AN 22 | W 22 | 102 | |
| | | | SDAF 22322 | SDAF 322 | 22322 E | SR 0-22 | LOR 121 | LOR 113 | AN 22 | W 22 | 172 | |
| 120 | 5 5/16 | 4 9/16 | SDAF 22224 | SDAF 224 | 22224 E | SR 24-20 | LOR 127 | LOR 119 | AN 24 | W 24 | 118 | |
| | | | SDAF 22324 | SDAF 324 | 22324 CC/W33 | SR 0-24 | LOR 127 | LOR 119 | AN 24 | W 24 | 304 | |
| 130 | 5 7/8 | 4 15/16 | SDAF 22226 | SDAF 226 | 22226 E | SR 26-0 | LOR 136 | LOR 122 | AN 26 | W 26 | 169 | |
| | | | SDAF 22326 | SDAF 326 | 22326 CC/W33 | SR 0-26 | LOR 136 | LOR 122 | AN 26 | W 26 | 330 | |
| 140 | 6 1/4 | 5 5/16 | SDAFS 22228³⁾ | SDAFS 228 | 22228 CC/W33 | SR 28-0 | LOR 144 | LOR 127 | AN 28 | W 28 | 175 | |
| | | | SDAF 22328 | SDAF 328 | 22328 CC/W33 | SR 0 28 | LOR 144 | LOR 127 | AN 28 | W 28 | 331 | |
| 150 | 6 5/8 | 5 3/4 | SDAF 22230 | SDAF 230 | 22230 CC/W33 | SR 30-0 | LOR 151 | LOR 134 | AN 30 | W 30 | 200 | |
| | | | SDAF 22330 | SDAF 330 | 22330 CC/W33 | SR 36-30 | LOR 151 | LOR 134 | AN 30 | W 30 | 466 | |
| 160 | 7 | 6 1/16 | SDAF 22232 | SDAF 232 | 22232 CC/W33 | SR 32-0 | LOR 156 | LOR 142 | AN 32 | W 32 | 264 | |
| | | | SDAF 22332 | SDAF 332 | 22332 CC/W33 | SR 38-32 | LER 225 | LER 217 | AN 32 | W 32 | 537 | |
| 170 | 7 7/16 | 6 7/16 | SDAF 22334 | SDAF 334 | 22334 CC/W33 | SR 40-34 | LER 230 | LER 220 | AN 34 | W 34 | 554 | |
| 180 | 7 13/16 | 6 7/8 | SDAF 22236 | SDAF 236 | 22236 CC/W33 | SR 36-30 | LOR 165 | LOR 154 | AN 36 | W 36 | 436 | |
| | | | SDAF 22336 | SDAF 336 | 22336 CC/W33 | SR 0-36 | LER 234 | LER 223 | AN 36 | W 36 | 623 | |
| 190 | 8 3/8 | 7 1/4 | SDAF 22238 | SDAF 238 | 22238 CC/W33 | SR 38-32 | LER 240 | LER 229 | AN 38 | W 38 | 510 | |
| | | | SDAF 22338 | SDAF 338 | 22338 CC/W33 | SR 44-38 | LER 240 | LER 229 | AN 38 | W 38 | 734 | |
| 200 | 8 3/4 | 7 5/8 | SDAF 22240 | SDAF 240 | 22240 CC/W33 | SR 40-34 | LER 244 | LER 233 | AN 40 | W 40 | 389 | |
| 220 | 9 9/16 | 8 5/16 | SDAF 22244 | SDAF 244 | 22244 CC/W33 | SR 44-38 | LER 248 | LER 239 | N 44 | W 44 | 787 | |

¹⁾ Optional internal radial clearance (e.g. C3) available on request.

²⁾ For a free unit, discard the enclosed stabilizing ring.

³⁾ Available only in steel.



Complete pillow block

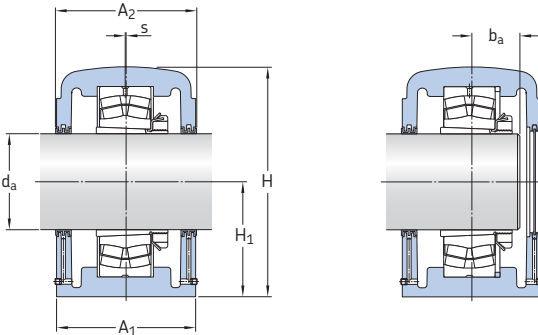
Designation Dimensions

| | A ₁ | A ₂ | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | G |
|--------------------|----------------|----------------|----------------|----------|----------------|----------------|------------------|------------------|----------------|--------|-------|
| - | in. | | | | | | | | | | |
| SDAF 22317 | 6 | 6 3/4 | 2 1/16 | 8 15/16 | 4 1/2 | 1 7/8 | 11 5/8 | 13 1/8 | 3 3/8 | 15 1/4 | 3/4 |
| SDAF 22220 | 6 | 6 3/4 | 1 59/64 | 8 15/16 | 4 1/2 | 1 7/8 | 11 5/8 | 13 1/8 | 3 3/8 | 15 1/4 | 3/4 |
| SDAF 22320 | 6 7/8 | 7 3/8 | 2 7/16 | 10 1/2 | 5 1/4 | 2 1/4 | 13 1/4 | 14 1/2 | 4 1/8 | 16 1/2 | 7/8 |
| SDAFS 22222 | 6 3/4 | 7 1/4 | 2 1/8 | 9 7/8 | 4 15/16 | 2 1/8 | 12 5/8 | 14 1/2 | 4 | 16 1/2 | 7/8 |
| SDAF 22322 | 7 1/2 | 8 | 2 5/8 | 11 7/8 | 6 | 2 3/8 | 14 5/8 | 16 | 4 1/2 | 18 3/8 | 1 |
| SDAF 22224 | 6 7/8 | 7 3/8 | 2 9/32 | 10 1/2 | 5 1/4 | 2 1/4 | 13 1/4 | 14 1/2 | 4 1/8 | 16 1/2 | 7/8 |
| SDAF 22324 | 7 7/8 | 8 3/8 | 2 13/16 | 12 9/16 | 6 5/16 | 2 1/2 | 17 | 18 1/4 | 4 3/4 | 21 1/4 | 1 1/8 |
| SDAF 22226 | 7 1/2 | 8 | 2 15/32 | 11 7/8 | 6 | 2 3/8 | 14 5/8 | 16 | 4 1/2 | 18 3/8 | 1 |
| SDAF 22326 | 8 1/4 | 8 3/4 | 3 | 13 7/16 | 6 11/16 | 2 1/2 | 17 3/8 | 19 1/4 | 5 | 22 | 1 1/8 |
| SDAFS 22228 | 7 1/2 | 7 3/16 | - | 12 1/16 | 6 | 2 3/8 | 16 | 17 1/8 | 4 1/2 | 20 1/8 | 1 |
| SDAF 22328 | 9 | 9 3/8 | 3 1/4 | 14 1/4 | 7 1/16 | 2 1/2 | 19 3/8 | 21 5/8 | 5 1/2 | 24 3/4 | 1 1/4 |
| SDAF 22230 | 7 7/8 | 8 3/8 | 2 49/64 | 12 9/16 | 6 5/16 | 2 1/2 | 17 | 18 1/4 | 4 3/4 | 21 1/4 | 1 1/8 |
| SDAF 22330 | 9 3/8 | 9 3/4 | 3 7/16 | 15 3/16 | 7 1/2 | 2 3/4 | 20 7/8 | 23 5/8 | 5 7/8 | 26 3/4 | 1 1/4 |
| SDAF 22232 | 8 1/4 | 8 3/4 | 2 31/32 | 13 7/16 | 6 11/16 | 2 1/2 | 17 3/8 | 19 1/4 | 5 | 22 | 1 1/8 |
| SDAF 22332 | 10 | 10 5/8 | 3 5/8 | 16 | 7 7/8 | 3 | 21 1/2 | 23 1/2 | 6 1/4 | 27 5/8 | 1 3/8 |
| SDAF 22334 | 10 1/2 | 11 1/8 | 3 3/4 | 16 7/8 | 8 1/4 | 3 1/4 | 23 | 25 | 6 3/4 | 28 3/4 | 1 3/8 |
| SDAF 22236 | 9 3/8 | 10 | 3 9/64 | 15 3/16 | 7 1/2 | 2 3/4 | 20 7/8 | 23 5/8 | 5 7/8 | 26 3/4 | 1 1/4 |
| SDAF 22336 | 10 3/4 | 11 3/8 | 3 7/8 | 17 15/16 | 8 7/8 | 3 1/4 | 24 1/8 | 26 3/8 | 6 7/8 | 30 1/2 | 1 1/2 |
| SDAF 22238 | 10 | 10 5/8 | 3 19/64 | 16 | 7 7/8 | 3 | 21 1/2 | 23 1/2 | 6 1/4 | 27 5/8 | 1 3/8 |
| SDAF 22338 | 11 1/4 | 11 7/8 | 4 1/16 | 19 | 9 1/2 | 3 1/2 | 25 5/8 | 27 7/8 | 7 1/4 | 32 | 1 1/2 |
| SDAF 22240 | 10 1/2 | 11 1/8 | 3 1/2 | 16 7/8 | 8 1/4 | 3 1/4 | 23 | 25 | 6 3/4 | 28 3/4 | 1 3/8 |
| SDAF 22244 | 11 1/4 | 11 7/8 | 3 5/8 | 19 | 9 1/2 | 3 1/2 | 25 5/8 | 27 7/8 | 7 1/4 | 32 | 1 1/2 |

9.3 Extended range pillow blocks with spherical roller bearings on an adapter sleeve

Series SDAF 230(00) KA, 231(00) KA, 232(00) KA

d_a 8 ¹⁵/₁₆ – 14 ¹⁵/₁₆ in.



Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

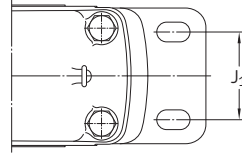
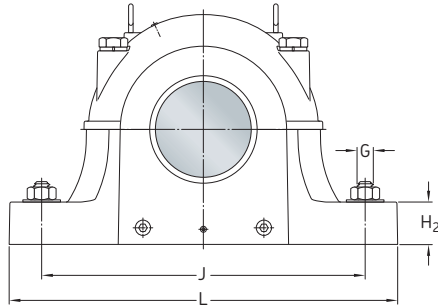
| Shaft diameter Standard d_a | Op- tional ¹⁾ | Complete pillow block | Components Pillow block housing | Bearing ²⁾ | Adapter assembly | Stabilizing ring ³⁾ (2 req'd) | Laby- rinth ring (2 incl.) |
|-------------------------------------|-----------------------------|--|---|---|---|--|-------------------------------------|
| in. | - | - | - | - | - | - | - |
| 8 ¹⁵ / ₁₆ | 9 | SDAF 23248 KA x 8 ¹⁵ / ₁₆ | SDAF 3248 KA x 8 ¹⁵ / ₁₆ | 23248 CACK/W33 | SNP 148 x 8 ¹⁵ / ₁₆ | 36053-114 | ERF 914 |
| 9 ⁷ / ₁₆ | 9 1/2 | SDAF 23152 KA x 9 ⁷ / ₁₆ SDAF 23252 KA x 9 ⁷ / ₁₆ | SDAF 3152 KA x 9 ⁷ / ₁₆ SDAF 3252 KA x 9 ⁷ / ₁₆ | 23152 CACK/W33 23252 CACK/W33 | SNP 3152 x 9 ⁷ / ₁₆ SNP 152 x 9 ⁷ / ₁₆ | 36053-114 A 8968 | ERF 891 ERF 891 |
| 10 ⁷ / ₁₆ | 10 1/2 | SDAF 23156 KA x 10 ⁷ / ₁₆ SDAF 23256 KA x 10 ⁷ / ₁₆ | SDAF 3156 KA x 10 ⁷ / ₁₆ SDAF 3256 KA x 10 ⁷ / ₁₆ | 23156 CACK/W33 23256 CACK/W33 | SNP 3156 x 10 ⁷ / ₁₆ SNP 3256 x 10 ⁷ / ₁₆ | A 8967 36053-157 | ERF 973 ERF 973 |
| 10 ¹⁵ / ₁₆ | 11 | SDAF 23060 KA x 10 ¹⁵ / ₁₆ SDAF 23160 KA x 10 ¹⁵ / ₁₆ | SDAF 3060 KA x 10 ¹⁵ / ₁₆ SDAF 3160 KA x 10 ¹⁵ / ₁₆ | 23060 CACK/W33 23160 CACK/W33 | SNP 3060 x 10 ¹⁵ / ₁₆ SNP 3160 x 10 ¹⁵ / ₁₆ | A 8967 ⁴⁾ 36053-157 | ERF 858 ERF 858 |
| 10 ¹⁵ / ₁₆ | 11 | SDAF 23260 KA x 10 ¹⁵ / ₁₆ | SDAF 3260 KA x 10 ¹⁵ / ₁₆ | 23260 CACK/W33 | SNP 3260 x 10 ¹⁵ / ₁₆ | 36053-130 | ERF 1002 |
| 11 ⁷ / ₁₆ | 11 1/2 | SDAF 23064 KA x 11 ⁷ / ₁₆ | SDAF 3064 KA x 11 ⁷ / ₁₆ | 23064 CCK/W33 | SNP 3064 x 11 ⁷ / ₁₆ | A 8968 ⁴⁾ | ERF 861 |
| 11 ¹⁵ / ₁₆ | 12 | SDAF 23064 KA x 11 ¹⁵ / ₁₆ SDAF 23164 KA x 11 ¹⁵ / ₁₆ SDAF 23264 KA x 11 ¹⁵ / ₁₆ | SDAF 3064 KA x 11 ¹⁵ / ₁₆ SDAF 3164 KA x 11 ¹⁵ / ₁₆ SDAF 3264 KA x 11 ¹⁵ / ₁₆ | 23064 CCK/W33 23164 CACK/W33 23264 CACK/W33 | SNP 3064 x 11 ¹⁵ / ₁₆ SNP 3164 x 11 ¹⁵ / ₁₆ SNP 3264 x 11 ¹⁵ / ₁₆ | A 8968 ⁴⁾ A 8970 36053-137 | ERF 859 ERF 900 ERF 900 |
| 12 ⁷ / ₁₆ | 12 1/2 | SDAF 23068 KA x 12 ⁷ / ₁₆ SDAF 23168 KA x 12 ⁷ / ₁₆ SDAF 23268 KA x 12 ⁷ / ₁₆ | SDAF 3068 KA x 12 ⁷ / ₁₆ SDAF 3168 KA x 12 ⁷ / ₁₆ SDAF 3268 KA x 12 ⁷ / ₁₆ | 23068 CACK/W33 23168 CACK/W33 23268 CCK/W33 | SNP 3068 x 12 ⁷ / ₁₆ SNP 3168 x 12 ⁷ / ₁₆ SNP 3268 x 12 ⁷ / ₁₆ | A 8969 ⁴⁾ 36053-137 36053-143 | ERF 865 ERF 975 ERF 975 |
| 12 ¹⁵ / ₁₆ | 13 | SDAF 23072 KA x 12 ¹⁵ / ₁₆ | SDAF 3072 KA x 12 ¹⁵ / ₁₆ | 23072 CACK/W33 | SNP 3072 x 12 ¹⁵ / ₁₆ | A 8970 ⁴⁾ | ERF 869 |
| 13 ⁷ / ₁₆ | 13 1/2 | SDAF 23072 KA x 13 ⁷ / ₁₆ SDAF 23172 KA x 13 ⁷ / ₁₆ SDAF 23272 KA x 13 ⁷ / ₁₆ | SDAF 3072 KA x 13 ⁷ / ₁₆ SDAF 3172 KA x 13 ⁷ / ₁₆ SDAF 3272 KA x 13 ⁷ / ₁₆ | 23072 CACK/W33 23172 CCK/W33 23272 CCK/W33 | SNP 3072 x 13 ⁷ / ₁₆ SNP 3172 x 13 ⁷ / ₁₆ SNP 3272 x 13 ⁷ / ₁₆ | A 8970 ⁴⁾ 36053-167 36053-150 | ERF 872 ERF 872 ERF 979 |
| 13 ¹⁵ / ₁₆ | 14 | SDAF 23076 KA x 13 ¹⁵ / ₁₆ SDAF 23176 KA x 13 ¹⁵ / ₁₆ SDAF 23276 KA x 13 ¹⁵ / ₁₆ | SDAF 3076 KA x 13 ¹⁵ / ₁₆ SDAF 3176 KA x 13 ¹⁵ / ₁₆ SDAF 3276 KA x 13 ¹⁵ / ₁₆ | 23076 CACK/W33 23176 CCK/W33 23276 CCK/W33 | SNP 3076 x 13 ¹⁵ / ₁₆ SNP 3176 x 13 ¹⁵ / ₁₆ SNP 3276 x 13 ¹⁵ / ₁₆ | A 8971 ⁴⁾ 36053-143 36053-152 | ERF 875 ERF 875 ERF 977 |
| 14 ¹⁵ / ₁₆ | 15 | SDAF 23180 KA x 14 ¹⁵ / ₁₆ SDAF 23280 KA x 15 | SDAF 3180 KA x 14 ¹⁵ / ₁₆ SDAF 3280 KA x 15 | 23180 CCK/W33 23280 CCK/W33 | SNP 3180 x 14 ¹⁵ / ₁₆ SNP 3280 x 15 | 36053-150 36053-165 | ERF 882 ERF 976 |

¹⁾ Requires different adapter sleeve and seals.

²⁾ Optional internal radial clearance (e.g. C3) available on request.

³⁾ For a held unit, order stabilizing rings separately.

⁴⁾ Only one stabilizing ring required.



Complete pillow block

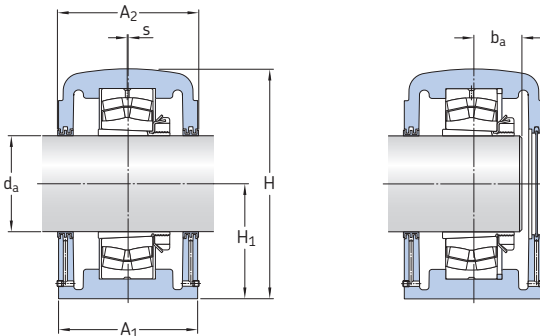
| Designation | Dimensions | | | | | | | | | | | | Mass |
|-------------------------------------|-------------------|-------------------|------|--------------------|--------------------|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------|
| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | G | |
| - | in. | | | | | | | | | | | | lb. |
| SDAF 23248 KA x 8 ^{15/16} | 13 ^{1/8} | 13 ^{3/4} | 0 | 4 ^{7/8} | 20 ^{7/8} | 10 ^{1/4} | 3 ^{3/4} | 29 | 30 ^{1/2} | 8 ^{3/4} | 35 | 1 ^{5/8} | 1100 |
| SDAF 23152 KA x 9 ^{7/16} | 13 ^{1/8} | 13 ^{3/4} | 0 | 4 ^{5/8} | 20 ^{7/8} | 10 ^{1/4} | 3 ^{3/4} | 29 | 30 ^{1/2} | 8 ^{3/4} | 35 | 1 ^{5/8} | 1050 |
| SDAF 23252 KA x 9 ^{7/16} | 14 ^{3/4} | 15 ^{1/2} | 0 | 5 ^{7/32} | 23 ^{7/16} | 12 | 4 | 32 ^{3/4} | 33 ^{1/2} | | 38 ^{1/4} | 1 ^{5/8} | 1350 |
| SDAF 23156 KA x 10 ^{7/16} | 14 ^{3/4} | 15 ^{1/2} | 0 | 4 ^{25/32} | 23 ^{7/16} | 12 | 4 | 32 ^{3/4} | 33 ^{1/2} | 9 | 38 ^{1/4} | 1 ^{5/8} | 1250 |
| SDAF 23256 KA x 10 ^{7/16} | 14 ^{3/4} | 15 ^{1/2} | 0 | 5 ^{11/32} | 23 ^{7/16} | 12 | 4 | 32 ^{3/4} | 33 ^{1/2} | | 38 ^{1/4} | 1 ^{5/8} | 1400 |
| SDAF 23060 KA x 10 ^{15/16} | 14 ^{3/4} | 15 ^{1/2} | 3/16 | 4 ^{11/32} | 23 ^{7/16} | 12 | 3 ^{3/8} | 32 ^{3/4} | 33 ^{1/2} | 9 | 38 ^{1/4} | 1 ^{5/8} | 1200 |
| SDAF 23160 KA x 10 ^{15/16} | 14 ^{3/4} | 15 ^{1/2} | 0 | 5 ^{1/8} | 23 ^{7/16} | 12 | 4 | 32 ^{3/4} | 33 ^{1/2} | 9 | 38 ^{1/4} | 1 ^{5/8} | 1350 |
| SDAF 23260 KA x 10 ^{15/16} | 15 ^{3/4} | 16 ^{3/4} | 0 | 5 ^{3/4} | 25 ^{3/4} | 12 ^{13/16} | 4 ^{1/2} | 35 | 36 ^{1/2} | 10 ^{1/2} | 41 ^{3/4} | 1 ^{7/8} | 1900 |
| SDAF 23064 KA x 11 ^{7/16} | 14 ^{3/4} | 15 ^{1/2} | 3/16 | 4 ^{1/2} | 23 ^{7/16} | 12 | 3 ^{3/8} | 32 ^{3/4} | 33 ^{1/2} | 9 | 38 ^{1/4} | 1 ^{5/8} | 1300 |
| SDAF 23064 KA x 11 ^{15/16} | 14 ^{3/4} | 15 ^{1/2} | 3/16 | 4 ^{1/2} | 23 ^{7/16} | 12 | 3 ^{3/8} | 32 ^{3/4} | 33 ^{1/2} | 9 | 38 ^{1/4} | 1 ^{5/8} | 1250 |
| SDAF 23164 KA x 11 ^{15/16} | 15 ^{3/4} | 16 ^{3/4} | 0 | 5 ^{17/32} | 25 ^{3/4} | 12 ^{13/16} | 4 ^{1/2} | 35 | 36 ^{1/2} | 10 ^{1/2} | 41 ^{3/4} | 1 ^{7/8} | 1850 |
| SDAF 23264 KA x 11 ^{15/16} | 17 ^{3/4} | 18 ^{3/4} | 0 | 6 ^{5/32} | 27 ^{7/8} | 14 | 5 | 36 ^{3/4} | 38 ^{1/4} | 10 ^{3/4} | 43 ^{3/4} | 2 | 2500 |
| SDAF 23068 KA x 12 ^{7/16} | 15 ^{1/4} | 15 ^{3/4} | 3/16 | 4 ^{7/8} | 24 | 11 ^{13/16} | 4 ^{3/16} | 32 | 33 ^{1/2} | 10 | 39 | 1 ^{7/8} | 1550 |
| SDAF 23168 KA x 12 ^{7/16} | 17 ^{3/4} | 18 ^{3/4} | 0 | 5 ^{29/32} | 27 ^{7/8} | 14 | 5 | 36 ^{3/4} | 38 ^{1/4} | 10 ^{3/4} | 43 ^{3/4} | 2 | 2450 |
| SDAF 23268 KA x 12 ^{7/16} | 17 ^{3/8} | 17 ^{5/8} | 0 | 6 ^{19/32} | 28 ^{7/8} | 14 ^{1/2} | 5 ^{1/4} | 39 ^{1/4} | 40 ^{3/4} | 11 | 46 | 2 | 2650 |
| SDAF 23072 KA x 12 ^{15/16} | 15 ^{3/4} | 16 ^{3/4} | 3/16 | 4 ^{7/8} | 25 ^{3/4} | 12 ^{13/16} | 4 ^{1/2} | 35 | 36 ^{1/2} | 10 ^{1/2} | 41 ^{3/4} | 1 ^{7/8} | 1650 |
| SDAF 23072 KA x 13 ^{7/16} | 15 ^{3/4} | 16 ^{3/4} | 3/16 | 4 ^{7/8} | 25 ^{3/4} | 12 ^{13/16} | 4 ^{1/2} | 35 | 36 ^{1/2} | 10 ^{1/2} | 41 ^{3/4} | 1 ^{7/8} | 1600 |
| SDAF 23172 KA x 13 ^{7/16} | 17 ^{1/8} | 17 ^{5/8} | 0 | 5 ^{31/32} | 28 ^{7/8} | 14 ^{1/2} | 5 ^{1/4} | 39 ^{1/4} | 40 ^{3/4} | 11 | 46 | 2 | 2500 |
| SDAF 23272 KA x 13 ^{7/16} | 18 ^{3/4} | 19 ^{1/4} | 0 | 6 ^{3/4} | 30 ^{1/2} | 15 ^{1/2} | 5 ^{1/2} | 41 ^{3/4} | 43 ^{1/2} | 12 ^{1/4} | 48 ^{3/4} | 2 ^{1/4} | 2950 |
| SDAF 23076 KA x 13 ^{15/16} | 15 ^{3/4} | 16 ^{3/4} | 3/16 | 5 ^{1/8} | 25 ^{3/4} | 12 ^{13/16} | 4 ^{1/2} | 35 | 36 ^{1/2} | 10 ^{1/2} | 41 ^{3/4} | 1 ^{7/8} | 1700 |
| SDAF 23176 KA x 13 ^{15/16} | 17 ^{3/8} | 17 ^{5/8} | 0 | 6 ^{1/8} | 28 ^{7/8} | 14 ^{1/2} | 5 ^{1/4} | 39 ^{1/4} | 40 ^{3/4} | 11 | 46 | 2 | 2500 |
| SDAF 23276 KA x 13 ^{15/16} | 18 ^{3/4} | 19 ^{1/4} | 0 | 7 ^{1/32} | 30 ^{1/2} | 15 ^{1/2} | 5 ^{1/2} | 41 ^{3/4} | 43 ^{1/2} | 12 ^{1/4} | 48 ^{3/4} | 2 ^{1/4} | 3050 |
| SDAF 23180 KA x 15 | 18 ^{3/4} | 19 ^{1/4} | 0 | 6 ^{13/32} | 30 ^{1/2} | 15 ^{1/2} | 5 ^{1/2} | 41 ^{3/4} | 43 ^{1/2} | 12 ^{1/4} | 48 ^{3/4} | 2 ^{1/4} | 2800 |
| SDAF 23280 KA x 15 | 21 | 21 ^{3/4} | 0 | 7 ^{1/2} | 33 ^{3/4} | 17 | 5 ^{1/2} | 44 ^{3/8} | 46 ^{1/8} | 14 ^{1/2} | 52 | 2 ^{1/4} | 4500 |

9.3

9.3 Extended range pillow blocks with spherical roller bearings on an adapter sleeve

Series SDAF 230(00) KA, 231(00) KA, 232(00) KA

d_a 15 – 19 1/2 in.



Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter Standard d_a | Optional ¹⁾ | Complete pillow block | Components Pillow block housing | Bearing ²⁾ | Adapter assembly | Stabilizing ring ³⁾ (2 req'd) | Labyrinth ring (2 incl.) |
|-------------------------------------|------------------------|--|---|---|---|---|-------------------------------|
| in. | – | – | – | – | – | – | – |
| 15 | 14 15/16 | SDAF 23080 KA x 15 | SDAF 3080 KA x 15 | 23080 CACK/W33 | SNP 3080 x 15 | 36053-153 ⁴⁾ | ERF 847 |
| 15 3/4 | – ⁵⁾ | SDAF 23084 KA x 15 3/4 SDAF 23184 KA x 15 3/4 SDAF 23284 KA x 15 3/4 | SDAF 3084 KA x 15 3/4 SDAF 3184 KA x 15 3/4 SDAF 3284 KA x 15 3/4 | 23084 CAK/W33 23184 CAK/W33 23284 CAK/W33 | SNP 3084 x 15 3/4 SNP 3184 x 15 3/4 SNP 3284 x 15 3/4 | 36053-143 ⁴⁾ 36053-160 36053-154 | ERF 969 ERF 907 ERF 907 |
| 16 1/2 | – ⁵⁾ | SDAF 23088 KA x 16 1/2 SDAF 23188 KA x 16 1/2 SDAF 23288 KA x 16 1/2 | SDAF 3088 KA x 16 1/2 SDAF 3188 KA x 16 1/2 SDAF 3288 KA x 16 1/2 | 23088 CAK/W33 23188 CAK/W33 23288 CAK/W33 | SNP 3088 x 16 1/2 SNP 3188 x 16 1/2 SNP 3288 x 16 1/2 | 36053-150 ⁴⁾ 36053-165 36053-159 | ERF 958 ERF 958 ERF 958 |
| 17 | – ⁵⁾ | SDAF 23092 KA x 17 SDAF 23192 KA x 17 | SDAF 3092 KA x 17 SDAF 3192 KA x 17 | 23092 CAK/W33 23192 CAK/W33 | SNP 3092 x 17 SNP 3192 x 17 | 36053-152 ⁴⁾ 36053-154 | ERF 838 ERF 838 |
| 18 | – ⁵⁾ | SDAF 23096 KA x 18 SDAF 23196 KA x 18 | SDAF 3096 KA x 18 SDAF 3196 KA x 18 | 23096 CAK/W33 23196 CAK/W33 | SNP 3096 x 18 SNP 3196 x 18 | 36053-200 ⁴⁾ 36053-159 | ERF 888 ERF 888 |
| 18 1/2 | – ⁵⁾ | SDAF 230/500 KA x 18 1/2 | SDAF 30/500 KA x 18 1/2 | 230/500 CAK/W33 | SNP 30/500 x 18 1/2 | 36053-165 ⁴⁾ | ERF 978 |
| 19 1/2 | – ⁵⁾ | SDAF 230/530 KA x 19 1/2 | SDAF 30/530 KA x 19 1/2 | 230/530 CAK/W33 | SNP 30/530 x 19 1/2 | 36053-166 ⁴⁾ | ERF 926 |

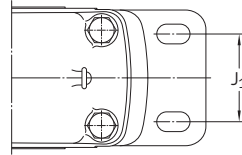
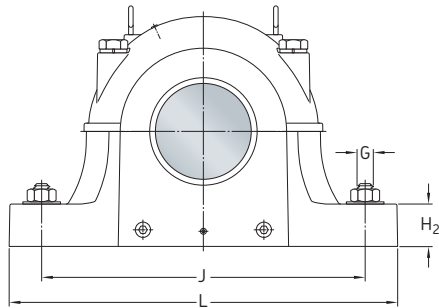
1) Requires different adapter sleeve and seals.

2) Optional internal radial clearance (e.g. C3) available on request.

3) For a held unit, order stabilizing rings separately.

4) Only one stabilizing ring required.

5) Optional shaft sizes available on request.



Complete pillow block
Designation

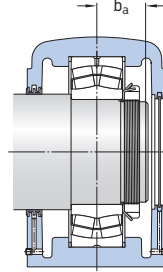
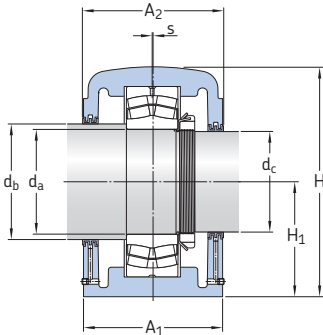
Dimensions

Mass

| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | G | Mass |
|--|--------------------------------|--------------------------------|------|---------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------|
| - | in. | | | | | | | | | | | | lb. |
| SDAF 23080 KA x 15 | 17 ¹ / ₈ | 17 ⁵ / ₈ | 3/16 | 5 ¹⁷ / ₃₂ | 29 | 14 ¹ / ₂ | 5 ¹ / ₄ | 39 ¹ / ₄ | 40 ³ / ₄ | 11 | 46 | 2 | 2 300 |
| SDAF 23084 KA x 15³/₄ | 17 ¹ / ₈ | 17 ⁵ / ₈ | 3/16 | 5 ⁹ / ₁₆ | 29 | 14 ¹ / ₂ | 5 ¹ / ₄ | 39 ¹ / ₄ | 40 ³ / ₄ | 11 | 46 | 2 | 2 300 |
| SDAF 23184 KA x 15³/₄ | 21 | 21 ³ / ₄ | 0 | 6 ⁷ / ₈ | 33 ³ / ₄ | 17 | 5 ¹ / ₂ | 44 ³ / ₈ | 46 ¹ / ₈ | 14 ¹ / ₂ | 53 | 2 ¹ / ₄ | 4 300 |
| SDAF 23284 KA x 15³/₄ | 21 ⁵ / ₈ | 22 ¹ / ₄ | 0 | 7 ¹³ / ₁₆ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ | 5 000 |
| SDAF 23088 KA x 16¹/₂ | 18 ³ / ₄ | 19 ¹ / ₄ | 3/16 | 5 ³ / ₄ | 30 ¹ / ₂ | 15 ¹ / ₂ | 5 ¹ / ₂ | 41 ³ / ₄ | 43 ¹ / ₂ | 12 ¹ / ₄ | 48 ³ / ₄ | 2 ¹ / ₄ | 2 550 |
| SDAF 23188 KA x 16¹/₂ | 21 | 21 ³ / ₄ | 0 | 7 ⁷ / ₃₂ | 33 ³ / ₄ | 17 | 5 ¹ / ₂ | 44 ³ / ₈ | 46 ¹ / ₈ | 14 ¹ / ₂ | 53 | 2 ¹ / ₄ | 4 300 |
| SDAF 23288 KA x 16¹/₂ | 21 ⁵ / ₈ | 22 ¹ / ₄ | 0 | 8 ⁹ / ₃₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ | 5 050 |
| SDAF 23092 KA x 17 | 18 ³ / ₄ | 19 ¹ / ₄ | 3/16 | 5 ⁷ / ₈ | 30 ¹ / ₂ | 15 ¹ / ₂ | 5 ¹ / ₂ | 41 ³ / ₄ | 43 ¹ / ₂ | 12 ¹ / ₄ | 48 ³ / ₄ | 2 ¹ / ₄ | 2 850 |
| SDAF 23192 KA x 17 | 21 ⁵ / ₈ | 22 ¹ / ₄ | 0 | 7 ¹ / ₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ | 5 000 |
| SDAF 23096 KA x 18 | 21 | 21 ³ / ₄ | 3/16 | 5 ²⁹ / ₃₂ | 33 ³ / ₄ | 17 | 5 ¹ / ₂ | 44 ³ / ₈ | 46 ¹ / ₈ | 14 ¹ / ₂ | 53 | 2 ¹ / ₄ | 4 250 |
| SDAF 23196 KA x 18 | 21 ⁵ / ₈ | 22 ¹ / ₄ | 0 | 7 ²¹ / ₃₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ | 5 300 |
| SDAF 230/500 KA x 18¹/₂ | 21 | 21 ³ / ₄ | 3/16 | 6 ¹ / ₂ | 33 ³ / ₄ | 17 | 5 ¹ / ₂ | 44 ³ / ₈ | 46 ¹ / ₈ | 14 ¹ / ₂ | 53 | 2 ¹ / ₄ | 4 350 |
| SDAF 230/530 KA x 19¹/₂ | 21 ⁵ / ₈ | 22 ¹ / ₄ | 3/16 | 6 ²⁷ / ₃₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ | 5 200 |

9.4 Extended range pillow blocks with spherical roller bearings with a cylindrical bore Series SDAF 230(00), 231(00), 232(00)

d_a 240 – 420 mm



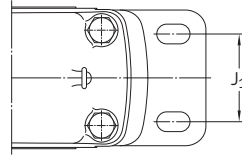
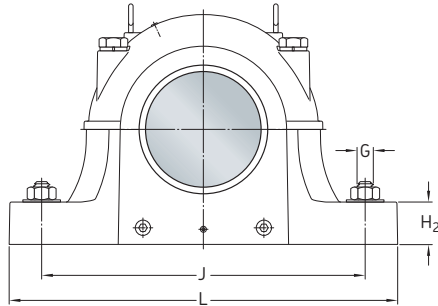
Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter | | | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Stabilizing ring ²⁾ (2 req'd) | Labyrinth seal Shaft d_b | Lock nut Shaft d_c | Lock washer | Mass | |
|----------------|-------------------|--------------------|-----------------------|------------------------------------|-----------------------|---|----------------------------|----------------------|-------------|-------|-------|
| d_a | d_b | d_c | | | | | | | | | mm |
| 240 | 10 ^{1/2} | 9 ^{3/16} | SDAF 23248 | SDAF 3248 | 23248 CAC/W33 | 36053-114 | ERF 840 | ERF 923 | N 048 | PL 48 | 1 100 |
| 260 | 11 ^{1/2} | 9 ^{15/16} | SDAF 23152 | SDAF 3152 | 23152 CAC/W33 | 36053-114 | ERF 832 | ERF 845 | N 052 | PL 52 | 1 050 |
| | 11 ^{1/2} | 9 ^{15/16} | SDAF 23252 | SDAF 3252 | 23252 CAC/W33 | A 8968 | ERF 832 | ERF 845 | N 052 | PL 52 | 1 350 |
| 280 | 12 ^{1/2} | 10 ^{3/4} | SDAF 23156 | SDAF 3156 | 23156 CAC/W33 | A 8967 | ERF 866 | ERF 826 | N 056 | PL 56 | 1 250 |
| | 12 ^{1/2} | 10 ^{3/4} | SDAF 23256 | SDAF 3256 | 23256 CAC/W33 | 36053-157 | ERF 866 | ERF 826 | N 056 | PL 56 | 1 400 |
| 300 | 13 | 11 ^{1/2} | SDAF 23060 | SDAF 3060 | 23060 CAC/W33 | A 8967 ³⁾ | ERF 824 | ERF 832 | N 060 | PL 60 | 1 200 |
| | 13 | 11 ^{1/2} | SDAF 23160 | SDAF 3160 | 23160 CAC/W33 | 36053-157 | ERF 846 | ERF 856 | N 060 | PL 60 | 1 350 |
| | 13 | 11 ^{1/2} | SDAF 23260 | SDAF 3260 | 23260 CAC/W33 | 36053-130 | ERF 846 | ERF 856 | N 060 | PL 60 | 1 900 |
| 320 | 13 ^{3/4} | 12 ^{1/4} | SDAF 23064 | SDAF 3064 | 23064 CC/W33 | A 8968 ³⁾ | ERF 943 | ERF 804 | N 064 | PL 64 | 1 300 |
| | 14 | 12 ^{1/4} | SDAF 23164 | SDAF 3164 | 23164 CAC/W33 | A 8970 | ERF 876 | ERF 983 | N 064 | PL 64 | 1 850 |
| | 14 | 12 ^{1/4} | SDAF 23264 | SDAF 3264 | 23264 CAC/W33 | 36053-137 | ERF 876 | ERF 983 | N 064 | PL 64 | 2 500 |
| 340 | 15 | 13 | SDAF 23068 | SDAF 3068 | 23068 CAC/W33 | A 8969 ³⁾ | ERF 806 | ERF 824 | N 068 | PL 68 | 1 550 |
| | 15 | 13 | SDAF 23168 | SDAF 3168 | 23168 CAC/W33 | 36053-137 | ERF 847 | ERF 846 | N 068 | PL 68 | 2 450 |
| | 15 | 13 | SDAF 23268 | SDAF 3268 | 23268 CA/W33 | 36053-143 | ERF 847 | ERF 846 | N 068 | PL 68 | 2 650 |
| 360 | 15 ^{3/4} | 13 ^{3/4} | SDAF 23072 | SDAF 3072 | 23072 CAC/W33 | A 8970 ³⁾ | ERF 969 | ERF 874 | N 072 | PL 72 | 1 650 |
| | 16 | 13 ^{3/4} | SDAF 23172 | SDAF 3172 | 23172 CC/W33 | 36053-167 | ERF 809 | ERF 874 | N 072 | PL 72 | 2 500 |
| | 16 | 13 ^{3/4} | SDAF 23272 | SDAF 3272 | 23272 CA/W33 | 36053-150 | ERF 965 | ERF 981 | N 072 | PL 72 | 2 950 |
| 380 | 16 ^{3/4} | 14 ^{1/2} | SDAF 23076 | SDAF 3076 | 23076 CAC/W33 | A 8971 ³⁾ | ERF 822 | ERF 950 | N 076 | PL 76 | 1 700 |
| | 17 | 14 ^{1/2} | SDAF 23176 | SDAF 3176 | 23176 CA/W33 | 36053-143 | ERF 811 | ERF 950 | N 076 | PL 76 | 2 500 |
| | 17 | 14 ^{1/2} | SDAF 23276 | SDAF 3276 | 23276 CA/W33 | 36053-152 | ERF 838 | ERF 984 | N 076 | PL 76 | 3 050 |
| 400 | 17 ^{1/2} | 15 ^{3/8} | SDAF 23080 | SDAF 3080 | 23080 CAC/W33 | 36053-153 ³⁾ | ERF 999 | ERF 942 | N 080 | PL 80 | 2 300 |
| | 17 ^{1/2} | 15 ^{1/4} | SDAF 23180 | SDAF 3180 | 23180 CA/W33 | 36053-150 | ERF 967 | ERF 895 | N 080 | PL 80 | 2 800 |
| | 17 ^{1/2} | 15 ^{1/4} | SDAF 23280 | SDAF 3280 | 23280 CA/W33 | 36053-165 | ERF 967 | ERF 895 | N 080 | PL 80 | 4 500 |
| 420 | 18 | 16 | SDAF 23084 | SDAF 3084 | 23084 CA/W33 | 36053-143 ³⁾ | ERF 812 | ERF 809 | N 084 | PL 84 | 2 300 |
| | 18 ^{1/2} | 15 ^{3/4} | SDAF 23184 | SDAF 3184 | 23184 CA/W33 | 36053-160 | ERF 978 | ERF 907 | N 084 | PL 84 | 4 300 |
| | 18 ^{1/2} | 15 ^{3/4} | SDAF 23284 | SDAF 3284 | 23284 CA/W33 | 36053-154 | ERF 978 | ERF 907 | N 084 | PL 84 | 5 000 |

¹⁾ Optional internal radial clearance (e.g. C3) available on request.

²⁾ For a held unit, order stabilizing rings separately.

³⁾ Only one stabilizing ring required.

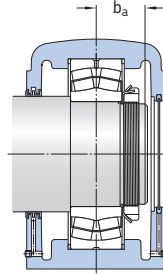
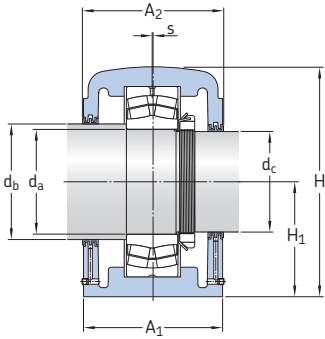


Complete pillow block

| Designation | Dimensions | | | | | | | | | | | |
|-------------------|----------------|----------------|------|----------------|---------|----------------|----------------|------------------|------------------|----------------|--------|-------|
| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | G |
| – | in. | | | | | | | | | | | |
| SDAF 23248 | 13 3/8 | 13 3/4 | | 4 7/8 | 20 7/8 | 10 1/4 | 3 3/4 | 29 | 30 1/2 | 8 3/4 | 35 | 1 5/8 |
| SDAF 23152 | 13 3/8 | 13 3/4 | | 4 5/8 | 20 7/8 | 10 1/4 | 3 3/4 | 29 | 30 1/2 | 8 3/4 | 35 | 1 5/8 |
| SDAF 23252 | 14 3/4 | 15 1/2 | | 5 7/32 | 23 7/16 | 12 | 4 | 32 3/4 | 33 1/2 | 9 | 38 1/4 | 1 5/8 |
| SDAF 23156 | 14 3/4 | 15 1/2 | | 4 25/32 | 23 7/16 | 12 | 4 | 32 3/4 | 33 1/2 | 9 | 38 1/4 | 1 5/8 |
| SDAF 23256 | 14 3/4 | 15 1/2 | | 5 11/32 | 23 7/16 | 12 | 4 | 32 3/4 | 33 1/2 | 9 | 38 1/4 | 1 5/8 |
| SDAF 23060 | 14 3/4 | 15 1/2 | 3/16 | 4 11/32 | 23 7/16 | 12 | 4 | 32 3/4 | 33 1/2 | | 38 1/4 | 1 5/8 |
| SDAF 23160 | 14 3/4 | 15 1/2 | | 5 1/8 | 23 7/16 | 12 | 4 | 32 3/4 | 33 1/2 | 9 | 38 1/4 | 1 5/8 |
| SDAF 23260 | 15 3/4 | 16 3/4 | | 5 3/4 | 25 3/4 | 12 13/16 | | 35 | 36 1/2 | 10 1/2 | 41 3/4 | 1 7/8 |
| SDAF 23064 | 14 3/4 | 15 1/2 | 3/16 | 4 1/2 | 23 7/16 | 12 | 4 | 32 3/4 | 33 1/2 | | 38 1/4 | 1 5/8 |
| SDAF 23164 | 15 3/4 | 16 3/4 | | 5 17/32 | 25 3/4 | 12 13/16 | 4 1/2 | 35 | 36 1/2 | 10 1/2 | 41 3/4 | 1 7/8 |
| SDAF 23264 | 17 3/4 | 18 3/4 | | 6 5/32 | 27 7/8 | 14 | 5 | 36 3/4 | 38 1/4 | 10 3/4 | 43 3/4 | 2 |
| SDAF 23068 | 15 1/4 | 15 3/4 | 3/16 | 4 7/8 | 24 | 12 | 4 3/16 | 32 | 33 1/2 | 10 | 39 | 1 7/8 |
| SDAF 23168 | 17 3/4 | 18 3/4 | | 5 29/32 | 27 7/8 | 14 | 5 | 36 3/4 | 38 1/4 | 10 3/4 | 43 3/4 | 2 |
| SDAF 23268 | 17 1/8 | 17 5/8 | | 6 19/32 | 28 7/8 | 14 1/2 | 5 1/4 | 39 1/4 | 40 3/4 | 11 | 46 | 2 |
| SDAF 23072 | 15 3/4 | 16 3/4 | 3/16 | 4 7/8 | 25 3/4 | 12 13/16 | 4 1/2 | 35 | 36 1/2 | 10 1/2 | 41 3/4 | 1 7/8 |
| SDAF 23172 | 17 1/8 | 17 5/8 | | 5 31/32 | 28 7/8 | 14 1/2 | 5 1/4 | 39 1/4 | 40 3/4 | 11 | 46 | 2 |
| SDAF 23272 | 18 3/4 | 19 1/4 | | 6 3/4 | 30 1/2 | 15 1/2 | 5 1/2 | 41 3/4 | 43 1/2 | 12 1/4 | 48 3/4 | 2 1/4 |
| SDAF 23076 | 15 3/4 | 16 3/4 | 3/16 | 5 1/8 | 25 3/4 | 12 13/16 | 4 1/2 | 35 | 36 1/2 | 10 1/2 | 41 3/4 | 1 7/8 |
| SDAF 23176 | 17 1/8 | 17 5/8 | | 6 1/8 | 28 7/8 | 14 1/2 | 5 1/4 | 39 1/4 | 40 3/4 | 11 | 46 | 2 |
| SDAF 23276 | 18 3/4 | 19 1/4 | | 7 1/32 | 30 1/2 | 15 1/2 | 5 1/2 | 41 3/4 | 43 1/2 | 12 1/4 | 48 3/4 | 2 1/4 |
| SDAF 23080 | 17 1/8 | 17 5/8 | 3/16 | 5 17/32 | 28 7/8 | 14 1/2 | 5 1/4 | 39 1/4 | 40 3/4 | 11 | 46 | 2 |
| SDAF 23180 | 18 3/4 | 19 1/4 | | 6 13/32 | 30 1/2 | 15 1/2 | 5 1/2 | 41 3/4 | 43 1/2 | 12 1/4 | 48 3/4 | 2 1/4 |
| SDAF 23280 | 21 | 21 3/4 | | 7 1/2 | 33 3/4 | 17 | 5 1/2 | 44 3/8 | 46 1/8 | 14 1/2 | 53 | 2 1/4 |
| SDAF 23084 | 17 1/8 | 17 5/8 | 3/16 | 5 9/16 | 29 | 14 1/2 | 5 1/4 | 39 1/4 | 40 3/4 | 11 | 46 | 2 |
| SDAF 23184 | 21 | 21 3/4 | | 6 7/8 | 33 3/4 | 17 | 5 1/2 | 44 3/8 | 46 1/8 | 14 1/2 | 53 | 2 1/4 |
| SDAF 23284 | 21 5/8 | 22 1/4 | | 7 13/16 | 35 3/4 | 18 | 5 3/4 | 47 1/8 | 48 7/8 | 15 | 54 1/4 | 2 1/2 |

9.4 Extended range pillow blocks with spherical roller bearings with a cylindrical bore Series SDAF 230(00), 231(00), 232(00)

d_a 440 – 530 mm

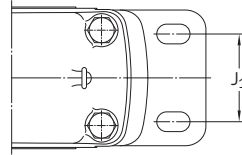
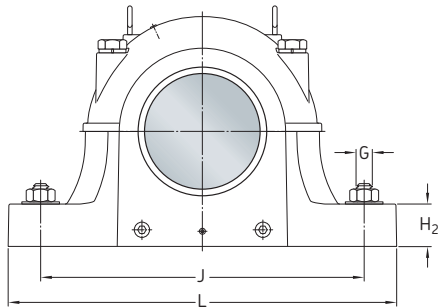


Units of measurement
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

| Shaft diameter | | | Complete pillow block | Components Pillow block housing | Bearing ¹⁾ | Stabilizing ring ²⁾ (2 req'd) | Labyrinth seal Shaft d_b | Shaft d_c | Lock nut | Lock washer | Mass |
|----------------|--------|--------|-----------------------|------------------------------------|-----------------------|---|----------------------------------|----------------|----------|-------------|-------|
| d_a | d_b | d_c | | | | | | | | | |
| mm | in. | | - | - | | | | | | | lb. |
| 440 | 19 1/2 | 17 | SDAF 23088 | SDAF 3088 | 23088 CA/W33 | 36053-150 | ERF 926 | ERF 838 | N 088 | PL 88 | 2 550 |
| | 19 1/2 | 17 | SDAF 23188 | SDAF 3188 | 23188 CA/W33 | 36053-165 | ERF 926 | ERF 838 | N 088 | PL 88 | 4 300 |
| | 19 1/2 | 17 | SDAF 23288 | SDAF 3288 | 23288 CA/W33 | 36053-159 | ERF 926 | ERF 838 | N 088 | PL 88 | 5 050 |
| 460 | 20 | 17 3/4 | SDAF 23092 | SDAF 3092 | 23092 CA/W33 | 36053-152 | ERF 808 | ERF 906 | N 092 | PL 92 | 2 850 |
| | 20 | 17 3/4 | SDAF 23192 | SDAF 3192 | 23192 CA/W33 | 36053-154 | ERF 808 | ERF 906 | N 092 | PL 92 | 5 000 |
| 480 | 21 | 18 1/2 | SDAF 23096 | SDAF 3096 | 23096 CA/W33 | 36053-200 | ERF 933 | ERF 978 | N 096 | PL 96 | 4 250 |
| | 21 | 18 1/2 | SDAF 23196 | SDAF 3196 | 23196 CA/W33 | 36053-159 | ERF 933 | ERF 978 | N 096 | PL 96 | 5 300 |
| 500 | 21 | 19 | SDAF 230/500 | SDAF 30/500 | 230/500 CA/W33 | 36053-165 | ERF 933 | ERF 922 | N 500 | PL 500 | 4 350 |
| 530 | 22 1/2 | 20 3/8 | SDAF 230/530 | SDAF 30/530 | 230/530 CA/W33 | 36053-166 | ERF 997 | ERF 998 | N 530 | PL 530 | 5 200 |

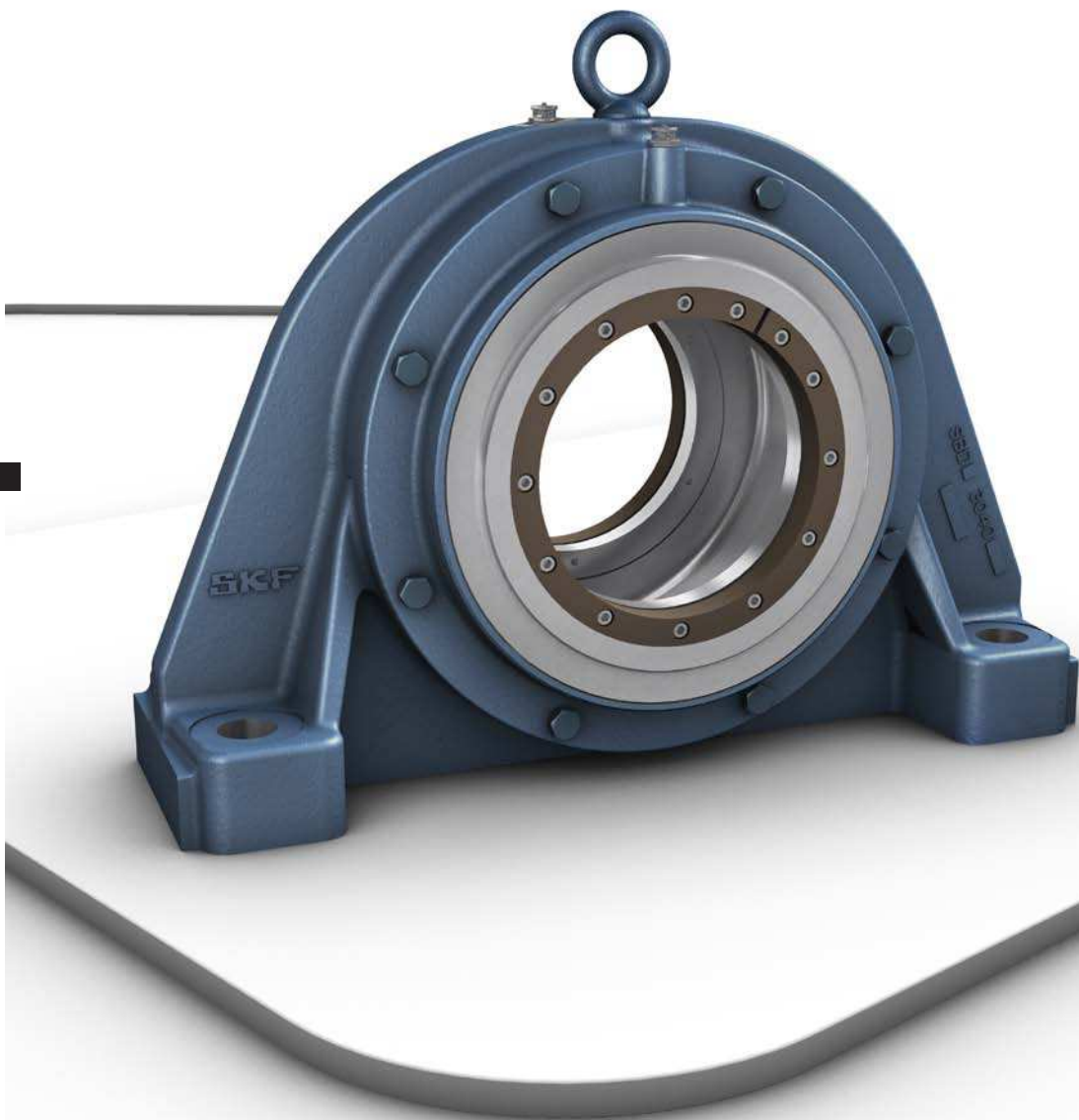
¹⁾ Optional internal radial clearance (e.g. C3) available on request.

²⁾ For a held unit, order stabilizing rings separately.



Complete pillow block

| Designation | Dimensions | | | | | | | | | | | |
|---------------------|--------------------------------|--------------------------------|---|---------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|
| | A ₁ | A ₂ | S | b _a | H | H ₁ | H ₂ | J _{min} | J _{max} | J ₁ | L | G |
| - | in. | | | | | | | | | | | |
| SDAF 23088 | 18 ³ / ₄ | 19 ¹ / ₄ | | 5 ³ / ₄ | 30 ¹ / ₂ | 15 ¹ / ₂ | 5 ¹ / ₂ | 41 ³ / ₄ | 43 ¹ / ₂ | 12 ¹ / ₄ | 48 ³ / ₄ | 2 ¹ / ₄ |
| SDAF 23188 | 21 | 21 ³ / ₄ | | 7 ⁷ / ₃₂ | 33 ³ / ₄ | 17 | 5 ¹ / ₂ | 44 ³ / ₈ | 46 ¹ / ₈ | 14 ¹ / ₂ | 53 | 2 ¹ / ₄ |
| SDAF 23288 | 21 ⁵ / ₈ | 22 ¹ / ₄ | | 8 ⁹ / ₃₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ |
| SDAF 23092 | 18 ³ / ₄ | 19 ¹ / ₄ | | 5 ⁷ / ₈ | 30 ¹ / ₂ | 15 ¹ / ₂ | 5 ¹ / ₂ | 41 ³ / ₄ | 43 ¹ / ₂ | 12 ¹ / ₄ | 48 ³ / ₄ | 2 ¹ / ₄ |
| SDAF 23192 | 21 ⁵ / ₈ | 22 ¹ / ₄ | | 7 ¹ / ₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ |
| SDAF 23096 | 21 | 21 ³ / ₄ | | 5 ²⁹ / ₃₂ | 33 ³ / ₄ | 17 | 5 ¹ / ₂ | 44 ³ / ₈ | 46 ¹ / ₈ | 14 ¹ / ₂ | 53 | 2 ¹ / ₄ |
| SDAF 23196 | 21 ⁵ / ₈ | 22 ¹ / ₄ | | 7 ²¹ / ₃₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ |
| SDAF 230/500 | 21 | 21 ³ / ₄ | | 6 ¹ / ₂ | 33 ³ / ₄ | 17 | 5 ¹ / ₂ | 44 ³ / ₈ | 46 ¹ / ₈ | 14 ¹ / ₂ | 53 | 2 ¹ / ₄ |
| SDAF 230/530 | 21 ⁵ / ₈ | 22 ¹ / ₄ | | 6 ²⁷ / ₃₂ | 35 ³ / ₄ | 18 | 5 ³ / ₄ | 47 ¹ / ₈ | 48 ⁷ / ₈ | 15 | 54 ¹ / ₄ | 2 ¹ / ₂ |



Non-split plummer block housings and take-up housings SBD and THD series

Bearing types

- Spherical roller bearings
- CARB toroidal roller bearings (optional)

Bearing dimension series

- 22, 30, 31, 32

Shaft diameter range

- 60 to 420 mm (SBD)
- 50 to 400 mm (THD)

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve (SBD and THD)
- Stepped shaft with bearing on an adapter sleeve (SBD)
- Stepped shaft with bearing on a cylindrical seat (SBD)
- Multi-stepped shaft with bearing on a cylindrical seat (SBD)

Seals

- Labyrinth
- Heavy-duty (optional)

Lubrication

- Grease

Materials

- Spheroidal graphite cast iron
- Cast steel (optional)
- Grey cast iron (optional)

Mounting

- Four-bolt mounting (SBD)

Compliance to standards

- Not standardized

SBD plummer (pillow) block housings and THD take-up housings are non-split housings designed to accommodate heavy loads acting in different directions. These types of loads are typically encountered in conveyors, roller beds and crushers. Highly reliable bearing arrangements can be designed using SBD or THD housings together with SKF Explorer bearings. In conveyors, SBD and THD housings are often used together.

Non-split plummer block housings and take-up housings SBD and THD series

| | | | |
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| Features and benefits | 489 | 10.2 SBD plummer block housings for bearings on an adapter sleeve and a stepped shaft. | 508 |
| Housing material | 489 | 10.3 SBD plummer block housings for bearings on a cylindrical seat and a stepped shaft. | 514 |
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Designations

Designation system for SBD plummer block housings and THD take-up housings

SBDD 2226 CAF

Series

SBD Standard non-split plummer block housing
THD Standard non-split take-up housing

Material

D Spheroidal graphite cast iron
S Cast steel
C Grey cast iron

Size identification

22(00) Housing for bearings in the 22 series
30(00) Housing for bearings in the 30 series
31(00) Housing for bearings in the 31 series
32(00) Housing for bearings in the 32 series
..(00) Size code of the bearing, (00) × 5 = bearing bore diameter [mm]

Suffixes¹⁾

- Housing for bearings on an adapter sleeve and a plain shaft
C SBD housing for bearings on an adapter sleeve and a stepped shaft
E SBD housing for bearings on a cylindrical seat and a stepped shaft
G SBD housing for bearings on a cylindrical seat and a multi-stepped shaft
A Housing for shaft end, one side closed
B Housing for a through shaft
F Housing for the locating bearing position
L Housing for the non-locating bearing position

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Designation system for adapter rings

PSBD 115

Series

PSBD Adapter ring for labyrinth seal

Size identification

... Shaft diameter [mm]

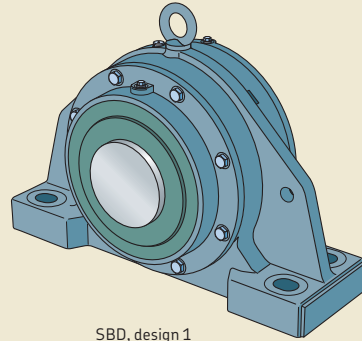
Standard housing design

SBD plummer (pillow) block housings and THD take-up housings are non-split housings. They consist of a housing body and two covers. The covers are bolted to the body with six or eight bolts. SBD and THD housings are supplied with different covers depending on the shaft-bearing combination (→ **page 493**).

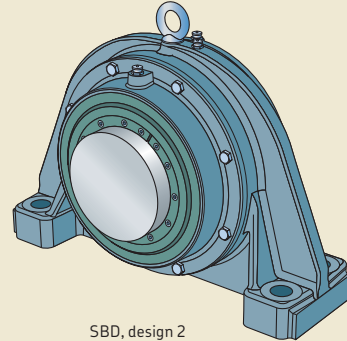
SBD housings are available in two designs (→ **fig. 1**), depending on the housing size. The main difference is the holes for the attachment bolts: one design has cast oblong holes, the other has drilled holes. Other design differences include the overall shape of the housing and the thickness of the reinforcement ribs.

THD housings have a special take-up design to maintain tension on a conveyor belt (→ **fig. 2**). SKF does not supply the frames.

Fig. 1

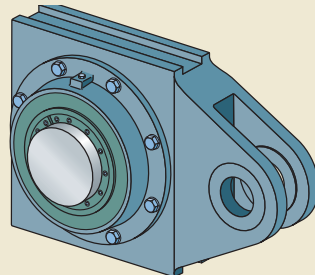


SBD, design 1



SBD, design 2

Fig. 2



THD

Features and benefits

Standard SBD plummer block housings and THD take-up housings share some of the following features:

Stiff housing

Non-split housings provide a high degree of stiffness and can accommodate heavy radial loads in all directions.

Narrow width

SBD plummer block housings and THD take-up housings are narrow and can be used where space is limited (→ **fig. 3**).

Machined base ends

SBD housings have machined base ends to make alignment easier and provide good contact with stops when stops are used to accommodate loads parallel to the support surface (→ **fig. 4**).

Eye bolts

With the exception of the smallest housing (SBD 2213) all SBD plummer block housings have an eye bolt for safe and easy handling.

Housing material

Standard SBD plummer block housings and THD take-up housing bodies are made of spheroidal graphite cast iron (series designation SBDD or THDD). Covers are made of grey cast iron.

Paint, corrosion protection

SBD plummer block housings and THD take-up housings are painted blue (RAL 5007) using a solvent based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Fig. 3

Narrow width

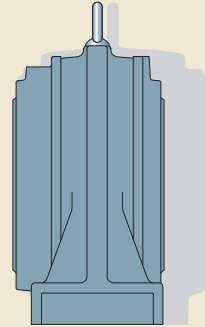
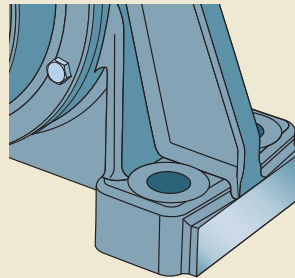


Fig. 4

Machined base ends



Dimension standards

The dimensions of SBD and THD housings are not standardized either nationally or internationally.

Housing variants

The following housing variants can be supplied on request:

- SBD or THD housings for CARB toroidal roller bearings
- SBD housings for bearings on a withdrawal sleeve
- Housings with taconite heavy-duty seals
- Housings made of cast steel (series designation SBDS or THDS)
- Housings made of grey cast iron (series designation SBDC or THDC)

For additional information about these variants, contact the SKF application engineering service.

Sealing solutions

SBD plummer (pillow) block housings and THD take-up housings are supplied with labyrinth seals as standard. They can also be used with sealed spherical roller bearings, and variants are available for taconite heavy-duty seals.

Standard seals

The labyrinth seal consists of a labyrinth ring made of grey cast iron, mounted on the shaft, which forms a multi-stage axial labyrinth with the seal grooves in the housing cover. The

number of stages in the labyrinth ring varies with housing size.

In THD take-up housings, the labyrinth rings are locked on the shaft with adapter rings. In SBD plummer block housings, the labyrinth rings are locked in different ways depending on the housing type:

- fixed with an adapter ring (→ **fig. 5a**)
- clamped between the bearing and a shaft shoulder (→ **fig. 5b**)
- clamped between the bearing or the lock nut and another component on the shaft (→ **fig. 5c**)

The product tables show how the labyrinth rings are locked for the different housing designs. Adapter rings are supplied with the housing when needed. The adapter ring is identified by the prefix PSBD followed by the size (shaft diameter) in millimeters uncoded, e.g. PSBD 170. Adapter rings are listed in **table 1**.

In typical applications, the bearing and housing are completely filled with grease. Excess grease enters the labyrinths and improves the sealing effect. Most THD take-up housings and SBD plummer block housings have ducts to supply grease directly to the seals.

Seal characteristics are listed in **table 2**.

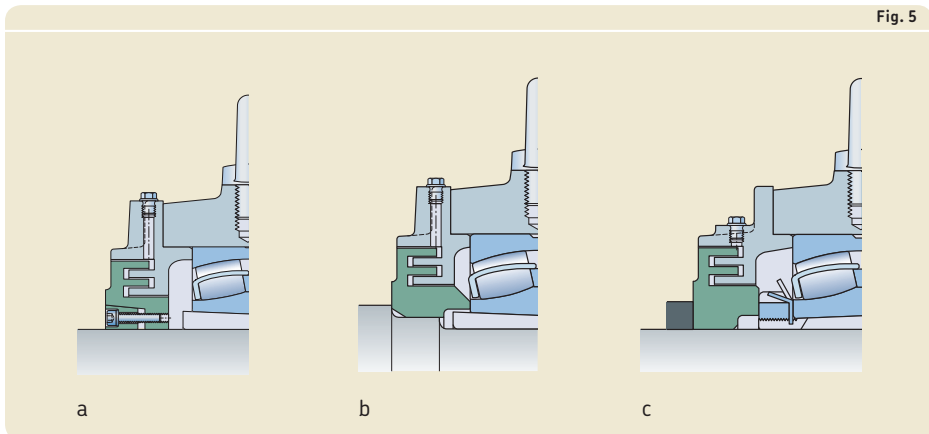
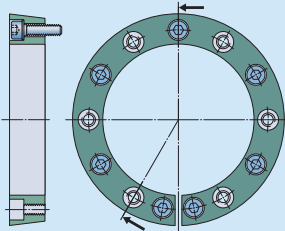


Table 1

Adapter rings for SBD plummer block housings and THD take-up housings



| Adapter ring | Adapter ring bolts | |
|--------------|--------------------|-------------------|
| | Size | Tightening torque |
| - | - | Nm |
| PSBD 50 | M 3 | 1 |
| PSBD 55 | M 3 | 1 |
| PSBD 60 | M 4 | 2 |
| PSBD 70 | M 5 | 4 |
| PSBD 80 | M 5 | 4 |
| PSBD 90 | M 5 | 4 |
| PSBD 100 | M 5 | 4 |
| PSBD 110 | M 5 | 4 |
| PSBD 115 | M 5 | 4 |
| PSBD 120 | M 5 | 4 |
| PSBD 125 | M 5 | 4 |
| PSBD 130 | M 5 | 4 |
| PSBD 135 | M 6 | 7 |
| PSBD 140 | M 6 | 7 |
| PSBD 150 | M 6 | 7 |
| PSBD 160 | M 6 | 7 |
| PSBD 170 | M 6 | 7 |
| PSBD 180 | M 6 | 7 |
| PSBD 190 | M 6 | 7 |
| PSBD 200 | M 8 | 10 |
| PSBD 220 | M 8 | 10 |
| PSBD 240 | M 8 | 10 |
| PSBD 260 | M 8 | 10 |
| PSBD 280 | M 8 | 10 |
| PSBD 300 | M 8 | 10 |
| PSBD 320 | M 8 | 10 |
| PSBD 340 | M 10 | 12 |
| PSBD 360 | M 10 | 12 |
| PSBD 380 | M 10 | 12 |
| PSBD 400 | M 10 | 12 |
| PSBD 420 | M 10 | 12 |

Table 2

Labyrinth seals for SBD plummer block and THD take-up housings

| | |
|-------------------------|----------------------------------|
| Material labyrinth ring | Cast iron |
| adapter ring | Fabric reinforced phenolic resin |

Application conditions and requirements

| | |
|-------------------------------------|--|
| Temperature with adapter ring | -30 to +100 °C (-20 to +210 °F) |
| without adapter ring | -50 to +200 °C (-60 to +390 °F) |
| Max. circumferential speed [m/s] | not limited |
| Max. misalignment [°] | 0,3 |
| Low friction | ++ |
| Axial shaft displacement | listed in the product tables |
| Shaft tolerance class | see <i>Shaft specifications</i> , page 495 |
| Shaft roughness R _a [µm] | ≤ 3,2 |

Sealing suitability

| | |
|----------------------|----|
| Dust | + |
| Fine particles | + |
| Coarse particles | + |
| Chips | ++ |
| Liquids when sprayed | -- |
| Direct sunlight | ++ |

Symbols: ++ very suitable
+ suitable
-- not suitable

Using sealed bearings

Using sealed bearings in housings with standard seals is a good solution for highly contaminated environments. The sealed bearing together with the housing seal and grease provide three layers of protection (→ *SKF three-barrier solution*, **page 39**). SBD plummer block housings and THD take-up housings can, in most cases, be used together with self-aligning sealed SKF bearings. When using taconite heavy-duty seals, a sealed bearing does not enhance the sealing effect during operation, but still protects the bearing against contaminants during mounting. For additional information, contact the SKF application engineering service.

Special seals

SBD plummer block housings and THD take-up housings are available with taconite heavy-duty seals. Taconite heavy-duty seals are grease filled labyrinth seals that include a V-ring. They can seal against taconite, a very fine-grained mineral which is extremely difficult to seal against.

Taconite seals require a modified housing, designation suffix /VZ335. For additional information, contact the SKF application engineering service.

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Axial load carrying capacity for bearings on sleeves* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

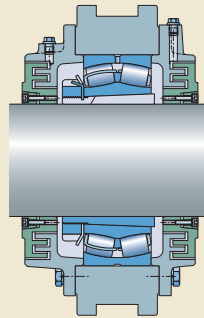
SBD plummer block housings can accommodate different shaft-bearing combinations (→ **fig. 6**):

- Plain shaft with bearing on an adapter sleeve, no designation suffix

- Stepped shaft with bearing on an adapter sleeve, designation suffix C
- Stepped shaft with bearing on a cylindrical seat, designation suffix E
- Multi-stepped shafts with bearings on a cylindrical seat, designation suffix G

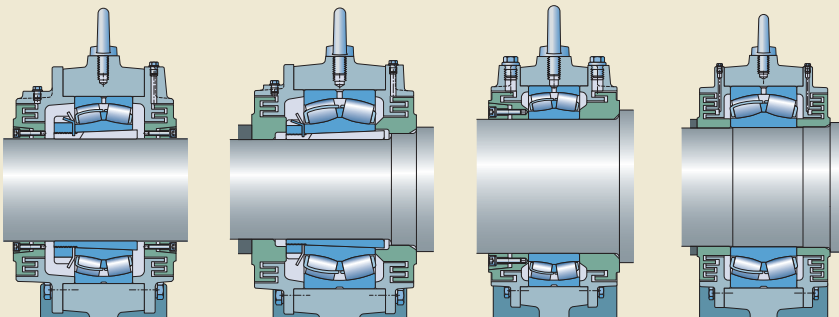
THD take-up housings are available for bearings on an adapter sleeve on plain shafts (→ **fig. 7**).

Fig. 7



10

Fig. 6



Plain shaft with bearing
on an adapter sleeve

Stepped shaft with bearing
on an adapter sleeve,
designation suffix C

Stepped shaft with bearing
on a cylindrical seat,
designation suffix E

Multi-stepped shaft with
bearing on a cylindrical seat,
designation suffix G

End plates to secure a bearing on a cylindrical seat at the end of a shaft (→ **fig. 8**) are not supplied by SKF. Suitable dimensions for end plates are provided in the product tables.

SBD and THD housing bodies are supplied with different covers to fit the following shaft arrangements:

- housing for a shaft end, designation suffix A
- housing for a through shaft, designation suffix B
- housing for a locating bearing, designation suffix F
- housing for a non-locating bearing, designation suffix L

When ordering, the suffixes should be combined; see the order example on **page 501**.

Locating and non-locating bearing positions

SBD plummer block housings and THD take-up housings can be used for both the locating and non-locating bearing positions. The housing covers determine the width of the bearing seat. For a locating bearing, the covers provide a bearing seat that is the same width as the bearing (designation suffix F). For the non-locating bearing, the covers provide a bearing seat that is wider than the bearing (designation suffix L). The permissible axial displacement of the bearing is listed in the product tables (parameter "s").

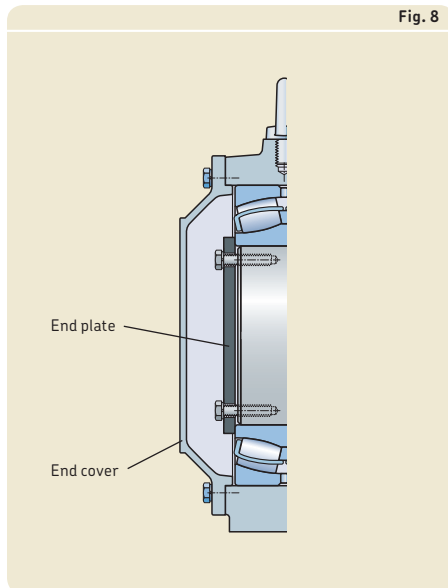
Load carrying capacity

SBD plummer block housings and THD take-up housings are designed to accommodate radial loads acting in all directions as well as axial loads acting in both directions on the locating bearing position.

For SBD housings, the permissible radial loads depend on the bearing, the housing and the attachment bolts. Loads acting perpendicularly to the support surface are limited only by the bearing. SBD housings must be supported over the entire base area.

For information on the load carrying capacity of THD take-up housings, contact SKF application engineering service.

Fig. 8



Breaking loads and safety factors

Guideline values for the breaking loads of housings made of spheroidal graphite cast iron are provided in **table 3** on **page 496**. To obtain the permissible load for a housing, the appropriate breaking load value should be divided by a factor selected based on the safety requirements. In general engineering, a safety factor of 6 is typical (→ *Load carrying capacity*, **page 44**).

For SBD housings made of cast steel, the values obtained from **table 3** on **page 496** should be multiplied by a factor of 1,25. For housings made of grey cast iron, the values should be multiplied by a factor of 0,63.

The load P_a is the axial breaking load of the housing. If the incorporated bearing is mounted on a sleeve, the permissible axial load for the sleeve must be checked.

Additional housing support for SBD plummer block housings

When the housing is subjected to loads acting parallel to the support surface, it may be necessary to provide a stop to counter the load.

When loads act at angles between 55° and 120°, or when the axial loads are greater than 5% of P_{180° (→ **table 3** on **page 496**), a stop should be provided to counter the load. The

stop should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Operating temperature

The permissible operating temperature is mainly limited by the adapter ring (→ **table 2, page 491**) and the lubricant. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

The permissible operating speed of the incorporated bearing is not limited by the housing.

Shaft specifications

When a labyrinth ring is mounted on the same shaft diameter as the bearing, its seat should comply with the tolerances required by the bearing.

- Housings without suffix
The recommended shaft tolerance class is h9 (E).
- Housings with suffix C
The recommended shaft tolerance class is h6 (E) (both under the adapter sleeve and the labyrinth rings).
- Housings with suffix E
The recommended shaft tolerance class for bearings with a bore diameter up to 140 mm is p6 (E), and for larger bearings r6 (E). The shaft tolerance class under the outer labyrinth seal is h6 (E).

- Housings with suffix G
The recommended shaft tolerance class for bearings with a bore diameter up to 140 mm is p6 (E), and for larger bearings r6 (E). Where a labyrinth ring is mounted on a separate seat, the recommended shaft tolerance class is h6 (E).

The recommended shaft tolerances under the labyrinth rings are also provided in the illustrations in the product tables.

Attachment bolt recommendations

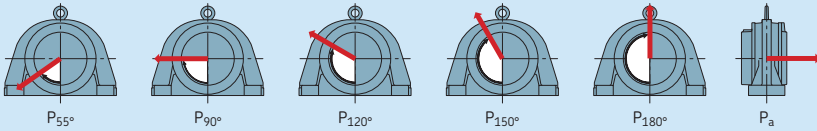
In typical applications 8.8 class hexagonal bolts in accordance with ISO 4014 can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 5 on page 500**). They are valid for oiled, but otherwise untreated, thread surfaces. SKF cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Non-split plummer block housings and take-up housings SBD and THD series

Table 3

Breaking loads for SBDD housings (spheroidal graphite cast iron housings)

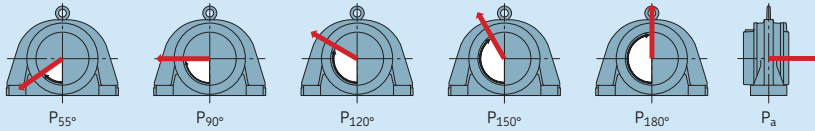


| Housing Size | | Breaking loads | | | | | | | | |
|--------------|------|------------------|------------------|-------------------|-------------------|-------------------|------------------|-------|-------|-----|
| | | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | P _a | | | |
| kN | | | | | | | | | | |
| 2213 | | | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | | | |
| 2218 | | | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | 1) ¹⁾ | | | |
| 2220 | 3024 | | 1 040 | 840 | 800 | 640 | 800 | 160 | | |
| | | 3122 | | | | | | | | |
| | | | 1 500 | 1 200 | 1 320 | 1 060 | 1 320 | 265 | | |
| 2222 | 3026 | | 1 240 | 1 000 | 880 | 720 | 880 | 175 | | |
| 2224 | 3028 | | 1 400 | 1 120 | 960 | 800 | 960 | 190 | | |
| | | 3124 | 3222 | 1 470 | 1 180 | 1 320 | 1 060 | 1 320 | 265 | |
| | | 3126 | 3224 | 1 580 | 1 260 | 1 360 | 1 090 | 1 360 | 270 | |
| 2226 | 3030 | | 1 600 | 1 280 | 1 680 | 1 360 | 1 680 | 320 | | |
| | | 3128 | 3226 | 1 800 | 1 440 | 1 360 | 1 090 | 1 360 | 270 | |
| | | | | 1 800 | 1 440 | 1 760 | 1 440 | 1 760 | 350 | |
| 2228 | 3032 | | 2 160 | 1 720 | 1 760 | 1 440 | 1 760 | 350 | | |
| | | 3034 | | | | | | | | |
| | | 3130 | 3228 | 2 160 | 1 720 | 1 400 | 1 120 | 1 400 | 280 | |
| | | | | 2 400 | 1 920 | 1 760 | 1 440 | 1 760 | 350 | |
| 2230 | 3036 | | 3 132 | 3 230 | 2 440 | 1 960 | 1 440 | 1 440 | 290 | |
| | | 3134 | 3232 | 2 640 | 2 120 | 1 920 | 1 520 | 1 920 | 385 | |
| 2232 | 3038 | | 2 800 | 2 240 | 1 520 | 1 220 | 1 520 | 305 | | |
| 2234 | 3040 | | 3 080 | 2 440 | 2 400 | 1 920 | 2 400 | 480 | | |
| | | 3136 | 3234 | 3 360 | 2 680 | 1 600 | 1 280 | 1 600 | 320 | |
| | | | | 3 480 | 2 800 | 2 720 | 2 160 | 2 720 | 545 | |
| 2236 | 3044 | | 3 480 | 2 800 | 2 720 | 2 160 | 2 720 | 545 | | |
| | | 3138 | 3236 | 3 600 | 2 920 | 1 680 | 1 340 | 1 680 | 335 | |
| | | | | 3 960 | 3 160 | 3 840 | 3 040 | 3 840 | 770 | |
| 2240 | 3048 | | 3 140 | 3 238 | 4 400 | 3 560 | 1 800 | 1 800 | 360 | |
| | | 3144 | 3240 | 4 440 | 3 560 | 3 920 | 3 120 | 3 920 | 785 | |
| | | | | 4 800 | 3 880 | 2 000 | 1 600 | 2 000 | 400 | |
| | | 3052 | | 5 160 | 4 120 | 4 800 | 3 840 | 4 800 | 960 | |
| | | 3148 | 3244 | 5 360 | 4 320 | 2 400 | 1 920 | 2 400 | 480 | |
| | | | | 5 720 | 4 560 | 4 960 | 4 000 | 4 960 | 990 | |
| 2248 | 3060 | | 3 152 | 3 248 | 6 000 | 4 840 | 2 800 | 2 240 | 2 800 | 560 |
| | | 3156 | 3252 | 6 280 | 5 040 | 5 360 | 4 240 | 5 360 | 1 040 | |
| 2252 | 3064 | | 6 920 | 5 520 | 5 360 | 4 240 | 5 360 | 1 040 | | |
| 2256 | 3068 | | 7 360 | 5 920 | 3 280 | 2 640 | 3 280 | 655 | | |

¹⁾ Contact SKF for missing values

Table 3 cont.

Breaking loads for SBDD housings (spheroidal graphite cast iron housings)



| Housing Size | | Breaking loads | | | | | | | | |
|--------------|--------|------------------|------------------|-------------------|-------------------|-------------------|----------------|-------|-------|-------|
| | | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} | P _a | | | |
| - | | kN | | | | | | | | |
| 2260 | 3072 | | | 7 560 | 6 040 | 6 400 | 5 120 | 6 400 | 1 280 | |
| | 3076 | 3160 | 3256 | 8 000 | 6 480 | 3 520 | 2 800 | 3 520 | 705 | |
| | | | | 8 480 | 6 800 | 6 560 | 5 280 | 6 560 | 1 310 | |
| 2264 | 3080 | 3164 | 3260 | 9 360 | 7 480 | 4 000 | 3 200 | 4 000 | 800 | |
| | | | | 9 440 | 7 600 | 7 120 | 5 680 | 7 120 | 1 440 | |
| | 3084 | | | 10 500 | 8 440 | 7 280 | 5 760 | 7 280 | 1 440 | |
| | | 3168 | 3264 | 11 200 | 8 920 | 4 560 | 3 600 | 4 560 | 910 | |
| | | 3172 | | 11 400 | 9 120 | 5 200 | 4 160 | 5 200 | 1 040 | |
| | | 3176 | 3268 | 12 800 | 10 200 | 5 200 | 4 160 | 5 200 | 1 040 | |
| | | 3180 | 3272 | 3276 | 14 000 | 11 200 | 5 760 | 4 560 | 5 760 | 1 150 |
| | 14 800 | | | | 11 800 | 6 400 | 5 120 | 6 400 | 1 280 | |
| | | 3184 | | | 15 200 | 12 200 | 6 400 | 5 120 | 6 400 | 1 440 |
| | | | | | 3280 | 17 600 | 14 100 | 7 280 | 5 840 | 7 280 |
| | | | 3284 | 19 200 | 15 200 | 8 400 | 6 720 | 8 400 | 1 680 | |

Lubrication

SBD plummer (pillow) block housings and THD take-up housings are intended for grease lubrication. The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 70 to 80% of its volume.

At speeds above 1/3 of the bearing limiting speed, the values in **table 4** should be reduced by 20 to 30% to avoid high operating temperatures. For bearing limiting speeds, refer to the product information available online at skf.com/bearings.

For highly contaminated environments, use the SKF three-barrier solution (→ **page 39**). In this case, check that the housing can accommodate sealed, self-aligning SKF bearings. For additional information, contact the SKF application engineering service.

Grease quantities for an 80% fill are listed in **table 4, page 499**. The values are valid for a typical lithium grease (about 0,95 g/cm³) and include the grease for the bearing.

In most applications, the initial grease fill will adequately lubricate the bearing until the grease is exchanged during the next planned maintenance interval.

Relubrication

Some high speed, high temperature or heavy load applications may require the bearing to be relubricated. SBD plummer block housings and THD take-up housings have a button head grease fitting to lubricate the bearing in accordance with DIN 3404 (→ **figs. 9 and 10**). SBD housings have the grease fitting centred at the top of the housing body, while THD housings have the grease fitting centered on the side of the housing body.

The grease fitting can only be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring). When applying grease via the relubrication feature, the shaft should be rotating.

CARB toroidal roller bearings should be relubricated from the side and not via the

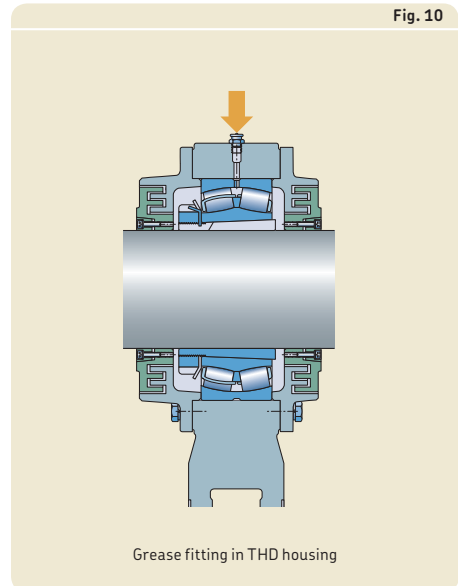
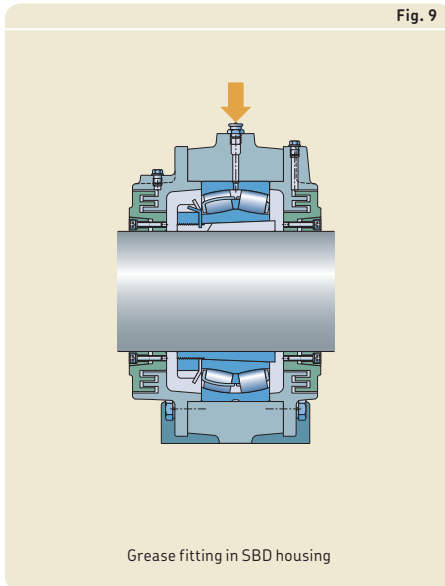


Table 4

| Initial grease fill | | | | | | | | |
|---------------------|----------------------------|------|----------|----------------------------|------|----------|----------------------------|-------|
| Housing | Initial fill ¹⁾ | | Housing | Initial fill ¹⁾ | | Housing | Initial fill ¹⁾ | |
| | Housing type | | | Housing type | | | Housing type | |
| | A | B | | A | B | | A | B |
| - | kg | | - | kg | | - | kg | |
| SBD 2213 | 0,10 | 0,10 | SBD 3122 | 0,40 | 0,30 | THD 2211 | 0,070 | 0,070 |
| SBD 2218 | 0,25 | 0,25 | SBD 3124 | 0,50 | 0,40 | THD 2212 | 0,080 | 0,080 |
| SBD 2220 | 0,90 | 0,40 | SBD 3126 | 0,50 | 0,50 | THD 2213 | 0,10 | 0,10 |
| SBD 2222 | 1,00 | 0,50 | SBD 3128 | 0,70 | 0,60 | THD 2216 | 0,20 | 0,20 |
| SBD 2224 | 1,00 | 0,50 | SBD 3130 | 0,90 | 0,90 | THD 2218 | 0,25 | 0,25 |
| SBD 2226 | 1,10 | 0,60 | SBD 3132 | 1,20 | 1,10 | THD 2220 | 0,40 | 0,35 |
| SBD 2228 | 1,20 | 0,80 | SBD 3134 | 1,40 | 1,30 | THD 2222 | 0,55 | 0,50 |
| SBD 2230 | 1,20 | 0,90 | SBD 3136 | 1,60 | 1,50 | THD 2224 | 0,60 | 0,55 |
| SBD 2232 | 1,30 | 1,00 | SBD 3138 | 2,00 | 1,80 | THD 2228 | 0,85 | 0,75 |
| SBD 2234 | 1,40 | 1,20 | SBD 3140 | 2,40 | 2,10 | THD 3030 | 0,60 | 0,55 |
| SBD 2236 | 1,80 | 1,50 | SBD 3144 | 2,90 | 2,50 | THD 3034 | 0,90 | 0,75 |
| SBD 2238 | 1,80 | 1,60 | SBD 3148 | 3,40 | 3,00 | THD 3038 | 1,15 | 1,00 |
| SBD 2240 | 2,00 | 1,80 | SBD 3152 | 4,40 | 3,80 | THD 3040 | 1,45 | 1,20 |
| SBD 2244 | 2,60 | 2,40 | SBD 3156 | 4,80 | 4,20 | THD 3044 | 1,75 | 1,50 |
| SBD 2248 | 3,60 | 3,40 | SBD 3160 | 6,00 | 5,20 | THD 3052 | 4,10 | 3,55 |
| SBD 2252 | 4,10 | 3,80 | SBD 3164 | 7,50 | 6,40 | THD 3272 | 12,0 | 10,5 |
| SBD 2256 | 5,20 | 4,90 | SBD 3168 | 10,0 | 8,20 | THD 3276 | 14,5 | 12,5 |
| SBD 2260 | 5,80 | 5,50 | SBD 3172 | 11,8 | 9,30 | THD 3280 | 18,0 | 16,0 |
| SBD 2264 | 7,90 | 7,50 | SBD 3176 | 14,0 | 11,0 | THD 3132 | 1,20 | 1,10 |
| SBD 3024 | 0,40 | 0,30 | SBD 3180 | 15,5 | 12,5 | THD 3134 | 1,35 | 1,25 |
| SBD 3026 | 0,50 | 0,40 | SBD 3184 | 18,0 | 15,0 | THD 3136 | 2,40 | 1,60 |
| SBD 3028 | 0,50 | 0,50 | SBD 3222 | 0,60 | 0,50 | THD 3138 | 2,85 | 2,60 |
| SBD 3030 | 0,60 | 0,60 | SBD 3224 | 0,80 | 0,70 | THD 3140 | 2,30 | 2,00 |
| SBD 3032 | 0,70 | 0,60 | SBD 3226 | 0,90 | 0,80 | THD 3144 | 2,90 | 2,50 |
| SBD 3034 | 0,80 | 0,70 | SBD 3228 | 1,10 | 1,00 | THD 3148 | 3,40 | 3,00 |
| SBD 3036 | 1,00 | 0,90 | SBD 3230 | 1,30 | 1,30 | THD 3152 | 4,40 | 3,75 |
| SBD 3038 | 1,10 | 1,00 | SBD 3232 | 1,60 | 1,50 | THD 3160 | 6,00 | 5,15 |
| SBD 3040 | 1,30 | 1,10 | SBD 3234 | 1,80 | 1,80 | THD 3164 | 7,50 | 6,40 |
| SBD 3044 | 1,70 | 1,50 | SBD 3236 | 2,10 | 2,00 | THD 3168 | 10,0 | 8,20 |
| SBD 3048 | 2,00 | 1,70 | SBD 3238 | 2,40 | 2,30 | THD 3176 | 14,0 | 11,0 |
| SBD 3052 | 2,50 | 2,30 | SBD 3240 | 2,60 | 2,50 | | | |
| SBD 3056 | 2,80 | 2,60 | SBD 3244 | 3,40 | 3,30 | | | |
| SBD 3060 | 3,70 | 3,30 | SBD 3248 | 4,30 | 4,00 | | | |
| SBD 3064 | 4,20 | 3,80 | SBD 3252 | 5,10 | 4,80 | | | |
| SBD 3068 | 5,20 | 4,70 | SBD 3260 | 7,00 | 6,30 | | | |
| SBD 3072 | 6,10 | 5,40 | SBD 3264 | 8,20 | 7,30 | | | |
| SBD 3076 | 6,90 | 6,00 | SBD 3268 | 9,90 | 8,80 | | | |
| SBD 3080 | 8,20 | 7,30 | SBD 3272 | 12,0 | 10,5 | | | |
| SBD 3084 | 8,90 | 7,90 | SBD 3276 | 14,5 | 12,5 | | | |
| | | | SBD 3280 | 18,0 | 16,0 | | | |
| | | | SBD 3284 | 23,0 | 20,5 | | | |

¹⁾ Based on 80% fill

Non-split plummer block housings and take-up housings SBD and THD series

Table 5

| Cover bolts and attachment bolts | | | | | | | |
|----------------------------------|--------|--------|--------|------------------|-------------------|--------------------------------|--------|
| Housing Size | | | | Cover bolts Size | Tightening torque | Attachment bolts ¹⁾ | |
| | 22(00) | 30(00) | 31(00) | | | 32(00) | Size |
| – | – | – | – | – | Nm | – | Nm |
| 2211 | | | | M 8 | 25 | – | – |
| 2212 | | | | M 8 | 25 | – | – |
| 2213 | | | | M 8 | 25 | M 16 | 200 |
| 2216 | | | | M 8 | 25 | – | – |
| 2218 | 3024 | | | M 8 | 25 | M 20 | 385 |
| 2220 | | | | M 8 | 25 | M 20 | 385 |
| 2222 | 3026 | 3122 | | M 12 | 80 | M 20 | 385 |
| | | 3124 | | M 12 | 80 | M 20 | 385 |
| | | 3126 | | M 12 | 80 | M 20 | 385 |
| | | 3128 | | M 12 | 80 | M 20 | 385 |
| 2224 | 3028 | | | M 8 | 25 | M 24 | 665 |
| 2226 | 3030 | | | M 10 | 50 | M 24 | 665 |
| | 3032 | | | M 10 | 50 | M 24 | 665 |
| | | 3130 | 3222 | M 12 | 80 | M 24 | 665 |
| | | 3132 | 3224 | M 12 | 80 | M 24 | 665 |
| | | | 3226 | M 12 | 80 | M 24 | 665 |
| | | | 3228 | M 12 | 80 | M 24 | 665 |
| 2228 | 3034 | | | M 10 | 50 | M 30 | 1 310 |
| 2230 | 3036 | 3134 | | M 12 | 80 | M 30 | 1 310 |
| 2232 | 3038 | | | M 12 | 80 | M 30 | 1 310 |
| 2234 | 3040 | | | M 12 | 80 | M 30 | 1 310 |
| | | 3136 | 3230 | M 16 | 200 | M 30 | 1 310 |
| | | | 3232 | M 16 | 200 | M 30 | 1 310 |
| | | | 3234 | M 16 | 200 | M 30 | 1 310 |
| | | | 3236 | M 16 | 200 | M 30 | 1 310 |
| | | | 3238 | M 16 | 200 | M 30 | 1 310 |
| 2236 | 3044 | 3138 | 3240 | M 16 | 200 | M 36 | 2 280 |
| 2238 | 3048 | 3140 | | M 16 | 200 | M 36 | 2 280 |
| 2240 | 3052 | 3144 | | M 16 | 200 | M 36 | 2 280 |
| 2244 | 3056 | | | M 16 | 200 | M 36 | 2 280 |
| 2248 | 3060 | 3148 | 3244 | M 20 | 385 | M 36 | 2 280 |
| 2252 | 3064 | 3152 | 3248 | M 20 | 385 | M 36 | 2 280 |
| 2256 | 3068 | | 3252 | M 20 | 385 | M 36 | 2 280 |
| 2260 | 3072 | | | M 20 | 385 | M 36 | 2 280 |
| | | 3156 | 3256 | M 24 | 665 | M 36 | 2 280 |
| | | 3160 | | M 24 | 665 | M 36 | 2 280 |
| | | 3164 | | M 24 | 665 | M 36 | 2 280 |
| | 3076 | | | M 20 | 385 | M 48 | 5 450 |
| 2264 | 3080 | 3168 | 3260 | M 24 | 665 | M 48 | 5 450 |
| | 3084 | 3172 | 3264 | M 24 | 665 | M 48 | 5 450 |
| | | 3176 | 3268 | M 30 | 1 310 | M 56 | 8 710 |
| | | 3180 | 3272 | M 30 | 1 310 | M 64 | 13 100 |
| | | 3184 | 3276 | M 30 | 1 310 | M 64 | 13 100 |
| | | | 3280 | M 30 | 1 310 | M 64 | 13 100 |
| | | | 3284 | M 30 | 1 310 | M 64 | 13 100 |

1) Valid for SBD housings only

2) Recommended by bolt manufacturers

grease fitting. Therefore, CARB toroidal roller bearings need customized SBD and THD housings. For more information, contact the SKF application engineering service.

Mounting

SBD and THD housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All associated components must meet certain basic requirements (→ *Specifications for shafts and housing support surfaces on page 45*).

For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Cover bolt torque specifications

Cover bolts should be tightened to the torque values listed in **table 5**. The cover bolts are in accordance with ISO-4017.

Mounting and dismantling the adapter ring

The adapter ring, which locks the labyrinth ring in place, has plain holes for mounting and threaded holes for dismantling. The adapter ring bolts should be tightened to the torque values listed in **table 1 on page 491**.

Condition monitoring

If connections for condition monitoring sensors are required, contact the SKF application engineering service.

Accessories

There are several accessories available for SBD and THD housings, including automatic lubricators, centralized lubrication systems and adapters for grease fittings. In some cases, an adapter is needed to attach the accessory to the housing. For additional information, refer to *SKF tools and products* (→ **page 47**).

Ordering information

SBD plummer (pillow) block housings and THD take-up housings are supplied with the appropriate covers, labyrinth rings and, if needed, adapter rings. End plates to secure a bearing on a cylindrical seat at the end of a shaft are not supplied with the housings. Bearings and adapter sleeves must be ordered separately.

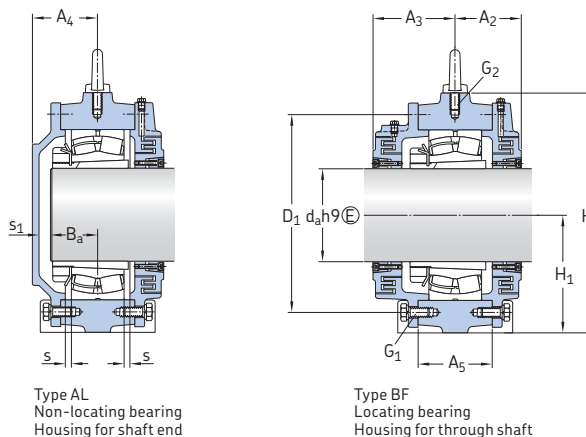
Order example

Two SBD plummer block housings are required for two 22213 E spherical roller bearings. One housing accommodates the non-locating bearing at the end of the shaft. The other housing accommodates the locating bearing and a through shaft.

The following items should be ordered:

- 1 housing SBDD 2213 AL
- 1 housing SBDD 2213 BF

10.1 SBD plummer block housings for bearings on an adapter sleeve and a plain shaft d_a 60 – 140 mm



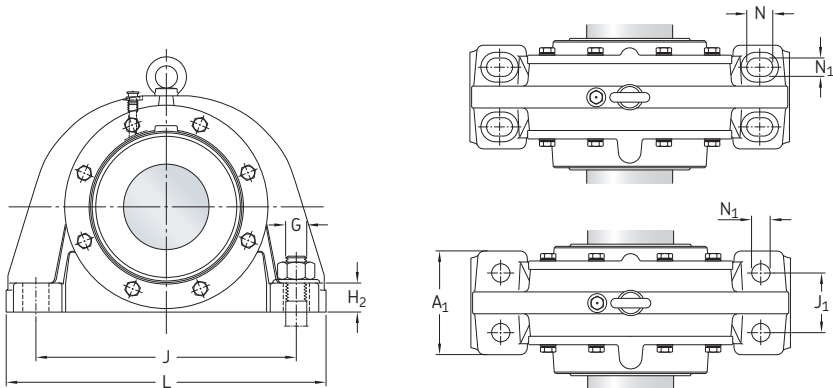
Type AL
Non-locating bearing
Housing for shaft end

Type BF
Locating bearing
Housing for through shaft

| Shaft diam. d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Adapter ring (included) | Dimensions Housing | | | | | | |
|-------------------------------|-----------|--|------------------------------|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|-----|
| | | | | | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | D ₁ | H |
| mm | - | - | | | mm | | | | | | |
| 60 | SBDD 2213 | 22213 EK | H 313 | PSBD 60 | 95 | 50 | 65 | 45 | 58 | 135 | 165 |
| 80 | SBDD 2218 | 22218 EK | H 318 | PSBD 80 | 110 | 60 | 70 | 51 | 55 | 185 | 220 |
| 90 | SBDD 2220 | 22220 EK | H 320 | PSBD 90 | 110 | 70 | 85 | 63 | 56 | 195 | 230 |
| 100 | SBDD 3122 | 23122 CCK/W33 | H 3122 | PSBD 100 | 150 | 81 | 102 | 83 | 80 | 215 | 270 |
| | SBDD 2222 | 22222 EK | H 322 | PSBD 100 | 120 | 78 | 90 | 68 | 64 | 215 | 260 |
| | SBDD 3222 | 23222 CCK/W33 | H 2322 | PSBD 100 | 130 | 91 | 103 | 76 | 90 | 230 | 285 |
| 110 | SBDD 3024 | 23024 CCK/W33 | H 3024 | PSBD 110 | 110 | 63 | 83 | 63 | 56 | 195 | 230 |
| | SBDD 3124 | 23124 CCK/W33 | H 3124 | PSBD 110 | 140 | 76 | 93 | 78 | 85 | 230 | 285 |
| | SBDD 2224 | 22224 EK | H 3124 | PSBD 110 | 130 | 80,5 | 95,5 | 68 | 70 | 230 | 275 |
| | SBDD 3224 | 23224 CCK/W33 | H 2334 | PSBD 110 | 140 | 93 | 108 | 78 | 95 | 245 | 305 |
| 115 | SBDD 3026 | 23026 CCK/W33 | H 3026 | PSBD 115 | 120 | 68 | 88 | 68 | 64 | 215 | 260 |
| | SBDD 3126 | 23126 CCK/W33 | H 3126 | PSBD 115 | 140 | 80 | 100 | 80 | 90 | 240 | 295 |
| | SBDD 2226 | 22226 EK | H 3126 | PSBD 115 | 140 | 88 | 98 | 70 | 76 | 245 | 290 |
| | SBDD 3226 | 23226 CCK/W33 | H 2336 | PSBD 115 | 150 | 103 | 108 | 78 | 100 | 260 | 325 |
| 125 | SBDD 3028 | 23028 CCK/W33 | H 3028 | PSBD 125 | 130 | 68 | 88 | 68 | 70 | 230 | 275 |
| | SBDD 3128 | 23128 CCK/W33 | H 3128 | PSBD 125 | 150 | 85 | 110 | 85 | 95 | 260 | 315 |
| | SBDD 2228 | 22228 CCK/W33 | H 3128 | PSBD 125 | 160 | 94 | 104 | 83 | 82 | 275 | 330 |
| | SBDD 3228 | 23228 CCK/W33 | H 2338 | PSBD 125 | 160 | 108 | 118 | 88 | 110 | 285 | 350 |
| 135 | SBDD 3030 | 23030 CCK/W33 | H 3030 | PSBD 135 | 140 | 73 | 94 | 70 | 76 | 245 | 290 |
| | SBDD 3130 | 23130 CCK/W33 | H 3130 | PSBD 135 | 200 | 93 | 113 | 93 | 102 | 285 | 345 |
| | SBDD 2230 | 22230 CCK/W33 | H 3130 | PSBD 135 | 170 | 98 | 108 | 88 | 90 | 300 | 360 |
| | SBDD 3230 | 23230 CCK/W33 | H 2330 | PSBD 135 | 170 | 113 | 123 | 93 | 120 | 305 | 375 |
| 140 | SBDD 3032 | 23032 CCK/W33 | H 3032 | PSBD 140 | 150 | 78 | 98 | 76 | 76 | 260 | 310 |
| | SBDD 3132 | 23132 CCK/W33 | H 3132 | PSBD 140 | 200 | 98 | 123 | 98 | 110 | 310 | 368 |
| | SBDD 2232 | 22232 CCK/W33 | H 3132 | PSBD 140 | 180 | 101 | 116 | 88 | 96 | 315 | 370 |
| | SBDD 3232 | 23232 CCK/W33 | H 2332 | PSBD 140 | 180 | 118 | 133 | 98 | 130 | 330 | 395 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

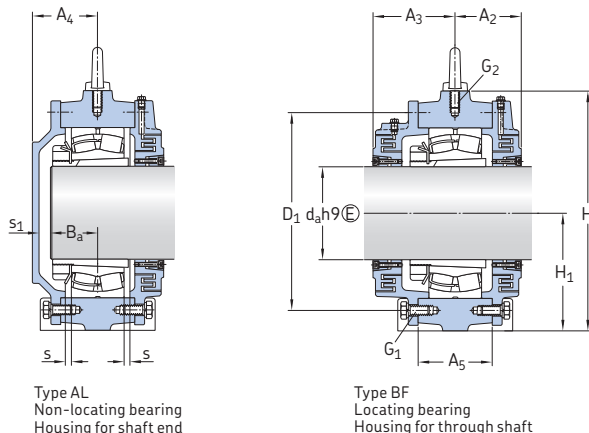
²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diam. | Dimensions Housing | | | | | | | | | | Eye bolt acc. to DIN 580 G ₂ | Dimensions Other | | Mass Housing type A B | |
|-------------|--------------------|----------------|-----|----------------|-----|----|----------------|---|----|----------------|---|------------------|----------------|-----------------------|-----|
| | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G ₁ | | B _a | s ₁ | A | B |
| mm | mm | | | | | | | | | | - | mm | | kg | |
| 60 | 80 | 25 | 220 | 50 | 280 | - | 19 | 2 | 16 | M8 | - | 32 | 6 | 8,9 | 9,3 |
| 80 | 110 | 38 | 290 | 60 | 370 | - | 24 | 2 | 20 | M8 | M10 | 40 | 5 | 21 | 23 |
| 90 | 115 | 35 | 300 | 60 | 370 | - | 24 | 2 | 20 | M8 | M12 | 45 | 11 | 23 | 25 |
| 100 | 130 | 40 | 300 | 80 | 400 | 35 | 25 | 2 | 20 | M12 | M12 | 52 | 25 | 40 | 45 |
| | 130 | 38 | 340 | 60 | 410 | - | 24 | 2 | 20 | M8 | M12 | 50 | 11 | 37 | 40 |
| | 140 | 42 | 350 | 70 | 440 | - | 28 | 2 | 24 | M12 | M16 | 60 | 9 | 46 | 50 |
| 110 | 115 | 35 | 300 | 60 | 370 | - | 24 | 2 | 20 | M8 | M12 | 48 | 8 | 19 | 20 |
| | 140 | 40 | 330 | 80 | 410 | 35 | 25 | 2 | 20 | M12 | M12 | 56 | 13 | 45 | 50 |
| | 140 | 40 | 360 | 70 | 430 | - | 28 | 3 | 24 | M8 | M12 | 55 | 6 | 43 | 46 |
| | 150 | 42 | 370 | 75 | 470 | 35 | 30 | 2 | 24 | M12 | M16 | 64 | 7 | 50 | 55 |
| 115 | 130 | 38 | 340 | 60 | 410 | - | 24 | 2 | 20 | M8 | M12 | 52 | 9 | 28 | 30 |
| | 145 | 40 | 350 | 80 | 430 | 35 | 25 | 2 | 20 | M12 | M12 | 58 | 15 | 50 | 55 |
| | 145 | 42 | 370 | 80 | 455 | - | 28 | 3 | 24 | M10 | M12 | 57 | 5 | 52 | 56 |
| | 160 | 45 | 400 | 85 | 500 | 40 | 30 | 2 | 24 | M12 | M16 | 66 | 5 | 60 | 65 |
| 125 | 140 | 40 | 360 | 70 | 430 | - | 28 | 3 | 24 | M8 | M12 | 54 | 7 | 32 | 35 |
| | 155 | 45 | 380 | 85 | 470 | 35 | 25 | 2 | 20 | M12 | M12 | 62 | 16 | 58 | 65 |
| | 165 | 50 | 420 | 95 | 510 | - | 35 | 3 | 30 | M10 | M12 | 62 | 13 | 65 | 70 |
| | 170 | 50 | 430 | 85 | 530 | 40 | 30 | 3 | 24 | M16 | M20 | 72 | 9 | 74 | 80 |
| 135 | 145 | 42 | 370 | 80 | 455 | - | 28 | 3 | 24 | M10 | M12 | 56 | 6 | 37 | 40 |
| | 170 | 60 | 450 | 110 | 580 | 45 | 35 | 3 | 24 | M12 | M16 | 70 | 15 | 78 | 85 |
| | 180 | 52 | 450 | 100 | 540 | - | 35 | 3 | 30 | M12 | M16 | 66 | 14 | 77 | 82 |
| | 180 | 54 | 450 | 90 | 550 | 45 | 35 | 3 | 30 | M16 | M20 | 78 | 7 | 87 | 95 |
| 140 | 155 | 45 | 390 | 90 | 480 | - | 28 | 3 | 24 | M10 | M12 | 62 | 6 | 41 | 45 |
| | 180 | 55 | 430 | 110 | 540 | 40 | 30 | 3 | 24 | M12 | M16 | 75 | 15 | 90 | 100 |
| | 185 | 55 | 480 | 105 | 570 | - | 35 | 3 | 30 | M12 | M16 | 72 | 8 | 90 | 96 |
| | 190 | 58 | 490 | 105 | 600 | - | 35 | 3 | 30 | M16 | M20 | 84 | 6 | 100 | 110 |

10.1

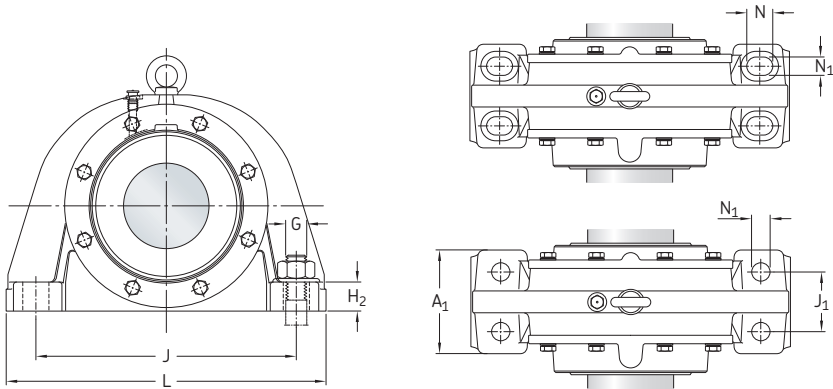
10.1 SBD plummer block housings for bearings on an adapter sleeve and a plain shaft d_a 150 – 240 mm



| Shaft diam. d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Adapter ring (included) | Dimensions Housing | | | | | | |
|-------------------------------|-----------|--|------------------------------|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|-----|
| | | | | | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | D ₁ | H |
| mm | – | – | | | mm | | | | | | |
| 150 | SBDD 3034 | 23034 CCK/W33 | H 3034 | PSBD 150 | 160 | 78 | 103 | 83 | 82 | 280 | 330 |
| | SBDD 3134 | 23134 CCK/W33 | H 3134 | PSBD 150 | 200 | 113 | 136 | 112 | 120 | 330 | 395 |
| | SBDD 2234 | 22234 CCK/W33 | H 3134 | PSBD 150 | 190 | 112,5 | 127,5 | 97 | 104 | 335 | 400 |
| | SBDD 3234 | 23234 CCK/W33 | H 2334 | PSBD 150 | 200 | 128 | 143 | 103 | 135 | 345 | 410 |
| 160 | SBDD 3036 | 23036 CCK/W33 | H 3036 | PSBD 160 | 170 | 83 | 108 | 88 | 90 | 305 | 360 |
| | SBDD 3136 | 23136 CCK/W33 | H 3136 | PSBD 160 | 200 | 118 | 138 | 116 | 125 | 350 | 410 |
| | SBDD 2236 | 22236 CCK/W33 | H 3136 | PSBD 160 | 200 | 118 | 133 | 102 | 110 | 360 | 430 |
| | SBDD 3236 | 23236 CCK/W33 | H 2336 | PSBD 160 | 210 | 133 | 148 | 108 | 140 | 360 | 430 |
| 170 | SBDD 3038 | 23038 CCK/W33 | H 3038 | PSBD 170 | 180 | 93 | 118 | 88 | 96 | 315 | 370 |
| | SBDD 3138 | 23138 CCK/W33 | H 3138 | PSBD 170 | 210 | 123 | 143 | 120 | 130 | 370 | 435 |
| | SBDD 2238 | 22238 CCK/W33 | H 3138 | PSBD 170 | 200 | 118 | 133 | 102 | 110 | 370 | 430 |
| | SBDD 3238 | 23238 CCK/W33 | H 2338 | PSBD 170 | 220 | 138 | 153 | 113 | 150 | 385 | 455 |
| 180 | SBDD 3040 | 23040 CCK/W33 | H 3040 | PSBD 180 | 190 | 97 | 122 | 97 | 104 | 340 | 400 |
| | SBDD 3140 | 23140 CCK/W33 | H 3140 | PSBD 180 | 220 | 127 | 147 | 127 | 135 | 380 | 455 |
| | SBDD 2240 | 22240 CCK/W33 | H 3140 | PSBD 180 | 210 | 122 | 134,5 | 107 | 118 | 390 | 450 |
| | SBDD 3240 | 23240 CCK/W33 | H 2340 | PSBD 180 | 240 | 138 | 158 | 118 | 165 | 405 | 475 |
| 200 | SBDD 3044 | 23044 CCK/W33 | OH 3044 H | PSBD 200 | 200 | 102 | 137 | 102 | 110 | 370 | 430 |
| | SBDD 3144 | 23144 CCK/W33 | OH 3144 H | PSBD 200 | 230 | 135 | 160 | 135 | 150 | 420 | 485 |
| | SBDD 2244 | 22244 CCK/W33 | OH 3144 H | PSBD 200 | 220 | 124,5 | 159,5 | 117 | 128 | 435 | 500 |
| | SBDD 3244 | 23244 CCK/W33 | OH 2344 H | PSBD 200 | 250 | 148 | 183 | 133 | 175 | 445 | 525 |
| 220 | SBDD 3048 | 23048 CCK/W33 | OH 3048 H | PSBD 220 | 210 | 102 | 142 | 107 | 118 | 390 | 450 |
| | SBDD 3148 | 23148 CCK/W33 | OH 3148 H | PSBD 220 | 250 | 152 | 182 | 142 | 160 | 455 | 550 |
| | SBDD 2248 | 22248 CCK/W33 | OH 3148 H | PSBD 220 | 250 | 130 | 165 | 132 | 144 | 490 | 570 |
| | SBDD 3248 | 23248 CCK/W33 | OH 2348 H | PSBD 220 | 250 | 148 | 188 | 148 | 190 | 490 | 590 |
| 240 | SBDD 3052 | 23052 CCK/W33 | OH 3052 H | PSBD 240 | 220 | 107 | 147 | 117 | 128 | 435 | 500 |
| | SBDD 3152 | 23152 CCK/W33 | OH 3152 H | PSBD 240 | 250 | 152 | 187 | 152 | 175 | 490 | 590 |
| | SBDD 2252 | 22252 CCK/W33 | OH 3152 H | PSBD 240 | 260 | 145 | 182,5 | 137 | 154 | 520 | 590 |
| | SBDD 3252 | 23252 CCK/W33 | OH 2352 H | PSBD 240 | 290 | 167 | 208 | 158 | 205 | 535 | 625 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

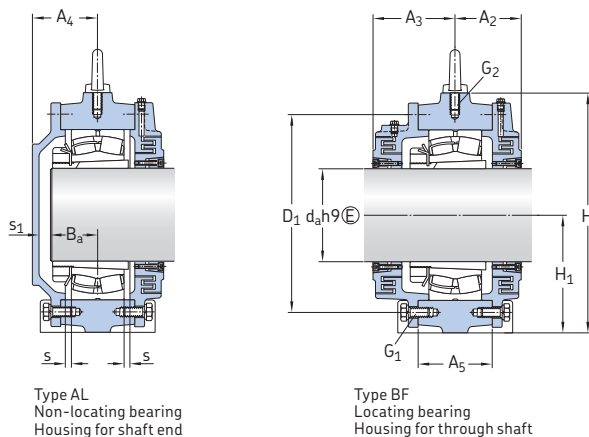
²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diam. | Dimensions Housing | | | | | | | | | | | Eye bolt acc. to DIN 580 G ₂ | Dimensions Other | | Mass Housing type | |
|-------------|--------------------|----------------|-----|----------------|-----|----|----------------|---|----|----------------|----------------|---|------------------|-----|-------------------|--|
| | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G ₁ | B _a | | s ₁ | A | B | |
| mm | mm | | | | | | | | | | | - | mm | | kg | |
| 150 | 165 | 50 | 420 | 95 | 510 | - | 35 | 3 | 30 | M10 | M12 | 66 | 9 | 50 | 55 | |
| | 190 | 60 | 470 | 110 | 570 | 45 | 35 | 3 | 30 | M12 | M20 | 78 | 26 | 100 | 110 | |
| | 200 | 60 | 510 | 110 | 600 | - | 35 | 4 | 30 | M12 | M16 | 75 | 14 | 103 | 110 | |
| | 200 | 62 | 525 | 110 | 640 | 45 | 35 | 3 | 30 | M16 | M20 | 88 | 7 | 130 | 140 | |
| 160 | 180 | 52 | 450 | 100 | 540 | - | 35 | 3 | 30 | M12 | M16 | 70 | 10 | 64 | 70 | |
| | 200 | 60 | 490 | 105 | 600 | 45 | 35 | 3 | 30 | M16 | M20 | 82 | 26 | 118 | 130 | |
| | 215 | 65 | 540 | 115 | 640 | - | 42 | 4 | 36 | M16 | M20 | 78 | 14 | 112 | 120 | |
| | 210 | 65 | 550 | 120 | 680 | 45 | 35 | 3 | 30 | M16 | M20 | 90 | 10 | 147 | 160 | |
| 170 | 185 | 55 | 480 | 105 | 570 | - | 35 | 3 | 30 | M12 | M16 | 72 | 8 | 74 | 80 | |
| | 210 | 65 | 550 | 120 | 680 | 45 | 30 | 3 | 36 | M16 | M20 | 88 | 22 | 146 | 160 | |
| | 215 | 65 | 540 | 115 | 640 | - | 42 | 4 | 36 | M16 | M20 | 82 | 10 | 126 | 135 | |
| | 220 | 75 | 560 | 120 | 710 | 45 | 35 | 4 | 30 | M16 | M20 | 95 | 10 | 170 | 185 | |
| 180 | 200 | 60 | 510 | 110 | 600 | - | 35 | 4 | 30 | M12 | M16 | 78 | 11 | 83 | 90 | |
| | 220 | 85 | 560 | 120 | 710 | 52 | 42 | 3 | 36 | M16 | M24 | 95 | 22 | 175 | 190 | |
| | 225 | 70 | 560 | 120 | 680 | - | 42 | 4 | 36 | M16 | M20 | 85 | 12 | 145 | 155 | |
| | 235 | 75 | 640 | 140 | 780 | 52 | 42 | 4 | 36 | M16 | M24 | 100 | 10 | 200 | 220 | |
| 200 | 215 | 65 | 540 | 115 | 640 | - | 42 | 4 | 36 | M16 | M20 | 80 | 12 | 107 | 115 | |
| | 235 | 75 | 640 | 140 | 780 | 52 | 42 | 4 | 36 | M16 | M24 | 100 | 25 | 205 | 220 | |
| | 250 | 75 | 600 | 130 | 720 | - | 42 | 4 | 36 | M16 | M20 | 95 | 10 | 187 | 200 | |
| | 260 | 80 | 700 | 140 | 850 | 52 | 42 | 4 | 36 | M20 | M24 | 112 | 11 | 270 | 290 | |
| 220 | 225 | 70 | 560 | 120 | 680 | - | 42 | 4 | 36 | M16 | M20 | 85 | 12 | 120 | 130 | |
| | 270 | 80 | 720 | 140 | 890 | 52 | 42 | 4 | 36 | M20 | M24 | 106 | 26 | 250 | 270 | |
| | 285 | 85 | 690 | 150 | 820 | - | 42 | 5 | 36 | M20 | M24 | 105 | 15 | 235 | 250 | |
| | 290 | 90 | 750 | 140 | 900 | 52 | 42 | 5 | 36 | M20 | M24 | 122 | 16 | 345 | 370 | |
| 240 | 250 | 75 | 600 | 130 | 720 | - | 42 | 4 | 36 | M16 | M20 | 92 | 13 | 153 | 165 | |
| | 290 | 90 | 750 | 140 | 900 | 52 | 42 | 4 | 36 | M20 | M24 | 118 | 24 | 300 | 320 | |
| | 295 | 90 | 730 | 160 | 860 | - | 42 | 5 | 36 | M20 | M24 | 110 | 13 | 290 | 310 | |
| | 310 | 95 | 800 | 160 | 960 | 65 | 42 | 5 | 36 | M20 | M24 | 132 | 16 | 435 | 470 | |

10.1

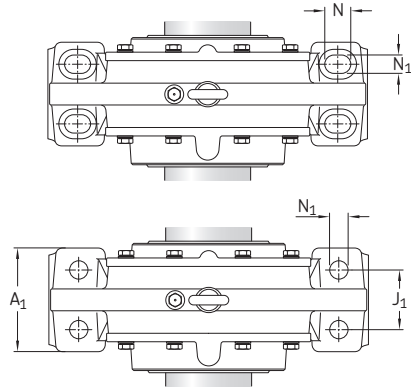
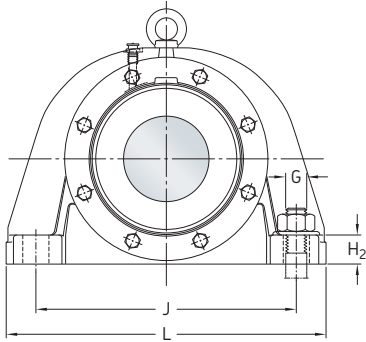
10.1 SBD plummer block housings for bearings on an adapter sleeve and a plain shaft d_a 260 – 400 mm



| Shaft diam. d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Adapter ring (included) | Dimensions Housing | | | | | | |
|-------------------------------|-----------|--|------------------------------|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|-----|
| | | | | | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | D ₁ | H |
| mm | – | – | | | mm | | | | | | |
| 260 | SBDD 3056 | 23056 CCK/W33 | OH 056 H | PSBD 260 | 240 | 117 | 157 | 122 | 128 | 455 | 520 |
| | SBDD 3156 | 23156 CCK/W33 | OH 3156 H | PSBD 260 | 250 | 157 | 197 | 165 | 175 | 510 | 590 |
| | SBDD 2256 | 22256 CCK/W33 | OH 3156 H | PSBD 260 | 270 | 152 | 192 | 147 | 158 | 555 | 630 |
| | SBDD 3256 | 23256 CCK/W33 | OH 2356 H | PSBD 260 | 300 | 178 | 218 | 163 | 210 | 555 | 645 |
| 280 | SBDD 3060 | 23060 CCK/W33 | OH 3060 H | PSBD 280 | 250 | 122 | 167 | 132 | 144 | 500 | 570 |
| | SBDD 3160 | 23160 CCK/W33 | OH 3160 H | PSBD 280 | 300 | 162 | 207 | 167 | 190 | 550 | 655 |
| | SBDD 2260 | 22260 CCK/W33 | OH 3160 H | PSBD 280 | 280 | 160 | 191 | 152 | 168 | 585 | 660 |
| | SBDD 3260 | 23260 CCK/W33 | OH 3260 H | PSBD 280 | 330 | 182 | 222 | 187 | 230 | 600 | 705 |
| 300 | SBDD 3064 | 23064 CCK/W33 | OH 3064 H | PSBD 300 | 260 | 122 | 172 | 137 | 154 | 520 | 590 |
| | SBDD 3164 | 23164 CCK/W33 | OH 3164 H | PSBD 300 | 300 | 177 | 212 | 187 | 210 | 590 | 702 |
| | SBDD 2264 | 22264 CCK/W33 | OH 3164 H | PSBD 300 | 320 | 175 | 202 | 167 | 180 | 640 | 720 |
| | SBDD 3264 | 23264 CCK/W33 | OH 3264 H | PSBD 300 | 360 | 192 | 237 | 187 | 250 | 640 | 760 |
| 320 | SBDD 3068 | 23068 CCK/W33 | OH 3068 H | PSBD 320 | 270 | 132 | 177 | 147 | 158 | 565 | 630 |
| | SBDD 3168 | 23168 CCK/W33 | OH 3168 H | PSBD 320 | 360 | 197 | 242 | 237 | 220 | 630 | 735 |
| | SBDD 3268 | 23268 CAK/W33 | OH 3268 H | PSBD 320 | 380 | 202 | 272 | 237 | 265 | 680 | 810 |
| 340 | SBDD 3072 | 23072 CCK/W33 | OH 3072 H | PSBD 340 | 280 | 132 | 182 | 152 | 168 | 585 | 660 |
| | SBDD 3172 | 23172 CCK/W33 | OH 3172 H | PSBD 340 | 370 | 197 | 247 | 243 | 225 | 650 | 760 |
| | SBDD 3272 | 23272 CAK/W33 | OH 3272 H | PSBD 340 | 400 | 227 | 282 | 247 | 275 | 710 | 825 |
| 360 | SBDD 3076 | 23076 CCK/W33 | OH 3076 H | PSBD 360 | 300 | 137 | 187 | 157 | 168 | 605 | 680 |
| | SBDD 3176 | 23176 CAK/W33 | OH 3176 H | PSBD 360 | 380 | 202 | 257 | 254 | 230 | 680 | 790 |
| | SBDD 3276 | 23276 CAK/W33 | OH 3276 H | PSBD 360 | 405 | 232 | 297 | 257 | 295 | 745 | 880 |
| 380 | SBDD 3080 | 23080 CCK/W33 | OH 3080 H | PSBD 380 | 320 | 142 | 202 | 167 | 180 | 650 | 720 |
| | SBDD 3180 | 23180 CAK/W33 | OH 3180 H | PSBD 380 | 400 | 197 | 262 | 247 | 235 | 710 | 845 |
| | SBDD 3280 | 23280 CAK/W33 | OH 3280 H | PSBD 380 | 450 | 242 | 307 | 257 | 300 | 790 | 905 |
| 400 | SBDD 3084 | 23084 CAK/W33 | OH 3084 H | PSBD 400 | 340 | 147 | 202 | 167 | 180 | 670 | 750 |
| | SBDD 3184 | 23184 CKJ/W33 | OH 3184 H | PSBD 400 | 420 | 212 | 289 | 257 | 260 | 760 | 900 |
| | SBDD 3284 | 23284 CAK/W33 | OH 3284 H | PSBD 400 | 470 | 252 | 317 | 267 | 315 | 835 | 955 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

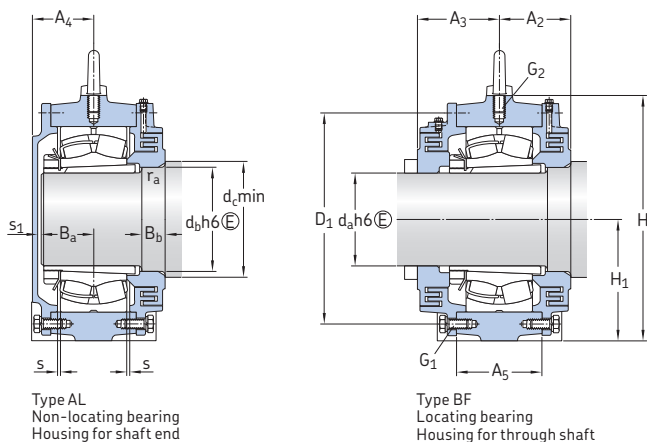
²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diam. | Dimensions Housing | | | | | | | | | | Eye bolt acc. to DIN 580 G ₂ | Dimensions Other | | Mass Housing type | |
|-------------|--------------------|----------------|------|----------------|------|----|----------------|---|----|----------------|---|------------------|----------------|-------------------|------|
| | H ₁ | H ₂ | J | J ₁ | L | N | N ₁ | s | G | G ₁ | | B _a | s ₁ | A | B |
| mm | mm | | | | | | | | | | - | mm | | kg | |
| 260 | 260 | 80 | 630 | 140 | 760 | - | 42 | 5 | 36 | M16 | M20 | 96 | 14 | 177 | 190 |
| | 290 | 90 | 750 | 140 | 900 | 65 | 42 | 5 | 36 | M24 | M24 | 120 | 35 | 325 | 350 |
| | 315 | 95 | 770 | 170 | 900 | - | 42 | 5 | 36 | M20 | M24 | 115 | 18 | 330 | 350 |
| | 320 | 100 | 840 | 170 | 1000 | 65 | 42 | 5 | 36 | M24 | M30 | 135 | 16 | 490 | 530 |
| 280 | 285 | 85 | 690 | 150 | 820 | - | 42 | 5 | 36 | M20 | M24 | 105 | 15 | 215 | 230 |
| | 320 | 100 | 840 | 170 | 1000 | 65 | 42 | 5 | 36 | M24 | M30 | 125 | 32 | 400 | 430 |
| | 330 | 100 | 820 | 180 | 960 | - | 42 | 5 | 36 | M20 | M24 | 120 | 17 | 400 | 430 |
| | 350 | 105 | 920 | 180 | 1100 | 75 | 56 | 6 | 48 | M24 | M30 | 142 | 33 | 590 | 640 |
| 300 | 295 | 90 | 730 | 160 | 860 | - | 42 | 5 | 36 | M20 | M24 | 108 | 15 | 240 | 255 |
| | 350 | 100 | 940 | 160 | 1150 | 65 | 42 | 5 | 36 | M24 | M30 | 135 | 40 | 490 | 530 |
| | 360 | 110 | 900 | 200 | 1060 | - | 56 | 5 | 48 | M24 | M30 | 125 | 26 | 485 | 520 |
| | 370 | 115 | 960 | 200 | 1150 | 75 | 56 | 6 | 48 | M24 | M30 | 152 | 21 | 700 | 760 |
| 320 | 315 | 95 | 770 | 170 | 900 | - | 42 | 6 | 36 | M20 | M24 | 120 | 13 | 280 | 305 |
| | 370 | 115 | 960 | 200 | 1150 | 75 | 56 | 6 | 48 | M24 | M30 | 155 | 70 | 590 | 630 |
| | 390 | 125 | 980 | 200 | 1200 | 75 | 60 | 6 | 56 | M24 | M36 | 175 | 47 | 830 | 900 |
| 340 | 330 | 100 | 820 | 180 | 960 | - | 42 | 6 | 36 | M20 | M24 | 120 | 17 | 315 | 340 |
| | 380 | 115 | 1000 | 200 | 1200 | 75 | 56 | 6 | 48 | M24 | M30 | 160 | 67 | 660 | 700 |
| | 410 | 130 | 1040 | 210 | 1280 | 80 | 68 | 7 | 64 | M24 | M36 | 180 | 51 | 950 | 1020 |
| 360 | 340 | 105 | 840 | 190 | 1000 | - | 56 | 6 | 48 | M20 | M24 | 124 | 17 | 350 | 380 |
| | 390 | 125 | 1000 | 200 | 1200 | 75 | 60 | 6 | 56 | M30 | M30 | 165 | 73 | 730 | 770 |
| | 425 | 135 | 1100 | 225 | 1350 | 85 | 68 | 7 | 64 | M30 | M36 | 186 | 55 | 1060 | 1140 |
| 380 | 360 | 110 | 900 | 200 | 1060 | - | 56 | 6 | 48 | M24 | M30 | 134 | 17 | 420 | 450 |
| | 410 | 130 | 1040 | 210 | 1280 | 80 | 68 | 7 | 64 | M30 | M36 | 170 | 61 | 820 | 870 |
| | 450 | 145 | 1160 | 240 | 1430 | 85 | 68 | 7 | 64 | M30 | M36 | 196 | 45 | 1240 | 1330 |
| 400 | 375 | 115 | 940 | 210 | 1100 | - | 56 | 6 | 48 | M24 | M30 | 135 | 16 | 465 | 500 |
| | 450 | 135 | 1100 | 210 | 1350 | 85 | 68 | 7 | 64 | M30 | M36 | 190 | 51 | 1000 | 1070 |
| | 470 | 150 | 1220 | 255 | 1500 | 90 | 72 | 8 | 64 | M30 | M36 | 212 | 39 | 1500 | 1600 |

10.1

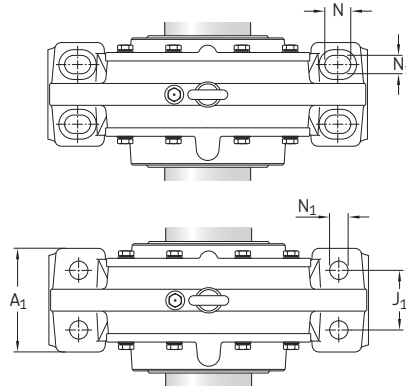
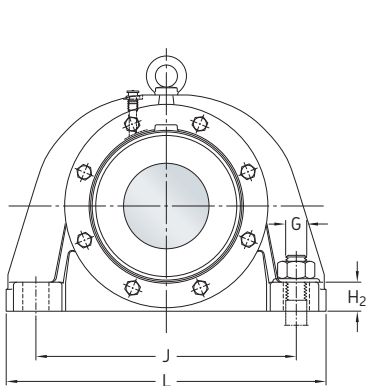
10.2 SBD plummer block housings for bearings on an adapter sleeve and a stepped shaft d_a 90 – 150 mm



| Shaft diam. d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Dimensions Housing | | | | | | | | | | | |
|-------------------------------|-------------|--|------------------------------|-----------------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|-----|--|--|
| | | | | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | D ₁ | H | H ₁ | H ₂ | J | | |
| mm | – | – | | mm | | | | | | | | | | | |
| 90 | SBDD 2220 C | 22220 EK | H 320 | 110 | 70 | 85 | 63 | 56 | 195 | 230 | 115 | 35 | 300 | | |
| 100 | SBDD 3122 C | 23122 CCK/W33 | H 3122 | 150 | 81 | 102 | 83 | 80 | 215 | 270 | 130 | 40 | 300 | | |
| | SBDD 2222 C | 22222 EK | H 322 | 120 | 78 | 90 | 68 | 64 | 215 | 260 | 130 | 38 | 340 | | |
| | SBDD 3222 C | 23222 CCK/W33 | H 2322 | 130 | 91 | 103 | 76 | 90 | 230 | 285 | 140 | 42 | 350 | | |
| 110 | SBDD 3024 C | 23024 CCK/W33 | H 3024 | 110 | 63 | 83 | 63 | 56 | 195 | 230 | 115 | 35 | 300 | | |
| | SBDD 3124 C | 23124 CCK/W33 | H 3124 | 140 | 76 | 93 | 78 | 85 | 230 | 285 | 140 | 40 | 330 | | |
| | SBDD 2224 C | 22224 EK | H 3124 | 130 | 80,5 | 95,5 | 68 | 70 | 230 | 275 | 140 | 40 | 360 | | |
| | SBDD 3224 C | 23224 CCK/W33 | H 2324 | 140 | 93 | 108 | 78 | 95 | 245 | 305 | 150 | 42 | 370 | | |
| 115 | SBDD 3026 C | 23026 CCK/W33 | H 3026 | 120 | 68 | 88 | 68 | 64 | 215 | 260 | 130 | 38 | 340 | | |
| | SBDD 3126 C | 23126 CCK/W33 | H 3126 | 140 | 80 | 100 | 80 | 90 | 240 | 295 | 145 | 40 | 350 | | |
| | SBDD 2226 C | 22226 EK | H 3126 | 140 | 88 | 98 | 70 | 70 | 245 | 290 | 145 | 42 | 370 | | |
| | SBDD 3226 C | 23226 CCK/W33 | H 2326 | 150 | 103 | 108 | 78 | 100 | 260 | 325 | 160 | 45 | 400 | | |
| 125 | SBDD 3028 C | 23028 CCK/W33 | H 3028 | 130 | 68 | 88 | 68 | 70 | 230 | 275 | 140 | 40 | 360 | | |
| | SBDD 3128 C | 23128 CCK/W33 | H 3128 | 150 | 85 | 110 | 85 | 95 | 260 | 315 | 155 | 45 | 380 | | |
| | SBDD 2228 C | 22228 CCK/W33 | H 3128 | 160 | 94 | 104 | 83 | 82 | 275 | 330 | 165 | 50 | 420 | | |
| | SBDD 3228 C | 23228 CCK/W33 | H 2328 | 160 | 108 | 118 | 88 | 110 | 285 | 350 | 170 | 50 | 430 | | |
| 135 | SBDD 3030 C | 23030 CCK/W33 | H 3030 | 140 | 73 | 94 | 70 | 76 | 245 | 290 | 145 | 42 | 370 | | |
| | SBDD 3130 C | 23130 CCK/W33 | H 3130 | 200 | 93 | 113 | 93 | 102 | 285 | 345 | 170 | 60 | 450 | | |
| | SBDD 2230 C | 22230 CCK/W33 | H 3130 | 170 | 98 | 108 | 88 | 90 | 300 | 360 | 180 | 52 | 450 | | |
| | SBDD 3230 C | 23230 CCK/W33 | H 2330 | 170 | 113 | 123 | 93 | 120 | 305 | 375 | 180 | 54 | 450 | | |
| 140 | SBDD 3032 C | 23032 CCK/W33 | H 3032 | 150 | 78 | 98 | 76 | 76 | 260 | 310 | 155 | 45 | 390 | | |
| | SBDD 3132 C | 23132 CCK/W33 | H 3132 | 200 | 98 | 123 | 98 | 110 | 310 | 368 | 180 | 55 | 430 | | |
| | SBDD 2232 C | 22232 CCK/W33 | H 3132 | 180 | 101 | 116 | 88 | 96 | 315 | 370 | 185 | 55 | 480 | | |
| | SBDD 3232 C | 23232 CCK/W33 | H 2332 | 180 | 118 | 133 | 98 | 130 | 330 | 395 | 190 | 58 | 490 | | |
| 150 | SBDD 3034 C | 23034 CCK/W33 | H 3034 | 160 | 78 | 103 | 83 | 82 | 280 | 330 | 165 | 50 | 420 | | |
| | SBDD 3134 C | 23134 CCK/W33 | H 3134 | 200 | 113 | 136 | 112 | 120 | 330 | 395 | 190 | 60 | 470 | | |
| | SBDD 2234 C | 22234 CCK/W33 | H 3134 | 190 | 112,5 | 127,5 | 97 | 104 | 335 | 400 | 200 | 60 | 510 | | |
| | SBDD 3234 C | 23234 CCK/W33 | H 2334 | 200 | 128 | 143 | 103 | 135 | 345 | 410 | 200 | 62 | 525 | | |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

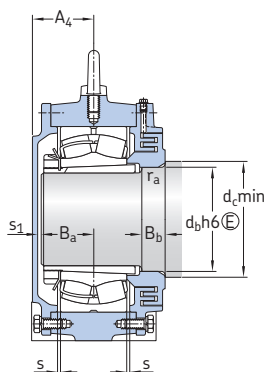
²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.



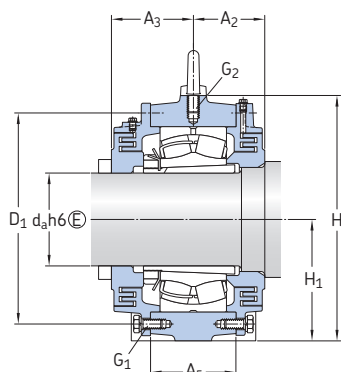
| Shaft diam. | Dimensions Housing | | | | | | | | Eye bolt acc. to DIN 580 G ₂ | Dimensions Shaft abutment and fillet | | | | | | Mass Housing type | |
|-------------|--------------------|-----|----|----------------|---|----|----------------|----------------|---|--------------------------------------|----------------|--------------------|----------------|----------------|-----|-------------------|--|
| | J ₁ | L | N | N ₁ | s | G | G ₁ | B _a | | B _b | d _b | d _{c min} | r _a | s ₁ | A | B | |
| mm | mm | | | | | | | | - | mm | | | | | | kg | |
| 90 | 60 | 370 | - | 24 | 2 | 20 | M8 | M12 | 45 | 35 | 102 | 115 | 4 | 11 | 23 | 25 | |
| 100 | 80 | 400 | 35 | 25 | 2 | 20 | M12 | M12 | 52 | 30 | 112 | 125 | 4 | 25 | 40 | 45 | |
| | 60 | 410 | - | 24 | 2 | 20 | M8 | M12 | 50 | 35 | 112 | 125 | 4 | 11 | 37 | 40 | |
| | 70 | 440 | 35 | 30 | 2 | 24 | M12 | M16 | 60 | 32 | 112 | 125 | 4 | 9 | 46 | 50 | |
| 110 | 60 | 370 | - | 24 | 2 | 20 | M8 | M12 | 48 | 25 | 122 | 135 | 4 | 8 | 19 | 20 | |
| | 80 | 410 | 35 | 25 | 2 | 20 | M12 | M12 | 56 | 30 | 122 | 135 | 4 | 13 | 45 | 50 | |
| | 70 | 430 | - | 28 | 3 | 24 | M8 | M12 | 55 | 35 | 122 | 135 | 4 | 6 | 43 | 46 | |
| | 75 | 470 | 35 | 30 | 2 | 24 | M12 | M16 | 64 | 32 | 122 | 135 | 4 | 7 | 50 | 55 | |
| 115 | 60 | 410 | - | 24 | 2 | 20 | M8 | M12 | 52 | 25 | 132 | 150 | 6 | 9 | 28 | 30 | |
| | 80 | 430 | 35 | 25 | 2 | 20 | M12 | M12 | 58 | 30 | 132 | 150 | 6 | 15 | 50 | 55 | |
| | 80 | 455 | - | 28 | 3 | 24 | M10 | M12 | 57 | 40 | 132 | 150 | 6 | 5 | 52 | 56 | |
| | 85 | 500 | 40 | 30 | 2 | 24 | M12 | M16 | 66 | 35 | 132 | 150 | 6 | 5 | 60 | 65 | |
| 125 | 70 | 430 | - | 28 | 3 | 24 | M8 | M12 | 54 | 25 | 142 | 160 | 6 | 7 | 32 | 35 | |
| | 85 | 470 | 35 | 25 | 2 | 24 | M12 | M12 | 62 | 30 | 142 | 160 | 6 | 16 | 58 | 65 | |
| | 95 | 510 | - | 35 | 3 | 30 | M10 | M12 | 62 | 40 | 142 | 160 | 6 | 13 | 65 | 70 | |
| | 85 | 530 | 40 | 30 | 3 | 24 | M16 | M20 | 72 | 35 | 142 | 160 | 6 | 9 | 74 | 80 | |
| 135 | 80 | 455 | - | 28 | 3 | 24 | M10 | M12 | 56 | 25 | 152 | 170 | 6 | 6 | 37 | 40 | |
| | 110 | 580 | 45 | 35 | 3 | 24 | M12 | M16 | 70 | 30 | 152 | 170 | 6 | 15 | 78 | 85 | |
| | 100 | 540 | - | 35 | 3 | 30 | M12 | M16 | 66 | 40 | 152 | 170 | 6 | 14 | 77 | 82 | |
| | 90 | 550 | 45 | 35 | 3 | 30 | M16 | M20 | 78 | 40 | 152 | 170 | 6 | 7 | 87 | 95 | |
| | 110 | 540 | 40 | 30 | 3 | 24 | M16 | M12 | 75 | 30 | 162 | 185 | 8 | 15 | 90 | 100 | |
| 140 | 105 | 570 | - | 35 | 3 | 30 | M16 | M12 | 72 | 40 | 162 | 185 | 8 | 8 | 90 | 96 | |
| | 105 | 600 | 45 | 35 | 3 | 30 | M16 | M20 | 84 | 40 | 162 | 185 | 8 | 6 | 100 | 110 | |
| | 90 | 480 | - | 28 | 3 | 24 | M10 | M12 | 62 | 30 | 162 | 185 | 8 | 6 | 41 | 45 | |
| | 110 | 540 | 40 | 30 | 3 | 24 | M16 | M12 | 75 | 30 | 162 | 185 | 8 | 15 | 90 | 100 | |
| 150 | 110 | 570 | 45 | 35 | 3 | 30 | M12 | M16 | 75 | 45 | 172 | 195 | 8 | 14 | 103 | 110 | |
| | 110 | 600 | - | 35 | 4 | 30 | M12 | M16 | 75 | 45 | 172 | 195 | 8 | 14 | 103 | 110 | |
| | 110 | 640 | 45 | 35 | 3 | 30 | M16 | M20 | 88 | 40 | 172 | 195 | 8 | 7 | 130 | 140 | |
| | 95 | 510 | - | 35 | 4 | 30 | M10 | M12 | 66 | 30 | 172 | 195 | 8 | 9 | 50 | 55 | |
| | 110 | 570 | 45 | 35 | 3 | 30 | M12 | M20 | 78 | 40 | 172 | 195 | 8 | 26 | 100 | 110 | |

10.2

10.2 SBD plummer block housings for bearings on an adapter sleeve and a stepped shaft d_a 160 – 260 mm



Type AL
Non-locating bearing
Housing for shaft end

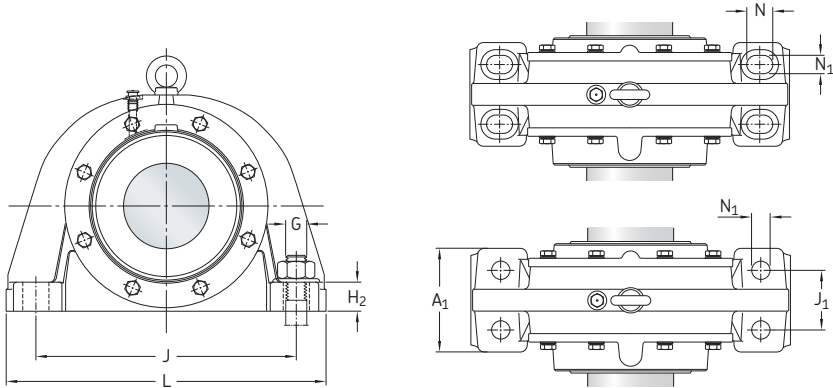


Type BF
Locating bearing
Housing for through shaft

| Shaft diam. d _a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Dimensions Housing | | | | | | | | | | |
|-------------------------------|-------------|--|------------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|-----|--|
| | | | | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | D ₁ | H | H ₁ | H ₂ | J | |
| mm | – | – | – | mm | | | | | | | | | | |
| 160 | SBDD 3036 C | 23036 CCK/W33 | H 3036 | 170 | 83 | 108 | 88 | 90 | 305 | 360 | 180 | 52 | 450 | |
| | SBDD 3136 C | 23136 CCK/W33 | H 3136 | 200 | 118 | 138 | 116 | 125 | 350 | 410 | 200 | 60 | 490 | |
| | SBDD 2236 C | 22236 CCK/W33 | H 3136 | 200 | 118 | 133 | 102 | 110 | 360 | 430 | 215 | 65 | 540 | |
| | SBDD 3236 C | 23236 CCK/W33 | H 2336 | 210 | 133 | 148 | 108 | 140 | 360 | 430 | 210 | 65 | 550 | |
| 170 | SBDD 3038 C | 23038 CCK/W33 | H 3038 | 180 | 93 | 118 | 88 | 96 | 315 | 370 | 185 | 55 | 480 | |
| | SBDD 3138 C | 23138 CCK/W33 | H 3138 | 210 | 123 | 143 | 120 | 130 | 370 | 435 | 210 | 65 | 550 | |
| | SBDD 2238 C | 22238 CCK/W33 | H 3138 | 200 | 118 | 133 | 102 | 110 | 370 | 430 | 215 | 65 | 540 | |
| | SBDD 3238 C | 23238 CCK/W33 | H 2338 | 220 | 138 | 153 | 113 | 150 | 385 | 455 | 220 | 75 | 560 | |
| 180 | SBDD 3040 C | 23040 CCK/W33 | H 3040 | 190 | 97 | 122 | 97 | 104 | 340 | 400 | 200 | 60 | 510 | |
| | SBDD 3140 C | 23140 CCK/W33 | H 3140 | 220 | 127 | 147 | 127 | 135 | 380 | 455 | 220 | 85 | 560 | |
| | SBDD 2240 C | 22240 CCK/W33 | H 3140 | 210 | 122 | 134,5 | 107 | 118 | 390 | 450 | 225 | 70 | 560 | |
| | SBDD 3240 C | 23240 CCK/W33 | H 2340 | 240 | 138 | 158 | 118 | 165 | 405 | 475 | 235 | 75 | 640 | |
| 200 | SBDD 3044 C | 23044 CCK/W33 | OH 3044 HB | 200 | 102 | 137 | 102 | 110 | 370 | 430 | 215 | 65 | 540 | |
| | SBDD 3144 C | 23144 CCK/W33 | OH 3144 HB | 230 | 135 | 160 | 135 | 150 | 420 | 485 | 235 | 75 | 640 | |
| | SBDD 2244 C | 22244 CCK/W33 | OH 3144 HB | 220 | 124,5 | 159,5 | 117 | 128 | 435 | 500 | 250 | 75 | 600 | |
| | SBDD 3244 C | 23244 CCK/W33 | OH 2344 HB | 250 | 148 | 183 | 133 | 175 | 445 | 525 | 260 | 80 | 700 | |
| 220 | SBDD 3048 C | 23048 CCK/W33 | OH 3048 HB | 210 | 102 | 142 | 107 | 118 | 390 | 450 | 225 | 70 | 560 | |
| | SBDD 3148 C | 23148 CCK/W33 | OH 3148 HB | 250 | 152 | 182 | 142 | 160 | 455 | 550 | 270 | 80 | 720 | |
| | SBDD 2248 C | 22248 CCK/W33 | OH 3148 HB | 250 | 130 | 165 | 132 | 144 | 490 | 570 | 285 | 85 | 690 | |
| | SBDD 3248 C | 23248 CCK/W33 | OH 2348 HB | 250 | 148 | 188 | 148 | 190 | 490 | 590 | 290 | 90 | 750 | |
| 240 | SBDD 3052 C | 23052 CCK/W33 | OH 3052 HB | 220 | 107 | 147 | 117 | 128 | 435 | 500 | 250 | 75 | 600 | |
| | SBDD 3152 C | 23152 CCK/W33 | OH 3152 HB | 250 | 152 | 187 | 152 | 175 | 490 | 590 | 290 | 90 | 750 | |
| | SBDD 2252 C | 22252 CCK/W33 | OH 3152 HB | 260 | 145 | 182,5 | 137 | 154 | 520 | 590 | 295 | 90 | 730 | |
| | SBDD 3252 C | 23252 CCK/W33 | OH 2352 HB | 290 | 167 | 208 | 158 | 205 | 535 | 625 | 310 | 95 | 800 | |
| 260 | SBDD 3056 C | 23056 CCK/W33 | OH 3056 HB | 240 | 117 | 157 | 122 | 128 | 455 | 520 | 260 | 80 | 630 | |
| | SBDD 3156 C | 23156 CCK/W33 | OH 3156 HB | 250 | 157 | 197 | 165 | 175 | 510 | 590 | 290 | 90 | 750 | |
| | SBDD 2256 C | 22256 CCK/W33 | OH 3156 HB | 270 | 152 | 192 | 147 | 158 | 555 | 630 | 315 | 95 | 770 | |
| | SBDD 3256 C | 23256 CCK/W33 | OH 2356 HB | 300 | 178 | 218 | 163 | 210 | 555 | 645 | 320 | 100 | 840 | |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

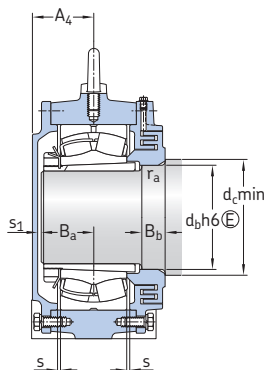
²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.



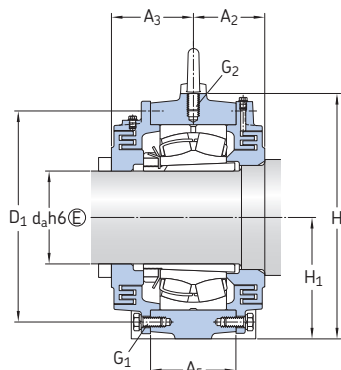
| Shaft diam. | Dimensions Housing | | | | | | | Eye bolt acc. to DIN 580 G ₂ | Dimensions Shaft abutment and fillet | | | | | | Mass Housing type | |
|-------------|--------------------|------|----|----------------|---|----|----------------|---|--------------------------------------|----------------|----------------|--------------------|----------------|----------------|-------------------|-----|
| | J ₁ | L | N | N ₁ | s | G | G ₁ | | B _a | B _b | d _b | d _{c min} | r _a | s ₁ | A | B |
| mm | mm | | | | | | | - | mm | | | | | | kg | |
| 160 | 100 | 540 | - | 35 | 3 | 30 | M12 | M16 | 70 | 30 | 182 | 205 | 8 | 10 | 64 | 70 |
| | 105 | 600 | 45 | 35 | 3 | 30 | M16 | M20 | 82 | 40 | 182 | 205 | 8 | 26 | 118 | 130 |
| | 115 | 640 | - | 42 | 4 | 36 | M16 | M20 | 78 | 45 | 182 | 205 | 8 | 14 | 112 | 120 |
| | 120 | 680 | 45 | 35 | 3 | 30 | M16 | M20 | 90 | 45 | 182 | 205 | 8 | 10 | 147 | 160 |
| 170 | 105 | 570 | - | 35 | 3 | 30 | M12 | M16 | 72 | 30 | 192 | 215 | 8 | 8 | 74 | 80 |
| | 120 | 680 | 45 | 35 | 3 | 36 | M16 | M20 | 88 | 40 | 192 | 215 | 8 | 22 | 146 | 160 |
| | 115 | 640 | - | 42 | 4 | 36 | M16 | M20 | 82 | 45 | 192 | 215 | 8 | 10 | 126 | 135 |
| | 120 | 710 | 45 | 35 | 4 | 30 | M16 | M20 | 95 | 45 | 192 | 215 | 8 | 10 | 170 | 185 |
| 180 | 110 | 600 | - | 35 | 4 | 30 | M12 | M16 | 78 | 35 | 202 | 225 | 8 | 11 | 83 | 90 |
| | 120 | 710 | 52 | 42 | 3 | 36 | M16 | M24 | 95 | 40 | 202 | 225 | 8 | 22 | 175 | 190 |
| | 120 | 680 | - | 42 | 4 | 36 | M16 | M20 | 85 | 45 | 202 | 225 | 8 | 12 | 145 | 155 |
| | 140 | 780 | 52 | 42 | 4 | 36 | M16 | M24 | 100 | 45 | 202 | 225 | 8 | 10 | 200 | 220 |
| 200 | 115 | 640 | - | 42 | 4 | 36 | M16 | M20 | 80 | 35 | 222 | 245 | 8 | 12 | 107 | 115 |
| | 140 | 780 | 52 | 42 | 4 | 36 | M16 | M24 | 100 | 45 | 222 | 245 | 8 | 25 | 205 | 220 |
| | 130 | 720 | - | 42 | 4 | 36 | M16 | M20 | 95 | 45 | 222 | 245 | 8 | 10 | 187 | 200 |
| | 140 | 850 | 52 | 42 | 4 | 36 | M20 | M24 | 112 | 45 | 222 | 245 | 8 | 11 | 270 | 290 |
| 220 | 120 | 680 | - | 42 | 4 | 36 | M16 | M20 | 85 | 35 | 242 | 265 | 8 | 12 | 120 | 130 |
| | 140 | 890 | 52 | 42 | 4 | 36 | M20 | M24 | 106 | 50 | 242 | 265 | 8 | 26 | 250 | 270 |
| | 150 | 820 | - | 42 | 5 | 36 | M20 | M24 | 105 | 45 | 242 | 265 | 8 | 15 | 235 | 250 |
| | 140 | 900 | 52 | 42 | 5 | 36 | M20 | M24 | 122 | 45 | 242 | 265 | 8 | 16 | 345 | 370 |
| 240 | 130 | 720 | - | 42 | 4 | 36 | M16 | M20 | 92 | 35 | 262 | 285 | 8 | 13 | 153 | 165 |
| | 140 | 900 | 52 | 42 | 4 | 36 | M20 | M24 | 118 | 50 | 262 | 285 | 8 | 24 | 300 | 320 |
| | 160 | 860 | - | 42 | 5 | 36 | M20 | M24 | 110 | 50 | 262 | 285 | 8 | 13 | 290 | 310 |
| | 160 | 960 | 65 | 42 | 5 | 36 | M20 | M24 | 132 | 45 | 262 | 285 | 8 | 16 | 435 | 470 |
| 260 | 140 | 760 | - | 42 | 5 | 36 | M16 | M20 | 96 | 35 | 282 | 305 | 8 | 14 | 177 | 190 |
| | 140 | 900 | 65 | 42 | 5 | 36 | M24 | M24 | 120 | 50 | 282 | 305 | 8 | 35 | 325 | 350 |
| | 170 | 900 | - | 42 | 5 | 36 | M20 | M24 | 115 | 50 | 282 | 305 | 8 | 18 | 330 | 350 |
| | 170 | 1000 | 65 | 42 | 5 | 36 | M24 | M30 | 135 | 50 | 282 | 305 | 8 | 16 | 490 | 530 |

10.2

10.2 SBD plummer block housings for bearings on an adapter sleeve and a stepped shaft d_a 280 – 400 mm



Type AL
Non-locating bearing
Housing for shaft end

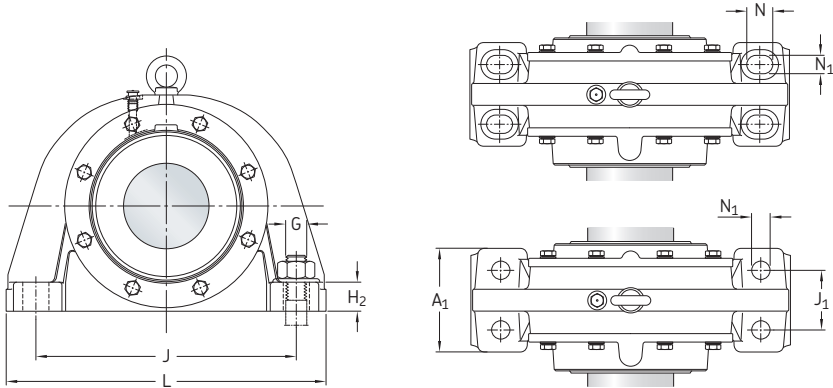


Type BF
Locating bearing
Housing for through shaft

| Shaft diam. d _a | Housing | Appropriate parts | | Dimensions | | | | | | | | | | |
|-------------------------------|-------------|-----------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|------|--|
| | | Bearing ¹⁾ | Adapter sleeve ²⁾ | Housing | | | | | | | | | | |
| | | | | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | D ₁ | H | H ₁ | H ₂ | J | |
| mm | – | – | | mm | | | | | | | | | | |
| 280 | SBDD 3060 C | 23060 CCK/W33 | OH 060 HB | 250 | 122 | 167 | 132 | 144 | 500 | 570 | 285 | 85 | 690 | |
| | SBDD 3160 C | 23160 CCK/W33 | OH 3160 HB | 300 | 162 | 207 | 167 | 190 | 550 | 655 | 320 | 100 | 840 | |
| | SBDD 2260 C | 22260 CCK/W33 | OH 3160 HB | 280 | 160 | 191 | 152 | 168 | 585 | 660 | 330 | 100 | 820 | |
| | SBDD 3260 C | 23260 CCK/W33 | OH 2360 HB | 330 | 182 | 222 | 187 | 230 | 600 | 705 | 350 | 105 | 920 | |
| 300 | SBDD 3064 C | 23064 CCK/W33 | OH 3064 HB | 260 | 122 | 172 | 137 | 154 | 520 | 590 | 295 | 90 | 730 | |
| | SBDD 3164 C | 23164 CCK/W33 | OH 3164 HB | 300 | 177 | 212 | 187 | 210 | 590 | 702 | 350 | 100 | 940 | |
| | SBDD 2264 C | 22264 CCK/W33 | OH 3164 HB | 320 | 175 | 202 | 167 | 180 | 640 | 720 | 360 | 110 | 900 | |
| | SBDD 3264 C | 23264 CCK/W33 | OH 2364 HB | 360 | 192 | 237 | 187 | 250 | 640 | 760 | 370 | 115 | 960 | |
| 320 | SBDD 3068 C | 23068 CCK/W33 | OH 3068 HB | 270 | 132 | 177 | 147 | 158 | 565 | 630 | 315 | 95 | 770 | |
| | SBDD 3168 C | 23168 CCK/W33 | OH 3168 HB | 360 | 197 | 242 | 237 | 220 | 630 | 735 | 370 | 115 | 960 | |
| | SBDD 3268 C | 23268 CAK/W33 | OH 3268 HB | 380 | 202 | 272 | 237 | 265 | 680 | 810 | 390 | 125 | 980 | |
| 340 | SBDD 3072 C | 23072 CCK/W33 | OH 3072 HB | 280 | 132 | 182 | 152 | 168 | 585 | 660 | 330 | 100 | 820 | |
| | SBDD 3172 C | 23172 CCK/W33 | OH 3172 HB | 370 | 197 | 247 | 243 | 225 | 650 | 760 | 380 | 115 | 1000 | |
| | SBDD 3272 C | 23272 CAK/W33 | OH 3272 HB | 400 | 227 | 282 | 247 | 275 | 710 | 825 | 410 | 130 | 1040 | |
| 360 | SBDD 3076 C | 23076 CCK/W33 | OH 3076 HB | 300 | 137 | 187 | 157 | 168 | 605 | 680 | 340 | 105 | 840 | |
| | SBDD 3176 C | 23176 CAK/W33 | OH 3176 HB | 380 | 202 | 257 | 254 | 230 | 680 | 790 | 390 | 125 | 1000 | |
| | SBDD 3276 C | 23276 CAK/W33 | OH 3276 HB | 405 | 232 | 297 | 257 | 295 | 745 | 880 | 425 | 135 | 1100 | |
| 380 | SBDD 3080 C | 23080 CCK/W33 | OH 3080 HB | 320 | 142 | 202 | 167 | 180 | 650 | 720 | 360 | 110 | 900 | |
| | SBDD 3180 C | 23180 CAK/W33 | OH 3180 HB | 400 | 197 | 262 | 247 | 235 | 710 | 845 | 410 | 130 | 1040 | |
| | SBDD 3280 C | 23280 CAK/W33 | OH 3280 HB | 450 | 242 | 307 | 257 | 300 | 790 | 905 | 450 | 145 | 1160 | |
| 400 | SBDD 3084 C | 23084 CAK/W33 | OH 3084 HB | 340 | 147 | 202 | 167 | 180 | 670 | 750 | 375 | 115 | 940 | |
| | SBDD 3184 C | 23184 CKJ/W33 | OH 3184 HB | 420 | 212 | 289 | 257 | 260 | 760 | 900 | 450 | 135 | 1100 | |
| | SBDD 3284 C | 23284 CAK/W33 | OH 3284 HB | 470 | 252 | 317 | 267 | 315 | 835 | 955 | 470 | 150 | 1220 | |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.

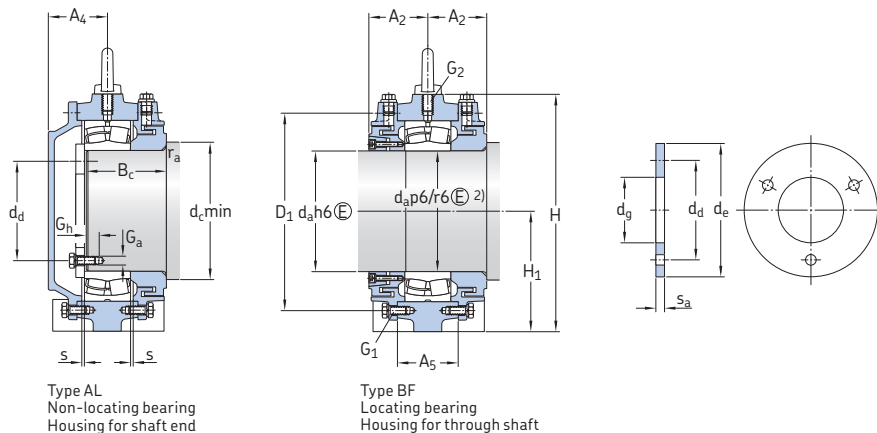


| Shaft diam. | Dimensions Housing | | | | | | | | Eye bolt acc. to DIN 580 G ₂ | Dimensions Shaft abutment and fillet | | | | | | Mass Housing type | |
|-------------|--------------------|------|----|----------------|---|----|----------------|----------------|---|--------------------------------------|----------------|--------------------|----------------|----------------|------|-------------------|--|
| | J ₁ | L | N | N ₁ | s | G | G ₁ | B _a | | B _b | d _b | d _{c min} | r _a | s ₁ | A | B | |
| mm | mm | | | | | | | | - | mm | | | | | | kg | |
| 280 | 150 | 820 | - | 42 | 5 | 36 | M 20 | M 24 | 105 | 35 | 302 | 325 | 8 | 15 | 215 | 230 | |
| | 170 | 1000 | 65 | 42 | 5 | 36 | M 24 | M 30 | 125 | 50 | 302 | 325 | 8 | 32 | 400 | 430 | |
| | 180 | 960 | - | 42 | 5 | 36 | M 20 | M 24 | 120 | 50 | 302 | 325 | 8 | 17 | 400 | 430 | |
| | 180 | 1100 | 75 | 56 | 6 | 48 | M 24 | M 30 | 142 | 50 | 302 | 325 | 8 | 33 | 590 | 640 | |
| 300 | 160 | 860 | - | 42 | 5 | 36 | M 20 | M 24 | 108 | 35 | 322 | 345 | 8 | 15 | 240 | 255 | |
| | 160 | 1150 | 65 | 42 | 5 | 36 | M 24 | M 30 | 135 | 50 | 322 | 345 | 8 | 40 | 490 | 530 | |
| | 200 | 1060 | - | 56 | 5 | 48 | M 24 | M 30 | 125 | 55 | 322 | 345 | 8 | 26 | 485 | 520 | |
| | 200 | 1150 | 75 | 56 | 6 | 48 | M 24 | M 30 | 152 | 50 | 322 | 345 | 8 | 21 | 700 | 760 | |
| 320 | 170 | 900 | - | 42 | 6 | 36 | M 20 | M 24 | 120 | 40 | 342 | 365 | 8 | 13 | 280 | 305 | |
| | 200 | 1150 | 75 | 56 | 6 | 48 | M 24 | M 30 | 155 | 60 | 342 | 365 | 8 | 70 | 590 | 630 | |
| | 200 | 1200 | 75 | 60 | 6 | 56 | M 24 | M 36 | 175 | 50 | 342 | 365 | 8 | 47 | 830 | 900 | |
| 340 | 180 | 960 | - | 42 | 6 | 36 | M 20 | M 24 | 120 | 40 | 362 | 385 | 8 | 17 | 315 | 340 | |
| | 200 | 1200 | 75 | 56 | 6 | 48 | M 24 | M 30 | 160 | 60 | 362 | 385 | 8 | 67 | 660 | 700 | |
| | 210 | 1280 | 80 | 68 | 7 | 64 | M 24 | M 36 | 180 | 70 | 362 | 385 | 8 | 51 | 950 | 1020 | |
| 360 | 190 | 1000 | - | 56 | 6 | 48 | M 20 | M 24 | 124 | 40 | 382 | 405 | 8 | 17 | 350 | 380 | |
| | 200 | 1200 | 75 | 60 | 6 | 56 | M 30 | M 30 | 165 | 60 | 382 | 405 | 8 | 73 | 730 | 770 | |
| | 225 | 1350 | 85 | 68 | 7 | 64 | M 30 | M 36 | 186 | 70 | 382 | 405 | 8 | 55 | 1060 | 1140 | |
| 380 | 200 | 1060 | - | 56 | 6 | 48 | M 24 | M 30 | 134 | 40 | 402 | 425 | 8 | 17 | 420 | 450 | |
| | 210 | 1280 | 80 | 68 | 7 | 64 | M 30 | M 36 | 170 | 60 | 402 | 425 | 8 | 61 | 820 | 870 | |
| | 240 | 1430 | 85 | 68 | 7 | 64 | M 30 | M 36 | 196 | 70 | 402 | 425 | 8 | 45 | 1240 | 1330 | |
| 400 | 210 | 1100 | - | 56 | 6 | 48 | M 24 | M 30 | 135 | 40 | 422 | 445 | 8 | 16 | 465 | 500 | |
| | 210 | 1350 | 85 | 68 | 7 | 64 | M 30 | M 36 | 190 | 60 | 422 | 445 | 8 | 51 | 1000 | 1070 | |
| | 255 | 1500 | 90 | 72 | 8 | 64 | M 30 | M 36 | 212 | 70 | 422 | 445 | 8 | 39 | 1500 | 1600 | |

10.2

10.3 SBD plummer block housings for bearings on a cylindrical seat and a stepped shaft

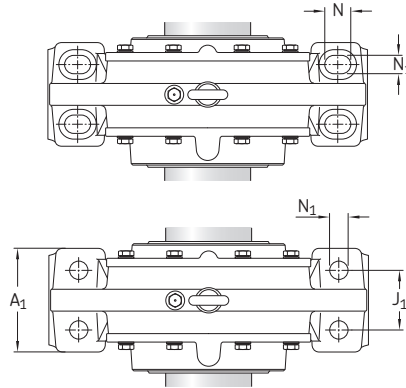
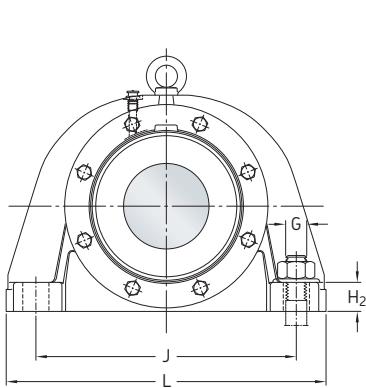
d_a 100 – 170 mm



| Shaft diam. d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter ring (included) | Dimensions Housing | | | | | | | | | | | |
|----------------------|-------------|--|----------------------------|-----------------------|-------|-------|-------|-------|-----|-------|-------|-----|-------|-----|--|
| | | | | A_1 | A_2 | A_4 | A_5 | D_1 | H | H_1 | H_2 | J | J_1 | L | |
| mm | - | - | - | mm | | | | | | | | | | | |
| 100 | SBDD 2220 E | 22220 E | PSBD 100 | 110 | 70 | 63 | 56 | 195 | 230 | 115 | 35 | 300 | 60 | 370 | |
| 110 | SBDD 3122 E | 23122 CC/W33 | PSBD 110 | 150 | 81 | 83 | 80 | 215 | 270 | 130 | 40 | 300 | 80 | 400 | |
| | SBDD 2222 E | 22222 E | PSBD 110 | 120 | 78 | 68 | 64 | 215 | 260 | 130 | 38 | 340 | 60 | 410 | |
| | SBDD 3222 E | 23222 CC/W33 | PSBD 110 | 130 | 91 | 76 | 90 | 230 | 285 | 140 | 42 | 350 | 70 | 440 | |
| 120 | SBDD 3024 E | 23024 CC/W33 | PSBD 120 | 110 | 63 | 63 | 56 | 195 | 230 | 115 | 35 | 300 | 60 | 370 | |
| | SBDD 3124 E | 23124 CC/W33 | PSBD 120 | 140 | 76 | 78 | 85 | 230 | 285 | 140 | 40 | 330 | 80 | 410 | |
| | SBDD 2224 E | 22224 E | PSBD 120 | 130 | 80,5 | 68 | 70 | 230 | 275 | 140 | 40 | 360 | 70 | 430 | |
| | SBDD 3224 E | 23224 CC/W33 | PSBD 120 | 140 | 93 | 78 | 95 | 245 | 305 | 150 | 42 | 370 | 75 | 470 | |
| 130 | SBDD 3026 E | 23026 CC/W33 | PSBD 130 | 120 | 68 | 68 | 64 | 215 | 260 | 130 | 38 | 340 | 60 | 410 | |
| | SBDD 3126 E | 23126 CC/W33 | PSBD 130 | 140 | 80 | 80 | 90 | 240 | 295 | 145 | 40 | 350 | 80 | 430 | |
| | SBDD 2226 E | 22226 E | PSBD 130 | 140 | 88 | 70 | 70 | 245 | 290 | 145 | 42 | 370 | 80 | 455 | |
| | SBDD 3226 E | 23226 CC/W33 | PSBD 130 | 150 | 103 | 78 | 100 | 260 | 325 | 160 | 45 | 400 | 85 | 500 | |
| 140 | SBDD 3028 E | 23028 CC/W33 | PSBD 140 | 130 | 68 | 68 | 70 | 230 | 275 | 140 | 40 | 360 | 70 | 430 | |
| | SBDD 3128 E | 23128 CC/W33 | PSBD 140 | 150 | 85 | 85 | 95 | 260 | 315 | 155 | 45 | 380 | 85 | 470 | |
| | SBDD 2228 E | 22228 CC/W33 | PSBD 140 | 160 | 94 | 83 | 82 | 275 | 330 | 165 | 50 | 420 | 95 | 510 | |
| | SBDD 3228 E | 23228 CC/W33 | PSBD 140 | 160 | 108 | 88 | 110 | 285 | 350 | 170 | 50 | 430 | 85 | 530 | |
| 150 | SBDD 3030 E | 23030 CC/W33 | PSBD 150 | 140 | 78 | 70 | 76 | 245 | 290 | 145 | 42 | 370 | 90 | 455 | |
| | SBDD 3130 E | 23130 CC/W33 | PSBD 150 | 200 | 93 | 93 | 102 | 285 | 345 | 170 | 60 | 450 | 110 | 580 | |
| | SBDD 2230 E | 22230 CC/W33 | PSBD 150 | 170 | 98 | 88 | 90 | 300 | 360 | 180 | 52 | 450 | 100 | 540 | |
| | SBDD 3230 E | 23230 CC/W33 | PSBD 150 | 170 | 113 | 93 | 120 | 305 | 375 | 180 | 54 | 450 | 90 | 550 | |
| 160 | SBDD 3032 E | 23032 CC/W33 | PSBD 160 | 150 | 78 | 76 | 76 | 260 | 310 | 155 | 45 | 390 | 90 | 480 | |
| | SBDD 3132 E | 23132 CC/W33 | PSBD 160 | 200 | 98 | 98 | 110 | 310 | 368 | 180 | 55 | 430 | 110 | 540 | |
| | SBDD 2232 E | 22232 CC/W33 | PSBD 160 | 180 | 101 | 88 | 96 | 315 | 370 | 185 | 55 | 480 | 105 | 570 | |
| | SBDD 3232 E | 23232 CC/W33 | PSBD 160 | 180 | 118 | 98 | 130 | 330 | 395 | 190 | 58 | 490 | 105 | 600 | |
| 170 | SBDD 3034 E | 23034 CC/W33 | PSBD 170 | 160 | 78 | 83 | 82 | 280 | 330 | 165 | 50 | 420 | 95 | 510 | |
| | SBDD 3134 E | 23134 CC/W33 | PSBD 170 | 200 | 113 | 112 | 120 | 330 | 395 | 190 | 60 | 470 | 110 | 570 | |
| | SBDD 2234 E | 22234 CC/W33 | PSBD 170 | 190 | 112,5 | 97 | 104 | 335 | 400 | 200 | 60 | 510 | 110 | 600 | |
| | SBDD 3234 E | 23234 CC/W33 | PSBD 170 | 200 | 128 | 103 | 135 | 345 | 410 | 200 | 62 | 525 | 110 | 640 | |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ Tolerance p6 for shaft diameters up to 140 mm and tolerance r6 for larger sizes.

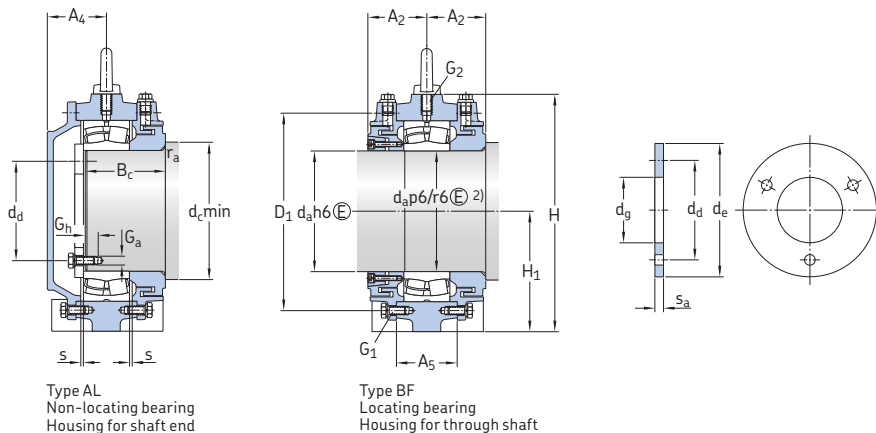


| Shaft diam. | Dimensions Housing | | | | | Eye bolt acc. to DIN 580 | Dimensions Shaft abutment and fillet | | | | | End plate | | | | | Mass Housing type | |
|-------------|--------------------|----|-------|----|-----|--------------------------|--------------------------------------|-------|-------|-----------|-------|-----------|-------|-------|-------|------------|-------------------|----------------------------------|
| | d_a | N | N_1 | s | G | | G_1 | G_2 | B_c | d_c min | r_a | G_a | G_h | d_d | d_e | d_{gmax} | s_a | attachment bolts (for end plate) |
| mm | mm | | | | | - | mm | | | | | | | | | | kg | |
| 100 | - | 24 | 2 | 20 | M8 | M12 | 90 | 115 | 4 | M10 | 18 | 75 | 115 | 35 | 10 | M10x30 | 23 | 25 |
| 110 | 35 | 25 | 2 | 20 | M12 | M12 | 107 | 125 | 4 | M8 | 15 | 90 | 122 | 58 | 8 | M8x25 | 40 | 45 |
| | - | 24 | 2 | 20 | M8 | M12 | 102 | 125 | 4 | M10 | 18 | 85 | 128 | 42 | 10 | M10x30 | 37 | 40 |
| | 35 | 30 | 2 | 24 | M12 | M16 | 123 | 125 | 4 | M8 | 15 | 90 | 128 | 45 | 8 | M8x25 | 46 | 50 |
| 120 | - | 24 | 2 | 20 | M8 | M12 | 84 | 135 | 4 | M10 | 18 | 95 | 132 | 58 | 10 | M10x30 | 19 | 20 |
| | 35 | 25 | 3 | 20 | M12 | M12 | 105 | 135 | 4 | M8 | 15 | 100 | 133 | 67 | 8 | M8x25 | 45 | 50 |
| | - | 28 | 3 | 24 | M8 | M12 | 107 | 135 | 4 | M10 | 18 | 95 | 138 | 52 | 10 | M10x30 | 43 | 46 |
| | 35 | 30 | 2 | 24 | M12 | M16 | 128 | 135 | 4 | M10 | 18 | 95 | 138 | 45 | 10 | M10x30 | 50 | 55 |
| 130 | - | 24 | 2 | 20 | M8 | M12 | 92 | 150 | 6 | M10 | 18 | 105 | 145 | 65 | 10 | M10x30 | 28 | 30 |
| | 35 | 25 | 2 | 20 | M12 | M12 | 110 | 150 | 6 | M8 | 15 | 110 | 145 | 75 | 8 | M8x25 | 50 | 55 |
| | - | 28 | 3 | 24 | M10 | M12 | 117 | 150 | 6 | M10 | 18 | 105 | 150 | 60 | 10 | M10x30 | 52 | 56 |
| | 40 | 30 | 2 | 24 | M12 | M16 | 140 | 150 | 6 | M10 | 18 | 105 | 150 | 55 | 10 | M10x30 | 60 | 65 |
| 140 | - | 28 | 3 | 24 | M8 | M12 | 92 | 160 | 6 | M10 | 18 | 115 | 155 | 75 | 10 | M10x30 | 32 | 35 |
| | 35 | 25 | 2 | 20 | M12 | M12 | 116 | 160 | 6 | M10 | 18 | 115 | 155 | 75 | 10 | M10x30 | 58 | 65 |
| | - | 35 | 3 | 30 | M10 | M12 | 125 | 160 | 6 | M10 | 18 | 115 | 162 | 68 | 10 | M10x30 | 65 | 70 |
| | 40 | 30 | 3 | 24 | M16 | M20 | 145 | 160 | 6 | M10 | 18 | 115 | 160 | 60 | 10 | M10x30 | 74 | 80 |
| 150 | - | 28 | 3 | 24 | M10 | M12 | 104 | 170 | 6 | M10 | 18 | 125 | 165 | 85 | 10 | M10x30 | 37 | 40 |
| | 45 | 35 | 3 | 24 | M12 | M16 | 130 | 170 | 6 | M10 | 18 | 125 | 165 | 85 | 10 | M10x30 | 78 | 85 |
| | - | 35 | 3 | 30 | M12 | M16 | 132 | 170 | 6 | M10 | 18 | 125 | 175 | 75 | 10 | M10x30 | 77 | 82 |
| | 45 | 35 | 3 | 30 | M16 | M20 | 158 | 170 | 6 | M10 | 18 | 125 | 170 | 85 | 10 | M10x30 | 87 | 95 |
| 160 | - | 28 | 3 | 24 | M10 | M12 | 105 | 185 | 8 | M10 | 18 | 135 | 175 | 95 | 10 | M10x30 | 41 | 45 |
| | 40 | 30 | 3 | 24 | M12 | M16 | 138 | 185 | 8 | M10 | 18 | 135 | 175 | 95 | 10 | M10x30 | 90 | 100 |
| | - | 35 | 3 | 30 | M12 | M16 | 138 | 185 | 8 | M12 | 20 | 130 | 185 | 75 | 12 | M12x30 | 90 | 96 |
| | 45 | 35 | 3 | 30 | M16 | M20 | 167 | 185 | 8 | M12 | 20 | 130 | 185 | 70 | 12 | M12x30 | 100 | 110 |
| 170 | - | 35 | 3 | 30 | M10 | M12 | 109 | 195 | 8 | M10 | 18 | 145 | 185 | 105 | 10 | M10x30 | 50 | 55 |
| | 45 | 35 | 3 | 30 | M12 | M20 | 154 | 195 | 8 | M10 | 18 | 145 | 185 | 105 | 10 | M10x30 | 100 | 110 |
| | - | 35 | 4 | 30 | M12 | M16 | 152 | 195 | 8 | M16 | 25 | 130 | 200 | 60 | 16 | M16x45 | 103 | 110 |
| | 45 | 35 | 3 | 30 | M16 | M20 | 179 | 195 | 8 | M12 | 20 | 140 | 195 | 75 | 12 | M12x30 | 130 | 140 |

10.3

10.3 SBD plummer block housings for bearings on a cylindrical seat and a stepped shaft

d_a 180 – 280 mm

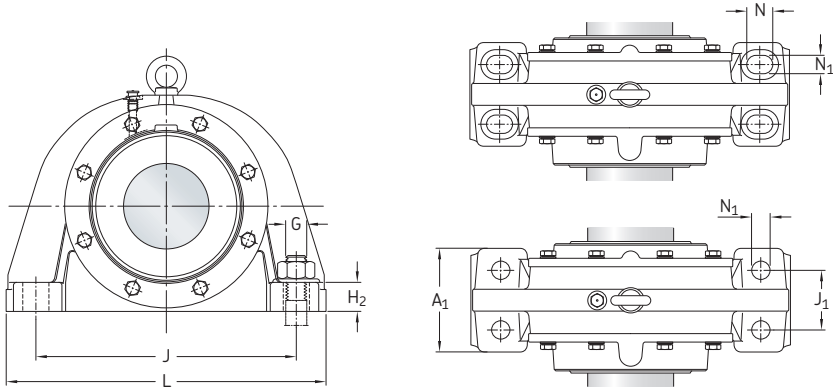


Type AL
Non-locating bearing
Housing for shaft end

Type BF
Locating bearing
Housing for through shaft

| Shaft diam. d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter ring (included) | Dimensions Housing | | | | | | | | | | |
|----------------------|-------------|--|----------------------------|-----------------------|-------|-------|-------|-------|-----|-------|-------|-----|-------|------|
| | | | | A_1 | A_2 | A_4 | A_5 | D_1 | H | H_1 | H_2 | J | J_1 | L |
| mm | - | - | - | mm | | | | | | | | | | |
| 180 | SBDD 3036 E | 23036 CC/W33 | PSBD 180 | 170 | 88 | 88 | 90 | 305 | 360 | 180 | 52 | 450 | 100 | 540 |
| | SBDD 3136 E | 23136 CC/W33 | PSBD 180 | 200 | 118 | 116 | 125 | 350 | 410 | 200 | 60 | 490 | 105 | 600 |
| | SBDD 2236 E | 22236 CC/W33 | PSBD 180 | 200 | 118 | 102 | 110 | 360 | 430 | 215 | 65 | 540 | 115 | 640 |
| | SBDD 3236 E | 23236 CC/W33 | PSBD 180 | 210 | 133 | 108 | 140 | 360 | 430 | 210 | 65 | 550 | 120 | 680 |
| 190 | SBDD 3038 E | 23038 CC/W33 | PSBD 190 | 180 | 93 | 88 | 96 | 315 | 370 | 185 | 55 | 480 | 105 | 570 |
| | SBDD 3138 E | 23138 CC/W33 | PSBD 190 | 210 | 123 | 120 | 130 | 370 | 435 | 210 | 65 | 550 | 120 | 680 |
| | SBDD 2238 E | 22238 CC/W33 | PSBD 190 | 200 | 118 | 102 | 110 | 370 | 430 | 215 | 65 | 540 | 115 | 640 |
| | SBDD 3238 E | 23238 CC/W33 | PSBD 190 | 220 | 138 | 113 | 150 | 385 | 455 | 220 | 75 | 560 | 120 | 710 |
| 200 | SBDD 3040 E | 23040 CC/W33 | PSBD 200 | 190 | 97 | 97 | 104 | 340 | 400 | 200 | 60 | 510 | 110 | 600 |
| | SBDD 3140 E | 23140 CC/W33 | PSBD 200 | 220 | 127 | 127 | 135 | 380 | 455 | 220 | 85 | 560 | 120 | 710 |
| | SBDD 2240 E | 22240 CC/W33 | PSBD 200 | 210 | 122 | 107 | 118 | 390 | 450 | 225 | 70 | 560 | 120 | 680 |
| | SBDD 3240 E | 23240 CC/W33 | PSBD 200 | 240 | 138 | 118 | 165 | 405 | 475 | 235 | 75 | 640 | 140 | 780 |
| 220 | SBDD 3044 E | 23044 CC/W33 | PSBD 220 | 200 | 102 | 102 | 110 | 370 | 430 | 215 | 65 | 540 | 115 | 640 |
| | SBDD 3144 E | 23144 CC/W33 | PSBD 220 | 230 | 135 | 135 | 150 | 420 | 485 | 235 | 75 | 640 | 140 | 780 |
| | SBDD 2244 E | 22244 CC/W33 | PSBD 220 | 220 | 124,5 | 117 | 128 | 435 | 500 | 250 | 75 | 600 | 130 | 720 |
| | SBDD 3244 E | 23244 CC/W33 | PSBD 220 | 250 | 148 | 133 | 175 | 445 | 525 | 260 | 80 | 700 | 140 | 850 |
| 240 | SBDD 3048 E | 23048 CC/W33 | PSBD 240 | 210 | 102 | 107 | 118 | 290 | 450 | 225 | 70 | 560 | 120 | 680 |
| | SBDD 3148 E | 23148 CC/W33 | PSBD 240 | 250 | 152 | 142 | 160 | 455 | 550 | 270 | 80 | 720 | 140 | 890 |
| | SBDD 2248 E | 22248 CC/W33 | PSBD 240 | 250 | 130 | 132 | 144 | 490 | 570 | 285 | 85 | 690 | 150 | 820 |
| | SBDD 3248 E | 23248 CC/W33 | PSBD 240 | 250 | 148 | 148 | 190 | 490 | 590 | 290 | 90 | 750 | 140 | 900 |
| 260 | SBDD 3052 E | 23052 CC/W33 | PSBD 260 | 220 | 107 | 117 | 128 | 435 | 500 | 250 | 75 | 600 | 130 | 720 |
| | SBDD 3152 E | 23152 CC/W33 | PSBD 260 | 250 | 152 | 152 | 175 | 490 | 590 | 290 | 90 | 750 | 140 | 900 |
| | SBDD 2252 E | 22252 CC/W33 | PSBD 260 | 260 | 145 | 137 | 154 | 520 | 590 | 295 | 90 | 730 | 160 | 860 |
| | SBDD 3252 E | 23252 CC/W33 | PSBD 260 | 290 | 167 | 158 | 205 | 535 | 625 | 310 | 95 | 800 | 160 | 960 |
| 280 | SBDD 3056 E | 23056 CC/W33 | PSBD 280 | 240 | 117 | 122 | 128 | 455 | 520 | 260 | 80 | 630 | 140 | 760 |
| | SBDD 3156 E | 23156 CC/W33 | PSBD 280 | 250 | 157 | 165 | 175 | 510 | 590 | 290 | 90 | 750 | 140 | 900 |
| | SBDD 2256 E | 22256 CC/W33 | PSBD 280 | 270 | 152 | 147 | 158 | 555 | 630 | 315 | 95 | 770 | 170 | 900 |
| | SBDD 3256 E | 23256 CC/W33 | PSBD 280 | 300 | 178 | 163 | 210 | 555 | 645 | 320 | 100 | 840 | 170 | 1000 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

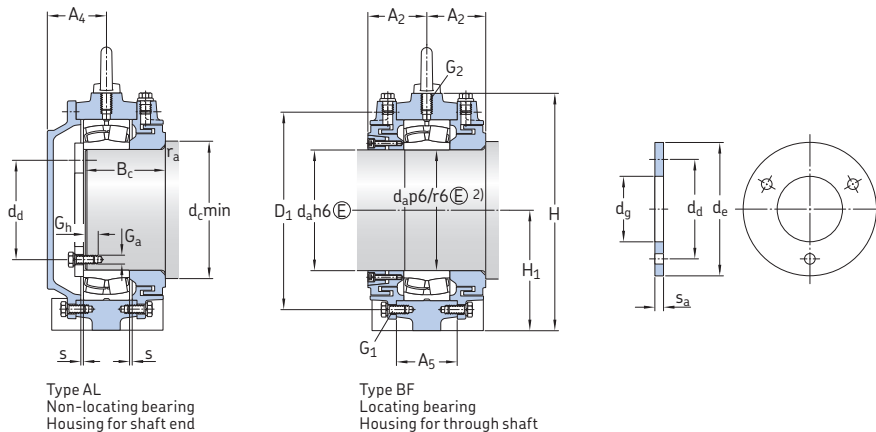


| Shaft diam. | Dimensions Housing | | | | | Eye bolt acc. to DIN 580 G ₂ | Dimensions Shaft abutment and fillet | | | | | End plate | | | | | Mass Housing type | |
|-------------|--------------------|----|----------------|----|-----|---|--------------------------------------|----------------|--------------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------------------------|-----|
| | d _a | N | N ₁ | s | G | | G ₁ | B _c | d _c min | r _a | G _a | G _H | d _d | d _e | d _{gmax} | s _a | attachment bolts (for end plate) | A |
| mm | mm | | | | | - | mm | | | | | | | | | | kg | |
| 180 | - | 35 | 3 | 30 | M12 | M16 | 122 | 205 | 8 | M10 | 18 | 155 | 195 | 115 | 10 | M10x30 | 64 | 70 |
| | 45 | 35 | 3 | 30 | M16 | M20 | 163 | 205 | 8 | M12 | 20 | 150 | 195 | 105 | 12 | M12x30 | 118 | 130 |
| | - | 42 | 4 | 36 | M16 | M20 | 157 | 205 | 8 | M16 | 25 | 140 | 210 | 70 | 16 | M16x45 | 112 | 120 |
| | 45 | 35 | 3 | 30 | M16 | M20 | 185 | 205 | 8 | M12 | 20 | 150 | 205 | 85 | 12 | M12x30 | 147 | 160 |
| 190 | - | 35 | 3 | 30 | M12 | M16 | 128 | 215 | 8 | M12 | 20 | 160 | 205 | 115 | 12 | M12x30 | 74 | 80 |
| | 45 | 35 | 3 | 36 | M16 | M20 | 172 | 215 | 8 | M12 | 20 | 160 | 210 | 110 | 12 | M12x30 | 146 | 160 |
| | - | 42 | 4 | 36 | M16 | M20 | 160 | 215 | 8 | M16 | 25 | 150 | 220 | 80 | 16 | M16x45 | 126 | 135 |
| | 45 | 35 | 4 | 30 | M16 | M20 | 197 | 215 | 8 | M12 | 20 | 160 | 215 | 95 | 12 | M12x30 | 170 | 185 |
| 200 | - | 35 | 4 | 30 | M12 | M16 | 135 | 225 | 8 | M16 | 25 | 160 | 215 | 105 | 16 | M16x45 | 83 | 90 |
| | 52 | 42 | 3 | 36 | M16 | M24 | 180 | 225 | 8 | M12 | 20 | 170 | 220 | 120 | 12 | M12x30 | 175 | 190 |
| | - | 42 | 4 | 36 | M16 | M20 | 167 | 225 | 8 | M20 | 30 | 150 | 235 | 65 | 20 | M20x55 | 145 | 155 |
| | 52 | 42 | 4 | 36 | M16 | M24 | 198 | 225 | 8 | M16 | 25 | 160 | 230 | 80 | 16 | M16x45 | 200 | 220 |
| 220 | - | 42 | 4 | 36 | M16 | M20 | 144 | 245 | 8 | M16 | 25 | 180 | 240 | 120 | 16 | M16x45 | 107 | 115 |
| | 52 | 42 | 4 | 36 | M16 | M24 | 191 | 245 | 8 | M16 | 25 | 180 | 245 | 115 | 16 | M16x45 | 205 | 220 |
| | - | 42 | 4 | 36 | M16 | M20 | 175 | 245 | 8 | M20 | 30 | 170 | 260 | 80 | 20 | M20x55 | 187 | 200 |
| | 52 | 42 | 4 | 36 | M20 | M24 | 216 | 245 | 8 | M16 | 25 | 180 | 255 | 95 | 16 | M16x45 | 270 | 290 |
| 240 | - | 42 | 4 | 36 | M16 | M20 | 145 | 265 | 8 | M20 | 30 | 190 | 260 | 120 | 20 | M20x55 | 120 | 130 |
| | 52 | 42 | 4 | 36 | M20 | M24 | 212 | 265 | 8 | M16 | 25 | 200 | 265 | 135 | 16 | M16x45 | 250 | 270 |
| | - | 42 | 5 | 36 | M20 | M24 | 186 | 265 | 8 | M20 | 30 | 190 | 285 | 95 | 20 | M20x55 | 235 | 250 |
| | 52 | 42 | 5 | 36 | M20 | M24 | 224 | 265 | 8 | M16 | 25 | 200 | 280 | 110 | 16 | M16x45 | 345 | 370 |
| 260 | - | 42 | 4 | 36 | M16 | M20 | 155 | 285 | 8 | M20 | 30 | 210 | 285 | 135 | 20 | M20x55 | 153 | 165 |
| | 52 | 42 | 4 | 36 | M20 | M24 | 220 | 285 | 8 | M16 | 25 | 220 | 285 | 155 | 16 | M16x45 | 300 | 320 |
| | - | 42 | 5 | 36 | M20 | M24 | 205 | 285 | 8 | M20 | 30 | 210 | 305 | 95 | 20 | M20x55 | 290 | 310 |
| | 65 | 42 | 5 | 36 | M20 | M24 | 249 | 285 | 8 | M16 | 25 | 220 | 305 | 115 | 16 | M16x45 | 435 | 470 |
| 280 | - | 42 | 5 | 36 | M16 | M20 | 166 | 305 | 8 | M20 | 30 | 230 | 305 | 155 | 20 | M20x55 | 177 | 190 |
| | 65 | 42 | 5 | 36 | M24 | M24 | 225 | 305 | 8 | M16 | 25 | 240 | 305 | 175 | 16 | M16x45 | 325 | 350 |
| | - | 42 | 5 | 36 | M20 | M24 | 212 | 305 | 8 | M24 | 35 | 220 | 325 | 195 | 24 | M24x65 | 330 | 350 |
| | 65 | 42 | 5 | 36 | M24 | M30 | 261 | 305 | 8 | M20 | 30 | 230 | 325 | 80 | 20 | M20x55 | 490 | 530 |

10.3

10.3 SBD plummer block housings for bearings on a cylindrical seat and a stepped shaft

d_a 300 – 420 mm

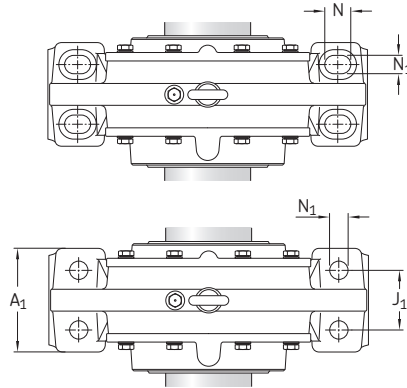
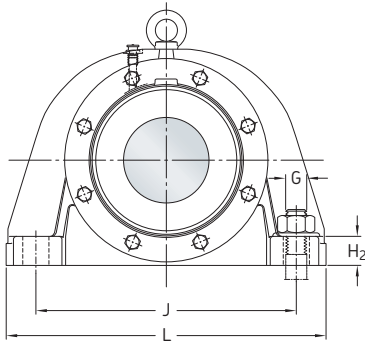


Type AL
Non-locating bearing
Housing for shaft end

Type BF
Locating bearing
Housing for through shaft

| Shaft diam. d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter ring (included) | Dimensions Housing | | | | | | | | | | |
|----------------------|-------------|--|----------------------------|-----------------------|-------|-------|-------|-------|-----|-------|-------|------|-------|------|
| | | | | A_1 | A_2 | A_4 | A_5 | D_1 | H | H_1 | H_2 | J | J_1 | L |
| mm | - | - | | mm | | | | | | | | | | |
| 300 | SBDD 3060 E | 23060 CC/W33 | PSBD 300 | 250 | 122 | 132 | 144 | 500 | 570 | 285 | 85 | 690 | 150 | 820 |
| | SBDD 3160 E | 23160 CC/W33 | PSBD 300 | 300 | 162 | 167 | 190 | 550 | 655 | 320 | 100 | 840 | 170 | 1000 |
| | SBDD 2260 E | 22260 CC/W33 | PSBD 300 | 280 | 160 | 152 | 168 | 585 | 660 | 330 | 100 | 820 | 180 | 960 |
| | SBDD 3260 E | 23260 CC/W33 | PSBD 300 | 330 | 182 | 187 | 230 | 600 | 705 | 350 | 105 | 920 | 180 | 1100 |
| 320 | SBDD 3064 E | 23064 CC/W33 | PSBD 320 | 260 | 122 | 137 | 154 | 520 | 590 | 295 | 90 | 730 | 160 | 860 |
| | SBDD 3164 E | 23164 CC/W33 | PSBD 320 | 300 | 177 | 187 | 210 | 590 | 702 | 350 | 100 | 940 | 160 | 1150 |
| | SBDD 2264 E | 22264 CC/W33 | PSBD 320 | 320 | 175 | 167 | 180 | 640 | 720 | 360 | 110 | 900 | 200 | 1060 |
| | SBDD 3264 E | 23264 CC/W33 | PSBD 320 | 360 | 192 | 187 | 250 | 640 | 760 | 370 | 115 | 960 | 200 | 1150 |
| 340 | SBDD 3068 E | 23068 CC/W33 | PSBD 340 | 270 | 132 | 147 | 158 | 565 | 630 | 315 | 95 | 770 | 170 | 900 |
| | SBDD 3168 E | 23168 CC/W33 | PSBD 340 | 360 | 197 | 237 | 220 | 630 | 735 | 370 | 115 | 960 | 200 | 1150 |
| | SBDD 3268 E | 23268 CA/W33 | PSBD 340 | 380 | 202 | 237 | 265 | 680 | 810 | 390 | 125 | 980 | 200 | 1200 |
| 360 | SBDD 3072 E | 23072 CC/W33 | PSBD 360 | 280 | 132 | 152 | 168 | 585 | 660 | 330 | 100 | 820 | 180 | 960 |
| | SBDD 3172 E | 23172 CC/W33 | PSBD 360 | 370 | 197 | 243 | 225 | 650 | 760 | 380 | 115 | 1000 | 200 | 1200 |
| | SBDD 3272 E | 23272 CA/W33 | PSBD 360 | 400 | 227 | 247 | 275 | 710 | 825 | 410 | 130 | 1040 | 210 | 1280 |
| 380 | SBDD 3076 E | 23076 CC/W33 | PSBD 380 | 300 | 137 | 157 | 168 | 605 | 680 | 340 | 105 | 840 | 190 | 1000 |
| | SBDD 3176 E | 23176 CA/W33 | PSBD 380 | 380 | 202 | 254 | 230 | 680 | 790 | 390 | 125 | 1000 | 200 | 1200 |
| | SBDD 3276 E | 23276 CA/W33 | PSBD 380 | 405 | 232 | 257 | 295 | 745 | 880 | 425 | 135 | 1100 | 225 | 1350 |
| 400 | SBDD 3080 E | 23080 CC/W33 | PSBD 400 | 320 | 142 | 167 | 180 | 650 | 720 | 360 | 110 | 900 | 200 | 1060 |
| | SBDD 3180 E | 23180 CA/W33 | PSBD 400 | 400 | 197 | 247 | 235 | 710 | 845 | 410 | 130 | 1040 | 210 | 1280 |
| | SBDD 3280 E | 23280 CA/W33 | PSBD 400 | 450 | 242 | 257 | 300 | 790 | 905 | 450 | 145 | 1160 | 240 | 1430 |
| 420 | SBDD 3084 E | 23084 CA/W33 | PSBD 420 | 340 | 147 | 167 | 180 | 670 | 750 | 375 | 115 | 940 | 210 | 1100 |
| | SBDD 3184 E | 23184 CJ/W33 | PSBD 420 | 420 | 212 | 257 | 260 | 760 | 900 | 450 | 135 | 1100 | 210 | 1350 |
| | SBDD 3284 E | 23284 CA/W33 | PSBD 420 | 470 | 252 | 267 | 315 | 835 | 955 | 470 | 150 | 1220 | 255 | 1500 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

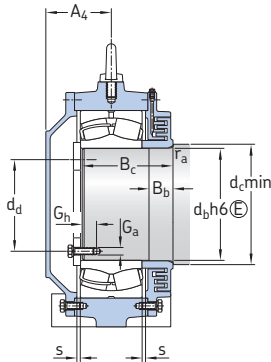


| Shaft diam. | Dimensions Housing | | | | | Eye bolt acc. to DIN 580 | Dimensions Shaft abutment and fillet | | | | | End plate | | | | attachment bolts (for end plate) | Mass Housing type | |
|-------------|--------------------|----|-------|----|------|--------------------------|--------------------------------------|-------|-------|-----------|-------|-----------|-------|-------|-------|----------------------------------|-------------------|-------|
| | d_a | N | N_1 | s | G | | G_1 | G_2 | B_c | d_c min | r_a | G_a | G_h | d_d | d_e | | d_{gmax} | s_a |
| mm | mm | | | | | - | mm | | | | | | | | | kg | | |
| 300 | - | 42 | 5 | 36 | M 20 | M 24 | 177 | 325 | 8 | M 20 | 30 | 250 | 325 | 175 | 20 | M 20x55 | 215 | 230 |
| | 65 | 42 | 5 | 36 | M 24 | M 30 | 237 | 325 | 8 | M 20 | 30 | 250 | 325 | 175 | 20 | M 20x55 | 400 | 430 |
| | - | 42 | 5 | 36 | M 20 | M 24 | 225 | 325 | 8 | M 24 | 35 | 240 | 350 | 105 | 24 | M 24x65 | 400 | 430 |
| | 75 | 56 | 6 | 48 | M 24 | M 30 | 273 | 325 | 8 | M 20 | 30 | 250 | 350 | 120 | 20 | M 20x55 | 590 | 640 |
| 320 | - | 42 | 5 | 36 | M 20 | M 24 | 179 | 345 | 8 | M 20 | 30 | 270 | 345 | 195 | 20 | M 20x55 | 240 | 255 |
| | 65 | 42 | 5 | 36 | M 24 | M 30 | 260 | 345 | 8 | M 20 | 30 | 270 | 350 | 190 | 20 | M 20x55 | 490 | 530 |
| | - | 56 | 5 | 48 | M 24 | M 30 | 245 | 345 | 8 | M 24 | 35 | 260 | 375 | 120 | 24 | M 24x65 | 485 | 520 |
| | 75 | 56 | 6 | 48 | M 24 | M 30 | 291 | 345 | 8 | M 24 | 35 | 260 | 375 | 110 | 24 | M 24x65 | 700 | 760 |
| 340 | - | 42 | 6 | 36 | M 20 | M 24 | 194 | 365 | 8 | M 24 | 35 | 280 | 370 | 190 | 24 | M 24x65 | 280 | 305 |
| | 75 | 56 | 6 | 48 | M 24 | M 30 | 287 | 365 | 8 | M 24 | 35 | 280 | 370 | 190 | 24 | M 24x65 | 590 | 630 |
| | 75 | 60 | 6 | 56 | M 24 | M 36 | 308 | 365 | 8 | M 24 | 35 | 280 | 420 | 125 | 24 | M 24x65 | 830 | 900 |
| 360 | - | 42 | 6 | 36 | M 20 | M 24 | 194 | 385 | 8 | M 24 | 35 | 300 | 390 | 210 | 24 | M 24x65 | 315 | 340 |
| | 75 | 56 | 6 | 48 | M 24 | M 30 | 288 | 385 | 8 | M 24 | 35 | 300 | 390 | 210 | 24 | M 24x65 | 660 | 700 |
| | 80 | 68 | 7 | 64 | M 24 | M 36 | 337 | 385 | 8 | M 24 | 35 | 300 | 440 | 145 | 24 | M 24x65 | 950 | 1020 |
| 380 | - | 56 | 6 | 48 | M 20 | M 24 | 200 | 405 | 8 | M 24 | 35 | 320 | 410 | 230 | 24 | M 24x65 | 350 | 380 |
| | 75 | 60 | 6 | 56 | M 30 | M 30 | 294 | 405 | 8 | M 24 | 35 | 320 | 410 | 230 | 24 | M 24x65 | 730 | 770 |
| | 85 | 68 | 7 | 64 | M 30 | M 36 | 346 | 405 | 8 | M 30 | 45 | 305 | 465 | 130 | 30 | M 30x80 | 1060 | 1140 |
| 400 | - | 56 | 6 | 48 | M 24 | M 30 | 211 | 425 | 8 | M 24 | 35 | 340 | 430 | 250 | 24 | M 24x65 | 420 | 450 |
| | 80 | 68 | 7 | 64 | M 30 | M 36 | 291 | 425 | 8 | M 24 | 35 | 340 | 430 | 250 | 24 | M 24x65 | 820 | 870 |
| | 85 | 68 | 7 | 64 | M 30 | M 36 | 364 | 425 | 8 | M 30 | 45 | 325 | 495 | 145 | 30 | M 30x80 | 1240 | 1330 |
| 420 | - | 56 | 6 | 48 | M 24 | M 30 | 217 | 445 | 8 | M 30 | 40 | 345 | 450 | 240 | 30 | M 30x80 | 465 | 500 |
| | 85 | 68 | 7 | 64 | M 30 | M 36 | 318 | 445 | 8 | M 30 | 45 | 345 | 450 | 240 | 30 | M 30x80 | 1000 | 1070 |
| | 90 | 72 | 8 | 64 | M 30 | M 36 | 380 | 445 | 8 | M 30 | 45 | 345 | 520 | 155 | 30 | M 30x80 | 1500 | 1600 |

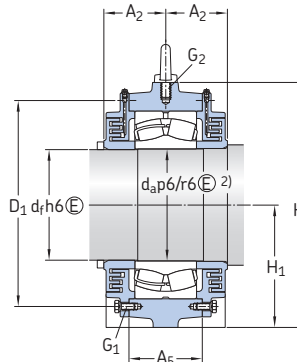
10.3

10.4 SBD plummer block housings for bearings on a cylindrical seat and a multi-stepped shaft

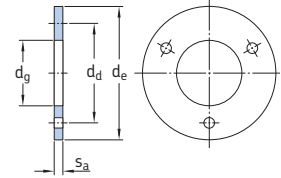
d_a 100 – 170 mm



Type AL
Non-locating bearing
Housing for shaft end



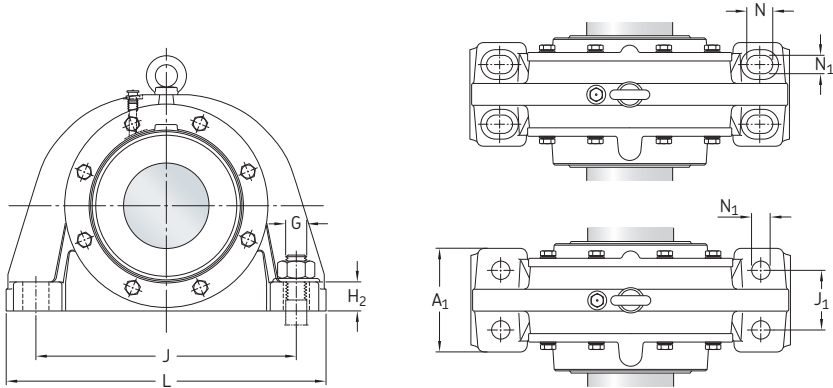
Type BF
Locating bearing
Housing for through shaft



| Shaft diam. | Housing | Appropriate bearing ¹⁾ | Dimensions Housing | | | | | | | | | | | |
|-------------|-------------|-----------------------------------|--------------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|
| | | | A ₁ | A ₂ | A ₄ | A ₅ | D ₁ | H | H ₁ | H ₂ | J | J ₁ | L | N |
| d_a | – | – | mm | | | | | | | | | | | |
| 100 | SBDD 2220 G | 22220 E | 110 | 70 | 63 | 56 | 195 | 230 | 115 | 35 | 300 | 60 | 370 | – |
| 110 | SBDD 3122 G | 23122 CC/W33 | 150 | 81 | 83 | 80 | 215 | 270 | 130 | 40 | 300 | 80 | 400 | 35 |
| | SBDD 2222 G | 22222 E | 120 | 78 | 68 | 64 | 215 | 260 | 130 | 38 | 340 | 60 | 410 | – |
| | SBDD 3222 G | 23222 CC/W33 | 130 | 91 | 76 | 90 | 230 | 285 | 140 | 42 | 350 | 70 | 440 | 35 |
| 120 | SBDD 3024 G | 23024 CC/W33 | 110 | 63 | 63 | 56 | 195 | 230 | 115 | 35 | 300 | 60 | 370 | – |
| | SBDD 3124 G | 23124 CC/W33 | 140 | 76 | 78 | 85 | 230 | 285 | 140 | 40 | 330 | 80 | 410 | 35 |
| | SBDD 2224 G | 22224 E | 130 | 80,5 | 68 | 70 | 230 | 275 | 140 | 40 | 360 | 70 | 430 | – |
| | SBDD 3224 G | 23224 CC/W33 | 140 | 93 | 78 | 95 | 245 | 305 | 150 | 42 | 370 | 75 | 470 | 35 |
| 130 | SBDD 3026 G | 23026 CC/W33 | 120 | 68 | 68 | 64 | 215 | 260 | 130 | 38 | 340 | 60 | 410 | – |
| | SBDD 3126 G | 23126 CC/W33 | 140 | 80 | 80 | 90 | 240 | 295 | 145 | 40 | 350 | 80 | 430 | 35 |
| | SBDD 2226 G | 22226 E | 140 | 88 | 70 | 70 | 245 | 290 | 145 | 42 | 370 | 80 | 455 | – |
| | SBDD 3226 G | 23226 CC/W33 | 150 | 103 | 78 | 100 | 260 | 325 | 160 | 45 | 400 | 85 | 500 | 40 |
| 140 | SBDD 3028 G | 23028 CC/W33 | 130 | 68 | 68 | 70 | 230 | 275 | 140 | 40 | 360 | 70 | 430 | – |
| | SBDD 3128 G | 23128 CC/W33 | 150 | 85 | 85 | 95 | 260 | 315 | 155 | 45 | 380 | 85 | 470 | 35 |
| | SBDD 2228 G | 22228 CC/W33 | 160 | 94 | 83 | 82 | 275 | 330 | 165 | 50 | 420 | 95 | 510 | – |
| | SBDD 3228 G | 23228 CC/W33 | 160 | 108 | 88 | 110 | 285 | 350 | 170 | 50 | 430 | 85 | 530 | 40 |
| 150 | SBDD 3030 G | 23030 CC/W33 | 140 | 78 | 70 | 76 | 245 | 290 | 145 | 42 | 370 | 80 | 455 | – |
| | SBDD 3130 G | 23130 CC/W33 | 200 | 93 | 93 | 102 | 285 | 345 | 170 | 60 | 450 | 110 | 580 | 45 |
| | SBDD 2230 G | 22230 CC/W33 | 170 | 98 | 88 | 90 | 300 | 360 | 180 | 52 | 450 | 100 | 540 | – |
| | SBDD 3230 G | 23230 CC/W33 | 170 | 113 | 93 | 120 | 305 | 375 | 180 | 54 | 450 | 90 | 550 | 45 |
| 160 | SBDD 3032 G | 23032 CC/W33 | 150 | 78 | 76 | 76 | 260 | 310 | 155 | 45 | 390 | 90 | 480 | – |
| | SBDD 3132 G | 23132 CC/W33 | 200 | 98 | 98 | 110 | 310 | 368 | 180 | 55 | 430 | 110 | 540 | 40 |
| | SBDD 2232 G | 22232 CC/W33 | 180 | 101 | 88 | 96 | 315 | 370 | 185 | 55 | 480 | 105 | 570 | – |
| | SBDD 3232 G | 23232 CC/W33 | 180 | 118 | 98 | 130 | 330 | 395 | 190 | 58 | 490 | 105 | 600 | 45 |
| 170 | SBDD 3034 G | 23034 CC/W33 | 160 | 78 | 83 | 82 | 280 | 330 | 165 | 50 | 420 | 95 | 510 | – |
| | SBDD 3134 G | 23134 CC/W33 | 200 | 113 | 112 | 120 | 330 | 395 | 190 | 60 | 470 | 110 | 570 | 45 |
| | SBDD 2234 G | 22234 CC/W33 | 190 | 112,5 | 97 | 104 | 335 | 400 | 200 | 60 | 510 | 110 | 600 | – |
| | SBDD 3234 G | 23234 CC/W33 | 200 | 128 | 103 | 135 | 345 | 410 | 200 | 62 | 525 | 110 | 640 | 45 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ Tolerance p6 for shaft diameters up to 140 mm and tolerance r6 for larger sizes.

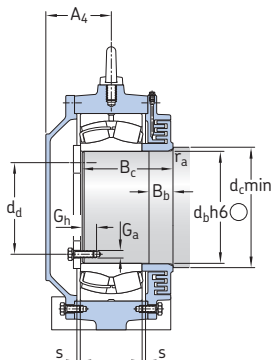


| Shaft diam. | Dimensions Housing | | | | Eye bolt acc. to DIN 580 | Dimensions Shaft abutment and fillet | | | | | | | | | | End plate | | | | | Mass Housing type | | |
|-------------|--------------------|-------|----|-----|--------------------------|--------------------------------------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-----------|-------|------------|-------|----------------------------------|-------------------|----|--|
| | d_a | N_1 | s | G | | G_1 | G_2 | B_b | B_c | d_b | d_c min | d_f | r_a | G_a | G_h | d_d | d_e | d_{gmax} | s_a | attachment bolts (for end plate) | A | B | |
| mm | mm | | | | - | mm | mm | | | | | | | | | | mm | | | | | kg | |
| 100 | 24 | 2 | 20 | M8 | M12 | 35 | 90 | 102 | 115 | 98 | 4 | M10 | 18 | 75 | 115 | 35 | 10 | M10x30 | 23 | 25 | | | |
| 110 | 25 | 2 | 20 | M12 | M12 | 30 | 107 | 112 | 125 | 108 | 4 | M8 | 15 | 90 | 122 | 58 | 8 | M8x25 | 40 | 45 | | | |
| | 24 | 2 | 20 | M8 | M12 | 35 | 102 | 112 | 125 | 108 | 4 | M10 | 18 | 85 | 128 | 42 | 10 | M10x30 | 37 | 40 | | | |
| | 30 | 2 | 24 | M12 | M16 | 32 | 123 | 112 | 125 | 108 | 4 | M8 | 15 | 90 | 128 | 45 | 8 | M8x25 | 46 | 50 | | | |
| 120 | 24 | 2 | 20 | M8 | M12 | 25 | 84 | 122 | 135 | 118 | 4 | M10 | 18 | 95 | 132 | 58 | 10 | M10x30 | 19 | 20 | | | |
| | 25 | 2 | 20 | M12 | M12 | 30 | 105 | 122 | 135 | 118 | 4 | M8 | 15 | 100 | 133 | 67 | 8 | M8x25 | 45 | 50 | | | |
| | 28 | 3 | 24 | M8 | M12 | 35 | 107 | 122 | 135 | 118 | 4 | M10 | 18 | 95 | 138 | 52 | 10 | M10x30 | 43 | 46 | | | |
| | 30 | 2 | 24 | M12 | M16 | 32 | 128 | 122 | 135 | 118 | 4 | M10 | 18 | 95 | 138 | 45 | 10 | M10x30 | 50 | 55 | | | |
| 130 | 24 | 2 | 20 | M8 | M12 | 25 | 92 | 132 | 150 | 128 | 6 | M10 | 18 | 105 | 145 | 65 | 10 | M10x30 | 28 | 30 | | | |
| | 25 | 2 | 20 | M12 | M12 | 30 | 110 | 132 | 150 | 128 | 6 | M8 | 15 | 110 | 145 | 75 | 8 | M8x25 | 50 | 55 | | | |
| | 28 | 3 | 24 | M10 | M12 | 40 | 117 | 132 | 150 | 128 | 6 | M10 | 18 | 105 | 150 | 60 | 10 | M10x30 | 52 | 56 | | | |
| | 30 | 2 | 24 | M12 | M16 | 35 | 140 | 132 | 150 | 128 | 6 | M10 | 18 | 105 | 150 | 55 | 10 | M10x30 | 60 | 65 | | | |
| 140 | 28 | 3 | 24 | M8 | M12 | 25 | 92 | 142 | 160 | 138 | 6 | M10 | 18 | 115 | 155 | 75 | 10 | M10x30 | 32 | 35 | | | |
| | 25 | 2 | 20 | M12 | M12 | 30 | 116 | 142 | 160 | 138 | 6 | M10 | 18 | 115 | 155 | 75 | 10 | M10x30 | 58 | 65 | | | |
| | 35 | 3 | 30 | M10 | M12 | 40 | 125 | 142 | 160 | 138 | 6 | M10 | 18 | 115 | 162 | 68 | 10 | M10x30 | 65 | 70 | | | |
| | 30 | 3 | 24 | M16 | M20 | 35 | 145 | 142 | 160 | 138 | 6 | M10 | 18 | 115 | 160 | 60 | 10 | M10x30 | 74 | 80 | | | |
| 150 | 28 | 3 | 24 | M10 | M12 | 25 | 99 | 152 | 170 | 148 | 6 | M10 | 18 | 125 | 165 | 85 | 10 | M10x30 | 37 | 40 | | | |
| | 35 | 3 | 24 | M12 | M16 | 30 | 130 | 152 | 170 | 148 | 6 | M10 | 18 | 125 | 165 | 85 | 10 | M10x30 | 78 | 85 | | | |
| | 35 | 3 | 30 | M12 | M16 | 40 | 132 | 152 | 170 | 148 | 6 | M10 | 18 | 125 | 175 | 75 | 10 | M10x30 | 77 | 82 | | | |
| | 35 | 3 | 30 | M16 | M20 | 40 | 158 | 152 | 170 | 148 | 6 | M10 | 18 | 125 | 170 | 70 | 10 | M10x30 | 87 | 95 | | | |
| 160 | 28 | 3 | 24 | M10 | M12 | 30 | 105 | 162 | 185 | 158 | 8 | M10 | 18 | 135 | 175 | 95 | 10 | M10x30 | 41 | 45 | | | |
| | 30 | 3 | 24 | M12 | M16 | 30 | 138 | 162 | 185 | 158 | 8 | M10 | 18 | 135 | 178 | 92 | 10 | M10x30 | 90 | 100 | | | |
| | 35 | 3 | 30 | M12 | M16 | 40 | 138 | 162 | 185 | 158 | 8 | M12 | 20 | 130 | 185 | 75 | 12 | M12x30 | 90 | 96 | | | |
| | 35 | 3 | 30 | M16 | M20 | 40 | 167 | 162 | 185 | 158 | 8 | M12 | 20 | 130 | 185 | 70 | 12 | M12x30 | 100 | 110 | | | |
| 170 | 35 | 3 | 30 | M10 | M12 | 30 | 109 | 172 | 195 | 168 | 8 | M10 | 18 | 145 | 185 | 105 | 10 | M10x30 | 50 | 55 | | | |
| | 35 | 3 | 30 | M12 | M20 | 40 | 154 | 172 | 195 | 168 | 8 | M10 | 18 | 145 | 185 | 105 | 10 | M10x30 | 100 | 110 | | | |
| | 35 | 4 | 30 | M12 | M16 | 45 | 152 | 172 | 195 | 168 | 8 | M16 | 25 | 130 | 200 | 60 | 16 | M16x45 | 103 | 110 | | | |
| | 35 | 3 | 30 | M16 | M20 | 40 | 179 | 172 | 195 | 168 | 8 | M12 | 20 | 140 | 195 | 75 | 12 | M12x30 | 130 | 140 | | | |

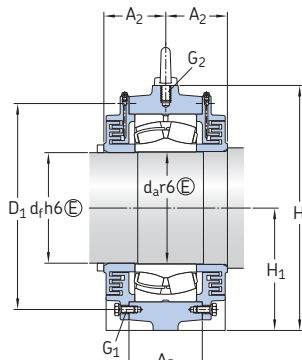
10.4

10.4 SBD plummer block housings for bearings on a cylindrical seat and a multi-stepped shaft

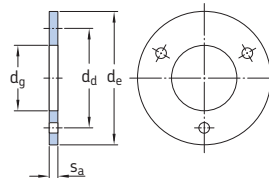
d_a 180 – 280 mm



Type AL
Non-locating bearing
Housing for shaft end

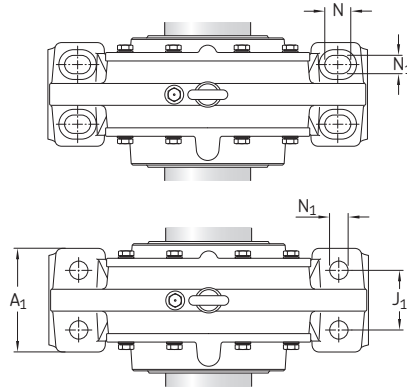
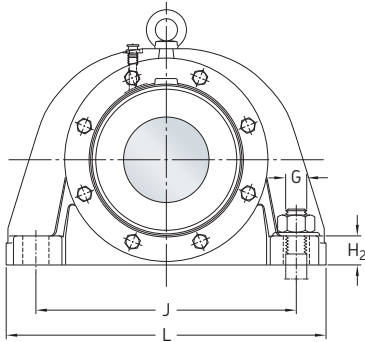


Type BF
Locating bearing
Housing for through shaft



| Shaft diam. | Housing | Appropriate bearing ¹⁾ | Dimensions Housing | | | | | | | | | | | |
|-------------|-------------|-----------------------------------|--------------------|-------|-------|-------|-------|-----|-------|-------|-----|-------|------|----|
| | | | A_1 | A_2 | A_4 | A_5 | D_1 | H | H_1 | H_2 | J | J_1 | L | N |
| d_a | mm | mm | mm | | | | | | | | | | | |
| 180 | SBDD 3036 G | 23036 CC/W33 | 170 | 83 | 88 | 90 | 305 | 360 | 180 | 52 | 450 | 100 | 540 | – |
| | SBDD 3136 G | 23136 CC/W33 | 200 | 118 | 116 | 125 | 350 | 410 | 200 | 60 | 490 | 105 | 600 | 45 |
| | SBDD 2236 G | 22236 CC/W33 | 200 | 118 | 102 | 110 | 360 | 430 | 215 | 65 | 540 | 115 | 640 | – |
| | SBDD 3236 G | 23236 CC/W33 | 210 | 133 | 108 | 140 | 360 | 430 | 210 | 65 | 550 | 120 | 680 | 45 |
| 190 | SBDD 3038 G | 23038 CC/W33 | 180 | 93 | 88 | 96 | 315 | 370 | 185 | 55 | 480 | 105 | 570 | – |
| | SBDD 3138 G | 23138 CC/W33 | 210 | 123 | 120 | 130 | 370 | 435 | 210 | 65 | 550 | 120 | 680 | 45 |
| | SBDD 2238 G | 22238 CC/W33 | 200 | 118 | 102 | 110 | 370 | 430 | 215 | 65 | 540 | 115 | 640 | – |
| | SBDD 3238 G | 23238 CC/W33 | 220 | 138 | 113 | 150 | 385 | 455 | 220 | 75 | 560 | 120 | 710 | 45 |
| 200 | SBDD 3040 G | 23040 CC/W33 | 190 | 97 | 97 | 104 | 340 | 400 | 200 | 60 | 510 | 110 | 600 | – |
| | SBDD 3140 G | 23140 CC/W33 | 220 | 127 | 127 | 135 | 380 | 455 | 220 | 85 | 560 | 120 | 710 | 52 |
| | SBDD 2240 G | 22240 CC/W33 | 210 | 122 | 107 | 118 | 390 | 450 | 225 | 70 | 560 | 120 | 680 | – |
| | SBDD 3240 G | 23240 CC/W33 | 240 | 138 | 118 | 165 | 405 | 475 | 235 | 75 | 640 | 140 | 780 | 52 |
| 220 | SBDD 3044 G | 23044 CC/W33 | 200 | 102 | 102 | 110 | 370 | 430 | 215 | 65 | 540 | 115 | 640 | – |
| | SBDD 3144 G | 23144 CC/W33 | 230 | 135 | 135 | 150 | 420 | 485 | 235 | 75 | 640 | 140 | 780 | 52 |
| | SBDD 2244 G | 22244 CC/W33 | 220 | 124,5 | 117 | 128 | 435 | 500 | 250 | 75 | 600 | 130 | 720 | – |
| | SBDD 3244 G | 23244 CC/W33 | 250 | 148 | 133 | 175 | 445 | 525 | 260 | 80 | 700 | 140 | 850 | 52 |
| 240 | SBDD 3048 G | 23048 CC/W33 | 210 | 102 | 107 | 118 | 390 | 450 | 225 | 70 | 560 | 120 | 680 | – |
| | SBDD 3148 G | 23148 CC/W33 | 250 | 152 | 142 | 160 | 455 | 550 | 270 | 80 | 720 | 140 | 890 | 52 |
| | SBDD 2248 G | 22248 CC/W33 | 250 | 130 | 132 | 144 | 490 | 570 | 285 | 85 | 690 | 150 | 820 | – |
| | SBDD 3248 G | 23248 CC/W33 | 250 | 148 | 148 | 190 | 490 | 590 | 290 | 90 | 750 | 140 | 900 | 52 |
| 260 | SBDD 3052 G | 23052 CC/W33 | 220 | 107 | 117 | 128 | 435 | 500 | 250 | 75 | 600 | 130 | 720 | – |
| | SBDD 3152 G | 23152 CC/W33 | 250 | 152 | 152 | 175 | 490 | 590 | 290 | 90 | 750 | 140 | 900 | 52 |
| | SBDD 2252 G | 22252 CC/W33 | 260 | 145 | 137 | 154 | 520 | 590 | 295 | 90 | 730 | 160 | 860 | – |
| | SBDD 3252 G | 23252 CC/W33 | 290 | 167 | 158 | 205 | 535 | 625 | 310 | 95 | 800 | 160 | 960 | 65 |
| 280 | SBDD 3056 G | 23056 CC/W33 | 240 | 117 | 122 | 128 | 455 | 520 | 260 | 80 | 630 | 140 | 760 | – |
| | SBDD 3156 G | 23156 CC/W33 | 250 | 157 | 165 | 175 | 510 | 590 | 290 | 90 | 750 | 140 | 900 | 65 |
| | SBDD 2256 G | 22256 CC/W33 | 270 | 152 | 147 | 158 | 555 | 630 | 315 | 95 | 770 | 170 | 900 | – |
| | SBDD 3256 G | 23256 CC/W33 | 300 | 178 | 163 | 210 | 555 | 645 | 320 | 100 | 840 | 170 | 1000 | 65 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

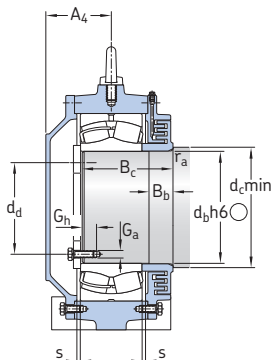


| Shaft diam. | Dimensions Housing | | | | | Eye bolt acc. to DIN 580 | | Dimensions Shaft abutment and fillet | | | | | | | End plate | | | | | | Mass Housing type | |
|-------------|--------------------|-------|----|-----|-------|--------------------------|-------|--------------------------------------|-------|-------|-------|-------|-------|-------|-----------|-------|------------|--------|----------------------------------|-----|-------------------|---|
| | d_a | N_1 | s | G | G_1 | G_2 | B_b | B_c | d_b | d_c | d_f | r_a | G_a | G_h | d_d | d_e | d_{gmax} | s_a | attachment bolts (for end plate) | | A | B |
| mm | mm | | | | - | mm | | | mm | | - | mm | | mm | | | | | | | kg | |
| 180 | 35 | 3 | 30 | M12 | M16 | 30 | 117 | 182 | 205 | 178 | 8 | M10 | 18 | 155 | 195 | 115 | 10 | M10x30 | | 64 | 70 | |
| | 35 | 3 | 30 | M16 | M20 | 40 | 163 | 182 | 205 | 178 | 8 | M12 | 20 | 150 | 195 | 105 | 12 | M12x30 | | 118 | 130 | |
| | 42 | 4 | 36 | M16 | M20 | 45 | 157 | 182 | 205 | 178 | 8 | M16 | 25 | 140 | 210 | 70 | 16 | M16x45 | | 112 | 120 | |
| | 35 | 3 | 30 | M16 | M20 | 45 | 185 | 182 | 205 | 178 | 8 | M12 | 20 | 150 | 205 | 85 | 12 | M12x30 | | 147 | 160 | |
| 190 | 35 | 3 | 30 | M12 | M16 | 30 | 128 | 192 | 215 | 188 | 8 | M12 | 20 | 160 | 205 | 115 | 12 | M12x30 | | 74 | 80 | |
| | 35 | 3 | 36 | M16 | M20 | 40 | 172 | 192 | 215 | 188 | 8 | M12 | 20 | 160 | 210 | 110 | 12 | M12x30 | | 146 | 160 | |
| | 42 | 4 | 36 | M16 | M20 | 45 | 160 | 192 | 215 | 188 | 8 | M16 | 25 | 150 | 220 | 80 | 16 | M16x45 | | 126 | 135 | |
| | 35 | 4 | 30 | M16 | M20 | 45 | 197 | 192 | 215 | 188 | 8 | M12 | 20 | 160 | 215 | 95 | 12 | M12x30 | | 170 | 185 | |
| 200 | 35 | 4 | 30 | M12 | M16 | 35 | 135 | 202 | 225 | 198 | 8 | M16 | 25 | 160 | 215 | 105 | 16 | M16x45 | | 83 | 90 | |
| | 42 | 3 | 36 | M16 | M24 | 40 | 180 | 202 | 225 | 198 | 8 | M12 | 20 | 170 | 220 | 120 | 12 | M12x30 | | 175 | 190 | |
| | 42 | 4 | 36 | M16 | M24 | 45 | 167 | 202 | 225 | 198 | 8 | M20 | 30 | 150 | 235 | 65 | 20 | M20x55 | | 145 | 155 | |
| | 42 | 4 | 36 | M16 | M24 | 45 | 198 | 202 | 225 | 198 | 8 | M16 | 25 | 160 | 230 | 80 | 16 | M16x45 | | 200 | 220 | |
| 220 | 42 | 4 | 36 | M16 | M20 | 35 | 144 | 222 | 245 | 218 | 8 | M16 | 25 | 180 | 240 | 120 | 16 | M16x45 | | 107 | 115 | |
| | 42 | 4 | 36 | M16 | M24 | 45 | 191 | 222 | 245 | 218 | 8 | M16 | 25 | 180 | 245 | 115 | 16 | M16x45 | | 205 | 220 | |
| | 42 | 4 | 36 | M16 | M20 | 45 | 175 | 222 | 245 | 218 | 8 | M20 | 30 | 170 | 260 | 80 | 20 | M20x55 | | 187 | 200 | |
| | 42 | 4 | 36 | M20 | M24 | 45 | 216 | 222 | 245 | 218 | 8 | M16 | 25 | 180 | 255 | 95 | 16 | M16x45 | | 270 | 290 | |
| 240 | 42 | 4 | 36 | M16 | M20 | 35 | 145 | 242 | 265 | 238 | 8 | M20 | 30 | 190 | 260 | 120 | 20 | M20x55 | | 120 | 130 | |
| | 42 | 4 | 36 | M20 | M24 | 50 | 212 | 242 | 265 | 238 | 8 | M16 | 25 | 200 | 265 | 135 | 16 | M16x45 | | 250 | 270 | |
| | 42 | 5 | 36 | M20 | M24 | 45 | 186 | 242 | 265 | 238 | 8 | M20 | 30 | 190 | 285 | 95 | 20 | M20x55 | | 235 | 250 | |
| | 42 | 5 | 36 | M20 | M24 | 45 | 224 | 242 | 265 | 238 | 8 | M16 | 25 | 200 | 290 | 110 | 16 | M16x45 | | 345 | 370 | |
| 260 | 42 | 4 | 36 | M16 | M20 | 35 | 155 | 262 | 285 | 258 | 8 | M20 | 30 | 210 | 285 | 135 | 20 | M20x55 | | 153 | 165 | |
| | 42 | 4 | 36 | M20 | M24 | 50 | 220 | 262 | 285 | 258 | 8 | M16 | 25 | 220 | 285 | 155 | 16 | M16x45 | | 300 | 320 | |
| | 42 | 5 | 36 | M20 | M24 | 50 | 205 | 262 | 285 | 258 | 8 | M20 | 30 | 210 | 305 | 95 | 20 | M20x55 | | 290 | 310 | |
| | 42 | 5 | 36 | M20 | M24 | 45 | 249 | 262 | 285 | 258 | 8 | M16 | 25 | 220 | 305 | 115 | 16 | M16x45 | | 435 | 470 | |
| 280 | 42 | 5 | 36 | M16 | M20 | 35 | 166 | 282 | 305 | 278 | 8 | M20 | 30 | 230 | 305 | 155 | 20 | M20x55 | | 177 | 190 | |
| | 42 | 5 | 36 | M24 | M24 | 50 | 225 | 282 | 305 | 278 | 8 | M16 | 25 | 240 | 305 | 175 | 16 | M16x45 | | 325 | 350 | |
| | 42 | 5 | 36 | M20 | M24 | 50 | 212 | 282 | 305 | 278 | 8 | M24 | 35 | 220 | 325 | 195 | 24 | M24x65 | | 330 | 350 | |
| | 42 | 5 | 36 | M24 | M30 | 50 | 261 | 282 | 305 | 278 | 8 | M20 | 30 | 230 | 325 | 80 | 20 | M20x55 | | 490 | 530 | |

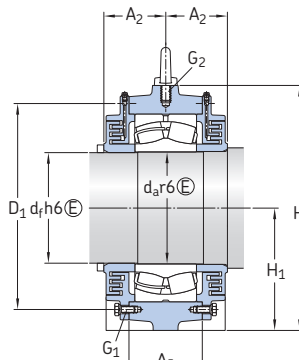
10.4

10.4 SBD plummer block housings for bearings on a cylindrical seat and a multi-stepped shaft

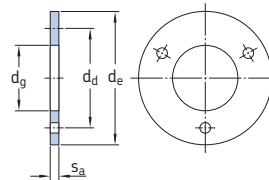
d_a 300 – 420 mm



Type AL
Non-locating bearing
Housing for shaft end

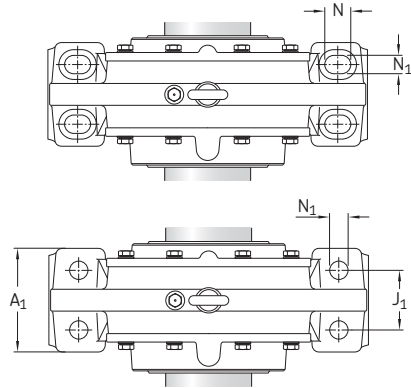
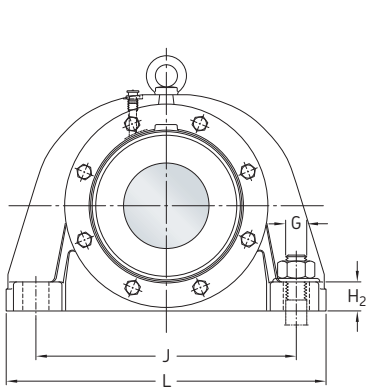


Type BF
Locating bearing
Housing for through shaft



| Shaft diam. d_a | Housing | Appropriate bearing ¹⁾ | Dimensions Housing | | | | | | | | | | | |
|----------------------|-------------|-----------------------------------|--------------------|-------|-------|-------|-------|-----|-------|-------|------|-------|------|----|
| | | | A_1 | A_2 | A_4 | A_5 | D_1 | H | H_1 | H_2 | J | J_1 | L | N |
| mm | - | - | mm | | | | | | | | | | | |
| 300 | SBDD 3060 G | 23060 CC/W33 | 250 | 122 | 132 | 144 | 500 | 570 | 285 | 85 | 690 | 150 | 820 | - |
| | SBDD 3160 G | 23160 CC/W33 | 300 | 162 | 167 | 190 | 550 | 655 | 320 | 100 | 840 | 170 | 1000 | 65 |
| | SBDD 2260 G | 22260 CC/W33 | 280 | 160 | 152 | 168 | 585 | 660 | 330 | 100 | 820 | 180 | 960 | - |
| | SBDD 3260 G | 23260 CC/W33 | 330 | 182 | 187 | 230 | 600 | 705 | 350 | 105 | 920 | 180 | 1100 | 75 |
| 320 | SBDD 3064 G | 23064 CC/W33 | 260 | 122 | 137 | 154 | 520 | 590 | 295 | 90 | 730 | 160 | 860 | - |
| | SBDD 3164 G | 23164 CC/W33 | 300 | 177 | 187 | 210 | 590 | 702 | 350 | 100 | 940 | 160 | 1150 | 65 |
| | SBDD 2264 G | 22264 CC/W33 | 320 | 175 | 167 | 180 | 640 | 720 | 360 | 110 | 900 | 200 | 1060 | - |
| | SBDD 3264 G | 23264 CC/W33 | 360 | 192 | 187 | 250 | 640 | 760 | 370 | 115 | 960 | 200 | 1150 | 75 |
| 340 | SBDD 3068 G | 23068 CC/W33 | 270 | 132 | 147 | 158 | 565 | 630 | 315 | 95 | 770 | 170 | 900 | - |
| | SBDD 3168 G | 23168 CC/W33 | 360 | 197 | 237 | 220 | 630 | 735 | 370 | 115 | 960 | 200 | 1150 | 75 |
| | SBDD 3268 G | 23268 CA/W33 | 380 | 202 | 237 | 265 | 680 | 810 | 390 | 125 | 980 | 200 | 1200 | 75 |
| 360 | SBDD 3072 G | 23072 CC/W33 | 280 | 132 | 152 | 168 | 585 | 660 | 330 | 100 | 820 | 180 | 960 | - |
| | SBDD 3172 G | 23172 CC/W33 | 370 | 197 | 243 | 225 | 650 | 760 | 380 | 115 | 1000 | 200 | 1200 | 75 |
| | SBDD 3272 G | 23272 CA/W33 | 400 | 227 | 247 | 275 | 710 | 825 | 410 | 130 | 1040 | 210 | 1280 | 80 |
| 380 | SBDD 3076 G | 23076 CC/W33 | 300 | 137 | 157 | 168 | 605 | 680 | 340 | 105 | 840 | 190 | 1000 | - |
| | SBDD 3176 G | 23176 CA/W33 | 380 | 202 | 254 | 230 | 680 | 790 | 390 | 125 | 1000 | 200 | 1200 | 75 |
| | SBDD 3276 G | 23276 CA/W33 | 405 | 232 | 257 | 295 | 745 | 880 | 425 | 135 | 1100 | 225 | 1350 | 85 |
| 400 | SBDD 3080 G | 23080 CC/W33 | 320 | 142 | 167 | 180 | 650 | 720 | 360 | 110 | 900 | 200 | 1060 | - |
| | SBDD 3180 G | 23180 CA/W33 | 400 | 197 | 247 | 235 | 710 | 845 | 410 | 130 | 1040 | 210 | 1280 | 80 |
| | SBDD 3280 G | 23280 CA/W33 | 450 | 242 | 257 | 300 | 790 | 905 | 450 | 145 | 1160 | 240 | 1430 | 85 |
| 420 | SBDD 3084 G | 23084 CA/W33 | 340 | 147 | 167 | 180 | 670 | 750 | 375 | 115 | 940 | 210 | 1100 | - |
| | SBDD 3184 G | 23184 CJ/W33 | 420 | 212 | 257 | 260 | 760 | 900 | 450 | 135 | 1100 | 210 | 1350 | 85 |
| | SBDD 3284 G | 23284 CA/W33 | 470 | 252 | 267 | 315 | 835 | 955 | 470 | 150 | 1220 | 255 | 1500 | 90 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

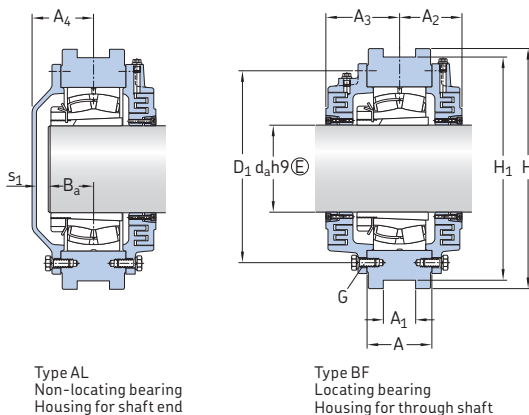


| Shaft diam. | Dimensions Housing | | | | Eye bolt acc. to DIN 580 | Dimensions Shaft abutment and fillet | | | | | | | End plate | | | | | Mass Housing type | | | | |
|-------------|--------------------|----------------|----|-----|--------------------------|--------------------------------------|----------------|----------------|----------------|----------------|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------------------------|----|----|
| | d _a | N ₁ | s | G | | G ₁ | G ₂ | B _b | B _c | d _b | d _c min | d _f | r _a | G _a | G _h | d _d | d _e | d _{gmax} | s _a | attachment bolts (for end plate) | A | B |
| mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| 300 | 42 | 5 | 36 | M20 | M24 | 35 | 177 | 302 | 325 | 298 | 8 | M20 | 30 | 250 | 325 | 175 | 20 | M20×55 | 215 | 230 | | |
| | 42 | 5 | 36 | M24 | M30 | 50 | 237 | 302 | 325 | 298 | 8 | M20 | 30 | 250 | 325 | 175 | 20 | M20×55 | 400 | 430 | | |
| | 42 | 5 | 36 | M20 | M24 | 50 | 225 | 302 | 325 | 298 | 8 | M24 | 35 | 240 | 350 | 105 | 24 | M24×65 | 400 | 430 | | |
| | 56 | 6 | 48 | M24 | M30 | 50 | 273 | 302 | 325 | 298 | 8 | M20 | 30 | 250 | 350 | 120 | 20 | M20×55 | 590 | 640 | | |
| 320 | 42 | 5 | 36 | M20 | M24 | 35 | 179 | 322 | 345 | 318 | 8 | M20 | 30 | 270 | 345 | 195 | 20 | M20×55 | 240 | 255 | | |
| | 42 | 5 | 36 | M24 | M30 | 50 | 260 | 322 | 345 | 318 | 8 | M20 | 30 | 270 | 350 | 190 | 20 | M20×55 | 490 | 530 | | |
| | 56 | 5 | 48 | M24 | M30 | 55 | 245 | 322 | 345 | 318 | 8 | M24 | 35 | 260 | 375 | 120 | 24 | M24×65 | 485 | 520 | | |
| | 56 | 6 | 48 | M24 | M30 | 50 | 291 | 322 | 345 | 318 | 8 | M24 | 35 | 260 | 375 | 110 | 24 | M24×65 | 700 | 760 | | |
| 340 | 42 | 6 | 36 | M20 | M24 | 40 | 194 | 342 | 365 | 338 | 8 | M24 | 35 | 280 | 370 | 190 | 24 | M24×65 | 280 | 305 | | |
| | 56 | 6 | 48 | M24 | M30 | 60 | 287 | 342 | 365 | 338 | 8 | M24 | 35 | 280 | 370 | 190 | 24 | M24×65 | 590 | 630 | | |
| | 60 | 6 | 56 | M24 | M36 | 50 | 308 | 342 | 365 | 338 | 8 | M24 | 35 | 280 | 420 | 125 | 24 | M24×65 | 830 | 900 | | |
| 360 | 42 | 6 | 36 | M20 | M24 | 40 | 194 | 362 | 385 | 358 | 8 | M24 | 35 | 300 | 390 | 210 | 24 | M24×65 | 315 | 340 | | |
| | 56 | 6 | 48 | M24 | M30 | 60 | 288 | 362 | 385 | 358 | 8 | M24 | 35 | 300 | 390 | 210 | 24 | M24×65 | 660 | 700 | | |
| | 68 | 7 | 64 | M24 | M36 | 70 | 337 | 362 | 385 | 358 | 8 | M24 | 35 | 300 | 440 | 145 | 24 | M24×65 | 950 | 1020 | | |
| 380 | 56 | 6 | 48 | M20 | M24 | 40 | 200 | 382 | 405 | 378 | 8 | M24 | 35 | 320 | 410 | 230 | 24 | M24×65 | 350 | 380 | | |
| | 60 | 6 | 56 | M20 | M30 | 60 | 294 | 382 | 405 | 378 | 8 | M24 | 35 | 320 | 410 | 230 | 24 | M24×65 | 730 | 770 | | |
| | 68 | 7 | 64 | M30 | M36 | 70 | 346 | 382 | 405 | 378 | 8 | M30 | 45 | 305 | 465 | 130 | 30 | M30×80 | 1060 | 1140 | | |
| 400 | 56 | 6 | 48 | M24 | M30 | 40 | 211 | 402 | 425 | 398 | 8 | M24 | 35 | 340 | 430 | 250 | 24 | M24×65 | 420 | 450 | | |
| | 68 | 7 | 64 | M30 | M36 | 60 | 291 | 402 | 425 | 398 | 8 | M24 | 35 | 340 | 430 | 250 | 24 | M24×65 | 820 | 870 | | |
| | 68 | 7 | 64 | M30 | M36 | 70 | 364 | 402 | 425 | 398 | 8 | M30 | 45 | 325 | 475 | 145 | 30 | M30×80 | 1240 | 1330 | | |
| 420 | 56 | 6 | 48 | M24 | M30 | 40 | 217 | 422 | 445 | 418 | 8 | M30 | 40 | 345 | 450 | 240 | 30 | M30×80 | 465 | 500 | | |
| | 68 | 7 | 64 | M30 | M36 | 60 | 318 | 422 | 445 | 418 | 8 | M30 | 45 | 345 | 450 | 240 | 30 | M30×80 | 1000 | 1070 | | |
| | 72 | 8 | 64 | M30 | M36 | 70 | 380 | 422 | 445 | 418 | 8 | M30 | 45 | 345 | 520 | 155 | 30 | M30×80 | 1500 | 1600 | | |

10.4

10.5 THD take-up housings for spherical roller bearings on an adapter sleeve and a plain shaft

d_a 50 – 170 mm



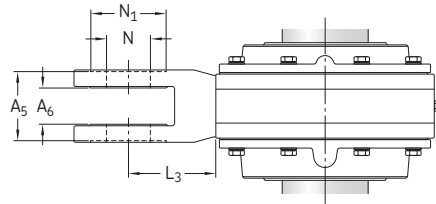
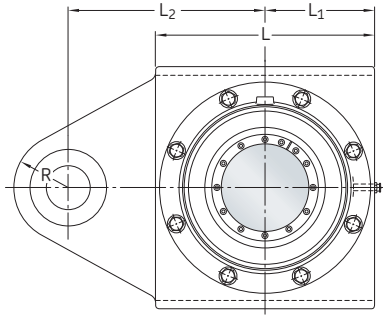
Type AL
Non-locating bearing
Housing for shaft end

Type BF
Locating bearing
Housing for through shaft

| Shaft diam. d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Adapter ring (incl.) Designation | Dimensions Housing | | | | | | |
|----------------------|-----------|--|------------------------------|-------------------------------------|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | | | | | A | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | A ₆ |
| mm | - | - | - | - | mm | | | | | | |
| 50 | THDD 2211 | 22211 EK | H 311 | PSBD 50 | 60 | 34 | 49 | 55 | 38 | 42 | 22 |
| 55 | THDD 2212 | 22212 EK | H 312 | PSBD 55 | 66 | 43 | 50 | 60 | 41 | 50 | 26 |
| 60 | THDD 2213 | 22213 EK | H 313 | PSBD 60 | 78 | 53 | 50 | 63 | 53 | 66 | 30 |
| 70 | THDD 2216 | 22216 EK | H 316 | PSBD 70 | 78 | 53 | 62 | 70 | 49 | 66 | 30 |
| 80 | THDD 2218 | 22218 EK | H 318 | PSBD 80 | 78 | 53 | 67 | 83 | 63 | 66 | 30 |
| 90 | THDD 2220 | 22220 EK | H 320 | PSBD 90 | 69 | 40 | 76 | 92 | 70 | 70 | 36 |
| 100 | THDD 2222 | 22222 EK | H 322 | PSBD 100 | 78 | 53 | 85 | 97 | 75 | 76 | 40 |
| | THDD 3222 | 23222 CCK/W33 | H 2322 | PSBD 100 | 90 | 53 | 91 | 103 | 76 | 100 | 44 |
| 110 | THDD 2224 | 22224 EK | H 3124 | PSBD 110 | 78 | 53 | 84 | 99 | 72 | 76 | 40 |
| | THDD 3224 | 23224 CCK/W33 | H 2324 | PSBD 110 | 95 | 53 | 93 | 108 | 78 | 100 | 44 |
| 115 | THDD 3226 | 23226 CCK/W33 | H 2326 | PSBD 115 | 100 | 63 | 103 | 108 | 79 | 112 | 52 |
| 125 | THDD 2228 | 22228 CCK/W33 | H 3128 | PSBD 125 | 83 | 53 | 80 | 102 | 90 | 74 | 40 |
| | THDD 3228 | 23228 CCK/W33 | H 2328 | PSBD 125 | 110 | 63 | 108 | 118 | 88 | 112 | 52 |
| 135 | THDD 3030 | 23030 CCK/W33 | H 3030 | PSBD 135 | 85 | 45 | 77,5 | 98,5 | 74,5 | 100 | 60 |
| | THDD 3230 | 23232 CCK/W33 | H 2330 | PSBD 135 | 120 | 73 | 113 | 123 | 93 | 126 | 62 |
| 140 | THDD 3132 | 23132 CCK/W33 | H 3132 | PSBD 140 | 116 | 74 | 101 | 126 | 101 | 132 | 62 |
| | THDD 3232 | 23232 CCK/W33 | H 2332 | PSBD 140 | 130 | 83 | 118 | 133 | 98 | 126 | 62 |
| 150 | THDD 3034 | 23034 CCK/W33 | H 3034 | PSBD 150 | 102 | 63 | 88 | 113 | 93 | 112 | 52 |
| | THDD 3134 | 23134 CCK/W33 | H 3134 | PSBD 150 | 120 | 63 | 113 | 136 | 100 | 122 | 62 |
| 160 | THDD 3136 | 23136 CCK/W33 | H 3136 | PSBD 160 | 120 | 60 | 115,5 | 135,5 | 113,5 | 130 | 64 |
| | THDD 3236 | 23236 CCK/W33 | H 2336 | PSBD 160 | 140 | 93 | 133 | 148 | 108 | 140 | 72 |
| 170 | THDD 3038 | 23038 CCK/W33 | H 3038 | PSBD 170 | 112 | 73 | 101 | 126 | 96 | 165 | 90 |
| | THDD 3138 | 23138 CCK/W33 | H 3138 | PSBD 170 | 140 | 93 | 128 | 148 | 108 | 140 | 72 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.

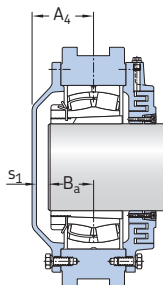


| Shaft diam. d _a | Dimensions Housing | | | | | | | | | | | Shaft abutment | | Mass Housing type | |
|-------------------------------|--------------------|------------|----------------|------------|----------------|----------------|----------------|----------|----------------|-----------|--------------|----------------|----------------|-------------------|------------|
| | D ₁ | H | H ₁ | L | L ₁ | L ₂ | L ₃ | N | N ₁ | R | G | B _a | s ₁ | A | B |
| mm | mm | | | | | | | | | | | mm | | kg | |
| 50 | 115 | 150 | 135 | 150 | 75 | 105 | 30 | 20 | 40 | 30 | M 8 | 27 | 5 | 10 | 10 |
| 55 | 130 | 165 | 150 | 165 | 82,5 | 120 | 37,5 | 25 | 50 | 35 | M 8 | 30 | 5 | 12 | 12 |
| 60 | 140 | 180 | 155 | 160 | 80 | 145 | 65 | 30 | 60 | 40 | M 8 | 35 | 11 | 16 | 16 |
| 70 | 155 | 200 | 175 | 180 | 90 | 155 | 65 | 30 | 60 | 40 | M 8 | 36 | 6 | 22 | 23 |
| 80 | 180 | 230 | 200 | 210 | 105 | 170 | 65 | 30 | 60 | 40 | M 8 | 40 | 16 | 29 | 30 |
| 90 | 195 | 250 | 220 | 235 | 117,5 | 185 | 67,5 | 35 | 70 | 40 | M 8 | 45 | 18 | 35 | 37 |
| 100 | 215 230 | 270 300 | 240 270 | 255 270 | 125 135 | 200 195 | 70 60 | 40 50 | 75 95 | 45 60 | M 8 M 12 | 50 60 | 18 9 | 40 70 | 45 74 |
| 110 | 230 245 | 290 310 | 260 280 | 275 290 | 135 145 | 210 205 | 70 60 | 40 50 | 75 95 | 45 60 | M 8 M 12 | 55 64 | 10 7 | 45 75 | 48 80 |
| 115 | 260 | 335 | 305 | 300 | 155 | 220 | 75 | 60 | 110 | 70 | M 12 | 66 | 5 | 80 | 85 |
| 125 | 275 290 | 330 360 | 300 330 | 315 330 | 155 170 | 230 235 | 70 75 | 40 60 | 70 90 | 45 70 | M 12 M 16 | 62 72 | 20 8 | 56 95 | 61 101 |
| 135 | 245 305 | 320 385 | 290 355 | 280 360 | 140 180 | 235 260 | 90 80 | 50 70 | 95 120 | 70 80 | M 10 M 16 | 56 78 | 10 7 | 45 118 | 52 126 |
| 140 | 310 330 | 370 400 | 340 370 | 370 380 | 185 190 | 350 270 | 160 80 | 61 70 | 110 120 | 90 80 | M 12 M 16 | 75 84 | 18 6 | 136 140 | 146 150 |
| 150 | 280 330 | 360 380 | 330 350 | 325 375 | 165 190 | 255 395 | 90 160 | 45 60 | 100 160 | 80 80 | M 10 M 12 | 66 78 | 20 17 | 76 150 | 83 184 |
| 160 | 350 360 | 440 450 | 410 410 | 400 420 | 200 210 | 360 300 | 85 90 | 80 80 | 140 140 | 100 90 | M 16 M 16 | 82 90 | 23,5 10 | 160 165 | 172 178 |
| 170 | 315 365 | 390 450 | 360 410 | 380 420 | 195 210 | 350 300 | 130 90 | 45 80 | 120 140 | 70 90 | M 12 M 16 | 72 88 | 16 12 | 135 166 | 141 176 |

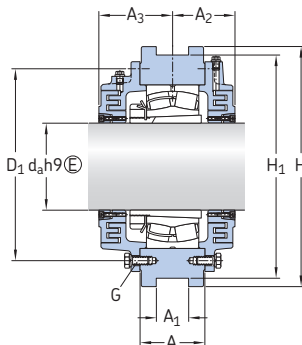
10.5

10.5 THD take-up housings for spherical roller bearings on an adapter sleeve and a plain shaft

d_a 180 – 400 mm



Type AL
Non-locating bearing
Housing for shaft end

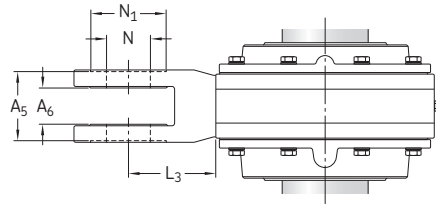
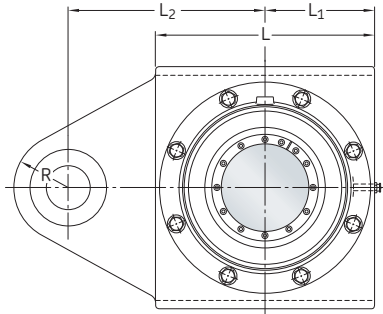


Type BF
Locating bearing
Housing for through shaft

| Shaft diam. d_a | Housing | Appropriate parts Bearing ¹⁾ | Adapter sleeve ²⁾ | Adapter ring (incl.) Designation | Dimensions Housing | | | | | | |
|----------------------|-----------|--|------------------------------|-------------------------------------|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | | | | | A | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | A ₆ |
| mm | - | - | - | - | mm | | | | | | |
| 180 | THDD 3040 | 23040 CCK/W33 | H 040 | PSBD 180 | 125 | 83 | 107 | 133 | 108 | 125 | 62 |
| | THDD 3140 | 23140 CCK/W33 | H 3140 | PSBD 180 | 138 | 90 | 115 | 148,5 | 120 | 128 | 62 |
| | THDD 3240 | 23240 CCK/W33 | H 2340 | PSBD 180 | 165 | 103 | 138 | 158 | 118 | 140 | 72 |
| 200 | THDD 3044 | 23044 CCK/W33 | OH 3044 H | PSBD 200 | 120 | 65 | 107 | 142 | 107 | 145 | 70 |
| | THDD 3144 | 23144 CCK/W33 | OH 3144 H | PSBD 200 | 150 | 103 | 135 | 160 | 135 | 144 | 74 |
| | THDD 3244 | 23244 CCK/W33 | OH 2344 H | PSBD 200 | 175 | 103 | 148 | 183 | 133 | 240 | 173 |
| 220 | THDD 3148 | 23148 CCK/W33 | OH 3148 H | PSBD 220 | 152 | 65 | 148 | 178 | 138 | 215 | 123 |
| | THDD 3248 | 23248 CCK/W33 | OH 2348 H | PSBD 220 | 190 | 103 | 148 | 188 | 148 | 240 | 173 |
| 240 | THDD 3052 | 23052 CCK/W33 | OH 3052 H | PSBD 240 | 135 | 65 | 110,5 | 150,5 | 120,5 | 215 | 123 |
| | THDD 3152 | 23152 CCK/W33 | OH 3152 H | PSBD 240 | 175 | 80 | 152 | 187 | 152 | 225 | 135 |
| | THDD 3252 | 23252 CCK/W33 | OH 2352 H | PSBD 240 | 205 | 103 | 167 | 208 | 158 | 240 | 173 |
| 260 | THDD 3256 | 23256 CCK/W33 | OH 2356 H | PSBD 260 | 210 | 123 | 178 | 218 | 163 | 240 | 173 |
| 280 | THDD 3160 | 23160 CCK/W33 | OH 3160 H | PSBD 280 | 195 | 103 | 165 | 210 | 170 | 240 | 173 |
| | THDD 3260 | 23260 CCK/W33 | OH 3260 H | PSBD 280 | 230 | 123 | 182 | 222 | 187 | 240 | 173 |
| 300 | THDD 3164 | 23164 CCK/W33 | OH 3164 H | PSBD 300 | 210 | 123 | 177 | 212 | 187 | 240 | 170 |
| | THDD 3264 | 23264 CCK/W33 | OH 3264 H | PSBD 300 | 250 | 123 | 192 | 237 | 187 | 300 | 213 |
| 320 | THDD 3168 | 23168 CCK/W33 | OH 3168 H | PSBD 320 | 220 | 150 | 197 | 242 | 237 | 300 | 180 |
| | THDD 3268 | 23268 CAK/W33 | OH 3268 H | PSBD 320 | 265 | 123 | 202 | 272 | 237 | 300 | 213 |
| 340 | THDD 3272 | 23272 CAK/W33 | OH 3272 H | PSBD 340 | 275 | 123 | 227 | 282 | 247 | 300 | 213 |
| 360 | THDD 3176 | 23176 CAK/W33 | OH 3176 H | PSBD 360 | 230 | 120 | 202 | 257 | 254 | 300 | 200 |
| | THDD 3276 | 23276 CAK/W33 | OH 3276 H | PSBD 360 | 295 | 123 | 232 | 297 | 257 | 300 | 213 |
| 380 | THDD 3280 | 23280 CAK/W33 | OH 3280 H | PSBD 380 | 300 | 123 | 242 | 307 | 257 | 300 | 213 |
| 400 | THDD 3284 | 23284 CAK/W33 | OH 3284 H | PSBD 400 | 315 | 123 | 252 | 317 | 267 | 300 | 213 |

¹⁾ Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ Only typical adapter sleeves are listed. Other variants can also fit the housing.



| Shaft diam. d_a | Dimensions Housing | | | | | | | | | | | | Shaft abutment | | Mass Housing type | |
|----------------------|--------------------|-----|-------|-----|-------|-------|-------|-----|-------|-----|-----|-------|----------------|------|-------------------|--|
| | D_1 | H | H_1 | L | L_1 | L_2 | L_3 | N | N_1 | R | G | B_a | s_1 | A | B | |
| mm | mm | | | | | | | | | | | - | mm | kg | | |
| 180 | 340 | 430 | 400 | 390 | 200 | 275 | 85 | 70 | 120 | 80 | M12 | 78 | 22 | 160 | 167 | |
| | 380 | 440 | 420 | 440 | 220 | 300 | 80 | 60 | 110 | 80 | M16 | 95 | 15 | 175 | 190 | |
| | 405 | 500 | 460 | 470 | 235 | 325 | 90 | 80 | 140 | 90 | M16 | 100 | 10 | 270 | 290 | |
| 200 | 370 | 480 | 440 | 430 | 210 | 325 | 100 | 60 | 100 | 80 | M16 | 80 | 17 | 200 | 220 | |
| | 420 | 510 | 480 | 470 | 235 | 530 | 260 | 100 | 175 | 120 | M16 | 100 | 25 | 240 | 255 | |
| | 445 | 540 | 500 | 520 | 260 | 575 | 245 | 100 | 175 | 150 | M20 | 112 | 11 | 380 | 400 | |
| 220 | 455 | 540 | 500 | 520 | 260 | 515 | 250 | 100 | 250 | 150 | M20 | 106 | 22 | 310 | 360 | |
| | 490 | 580 | 540 | 560 | 280 | 600 | 250 | 100 | 175 | 150 | M20 | 122 | 16 | 460 | 485 | |
| 240 | 435 | 540 | 500 | 500 | 245 | 515 | 260 | 100 | 250 | 150 | M16 | 92 | 16,5 | 269 | 280 | |
| | 490 | 570 | 540 | 550 | 275 | 565 | 270 | 100 | 250 | 150 | M20 | 118 | 24 | 400 | 460 | |
| | 540 | 610 | 570 | 590 | 305 | 615 | 220 | 100 | 200 | 150 | M20 | 132 | 16 | 545 | 580 | |
| 260 | 555 | 650 | 610 | 630 | 315 | 630 | 220 | 100 | 175 | 150 | M24 | 135 | 16 | 590 | 630 | |
| | 550 | 650 | 610 | 625 | 312 | 630 | 250 | 100 | 240 | 150 | M24 | 125 | 35 | 540 | 580 | |
| 280 | 600 | 670 | 630 | 670 | 335 | 650 | 220 | 100 | 175 | 150 | M24 | 142 | 33 | 678 | 730 | |
| | 590 | 670 | 630 | 665 | 340 | 650 | 230 | 100 | 175 | 150 | M24 | 135 | 40 | 650 | 690 | |
| 300 | 640 | 710 | 670 | 710 | 355 | 725 | 275 | 110 | 185 | 200 | M24 | 152 | 21 | 800 | 860 | |
| | 630 | 740 | 700 | 740 | 370 | 720 | 310 | 120 | 240 | 200 | M24 | 155 | 70 | 760 | 880 | |
| 320 | 680 | 750 | 700 | 750 | 375 | 750 | 285 | 110 | 185 | 200 | M24 | 175 | 47 | 920 | 1000 | |
| | 710 | 790 | 740 | 790 | 395 | 765 | 275 | 110 | 185 | 200 | M24 | 180 | 51 | 1050 | 1120 | |
| 340 | 680 | 790 | 740 | 750 | 375 | 750 | 320 | 110 | 230 | 200 | M30 | 165 | 73 | 890 | 1000 | |
| | 745 | 820 | 780 | 810 | 420 | 780 | 310 | 110 | 230 | 200 | M30 | 186 | 55 | 1200 | 1280 | |
| 380 | 790 | 870 | 820 | 870 | 435 | 800 | 270 | 110 | 185 | 200 | M30 | 196 | 45 | 1480 | 1580 | |
| | 835 | 925 | 860 | 925 | 463 | 825 | 262 | 110 | 185 | 200 | M30 | 212 | 39 | 1880 | 1980 | |

10.5



Flanged housings

FNL series

Bearing types

- Self-aligning ball bearings
- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 02, 22

Shaft diameter range

- 20 to 100 mm

Typical shaft-bearing combinations

- Plain shaft with bearing on an adapter sleeve

Seals

- Double-lip

Lubrication

- Grease

Materials

- Grey cast iron

Mounting

- Three-bolt mounting
- Four-bolt mounting

Compliance to standards

- Not standardized

Supersedes

- 7225(00)

FNL flanged housings are well-proven machine parts that provide simple, reliable housing in applications without horizontal frames. They enable the full service life potential of the incorporated bearings to be exploited with less need for maintenance.

Flanged housings FNL series

| | | | |
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Designations

Designation system for FNL flanged housings

FNL 505 A

Series

FNL Flanged housing

Size identification

5(00) Housing for bearings on an adapter sleeve, diameter series 2
(00) Size code of the bearing, $(00) \times 5 =$ bearing bore diameter [mm]

Suffixes¹⁾

A Housing for shaft end with end cover
B Housing for through shaft
P Housing with machined recess for guide ring
V Housing with grease escape hole in the housing cover

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Designation system for seals

TFL 505

Series

TFL Double-lip seal for FNL flanged housings

Size identification

... Size code of the housing

Flanged housings FNL series

Designation system for locating rings

FRB 5/52

Series

FRB Locating ring for SKF bearing housings

Size identification

... Width and outside diameter of the locating ring [mm]

Designation system for spacing washers

ZW 42 x 52

Series

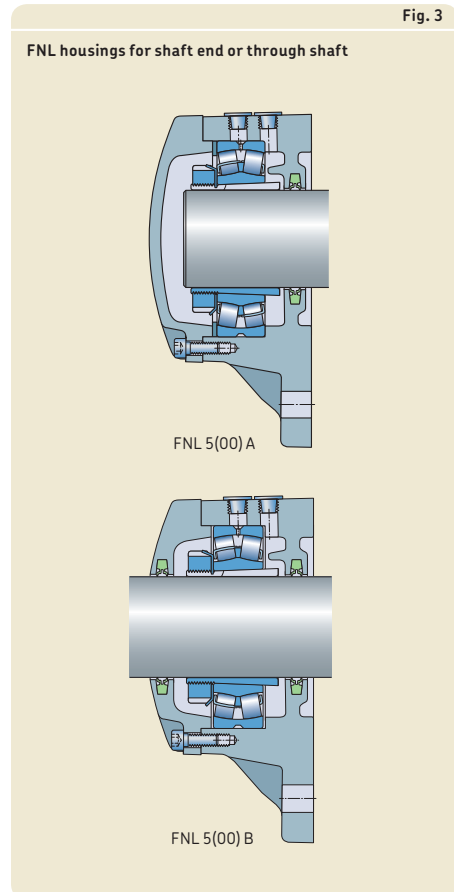
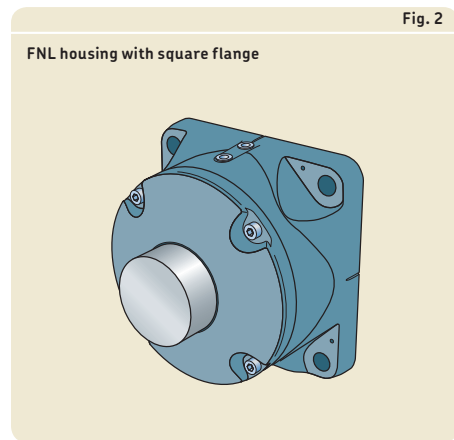
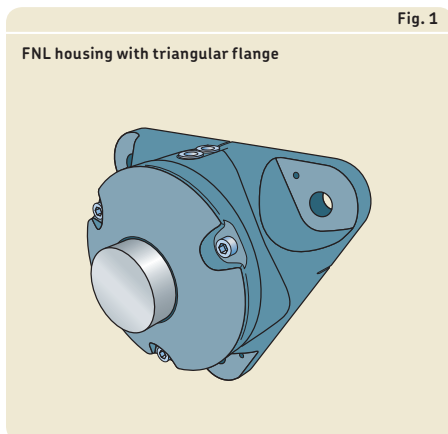
ZW Spacing washers for SKF bearing housings

Size identification

... Bore and outside diameter of the spacing washer [mm]

Standard housing design

FNL flanged housings are non-split housings that are produced in two designs depending on size. Smaller sizes up to and including size 13 have a triangular flange (→ **fig. 1**), larger sizes have a square flange (→ **fig. 2**). FNL housings are supplied with a cover either for shaft ends or for through shafts (→ **fig. 3**). The housings with a cover for shaft ends have the designation suffix A, the housings with a cover for through shafts have the designation suffix B.



Flanged housings FNL series

Features and benefits

FNL flanged housings have the following features and benefits:

Simple mounting

To simplify mounting and make alignment more accurate, lines cast into the housing flange indicate the centre of the housing bore. Dimples indicate the position for dowel pins (→ fig. 4).

Grease guiding system

An integrated flange guides grease from the grease fitting into the bearing (→ fig. 5).

Low friction seals

A low friction, double-lip seal on each side of the housing keeps grease in and contaminants out (→ fig. 6). These seals allow rotational speeds twice that of traditional felt seals.

Drilled holes for relubrication

FNL housings have two predrilled holes for relubrication. One is centered and enables relubrication via a lubrication feature in the bearing. The other is offset and enables relubrication from the side.

Housing material

FNL flanged housings are made of grey cast iron.

Paint, corrosion protection

FNL flanged housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Fig. 4

Cast indications mark the centre of the housing bore

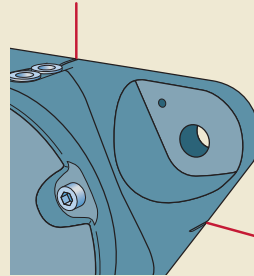


Fig. 5

Grease guiding system

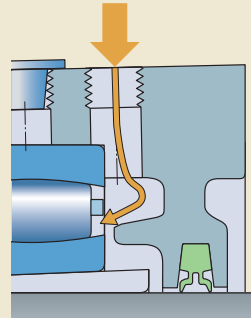
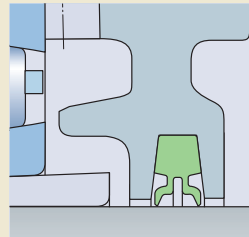


Fig. 6

Low friction seals



Dimension standards

The dimensions of FNL flanged housings are not standardized either nationally or internationally.

Interchangeability

FNL flanged housings are dimensionally interchangeable with the earlier 7225(00) housings.

Housing variants

In addition to standard design FNL flanged housings, variants are also available. Variants include housings with centring recesses and grease escape holes.

Centring recesses

FNL flanged housings can be supplied with a machined recess, which can be used to centre the housing on a shoulder. With this arrangement, the attachment bolts are not subjected to shear forces. The shoulder can be provided either by machining the wall or by attaching a guide ring to the wall.

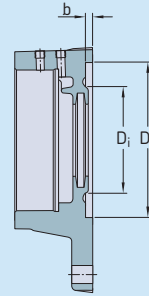
FNL housings with a machined recess can be supplied on request and are identified by the designation suffix P, e.g. FNL 511 BP. Dimensions for the recess and the shoulder or guide ring are listed in **table 1**.

Grease escape hole

FNL flanged housings can be supplied with a grease escape hole in the cover (→ **fig. 7**). This housing variant can be supplied on request and is identified by the designation suffix V, e.g. FNL 511 AV.

Table 1

Centring recess on FNL housings



| Housing Size | Recess dimensions | | |
|--------------|-------------------|------------------|-------|
| | b | $\frac{D_y}{H8}$ | D_i |
| – | mm | | |
| FNL 505 | 3 | 60 | 35 |
| FNL 506 | 3 | 70 | 48 |
| FNL 507 | 4 | 80 | 53 |
| FNL 508 | 4 | 90 | 60 |
| FNL 509 | 4 | 100 | 65 |
| FNL 510 | 5 | 100 | 68 |
| FNL 511 | 5 | 105 | 78 |
| FNL 512 | 5 | 120 | 90 |
| FNL 513 | 5 | 130 | 90 |
| FNL 515 | 6 | 150 | 105 |
| FNL 516 | 6 | 150 | 110 |
| FNL 517 | 6 | 170 | 120 |
| FNL 518 | 7 | 170 | 120 |
| FNL 520 | 6 | 200 | 140 |
| FNL 522 | 6 | 220 | 160 |

11

Fig. 7

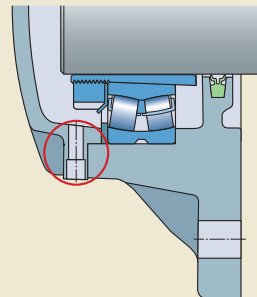
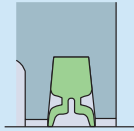


Table 2

Double-lip seals for FNL flanged housings



| | |
|-------------|--|
| Type | Double-lip |
| Designation | TFL 5.. |
| Size range | 505 to 522 |
| Material | HNBR (hydrogenated nitrile butadiene rubber) |

Application conditions and requirements

| | |
|--|-------------|
| Temperature [°C] | -25 to +120 |
| Temperature [°F] | -15 to +250 |
| Max. circumferential speed ¹⁾ [m/s] | 8 |
| Max. misalignment [°] | 0,5 |
| Low friction | + |
| Axial shaft displacement | ++ |
| Vertical shaft arrangement | + |
| Replacement | + |
| Shaft tolerance class | h9(E) |
| Shaft roughness R _a [µm] | ≤ 3,2 |

Sealing suitability

| | |
|----------------------|----|
| Dust | ++ |
| Fine particles | ++ |
| Coarse particles | ++ |
| Chips | + |
| Liquids when sprayed | + |
| Direct sunlight | + |

Symbols: ++ very suitable
+ suitable

¹⁾ To convert circumferential speeds to rotational speeds → table 7 on page 37

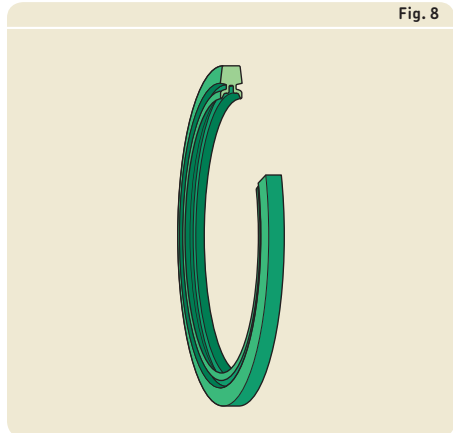
Sealing solutions

FNL flanged housings are equipped with low-friction, double-lip grease seals (→ fig. 8).

Table 2 provides an overview of the characteristics and suitability of the sealing solution. This information should be used as a guideline and does not substitute for testing a seal in its application.

Seals are supplied with the housing. If additional seals are needed, they can be ordered separately. They are identified by the designation prefix TFL followed by a number indicating the size, e.g. TFL 511.

Fig. 8



Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Axial load carrying capacity for bearings on a sleeve* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

For additional information about rolling bearings and adapter sleeves, refer to the product information available online at skf.com/bearings.

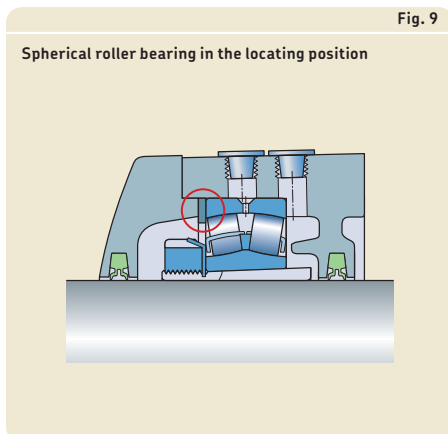
Typical shaft-bearing combinations

FNL flanged housings can accommodate bearings on an adapter sleeve on plain shafts.

Locating and non-locating bearing positions

FNL housings can be used for both the locating and non-locating bearing positions. The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing with a spacing washer or one or two locating rings (→ **fig. 9**). Appropriate spacing washers and locating rings are listed in the product tables.

When a spacing washer or only one locating ring is used, it should be inserted on the cover side of the bearing. When two locating rings are used, one should be placed on each side of the bearing.



Load carrying capacity

The permissible radial loads for a flanged housing depend on the bearing, the breaking load of the housing and the strength of the attachment bolts. Guideline values for the breaking loads of the housings are provided in **table 3**.

The permissible axial loads for a flanged housing are limited by the friction between the sleeve and shaft.

Additional housing support

When the housing is subjected to heavy radial loads, a stop or dowel pins should be used to relieve the load on the attachment bolts. A shoulder or a guide ring on the support surface engaging a centring recess can also be used. Whichever method is used, it should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 4**. Dimples cast into the housing flange mark the recommended positions.

Operating temperature

The permissible operating temperature is mainly limited by the seals (→ **table 2, page 538**) and the lubricant. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

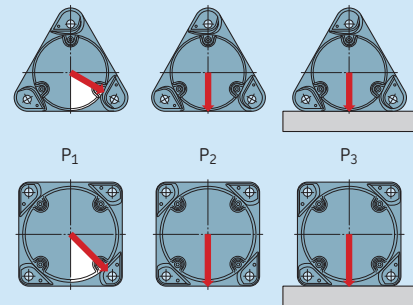
The housing material does not set any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Table 3

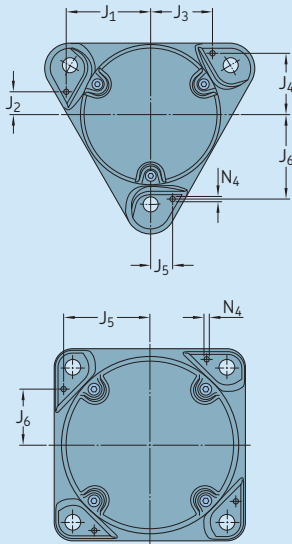
Breaking loads for FNL housings



| Housing Size | Breaking loads | | |
|--------------|----------------|----------------|----------------|
| | P ₁ | P ₂ | P ₃ |
| – | kN | | |
| FNL 505 | 50 | 40 | 80 |
| FNL 506 | 60 | 45 | 85 |
| FNL 507 | 70 | 50 | 90 |
| FNL 508 | 80 | 55 | 95 |
| FNL 509 | 90 | 60 | 100 |
| FNL 510 | 100 | 65 | 105 |
| FNL 511 | 110 | 80 | 110 |
| FNL 512 | 120 | 95 | 115 |
| FNL 513 | 130 | 110 | 190 |
| FNL 515 | 140 | 125 | 265 |
| FNL 516 | 150 | 140 | 340 |
| FNL 517 | 160 | 155 | 415 |
| FNL 518 | 170 | 170 | 490 |
| FNL 520 | 180 | 185 | 565 |
| FNL 522 | 190 | 200 | 640 |

Table 4

Position and size of dowel pin holes



| Housing Size | Dimensions | | | | | | |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------|
| | J ₁ | J ₂ | J ₃ | J ₄ | J ₅ | J ₆ | N ₄ max |
| – | mm | | | | | | |
| FNL 505 | 44 | 12 | 33 | 32 | 12 | 44 | 5 |
| FNL 506 | 51 | 13 | 37 | 37 | 13 | 51 | 5 |
| FNL 507 | 57 | 16 | 42 | 41 | 15 | 57 | 5 |
| FNL 508 | 65 | 17 | 48 | 47 | 16 | 66 | 6 |
| FNL 509 | 71 | 20 | 53 | 52 | 18 | 72 | 6 |
| FNL 510 | 71 | 20 | 53 | 52 | 18 | 72 | 6 |
| FNL 511 | 77 | 21 | 57 | 56 | 21 | 77 | 6 |
| FNL 512 | 84 | 22 | 62 | 61 | 22 | 84 | 8 |
| FNL 513 | 90 | 24 | 66 | 66 | 24 | 90 | 8 |
| FNL 515 | – | – | – | – | 85 | 55 | 8 |
| FNL 516 | – | – | – | – | 87 | 54 | 8 |
| FNL 517 | – | – | – | – | 93 | 63 | 8 |
| FNL 518 | – | – | – | – | 95 | 60 | 8 |
| FNL 520 | – | – | – | – | 112 | 72 | 8 |
| FNL 522 | – | – | – | – | 122 | 78 | 8 |

Operating speed

The seals can limit the permissible operating speed. They are suitable for circumferential speeds of up to 8 m/s. The corresponding rotational speeds are listed in **table 7** on **page 37**. For speed limits of the bearing, refer to the product information available online at skf.com/bearings.

Attachment bolt recommendations

In typical applications, 8.8 class hexagon head bolts in accordance with ISO 4014 can be used together with washers in accordance with ISO 7089 or 7090. SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 6, page 544**). They are valid for oiled, but otherwise untreated, thread surfaces.

If the bearing arrangement is subjected to heavy radial loads, it may be necessary to use stronger, 10.9 class bolts.

SKF cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, shoulder or guide ring can accommodate all occurring loads.

Lubrication

FNL flanged housings are designed for grease lubrication. The lubricant should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 20 to 40% of its volume. A 40% grease fill is required when bearings have to be relubricated from the side, while a 20% grease fill is used when bearings are relubricated via the outer ring.

For highly contaminated environments and slow speeds, fill the housing to 70–80%. For additional information, contact the SKF application engineering service.

Quantities for 20 and 40% grease fills are listed in **table 5**.

The values are valid for a typical lithium grease (about 0,95 g/cm³). They include grease for the bearing and the seals.

In most applications, the initial grease fill will adequately lubricate the bearing until the grease is exchanged during the next planned inspection.

Relubrication

Certain operating conditions such as high speeds, high temperatures or heavy loads may require relubrication. Therefore FNL housings have two holes that have been drilled and tapped for an AH /8-27 PTF grease fitting (→ **fig. 10**). On a new housing, the holes are covered by plastic plugs. These plugs should be replaced with the grease fitting and the threaded plug supplied with the housing. If a larger grease fitting or other equipment has to be used an adapter to change to a G 1/4 thread is available (→ **page 48**).

Excess grease can escape via the seals. If this is not enough, SKF can supply housings with a grease escape hole in the cover (designation suffix V) on request. SKF recommends removing the housing cover periodically to remove used grease. The time interval for this

Table 5

| Initial grease fill | | |
|---------------------|--------------|-----|
| Housing Size | Initial fill | |
| | 20% | 40% |
| – | g | |
| FNL 505 | 10 | 15 |
| FNL 506 | 15 | 25 |
| FNL 507 | 25 | 35 |
| FNL 508 | 30 | 45 |
| FNL 509 | 35 | 50 |
| FNL 510 | 35 | 50 |
| FNL 511 | 40 | 60 |
| FNL 512 | 60 | 90 |
| FNL 513 | 80 | 120 |
| FNL 515 | 150 | 250 |
| FNL 516 | 180 | 300 |
| FNL 517 | 210 | 350 |
| FNL 518 | 250 | 400 |
| FNL 520 | 320 | 500 |
| FNL 522 | 420 | 650 |

Fig. 10

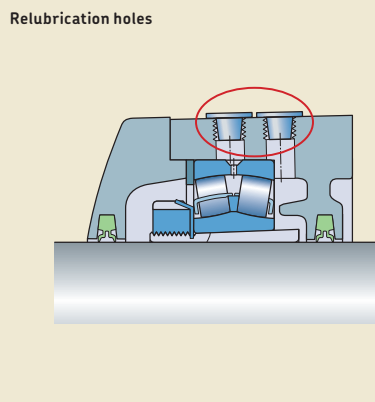


Fig. 11

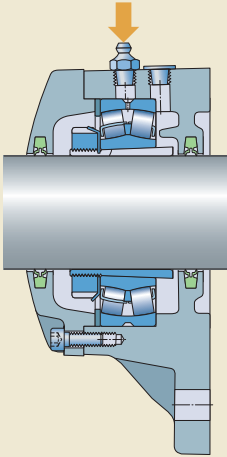
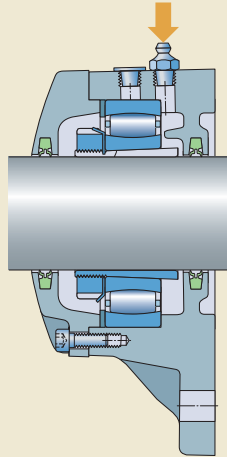
Relubrication via the outer ring

Fig. 12

Relubrication from the side

depends on the application, the size of the bearing and the amount of grease applied.

Relubrication via the outer ring

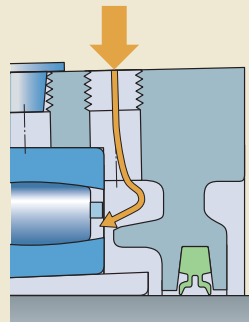
The hole closest to the cover should be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring) (→ **fig. 11**). When applying grease via the relubrication feature the shaft should be rotating.

Relubrication from the side

When relubricating from the side, which is typically necessary for self-aligning ball bearings and CARB toroidal roller bearings, the hole closest to the flange should be used (→ **fig. 12**).

FNL flanged housings have an integral flange that guides grease from the grease fitting directly to the rolling elements (→ **fig. 13**).

Fig. 13

Grease guiding system

Mounting

FNL housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces* on **page 45**).

Mounting instructions are provided with the housing. For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Torque specifications

Cover bolts and attachment bolts should be tightened to the torque values listed in **table 6**.

Condition monitoring

If connections for condition monitoring sensors are required, contact SKF.

Accessories

There are several accessories available for FNL housings, including lubricators, central lubrication systems and adapters for grease fittings. For additional information, refer to *SKF tools and products* (→ **page 47**).

Table 6

Tightening torque values for cover bolts and attachment bolts

| Housing Size | Cover bolts | | Attachment bolts | |
|----------------|-------------|-------------------|------------------|---------------------------------|
| | Size | Tightening torque | Size | Tightening torque ¹⁾ |
| – | – | Nm | – | Nm |
| FNL 505 | M 5 × 16 | 6 | M 10 | 50 |
| FNL 506 | M 5 × 16 | 6 | M 10 | 50 |
| FNL 507 | M 5 × 16 | 6 | M 12 | 80 |
| FNL 508 | M 5 × 16 | 6 | M 12 | 80 |
| FNL 509 | M 6 × 20 | 10 | M 12 | 80 |
| FNL 510 | M 6 × 20 | 10 | M 12 | 80 |
| FNL 511 | M 6 × 20 | 10 | M 12 | 80 |
| FNL 512 | M 6 × 20 | 10 | M 12 | 80 |
| FNL 513 | M 6 × 20 | 10 | M 12 | 80 |
| FNL 515 | M 8 × 25 | 24 | M 16 | 200 |
| FNL 516 | M 8 × 25 | 24 | M 16 | 200 |
| FNL 517 | M 8 × 25 | 24 | M 16 | 200 |
| FNL 518 | M 8 × 25 | 24 | M 16 | 200 |
| FNL 520 | M 10 × 30 | 47 | M 20 | 385 |
| FNL 522 | M 10 × 30 | 47 | M 20 | 385 |

¹⁾ Recommended by bolt manufacturers

Ordering information

FNL housings are supplied together with their standard seals. Each of the following items must be ordered separately:

- housing
- locating rings or spacing washer
- bearing
- adapter sleeve

Order example

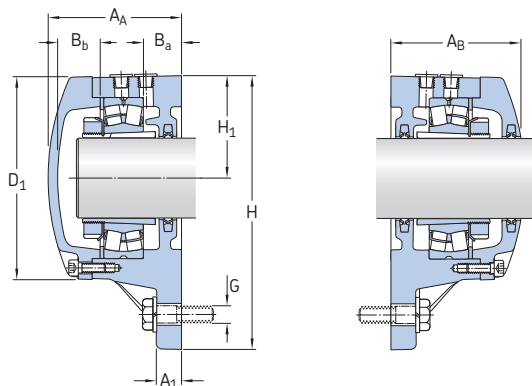
Two FNL flanged housings are required for two 22212 EK spherical roller bearings on H 312 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing and a through shaft.

The following items should be ordered (in addition to the bearings and adapter sleeves):

- 1 housing FNL 512 A
- 1 housing FNL 512 B
- 1 spacing washer ZW 90x110

11.1 FNL flanged housings for bearings on adapter sleeves

d_a 20 – 40 mm



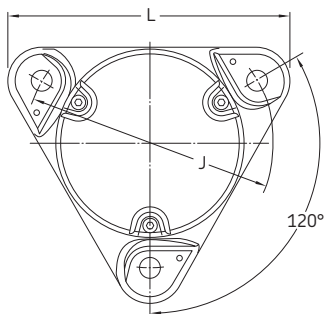
| Shaft diameter d_a | Housing for shaft end | for through shaft | Appropriate parts | | | |
|-------------------------|-----------------------|-------------------|---|------------------------------------|--|--------------|
| | | | Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring or spacing washer ³⁾ | Contact seal |
| mm | – | – | – | – | – | – |
| 20 | FNL 505 A | FNL 505 B | 1205 EKTN9 2205 EKTN9 22205 EK C 2205 KTN9 | H 205 H 305 H 305 H 305 E | 1 FRB 5/52 1 ZW 42 × 52 1 ZW 42 × 52 1 ZW 42 × 52 | TFL 505 |
| 25 | FNL 506 A | FNL 506 B | 1206 EKTN9 2206 EKTN9 22206 EK C 2206 KTN9 | H 206 H 306 H 306 H 306 E | 1 FRB 6/62 1 ZW 50×62 1 ZW 50×62 1 FRB 2/62 | TFL 506 |
| 30 | FNL 507 A | FNL 507 B | 1207 EKTN9 2207 EKTN9 22207 EK C 2207 KTN9 | H 207 H 307 H 307 H 307 E | 1 FRB 8/72 1 ZW 65 × 72 1 ZW 65 × 72 1 ZW 65 × 72 | TFL 507 |
| 35 | FNL 508 A | FNL 508 B | 1208 EKTN9 2208 EKTN9 22208 EK C 2208 KTN9 | H 208 H 308 H 308 H 308 E | 1 FRB 7/80 1 ZW 70 × 80 1 ZW 70 × 80 1 ZW 70 × 80 | TFL 508 |
| 40 | FNL 509 A | FNL 509 B | 1209 EKTN9 2209 EKTN9 22209 EK C 2209 KTN9 | H 209 H 309 H 309 H 309 E | 1 FRB 6/85 1 ZW 75 × 85 1 ZW 75 × 85 1 ZW 75 × 85 | TFL 509 |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

12(00), 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same row only.

³⁾ The locating ring or spacing washer fits the bearing in the same row only.

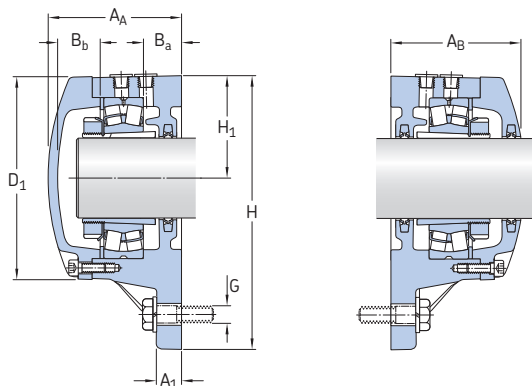


| Shaft diameter | Dimensions Housing | | | | | | | | | | | Mass Housing |
|----------------|--------------------|-------|-------|-------|-------|-------|-------|------|-------|-----|----|--------------|
| | d_a | A_A | A_B | A_1 | B_a | B_b | D_1 | H | H_1 | J | L | |
| mm | mm | | | | | | | | | | | kg |
| 20 | 57 | 56,5 | 10 | 15 | 15 | 74 | 100 | 38 | 96 | 110 | 10 | 1,10 |
| 25 | 60,5 | 60 | 12 | 16 | 15 | 86 | 117 | 44 | 116 | 130 | 10 | 1,60 |
| 30 | 64,5 | 64 | 12 | 16 | 17 | 95 | 130 | 48,5 | 130 | 145 | 12 | 2,00 |
| 35 | 67 | 66 | 12 | 17 | 18 | 105 | 143 | 54 | 140 | 160 | 12 | 2,40 |
| 40 | 72 | 70,5 | 12 | 19 | 19 | 113 | 160 | 60 | 160 | 179 | 12 | 3,20 |

11.1

11.1 FNL flanged housings for bearings on adapter sleeves

d_a 45 – 60 mm



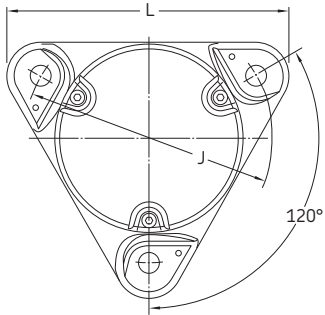
| Shaft diameter d_a | Housing for shaft end | for through shaft | Appropriate parts | | | |
|-------------------------|-----------------------|-------------------|-----------------------|------------------------------|---|--------------|
| | | | Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring or spacing washer ³⁾ | Contact seal |
| mm | – | – | – | – | – | – |
| 45 | FNL 510 A | FNL 510 B | 1210 EKTN9 | H 210 | 1 FRB 5/90 | TFL 510 |
| | | | 2210 EKTN9 | H 310 | 1 ZW 80 × 90 | |
| | | | 22210 EK | H 310 | 1 ZW 80 × 90 | |
| | | | C 2210 KTN9 | H 310 E | 1 ZW 80 × 90 | |
| 50 | FNL 511 A | FNL 511 B | 1211 EKTN9 | H 211 | 1 FRB 6/100 | TFL 511 |
| | | | 2211 EKTN9 | H 311 | 1 ZW 85 × 100 | |
| | | | 22211 EK | H 311 | 1 ZW 85 × 100 | |
| | | | C 2211 KTN9 | H 311 E | 1 ZW 85 × 100 | |
| 55 | FNL 512 A | FNL 512 B | 1212 EKTN9 | H 212 | 1 FRB 8/110 | TFL 512 |
| | | | 2212 EKTN9 | H 312 | 1 ZW 90 × 110 | |
| | | | 22212 EK | H 312 | 1 ZW 90 × 110 | |
| | | | C 2212 KTN9 | H 312 E | 1 FRB 2/110 | |
| 60 | FNL 513 A | FNL 513 B | 1213 EKTN9 | H 213 | 1 FRB 10/120 | TFL 513 |
| | | | 2213 EKTN9 | H 313 | 1 FRB 2/120 | |
| | | | 22213 EK | H 313 | 1 FRB 2/120 | |
| | | | C 2213 KTN9 | H 313 E | 1 FRB 2/120 | |

¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

12(00), 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same row only.

³⁾ The locating ring or spacing washer fits the bearing in the same row only.

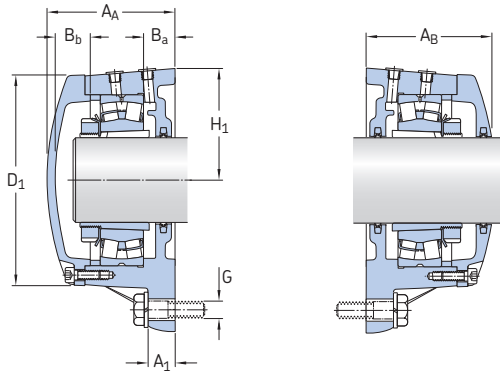


| Shaft diameter | Dimensions Housing | | | | | | | | | | | Mass Housing |
|----------------|--------------------|-------|-------|-------|-------|-------|-------|----|-------|-----|----|--------------|
| | d_a | A_A | A_B | A_1 | B_a | B_b | D_1 | H | H_1 | J | L | |
| mm | mm | | | | | | | | | | | kg |
| 45 | 77 | 75 | 15 | 22 | 21 | 118 | 160 | 60 | 160 | 179 | 12 | 3,50 |
| 50 | 84 | 82 | 15 | 24 | 23 | 127 | 172,5 | 65 | 170 | 192 | 12 | 4,30 |
| 55 | 85 | 83 | 15 | 23 | 22 | 142 | 189 | 72 | 180 | 210 | 12 | 5,20 |
| 60 | 88 | 86 | 15 | 22 | 24 | 152 | 203 | 78 | 190 | 225 | 12 | 6,30 |

11.1

11.1 FNL flanged housings for bearings on adapter sleeves

d_a 65 – 100 mm



| Shaft diameter d_a | Housing for shaft end | for through shaft | Appropriate parts | | | Contact seal |
|-------------------------|-----------------------|-------------------|-----------------------|------------------------------|---|--------------|
| | | | Bearing ¹⁾ | Adapter sleeve ²⁾ | Locating ring or spacing washer ³⁾ | |
| mm | – | | – | | | |
| 65 | FNL 515 A | FNL 515 B | 1215 K | H 215 | 2 FRB 8/130 | TFL 515 |
| | | | 2215 EKTN9 | H 315 | 1 FRB 10/130 | |
| | | | 22215 EK | H 315 | 1 FRB 10/130 | |
| | | | C 2215 K | H 315 E | 1 FRB 10/130 | |
| 70 | FNL 516 A | FNL 516 B | 1216 K | H 216 | 2 FRB 8,5/140 | TFL 516 |
| | | | 2216 EKTN9 | H 316 | 1 FRB 10/140 | |
| | | | 22216 EK | H 316 | 1 FRB 10/140 | |
| | | | C 2216 K | H 316 E | 1 FRB 10/140 | |
| 75 | FNL 517 A | FNL 517 B | 1217 K | H 217 | 2 FRB 9/150 | TFL 517 |
| | | | 2217 K | H 317 | 1 FRB 10/150 | |
| | | | 22217 EK | H 317 | 1 FRB 10/150 | |
| | | | C 2217 K | H 317 E | 1 FRB 10/150 | |
| 80 | FNL 518 A | FNL 518 B | 1218 K | H 218 | 2 FRB 10/160 | TFL 518 |
| | | | 2218 K | H 318 | 1 FRB 10/160 | |
| | | | 22218 EK | H 318 | 1 FRB 10/160 | |
| | | | C 2218 K | H 318 E | 1 FRB 10/160 | |
| 90 | FNL 520 A | FNL 520 B | 1220 K | H 220 | 1 FRB 10/180 ⁴⁾ | TFL 520 |
| | | | | | 1 FRB 12/180 ⁴⁾ | |
| | | | 2220 KM | H 320 | 1 FRB 10/180 | |
| | | | 22220 EK | H 320 | 1 FRB 10/180 | |
| | | C 2220 K | H 320 E | 1 FRB 10/180 | | |
| 100 | FNL 522 A | FNL 522 B | 1222 K | H 222 | 2 FRB 12,5/200 | TFL 522 |
| | | | 2222 KM | H 322 | 1 FRB 10/200 | |
| | | | 22222 EK | H 322 | 1 FRB 10/200 | |
| | | | C 2222 K | H 322 E | 1 FRB 10/200 | |

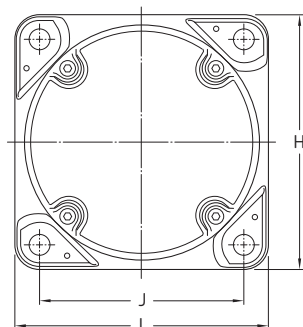
¹⁾ Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

12(00), 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

²⁾ The adapter sleeve fits the bearing in the same row only.

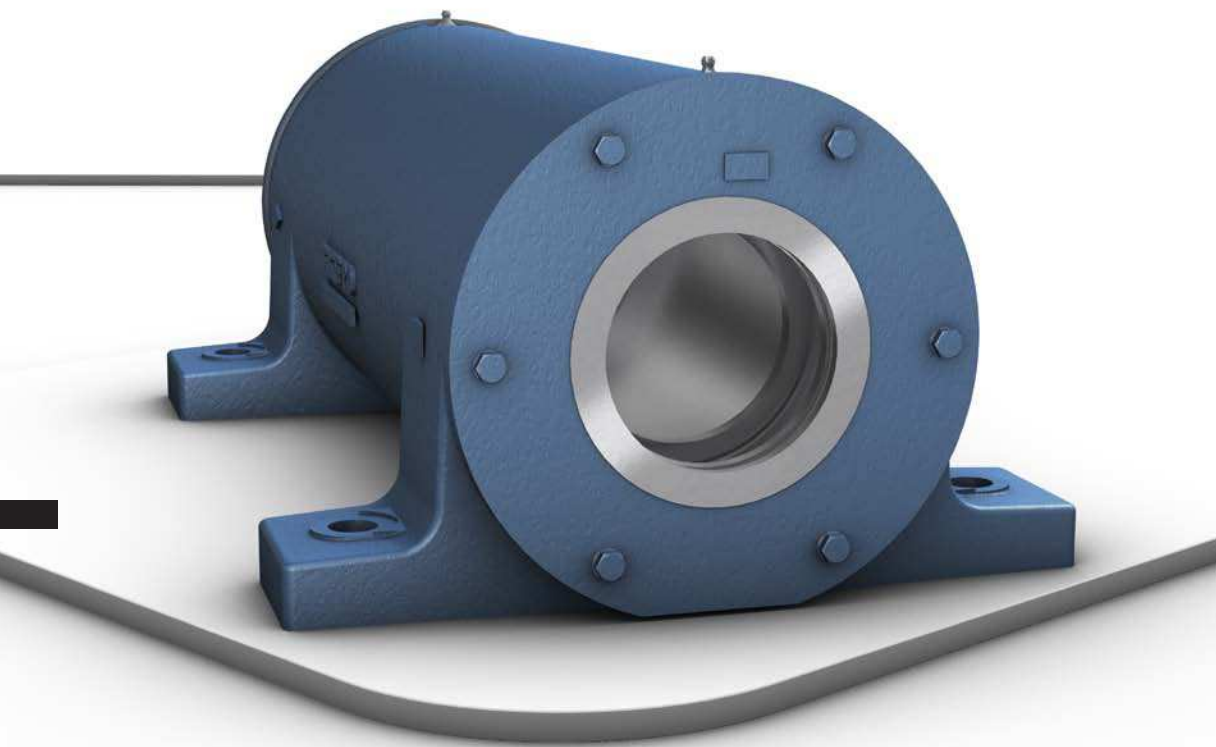
³⁾ The locating ring or spacing washer fits the bearing in the same row only.

⁴⁾ One FRB 10/180 and one FRB 12/180 at each side of the bearing.



| Shaft diameter | Dimensions Housing | | | | | | | | | | | Mass Housing |
|----------------|--------------------|-------|-------|-------|-------|-------|-------|-----|-------|-----|----|--------------|
| | d_a | A_A | A_B | A_1 | B_a | B_b | D_1 | H | H_1 | J | L | |
| mm | mm | | | | | | | | | | | kg |
| 65 | 106 | 104 | 25 | 30 | 24 | 168 | 190 | 95 | 152 | 190 | 16 | 10,0 |
| 70 | 113 | 110 | 25 | 31 | 27 | 175 | 196 | 98 | 152 | 196 | 16 | 10,5 |
| 75 | 117,5 | 115 | 25 | 31 | 27 | 188 | 210 | 105 | 170 | 210 | 16 | 12,5 |
| 80 | 121 | 118 | 25 | 30 | 28 | 196 | 210 | 105 | 170 | 210 | 16 | 12,0 |
| 90 | 130 | 127 | 30 | 30 | 31 | 224 | 250 | 125 | 198 | 250 | 20 | 19,0 |
| 100 | 140 | 137 | 30 | 30 | 33 | 244 | 270 | 135 | 219 | 270 | 20 | 23,5 |

11.1



Two-bearing housings

PD series

Bearing types

- Single row deep groove ball bearings
- Single row angular contact ball bearings
- Single row cylindrical roller bearings

Bearing dimension series

- 62, 63
- 72, 73
- NU 22, NU 3, NJ 22, NJ 23, NJ 2, NJ 3

Shaft diameter range

- 25 to 120 mm

Shaft-bearing combination

- On a stepped shaft with bearings on a cylindrical seat

Seals

- Felt strip
- V-ring

Lubrication

- Grease
- Oil lubrication (optional)

Materials

- Grey cast iron

Mounting

- Four-bolt mounting

Compliance to standards

- Not standardized

SKF two-bearing housings were originally developed for fan shafts with an overhung impeller, but are also suitable for other applications with similar shaft arrangements.

Compared to the conventional shaft arrangement where two self-aligning bearings are mounted in separate plummer (pillow) block housings, two-bearing housings provide several advantages including improved running accuracy and quieter operation.

PD two-bearing housings can also be supplied as ready-to-mount units.

Two-bearing housings PD series

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Designations

Designation system for PD two-bearing housings

PDR 319

Series

| | |
|------------|--|
| PDN | Housing for normal radial and axial loads |
| PDP | Housing for predominant or alternating axial loads |
| PDR | Housing for heavy radial loads |

Size identification

| | |
|---------------|--|
| 2(00) | Housing for bearings in the 62, 72, NU 2, NJ 2, NJ 22, NJ 23, 222 and 223 series |
| 3(00) | Housing for bearings in the 63, 73, NU 3 and NJ 3 series |
| ..(00) | Size code of the bearings, (00) × 5 = bearing bore diameter [mm] |

Designation system for shafts

VJ-PDPF 218

Prefix

| | |
|------------|--------------------------------|
| VJ- | Shaft for two-bearing housings |
|------------|--------------------------------|

Series

| | |
|-------------|--------------------------------|
| PDNB | For housings in the PDN series |
| PDPF | For housings in the PDP series |
| PDRJ | For housings in the PDR series |

Size identification

| | |
|------------|------------------------------------|
| ... | Size identification of the housing |
|------------|------------------------------------|

Two-bearing housings PD series

Designation system for PD two-bearing units

PDPF 220
PDNB 305 DD

Housing series

| | |
|-----|--|
| PDN | Housing for normal radial and axial loads |
| PDP | Housing for predominant or alternating axial loads |
| PDR | Housing for heavy radial loads |

Size identification

| | Non-locating bearing position | Locating bearing position | Housing series |
|-----------------------|-------------------------------|--|----------------|
| A | Deep groove ball bearing | Two angular contact ball bearings | PDN |
| B¹⁾ | Deep groove ball bearing | Deep groove ball bearing | PDN |
| D | Cylindrical roller bearing | Cylindrical roller bearing | PDN |
| E | Cylindrical roller bearing | Deep groove ball bearing | PDN |
| F¹⁾ | Cylindrical roller bearing | Two angular contact ball bearings | PDN, PDP |
| J¹⁾ | Cylindrical roller bearing | Cylindrical roller bearing + Deep groove ball bearing | PDR |
| L | Spherical roller bearing | Spherical roller bearing | PDN |

Size identification

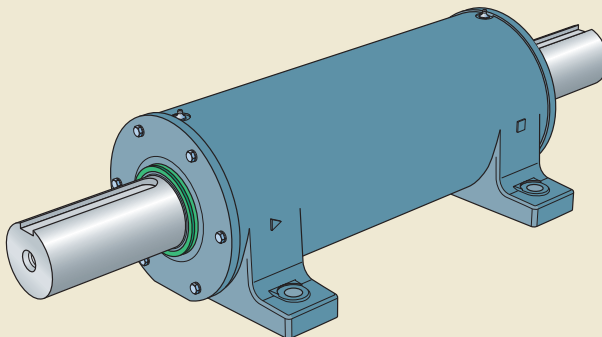
| | |
|---------------|--|
| 2(00) | Housing for bearings in the 62, 72, NU 2, NJ 2, NJ 22, NJ 23, 222 and 223 series |
| 3(00) | Housing for bearings in the 63, 73, NU 3 and NJ 3 series |
| ..(00) | Size code of the bearings, (00) x 5 = bearing bore diameter [mm] |

Suffixes

| | |
|-----------|---|
| DD | Unit supplied with shaft spacers and a large bore in the covers at both sides |
| U | Unit supplied without shaft spacers (PDP and PDR units only) |

¹⁾ Standard units include PDNB, PDPF and PDRJ

Fig. 1



Standard housing design

PD two-bearing housings are non-split housings with two bearing seats (→ **fig. 1**). They consist of a housing body and two covers that are bolted to the body with either four or six bolts. The housings have four holes drilled into the feet for attachment bolts.

PD housings are available in three series, each similar in their external design, but accommodating different bearing arrangements:

- PDN series, for normal radial and axial loads
- PDP series, for predominant or alternating axial loads
- PDR series, for heavy radial and normal axial loads

Features and benefits

PD housings have the following features and benefits:

Compact design

The bearings are incorporated in one housing, which saves space.

Smooth running

The two bearing seats are concentric. Since bearing misalignment is avoided, rigid bearings can be used. The resulting stiff arrangement provides a high degree of running accuracy and enables high speeds.

Quiet operation

The accurate alignment of the rigid bearings in one housing enables quiet operation. For units with the designation PDNB, a wave spring washer in the smaller housing range further reduces noise levels.

Available as units

PD housings can also be supplied as units, complete with bearings and shaft. These ready-to-mount units are assembled and greased at the factory, saving time and reducing the risk of contaminating or damaging the bearings during assembly.

Easy handling

Large housings have two eye bolts for safe and easy handling.

Housing material

PD two-bearing housings and their covers are made of grey cast iron.

Paint, corrosion protection

PD housings are painted blue (RAL 5007) using a solvent based alkyd paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low levels of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected with a solventless rust inhibitor.

Dimension standards

The dimensions of PD two-bearing housings are not standardized either nationally or internationally.

Housing variants

In addition to standard design PD housings, the following variants are available on request:

- housings for oil bath or circulating oil lubrication systems
- housings for vertical shaft arrangements

For additional information, contact the SKF application engineering service.

Sealing solutions

PD two-bearing housings are designed for two sealing solutions:

- a V-ring seal, for housings in the PDN 2 and PDP series (→ **fig. 2**)
- a felt strip and a V-ring seal, for housings in the PDN 3 and PDR series (→ **fig. 3**)

Table 1, provides an overview of the properties and suitability of each sealing solution. This information should be used as a guideline, which cannot substitute for testing the seal in its application.

Housings in the PDN 3 and PDR series have felt strips, which are mounted in a groove in the cover. At circumferential speeds above 4 m/s, a small gap forms between the felt and the seal counterface.

The outboard V-ring seals (for all housing series) provide additional protection against contaminants. They can accommodate circumferential speeds up to 7 m/s.

PD housings are supplied with seals but the seals can also be ordered separately.

Fig. 2

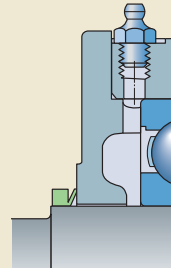


Fig. 3

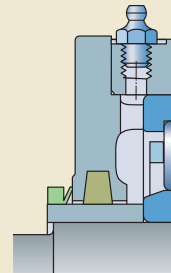
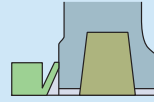


Table 1

Standard seals for PD two-bearing housings

**Seal**

| | | |
|----------------|----------------|----------------------------|
| Type | V-ring seal | Felt strip and V-ring seal |
| Housing series | PDN 2, PDP | PDN 3, PDR |
| Material | nitrile rubber | felt, nitrile rubber |

Application conditions and requirements

| | | |
|--|-----------------|-----------------|
| Temperature [°C] | -40 to +100 | -40 to +100 |
| Temperature [°F] | -40 to +210 | -40 to +210 |
| Max. circumferential speed ¹⁾ [m/s] | 7 ²⁾ | 4 ³⁾ |
| Low friction | ++ | - |
| Shaft tolerance class | → page 564 | → page 564 |
| Shaft roughness R _a [μm] | 3,2 | 3,2 |

Sealing suitability

| | | |
|----------------------|----|---|
| Dust | + | + |
| Fine particles | + | + |
| Coarse particles | + | + |
| Chips | -- | + |
| Liquids when sprayed | + | + |
| Direct sunlight | -- | + |

Symbol: ++ very suitable
 + suitable
 - limited suitability
 -- unsuitable

¹⁾ To convert circumferential speeds to rotational speeds, refer to **table 7** on **page 37**.

²⁾ If located axially, higher speeds are possible.

³⁾ At higher speeds, a small gap forms between the felt and the shaft.

Design considerations

For general information about system design, refer to the following sections:

- *Shaft seat tolerances* (→ skf.com/bearings)
- *Load carrying capacity* (→ [page 44](#))
- *Specifications for shafts and housing support surfaces* (→ [page 45](#))

For additional information about rolling bearings, refer to the product information available online at skf.com/bearings.

Shaft-bearing combinations

PD two-bearing housings accommodate bearings on a cylindrical seat on stepped shafts.

Standard bearing arrangements

PD two-bearing housings can accommodate different bearing arrangements, depending on the series.

Housings in the PDN series

The bearing arrangement for housings in the PDN series comprises:

- two single row deep groove ball bearings in the 62 series for housings in the PDN 2 series (→ [fig. 4](#))
- two single row deep groove ball bearings in the 63 series for housings in the PDN 3 series (→ [fig. 5](#))

The bearing arrangements are intended for normal load conditions and relatively high speed operation. The arrangement for housings in the PDN 3 series can accommodate heavier loads than PDN 2 series housings.

A wave spring washer, supplied with housings up to size 218 or 316, preloads the bearings against each other to reduce noise levels. Units with spring-loaded bearings can accommodate axial loads in one direction only (→ [Mounting, page 568](#)).

Housings in the PDN series can also be used for other bearing combinations (→ [Non-standard bearing arrangements, page 562](#)).

Housings in the PDP series

The bearing arrangement for housings in the PDP series comprises (→ [fig. 6](#)):

- a single row cylindrical roller bearing in the NU 22 ECP series, in the non-locating bearing position
- a pair of universally matchable single row angular contact ball bearings in the 72 series, mounted back-to-back in the locating bearing position

This bearing arrangement accommodates axial loads in both directions and can support heavier loads than bearings in PDN series housings.

Housings in the PDP series can also accommodate other bearing combinations.

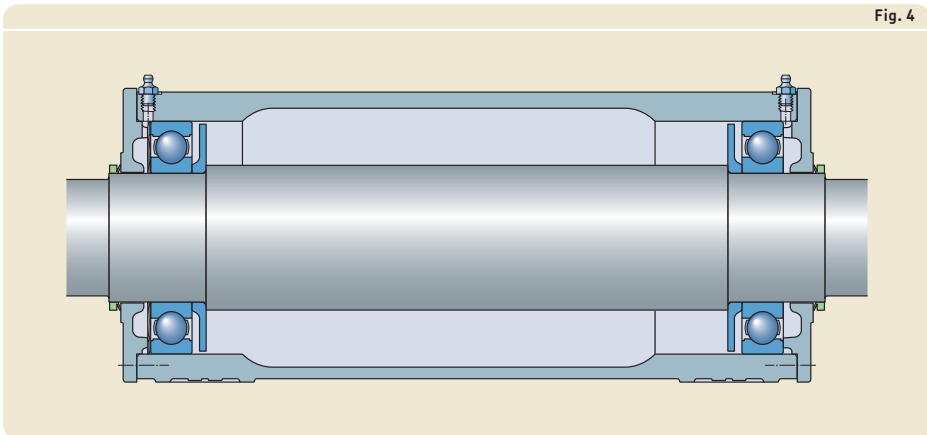


Fig. 5

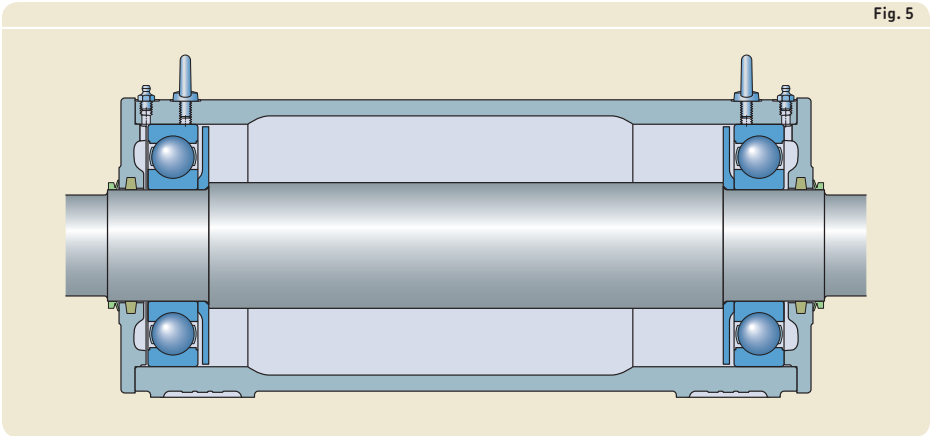
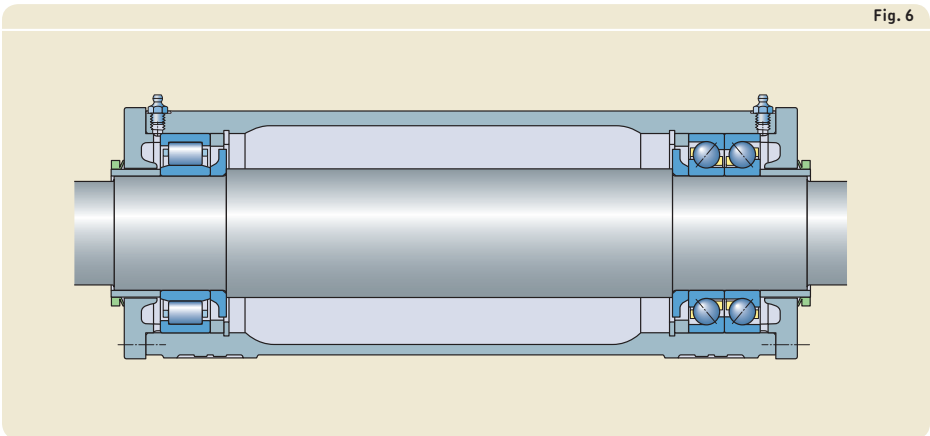


Fig. 6



Two-bearing housings PD series

Housings in the PDR series

The bearing arrangement for housings in the PDR series comprises (→ **fig. 7**):

- a single row cylindrical roller bearing in the NU 3 ECP series, in the non-locating bearing position
- a cylindrical roller bearing in the NU 3 ECP series in combination with a single row deep groove ball bearing in the 63 series (with C3 clearance), in the locating bearing position

The deep groove ball bearing acts as a pure thrust bearing, accommodating the axial loads in both directions, and is mounted with radial clearance in the housing. To prevent the outer ring from turning, an O-ring is inserted in a groove in the cover that abuts the outer ring.

The bearings support heavier radial loads than bearings in both PDN and PDP series housings.

Non-standard bearing arrangements

Housings in the PDN series are designed to accommodate two deep groove ball bearings. For special applications, the housings can be fitted with various combinations of deep groove ball bearings, angular contact ball bearings, cylindrical roller bearings and spherical roller bearings.

SKF can supply the following combinations, available as assembled units (→ **fig. 8**):

- PDNA .. DD units, incorporating a deep groove ball bearing in the non-locating bearing position and a pair of universally matchable angular contact ball bearings, mounted back-to-back, in the locating bearing position. Smaller housings accommodate axial loads in only one direction, while larger housings can withstand axial loads in both directions (**a**)
- PDND units, incorporating an NJ design cylindrical roller bearing on each end to form a cross-located ("floating") bearing arrangement (**b**)
- PDNE units, an NJ design cylindrical roller bearing and a deep groove ball bearing to form a cross-located ("floating") bearing arrangement (**c**)
- PDNF .. DD units, incorporating an NJ design cylindrical roller bearing and a pair of universally matchable angular contact ball bearings, mounted back-to-back, to form a cross-located ("floating") bearing arrangement (**d**)
- PDNL units, incorporating a spherical roller bearing on each end to form a cross-located ("floating") bearing arrangement (**e**)

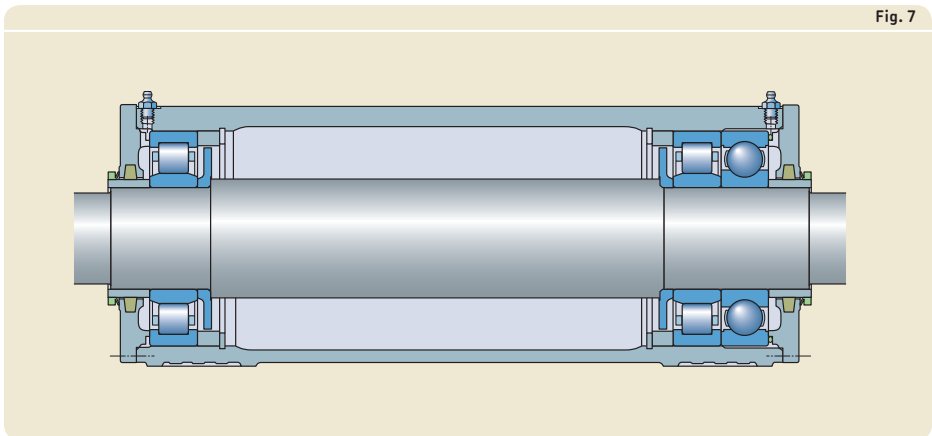
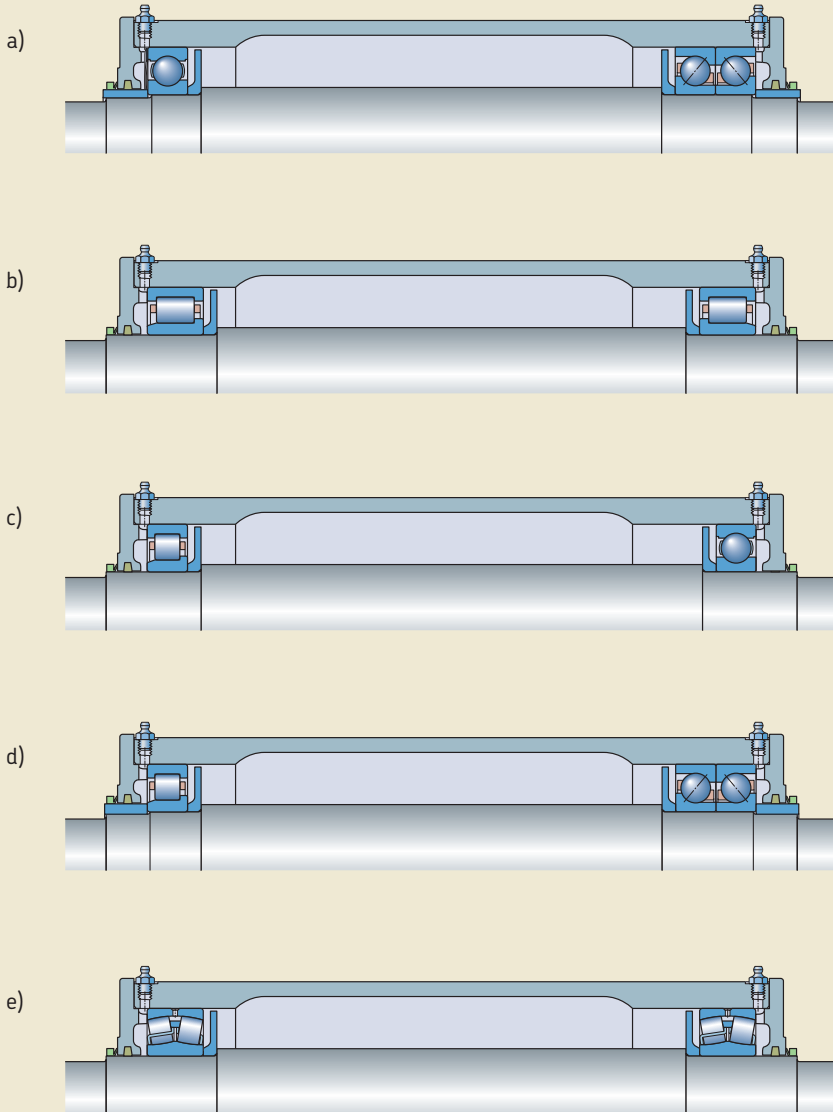


Fig. 8



Bearing arrangements

Typically, PD two-bearing housings accommodate a locating and a non-locating bearing. In some applications, however, both bearings are used to locate the shaft axially, each in one direction. This is called a cross-located (“floating”) bearing arrangement.

Load carrying capacity

PD two-bearing housings are intended for loads acting perpendicularly toward the support surface. If the housing is supported over its four feet and the loads are purely perpendicular, loads are limited only by the bearings.

Housings in the PDN series that have bearings preloaded with a wave spring washer accommodate axial loads in one direction only.

Operating temperature

The permissible operating temperature is mainly limited by the seals and lubricant. For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings. For temperature limits of the seals used in PD housings, refer to **table 1** on **page 559**.

The housing material does not set any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

The permissible operating speed of the incorporated bearings is limited by the V-ring and felt seals, but not by the housing. Speed limits of the seals are listed in **table 1** on **page 559**.

Shaft specifications

Shafts for two-bearing housings can be machined according to the recommended dimensions provided in **product tables 13.4** to **13.7**. The bearing seats should be machined to the tolerance classes listed in **table 2**. The

accuracy of form should be to tolerance grade IT5 for shaft diameters up to and including 60 mm and IT6 for larger diameter shafts. At the seal position, the shaft (or shaft sleeve) should comply with the same tolerance classes as the bearing seat.

SKF also supplies pre-machined shafts to fit PD housings. Their designations are provided in the product tables. The bearing seats and shaft ends are machined to the tolerance classes listed in **table 2** and **table 3** respectively.

Shafts are supplied with two keys and two end plates with attachment screws.

Table 2

Bearing seat tolerance classes

| Shaft diameter d_a | | Tolerance class ¹⁾ for housing series PDN | PDP with angular contact ball bearings | cylindrical roller bearings | PDR |
|-------------------------|----------|--|--|--------------------------------|----------|
| over | incl. | | | | |
| mm | | – | | | |
| – 100 | 100 – | k6 k6 | k6 m6 | m6 m6 | m6 m6 |

¹⁾ The recommended tolerance classes are intended for light loaded bearings only ($P < 0,05 C$, see also skf.com/bearings). Tighter fits are required for heavier loads. For additional information, contact the SKF application engineering service.

Table 3

Shaft end specifications

| Shaft end diameter d_b | | Tolerance class for housing series | | |
|-----------------------------|-----------------|---------------------------------------|----------------|----------------|
| over | incl. | PDN | PDP | PDR |
| mm | | – | | |
| – 30 50 | 30 50 110 | j6 k6 m6 | m6 m6 m6 | m6 m6 m6 |

Attachment bolt recommendations

In typical applications, 8.8 class hexagon head bolts in accordance with ISO 4014 can be used together with washers. If loads do not act perpendicularly towards the support surface, it may be necessary to use stronger, 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the values recommended by bolt manufacturers (→ **table 4**). They are valid for oiled, but otherwise untreated thread surfaces. SKF cannot confirm that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts and a sufficiently strong support can accommodate all occurring loads.

Table 4

| Cover bolts and attachment bolts | | | | | | | |
|----------------------------------|---------|----------|---------|-------------|-------------------|------------------|---------------------------------|
| Housing series | | | | Cover bolts | | Attachment bolts | |
| PDN 2 | PDN 3 | PDP | PDR | Size | Tightening torque | Size | Tightening torque ¹⁾ |
| - | | | | - | Nm | - | Nm |
| PDN 206 | PDN 305 | | | M 6x20 | 10 | M 10 | 50 |
| PDN 207 | PDN 306 | | | M 6x20 | 10 | M 12 | 80 |
| PDN 208 | PDN 307 | | | M 6x20 | 10 | M 12 | 80 |
| PDN 210 | PDN 308 | | | M 6x20 | 10 | M 12 | 80 |
| PDN 211 | PDN 309 | | | M 6x20 | 10 | M 12 | 80 |
| PDN 212 | PDN 310 | | | M 6x20 | 10 | M 12 | 80 |
| PDN 214 | PDN 311 | | | M 8x25 | 25 | M 16 | 200 |
| PDN 215 | PDN 312 | PDP 2214 | | M 8x25 | 25 | M 16 | 200 |
| PDN 216 | PDN 313 | PDP 2216 | | M 8x25 | 25 | M 16 | 200 |
| | PDN 314 | | | M 8x25 | 25 | M 16 | 200 |
| PDN 218 | PDN 315 | PDP 2218 | PDR 315 | M 8x30 | 25 | M 16 | 200 |
| | PDN 316 | | PDR 316 | M 10x30 | 50 | M 16 | 200 |
| PDN 220 | PDN 317 | PDP 2220 | PDR 317 | M 10x30 | 50 | M 16 | 200 |
| | PDN 318 | | PDR 318 | M 10x30 | 50 | M 16 | 200 |
| PDN 222 | PDN 319 | PDP 2222 | PDR 319 | M 10x35 | 50 | M 20 | 385 |
| PDN 224 | PDN 320 | PDP 2224 | PDR 320 | M 12x35 | 80 | M 20 | 385 |
| | PDN 322 | | PDR 322 | M 12x35 | 80 | M 24 | 665 |
| | PDN 324 | | PDR 324 | M 12x35 | 80 | M 30 | 1310 |

¹⁾ Recommended by bolt manufacturers.

Lubrication

Standard PD two-bearing housings are designed for grease lubrication. Housings for oil lubrication are available on request.

The lubricant should be selected based on the operating conditions of the bearings. For additional information about lubricant selection, refer to the product information available online at skf.com.

Flinger rings

PD housings are supplied with inboard flinger rings made of grey cast iron (→ **fig. 9**). The flinger rings serve to retain grease at the bearing position and to prevent over-lubrication. The excess grease is collected in the large space in the middle of the housing.

Initial grease fill

If no other requirements exist, the free space in the bearings should be completely filled with grease and the free space between the cover and flinger ring should be filled to 100%.

Initial grease fill for PD units

PD units are greased at the factory with SKF LGMT 2, a high-quality mineral oil based grease with a lithium thickener and good rust inhibiting properties. The operating temperature range of the grease is -30 to $+110$ °C (-20 to $+230$ °F).

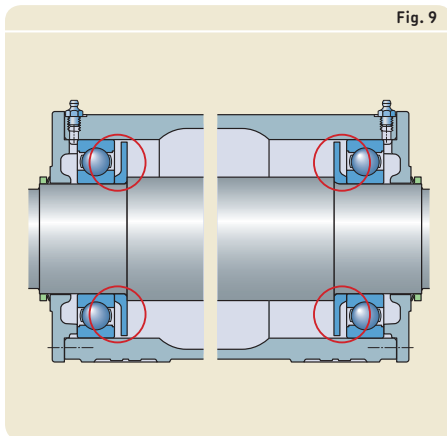


Fig. 9

Relubrication

Relubrication is possible via two G $1/4$ or G $1/8$ grease fittings (depending on size), one on each end of the housing (→ **fig. 10**). There is minimal risk of over-greasing because excess grease is collected in the large space in the middle of the housing. When applying grease via the grease fittings, the shaft should be rotating.

SKF recommends replenishing the housings with SKF LGMT 2, a high-quality mineral oil based grease with a lithium thickener and good rust inhibiting properties. For vertical shaft arrangements, SKF LGMT 3 grease should be used with half the interval required for a similar horizontal application.

To calculate the relubrication interval and the quantity of grease needed for replenishment, refer to the SKF catalogue *Rolling bearings* or skf.com/bearings.

Oil lubrication

Where high speeds preclude the use of grease as a lubricant, large PD housings can be modified for oil bath or circulating oil lubrication systems. The housings are fitted with special oil seals. For additional information, contact the SKF application engineering service.

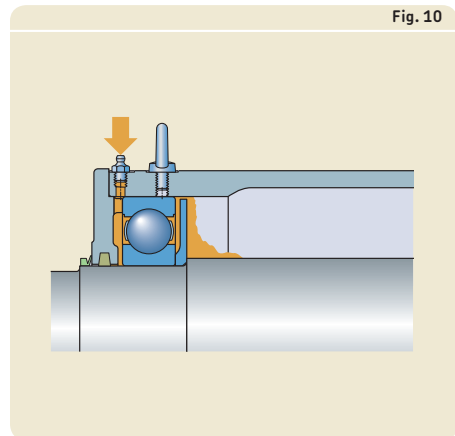


Fig. 10

Mounting

PD housings must be mounted properly, using the correct tools. All the associated components must meet certain basic requirements and the support surface should meet the specifications provided under *Housing support surfaces* (→ page 45).

The housings have two markings (→ fig. 11):

- A “square” on one end denotes the position of the wider of the two bearing seats.
- A “triangle” on the other end indicates the direction in which the predominant axial load should be applied.

For information about mounting rolling bearings, refer to the *SKF bearing maintenance handbook* or skf.com/mount.

Mounting PDN series housings

The wave spring washers, supplied with smaller housings in the PDN series, should be inserted between the bearing and the cover on the housing end marked with a triangle. The rotary components (impeller, pulley, coupling etc.) must be arranged so that the axial load F_a produced in operation acts in the direction indicated by the triangle. SKF recommends using a hydraulic nut or press for these mounting operations.

Mounting PD units

Installing PD units is simple because the unit just needs to be bolted to the support surface. The rotary components are then mounted onto the finished shaft ends secured by the keys, end plates, and attachment screws (with spring washers) provided.

Support the shaft properly when pressing components onto the shaft to prevent the mounting force acting on the bearings. Mounting instructions are available on request.

Torque specifications

Cover bolts should be tightened to the torque values listed in **table 4** on **page 566**. The cover bolts are in accordance with ISO 4017.

For information about attachment bolts, refer to *Attachment bolt recommendations* on **page 566**.

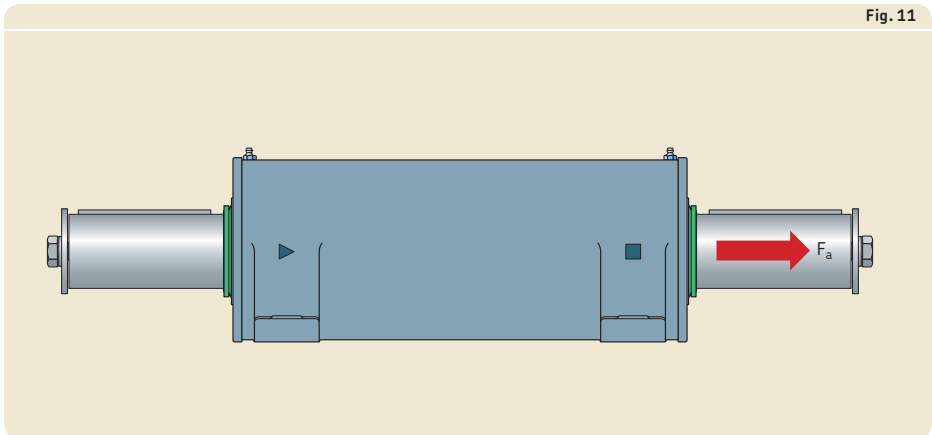


Fig. 11

Condition monitoring

If connections for condition monitoring sensors are required, contact the SKF application engineering service.

Accessories

The following accessories are available for PD two-bearing housings:

- Automatic lubricators: SKF SYSTEM 24 and SKF MultiPoint
- Grease meter: LAGM 1000E

For additional information, refer to *SKF tools and products* (→ **page 47**).

Ordering information

PD two-bearing housings

Housings in the PDN series are supplied with the following components:

- housing
- 2 covers, including 8 or 12 hexagon head bolts and spring washers depending on size
- 2 flinger rings
- 1 wave spring washer (up to and including size 218 for housings in the PDN 2 series, and size 316 for housings in the PDN 3 series)
- 2 seals (V-ring seals for housings in the PDN 2 series; V-ring seals and felt strips for housings in the PDN 3 series)

Housings in the PDP series are supplied with the following components:

- housing, including 2 eye bolts for housings size 224
- 2 covers, including 12 hexagon head bolts and washers
- 2 flinger rings
- 2 locating rings
- 2 spacer sleeves
- 2 shaft sleeves
- 2 V-ring seals

Housings in the PDR series are supplied with the following components:

- housing, including 2 eye bolts for housings from sizes 320 to 324
- 2 covers, including 12 hexagon head bolts and washers
- 2 flinger rings
- 2 spacer sleeves
- 2 shaft sleeves
- 2 seals (V-ring seals and felt strips)
- 1 O-ring

The bearings and shaft must be ordered separately. Shafts are supplied with two keys, and two end plates with attachment screws and spring washers.

Housings in the PDP and PDR series can be supplied without shaft sleeves. They are identified by the designation suffix U, e.g. PDR 315 U.

Order example

One PD housing is required for two 6309 bearings. The following components should be ordered:

- 1 housing PDN 309
- 1 shaft VJ-PDNB 309
- 2 bearings 6309

PD two-bearing units

PD units are supplied assembled and ready-to-mount, complete with bearings and shaft.

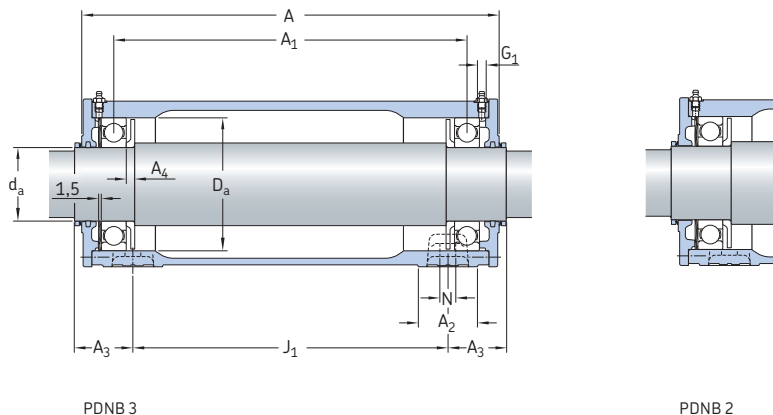
Order example

One PD housing is required for two 6309 bearings. The following items should be ordered:

- 1 unit PDNB 309

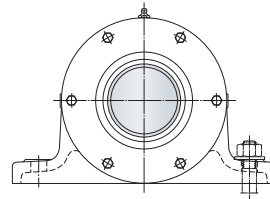
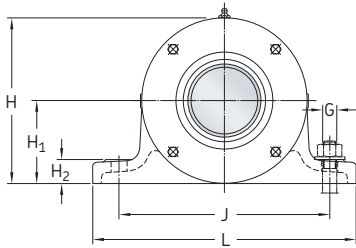
12.1 Two-bearing housings in the PDN series

d_a 25 – 80 mm



| Shaft diameter d_a | Housing Designation ¹⁾ | Appropriate parts | | Wave spring washer | Spare parts V-ring | Felt strip | Unit Designation ¹⁾ |
|-------------------------|-----------------------------------|-------------------|-------------|--------------------|-----------------------|------------|--------------------------------|
| | | Bearings | Shaft | | | | |
| mm | - | - | - | - | - | - | - |
| 25 | PDN 305 | 2 x 6305 | VJ-PDNB 305 | WF-62 | 25 VAR | FS 190 | PDNB 305 |
| 30 | PDN 206 | 2 x 6206 | VJ-PDNB 206 | WF-62 | 30 VAR | - | PDNB 206 |
| | PDN 306 | 2 x 6306 | VJ-PDNB 306 | WF-72 | 30 VAR | FS 190 | PDNB 306 |
| 35 | PDN 207 | 2 x 6207 | VJ-PDNB 207 | WF-72 | 35 VAR | - | PDNB 207 |
| | PDN 307 | 2 x 6307 | VJ-PDNB 307 | WF-80 | 35 VAR | FS 190 | PDNB 307 |
| 40 | PDN 208 | 2 x 6208 | VJ-PDNB 208 | WF-80 | 40 VAR | - | PDNB 208 |
| | PDN 308 | 2 x 6308 | VJ-PDNB 308 | WF-90 | 40 VAR | FS 190 | PDNB 308 |
| 45 | PDN 309 | 2 x 6309 | VJ-PDNB 309 | WF-100 | 45 VAR | FS 190 | PDNB 309 |
| 50 | PDN 210 | 2 x 6210 | VJ-PDNB 210 | WF-90 | 50 VAR | - | PDNB 210 |
| | PDN 310 | 2 x 6310 | VJ-PDNB 310 | WF-110 | 50 VAR | FS 260 | PDNB 310 |
| 55 | PDN 211 | 2 x 6211 | VJ-PDNB 211 | WF-100 | 55 VAR | - | PDNB 211 |
| | PDN 311 | 2 x 6311 | VJ-PDNB 311 | WF-120 | 55 VAR | FS 260 | PDNB 311 |
| 60 | PDN 212 | 2 x 6212 | VJ-PDNB 212 | WF-110 | 60 VAR | - | PDNB 212 |
| | PDN 312 | 2 x 6312 | VJ-PDNB 312 | WF-130 | 60 VAR | FS 260 | PDNB 312 |
| 65 | PDN 313 | 2 x 6313 | VJ-PDNB 313 | WF-140 | 65 VAR | FS 260 | PDNB 313 |
| 70 | PDN 214 | 2 x 6214 | VJ-PDNB 214 | WF-125 | 70 VAR | - | PDNB 214 |
| | PDN 314 | 2 x 6314 | VJ-PDNB 314 | WF-150 | 70 VAR | FS 330 | PDNB 314 |
| 75 | PDN 215 | 2 x 6215 | VJ-PDNB 215 | WF-130 | 75 VAR | - | PDNB 215 |
| | PDN 315 | 2 x 6315 | VJ-PDNB 315 | WF-160 | 75 VAR | FS 330 | PDNB 315 |
| 80 | PDN 216 | 2 x 6216 | VJ-PDNB 216 | WF-140 | 80 VAR | - | PDNB 216 |
| | PDN 316 | 2 x 6316 | VJ-PDNB 316 | WF-170 | 80 VAR | FS 330 | PDNB 316 |

¹⁾ For details about the components supplied, refer to the section *Ordering information* on page 570.



Sizes up to and including 211 and 309

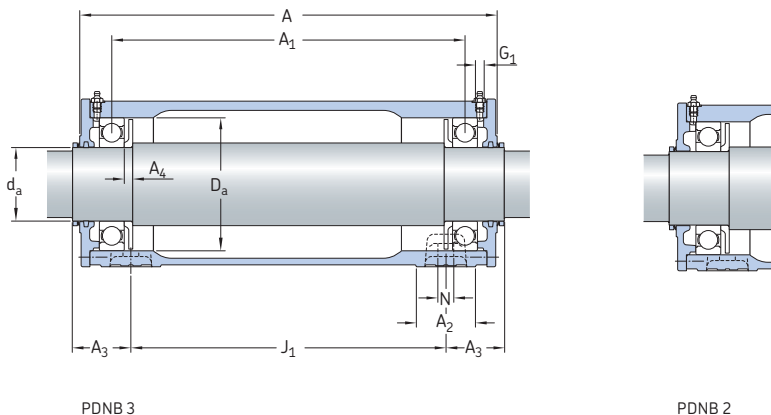
Sizes from 212 and 310

| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | | | | | Mass Housing | Unit | |
|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----|-----|-------------------------------|--------------|------|----|
| | A | A ₁ | A ₂ | A ₃ | A ₄ | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | G | G | G ₁ | | | |
| mm | mm | | | | | | | | | | | | | | | | in. | – | kg |
| 25 | 202 | 146,5 | 35 | 40,5 | 7 | 62 | 95 | 50 | 16 | 120 | 135 | 155 | 12 | 10 | 3/8 | G ¹ / ₈ | 5,1 | 7 | |
| 30 | 197 | 147,5 | 35 | 37,5 | 7 | 62 | 95 | 50 | 16 | 120 | 135 | 155 | 12 | 10 | 3/8 | G ¹ / ₈ | 5,1 | 7,4 | |
| | 226 | 171,5 | 40 | 45 | 7 | 72 | 100 | 50 | 18 | 130 | 150 | 160 | 15 | 12 | 1/2 | G ¹ / ₈ | 6,5 | 9,6 | |
| 35 | 227 | 173,5 | 40 | 45 | 7 | 72 | 100 | 50 | 18 | 130 | 150 | 160 | 15 | 12 | 1/2 | G ¹ / ₈ | 6,5 | 10 | |
| | 260 | 195,5 | 45 | 49,5 | 8 | 80 | 116 | 60 | 18 | 150 | 175 | 190 | 15 | 12 | 1/2 | G ¹ / ₈ | 9,1 | 13,5 | |
| 40 | 259 | 198,5 | 45 | 49,5 | 8 | 80 | 116 | 60 | 18 | 150 | 175 | 190 | 15 | 12 | 1/2 | G ¹ / ₈ | 9,3 | 14,5 | |
| | 315 | 255,5 | 52 | 53 | 10 | 90 | 121 | 60 | 20 | 150 | 225 | 190 | 15 | 12 | 1/2 | G ¹ / ₈ | 12,5 | 19,5 | |
| 45 | 360 | 279,5 | 52 | 63 | 10 | 100 | 137 | 70 | 22 | 170 | 250 | 210 | 15 | 12 | 1/2 | G ¹ / ₈ | 15 | 24,5 | |
| 50 | 314 | 258,5 | 52 | 52 | 10 | 90 | 121 | 60 | 20 | 150 | 225 | 190 | 15 | 12 | 1/2 | G ¹ / ₈ | 12,5 | 22,5 | |
| | 377 | 311,5 | 60 | 59 | 10 | 110 | 142 | 70 | 25 | 170 | 275 | 210 | 15 | 12 | 1/2 | G ¹ / ₈ | 18 | 29,5 | |
| 55 | 356 | 283,5 | 52 | 60,5 | 10 | 100 | 137 | 70 | 22 | 170 | 250 | 210 | 15 | 12 | 1/2 | G ¹ / ₈ | 15 | 27,5 | |
| | 422 | 335,5 | 60 | 69 | 10 | 120 | 158 | 80 | 25 | 210 | 300 | 260 | 19 | 16 | 5/8 | G ¹ / ₈ | 23 | 39,5 | |
| 60 | 376 | 316,5 | 60 | 58 | 10 | 110 | 142 | 70 | 25 | 170 | 275 | 210 | 15 | 12 | 1/2 | G ¹ / ₈ | 18 | 33 | |
| | 460 | 383,5 | 70 | 68 | 10 | 130 | 165 | 80 | 25 | 210 | 340 | 260 | 19 | 16 | 5/8 | G ¹ / ₈ | 32,5 | 52,5 | |
| 65 | 492 | 402,5 | 70 | 74 | 11 | 140 | 185 | 95 | 25 | 230 | 360 | 280 | 19 | 16 | 5/8 | G ¹ / ₄ | 32 | 57 | |
| 70 | 459 | 390,5 | 70 | 69 | 10 | 125 | 165 | 80 | 25 | 210 | 340 | 260 | 19 | 16 | 5/8 | G ¹ / ₈ | 34,5 | 60,5 | |
| | 512 | 420,5 | 70 | 76 | 11 | 150 | 190 | 95 | 25 | 230 | 380 | 290 | 19 | 16 | 5/8 | G ¹ / ₄ | 38 | 68,5 | |
| 75 | 459 | 389,5 | 70 | 69 | 10 | 130 | 165 | 80 | 25 | 210 | 340 | 260 | 19 | 16 | 5/8 | G ¹ / ₈ | 32 | 62 | |
| | 547 | 448,5 | 80 | 83,5 | 12 | 160 | 200 | 100 | 30 | 260 | 400 | 320 | 19 | 16 | 5/8 | G ¹ / ₄ | 43,5 | 80,5 | |
| 80 | 493 | 409,5 | 70 | 76 | 11 | 140 | 185 | 95 | 25 | 230 | 360 | 280 | 19 | 16 | 5/8 | G ¹ / ₄ | 31 | 67 | |
| | 556 | 466,5 | 80 | 78 | 12 | 170 | 220 | 112 | 30 | 260 | 420 | 320 | 19 | 16 | 5/8 | G ¹ / ₄ | 49,5 | 92 | |

12.1

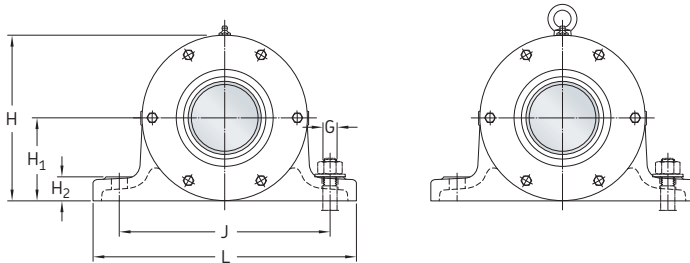
12.1 Two-bearing housings in the PDN series

d_a 85 – 120 mm



| Shaft diameter | Housing Designation ¹⁾ | Appropriate parts | | Wave spring washer | Spare parts | | Unit Designation ¹⁾ |
|----------------|-----------------------------------|-------------------|-------------|--------------------|-------------|------------|--------------------------------|
| | | Bearings | Shaft | | V-ring | Felt strip | |
| d_a | | | | | | | |
| mm | - | - | | | - | | - |
| 85 | PDN 317 | 2 x 6317 | VJ-PDNB 317 | - | 85 VAR | FS 330 | PDNB 317 |
| 90 | PDN 218 | 2 x 6218 | VJ-PDNB 218 | WF-160 | 90 VAR | - | PDNB 218 |
| | PDN 318 | 2 x 6318 | VJ-PDNB 318 | - | 90 VAR | FS 370 | PDNB 318 |
| 95 | PDN 319 | 2 x 6319 | VJ-PDNB 319 | - | 95 VAR | FS 370 | PDNB 319 |
| 100 | PDN 220 | 2 x 6220 | VJ-PDNB 220 | - | 100 VAR | - | PDNB 220 |
| | PDN 320 | 2 x 6320 | VJ-PDNB 320 | - | 100 VAR | FS 460 | PDNB 320 |
| 110 | PDN 222 | 2 x 6222 | VJ-PDNB 222 | - | 110 VAR | - | PDNB 222 |
| | PDN 322 | 2 x 6322 | VJ-PDNB 322 | - | 110 VAR | FS 460 | PDNB 322 |
| 120 | PDN 224 | 2 x 6224 | VJ-PDNB 224 | - | 120 VAR | - | PDNB 224 |
| | PDN 324 | 2 x 6324 | VJ-PDNB 324 | - | 120 VAR | FS 460 | PDNB 324 |

¹⁾ For details about the components supplied, refer to the section *Ordering information* on page 570.



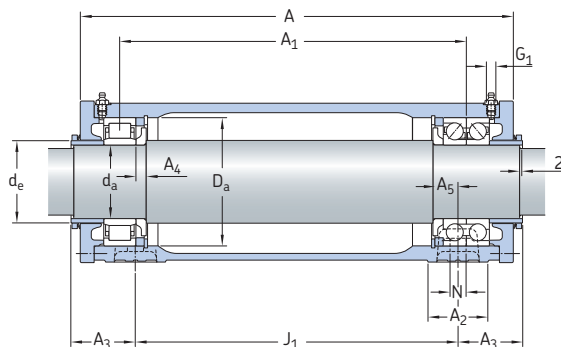
Sizes 224, and 320 and above (with M10 eye bolt)

| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | | | | | Mass | | |
|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----|-------|------------------|---------|------|----|
| | A | A ₁ | A ₂ | A ₃ | A ₄ | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | G | G | G ₁ | Housing | Unit | |
| mm | mm | | | | | | | | | | | | | | | | in. | - | kg |
| 85 | 590 | 486 | 80 | 85 | 12 | 180 | 225 | 112 | 30 | 290 | 440 | 350 | 19 | 16 | 5/8 | G ^{1/4} | 61 | 114 | |
| | 605 | 510 | 85 | 82,5 | 11 | 190 | 230 | 112 | 30 | 290 | 460 | 350 | 19 | 16 | 5/8 | G ^{1/4} | 71 | 134 | |
| 90 | 543 | 455,5 | 80 | 81 | 12 | 160 | 200 | 100 | 30 | 260 | 400 | 320 | 19 | 16 | 5/8 | G ^{1/4} | 42,5 | 96,5 | |
| | 605 | 510 | 85 | 82,5 | 11 | 190 | 230 | 112 | 30 | 290 | 460 | 350 | 19 | 16 | 5/8 | G ^{1/4} | 71 | 134 | |
| 95 | 648 | 540 | 90 | 94 | 13 | 200 | 253 | 125 | 36 | 320 | 480 | 400 | 24 | 20 | 3/4 | G ^{1/4} | 82,5 | 156 | |
| | 673 | 570 | 95 | 96,5 | 11,5 | 215 | 264 | 130 | 40 | 320 | 500 | 400 | 24 | 20 | 3/4 | G ^{1/4} | 92,5 | 177 | |
| 100 | 588 | 493 | 80 | 83,5 | 12 | 180 | 225 | 112 | 30 | 290 | 440 | 350 | 19 | 16 | 5/8 | G ^{1/4} | 60 | 130 | |
| | 673 | 570 | 95 | 96,5 | 11,5 | 215 | 264 | 130 | 40 | 320 | 500 | 400 | 24 | 20 | 3/4 | G ^{1/4} | 92,5 | 177 | |
| 110 | 634 | 547 | 90 | 88 | 13 | 200 | 253 | 125 | 36 | 320 | 480 | 400 | 24 | 20 | 3/4 | G ^{1/4} | 81 | 176 | |
| | 686 | 580 | 95 | 94,5 | 10 | 240 | 296 | 150 | 40 | 380 | 520 | 450 | 28 | 24 | 1 | G ^{1/4} | 115 | 226 | |
| 120 | 672 | 577 | 95 | 97 | 11,5 | 215 | 264 | 130 | 40 | 320 | 500 | 400 | 24 | 20 | 3/4 | G ^{1/4} | 90 | 207 | |
| | 707 | 600 | 100 | 96 | 11,5 | 260 | 322 | 160 | 40 | 410 | 538 | 500 | 35 | 30 | 1 1/4 | G ^{1/4} | 135 | 276 | |

12.1

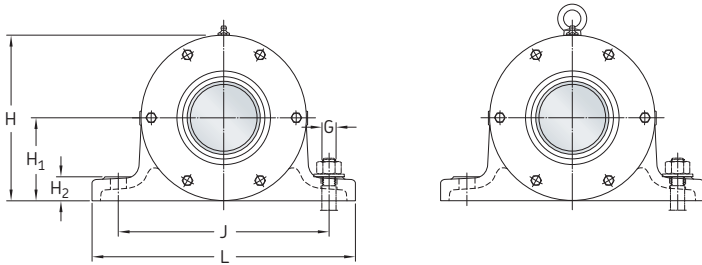
12.2 Two-bearing housings in the PDP series

d_a 70 – 120 mm



| Shaft diameter d_a | Housing Designation ¹⁾ | Appropriate parts | | Shaft | V-ring | Unit Designation ¹⁾ | Dimensions Housing | |
|-------------------------|-----------------------------------|-----------------------------------|--------------------------------------|--------------|---------|--------------------------------|--------------------|----------------|
| | | Bearings in the locating position | Bearing in the non-locating position | | | | A | A ₁ |
| mm | - | - | - | - | - | - | mm | |
| 70 | PDP 214 | 2 x 7214 BECBP | NU 2214 ECP | VJ-PDPF 2214 | 80 VAR | PDPF 2214 | 459 | 376,5 |
| 80 | PDP 216 | 2 x 7216 BECBP | NU 2216 ECP | VJ-PDPF 2216 | 90 VAR | PDPF 2216 | 493 | 394,5 |
| 90 | PDP 218 | 2 x 7218 BECBP | NU 2218 ECP | VJ-PDPF 2218 | 100 VAR | PDPF 2218 | 543 | 437 |
| 100 | PDP 220 | 2 x 7220 BECBP | NU 2220 ECP | VJ-PDPF 2220 | 110 VAR | PDPF 2220 | 585 | 470 |
| 110 | PDP 222 | 2 x 7222 BECBP | NU 2222 ECP | VJ-PDPF 2222 | 120 VAR | PDPF 2222 | 634 | 520,5 |
| 120 | PDP 224 | 2 x 7224 BCBM | NU 2224 ECP | VJ-PDPF 2224 | 130 VAR | PDPF 2224 | 672 | 548 |

¹⁾ For details about the components supplied, refer to the section *Ordering information* on page 570.

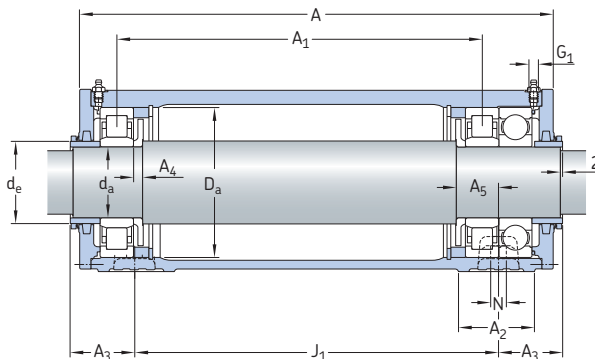


Size 224 (with M10 eye bolt)

| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | | | | Mass | | | |
|-------------------------|--------------------|-------|-------|-------|-------|-------|-----|-------|-------|-----|-------|-----|----|----|-----|-------------------------------|---------|------|--|
| | A_2 | A_3 | A_4 | A_5 | d_e | D_a | H | H_1 | H_2 | J | J_1 | L | N | G | G | G_1 | Housing | Unit | |
| mm | mm | | | | | | | | | | | | | | | in. | - | kg | |
| 70 | 70 | 69 | 10 | 20 | 79 | 125 | 165 | 80 | 25 | 210 | 340 | 260 | 19 | 16 | 5/8 | G ¹ / ₈ | 35 | 63 | |
| 80 | 70 | 76 | 11 | 24,5 | 90 | 140 | 185 | 95 | 25 | 230 | 360 | 280 | 19 | 16 | 5/8 | G ¹ / ₄ | 32 | 70,5 | |
| 90 | 80 | 81 | 12 | 28,5 | 100 | 160 | 200 | 100 | 30 | 260 | 400 | 320 | 19 | 16 | 5/8 | G ¹ / ₄ | 43,5 | 100 | |
| 100 | 80 | 83,5 | 12 | 36,5 | 112 | 180 | 225 | 112 | 30 | 290 | 440 | 350 | 19 | 16 | 5/8 | G ¹ / ₄ | 61,5 | 137 | |
| 110 | 90 | 88 | 13 | 36,5 | 122 | 200 | 253 | 125 | 36 | 320 | 480 | 400 | 24 | 20 | 3/4 | G ¹ / ₄ | 82,5 | 185 | |
| 120 | 95 | 97 | 11,5 | 33 | 132 | 215 | 264 | 130 | 40 | 320 | 500 | 400 | 24 | 20 | 3/4 | G ¹ / ₄ | 92 | 219 | |

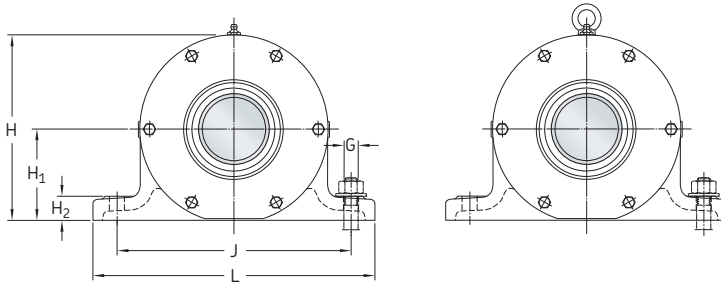
12.3 Two-bearing housings in the PDR series

d_a 75 – 120 mm



| Shaft diameter d_a | Housing Designation ¹⁾ | Appropriate parts Bearings in the locating position | Bearing in the non-locating position | Shaft | Spare parts | | Unit Designation ¹⁾ |
|-------------------------|-----------------------------------|--|--------------------------------------|-------------|-------------|------------|--------------------------------|
| | | | | | V-ring | Felt strip | |
| mm | - | - | - | - | - | - | - |
| 75 | PDR 315 | NU 315 ECP + 6315/C3 | NU 315 ECP | VJ-PDRJ 315 | 90 VAR | FS 370 | PDRJ 315 |
| 80 | PDR 316 | NU 316 ECP + 6316/C3 | NU 316 ECP | VJ-PDRJ 316 | 95 VAR | FS 370 | PDRJ 316 |
| 85 | PDR 317 | NU 317 ECP + 6317/C3 | NU 317 ECP | VJ-PDRJ 317 | 100 VAR | FS 460 | PDRJ 317 |
| 90 | PDR 318 | NU 318 ECP + 6318/C3 | NU 318 ECP | VJ-PDRJ 318 | 100 VAR | FS 460 | PDRJ 318 |
| 95 | PDR 319 | NU 319 ECP + 6319/C3 | NU 319 ECP | VJ-PDRJ 319 | 110 VAR | FS 460 | PDRJ 319 |
| 100 | PDR 320 | NU 320 ECP + 6320/C3 | NU 320 ECP | VJ-PDRJ 320 | 120 VAR | FS 460 | PDRJ 320 |
| 110 | PDR 322 | NU 322 ECP + 6322/C3 | NU 322 ECP | VJ-PDRJ 322 | 130 VAR | FS 510 | PDRJ 322 |
| 120 | PDR 324 | NU 324 ECP + 6324/C3 | NU 324 ECP | VJ-PDRJ 324 | 140 VAR | FS 680 | PDRJ 324 |

¹⁾ For details about the components supplied, refer to the section *Ordering information* on page 570.



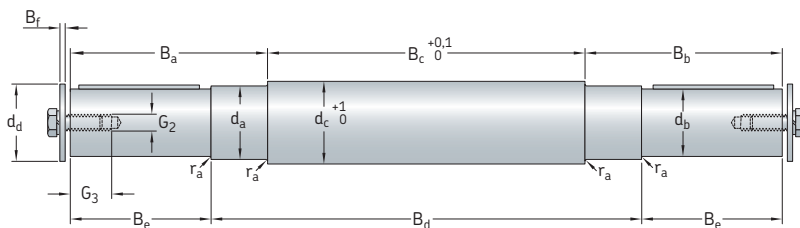
Size 320 and above (with M10 eye bolt)

| Shaft diameter d_a | Dimensions Housing | | | | | | | | | | | | | | | | Mass Housing Unit | | | |
|-------------------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|-----|----------------|-----|----|----|-------------------|------------------|------|------|
| | A | A ₁ | A ₂ | A ₃ | A ₄ | A ₅ | d _e | D _a | H | H ₁ | H ₂ | J | J ₁ | L | N | G | G | G ₁ | in. | kg |
| 75 | 531 | 414 | 80 | 75,5 | 12 | 42 | 90 | 160 | 200 | 100 | 30 | 260 | 400 | 320 | 19 | 16 | 5/8 | G ^{1/4} | 45 | 85,5 |
| 80 | 552 | 430 | 80 | 76 | 12 | 46 | 95 | 170 | 220 | 112 | 30 | 260 | 420 | 320 | 19 | 16 | 5/8 | G ^{1/4} | 51 | 98,5 |
| 85 | 585 | 446 | 80 | 82,5 | 12 | 50 | 100 | 180 | 225 | 112 | 30 | 290 | 440 | 350 | 19 | 16 | 5/8 | G ^{1/4} | 62,5 | 120 |
| 90 | 603 | 468 | 85 | 81,5 | 11 | 50 | 105 | 190 | 230 | 112 | 30 | 290 | 460 | 350 | 19 | 16 | 5/8 | G ^{1/4} | 72 | 142 |
| 95 | 632 | 496 | 90 | 87,5 | 13 | 50 | 110 | 200 | 253 | 125 | 36 | 320 | 480 | 400 | 24 | 20 | 3/4 | G ^{1/4} | 84 | 164 |
| 100 | 671 | 524 | 95 | 97 | 11,5 | 46,5 | 120 | 215 | 264 | 130 | 40 | 320 | 500 | 400 | 24 | 20 | 3/4 | G ^{1/4} | 94 | 187 |
| 110 | 684 | 531 | 95 | 93,5 | 10 | 54,5 | 130 | 240 | 296 | 150 | 40 | 380 | 520 | 450 | 28 | 24 | 1 | G ^{1/4} | 117 | 240 |
| 120 | 705 | 546 | 100 | 95 | 11,5 | 62,5 | 140 | 260 | 322 | 160 | 40 | 410 | 538 | 500 | 35 | 30 | 1 1/4 | G ^{1/4} | 137 | 289 |

12.3

12.4 Shafts for two-bearing housings in the PDN 2 series

d_a 30 – 120 mm



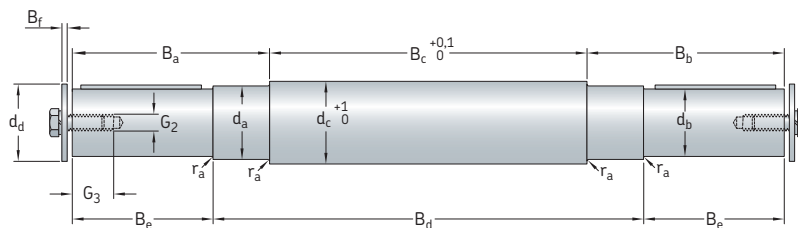
Dimensions Shaft

| d_a | d_b | d_c | d_d | B_a | B_b | B_c | B_d | B_e | B_f | r_a | G_2 | G_3 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| mm | | | | | | | | | | | | |
| 30 | 24 | 39 | 32 | 97 | 95,5 | 117,5 | 210 | 50 | 4 | 0,8 | 10 | 27 |
| 35 | 28 | 44 | 36 | 109,5 | 108 | 142,5 | 240 | 60 | 4 | 1,2 | 10 | 27 |
| 40 | 32 | 49 | 40 | 135,5 | 134 | 164,5 | 274 | 80 | 5 | 1,2 | 12 | 30 |
| 50 | 42 | 59 | 50 | 166 | 164,5 | 218,5 | 329 | 110 | 6 | 1,6 | 16 | 36 |
| 55 | 48 | 64 | 63 | 175 | 173,5 | 242,5 | 371 | 110 | 6 | 1,6 | 16 | 40 |
| 60 | 48 | 69 | 63 | 169 | 167,5 | 274,5 | 391 | 110 | 6 | 1,6 | 16 | 40 |
| 70 | 60 | 79 | 70 | 206,5 | 205 | 346,5 | 478 | 140 | 6 | 1,6 | 16 | 40 |
| 75 | 65 | 84 | 78 | 207,5 | 206 | 344,5 | 478 | 140 | 6 | 1,6 | 20 | 46 |
| 80 | 70 | 89 | 90 | 216 | 214,5 | 361,5 | 512 | 140 | 6 | 1,6 | 20 | 46 |
| 90 | 80 | 104 | 100 | 251 | 249,5 | 401,5 | 562 | 170 | 8 | 1,6 | 20 | 46 |
| 100 | 90 | 114 | 105 | 256 | 256 | 435 | 607 | 170 | 8 | 2,5 | 24 | 52 |
| 110 | 100 | 124 | 115 | 296,5 | 296,5 | 483 | 656 | 210 | 8 | 2,5 | 24 | 52 |
| 120 | 110 | 134 | 132 | 300 | 300 | 514 | 694 | 210 | 12 | 2,5 | 30 | 60 |

| Shaft diameter d_a | Appropriate parts | | Shaft | Shaft keys to ISO 773 | Mass Shaft only |
|-------------------------|-------------------|----------|--------------------|-----------------------|-----------------|
| | Housing | Bearings | | | |
| mm | - | | | | kg |
| 30 | PDN 206 | 2 x 6206 | VJ-PDNB 206 | 8x7x40 | 1,8 |
| 35 | PDN 207 | 2 x 6207 | VJ-PDNB 207 | 8x7x40 | 2,85 |
| 40 | PDN 208 | 2 x 6208 | VJ-PDNB 208 | 10x8x63 | 4,25 |
| 50 | PDN 210 | 2 x 6210 | VJ-PDNB 210 | 12x8x80 | 7,65 |
| 55 | PDN 211 | 2 x 6211 | VJ-PDNB 211 | 14x9x80 | 10,5 |
| 60 | PDN 212 | 2 x 6212 | VJ-PDNB 212 | 14x9x80 | 13 |
| 70 | PDN 214 | 2 x 6214 | VJ-PDNB 214 | 18x11x100 | 23 |
| 75 | PDN 215 | 2 x 6215 | VJ-PDNB 215 | 18x11x100 | 26,5 |
| 80 | PDN 216 | 2 x 6216 | VJ-PDNB 216 | 20x12x100 | 31,5 |
| 90 | PDN 218 | 2 x 6218 | VJ-PDNB 218 | 22x14x140 | 47,5 |
| 100 | PDN 220 | 2 x 6220 | VJ-PDNB 220 | 25x14x140 | 61 |
| 110 | PDN 222 | 2 x 6222 | VJ-PDNB 222 | 28x16x180 | 83 |
| 120 | PDN 224 | 2 x 6224 | VJ-PDNB 224 | 28x16x180 | 102 |

12.5 Shafts for two-bearing housings in the PDN 3 series

d_a 25 – 120 mm



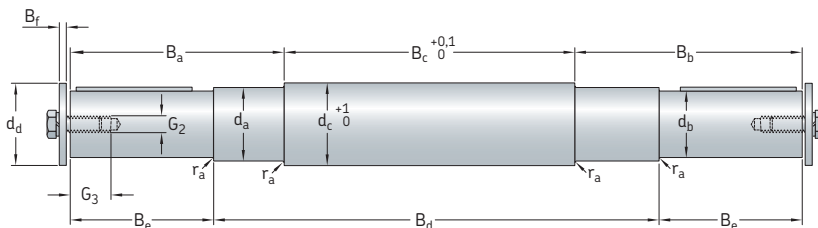
Dimensions Shaft

| d_a | d_b | d_c | d_d | B_a | B_b | B_c | B_d | B_e | B_f | r_a | G_2 | G_3 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| mm | | | | | | | | | | | | |
| 25 | 19 | 34 | 28 | 91 | 89,5 | 115,5 | 216 | 40 | 4 | 0,8 | 8 | 20 |
| 30 | 24 | 39 | 32 | 101,5 | 100 | 138,5 | 240 | 50 | 4 | 0,8 | 10 | 27 |
| 35 | 28 | 44 | 36 | 118,5 | 117 | 158,5 | 274 | 60 | 4 | 1,2 | 10 | 27 |
| 40 | 32 | 49 | 40 | 140 | 138,5 | 212,5 | 331 | 80 | 5 | 1,2 | 12 | 30 |
| 45 | 38 | 54 | 45 | 151,5 | 150 | 234,5 | 376 | 80 | 5 | 1,2 | 12 | 30 |
| 50 | 42 | 59 | 50 | 175 | 173,5 | 264,5 | 393 | 110 | 6 | 1,6 | 16 | 36 |
| 55 | 48 | 64 | 63 | 186,5 | 185 | 286,5 | 438 | 110 | 6 | 1,6 | 16 | 40 |
| 60 | 48 | 69 | 63 | 182,5 | 181 | 332,5 | 476 | 110 | 6 | 1,6 | 16 | 40 |
| 65 | 55 | 74 | 70 | 191 | 189,5 | 347,5 | 508 | 110 | 6 | 1,6 | 16 | 40 |
| 70 | 60 | 79 | 70 | 225 | 223,5 | 363,5 | 532 | 140 | 6 | 1,6 | 16 | 40 |
| 75 | 65 | 84 | 78 | 230,5 | 229 | 387,5 | 567 | 140 | 6 | 1,6 | 20 | 46 |
| 80 | 70 | 89 | 90 | 227 | 225,5 | 403,5 | 576 | 140 | 6 | 1,6 | 20 | 46 |
| 85 | 75 | 99 | 90 | 234,5 | 234,5 | 421 | 610 | 140 | 6 | 1,6 | 20 | 46 |
| 90 | 80 | 104 | 100 | 260 | 260 | 445 | 625 | 170 | 8 | 1,6 | 20 | 46 |
| 95 | 85 | 109 | 100 | 269,5 | 269,5 | 469 | 668 | 170 | 8 | 2,5 | 20 | 46 |
| 100 | 90 | 114 | 105 | 266,5 | 266,5 | 500 | 693 | 170 | 8 | 2,5 | 24 | 52 |
| 110 | 100 | 124 | 115 | 309,5 | 309,5 | 510 | 709 | 210 | 8 | 2,5 | 24 | 52 |
| 120 | 110 | 134 | 132 | 314 | 314 | 522 | 730 | 210 | 12 | 2,5 | 30 | 60 |

| Shaft diameter d_a | Appropriate parts | | Shaft | Shaft keys to ISO 773 | Mass Shaft only |
|-------------------------|-------------------|----------|--------------------|-----------------------|-----------------|
| | Housing | Bearings | | | |
| mm | – | | | | kg |
| 25 | PDN 305 | 2 x 6305 | VJ-PDNB 305 | 6x6x32 | 1,4 |
| 30 | PDN 306 | 2 x 6306 | VJ-PDNB 306 | 8x7x40 | 2,2 |
| 35 | PDN 307 | 2 x 6307 | VJ-PDNB 307 | 8x7x40 | 3,35 |
| 40 | PDN 308 | 2 x 6308 | VJ-PDNB 308 | 10x8x63 | 5,25 |
| 45 | PDN 309 | 2 x 6309 | VJ-PDNB 309 | 10x8x63 | 7,3 |
| 50 | PDN 310 | 2 x 6310 | VJ-PDNB 310 | 12x8x80 | 9,85 |
| 55 | PDN 311 | 2 x 6311 | VJ-PDNB 311 | 14x9x80 | 13 |
| 60 | PDN 312 | 2 x 6312 | VJ-PDNB 312 | 14x9x80 | 15,5 |
| 65 | PDN 313 | 2 x 6313 | VJ-PDNB 313 | 16x10x80 | 19,5 |
| 70 | PDN 314 | 2 x 6314 | VJ-PDNB 314 | 18x11x100 | 25 |
| 75 | PDN 315 | 2 x 6315 | VJ-PDNB 315 | 18x11x100 | 30 |
| 80 | PDN 316 | 2 x 6316 | VJ-PDNB 316 | 20x12x100 | 34,5 |
| 85 | PDN 317 | 2 x 6317 | VJ-PDNB 317 | 20x12x100 | 43 |
| 90 | PDN 318 | 2 x 6318 | VJ-PDNB 318 | 22x14x140 | 51 |
| 95 | PDN 319 | 2 x 6319 | VJ-PDNB 319 | 22x14x140 | 59,5 |
| 100 | PDN 320 | 2 x 6320 | VJ-PDNB 320 | 25x14x140 | 67,5 |
| 110 | PDN 322 | 2 x 6322 | VJ-PDNB 322 | 28x16x180 | 87,5 |
| 120 | PDN 324 | 2 x 6324 | VJ-PDNB 324 | 28x16x180 | 106 |

12.6 Shafts for two-bearing housings in the PDP series

d_a 70 – 120 mm



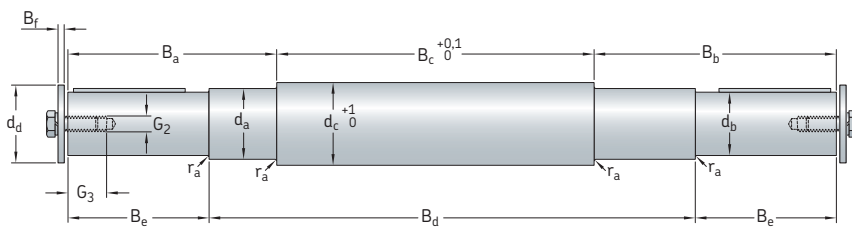
Dimensions Shaft

| d_a | d_b | d_c | d_d | B_a | B_b | B_c | B_d | B_e | B_f | r_a | G_2 | G_3 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| mm | | | | | | | | | | | | |
| 70 | 60 | 79 | 70 | 212 | 229 | 317 | 474 | 142 | 6 | 1,6 | 16 | 40 |
| 80 | 70 | 89 | 90 | 221,5 | 240,5 | 330 | 508 | 142 | 6 | 1,6 | 20 | 46 |
| 90 | 80 | 104 | 100 | 259,5 | 279,5 | 363 | 558 | 172 | 8 | 1,6 | 20 | 46 |
| 100 | 90 | 114 | 105 | 268 | 290 | 389 | 603 | 172 | 8 | 2,5 | 24 | 52 |
| 110 | 100 | 124 | 115 | 311,5 | 334,5 | 430 | 652 | 212 | 8 | 2,5 | 24 | 52 |
| 120 | 110 | 134 | 132 | 318 | 340 | 456 | 690 | 212 | 12 | 2,5 | 30 | 60 |

| Shaft diameter d_a | Appropriate parts | | | Shaft | Shaft keys to ISO 773 | Mass Shaft only |
|-------------------------|-------------------|-----------------------------------|--------------------------------------|---------------------|-----------------------|-----------------|
| | Housing | Bearings in the locating position | Bearing in the non-locating position | | | |
| mm | – | | | | | kg |
| 70 | PDP 214 | 2 x 7214 BECBP | NU 2214 ECP | VJ-PDPF 2214 | 18x11x100 | 23 |
| 80 | PDP 216 | 2 x 7216 BECBP | NU 2216 ECP | VJ-PDPF 2216 | 20x12x100 | 32,5 |
| 90 | PDP 218 | 2 x 7218 BECBP | NU 2218 ECP | VJ-PDPF 2218 | 22x14x140 | 46,5 |
| 100 | PDP 220 | 2 x 7220 BECBP | NU 2220 ECP | VJ-PDPF 2220 | 25x14x140 | 60,5 |
| 110 | PDP 222 | 2 x 7222 BECBP | NU 2222 ECP | VJ-PDPF 2222 | 28x16x180 | 82 |
| 120 | PDP 224 | 2 x 7224 BCBM | NU 2224 ECP | VJ-PDPF 2224 | 28x16x180 | 101 |

12.7 Shafts for two-bearing housings in the PDR series

d_a 75 – 120 mm



Dimensions Shaft

| d_a | d_b | d_c | d_d | B_a | B_b | B_c | B_d | B_e | B_f | r_a | G_2 | G_3 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| mm | | | | | | | | | | | | |
| 75 | 65 | 84 | 78 | 220,5 | 257,5 | 353 | 547 | 142 | 6 | 1,6 | 20 | 46 |
| 80 | 70 | 89 | 90 | 223 | 262 | 367 | 568 | 142 | 6 | 1,6 | 20 | 46 |
| 85 | 75 | 99 | 90 | 231,5 | 272,5 | 381 | 601 | 142 | 6 | 1,6 | 20 | 46 |
| 90 | 80 | 104 | 100 | 258,5 | 301,5 | 403 | 619 | 172 | 8 | 1,6 | 20 | 46 |
| 95 | 85 | 109 | 100 | 262,5 | 307,5 | 425 | 651 | 172 | 8 | 2,5 | 20 | 46 |
| 100 | 90 | 114 | 105 | 266,5 | 313,5 | 454 | 690 | 172 | 8 | 2,5 | 24 | 52 |
| 110 | 100 | 124 | 115 | 308 | 358 | 461 | 703 | 212 | 8 | 2,5 | 24 | 52 |
| 120 | 110 | 134 | 132 | 312,5 | 367,5 | 468 | 724 | 212 | 12 | 2,5 | 30 | 60 |

| Shaft diameter d_a | Appropriate parts | | Bearing in the non-locating position | Shaft | Shaft keys to ISO 773 | Mass Shaft only |
|-------------------------|-------------------|-----------------------------------|--------------------------------------|--------------------|-----------------------|-----------------|
| | Housing | Bearings in the locating position | | | | |
| mm | - | | | | | kg |
| 75 | PDR 315 | NU 315 ECP + 6315/C3 | NU 315 ECP | VJ-PDRJ 315 | 18x11x100 | 29 |
| 80 | PDR 316 | NU 316 ECP + 6316/C3 | NU 316 ECP | VJ-PDRJ 316 | 20x12x100 | 34 |
| 85 | PDR 317 | NU 317 ECP + 6317/C3 | NU 317 ECP | VJ-PDRJ 317 | 20x12x100 | 42 |
| 90 | PDR 318 | NU 318 ECP + 6318/C3 | NU 318 ECP | VJ-PDRJ 318 | 22x14x140 | 50,5 |
| 95 | PDR 319 | NU 319 ECP + 6319/C3 | NU 319 ECP | VJ-PDRJ 319 | 22x14x140 | 58 |
| 100 | PDR 320 | NU 320 ECP + 6320/C3 | NU 320 ECP | VJ-PDRJ 320 | 25x14x140 | 67 |
| 110 | PDR 322 | NU 322 ECP + 6322/C3 | NU 322 ECP | VJ-PDRJ 322 | 28x16x180 | 86,5 |
| 120 | PDR 324 | NU 324 ECP + 6324/C3 | NU 324 ECP | VJ-PDRJ 324 | 28x16x180 | 104 |



Housings for paper machines SBFN, SBPN and SDM series

Bearing types

- Spherical roller bearings
- CARB toroidal roller bearings

Bearing dimension series

- 22, 23, 31 (SBFN series)
- 31 (SBPN series)
- 30, 31 (SDM series)

Shaft diameter range

- 60 to 180 mm (SBFN series)
- 180 to 320 mm (SBPN series)
- 340 to 670 mm (SDM series)

Typical shaft-bearing combinations

- Stepped shaft with a bearing on a tapered seat

Seals

- Labyrinth (SBFN and SBPN series)
- Gap-type seal with oil flinger (SDM series)

Lubrication

- Circulating oil lubrication systems

Materials

- Grey cast iron

Mounting

- Two-bolt mounting (SBFN series)
- Four-bolt mounting (SBPN and SDM series)

Compliance to standards

- Not standardized

Supersedes

- SBF, SBP series

With increasing demands placed on the output of paper machines, the operating conditions for housings, bearings and seals in this application are quite severe. Very high temperatures are typical and the risk of water contamination is always high. SKF provides housings for felt rolls, drying cylinders, and Yankee cylinders (used for producing tissue and board).

Housings for paper machines SBFN, SBPN and SDM series

| | | | |
|---|------------|--|------------|
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| Operating speed | 600 | | |
| Shaft specifications | 600 | | |
| Attachment bolt recommendations | 601 | | |
| Lubrication | 602 | | |
| Mounting | 603 | | |
| Eye bolts and lifting holes | 603 | | |
| Cap bolt torque specifications | 603 | | |

Designations

Designation system for SKF housings for paper machines¹⁾

A SBPN 3136 RA/P45

Prefix

A Short, wide base (SBPN series only)

Series

SBFN Non-split felt roll housing
SBPN Non-split drying cylinder housing
SDM Yankee cylinder housing (split)

Size identification

22(00) Housing for bearings in the 22 dimension series
23(00) Housing for bearings in the 23 dimension series
30(00) Housing for bearings in the 30 dimension series
31(00) Housing for bearings in the 31 dimension series
...(00) Size code of the bearing, x 5 = bearing bore diameter [mm]
.../.. Bearing bore diameter [mm] e.g. .../530

Suffixes²⁾

– Housing for metric thread connection arrangements (shaft, oil inlet and sensor attachment threads) (SBFN and SBPN series only)
 – Housing for metric thread connection arrangements (shaft, oil inlet and sensor attachment threads) and through shaft (SDM series only)
A Housing for a shaft end, with end cover (SBFN and SBPN series only)
B Housing for a through shaft (SBFN and SBPN series only)
B.. Housing for a through shaft with a modified outer cover for a steam box connection (B1 to B99) (SBPN and SDM series only)
F Housing for the locating bearing position (drive side)
RA Housing for a CARB toroidal roller bearing (front side)
N9 Housing for inch thread connection arrangements (shaft, oil inlet and sensor attachment threads)
/P.. Paint variant according to customer specification (P01 to P999)

¹⁾ SNL ... TURP housings are included in the Designation system on **page 191**.

²⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Standard housing design

SKF provides an assortment of housings for paper machines. The four standard housing series that are covered in this publication include:

- SBFN series, for felt rolls
- SBPN series, for drying cylinders
- SDM series, for Yankee cylinders
- SNL ... TURP series, for drying cylinders and felt rolls

SBFN felt roll housings (→ **fig. 1**) are non-split housings. They consist of a housing body and two covers with integrated seals. The base has two oblong cast holes for attachment bolts. Oblong attachment bolt holes enable exact positioning of the housing during mounting to fully exploit the potential of CARB toroidal roller bearings to accommodate thermal elongation of the shaft. For dimensions and detailed specifications of SBFN housings, contact SKF.

SBPN drying cylinder housings (→ **fig. 2**) are non-split housings. They consist of a housing body and two covers with integrated seals. The base has four cast holes for attachment bolts. Housings for spherical roller bearings have open-ended attachment bolt holes. Housings for CARB toroidal roller bearings have oblong attachment bolt holes. They enable exact positioning of the housing during mounting to fully exploit the potential of CARB toroidal roller bearings to accommodate thermal elongation of the shaft.

SDM Yankee cylinder housings (→ **fig. 3**) are split housings consisting of a cap, base and two covers with integrated seals. The inboard cover is split to enable removal of the cover without removing the cap. To facilitate handling, the cap has two integral flanges, with a hole cast into each one. The base has four holes for attachment bolts. Housings for spherical roller bearings have drilled attachment bolt holes. Housings for CARB toroidal roller bearings have oblong attachment bolt holes. They enable exact positioning of the housing during mounting to fully exploit the potential of CARB toroidal roller bearings to accommodate thermal elongation of the shaft.

For information about SNL ... TURP housings, refer to the chapter *Split plummer block housings SNL 30, 31 and 32 series*, starting on

Fig. 1

SBFN felt roll housings

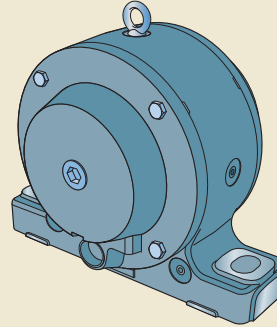


Fig. 2

SBPN drying cylinder housings

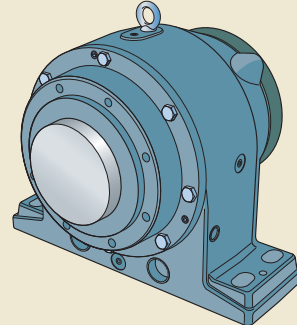


Fig. 3

SDM yankee cylinder housings

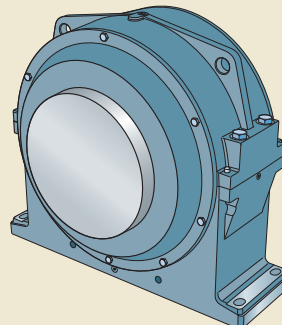
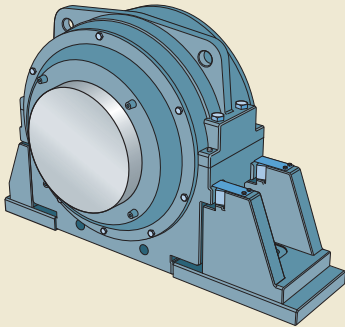


Fig. 4

SDM Yankee cylinder rocker housings



page 189. For information about other housings for felt rolls and drying cylinders such as SBF and SBP housings (predecessors to SBFN and SBPN housings respectively) as well as SDM Yankee cylinder housings on rockers (→ **fig. 4**), all of which can still be supplied by SKF, contact the SKF application engineering service.

Features and benefits

SKF housings for paper machines have the following features and benefits:

Optimized designs

The housing designs are developed together with leading OEMs and are optimized to accommodate the arduous operating conditions present in paper machines.

Effective and maintenance-free seals

SBFN and SBPN housings have upgraded labyrinth seals compared to their predecessors, providing extra protection against liquid contaminants during operation and high pressure wash-downs. The seals also virtually eliminate oil leaks, even for high oil flow rates.

SDM housings have a maintenance-free, non-contact gap-type seal incorporated into each cover.

Prepared for condition monitoring

The housings have tapped holes to attach condition monitoring sensors.

Mounting in different positions

It is possible to mount SBFN housings at angles of 0°, 90°, 180° and 270°.

Housing material

SKF housings for paper machines are made of grey cast iron.

Paint, corrosion protection

SBFN, SBPN and SDM housings are painted blue (RAL 5007) using a water based alkyd/ acryl paint. The paint protects the housings in accordance with ISO 12944-2, corrosivity category C2 (→ **page 36**). Housings can be repainted with most water or solvent based one- or two-component paints. The housings can also be supplied painted according to customer specification (→ *Housing variants*, **page 594**).

Unpainted surfaces are protected with a solventless rust inhibitor.

Dimension standards

SBFN, SBPN and SDM housings are not standardized either nationally or internationally.

Housing variants

In addition to standard design housings for paper machines, a number of variants are also available. For additional information, contact the SKF application engineering service.

Housings for connections with inch threads

SBFN, SBPN and SDM housings can be supplied with inch threads for connectors. Threads are in accordance with modified American National Form NS threads and all screws and bolts have UNC threads. Oil inlets and outlets are tapped with NPTF threads and holes for condition monitoring sensors have 5/16-18 UNC threads.

This housing variant is identified by the designation suffix N9, e.g. SBPN 3140 RAN9.

Housings with special paint

SBFN, SBPN and SDM housings can be supplied painted according to customer specification. The housings are identified by the designation suffix P, followed by a number, e.g. SBFN 3136 RA/P45.

Housings for steam joint connections

SBPN and SDM housings can be supplied with a modified cover to accommodate steam joint connections on through shafts (→ fig. 5). Various cover designs are available to suit the type of steam joint.

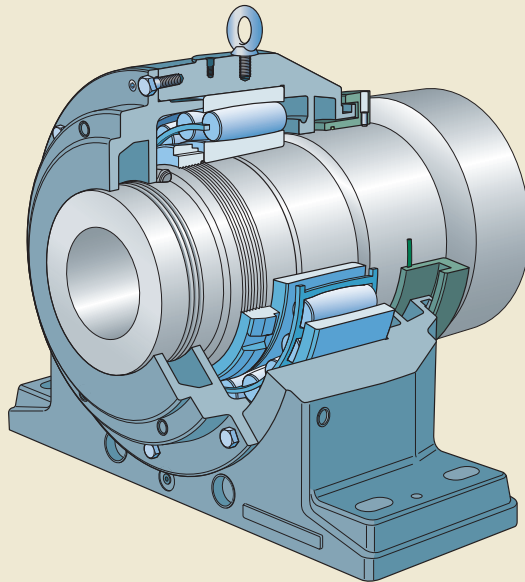
This housing variant is identified by the designation suffix B, followed by a number (from 1 to 99) indicating the cover design, e.g. SDM 30/670 B2RA.

Housings for the wet section

SBFN housings for the wet section are available on request. For additional information,

Fig. 5

Housing for steam joint connection, SBPN series



contact the SKF application engineering service.

Housings for rope sheaves

For rope sheave applications, SBPN drying cylinder housings can be supplied with one side machined to fit the rope sheave. For additional information, contact the SKF application engineering service.

Housings for four-bolt mounting

SBFN housings can be supplied with four holes cast into the base for attachment bolts. For additional information, contact the SKF application engineering service.

Sealing solutions

Table 1 provides an overview of the characteristics and suitability of the sealing solutions for SKF housings for paper machines. This information should be used as a guideline, which cannot substitute for testing a seal in its application.

SBFN (→ **fig. 6**) and SBPN (→ **fig. 7**) housings are equipped with labyrinth seals integrated in each cover. A labyrinth ring, bolted to the shaft, forms an axial labyrinth with the housing cover. Shafts used with SBFN housings require machined grooves that act as oil flingers. End covers are available for housings mounted at the end of a shaft.

SDM housings are equipped with gap-type seals and split oil flinger rings (→ **fig. 8**). The seals are integrated in the covers. The flinger ring is split and mounted directly onto the shaft. The ring is positioned axially by tightening the ring screw into a tapped hole on the shaft.

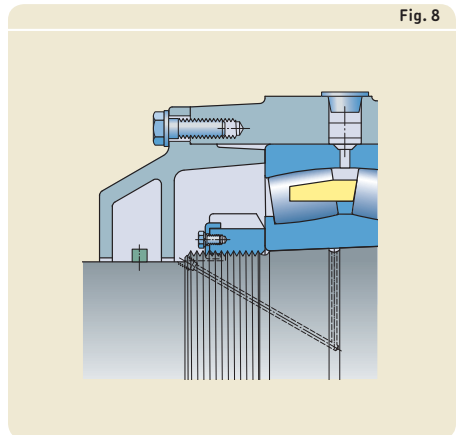
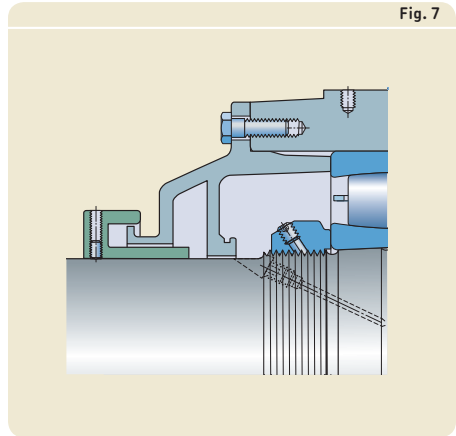
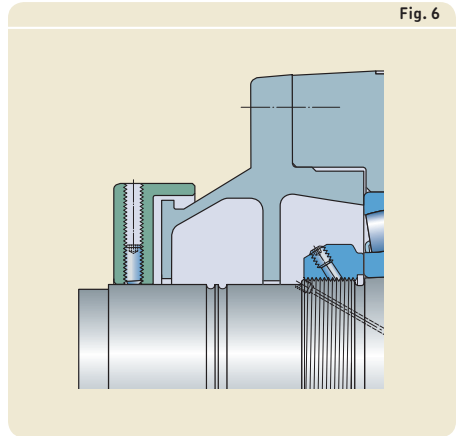
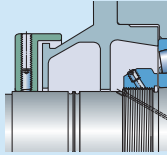
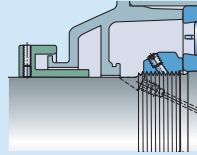


Table 1

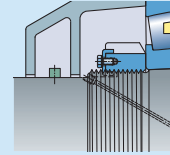
Seals for SKF housings for paper machines



SBFN



SBPN



SDM

Seal

| | | | |
|----------|----------------|----------------|---------------------------|
| Type | Labyrinth | Labyrinth | Gap seal with oil flinger |
| Material | grey cast iron | grey cast iron | grey cast iron, steel |

Application conditions and requirements

| | | | |
|----------------------------------|-------------------|-------------------|-------------------|
| Temperature [°C] | -40 to +200 | -40 to +200 | -40 to +200 |
| Temperature [°F] | -40 to +390 | -40 to +390 | -40 to +390 |
| Max. circumferential speed [m/s] | bearing dependent | bearing dependent | bearing dependent |
| Max. misalignment [°] | 0,5 | 0,5 | 0,3 |
| Low friction | ++ | ++ | ++ |
| Shaft tolerance class | h9 \oplus | h9 \oplus | h9 \oplus |
| Shaft roughness R_a [μ m] | $\leq 3,2$ | $\leq 3,2$ | $\leq 3,2$ |

Sealing suitability

| | | | |
|------------------|----|----|---|
| Dust | - | - | - |
| Fine particles | + | + | + |
| Coarse particles | + | + | + |
| Pressure-wash | + | + | - |
| Running water | ++ | ++ | - |

Symbols: ++ very suitable + suitable - limited suitability -- unsuitable

Design considerations

For general information about design considerations, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Housing support surface* (→ **page 45**)

For additional information about rolling bearings, refer to the product information available online at skf.com/bearings. For information about paper machine applications, refer to the SKF handbook *Rolling bearings in paper machines*.

Typical shaft-bearing combinations

Housings for paper machines can accommodate stepped shafts with a bearing on a tapered seat (→ **fig. 9**):

Locating and non-locating bearing positions

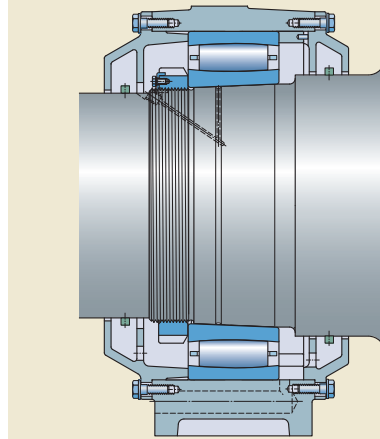
Housings for paper machines are available for both the locating and non-locating bearing positions:

- Housings with the designation suffix F are designed to accommodate spherical roller bearings in the locating bearing position on the drive side.
- Housings with the designation suffix RA are designed for CARB toroidal roller bearings in the non-locating bearing position on the front side.

SKF recommends using a spherical roller bearing on the drive side and a CARB toroidal roller bearing on the front side (→ *The SKF self-aligning bearing system*, **page 41**). However, other housing/bearing combinations are also available (→ **table 2**).

The extent to which a CARB toroidal roller bearing can accommodate axial displacement due to interference with the seal can be calculated. For assistance, contact the SKF application engineering service

Fig. 9



Load carrying capacity

For information about breaking loads for SBFN housings, contact SKF for more information. SBPN and SDM housings are intended for loads acting perpendicular toward the support surface.

Guideline values for the permissible loads for SDM housings, based on cap bolt strength, are provided in **table 3**. Housings for paper machines should always be supported over the entire base. Perpendicular loads toward the support surface are limited only by the bearing.

Table 2

Housing/bearing combinations

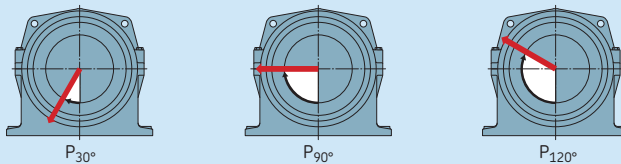
| Housing series | Locating bearing position (Drive side) | Non-locating bearing position (Front side) | | |
|---------------------------------|--|---|--|--|
| | spherical roller bearing with located outer ring | CARB bearing with located outer ring | spherical roller bearing with non-located outer ring | spherical roller bearing with located outer ring in housing on rockers |
| Felt roll housings | | | | |
| - SBFN | ✓ | ✓ | - ¹⁾ | - |
| - SBF | ✓ | - | ✓ ¹⁾ | - |
| Drying cylinder housings | | | | |
| - SBPN | ✓ | ✓ | - ¹⁾ | - |
| - SBP | ✓ | ✓ | ✓ ¹⁾ | ✓ ¹⁾ |
| Yankee cylinder housings | | | | |
| - SDM | ✓ | ✓ | ✓ ¹⁾ | ✓ ¹⁾²⁾ |

¹⁾ This housing/bearing combination is still available on request. However, SKF strongly recommends using a CARB toroidal roller bearing at the front side (→ *The SKF self-aligning bearing system*, page 41).

²⁾ Also available additionally with two support rockers.

Table 3

Permissible loads for SDM housings



| Housing Size | Permissible loads | | |
|---------------|-------------------|------------------|-------------------|
| | P _{30°} | P _{90°} | P _{120°} |
| - | kN | | |
| 3068 | 490 | 325 | 275 |
| 3168 | 590 | 295 | 245 |
| 3076 | 560 | 310 | 260 |
| 3084 | 650 | 305 | 255 |
| 3184 | - ¹⁾ | - ¹⁾ | - ¹⁾ |
| 3092 | 770 | 320 | 270 |
| 30/530 | 900 | 500 | 425 |
| 31/530 | 1 000 | 525 | 450 |
| 30/600 | 1 000 | 525 | 450 |
| 31/600 | - ¹⁾ | - ¹⁾ | - ¹⁾ |
| 30/670 | 1 090 | 475 | 400 |

¹⁾ Contact SKF.

Housings for paper machines SBFN, SBPN and SDM series

Additional housing support

When radial loads act at angles between 30° and 120° on SDM and SBPN housings or between 90° and 270° on SBFN housings, a stop should be provided to counter the load. The stop should be sufficiently strong to accommodate the loads acting parallel to the support surface (→ **fig. 10**).

Operating temperature

The housing material does not set any temperature limits, except for very low temperature applications where impact strength could be a factor. For additional information, contact the application engineering service.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature. Alternative paints that can accommodate higher temperatures are available on request (→ *Housing variants*, **page 594**).

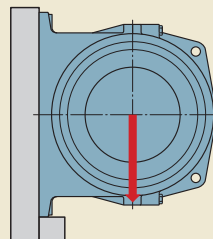
Operating speed

The permissible operating speed of the incorporated bearing is not limited by the housing or the seal.

Shaft specifications

The bearing seat on the shaft should comply with the tolerances required by the bearing (→ SKF handbook *Rolling bearings in paper machines*), which is typically to IT9 tolerance grade. A cylindricity tolerance of IT5/2 and a conicity tolerance of IT7/2 are recommended.

Fig. 10



Attachment bolt recommendations

In typical applications, 8.8 class hexagon head bolts, in accordance with ISO 4014, can be used together with washers.

For SBPN housings, M 24 or 1 UNC attachment bolts with a recommended tightening torque of 665 Nm are suitable. For SDM housings, refer to **table 4**.

Table 4

Torque values for cap bolts and attachment bolts for SDM housings

| Housing Size | Cap bolts Designation to ISO 262 grade 8.8 | Tightening torque | Attachment bolts Size | Tightening torque |
|---------------|--|-------------------|--------------------------|-------------------|
| – | – | Nm | – | Nm |
| 3068 | M 24 or 1 UNC | 350 | M 24 or 1 UNC | 665 |
| 3168 | M 24 or 1 UNC | 350 | M 24 or 1 UNC | 665 |
| 3076 | M 24 or 1 UNC | 350 | M 24 or 1 UNC | 665 |
| 3084 | M 30 or 1.1/4 UNC | 400 | M 24 or 1 UNC | 665 |
| 3184 | M 30 or 1.1/4 UNC | 400 | M 24 or 1 UNC | 665 |
| 3092 | M 30 or 1.1/4 UNC | 400 | M 24 or 1 UNC | 665 |
| 30/530 | M 30 or 1.1/4 UNC | 400 | M 30 or 1.1/4 UNC | 1 310 |
| 31/530 | M 30 or 1.1/4 UNC | 400 | M 30 or 1.1/4 UNC | 1 310 |
| 30/600 | M 30 or 1.1/4 UNC | 400 | M 30 or 1.1/4 UNC | 1 310 |
| 31/630 | M 36 or 1.1/2 UNC | 600 | M 30 or 1.1/4 UNC | 1 310 |
| 30/670 | M 36 or 1.1/2 UNC | 600 | M 30 or 1.1/4 UNC | 1 310 |

Lubrication

SBFN, SBPN and SDM housings are designed for high-flow circulating oil systems. The oil should be selected based on the operating conditions of the bearing. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

A circulating oil lubrication system typically has supply lines and drain lines. Circulation is normally produced with the aid of a pump. After the oil has passed through the bearing, it drains from the housing and flows into a tank where it is filtered and allowed to cool before being returned to the housing. Proper filtering and cooling of the oil are important factors for bearing and oil service life, and can improve machine performance as well as cost savings.

SBFN housings have two oil inlets and one oil outlet (→ **fig. 11**). One of the inlets as well as the outlet are plugged with plastic plugs. The other inlet, not in use, is plugged with a steel plug.

SBPN and SDM housings have two oil inlets, and two oil outlets on each side (→ **figs. 12 and 13**). SKF recommends using both outlets on the relevant side to sufficiently drain the large quantity of circulating oil. The tapped outlets have two plastic and two steel plugs. The steel plugs should remain on the side opposite the return pipes.

Fig. 11

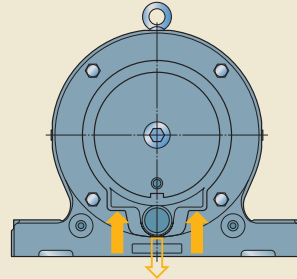


Fig. 12

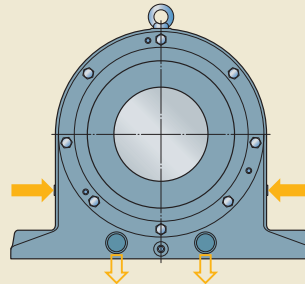
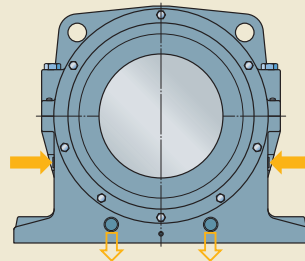


Fig. 13



Mounting

SKF housings for paper machines must be mounted properly by experienced, knowledgeable people using the correct tools.

SBFN housings can be mounted at angles of 0°, 90°, 180° and 270°. To prevent oil leakage, the arrow on the cover should always point upward.

For SBFN and SBPN housings, the interface between the housing and covers should be coated with an oil-resistant sealant.

SBPN and SDM housings should be mounted so that the oil outlets with the plastic plugs are facing outward.

For additional information, contact the SKF application engineering service. SKF can also assist during mounting or provide a complete installation service

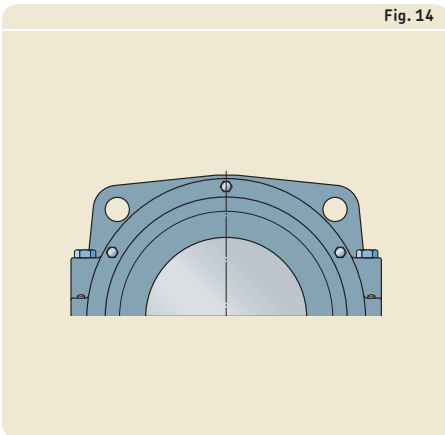
Eye bolts and lifting holes

SBFN and SBPN housings are supplied with an eye bolt on top. SDM housings have two flanges on the cap with a cast hole in each (→ **fig. 14**).

Cap bolt torque specifications

Cap bolts should be tightened to the recommended torque values listed in **table 4** on **page 601**).

Fig. 14



Condition monitoring

SBFN (→ **fig. 15**), SBPN (→ **fig. 16**) and SDM housings (→ **fig. 17**) have tapped holes (M8) for attaching condition monitoring sensors.

Housings with inch thread connections, designation suffix N9, have holes for attaching condition monitoring sensors with 5/16-18 UNC threads.

Fig. 15

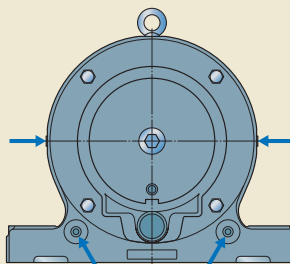


Fig. 16

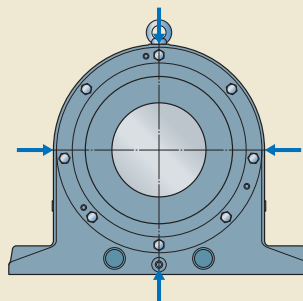
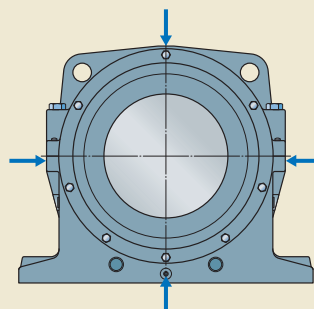


Fig. 17



Accessories

The following accessories are available for housings for paper machines:

- central lubrication systems, e.g. SKF Flowline
- condition monitoring sensors

For additional information, contact SKF.

Ordering information

SKF housings for paper machines are supplied complete with covers, seals and plugs. The bearings must be ordered separately.

Order example

Two housings with inch thread dimensions are required for a felt roll assembly – one for a 22218 EK/C3 spherical roller bearing in the locating bearing position, and one for a C 22218 K/C3 CARB toroidal roller bearing in the non-locating bearing position at the end of a shaft. The following items should be ordered (in addition to the bearings):

- 1 SBFN 2218 BFN9
- 1 SBFN 2218 ARAN9

Two housings are required for a drying cylinder assembly – one for a 23144 CCK/C4W33 spherical roller bearing in the locating bearing position, and one for a C 3144 K/C4 CARB toroidal roller bearing in the non-locating bearing position at the end of a shaft. The housings require a special paint that can accommodate special customer requirements. The following items should be ordered (in addition to the bearings):

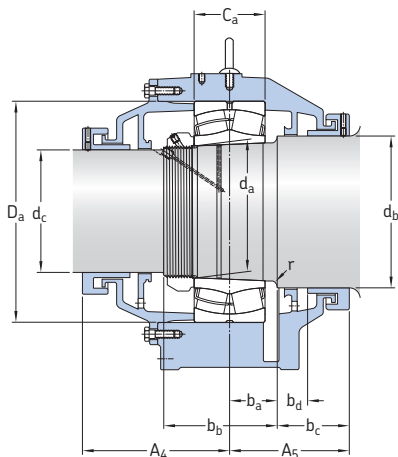
- 1 SBPN 3144 BF/P..
- 1 SBPN 3144 ARA/P..

Two housings are required for a Yankee cylinder – one for a 230/670 CAK/C084W33 spherical roller bearing in the locating bearing position, and one for a C 30/670 KM/C084 CARB toroidal roller bearing in the non-locating bearing position. The following items should be ordered (in addition to the bearings):

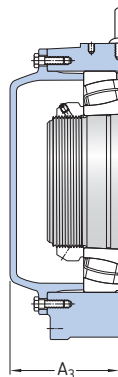
- 1 SDM 30/670 F
- 1 SDM 30/670 RA

13.1 SBPN drying cylinder housings

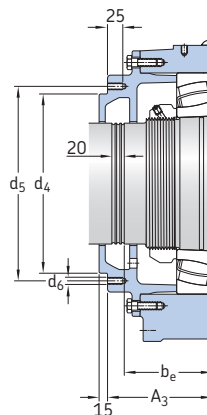
d_a 180 – 320 mm



Housing for through shaft
(designation suffix B)



Housing for shaft end
(designation suffix A)

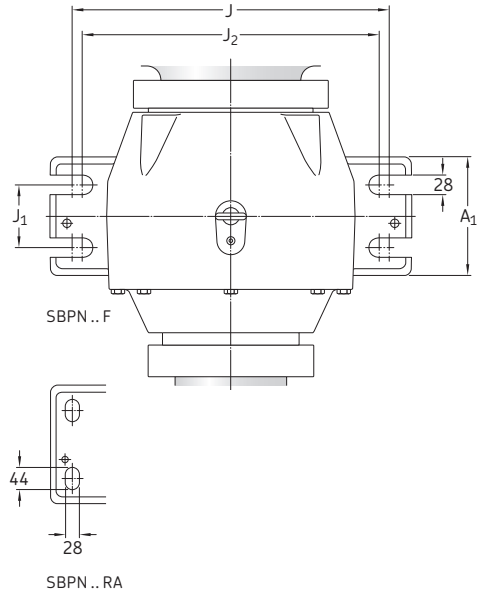
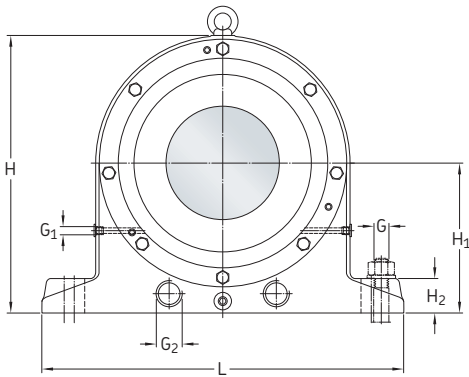


Housing for steam joint
connection
(designation suffix B42)

| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Lock nut ²⁾ | Dimensions | | | | | | | | | | | | | |
|-------------------------|-----------------------------|--|------------------------|------------|-------|---------|-------|-------|-------|-----|-------|-------|-----|-------|-------|-----|--|
| | | | | Housing | | Housing | | | | | | | | | | | |
| mm | – | – | – | A_1 | A_3 | A_4 | A_5 | C_a | D_a | H | H_1 | H_2 | J | J_1 | J_2 | L | |
| 180 | SBPN 3136 F SBPN 3136 RA | 23136 CCK/W33 C 3136 K | KMT 36 | 170 | 155 | 230 | 195 | 96 | 300 | 400 | 220 | 50 | 440 | 90 | 424 | 520 | |
| 200 | SBPN 3140 F SBPN 3140 RA | 23140 CCK/W33 C 3140 K | KMT 40 | 200 | 165 | 240 | 200 | 112 | 340 | 440 | 240 | 55 | 485 | 115 | 469 | 570 | |
| 220 | SBPN 3144 F SBPN 3144 RA | 23144 CCK/W33 C 3144 K | KMT 44 | 235 | 175 | 255 | 200 | 120 | 370 | 490 | 265 | 60 | 550 | 135 | 534 | 640 | |
| 240 | SBPN 3148 F SBPN 3148 RA | 23148 CCK/W33 C 3148 K | KMT 48 | 250 | 190 | 265 | 215 | 128 | 400 | 535 | 285 | 65 | 580 | 150 | 564 | 680 | |
| 260 | SBPN 3152 F SBPN 3152 RA | 23152 CCK/W33 C 3152 K | KMT 52 | 265 | 200 | 280 | 225 | 144 | 440 | 570 | 310 | 75 | 620 | 160 | 604 | 720 | |
| 300 | SBPN 3160 F SBPN 3160 RA | 23160 CCK/W33 C 3160 K | KMT 60 | 300 | 215 | 290 | 235 | 160 | 500 | 630 | 335 | 85 | 720 | 180 | 704 | 820 | |
| 320 | SBPN 3164 F SBPN 3164 RA | 23164 CCK/W33 C 3164 KM | KMT 64 | 320 | 225 | 300 | 255 | 176 | 540 | 680 | 360 | 85 | 760 | 200 | 744 | 880 | |

¹⁾ 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

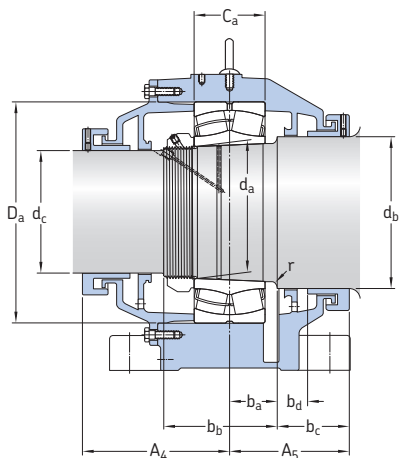
²⁾ As an alternative to KMT lock nuts, it is also possible to use KML or M lock nuts with a locking device.



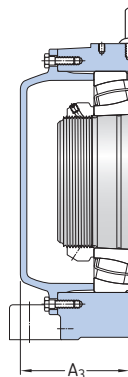
| Shaft diameter d_a | Dimensions Housing | | | Shaft | | | | | | | | | Mass Housing | | | | |
|-------------------------|--------------------|-------|---------|-------|-------|---------------|-------|-------|-------|-------|----------|-------|--------------|-------|----|-----|-----|
| | G | G_1 | G_2 | b_a | b_b | b_c min. | b_d | b_e | d_b | d_c | d_d | d_4 | d_5 | d_6 | r | A | B |
| mm | - | | | mm | | | | | | | | | - | | kg | | |
| 180 | M 24 | G 1/2 | G 1.1/4 | 65 | 150 | 130 | 55 | 128 | 200 | 160 | M 180x3 | 225 | 250 | M 12 | 5 | 118 | 115 |
| 200 | M 24 | G 1/2 | G 1.1/4 | 75 | 170 | 125 | 50 | 138 | 230 | 180 | M 200x3 | 265 | 290 | M 12 | 8 | 133 | 147 |
| 220 | M 24 | G 1/2 | G 1.1/4 | 75 | 190 | 125 | 50 | 148 | 250 | 200 | Tr 220x4 | 305 | 330 | M 12 | 8 | 189 | 205 |
| 240 | M 24 | G 1/2 | G 1.1/4 | 85 | 205 | 130 | 55 | 163 | 275 | 220 | Tr 240x4 | 335 | 360 | M 12 | 8 | 244 | 256 |
| 260 | M 24 | G 1/2 | G 1.1/2 | 95 | 225 | 130 | 55 | 173 | 300 | 240 | Tr 260x4 | 355 | 380 | M 12 | 8 | 259 | 273 |
| 300 | M 24 | G 1/2 | G 1.1/2 | 105 | 250 | 130 | 55 | 188 | 340 | 280 | Tr 300x4 | 435 | 460 | M 12 | 8 | 342 | 358 |
| 320 | M 24 | G 1/2 | G 1.1/2 | 115 | 270 | 140 | 65 | 198 | 360 | 300 | Tr 320x5 | 455 | 480 | M 12 | 8 | 445 | 465 |

13.2 SBPN drying cylinder housings – short, wide base

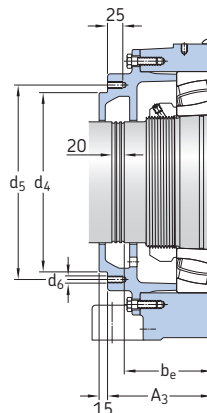
d_a 180 – 320 mm



Housing for through shaft
(designation suffix B)



Housing for shaft end
(designation suffix A)

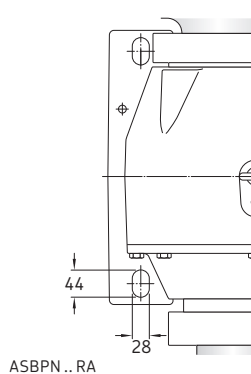
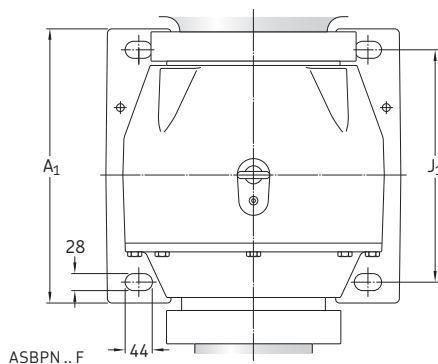
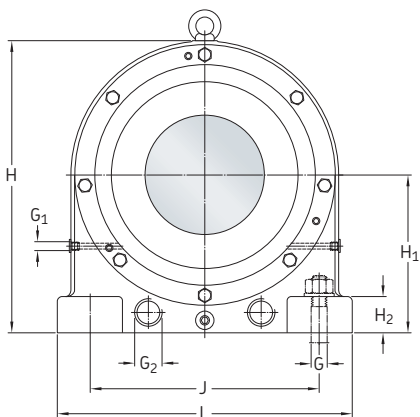


Housing for steam joint
connection
(designation suffix B42)

| Shaft diameter d_a | Housing Designation | Appropriate parts | | Dimensions | | | | | | | | | | | | |
|-------------------------|---|----------------------------|------------------------|------------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|---|---|
| | | Bearing ¹⁾ | Lock nut ²⁾ | Housing | | A ₁ | A ₃ | A ₄ | A ₅ | C _a | D _a | H | H ₁ | H ₂ | J | L |
| mm | - | - | - | mm | | | | | | | | | | | | |
| 180 | ASBPN 3136 F ASBPN 3136 RA | 23136 CCK/W33 C 3136 K | KMT 36 | 350 | 155 | 230 | 195 | 96 | 300 | 400 | 220 | 50 | 320 | 400 | | |
| 220 | ASBPN 3144 F ASBPN 3144 RA | 23144 CCK/W33 C 3144 K | KMT 44 | 410 | 175 | 255 | 200 | 120 | 370 | 490 | 265 | 60 | 380 | 490 | | |
| 260 | ASBPN 3152 F ASBPN 3152 RA | 23152 CCK/W33 C 3152 K | KMT 52 | 445 | 200 | 280 | 225 | 144 | 440 | 570 | 310 | 75 | 470 | 580 | | |
| 300 | ASBPN 3160 F ASBPN 3160 RA | 23160 CCK/W33 C 3160 K | KMT 60 | 480 | 215 | 290 | 235 | 160 | 500 | 630 | 335 | 85 | 560 | 670 | | |
| 320 | ASBPN 3164 F ASBPN 3164 RA | 23164 CCK/W33 C 3164 KM | KMT 64 | 500 | 225 | 300 | 255 | 176 | 540 | 680 | 360 | 85 | 580 | 710 | | |

¹⁾ 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ As an alternative to KMT lock nuts, it is also possible to use KML or M lock nuts with a locking device.

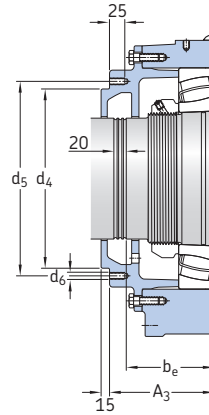
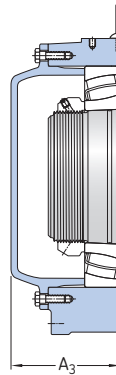
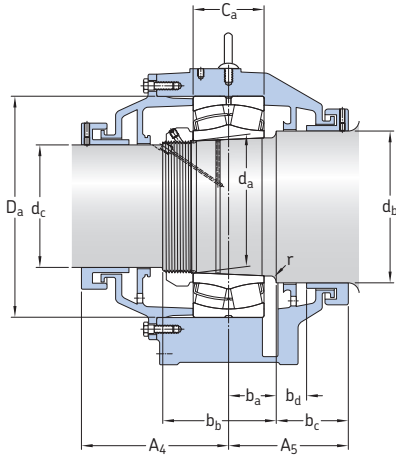


| Shaft diameter d_a | Dimensions Housing | | | Shaft | | | | | | | | | | | Mass Housing kg | |
|-------------------------|--------------------|----------------|----------------|----------------|----------------|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------|---------------|
| | G | G ₁ | G ₂ | b _a | b _b | b _c min. | b _d | b _e | d _b | d _c | d _d | d ₄ | d ₅ | d ₆ | | r |
| mm | - | | | mm | | | | | | | | | | | | |
| 180 | M 24 | G 1/2 | G 1.1/4 | 65 | 150 | 130 | 55 | 128 | 200 | 160 | M 180x3 | 225 | 250 | M 12 | 5 | ¹⁾ |
| 220 | M 24 | G 1/2 | G 1.1/4 | 75 | 190 | 125 | 50 | 148 | 250 | 200 | Tr 220x4 | 305 | 330 | M 12 | 8 | 203 |
| 260 | M 24 | G 1/2 | G 1.1/2 | 95 | 225 | 130 | 55 | 173 | 300 | 240 | Tr 260x4 | 355 | 380 | M 12 | 8 | ¹⁾ |
| 300 | M 24 | G 1/2 | G 1.1/2 | 105 | 250 | 130 | 55 | 188 | 340 | 280 | Tr 300x4 | 435 | 460 | M 12 | 8 | ¹⁾ |
| 320 | M 24 | G 1/2 | G 1.1/2 | 115 | 270 | 140 | 65 | 198 | 360 | 300 | Tr 320x5 | 455 | 480 | M 12 | 8 | ¹⁾ |

¹⁾ Contact SKF for missing values.

13.3 SBPN drying cylinder housings, with inch connection threads

d_2 180 – 320 mm
7.087 – 12.598 in.



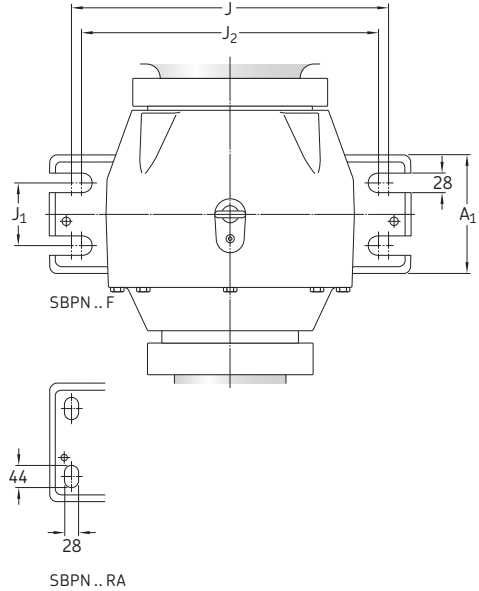
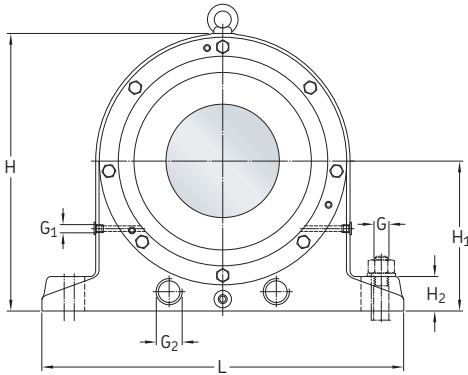
Housing for through shaft
(designation suffix B)

Housing for shaft end
(designation suffix A)

Housing for steam joint
connection
(designation suffix B42)

| Shaft diameter d_a | Housing Designation | Appropriate parts | | | Dimensions | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---------------------------------|----------------------------|----------|--------------|------------|-----|-----|-----|-----|-----|-----|-----|----------------|-----|----------------|-----|-----|--|----------------|--|----------------|--|----|--|--|
| | | Bearing ¹⁾ | Lock nut | Locking clip | Housing | | C_a | | D_a | | H | | H ₁ | | H ₂ | | J | | J ₁ | | J ₂ | | L | | |
| mm/in. | – | – | – | – | mm | | mm | | mm | | mm | | mm | | mm | | mm | | mm | | mm | | mm | | |
| 180 7.087 | SBPN 3136 FN9 SBPN 3136 RAN9 | 23136 CCK/W33 C 3136 K | N 036 | W 036 | 170 | 155 | 230 | 195 | 96 | 300 | 400 | 220 | 50 | 440 | 90 | 424 | 520 | | | | | | | | |
| 200 7.874 | SBPN 3140 FN9 SBPN 3140 RAN9 | 23140 CCK/W33 C 3140 K | N 040 | W 040 | 200 | 165 | 240 | 200 | 112 | 340 | 440 | 240 | 55 | 485 | 115 | 469 | 570 | | | | | | | | |
| 220 8.661 | SBPN 3144 FN9 SBPN 3144 RAN9 | 23144 CCK/W33 C 3144 K | N 044 | W 044 | 235 | 175 | 255 | 200 | 120 | 370 | 490 | 265 | 60 | 550 | 135 | 534 | 640 | | | | | | | | |
| 240 9.449 | SBPN 3148 FN9 SBPN 3148 RAN9 | 23148 CCK/W33 C 3148 K | N 048 | PL 48 | 250 | 190 | 265 | 215 | 128 | 400 | 535 | 285 | 65 | 580 | 150 | 564 | 680 | | | | | | | | |
| 260 10.236 | SBPN 3152 FN9 SBPN 3152 RAN9 | 23152 CCK/W33 C 3152 K | N 052 | PL 52 | 265 | 200 | 280 | 225 | 144 | 440 | 570 | 310 | 75 | 620 | 160 | 604 | 720 | | | | | | | | |
| 300 11.811 | SBPN 3160 FN9 SBPN 3160 RAN9 | 23160 CCK/W33 C 3160 K | N 060 | PL 60 | 300 | 215 | 290 | 235 | 160 | 500 | 630 | 335 | 85 | 720 | 180 | 704 | 820 | | | | | | | | |
| 320 12.598 | SBPN 3164 FN9 SBPN 3164 RAN9 | 23164 CCK/W33 C 3164 KM | N 064 | PL 64 | 320 | 225 | 300 | 255 | 176 | 540 | 680 | 360 | 85 | 760 | 200 | 744 | 880 | | | | | | | | |

¹⁾ 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.



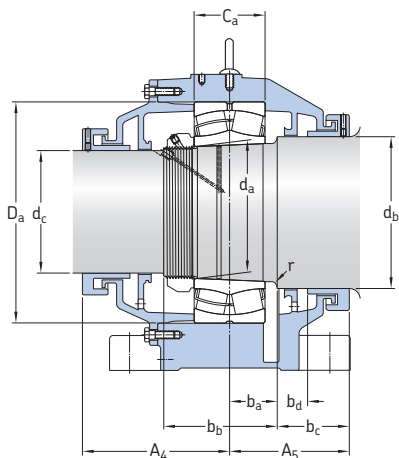
| Shaft diameter d_a | Dimensions Housing | | | Shaft | | | | | | | | | | Mass Housing | | | | | |
|-------------------------|--------------------|----------|------------|-------|-------|---------------|-------|-------|-------|-------|--------|------------------|-------|--------------|-------|---|-----|-------|--|
| | G | G_1 | G_2 | b_a | b_b | b_c min. | b_d | b_e | d_b | d_c | d_d | Threads/ inch | d_4 | d_5 | d_6 | r | A | B | |
| mm/in. | - | | | mm | | | | | | | | | | in. | | - | | mm kg | |
| 180 7.087 | 1 UNC | NPTF 1/2 | NPTF 1.1/4 | 65 | 150 | 130 | 55 | 128 | 200 | 160 | 7.063 | 8 | 225 | 250 | M12 | 5 | 118 | 115 | |
| 200 7.874 | 1 UNC | NPTF 1/2 | NPTF 1.1/4 | 75 | 170 | 125 | 50 | 138 | 230 | 180 | 7.844 | 8 | 265 | 290 | M12 | 8 | 133 | 147 | |
| 220 8.661 | 1 UNC | NPTF 1/2 | NPTF 1.1/4 | 75 | 190 | 125 | 50 | 148 | 250 | 200 | 8.625 | 8 | 305 | 330 | M12 | 8 | 189 | 205 | |
| 240 9.449 | 1 UNC | NPTF 1/2 | NPTF 1.1/4 | 85 | 205 | 130 | 55 | 163 | 275 | 220 | 9.439 | 6 | 335 | 360 | M12 | 8 | 244 | 256 | |
| 260 10.236 | 1 UNC | NPTF 1/2 | NPTF 1.1/2 | 95 | 225 | 130 | 55 | 173 | 300 | 240 | 10.189 | 6 | 355 | 380 | M12 | 8 | 259 | 273 | |
| 300 11.811 | 1 UNC | NPTF 1/2 | NPTF 1.1/2 | 105 | 250 | 130 | 55 | 188 | 340 | 280 | 11.781 | 6 | 435 | 460 | M12 | 8 | 342 | 358 | |
| 320 12.598 | 1 UNC | NPTF 1/2 | NPTF 1.1/2 | 115 | 270 | 140 | 65 | 198 | 360 | 300 | 12.559 | 6 | 455 | 480 | M12 | 8 | 445 | 465 | |

13.3

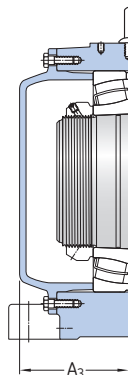
13.4 SBPN drying cylinder housings, with inch connection threads – short, wide base

d 180 – 320 mm

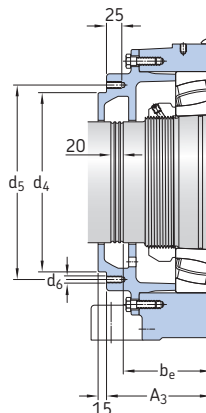
7.087 – 12.598 in.



Housing for through shaft
(designation suffix B)



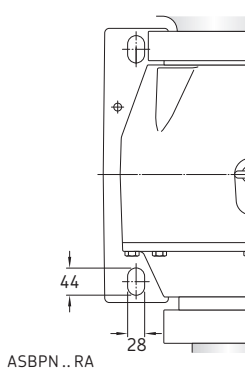
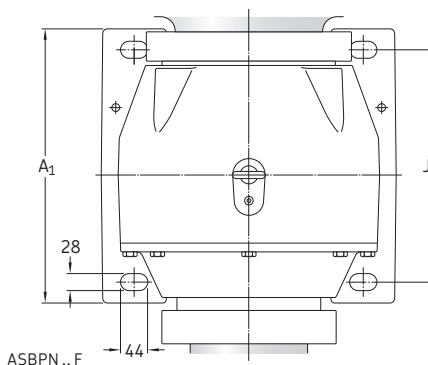
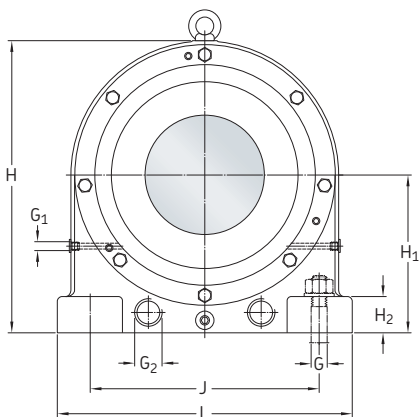
Housing for shaft end
(designation suffix A)



Housing for steam joint
connection
(designation suffix B42)

| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Lock nut | Locking clip | Dimensions | | | | | | | | | | | | |
|-------------------------|---|--|----------|--------------|------------|-----|-------|-------|-------|-------|-------|-------|----|-------|-------|-----|-------|
| | | | | | Housing | | A_1 | A_3 | A_4 | A_5 | C_a | D_a | H | H_1 | H_2 | J | J_1 |
| mm/in. | – | – | – | – | mm | | | | | | | | | | | | |
| 180 7.087 | ASBPN 3136 FN9 ASBPN 3136 RAN9 | 23136 CCK/W33 N036 C 3136 K | N036 | W036 | 350 | 155 | 230 | 195 | 96 | 300 | 400 | 220 | 50 | 320 | 280 | 400 | |
| 220 8.661 | ASBPN 3144 FN9 ASBPN 3144 RAN9 | 23144 CCK/W33 N044 C 3144 K | N044 | W044 | 410 | 175 | 255 | 200 | 120 | 370 | 490 | 265 | 60 | 380 | 340 | 490 | |
| 260 10.236 | ASBPN 3152 FN9 ASBPN 3152 RAN9 | 23152 CCK/W33 N052 C 3152 K | N052 | PL 52 | 445 | 200 | 280 | 225 | 144 | 440 | 570 | 310 | 75 | 470 | 375 | 580 | |
| 300 11.811 | ASBPN 3160 FN9 ASBPN 3160 RAN9 | 23160 CCK/W33 N060 C 3160 K | N060 | PL 60 | 480 | 215 | 290 | 235 | 160 | 500 | 630 | 335 | 85 | 560 | 410 | 670 | |
| 320 12.598 | ASBPN 3164 FN9 ASBPN 3164 RAN9 | 23164 CCK/W33 N064 C 3164 KM | N064 | PL 64 | 500 | 225 | 300 | 255 | 176 | 540 | 680 | 360 | 85 | 580 | 430 | 710 | |

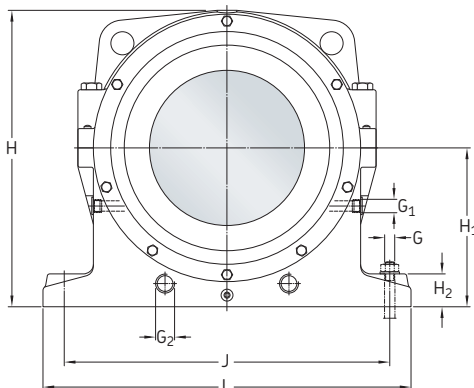
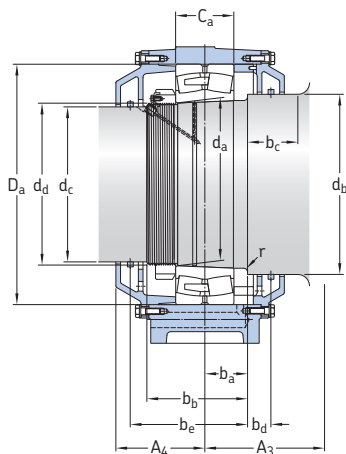
¹⁾ 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.



| Shaft diameter d_a | Dimensions Housing | | | Shaft | | | | | | | | | | | Threads/ inch | Mass Housing | | | |
|-------------------------|--------------------|----------|------------|-------|-------|---------------|-------|-------|-------|-------|--------|-------|-------|-------|------------------|--------------|-----|--|----|
| | G | G_1 | G_2 | b_a | b_b | b_c min. | b_d | b_e | d_b | d_c | d_d | d_4 | d_5 | d_6 | | r | kg | | |
| mm/in. | - | | | mm | | | | | | | | | | | - | mm | | | kg |
| 180 7.087 | 1 UNC | NPTF 1/2 | NPTF 1.1/4 | 65 | 150 | 130 | 55 | 128 | 200 | 160 | 7.063 | 8 | 225 | 250 | M12 | 5 | 1) | | |
| 220 8.661 | 1 UNC | NPTF 1/2 | NPTF 1.1/4 | 75 | 190 | 125 | 50 | 148 | 250 | 200 | 8.625 | 8 | 305 | 330 | M12 | 8 | 203 | | |
| 260 10.236 | 1 UNC | NPTF 1/2 | NPTF 1.1/2 | 95 | 225 | 130 | 55 | 173 | 300 | 240 | 10.189 | 6 | 355 | 380 | M12 | 8 | 1) | | |
| 300 11.811 | 1 UNC | NPTF 1/2 | NPTF 1.1/2 | 105 | 250 | 130 | 55 | 188 | 340 | 280 | 11.781 | 6 | 435 | 460 | M12 | 8 | 1) | | |
| 320 12.598 | 1 UNC | NPTF 1/2 | NPTF 1.1/2 | 115 | 270 | 140 | 65 | 198 | 360 | 300 | 12.559 | 6 | 455 | 480 | M12 | 8 | 1) | | |

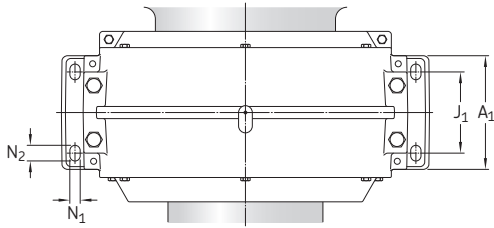
1) Contact SKF for missing values.

13.5 SDM Yankee cylinder housings d 340 – 600 mm

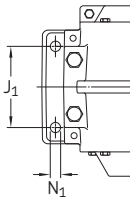


| Shaft diam- eter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Lock nut | Locking clip | Dimensions Housing | | | | | | | | | | |
|---------------------------------|---|--|-----------|---------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|
| | | | | | A_1 | A_3 | A_4 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L |
| mm | – | – | | | mm | | | | | | | | | | |
| 340 | SDM 3068 F SDM 3068 RA | 23068 CCK/W33 C 3068 K | HM 3068 | MS 3068-64 | 260 | 195 | 210 | 133 | 520 | 650 | 345 | 75 | 760 | 170 | 860 |
| | SDM 3168 F SDM 3168 RA | 23168 CCK/W33 C 3168 KM | HM 3068 | MS 3068-64 | 320 | 210 | 255 | 190 | 580 | 740 | 400 | 80 | 800 | 180 | 900 |
| 380 | SDM 3076 F SDM 3076 RA | 23076 CCK/W33 C 3076 K | HM 3076 | MS 3080-76 | 260 | 200 | 220 | 135 | 560 | 710 | 380 | 80 | 790 | 170 | 890 |
| 420 | SDM 3084 F SDM 3084 RA | 23084 CAK/W33 C 3084 KM | HM 3084 | MS 3084 | 280 | 205 | 230 | 150 | 620 | 765 | 410 | 85 | 840 | 180 | 950 |
| | SDM 3184 F SDM 3184 RA | 23184 CKJ/W33 C 3184 KM | HM 3084 | MS 3084 | 400 | 290 | 310 | 224 | 700 | 910 | 480 | 85 | 1045 | 280 | 1165 |
| 460 | SDM 3092 F SDM 3092 RA | 23092 CAK/W33 C 3092 KM/C3 | HM 3092 | MS 3092-88 | 310 | 220 | 250 | 163 | 680 | 850 | 450 | 85 | 970 | 200 | 1090 |
| 530 | SDM 30/530 F SDM 30/530 RA | 230/530 CAK/W33 C 30/530 KM | HM 30/530 | MS 30/600-530 | 360 | 240 | 270 | 185 | 780 | 960 | 510 | 85 | 1090 | 240 | 1200 |
| | SDM 31/530 F SDM 31/530 RA | 231/530 CAK/W33 C 31/530 KM | HM 30/530 | MS 30/600-530 | 410 | 325 | 355 | 272 | 870 | 1 065 | 550 | 85 | 1220 | 240 | 1360 |
| 600 | SDM 30/600 F SDM 30/600 RA | 230/600 CAK/W33 C 30/600 KM/C3 | HM 30/600 | MS 30/600-530 | 410 | 325 | 355 | 200 | 870 | 1 065 | 550 | 85 | 1220 | 240 | 1360 |

¹⁾ 23(000) and 23(0)/(000) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.



SDM..RA



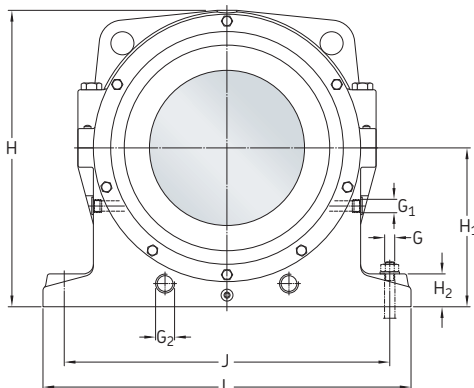
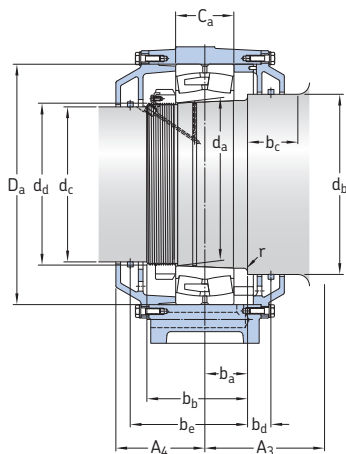
SDM..F

| Shaft diameter | Dimensions Housing | | | | | Shaft | | | | | | | | Mass Housing | | |
|----------------|--------------------|-------|-----|-------|--------|-------|-------|---------------|-------|-------|-------|-------|---------|--------------|------|----|
| | N_1 | N_2 | G | G_1 | G_2 | b_a | b_b | b_c min. | b_d | b_e | b_b | d_c | d_d | r | mm | kg |
| mm | mm | - | | | | mm | | | | | | | | - | mm | kg |
| 340 | 30 | 50 | M24 | G1 | G1.1/4 | 95 | 225 | 130 | 65 | 270 | 380 | 320 | Tr340x5 | 10 | 386 | |
| | 30 | 50 | M24 | G1 | G2 | 130 | 295 | 110 | 48 | 353 | 390 | 320 | Tr340x5 | 10 | 572 | |
| 380 | 30 | 50 | M24 | G1 | G1.1/4 | 95 | 230 | 135 | 70 | 280 | 420 | 360 | Tr380x5 | 10 | 475 | |
| 420 | 30 | 50 | M24 | G1 | G1.1/2 | 110 | 260 | 130 | 60 | 305 | 465 | 400 | Tr420x5 | 10 | 494 | |
| | 30 | 50 | M24 | G1 | G1.1/2 | 180 | 375 | 150 | 70 | 450 | 465 | 400 | Tr420x5 | 10 | 882 | |
| 460 | 30 | 50 | M24 | G1 | G1.1/2 | 110 | 270 | 140 | 70 | 320 | 510 | 430 | Tr460x5 | 10 | 750 | |
| 530 | 38 | 58 | M30 | G1 | G2 | 135 | 300 | 140 | 65 | 365 | 580 | 500 | Tr530x6 | 10 | 914 | |
| | 38 | 58 | M30 | G1 | G2 | 195 | 425 | 160 | 85 | 505 | 590 | 500 | Tr530x6 | 10 | 1530 | |
| 600 | 38 | 58 | M30 | G1 | G2 | 160 | 345 | 195 | 120 | 470 | 660 | 560 | Tr600x6 | 15 | 1550 | |

13.5

13.5 SDM Yankee cylinder housings

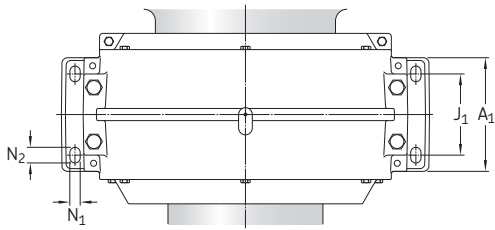
d 630 – 670 mm



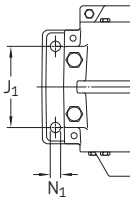
| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Lock nut | Locking clip | Dimensions | | | | | | | | | | |
|-------------------------|---|--|-----------|--------------|------------|---------------|---------------|-------|-------|---------------|-------|---------------|------|-------|------|
| | | | | | Housing | | | | | | | | | | |
| | | | | | A_1 | A_3 | A_4 | C_a | D_a | H | H_1 | H_2 | J | J_1 | L |
| mm | – | – | | | mm | | | | | | | | | | |
| 630 | SDM 31/630 F SDM 31/630 RA | 231/630 CAK/C3W33 C 31/630 KMB/HA3C4 | HM 31/630 | MS 31/630 | 510 | ²⁾ | ²⁾ | 315 | 1 030 | ²⁾ | 700 | ²⁾ | 1330 | 350 | 1500 |
| 670 | SDM 30/670 F SDM 30/670 RA | 230/670 CAK/W33 C 30/670 KM/HA3C4 | HM 30/670 | MS 30/670 | 420 | 300 | 330 | 230 | 980 | 1180 | 620 | 85 | 1260 | 300 | 1380 |

¹⁾ 23(000) and 23(0)/(000) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ Contact SKF for missing values.



SDM..RA



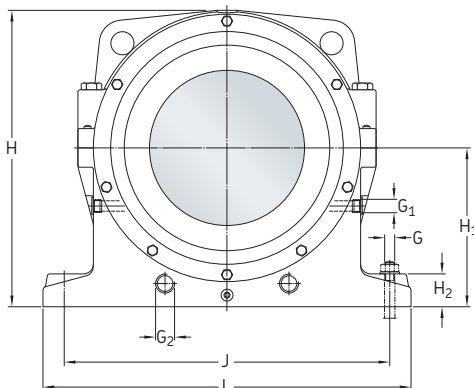
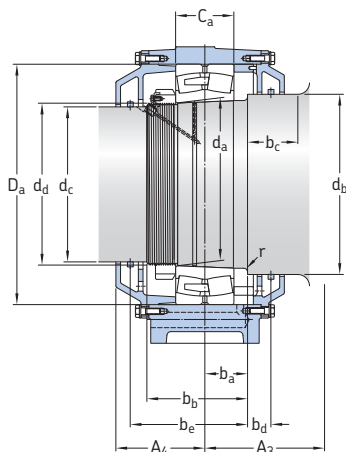
SDM..F

| Shaft diameter | Dimensions Housing | | | | | Shaft | | | | | | | | Mass Housing | |
|----------------|--------------------|-------|-----|-------|-------|-------|-------|---------------|-------|-------|-------|-------|---------|--------------|-------|
| | N_1 | N_2 | G | G_1 | G_2 | b_a | b_b | b_c min. | b_d | b_e | d_b | d_c | d_d | r | mm |
| 630 | 38 | 58 | M30 | G1 | G2 | 1) | 1) | 1) | 1) | 1) | 710 | 590 | Tr630x6 | 1) | 2 420 |
| 670 | 38 | 58 | M30 | G1 | G2 | 190 | 395 | 150 | 65 | 475 | 750 | 630 | Tr670x6 | 15 | 1 420 |

¹⁾ Contact SKF for missing values.

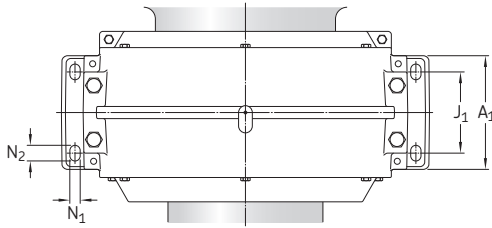
13.6 SDM Yankee cylinder housings, with inch connection threads

d 340 – 600 mm
13.368 – 23.622 in.

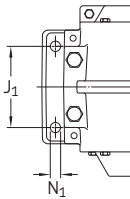


| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Lock nut | Locking clip | Dimensions | | | | | | | | | | |
|-------------------------|---|---|----------|--------------|----------------|----------------|----------------|----------------|----------------|------|----------------|----------------|------|----------------|------|
| | | | | | A ₁ | A ₃ | A ₄ | C _a | D _a | H | H ₁ | H ₂ | J | J ₁ | L |
| mm/in. | – | – | | | mm | | | | | | | | | | |
| 340 13.368 | SDM 3068 FN9 SDM 3068 RAN9 | 23068 CCK/W33 C 3068 K | N 068 | PL 68 | 260 | 195 | 210 | 133 | 520 | 650 | 345 | 75 | 760 | 170 | 860 |
| | SDM 3168 FN9 SDM 3168 RAN9 | 23168 CCK/W33 C 3168 KM | N 068 | PL 68 | 320 | 210 | 255 | 190 | 580 | 740 | 400 | 80 | 800 | 180 | 900 |
| 380 14.961 | SDM 3076 FN9 SDM 3076 RAN9 | 23076 CCK/W33 C 3076 K | N 076 | PL 76 | 260 | 200 | 220 | 135 | 560 | 710 | 380 | 80 | 790 | 170 | 890 |
| 420 16.535 | SDM 3084 FN9 SDM 3084 RAN9 | 23084 CAK/W33 C 3084 KM | N 084 | PL 84 | 280 | 205 | 230 | 150 | 620 | 765 | 410 | 85 | 840 | 180 | 950 |
| | SDM 3184 FN9 SDM 3184 RAN9 | 23184 CKJ/W33 C 3184 KM | N 084 | PL 84 | 400 | 290 | 310 | 224 | 700 | 910 | 480 | 85 | 1045 | 280 | 1165 |
| 460 18.110 | SDM 3092 FN9 SDM 3092 RAN9 | 23092 CAK/W33 C 3092 KM/C3 | N 092 | PL 92 | 310 | 220 | 250 | 163 | 680 | 850 | 450 | 85 | 970 | 200 | 1090 |
| 530 20.866 | SDM 30/530 FN9 SDM 30/530 RAN9 | 230/530 CAK/W33 C 30/530 KM | N 530 | PL 530 | 360 | 240 | 270 | 185 | 780 | 960 | 510 | 85 | 1090 | 240 | 1200 |
| | SDM 31/530 FN9 SDM 31/530 RAN9 | 231/530 CAK/W33 C 31/530 KM | N 530 | PL 530 | 410 | 325 | 355 | 272 | 870 | 1065 | 550 | 85 | 1220 | 240 | 1360 |
| 600 23.622 | SDM 30/600 FN9 SDM 30/600 RAN9 | 230/600 CAK/W33 C 30/600 KM/C3 | N 600 | PL 600 | 410 | 325 | 355 | 200 | 870 | 1065 | 550 | 85 | 1220 | 240 | 1360 |

¹⁾ 23(000) and 23(0)/(000) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.



SDM..RA



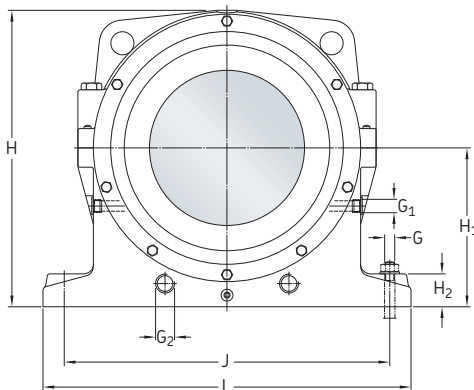
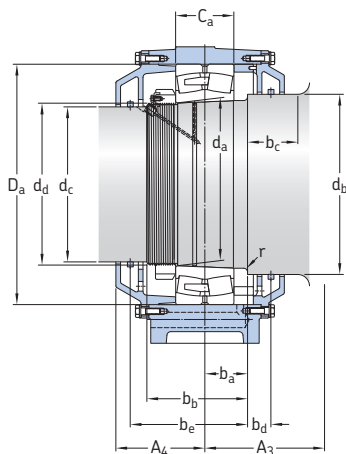
SDM..F

| Shaft diameter d_a | Dimensions Housing | | | | | | Shaft | | | | | | | | Mass Housing | | |
|-------------------------|--------------------|-------|-----------|-------|-----------|-------|-------|---------------|-------|-------|-------|-------|--------|--------------------|--------------|------|----|
| | N_1 | N_2 | G | G_1 | G_2 | b_a | b_b | b_c min. | b_d | b_e | d_b | d_c | d_d | threads/ r inch | mm | kg | |
| mm/in. | mm | in. | | | | mm | | | | | | | | in. | - | mm | kg |
| 340 13.368 | 30 | 50 | 1 UNC | NPTF1 | NPTF1.1/4 | 95 | 225 | 130 | 65 | 270 | 380 | 320 | 13.303 | 5 | 10 | 386 | |
| | 30 | 50 | 1 UNC | NPTF1 | NPTF2 | 130 | 295 | 110 | 48 | 353 | 390 | 320 | 13.303 | 5 | 10 | 572 | |
| 380 14.961 | 30 | 50 | 1 UNC | NPTF1 | NPTF1.1/4 | 95 | 230 | 135 | 70 | 280 | 420 | 360 | 14.921 | 5 | 10 | 475 | |
| 420 16.535 | 30 | 50 | 1 UNC | NPTF1 | NPTF1.1/2 | 110 | 260 | 130 | 60 | 305 | 465 | 400 | 16.496 | 5 | 10 | 494 | |
| | 30 | 50 | 1 UNC | NPTF1 | NPTF1.1/2 | 180 | 375 | 150 | 70 | 450 | 465 | 400 | 16.496 | 5 | 10 | 882 | |
| 460 18.110 | 30 | 50 | 1 UNC | NPTF1 | NPTF1.1/2 | 110 | 270 | 140 | 70 | 320 | 510 | 430 | 18.071 | 5 | 10 | 750 | |
| 530 20.866 | 38 | 58 | 1.1/4 UNC | NPTF1 | NPTF2 | 135 | 300 | 140 | 65 | 365 | 580 | 500 | 20.827 | 4 | 10 | 914 | |
| | 38 | 58 | 1.1/4 UNC | NPTF1 | NPTF2 | 195 | 425 | 160 | 85 | 505 | 590 | 500 | 20.827 | 4 | 10 | 1530 | |
| 600 23.622 | 38 | 58 | 1.1/4 UNC | NPTF1 | NPTF2 | 160 | 345 | 195 | 120 | 470 | 660 | 560 | 23.583 | 4 | 15 | 1550 | |

13.6

13.6 SDM Yankee cylinder housings, with inch connection threads

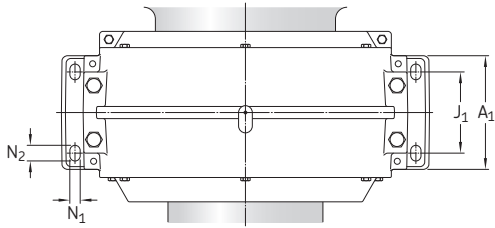
d 630–670 mm
24.803 – 26.378 in.



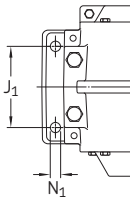
| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing ¹⁾ | Lock nut | Locking clip | Dimensions | | | | | | | | | | |
|-------------------------|---|---|----------|--------------|------------|---------------|---------------|-------|-------|---------------|-------|---------------|-------|-------|------|
| | | | | | Housing | | A_1 | A_3 | A_4 | C_a | D_a | H | H_1 | H_2 | J |
| mm/in. | – | – | | | mm | | | | | | | | | | |
| 630 24.803 | SDM 31/630 FN9 SDM 31/630 RAN9 | 231/630 CAK/C3W33 C 31/630 KMB/HA3C4 | N 630 | PL 630 | 510 | ²⁾ | ²⁾ | 315 | 1030 | ²⁾ | 700 | ²⁾ | 1330 | 350 | 1500 |
| 670 26.378 | SDM 30/670 FN9 SDM 30/670 RAN9 | 230/670 CAK/W33 C 30/670 KM/HA3C4 | N 670 | PL 670 | 420 | 300 | 330 | 230 | 980 | 1180 | 620 | 85 | 1260 | 300 | 1380 |

¹⁾ 23(000) and 23(0)/(000) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

²⁾ Contact SKF for missing values.



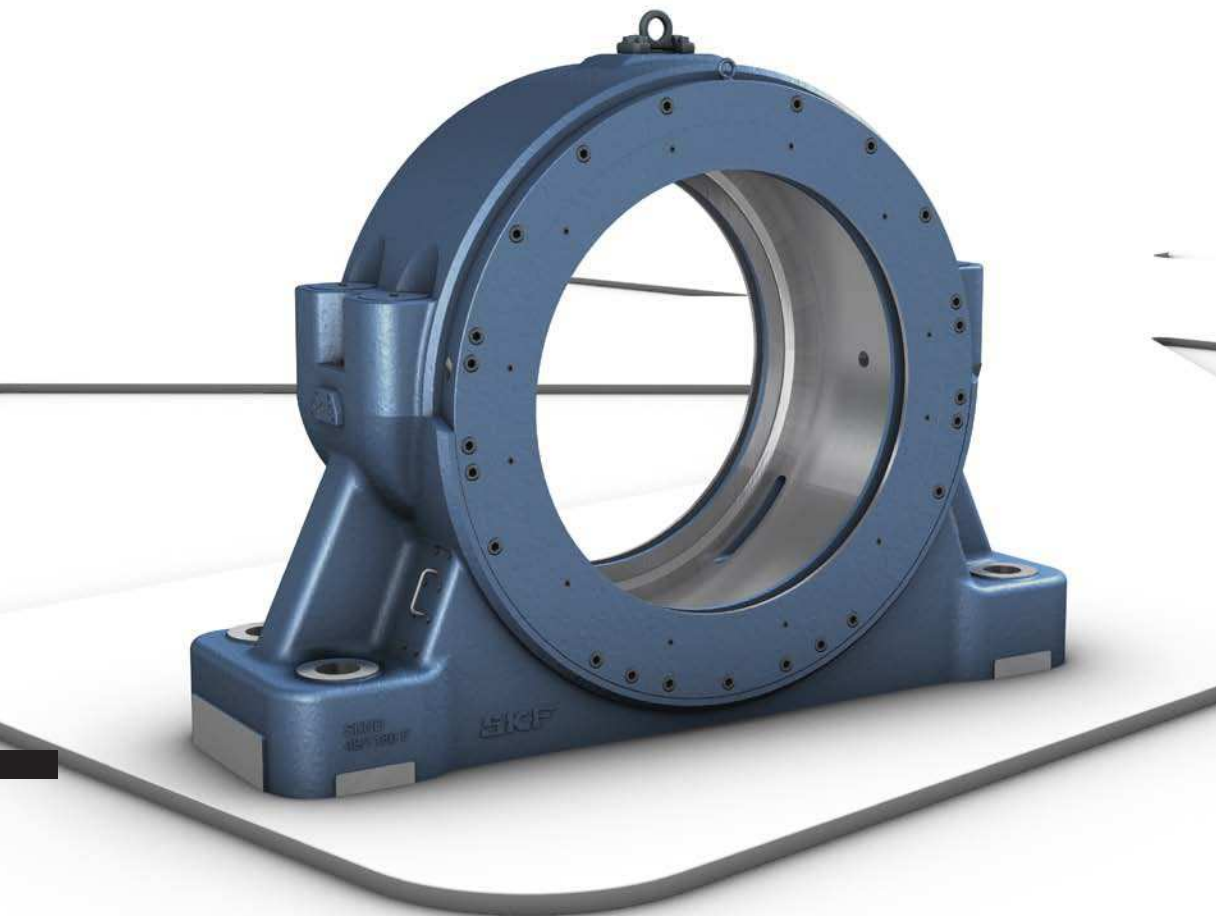
SDM..RA



SDM..F

| Shaft diameter d_a | Dimensions Housing | | | | | Shaft | | | | | | | | | | Mass Housing | | |
|-------------------------|--------------------|-------|-----------|--------|--------|-------|-------|---------------|-------|-------|-------|-------|--------|--------------------|----|--------------|----|----|
| | N_1 | N_2 | G | G_1 | G_2 | b_a | b_b | b_c min. | b_d | b_e | d_b | d_c | d_d | threads/ r inch | mm | kg | | |
| mm/in. | mm | in. | | | | mm | | | | | in. | | | | | - | mm | kg |
| 630 24.803 | 38 | 58 | 1.1/4 UNC | NPTF 1 | NPTF 2 | 1) | 1) | 1) | 1) | 1) | 710 | 590 | 24.760 | 4 | 1) | 1) | | |
| 670 26.378 | 38 | 58 | 1.1/4 UNC | NPTF 1 | NPTF 2 | 190 | 395 | 150 | 65 | 475 | 750 | 630 | 26.339 | 4 | 15 | 1 420 | | |

¹⁾ Contact SKF for missing values.



Split plummer block housings for converters in steel making SKND series

Bearing types

- Spherical roller bearings
- Split spherical roller bearings
- CARB toroidal roller bearings

Shaft diameter range

530 to 1 180 mm

Typical shaft-bearing combinations

Stepped trunnion with bearing on cylindrical seat

Seal

Lip seal with metal protecting ring

Lubrication

Grease

Material

Spheroidal graphite cast iron

Supersedes

SDKD

SKND plummer (pillow) block housings are robust housings, specially designed to withstand the harsh operating conditions surrounding LD and AOD converters. Whether manufacturing LD or AOD converters, the design of each component used to support the trunnion ring is driven by the challenges of contamination, heavy radial loads, misalignment and the induced axial loads that result from expansion and contraction of the trunnion ring. There is a simple solution to the challenge of induced axial loads. It's the total trunnion solution from SKF, which consists of the unique SKF self-aligning bearing system, combined with a re-designed housing and seals. The total trunnion solution avoids induced axial loads, eliminating the need for additional components.

Split plummer block housings for converters in steel making SKND series

| | | | |
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Designations

Designation system for SKND converter housings

SKND 49/950 F

Housing series

SKND Converter housing

Size identification

30 Housing for bearings in the 230 and C30 series
49 Housing for bearings in the 249 and C49 series
/530 Bearing bore diameter [mm]

Suffixes

F Housing for the locating bearing
L Housing with sliding bushing
VC Housing for CARB bearing

Designation system for seals

CS 1000

Series

CS Lip seal for SKND converter housings

Size identification

1000 Sealing position shaft diameter ("d_b") [mm]

Housing design

SKND converter housings are split housings consisting of a cap and base (→ **fig. 1**) and split housing covers and seal covers on each side. The base has four bosses that have been drilled and spotfaced to provide a flat surface for washers and attachment bolts.

There are three basic housing variants:

- Housings for locating (fixed) bearings (designation suffix F)
- Housings for non-locating (free or loose) spherical roller bearings (designation suffix L)
- Housings for non-locating CARB toroidal roller bearings (designation suffix VC)

Housings for the locating bearing position are initially mounted with non-split spherical roller bearings but due to downtime costs, the original bearings are replaced by split spherical roller bearings. For this reason, SKND... F converter housings are equipped with spacers that are initially mounted on each side of the bearing inner ring (→ **fig. 2**). Then, when the bearing needs to be replaced, a split spherical roller bearing, which has a wider inner ring than the original, can be mounted without any modifications to the housing.

Housings for non-locating bearings are available for spherical roller bearings and CARB toroidal bearings(→ **fig. 3**). Housings for spherical roller bearings contain a cast iron bushing that serves as the bearing seat in the housing. The outer ring of the spherical roller bearing slides in the bushing to accommodate thermal elongation of the shaft. Housings for CARB bearings do not contain a bushing because the bearing accommodates thermal elongation of the shaft internally, as well as misalignment of the inner ring relative to the outer ring.

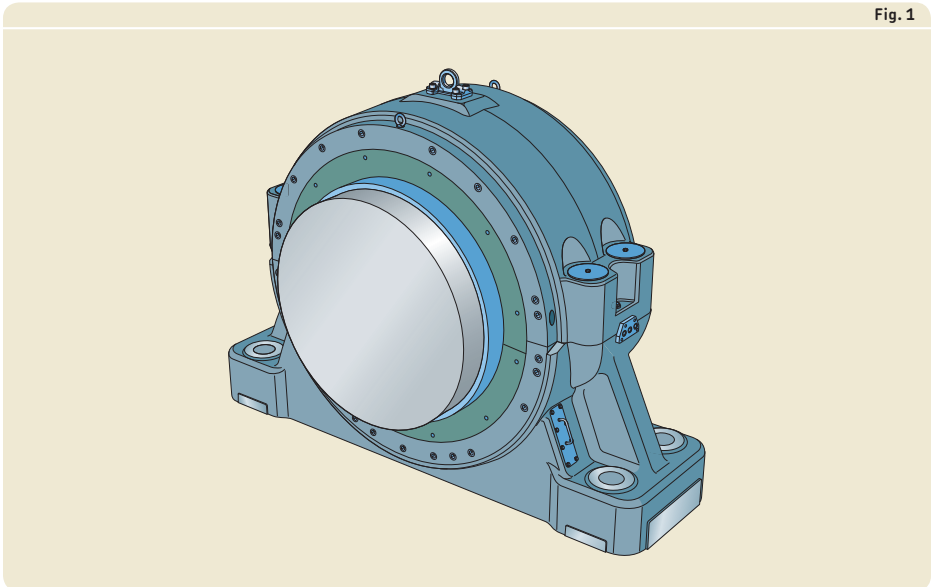
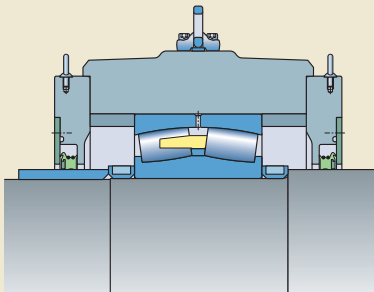
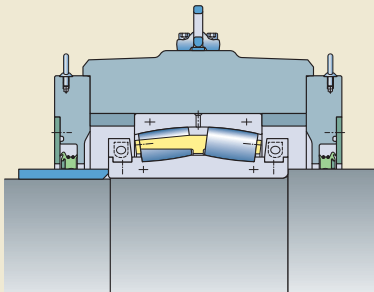


Fig. 2

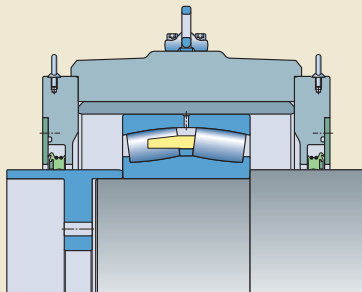


Spherical roller bearing in the locating bearing position

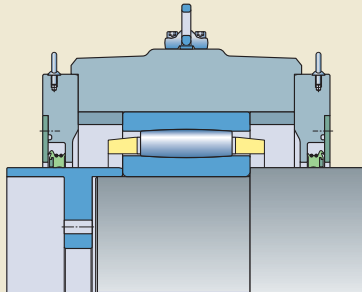


Split spherical roller bearing in the locating bearing position

Fig. 3



Spherical roller bearing in the non-locating bearing position



CARB bearing in the non-locating bearing position

Split plummer block housings for steel converters, SKND series

Features and benefits

SKND converter housings have the following features:

Optimal design concerning strength and weight

SKND housings are designed to accommodate operational converter loads. Finite element analysis and advanced modeling programs helped to maximize stiffness and reduce total weight when compared to earlier designs (→ fig. 4).

Superbolt tensioners to join cap and base

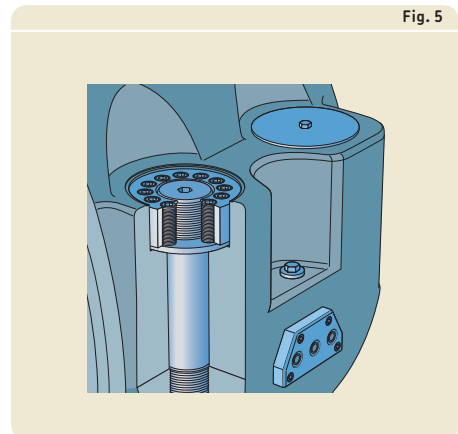
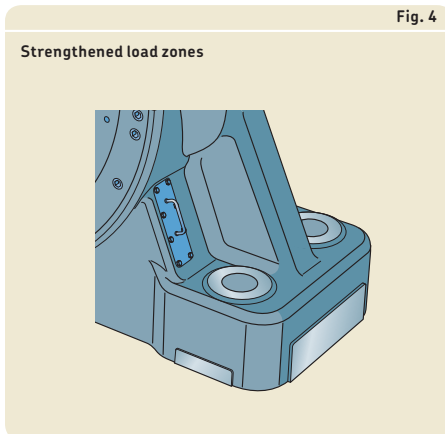
Superbolt® multi-jack tensioners provide a simple, safe and accurate way to tighten cap bolts (→ fig. 5). The tensioner consists of a nut with jackbolts and a separate hardened steel washer. Once the bolt, washer and Superbolt have been assembled manually, the jackbolts can be tightened with a torque wrench. A disk-shaped cover protects the Superbolt from contaminants.

Machined pads simplify installation

Pads on the base ends and sides (→ fig. 4) are machined relative to the housing bore to simplify installation and alignment.

Designed to facilitate maintenance

SKND converter housings have built-in features to make installation and maintenance safer and easier. This includes reducing the number of components, which is particularly important during routine maintenance operations. On request, SKF can provide detailed mounting and maintenance instructions or on-site installation.



Housing material

SKND housings are made of spheroidal graphite cast iron. Cast steel is available on request.

Paint, corrosion protection

SKND converter housings are painted blue (RAL 5007) using a solvent based acrylic paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur) (→ *Environmental conditions*, page 36). The paint is not affected by most lubricating and engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are treated with a solventless rust inhibitor.

Dimension standards

The boundary dimensions of SKND housings are not standardized either nationally or internationally.

Housing variants

In addition to the three basic housing variants (see housing design) SKND converter housings can be tailored with special features to meet the needs of a particular application. For additional information contact the SKF application engineering service.

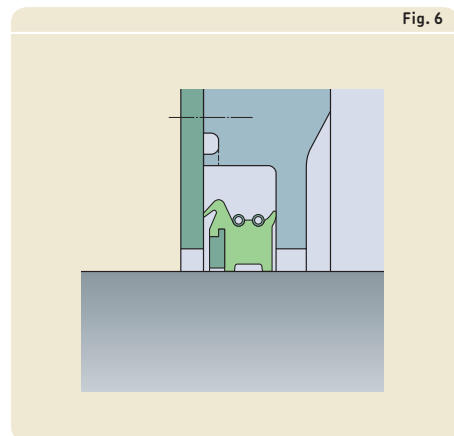
Sealing solutions

SKND housings are equipped with a heavy-duty NBR double-lip contact seal. The seal incorporates a separate metal ring to protect against hot dust and slag (→ fig. 6).

Two springs provide tension on the seal so that it makes positive contact with the trunnion shaft. Grease in the chamber above the seal enhances the effectiveness of the seal. When relubricating the seal, the outer lip allows excess grease and any contaminants to be purged from the seal cavity. The inner seal lip prevents contaminated grease from entering the housing.

The NBR seal is cut to the proper length to provide a tight fit on the trunnion.

The designation for lip seals is CS followed by a size code, e.g. CS 570. The size code is the shaft diameter at the seal position (attribute "d_b" listed in the product tables).



Design considerations

SKND housings for converters are application specific products. For designing converter bearing solutions, contact the SKF application engineering service. For additional information about rolling bearings, refer to the product information available online at skf.com/bearings.

Load carrying capacity

SKND housings are designed to accommodate the same loads as the incorporated bearing. For additional information, contact the SKF application engineering service.

Operating temperature

SKND housings and their seals are designed to withstand operating temperatures typical for converter environments. For additional information, contact the SKF application engineering service.

Axial displacement

The values for the maximal axial displacement of the non-locating bearing are listed in the product tables. Larger axial displacement in one direction can be accommodated by offset mounting the inner and outer rings of CARB bearings.

Lubrication

SKND converter housings are intended for grease lubrication. SKF recommends using SKF LGEV 2, which is a proven grease for converter applications. For additional information, contact the SKF application engineering service.

Initial grease fill

If no other requirements exist, the free space in the bearing should be completely filled with grease and the free space in the housing should be filled to 60% of its volume. SKF can provide values for the grease quantities for the relevant housing size. For additional information contact the SKF application engineering service.

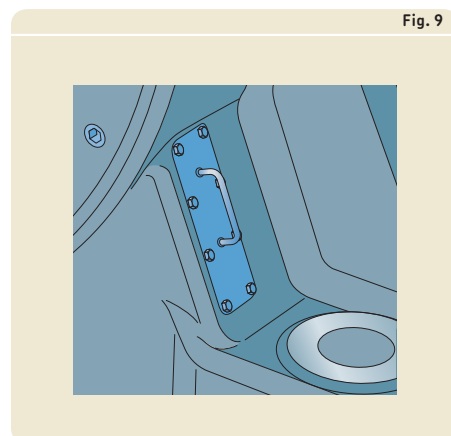
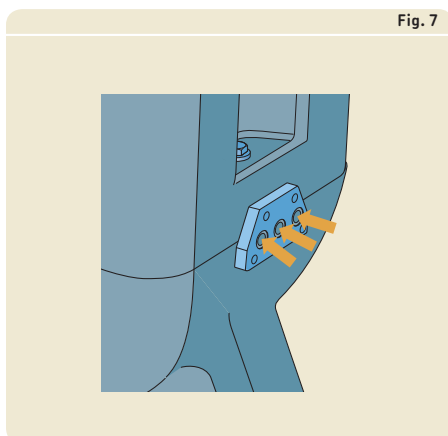
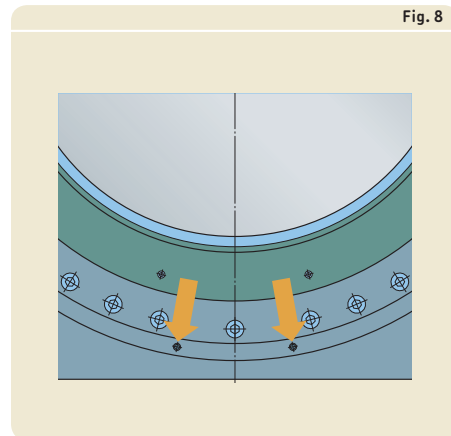
Relubrication

SKND converter housings have central grease piping connectors on both sides of the housings to relubricate the bearing and seals (→ **fig. 7**). As the trunnion does not fully rotate, lubricant is provided from both sides. Lubricating the seals provides better contaminant exclusion to extend the service life of both the bearing and seal.

Housings with the suffix L, the variant with sliding bushings, have two additional relubrication holes positioned at the bottom of the housing to relubricate the sliding bushing (→ **fig. 8**).

Grease sampling slots

SKND converter housings have two grease sampling slots on each side (→ **fig. 9**) so that samples are taken directly from the bearing load zone. The slots can also be used to purge grease from the housing without removing the housing covers and seals.



Mounting

SKND housings must be mounted and aligned properly, applying special knowledge and using the correct tools. SKF can provide detailed mounting instructions, assist during mounting or provide a complete installation service. For additional information, contact the SKF application engineering service.

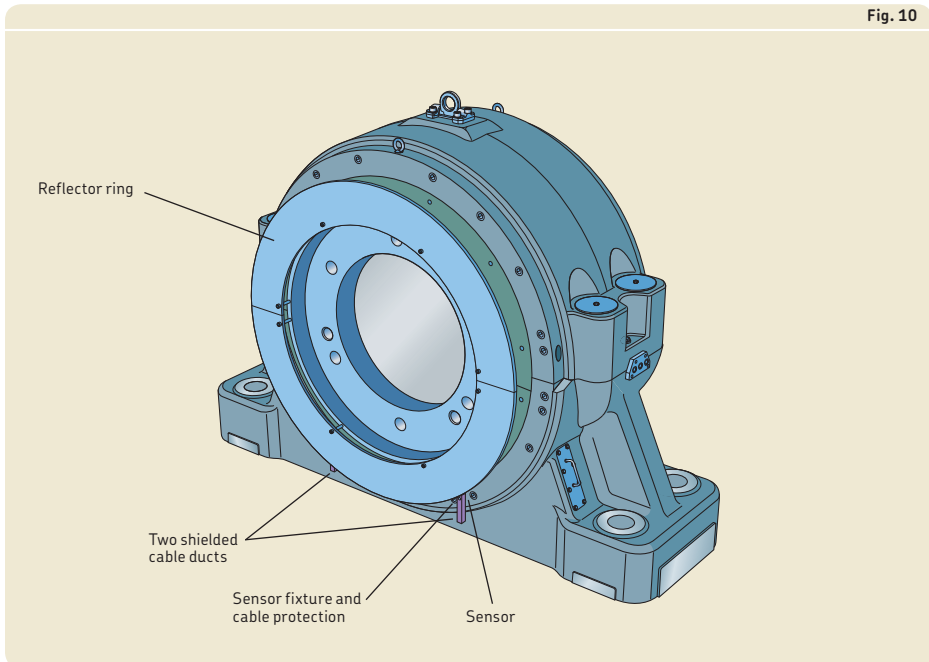
Axial support for the housing

Stops should be placed against the pads on the ends and sides of the base. These stops should be sufficiently strong to accommodate operating loads acting parallel to the support surface.

Accessories

Axial position measuring system

For SKND converter housings an axial position measuring system is available. The system measures and reports the position of the trunnion end at the non-locating bearing position. It consists of a radially split reflector ring mounted on the trunnion end, two ultrasonic sensors for redundant measurements, a sensor fixture and protected and shielded cabling (→ fig. 10).



Temperature sensor

Temperature sensors for SKND housings can be supplied on request. For more information contact the SKF application engineering service.

Grease pumps and lubrication systems

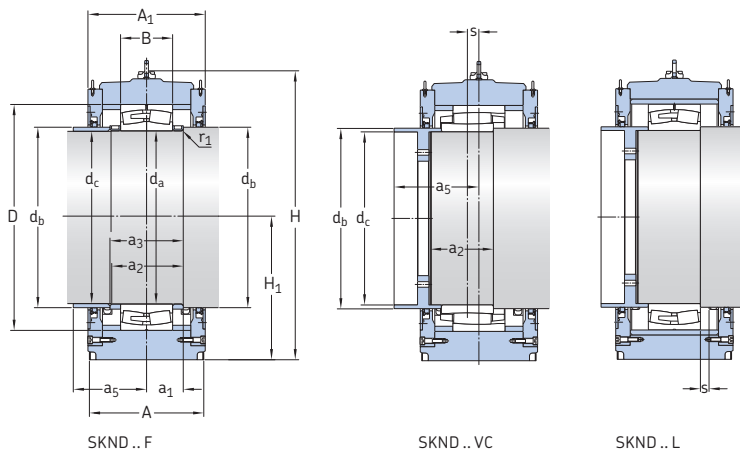
Grease pumps and automatic lubrication systems for SKND housings are available from SKF. For additional information contact the SKF application engineering service or visit skf.com/lubrication.

Ordering information

For detailed information about ordering contact the SKF application engineering service.

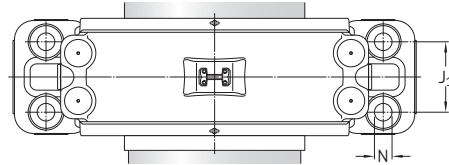
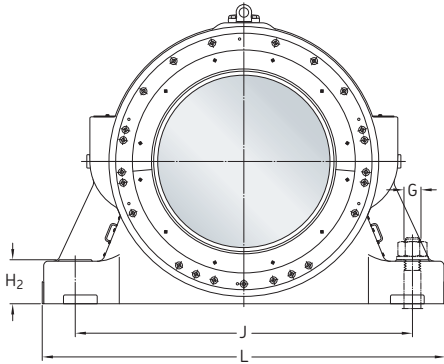
14.1 SKND plummer block housings for converters

d_a 530 – 1 000 mm



| Shaft diameter d_a | Housing designation | Appropriate parts Bearing | Replacement bearing | Dimensions Housing | | | | | | | |
|-------------------------|---|--|-----------------------|---|-------------------|----------------------|---|---|-------------------|---|--|
| | | | | A | B | D | A_1 | H | H_1 | H_2 | |
| mm | - | - | | mm | | | | | | | |
| 530 | SKND 30/530 F SKND 30/530 VC | 230/530 CA/C3W33 C 30/530 M/VB569 | BSR-8024 - | 400 400 | 185 185 | 780 780 | 475 475 | 935 935 | 450 450 | 140 140 | |
| 600 | SKND 30/600 F SKND 30/600 VC | 230/600 CA/C3W33 C 30/600 M/VB569 | BSR-8025 - | 440 440 | 200 200 | 870 870 | 500 500 | 1030 1030 | 500 500 | 155 155 | |
| 670 | SKND 30/670 F SKND 30/670 VC | 230/670 CA/C3W33 C 30/670 M/VB569 | BSR-8035 - | 500 500 | 230 230 | 980 980 | 540 540 | 1170 1170 | 570 570 | 175 175 | |
| 710 | SKND 49/710 F SKND 49/710 VC SKND 49/710 L | 249/710 CA/C3W33 C 49/710 MB1/VB569 249/710 CA/C3W33VL017 | BS2B 247249 - - | 600 600 600 | 243 243 243 | 950 950 950 | 640 640 640 | 1250 1250 1250 | 600 600 600 | 185 185 185 | |
| 750 | SKND 49/750 F SKND 49/750 VC SKND 49/750 L | 249/750 CA/C3W33 C 49/750 MB1/VB569 249/750 CA/C3W33VL017 | BSR-8027 - - | 600 600 600 | 250 250 250 | 1000 1000 1000 | 640 640 640 | 1295 1295 1295 | 630 630 630 | 195 195 195 | |
| 800 | SKND 49/800 F SKND 49/800 VC SKND 49/800 L | 249/800 CA/C3W33 C 49/800 MB1/VB569 249/800 CA/C3W33VL017 | BS2B 243262 - - | 600 600 600 | 258 258 258 | 1060 1060 1060 | 640 640 640 | ¹⁾ ¹⁾ ¹⁾ | 670 670 670 | 205 205 205 | |
| 850 | SKND 49/850 F SKND 49/850 VC SKND 49/850 L | 249/850 CA/C3W33 C 49/850 MB1/VB569 249/850 CA/C3W33VL017 | BSR-8028 - - | 600 600 600 | 272 272 272 | 1120 1120 1120 | 640 640 640 | 1430 1430 1430 | 700 700 700 | 220 220 220 | |
| 900 | SKND 49/900 F SKND 49/900 VC SKND 49/900 L | 249/900 CA/C3W33 C 49/900 MB1/VB569 249/900 CA/C3W33VL017 | BSR-8044 - - | ¹⁾ ¹⁾ ¹⁾ | 280 280 280 | 1180 1180 1180 | ¹⁾ ¹⁾ ¹⁾ | ¹⁾ ¹⁾ ¹⁾ | 740 741 742 | ¹⁾ ¹⁾ ¹⁾ | |
| 950 | SKND 49/950 F SKND 49/950 VC SKND 49/950 L | 249/950 CA/C3W33 C 49/950 MB1/VB569 249/950 CA/C3W33VL017 | BSR-8029 - - | 690 690 690 | 300 300 300 | 1250 1250 1250 | 710 710 710 | 1630 1630 1630 | 780 780 780 | 250 250 250 | |
| 1 000 | SKND 49/1000 F SKND 49/1000 VC SKND 49/1000 L | 249/1000 CAF/C3W33 C 49/1000 MB1/VB569 249/1000 CAF/C3W33VL017 | BSR-8045 - - | ¹⁾ ¹⁾ ¹⁾ | 315 315 315 | 1320 1320 1320 | ¹⁾ ¹⁾ ¹⁾ | ¹⁾ ¹⁾ ¹⁾ | 830 830 830 | 255 255 255 | |

¹⁾ Contact SKF for missing values.

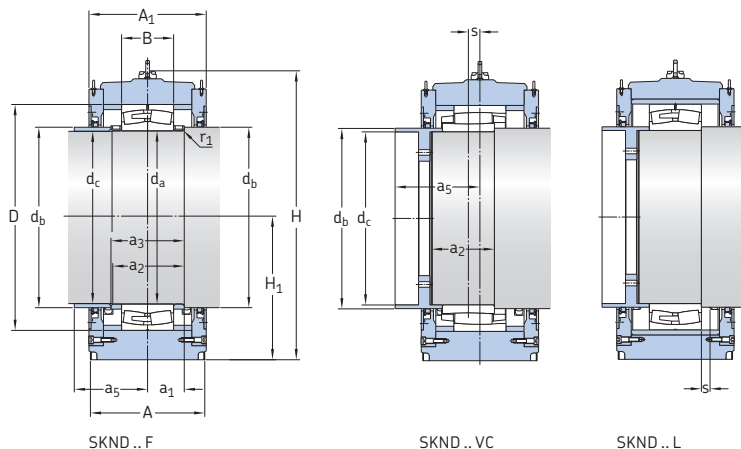


| Shaft diameter | Dimensions Housing | | | | | Axial displacement | Dimensions Shaft abutment and fillet | | | | | Mass Housing | | |
|----------------|--------------------|---------------|---------------|---------------|---------------|--------------------|--------------------------------------|-------|---------------|---------------|-------|---------------|---------------|---------------|
| | d_a | J | J_1 | L | G | | N | d_b | d_c | a_1 | a_2 | | a_3 | a_5 |
| mm | mm | | | | | mm | mm | | | | | kg | | |
| 530 | 1050 | 240 | 1280 | M 42 | 48 | – | 570 | 525 | 142,5 | 280 | 285 | 340 | 10 | ¹⁾ |
| | 1050 | 240 | 1280 | M 42 | 48 | ±35 | 570 | 530 | 92,5 | 225 | – | 340 | 5 | ¹⁾ |
| 600 | 1150 | 270 | 1400 | M 52 | 58 | – | 645 | 595 | 155 | 305 | 310 | 350 | 12 | ¹⁾ |
| | 1150 | 270 | 1400 | M 52 | 58 | ±35 | 645 | 600 | 100 | 245 | – | 350 | 5 | ¹⁾ |
| 670 | 1300 | 310 | 1570 | M 56 | 62 | – | 720 | 665 | 175 | 345 | 350 | 370 | 15 | ¹⁾ |
| | 1300 | 310 | 1570 | M 56 | 62 | ±40 | 720 | 670 | 115 | 275 | – | 370 | 6 | ¹⁾ |
| 710 | 1375 | 325 | 1660 | M 64 | 70 | – | 760 | 705 | 175 | 345 | 350 | 420 | 15 | ¹⁾ |
| | 1375 | 325 | 1660 | M 64 | 70 | ±50 | 760 | 710 | 121,5 | 330 | – | 420 | 5 | ¹⁾ |
| | 1375 | 325 | 1660 | M 64 | 70 | ±50 | 760 | 710 | 121,5 | 330 | – | 420 | 5 | ¹⁾ |
| 750 | 1450 | 335 | 1750 | M 64 | 70 | – | 800 | 745 | 177,5 | 350 | 355 | 420 | 15 | ¹⁾ |
| | 1450 | 335 | 1750 | M 64 | 70 | ±55 | 800 | 750 | 125 | 340 | – | 420 | 5 | ¹⁾ |
| | 1450 | 335 | 1750 | M 64 | 70 | ±55 | 800 | 750 | 125 | 340 | – | 420 | 5 | ¹⁾ |
| 800 | 1550 | 345 | 1850 | M 72 | 80 | – | 860 | 795 | 185 | 365 | 370 | 420 | 15 | ¹⁾ |
| | 1550 | 345 | 1850 | M 72 | 80 | ±55 | 860 | 800 | 129 | 350 | – | 420 | 5 | ¹⁾ |
| | 1550 | 345 | 1850 | M 72 | 80 | ±55 | 860 | 800 | 129 | 350 | – | 420 | 5 | ¹⁾ |
| 850 | 1600 | 360 | 1940 | M 72 | 80 | – | 900 | 845 | 192,5 | 380 | 385 | 420 | 15 | ¹⁾ |
| | 1600 | 360 | 1940 | M 72 | 80 | ±60 | 900 | 850 | 136 | 365 | – | 420 | 5 | ¹⁾ |
| | 1600 | 360 | 1940 | M 72 | 80 | ±60 | 900 | 850 | 136 | 365 | – | 420 | 5 | ¹⁾ |
| 900 | ¹⁾ | ¹⁾ | ¹⁾ | ¹⁾ | ¹⁾ | – | 960 | 895 | 195 | 385 | 390 | ¹⁾ | 15 | ¹⁾ |
| | ¹⁾ | ¹⁾ | ¹⁾ | ¹⁾ | ¹⁾ | ±60 | 960 | 900 | ¹⁾ | ¹⁾ | – | ¹⁾ | ¹⁾ | ¹⁾ |
| | ¹⁾ | ¹⁾ | ¹⁾ | ¹⁾ | ¹⁾ | ±60 | 960 | 900 | ¹⁾ | ¹⁾ | – | ¹⁾ | ¹⁾ | ¹⁾ |
| 950 | 1820 | 390 | 2180 | M 90 | 100 | – | 1000 | 945 | 205 | 405 | 410 | 455 | 15 | 5 200 |
| | 1820 | 390 | 2180 | M 90 | 100 | ±65 | 1000 | 950 | 150 | 355 | – | 455 | 6 | 5 100 |
| | 1820 | 390 | 2180 | M 90 | 100 | ±65 | 1000 | 950 | 150 | 355 | – | 455 | 6 | 4 900 |
| 1 000 | 1980 | 360 | 2330 | M 90 | 100 | – | 1065 | 995 | 225 | 445 | 450 | ¹⁾ | 15 | ¹⁾ |
| | 1980 | 360 | 2330 | M 90 | 100 | ±65 | 1065 | 1000 | 157,5 | 405 | – | ¹⁾ | 6 | ¹⁾ |
| | 1980 | 360 | 2330 | M 90 | 100 | ±65 | 1065 | 1000 | 157,5 | 405 | – | ¹⁾ | 6 | ¹⁾ |

¹⁾ Contact SKF for missing values.

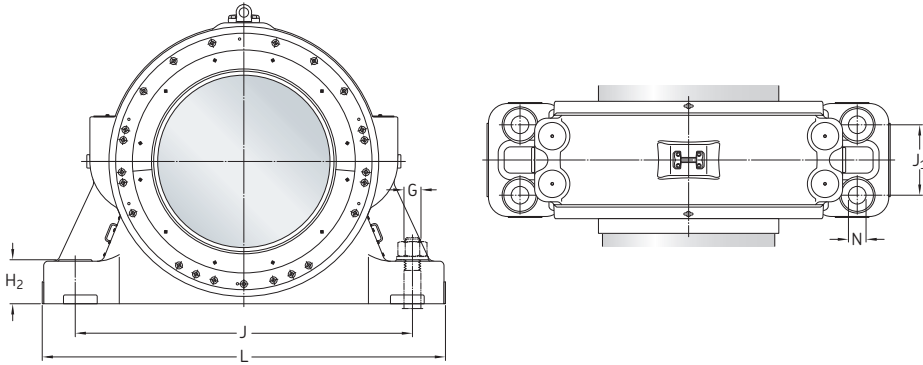
14.1 SKND plummer block housings for converters

d_a 1 060 – 1 180 mm



| Shaft diameter d_a | Housing designation | Appropriate parts Bearing | Replacement bearing | Dimensions Housing | | | | | | | |
|-------------------------|---------------------|------------------------------|---------------------|-----------------------|-----|-------|---------------|---------------|-------|-------|--|
| | | | | A | B | D | A_1 | H | H_1 | H_2 | |
| mm | - | - | | mm | | | | | | | |
| 1 060 | SKND 49/1060 F | 249/1060 CAF/C3W33 | BSR-8039 | 740 | 335 | 1 400 | ¹⁾ | ¹⁾ | 880 | 275 | |
| | SKND 49/1060 VC | C 49/1060 MB1/VB569 | - | 740 | 335 | 1 400 | ¹⁾ | ¹⁾ | 880 | 275 | |
| | SKND 49/1060 L | 249/1060 CAF/C3W33VL017 | - | 740 | 335 | 1 400 | ¹⁾ | ¹⁾ | 880 | 275 | |
| 1 120 | SKND 49/1120 F | 249/1120 CAF/C3W33 | BSR-8040 | 780 | 335 | 1 460 | 760 | 1 900 | 920 | 285 | |
| | SKND 49/1120 VC | C 49/1120 MB1/VB569 | - | 780 | 335 | 1 460 | 760 | 1 900 | 920 | 285 | |
| | SKND 49/1120 L | 249/1120 CAF/C3W33VL017 | - | 780 | 335 | 1 460 | 760 | 1 900 | 920 | 285 | |
| 1 180 | SKND 49/1180 F | 249/1180 CAF/C3W33 | BSR-8031 | 780 | 355 | 1 540 | 800 | 1 970 | 970 | 300 | |
| | SKND 49/1180 VC | C 49/1180 MB1/VB569 | - | 780 | 355 | 1 540 | 800 | 1 970 | 970 | 300 | |
| | SKND 49/1180 L | 249/1180 CAF/C3W33VL017 | - | 780 | 355 | 1 540 | 800 | 1 970 | 970 | 300 | |

¹⁾ Contact SKF for missing values.



| Shaft diameter | Dimensions Housing | | | | | Axial displacement | Dimensions Shaft abutment and fillet | | | | | | | Mass Housing |
|----------------|--------------------|-----|-------|------|-----|--------------------|--------------------------------------|-------|-------|-------|-------|---------------|-------|---------------|
| | d_a | J | J_1 | L | G | | N | d_b | d_c | a_1 | a_2 | a_3 | a_5 | |
| mm | mm | | | | | mm | mm | | | | | | | kg |
| 1060 | 2000 | 460 | 2450 | M100 | 110 | – | 1110 | 1055 | 237,5 | 470 | 475 | ¹⁾ | 15 | ¹⁾ |
| | 2000 | 460 | 2450 | M100 | 110 | ±75 | 1110 | 1060 | 167,5 | 420 | – | ¹⁾ | 6 | ¹⁾ |
| | 2000 | 460 | 2450 | M100 | 110 | ±75 | 1110 | 1060 | 167,5 | 420 | – | ¹⁾ | 6 | ¹⁾ |
| 1120 | 2150 | 460 | 2560 | M100 | 110 | – | 1195 | 1115 | 237,5 | 470 | 475 | 480 | 15 | 7500 |
| | 2150 | 460 | 2560 | M100 | 110 | ±75 | 1195 | 1120 | 167,5 | 420 | – | 480 | 6 | 7400 |
| | 2150 | 460 | 2560 | M100 | 110 | ±70 | 1195 | 1120 | 167,5 | 420 | – | 480 | 6 | 7100 |
| 1180 | 2300 | 480 | 2750 | M110 | 120 | – | 1230 | 1175 | 250 | 495 | 500 | 500 | 15 | 8700 |
| | 2300 | 480 | 2750 | M110 | 120 | ±80 | 1230 | 1180 | 177,5 | 430 | – | 500 | 6 | 8500 |
| | 2300 | 480 | 2750 | M110 | 120 | ±70 | 1230 | 1180 | 177,5 | 430 | – | 500 | 6 | 8200 |

¹⁾ Contact SKF for missing values.



Trunnion bearing housings for grinding mills FSDR .. K series

Bearing types

- Spherical roller bearings

Bearing dimension series

- 39, 48 and 49

Shaft diameter range

- 825 to 1 460 mm

Typical bearing-shaft combinations

- Stepped shaft with bearing on an unthreaded sleeve

Seals

- Labyrinth, V-ring, PTFE strip

Lubrication

- Grease

Materials

- Grey cast iron
- Spheroidal graphite cast iron

Mounting

- Four-bolt mounting

Compliance to standards

- Not standardized

FSDR .. K housings are large low-weight plummer (pillow) block housings designed specifically for grinding mills. They operate under arduous conditions in highly contaminated environments. With their highly effective sealing solution, they enable the incorporated bearing to achieve maximum service life by preventing the ingress of contaminants and enabling easy access for inspection and maintenance when necessary.

Trunnion bearing housings for grinding mills FSDR .. K series

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Designations

Designation system for FSDR .. K trunnion bearing housings

FSDR_ 39/1060 K/P45

Series

FSDR Trunnion bearing housing for grinding mills

Material

– Grey cast iron
D Spheroidal graphite cast iron

Size identification

../.. Bearing dimension series / bearing bore diameter [mm]

Suffixes¹⁾

– Housing with metric threads and G threads for grease fittings
K Housing for bearings with a tapered bore on a split unthreaded sleeve and a stepped shaft
N9 Housing with inch threads and NPTF threads for grease fittings
/P... Painting variant according to customer specification (P01 to P999)

¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Designation system for V-ring seals

1280 VRME R

Size identification

... Diameter of the V-ring seal

Design

VRME V-ring seal with longer lip to allow larger axial movements

Material

R Acrylonitrile-butadiene rubber (NBR)

Standard housing design

FSDR .. K plummer (pillow) block housings are split housings consisting of a cap and base, and two covers (→ **fig. 1**). The cap has two integral flanges, with a hole cast into each one. The base has four cast holes for attachment bolts. The split covers, which contain an eye bolt in each half, are attached to the housing body with eight bolts. The labyrinth rings are supplied with eye bolts that can be removed after mounting.

Features and benefits

FSDR .. K housings have the following features and benefits:

Superior sealing solution

The SKF multi-stage labyrinth seal, which is standard for all trunnion bearing housings, is a highly effective sealing solution that can prevent the ingress of contaminants even during high-pressure wash downs.

The inclined outside face of the labyrinth ring helps to prevent water and contaminants from entering the labyrinth (→ **fig. 2**).

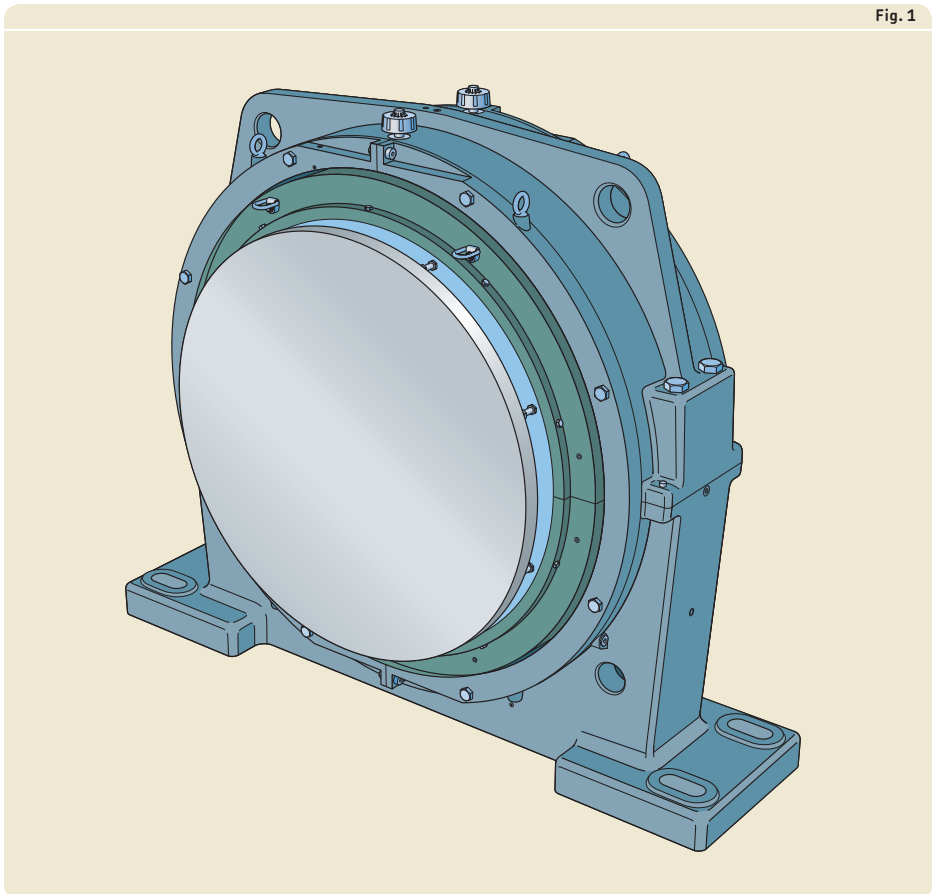


Fig. 1

Reduced grease consumption

Trunnion bearing housings typically require large amounts of grease at frequent intervals, to purge contaminants from the bearing and housing. With SKF grinding mill housings however, the highly effective multi-stage labyrinth seal makes it possible to extend relubrication intervals, helps to eliminate overgreasing and reduce grease consumption.

Easy access for inspection and maintenance

The covers and labyrinth rings are split for easy removal. This enables the housing, bearing and seals to be inspected, or replaced, and used grease to be removed, without dismounting the housing.

Machined base ends

The base ends of FSDR .. K housings are machined to make alignment easier and to provide a flat surface for stops (→ fig. 3).

Ventilating valves

Ventilating valves are supplied with the housing (→ fig. 4). They help to prevent high pressures, which can be caused by heat, from building up in the housing. The valves have a 2 µm dirt filter.

Fig. 2

Sealing solution with one V-ring seal

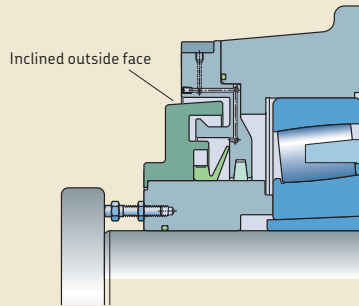


Fig. 3

Machined base ends

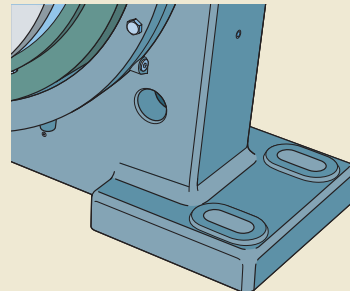
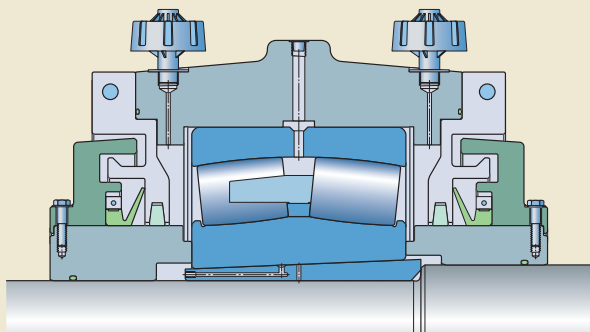


Fig. 4



Housing material

FSDR .. K housings are made of grey cast iron.

Paint, corrosion protection

FSDR .. K housings are painted black (RAL 9005) using a solvent based acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected with a solventless rust inhibitor.

Dimension standards

The boundary dimensions of FSDR .. K housings are not standardized either nationally or internationally.

Housing variants

In addition to standard design FSDR .. K housings, a number of variants are also available.

Housing material

For applications where extra strength is needed, the housings are available in spheroidal graphite cast iron, designation FSDRD .. K.

Inch thread connections

FSDR .. K housings can be supplied with UNC or NPTF threads for grease fittings. The housings are identified by the designation suffix N9, e.g. FSDR 39/1060 KN9. For additional information, contact the SKF application engineering service.

Special paint

FSDR .. K housings can be supplied painted according to customer specification. The housings are identified by the designation suffix P, followed by a two or three-digit number, e.g. FSDR 39/1060 K/P45.

Sealing solutions

FSDR .. K housings are designed for two sealing solutions (→ fig. 5):

- a labyrinth seal in combination with one V-ring seal and a PTFE strip, for all housings except size 49/1320
- a labyrinth seal in combination with two V-ring seals, for housings size 49/1320

Table 1, page 646, provides an overview of the characteristics and suitability of both sealing solutions. Additional information is provided in the following text. This information should be used as a guideline, which cannot substitute for testing a seal in its application.

The labyrinth seal consists of two parts: the housing cover and a labyrinth ring. Both are split. The cover is bolted to the housing body and does not rotate. The labyrinth ring is bolted onto a shaft sleeve and rotates with the shaft. The V-ring seals have a long seal lip that seals axially against the cover. They are located radially by steel clamping bands and axially by the labyrinth ring. For housings with one V-ring seal, a PTFE strip, mounted in a groove in the cover, provides additional protection.

Labyrinth seals are supplied together with the housing, but can also be ordered separately. Contact SKF for additional information. Shaft sleeves are also supplied with the housing.

NOTE: V-ring seals and band clamps must be ordered separately. Appropriate V-ring seals and band clamps are listed in **table 2, page 647**.

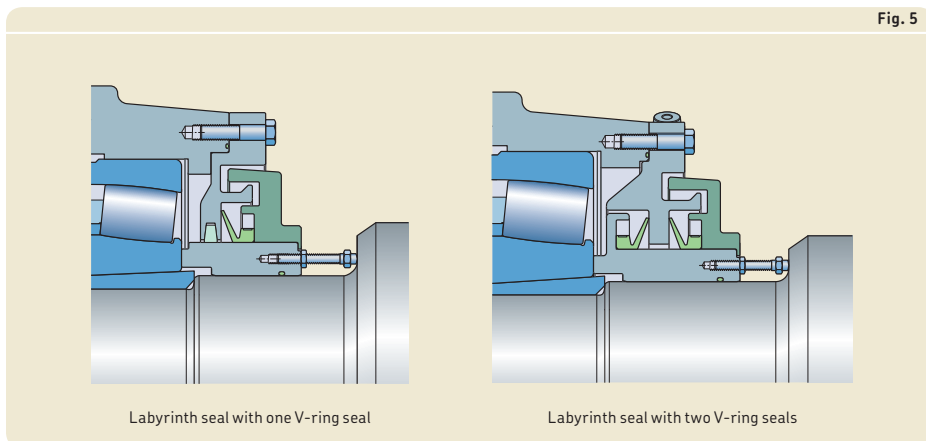
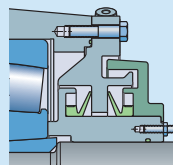
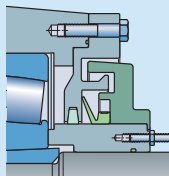


Table 1

Seals for FS DR .. K trunnion bearing housings for grinding mills



Seal

| | | |
|--|---|---------------------------------------|
| Type | labyrinth seal with 1 V-ring seal | labyrinth seal with 2 V-ring seals |
| Housing size range | 39/850, 39/1060, 39/1180 and 48/1500 | 49/1320 |
| Material labyrinth seal V-ring seals PTFE strip | grey cast iron rubber (NBR) PTFE impregnated fibres (ramie) | grey cast iron rubber (NBR) n/a |

Application conditions and requirements

| | | |
|-------------------------------------|-----------------|-----------------|
| Temperature [°C] | -40 to +100 | -40 to +100 |
| Temperature [°F] | -40 to +210 | -40 to +210 |
| Max. circumferential speed [m/s] | 2 | 10 |
| Max. misalignment [°] | 0,5 | 0,5 |
| Low friction | + | ++ |
| Axial shaft displacement [mm] | ±10 | ±10 |
| Replacement | ++ | ++ |
| Shaft tolerance class | h9 [Ⓔ] | h9 [Ⓔ] |
| Shaft roughness R _a [μm] | ≤ 3,2 | ≤ 3,2 |

Sealing suitability

| | | |
|----------------------|----|----|
| Dust | ++ | ++ |
| Fine particles | ++ | ++ |
| Coarse particles | ++ | ++ |
| Chips | ++ | ++ |
| Liquids when sprayed | ++ | ++ |
| Direct sunlight | ++ | ++ |

Symbol: n/a not applicable
 ++ very suitable
 + suitable
 - limited suitability
 -- unsuitable

Table 2

Clamping bands for V-ring seals

| Housing Size | V-ring seal Designation | Clamping bands | |
|-----------------|----------------------------|----------------|--|
| | | Qty. | Designation |
| FSDR 39/850 K | 960 VRME R | 2 | RM 15 Art. No. 25538099 Length 1500 |
| | | 2 | RM 10 Art. No. 25537099 Length 1000 |
| | | 2 | RM ADJUST Art. No. 25539099 Length 600 |
| FSDR 39/1060 K | 1180 VRME R | 4 | RM 15 Art. No. 25538099 Length 1500 |
| | | 2 | RM ADJUST Art. No. 25539099 Length 700 |
| FSDR 39/1180 K | 1280 VRME R | 4 | RM 15 Art. No. 25538099 Length 1500 |
| | | 2 | RM 10 Art. No. 25537099 Length 1000 |
| FSDR 49/1320 K | 1425 VRME R | 12 | RM 15 Art. No. 25538099 Length 1500 |
| FSDR 48/1500 K | 1575 VRME R | 6 | RM 15 Art. No. 25538099 Length 1500 |
| | | 2 | RM ADJUST Art. No. 25539099 Length 600 |

Design considerations

For general information about design considerations, refer to the following sections:

- *Typical shaft-bearing combinations* (→ page 41)
- *Locating/non-locating bearing arrangements* (→ page 40)
- *Specifications for shafts and housing support surfaces* (→ page 45)
- *Axial load carrying capacity for bearings on a sleeve* (→ page 44)

For additional information about rolling bearings, refer to the product information available online at skf.com/bearings.

Typical shaft-bearing combinations

FSDR .. K housings accommodate bearings with a tapered bore on an unthreaded sleeve on stepped shafts (→ fig. 6).

Locating and non-locating bearing positions

FSDR .. K housings can be used for both the locating and non-locating bearing positions.

The housings are machined standard for bearings in the non-locating position. The bearing seat is sufficiently wide to allow axial displacement of the bearing. The seat tolerance provides a loose fit for the bearing even if there is a temperature difference between the bearing outer ring and housing.

Bearings in the locating position must be secured in the housing on both sides with locating rings. These are supplied with the housings.

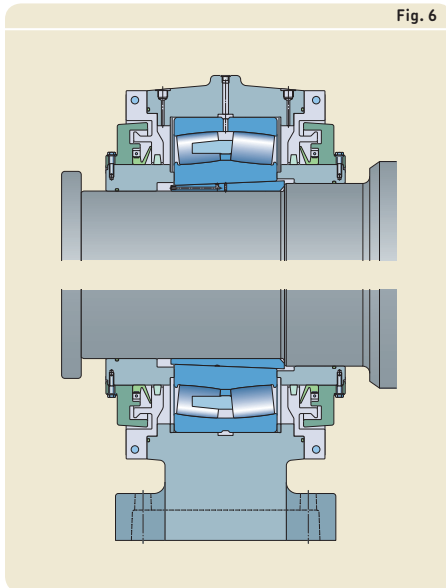
Load carrying capacity

FSDR .. K housings are intended for loads acting perpendicularly toward the support surface as well as the forces created in the process. In cases like this, the housing can withstand the same loads as the bearing. If loads acting in other directions occur, contact the SKF application engineering service.

Additional housing support

As the housings are subjected to loads acting parallel to the support surface, a stop must be provided to counter the load. The housings can be secured to the support with keys or welded stops.

The stop should be sufficiently strong to accommodate the loads acting parallel to the support surface.



Operating temperature

The permissible operating temperature is limited by the seals (→ **table 1, page 646**). For temperature limits of SKF bearings and lubricants, refer to the product information available online at skf.com/bearings.

The housing material does not have any additional temperature limits, except for very low temperatures where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

The seals limit the permissible operating speed. Speed limits for the seals are provided in **table 1 on page 646**.

Shaft specifications

The bearing seat should be machined according to the requirements for bearings mounted on an adapter sleeve (→ *Specifications for shafts and housing support surfaces, page 45*), i.e. with a shaft tolerance class h9 (E) and a cylindricity tolerance of IT5/2. The seal counterface should also comply with these specifications.

Attachment bolt recommendations

In typical applications, 8.8 class hexagon head bolts in accordance with ISO 4014 can be used together with washers in accordance with ISO 7089 or 7090. If the load does not act perpendicularly toward the base, it may be necessary to use stronger 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 3**). They are valid for oiled, but otherwise untreated, thread surfaces. SKF cannot guarantee that tightening to the recommended value provides sufficient anchoring. Make sure that attachment bolts, stops, and a sufficiently strong support can accommodate all occurring loads.

Table 3

Torques values for cap bolts and attachment bolts

| Housing Size | Cap bolts | | Attachment bolts | |
|-----------------------|-----------|-------------------|------------------|---------------------------------|
| | Size | Tightening torque | Size | Tightening torque ¹⁾ |
| – | – | Nm | – | Nm |
| FSDR 39/850 K | M 36 | 600 | M 48 | 5 450 |
| FSDR 39/1060 K | M 36 | 600 | M 52 | 6 990 |
| FSDR 39/1180 K | M 36 | 600 | M 52 | 6 990 |
| FSDR 49/1320 K | M 42 | 850 | M 52 | 6 990 |
| FSDR 48/1500 K | M 42 | 850 | M 52 | 6 990 |

¹⁾ Recommended by bolt manufacturers.

Lubrication

FSDR .. K housings are intended for grease lubrication. The lubricant should be selected based on the operating conditions of the bearings. For additional information about lubricant selection, refer to the product information available online at skf.com/bearings.

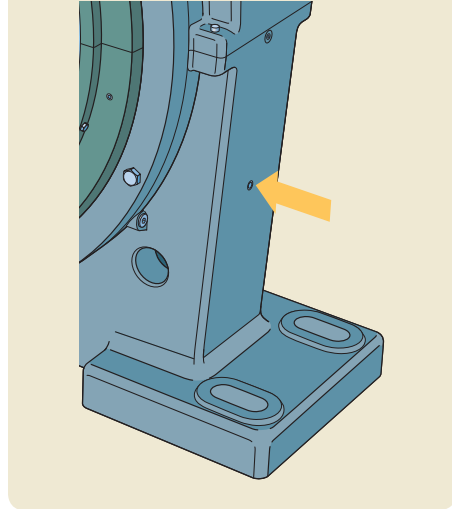
Initial grease fill

If no other requirements exist, the free space in the bearing as well as the gaps of the labyrinth seals should be completely filled with grease. The seal counterfaces should be thoroughly greased. No extra grease is required for the housing.

During start up, additional grease (typically 20 to 60 kg, depending on bearing size) should be added to the bearing over a 30-minute period via the annular groove and relubrication holes in the bearing outer ring.

Detailed information about the initial grease fill is provided in the mounting instructions, which are available on request.

Fig. 7



Relubrication

The spherical roller bearings used in FSDR .. K housings can be relubricated via two drilled and tapped G 3/8 holes in the housing base (→ **fig. 7**). SKF recommends using an automatic lubrication system like the SKF MultiLube pumping unit (→ *Centralized lubrication systems*, **page 48**).

Relubrication instructions (which form part of the mounting instructions for the housings) are available on request.

Relubricating the seals

FSDR .. K housings with one V-ring per side have two drilled and tapped G 1/8 holes in the cover on each side of the housing. Grease introduced in either of the holes will relubricate both the V-ring and the labyrinth seal. Choose the hole that is most convenient (→ **fig. 8**).

FSDR .. K housings size 49/1320 with two V-rings per side have three drilled and tapped holes in the cover on each side of the housing. The hole that supplies grease to the space between the two V-rings has two alternative grease inlets (both G 3/8). Choose the one that is most convenient (→ **fig. 9**). The single hole (G 1/8) supplies lubricant to the labyrinth seal (→ **fig. 10**).

Renewal

Used grease should be replaced with fresh grease on a regular basis, typically every two to three years. Grease samples should be drawn and analyzed, and the interval adjusted accordingly. To simplify the renewal process, the covers and labyrinth rings are split and can be removed without removing the cap.

Fig. 8

Relubricating the labyrinth between the outer seal and cover (one V-ring)

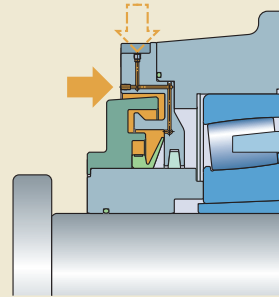


Fig. 9

Relubricating the space between two V-rings

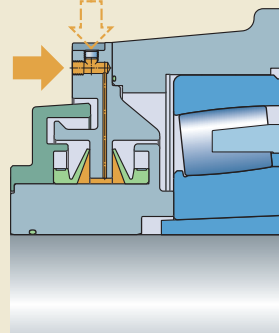
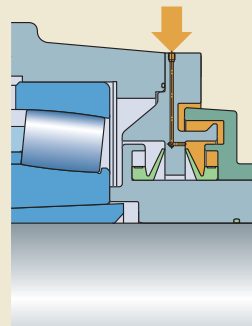


Fig. 10

Relubricating the labyrinth between the outer seal and cover (two V-rings)



Mounting

FSDR .. K housings must be mounted properly using the appropriate tools and state of the art mechanical mounting methods.

Mounting instructions for the housings are available on request.

Torque specifications

The M 24 cover bolts supplied with all housings should be tightened to 665 Nm. The cover bolts are in accordance with ISO 4014.

The M 12 labyrinth ring bolts (in accordance with ISO 4017) supplied with the labyrinth seals should be tightened to 80 Nm.

Cap bolts should be tightened to the torque values listed in **table 3** on **page 649**.

For information about attachment bolts, refer to *Attachment bolt recommendations* on **page 649**.

Ventilating valves

The ventilating valves should be installed on top of the housing cap for use when the housing is in operation. The holes for the valves are plugged on delivery.

Eye bolts and lifting holes

FSDR .. K housings have a cast hole in each integral flange on the cap and one M 16 eye bolt in each cover half (→ **fig. 11**) for safe, easy handling. The labyrinth rings are equipped with adjustable eye bolts (VLBG 0.63t M 10 with bolt, except for size 49/1320, which has M 10 eye bolts) that can be removed after mounting.

Supporting the housing

FSDR housings require two stops, one on each side of the housing, to accommodate loads acting parallel to the housing support surface.

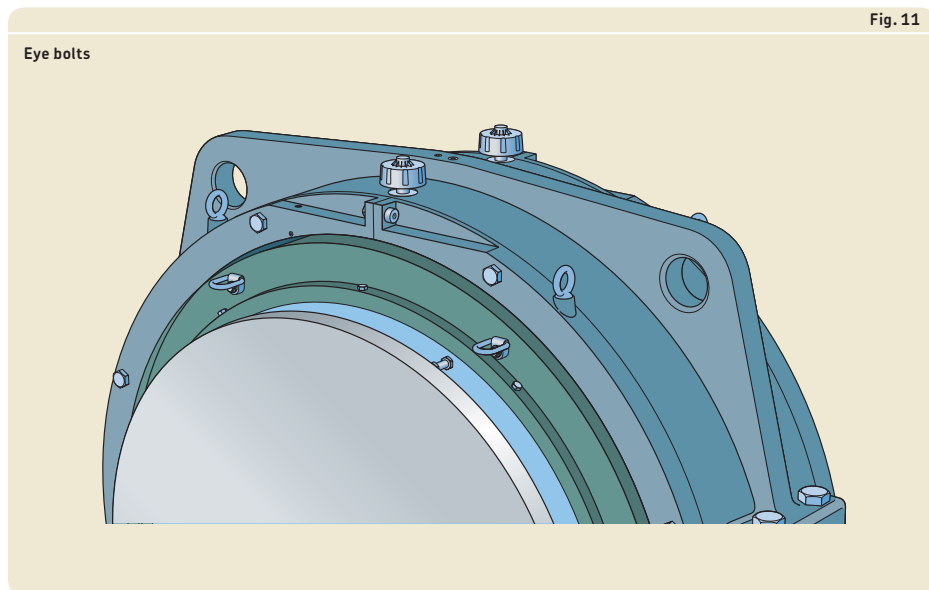


Fig. 11

Condition monitoring

FSDR .. K grinding mill housings have seven drilled and tapped M8 holes for condition monitoring sensors (→ **fig. 12**).

Position 1 and **position 2** (on both sides of the housing) are perpendicular to the shaft.

Positions 3 and **4** (both positions available on both sides of the housing) are parallel to the shaft.

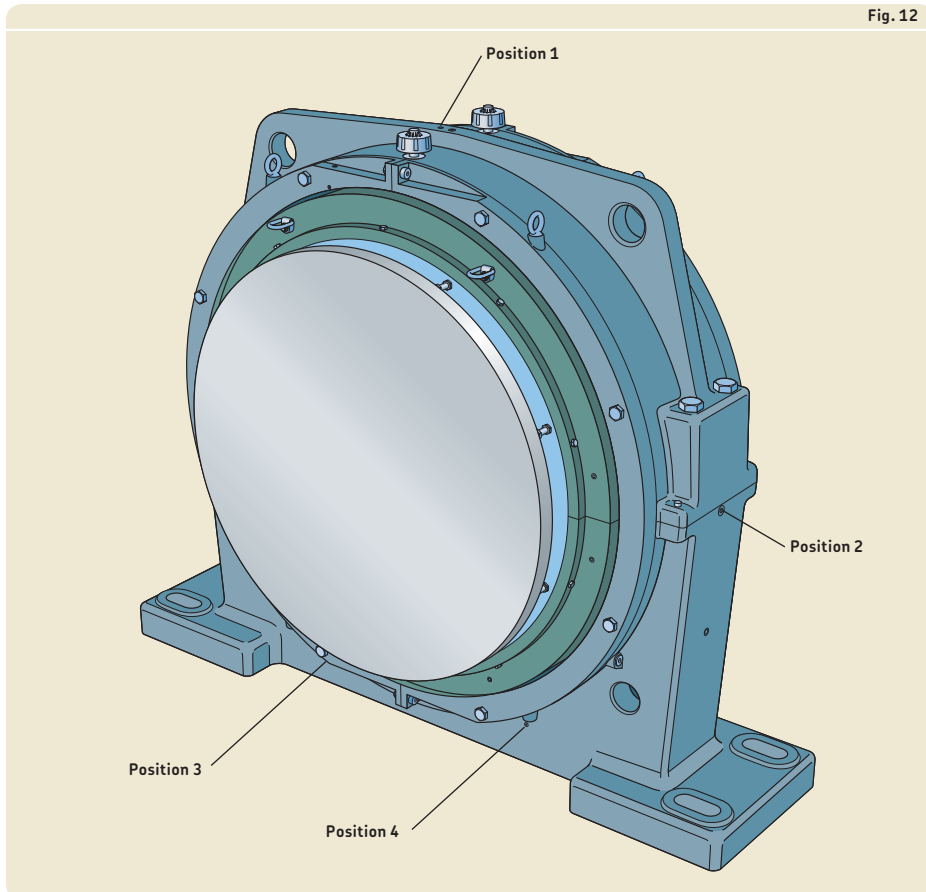
All positions are in accordance with ISO 10816-1.

Accessories

The following accessories are available for FSDR .. K housings:

- Automatic lubricator: SKF MultiLube pumping unit
- Condition monitoring sensors

For additional information, refer to the section *SKF tools and products* (→ **page 47**).



Ordering information

FSDR .. K housings are supplied with the following components:

- housing
- 2 covers, including O-rings and 8 hexagon head bolts per cover (16 in total)
- 2 labyrinth rings, including 10 hexagon head bolts per labyrinth ring (20 in total)
- 2 shaft sleeves, including O-rings
- 2 locating rings
- 2 ventilating valves
- 2 PTFE strips (for all housings except size 49/1320)

The bearings, bearing sleeves, V-ring seals, and clamping bands must be ordered separately.

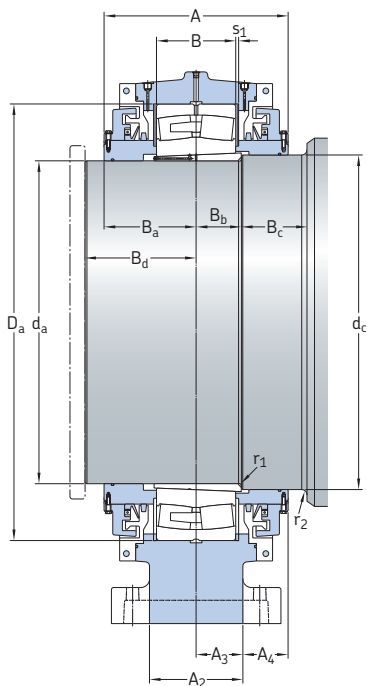
Order example

A trunnion bearing housing (with metric thread connections) is required for a 239/1060 CAK/W33 spherical roller bearing. The following items should be ordered:

- 1 housing FSDR 39/1060 K
- 1 bearing 239/1060 CAK/W33
- 1 bearing sleeve KOH 39/1060
- 2 V-ring seals 1180 VRME R
- 4 clamping bands
RM 15 Art. No. 25538099 Length 1500
- 2 clamping bands
RM ADJUST Art. No. 25539099 Length 700

15.1 FSDR .. K grinding mill housings

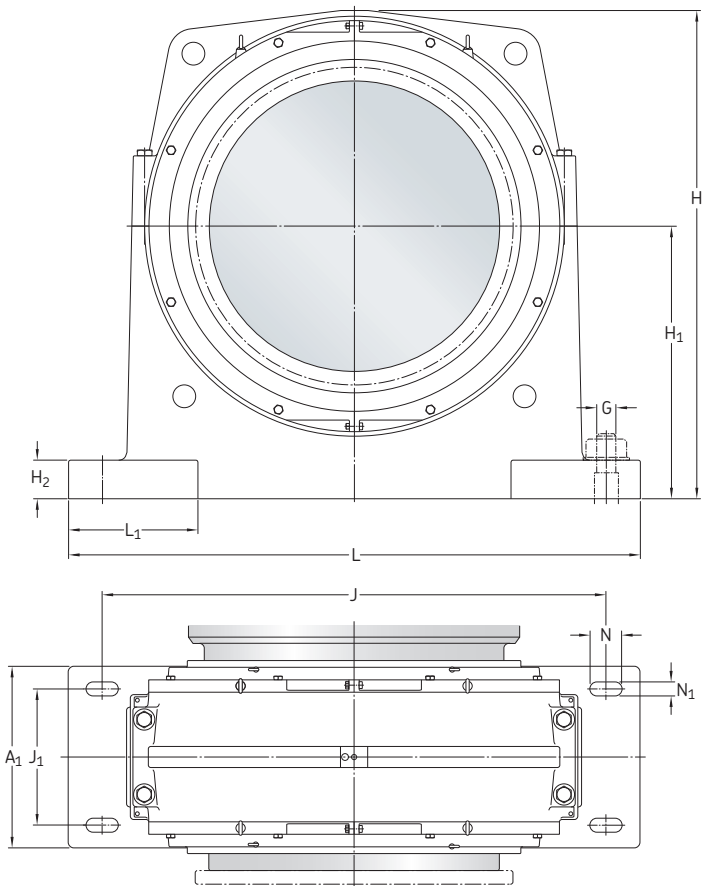
d_a 825 – 1 460 mm



| Shaft diameter d_a | Housing Designation | Appropriate parts Bearing | Unthreaded sleeve | V-ring seal | Dimensions Housing | | | | |
|-------------------------|---------------------|------------------------------|-------------------|---------------------------|--------------------|----------------|----------------|----------------|----------------|
| | | | | | A | A ₁ | A ₂ | A ₃ | A ₄ |
| mm | - | - | | | mm | | | | |
| 825 | FSDR 39/850 K | 239/850 CAK/W33 | KOH 9/850 | 960 VRME R ¹⁾ | 510 | 450 | 235 | 117,5 | 137,5 |
| 1 030 | FSDR 39/1060 K | 239/1060 CAKF/W33 | KOH 9/1060 | 1180 VRME R ¹⁾ | 545 | 560 | 265 | 132,5 | 140 |
| 1 150 | FSDR 39/1180 K | 239/1180 CAKF/W33 | KOH 39/1180 | 1280 VRME R ¹⁾ | 632 | 560 | 285 | 142,5 | 173,5 |
| 1 280 | FSDR 49/1320 K | 249/1320 CAK30F/W33 | 236696-1 | 1425 VRME R ²⁾ | 810 | 800 | 440 | 220 | 185 |
| 1 460 | FSDR 48/1500 K | 248/1500 CAK30FA/W20 | 236558 | 1575 VRME R ¹⁾ | 585 | 800 | 360 | 180 | 112,5 |

¹⁾ Two seals are required for each housing.

²⁾ Four seals are required for each housing.



| Shaft diameter | Dimensions Housing | | | | | | | | | | | | | Dimensions Shaft abutment and fillet | | | | | | Mass Housing | |
|----------------|--------------------|-------|------|------|-------|-------|-----|-------|-----|-------|----|-------|-------|--------------------------------------|-------|------------|------------|-------|------------|--------------|-------|
| | d_a | D_a | B | H | H_1 | H_2 | J | J_1 | L | L_1 | N | N_1 | s_1 | G | d_c | $B_a^{1)}$ | $B_b^{1)}$ | B_c | $B_d^{1)}$ | | r_1 |
| 825 | 1120 | 200 | 1420 | 700 | 100 | 1500 | 290 | 1715 | 430 | 125 | 55 | 10 | 48 | 860 | 255 | 118 | 252 | 310 | 10 | 20 | 2300 |
| 1030 | 1400 | 250 | 1700 | 870 | 120 | 1850 | 370 | 2105 | 520 | 132 | 62 | 10 | 52 | 1070 | 272,5 | 147 | 233 | 360 | 12 | 15 | 3400 |
| 1150 | 1540 | 272 | 1830 | 950 | 110 | 2000 | 370 | 2250 | 500 | 142 | 62 | 10 | 52 | 1190 | 316 | 155 | 245 | 380 | 12 | 20 | 3500 |
| 1280 | 1720 | 400 | 2150 | 1200 | 170 | 2220 | 600 | 2520 | 570 | 142 | 62 | 10 | 52 | 1320 | 405 | 217 | 283 | 500 | 12 | 20 | 6590 |
| 1460 | 1820 | 315 | 2225 | 1200 | 170 | 2320 | 600 | 2620 | 620 | 142 | 62 | 10 | 52 | 1500 | 292,5 | 173 | 182 | 355 | 8 | 25 | 6650 |

¹⁾ Dimension varies depending on the drive-up of the bearing onto the sleeve.



Metric roller bearing units SYNT and FYNT series (SKF ConCentra)

Bearing types

- Spherical roller bearings

Bearing dimension series

- 222

Shaft diameter range

- 35 to 100 mm

Typical shaft-bearing combinations

- Plain shaft with SKF ConCentra sleeve

Seals

- Double-lip
- Labyrinth
- Heavy-duty

Lubrication

- Grease

Mounting

- Two-bolt mounting
(plummer block housings)
- Three- or four-bolt mounting
(flanged housings)

Materials

- Grey cast iron

Compliance to standards

- ISO 113
(two-bolt plummer block housings)

Supersedes

- SYT series

SKF ConCentra roller bearing units are robust, ready-to-mount units that are assembled, lubricated and sealed at the factory for maximum service life. With their simple and safe installation, easy alignment and reliable locking technology, they are an excellent alternative to sleeve-mounted bearings in split housings.

Metric roller bearing units SYNT and FYNT series (SKF ConCentra)

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Designations

Designation system for metric SKF ConCentra roller bearing units

SYNT 45 L W

Series

SYNT Bearing unit with a plummer block housing
FYNT Bearing unit with a flanged housing ¹⁾

Size identification

... Shaft diameter [mm]

Type of arrangement

F Bearing unit for the locating bearing position
L Bearing unit for the non-locating bearing position

Variant

- General (with double-lip seals)
TS High-speed (with labyrinth seals)
TF Extreme environment (with heavy-duty radial shaft seals)
W Relubrication-free (with double-lip seals)

¹⁾ Only available in the general variant.

Designation system for end covers

ECY 211

Series

ECY End cover for SKF ConCentra roller bearing units

Size identification

... Last three digits of the designation of the incorporated bearing

Standard bearing unit design

SKF ConCentra roller bearing units consist of a non-split housing, an SKF spherical roller bearing on an SKF ConCentra stepped sleeve, seals and grease. Bearing units for metric shafts are available in two series, depending on the housing design. Bearing units in the SYNT series have a non-split plummer (pillow) block housing with two holes cast into the base for attachment bolts (→ **fig. 1**). Bearing units in the FYNT series have a flanged housing and are produced in two designs (→ **fig. 2**):

- For shaft diameters from 35 to 60 mm, the housings have a triangular flange and three drilled holes for attachment bolts.
- For shaft diameters from 65 to 100 mm, the housings have a square flange and four drilled holes for attachment bolts.

The bearings used in SKF ConCentra roller bearing units are upgraded SKF Explorer spherical roller bearings in the 222 series. The stepped sleeve has inclined serrations that match the profile of the bearing bore. The bearing unit also contains a mounting collar, washer, back-up collar and wave spring. The mounting collar is equipped with grub (set) screws that are positioned at an angle (not horizontal) to facilitate mounting and dismounting (→ **fig. 3**).

Fig. 1

SYNT series

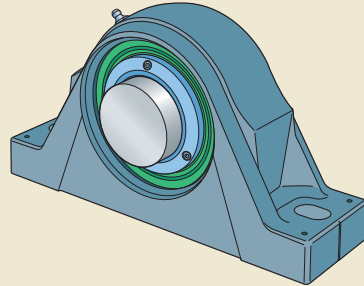
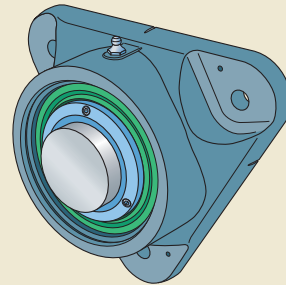
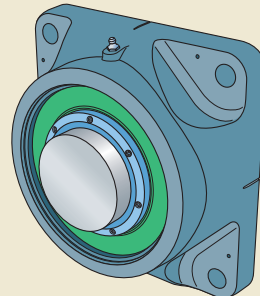


Fig. 2

FYNT series



Shaft diameters from 35 to 60 mm



Shaft diameters from 65 to 100 mm

Concentric locking technology

The locking concept is based on two sets of inclined planes (serrations): one set in the bearing bore, the other on the stepped sleeve. When the grub (set) screws in the mounting collar are tightened, the bearing is displaced axially, forcing the inner ring to expand. This does two things: it sets the correct internal clearance within the bearing and it exerts pressure on the stepped sleeve, forcing it to contract around the circumference of the shaft for a true concentric, tight fit (→ **fig. 4**). When the bearing is displaced axially during mounting, it also pushes against a wave spring. The wave spring, which remains preloaded, facilitates removal of the unit.

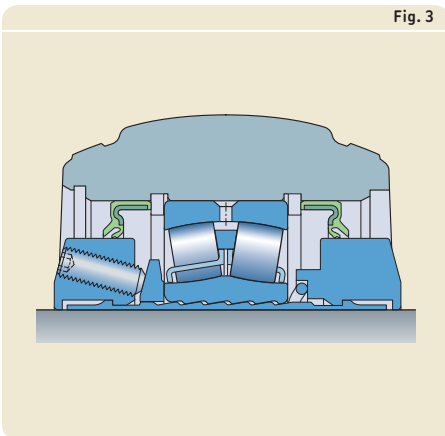


Fig. 3

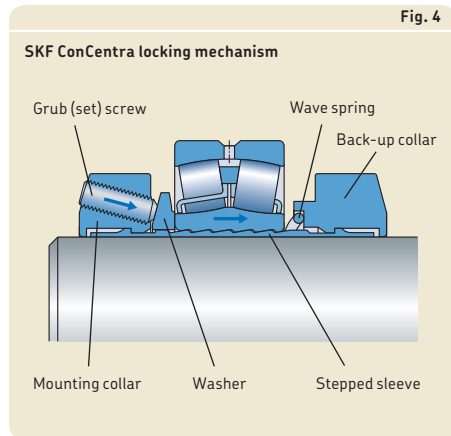


Fig. 4

SKF ConCentra locking mechanism

Grub (set) screw Wave spring
 Back-up collar
 Mounting collar Washer Stepped sleeve

Metric roller bearing units SYNT and FYNT series (SKF ConCentra)

Features and benefits

SKF ConCentra roller bearing units have the following features and benefits:

Ready-to-mount

SKF ConCentra roller bearing units are assembled, greased and ready-to-mount, saving time and reducing the risk of contaminating or damaging the bearing during installation.

Simple mounting

The bearing units can be used with commercial grade shafts and are located easily on the shaft by tightening the grub (set) screws in the mounting collar. To simplify mounting and make alignment more accurate, lines indicating the centre of the bearing seat or the housing bore axis are cast into the housing base or flange. Dimples indicate the position for dowel pins (→ fig. 5).

Concentric locking

Torquing the grub (set) screws to the recommended value sets the internal clearance within the bearing and tightens the sleeve against the shaft. The near perfect 360° grip on the shaft virtually eliminates shaft damage and the possibility of fretting corrosion.

Easy replacement

With SKF ConCentra roller bearing units, logistics costs are reduced as there is only one part to order, store and mount.

Stiff housing

The housing base is reinforced with ribs and the area around the attachment bolt holes is strengthened to minimize the risk of cracking caused by over-tightening the attachment bolts (→ fig. 6).

Optimized for endurance

The upgraded SKF Explorer spherical roller bearings mounted in SKF ConCentra roller bearing units provide a very high load carrying capacity. The special roller profile prevents edge stresses from occurring and the rollers, together with the floating guide ring, keep friction and heat generation to a minimum.

Fig. 5

Cast indications mark the centre of the housing bore or bearing seat

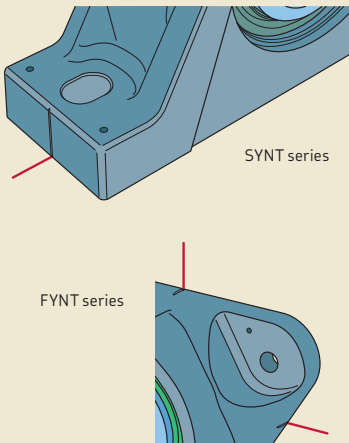
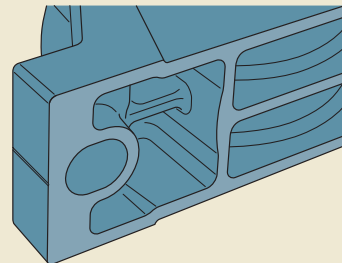


Fig. 6

Reinforcement rib in the base



Housing material

The housings used in SKF ConCentra roller bearing units are made of grey cast iron.

Paint, corrosion protection

The housings are painted black (RAL 9005) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkaline washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Dimension standards

Boundary dimensions of SKF ConCentra roller bearing units in the SYNT series are in accordance with ISO 113. Boundary dimensions for bearing units in the FYNT series are not standardized either nationally or internationally.

Interchangeability

SKF ConCentra roller bearing units in the SYNT series are dimensionally interchangeable with SNL plummer (pillow) block housings in the 5(00) series (→ *Split plummer block housings SNL 2, 3, 5 and 6 series*, starting on **page 55**).

Bearing units in the FYNT series are dimensionally interchangeable with FNL flanged housings (→ *Flanged housings FNL series*, starting on **page 531**).

Bearing unit variants

SKF ConCentra roller bearing units are available in four variants, each optimized to accommodate certain application conditions. Bearing units in the SYNT series are available in all four variants. Bearing units in the FYNT series are only available in the general variant.

With the exception of the relubrication-free variant, SKF ConCentra roller bearing units are filled with a premium lithium grease that contains EP additives. Relubrication-free bearing units are filled with a premium semi-synthetic long-life grease.

For additional information about the sealing solution and grease used in the different variants, refer to the sections *Sealing solutions* (→ page 667) and *Lubrication* (→ page 675) respectively.

General variant

These bearing units are equipped with a double-lip seal on each side. They are suitable for normal to heavy loads ($0,05 C < P \leq 0,15 C^1$) in contaminated environments, e.g. textile machines.

High-speed variant

These bearing units are equipped with a labyrinth seal on each side. They are suitable for normal to heavy loads ($0,05 C < P \leq 0,15 C^1$) in relatively clean to normal environments, e.g. industrial fans and blowers.

Bearing units in the high-speed variant are identified by the designation suffix TS.

Extreme environment variant

These bearing units are equipped with a heavy-duty radial shaft seal on each side. They are suitable for normal to heavy loads ($0,05 C < P \leq 0,15 C^1$) in extremely contaminated environments, e.g. outdoor conveyors.

Bearing units in the extreme environment variant are identified by the designation suffix TF.

Relubrication-free variant

These bearing units are equipped with a double-lip seal on each side. They are suitable for light loads ($P \leq 0,05 C^1$) in relatively clean environments, e.g. industrial air handling units.

Bearing units in the relubrication-free variant are identified by the designation suffix W.

¹⁾ The basic dynamic load rating C is provided in the product tables. To calculate the equivalent dynamic bearing load P, refer to page 678.

Sealing solutions

SKF ConCentra roller bearing units in the SYNT series are available with different sealing solutions (→ **fig. 7**):

- double-lip seals
- labyrinth seals
- heavy-duty radial shaft seals
- end covers

Bearing units in the FYNT series are produced standard with double-lip seals. End covers are also available, but must be ordered separately.

Table 1, page 668 provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, and does not substitute for testing a seal in its application.

Double-lip seals

Double-lip seals are made of acrylonitrile-butadiene rubber (NBR) that is vulcanized onto a stamped steel insert. The steel insert enables the outside surface of the seal to sit firmly in the housing bore, providing a static seal. The seal has an auxiliary lip to protect against coarse contaminants.

Labyrinth seals

As labyrinth seals do not generate friction, bearing units fitted with these seals are cap-

able of relatively high speed operation. The labyrinth is created with three sheet steel rings. Two rings are fixed to the mounting collar / back-up collar. Both rotate with the shaft to act as flingers. The third ring is secured in the housing bore.

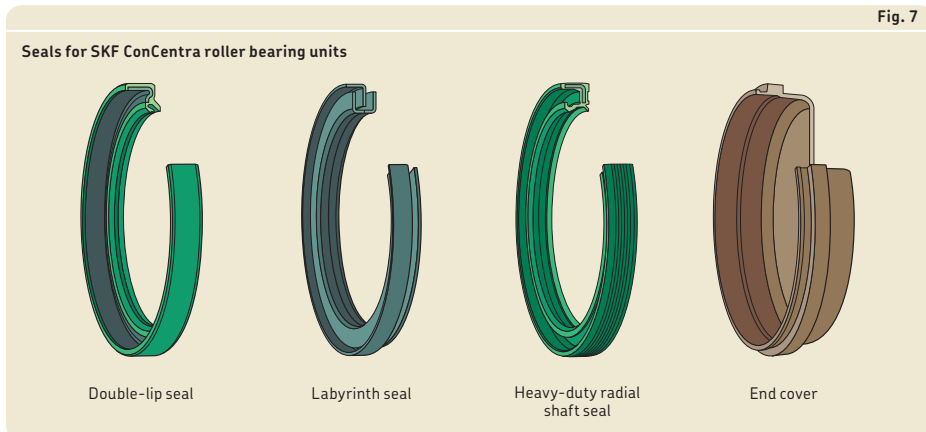
Heavy-duty radial shaft seals

Heavy-duty radial shaft seals with an auxiliary lip provide superior protection against contaminants. These rugged and robust seals have a steel insert that is encased in acrylonitrile-butadiene rubber (NBR). The primary seal lip can maintain its sealing ability even if there is excessive wear. An auxiliary dust lip provides added protection against coarse contaminants.

End covers

Bearing units mounted at the end of a shaft should have an end cover. These are made of plastic and can be snapped easily into the recess of the housing bore.




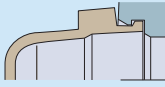
Details of the permissible length of the shaft end are provided in **table 2** on **page 669**.



Metric roller bearing units SYNT and FYNT series (SKF ConCentra)

Table 1

Seals for SKF ConCentra roller bearing units

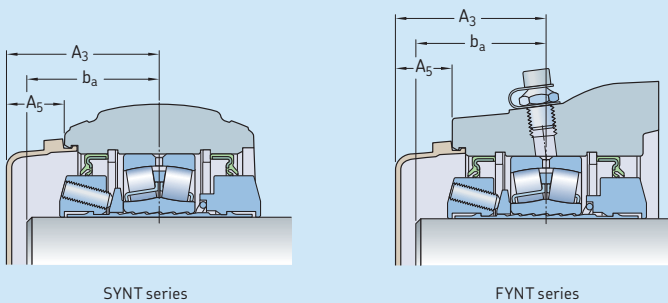
| Seal |  |  |  |  |
|--|--|---|---|--|
| Type | double-lip | labyrinth | heavy-duty radial shaft seal | end cover |
| Variant | general and relubrication-free | high-speed | extreme environment | all |
| Housing series | SYNT FYNT – general variant only | SYNT | SYNT | SYNT and FYNT |
| Material | nitrile rubber, steel | steel | nitrile rubber, steel | polypropylene |
| Application conditions and requirements | | | | |
| Temperature [°C] | -20 to 110 ¹⁾ | -20 to 110 ¹⁾ | -20 to 110 ¹⁾ | -20 to 110 ¹⁾ |
| Temperature [°F] | -5 to 230 ¹⁾ | -5 to 230 ¹⁾ | -5 to 230 ¹⁾ | -5 to 230 ¹⁾ |
| Max. circumferential speed ²⁾ [m/s] | 13 | not limited | 6 | n/a |
| Max. misalignment [°] | 1,5 | 1,5 | 1,5 | n/a |
| Low friction | + | ++ | + | n/a |
| Axial shaft displacement | ++ | - | + | n/a |
| Vertical shaft arrangement | + | + | + | + |
| Sealing suitability | | | | |
| Dust | ++ | - | ++ | ++ |
| Fine particles | ++ | - | ++ | ++ |
| Coarse particles | ++ | + | ++ | ++ |
| Chips | + | ++ | ++ | ++ |
| Liquids when sprayed | + | -- | ++ | ++ |
| Direct sunlight | + | ++ | + | ++ |
| Symbol: | n/a not applicable ++ very suitable + suitable - limited suitability -- unsuitable | | | |

¹⁾ Imposed by the grease.

²⁾ To convert circumferential speeds to rotational speeds, refer to **table 7** on **page 37**.

Table 2

Permissible length of the shaft end



| Bearing unit Size | | Dimensions | | A ₃ | A ₅ |
|----------------------|---------|------------------------|------|----------------|----------------|
| | | b _a min. | max. | | |
| - | | mm | | | |
| SYNT 35 | FYNT 35 | 34 | 43 | 50 | 22 |
| SYNT 40 | FYNT 40 | 34 | 43 | 51 | 23,5 |
| SYNT 45 | FYNT 45 | 34 | 43 | 52 | 23 |
| SYNT 50 | FYNT 50 | 34 | 55 | 62 | 29,5 |
| SYNT 55 | FYNT 55 | 34 | 55 | 66 | 34 |
| SYNT 60 | FYNT 60 | 38 | 65 | 73 | 35,5 |
| SYNT 65 | FYNT 65 | 38 | 65 | 73 | 35,5 |
| SYNT 70 | FYNT 70 | 38 | 70 | 80 | 38,5 |
| SYNT 75 | FYNT 75 | 38 | 70 | 80 | 38,5 |

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

Bearing life

For information about the SKF rating life, minimum load and static safety for bearings in SKF ConCentra roller bearing units, refer to the product information available online at skf.com/bearings. The bearing designations and load carrying capacities are provided in the product tables, starting on **page 686**.

Typical shaft-bearing combinations

SKF ConCentra roller bearing units accommodate bearings on an SKF ConCentra stepped sleeve (with inclined serrations) on plain shafts.

Locating and non-locating bearing positions

SKF ConCentra roller bearing units can be used for both the locating and non-locating bearing positions. Bearing units for the non-locating bearing position have a wide bearing seat to accommodate 2,5 mm of axial displacement, in either direction, from the central position (→ **fig. 8**). Units for the non-locating bearing position are identified by the designation suffix L.

Bearing units for the locating bearing position are identified by the designation suffix F.

Load carrying capacity

SKF ConCentra roller bearing units are intended for loads acting perpendicularly toward the support surface. If the bearing unit is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing. If loads acting in other

directions occur, or if the bearing unit is not supported over its entire base, be sure that the magnitude of the load is permissible for the housing and the attachment bolts. If heavy loads, not acting perpendicularly toward the support surface, are expected, additional supports are recommended to relieve the attachment bolts of the load.

Breaking loads and safety factors

Guideline values for the breaking loads of housings in the SYNT series are listed in **table 3**. Guideline values for the breaking loads of housings in the FYNT series are listed in **table 4, page 672**. To obtain the permissible load for a housing, the appropriate breaking load should be divided by a factor based on the safety requirements. In general engineering, a safety factor of 6 is typical (→ *Load carrying capacity, page 44*).

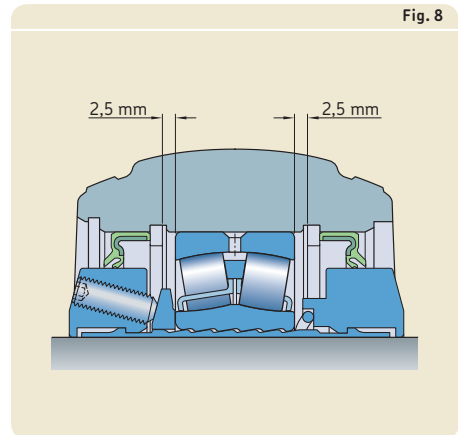
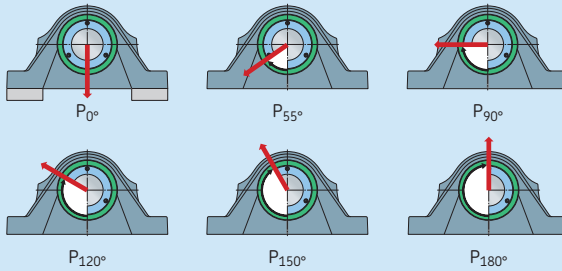


Table 3

Breaking loads for housings of SKF ConCentra roller bearing units in the SYNT series



| Bearing unit Size | Breaking load in the direction of P _{0°} ¹⁾ | Breaking load in the direction of | | | | |
|-------------------|---|-----------------------------------|------------------|-------------------|-------------------|-------------------|
| | | P _{55°} | P _{90°} | P _{120°} | P _{150°} | P _{180°} |
| – | kN | | | | | |
| SYNT 35 | 150 | 250 | 150 | 95 | 85 | 105 |
| SYNT 40 | 160 | 265 | 160 | 100 | 90 | 110 |
| SYNT 45 | 170 | 280 | 170 | 110 | 100 | 115 |
| SYNT 50 | 190 | 330 | 200 | 130 | 115 | 140 |
| SYNT 55 | 210 | 350 | 210 | 140 | 120 | 150 |
| SYNT 60 | 270 | 365 | 220 | 150 | 130 | 170 |
| SYNT 65 | 290 | 380 | 230 | 155 | 140 | 210 |
| SYNT 70 | 350 | 400 | 240 | 160 | 145 | 215 |
| SYNT 75 | 370 | 415 | 250 | 165 | 150 | 220 |
| SYNT 80 | 430 | 480 | 290 | 205 | 190 | 240 |
| SYNT 90 | 470 | 620 | 370 | 280 | 250 | 310 |
| SYNT 100 | 600 | 680 | 410 | 310 | 275 | 340 |

¹⁾ The values for P_{0°} are valid when the housing is not fully supported across its base.

Metric roller bearing units SYNT and FYNT series (SKF ConCentra)

Axial holding power

The axial holding power of an SKF ConCentra roller bearing unit depends on the friction between the shaft and stepped sleeve. It is therefore also dependent on the number of grub (set) screws in the mounting collar (→ table 5).

When mounted correctly, the bearing units can withstand typical shock loads equivalent to the requisite axial holding force. However, the maximum operating axial load is limited by the rated bearing life through the equivalent bearing load P (→ page 678).

Table 5

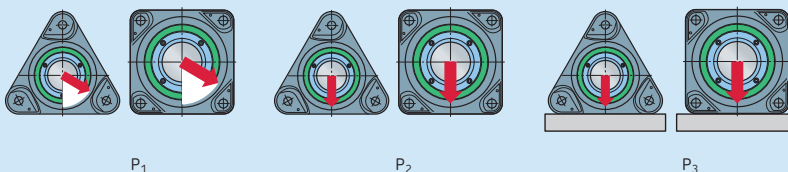
Axial holding power of SKF ConCentra roller bearing units

| Bearing unit Size | No. of grub (set) screws | Axial holding power ¹⁾ |
|-------------------|--------------------------|-----------------------------------|
| – | – | kN |
| SYNT 35 FYNT 35 | 3 | 15 |
| SYNT 40 FYNT 40 | 3 | 15 |
| SYNT 45 FYNT 45 | 3 | 15 |
| SYNT 50 FYNT 50 | 3 | 15 |
| SYNT 55 FYNT 55 | 3 | 15 |
| SYNT 60 FYNT 60 | 3 | 15 |
| SYNT 65 FYNT 65 | 4 | 20 |
| SYNT 70 FYNT 70 | 4 | 20 |
| SYNT 75 FYNT 75 | 5 | 25 |
| SYNT 80 FYNT 80 | 5 | 25 |
| SYNT 90 FYNT 90 | 7 | 35 |
| SYNT 100 FYNT 100 | 7 | 35 |

¹⁾ Not equivalent to the axial load carrying capacity of the bearing unit

Table 4

Breaking loads for housings of SKF ConCentra roller bearing units in the FYNT series



| Bearing unit Size | Breaking load in the direction of | | |
|-------------------|-----------------------------------|----------------|----------------|
| | P ₁ | P ₂ | P ₃ |
| – | kN | | |
| FYNT 35 | 80 | 55 | 95 |
| FYNT 40 | 90 | 60 | 100 |
| FYNT 45 | 100 | 65 | 105 |
| FYNT 50 | 110 | 80 | 110 |
| FYNT 55 | 120 | 95 | 115 |
| FYNT 60 | 130 | 110 | 190 |
| FYNT 65 | 140 | 125 | 265 |
| FYNT 70 | 150 | 140 | 340 |
| FYNT 75 | 160 | 155 | 415 |
| FYNT 80 | 170 | 170 | 490 |
| FYNT 90 | 180 | 185 | 565 |
| FYNT 100 | 190 | 200 | 640 |

Additional housing support for bearing units in the SYNT series

When the housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load.

In cases where the resultant radial load is between 55° and 120° or when the axial load is greater than 5% of P_{180° (→ **table 3, page 671**), the bearing unit should be pinned to its support surface. The dowel pins should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 12 on page 683**.

Radial internal clearance

The upgraded SKF Explorer spherical roller bearings in SKF ConCentra roller bearing units are manufactured standard with C3 radial internal clearance. The clearance values, in accordance with ISO 5753-1, are provided in **table 6** and are valid for unmounted bearings under zero measuring load.

Operating temperature

The permissible operating temperature of SKF ConCentra roller bearing units is limited by the lubricant (→ **table 8, page 675**). For relubrication-free units, refer to the section *Grease*

life for the relubrication-free variant on page 680.

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 80 °C (175 °F) material temperature or 100 °C (210 °F) ambient temperature.

Operating speed

The speeds at which SKF ConCentra roller bearing units can be operated depend on the sealing solution in the bearing unit. For bearing units fitted with double-lip or heavy-duty radial shaft seals, the limiting speeds are based on the permissible circumferential speed at the seal lips. For those fitted with labyrinth seals, the limiting speeds are imposed by the bearing size and the grease.

Guideline values for the limiting speeds are listed in the product tables.

Shaft specifications

SKF ConCentra roller bearing units can be used with commercial grade shafts that meet the h9 \oplus tolerance class for dimensional accuracy and an IT5/2 tolerance for cylindricity, in accordance with ISO 1101.

Table 6

Radial internal clearance of bearings in SKF ConCentra roller bearing unit.

| Bore diameter d | | Radial internal clearance | |
|--------------------|-------|---------------------------|------|
| over | incl. | min. | max. |
| mm | | μm | |
| 30 | 40 | 50 | 65 |
| 40 | 50 | 60 | 80 |
| 50 | 65 | 75 | 95 |
| 65 | 80 | 95 | 120 |
| 80 | 100 | 110 | 140 |

Attachment bolt recommendations

In typical applications, 8.8 class hexagon head bolts in accordance with ISO 4014 can be used together with washers. If the load does not act perpendicularly toward the base or is particularly heavy, it may be necessary to use stronger, 10.9 class bolts.

SKF housings can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers (→ **table 7**). They are valid for oiled, but otherwise untreated, thread surfaces.

SKF cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Table 7

Torque values for attachment bolts

| Bearing unit Size | Attachment bolts | |
|----------------------|------------------|------------------------------------|
| | Size | Tightening torque ¹⁾ |
| – | – | Nm |
| SYNT 35 | M 12 | 80 |
| SYNT 40 | M 12 | 80 |
| SYNT 45 | M 12 | 80 |
| SYNT 50 | M 16 | 200 |
| SYNT 55 | M 16 | 200 |
| SYNT 60 | M 16 | 200 |
| SYNT 65 | M 16 | 200 |
| SYNT 70 | M 20 | 385 |
| SYNT 75 | M 20 | 385 |
| SYNT 80 | M 20 | 385 |
| SYNT 90 | M 24 | 665 |
| SYNT 100 | M 24 | 665 |
| FYNT 35 | M 12 | 80 |
| FYNT 40 | M 12 | 80 |
| FYNT 45 | M 12 | 80 |
| FYNT 50 | M 12 | 80 |
| FYNT 55 | M 12 | 80 |
| FYNT 60 | M 12 | 80 |
| FYNT 65 | M 16 | 200 |
| FYNT 70 | M 16 | 200 |
| FYNT 75 | M 16 | 200 |
| FYNT 80 | M 16 | 200 |
| FYNT 90 | M 20 | 385 |
| FYNT 100 | M 20 | 385 |

¹⁾ Recommended by bolt manufacturers.

Lubrication

SKF ConCentra roller bearing units are intended for grease lubrication.

Initial grease fill

SKF ConCentra roller bearing units in the general, high-speed and extreme environment variants are filled with a mineral oil based lithium grease. The initial grease fill at the factory fills the bearing completely, and 30 to 50% of the free space in the housing.

Relubrication-free bearing units are filled with a semi-synthetic oil based lithium grease. The initial grease fill at the factory fills the bearing completely, and 60 to 80% of the free space in the housing.

The technical specifications of both greases are provided in **table 8**.

For general, high-speed and extreme variants, the grease provides reliable performance when operating between 35 and 110 °C. During start-up, temperatures down to -20 °C are permissible. For short periods, temperatures above 110 °C can be tolerated.

For the relubrication-free variant, the grease provides reliable performance when operating between 35 and 130 °C. During start-up, temperatures down to -30 °C are permissible. For short periods, temperatures above 130 °C can be tolerated.

For additional information about permissible temperatures of rolling bearing greases (the SKF traffic light concept), refer to the information available online at skf.com/bearings.

Relubrication

SKF ConCentra roller bearing units are typically relubricated in order to realize maximum service life. All bearing units have a lubrication hole with a 1/8-27 NPSF thread. They are provided standard with a grease fitting AH 1/8-27 PTF, except for the relubrication-free variant, which has the lubrication hole plugged.

Table 8

Technical specifications for the greases in SKF ConCentra roller bearing units

| Housing variant | Temperature range | Thickener | Base oil type | NLGI consistency class | Base oil viscosity [mm ² /s] | |
|---|-------------------------------|--------------|----------------|------------------------|---|--------------------|
| | | | | | at 40 °C (105 °F) | at 100 °C (210 °F) |
| General, high-speed and extreme temperature | -20 to 110 °C (-5 to 230 °F) | Lithium soap | Mineral | 2 | 200 | 13 |
| Relubrication-free | -30 to 130 °C (-20 to 250 °F) | Lithium soap | Semi-synthetic | 2-3 | 41,9 | 7,5 |

Relubrication intervals

The relubrication interval t_f for SKF ConCentra roller bearing units excluding the relubrication-free variant can be obtained from **diagrams 1 to 3** as a function of:

- the operating temperature
- the rotational speed n [r/min]
- the bearing mean diameter d_m [mm]
(→ **table 9, page 678**)
- the bearing factor b_f (→ **table 9, page 678**, for values of e)
 - $b_f = 2$ when $F_a/F_r \leq e$
 - $b_f = 6$ when $F_a/F_r > e$
- the load ratio
 - $P \leq 0,05 C$ (→ **diagram 1**)
 - $P = 0,1 C$ (→ **diagram 2**)
 - $P = 0,15 C$ (→ **diagram 3**)

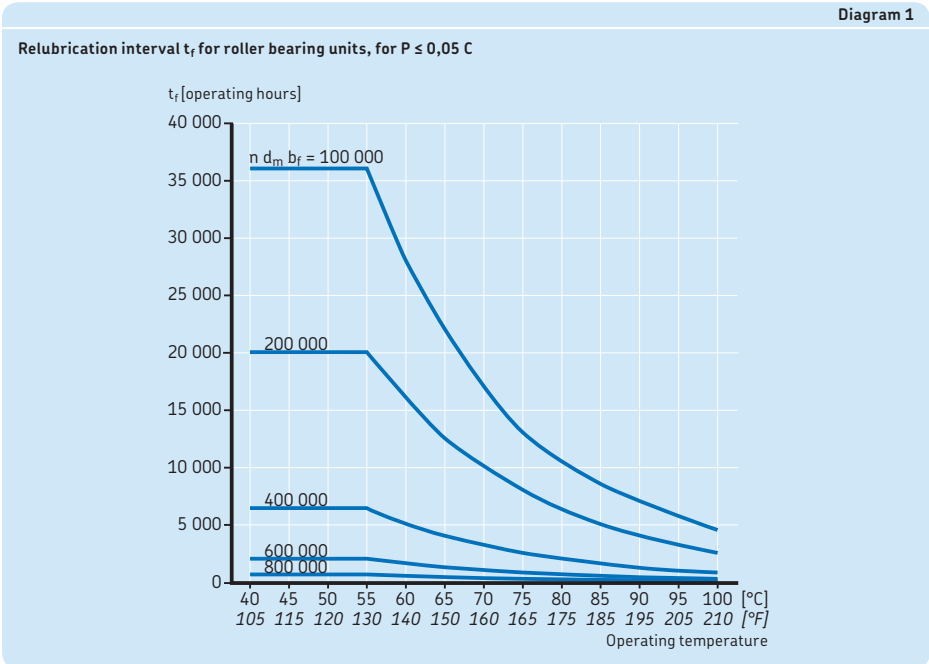


Diagram 2

Relubrication interval t_r for roller bearing units, for $P = 0,1 C$

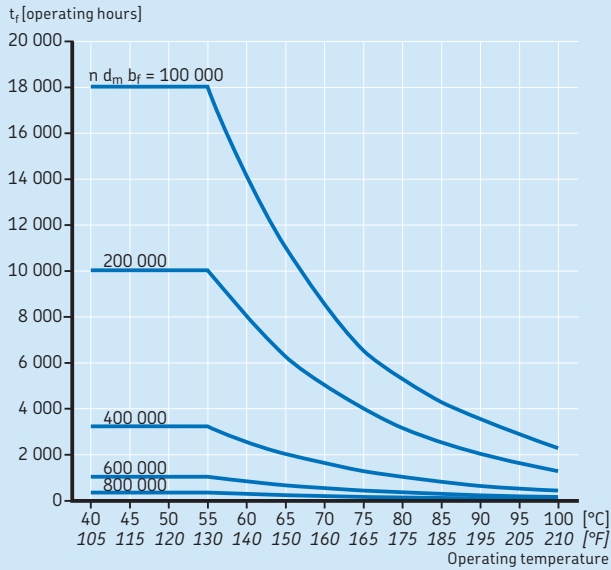
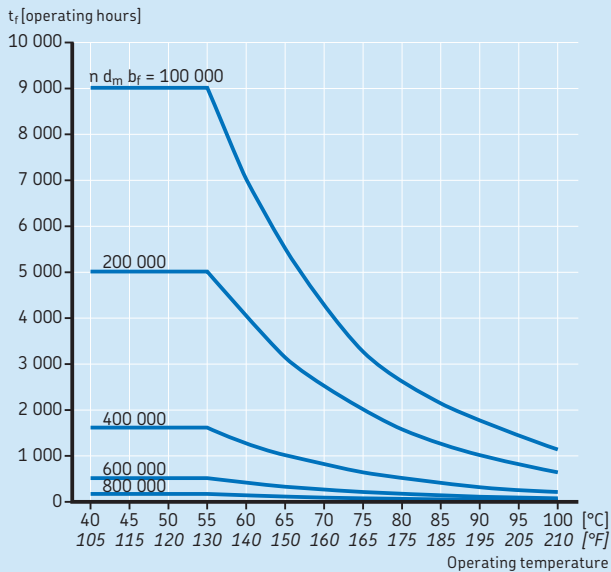


Diagram 3

Relubrication interval t_r for roller bearing units, for $P = 0,15 C$



Metric roller bearing units SYNT and FYNT series (SKF ConCentra)

The basic dynamic load rating C is provided in the product tables. The equivalent dynamic bearing load P can be obtained from

$$P = F_r + Y_1 F_a \quad \text{when } F_a/F_r \leq e$$

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

where

- P = equivalent dynamic bearing load [kN]
 F_r = radial component of the bearing load [kN]
 F_a = axial component of the bearing load [kN]
 Y_1, Y_2 = axial load calculation factors for the bearing (→ **table 9**)
 e = limiting value for F_a/F_r (→ **table 9**)

The calculated relubrication intervals represent the grease life L_{10} , which relates to the time period at the end of which 99% of the bearing units are still reliably lubricated. The intervals are estimated values, applicable for bearing units mounted on horizontal shafts in a relatively clean environment. When operating conditions differ, the relubrication intervals should be adjusted as follows:

- For a vertical shaft, the interval should be halved.
- For outer ring rotation or rotating load, the interval should be halved.
- For contaminated environments, the following reduction factors should be used:
 - 0,5 for moderate contamination
 - 0,3 for severe contamination
 - 0,1 for very severe contamination

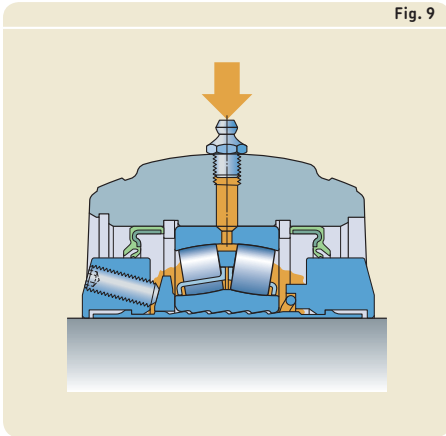
Relubrication procedure

Before relubricating, the grease fitting and the area surrounding it should be cleaned. High-pressure cleaning equipment should be avoided. During relubrication, grease should be introduced via the grease fitting (→ **fig. 9**) while the shaft is rotating slowly. Excessive pressure and over-greasing should be avoided, otherwise the seals may be damaged.

Table 9

Bearing mean diameter and calculation factors for SKF ConCentra roller bearing units

| Bearing unit | | Bearing mean diameter d_m mm | Calculation factors | | |
|--------------|----------|--------------------------------------|---------------------|-------|-------|
| Size | | | e | Y_1 | Y_2 |
| – | | mm | – | | |
| SYNT 35 | FYNT 35 | 53,5 | 0,31 | 2,2 | 3,3 |
| SYNT 40 | FYNT 40 | 60 | 0,28 | 2,4 | 3,6 |
| SYNT 45 | FYNT 45 | 65 | 0,26 | 2,6 | 3,9 |
| SYNT 50 | FYNT 50 | 70 | 0,24 | 2,8 | 4,2 |
| SYNT 55 | FYNT 55 | 77,5 | 0,24 | 2,8 | 4,2 |
| SYNT 60 | FYNT 60 | 85 | 0,24 | 2,8 | 4,2 |
| SYNT 65 | FYNT 65 | 92,5 | 0,24 | 2,8 | 4,2 |
| SYNT 70 | FYNT 70 | 97,5 | 0,22 | 3,0 | 4,6 |
| SYNT 75 | FYNT 75 | 102,5 | 0,22 | 3,0 | 4,6 |
| SYNT 80 | FYNT 80 | 110 | 0,22 | 3,0 | 4,6 |
| SYNT 90 | FYNT 90 | 125 | 0,24 | 2,8 | 4,2 |
| SYNT 100 | FYNT 100 | 140 | 0,24 | 2,8 | 4,2 |



Relubrication quantity

The appropriate quantity of grease for relubrication of SKF ConCentra roller bearing units is provided in **table 10**.

Greases for relubrication

To relubricate SKF ConCentra roller bearing units, SKF recommends using SKF LGEP 2 grease, which is fully compatible with the original grease introduced at the factory. Other compatible greases such as SKF's multi-purpose LGMT 2 and LGMT 3 greases can also be used.

Table 10

Grease quantities for relubrication of SKF ConCentra roller bearing units

| Bearing unit Size | | Grease quantity |
|-------------------|----------|-----------------|
| - | | g |
| SYNT 35 | FYNT 35 | 3 |
| SYNT 40 | FYNT 40 | 4 |
| SYNT 45 | FYNT 45 | 4 |
| SYNT 50 | FYNT 50 | 4 |
| SYNT 55 | FYNT 55 | 5 |
| SYNT 60 | FYNT 60 | 6 |
| SYNT 65 | FYNT 65 | 7 |
| SYNT 70 | FYNT 70 | 8 |
| SYNT 75 | FYNT 75 | 8 |
| SYNT 80 | FYNT 80 | 9 |
| SYNT 90 | FYNT 90 | 13 |
| SYNT 100 | FYNT 100 | 17 |

Grease life for the relubrication-free variant

The grease used in relubrication-free bearing units can adequately lubricate the bearing throughout its service life provided the bearing unit is suitable for the operating conditions. The relationship between operating conditions and grease service life is shown in **diagram 4** and is a function of:

- the operating temperature [$^{\circ}\text{C}$]
- the speed factor $A = n d_m$

where

A = speed factor [mm/min]

n = rotational speed [r/min]

d_m = bearing mean diameter [mm]

(→ **table 9, page 678**)

Provided the operating range of the bearing unit falls within the shaded area of **diagram 4**, the bearing unit can attain a grease life of $L_{50h} = 100\,000$ hours or more. L_{50h} is the time period at the end of which 50% of the units are still reliably lubricated.

Calculation example

An SKF ConCentra roller bearing unit with a plummer block housing is required for an industrial air handling unit. The following application information is known:

- required grease life $L_{50h} = 100\,000$ hours
- equivalent dynamic bearing load $P = 7$ kN
- rotational speed $n = 1\,800$ r/min
- shaft diameter $d_a = 60$ mm
- environmental conditions: relatively clean
- expected operating temperature: 55°C

Based on the shaft diameter provided and the plummer block housing requirement, the SYNT 60 bearing unit is selected. As the application is an industrial air handling unit in a relatively clean environment, the relubrication-free variant would be a suitable choice.

From the product table, the basic dynamic load rating $C = 156$ kN and

$$\text{when } C/P = 156/7 = 22,3$$

$$\text{then } P = 0,045 C$$

Therefore, the bearing unit meets the conditions of use for relubrication-free variants, where $P \leq 0,05 C$.

For $d_m = 85$ mm (→ **table 9, page 678**)

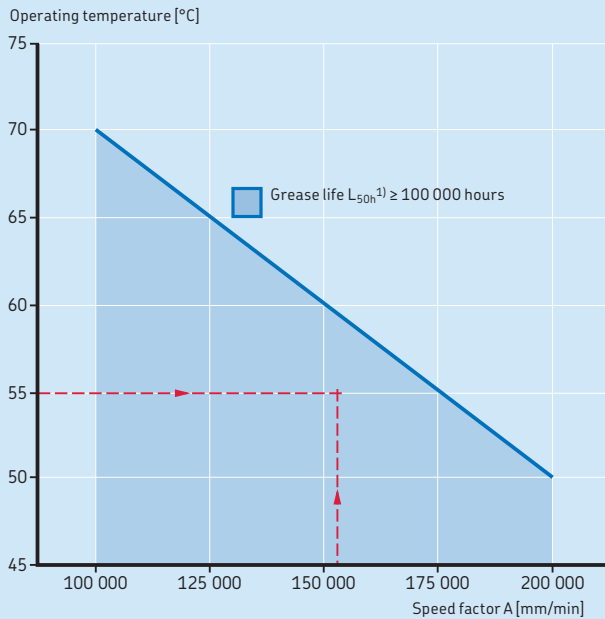
$$A = n d_m = 1\,800 \times 85 = 153\,000 \text{ mm/min}$$

Using **diagram 4**, the intersection point of the calculated speed factor and expected operating temperature of 55°C is located in the shaded area.

The SYNT 60 FW (or SYNT 60 LW) bearing unit meets the grease life requirement and is therefore suitable for the application.

Diagram 4

Temperature-speed relationship for relubrication-free SKF ConCentra roller bearing units



¹⁾ Grease life at 50% reliability

Mounting

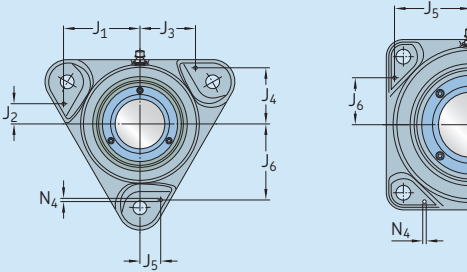
SKF ConCentra roller bearing units must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces on page 45*).

The mounting collar of bearing units in the SYNT and FYNT series is equipped with M6 grub (set) screws, the number of which depends on the size of the bearing unit. SKF recommends using a torque wrench to tighten these grub (set) screws. The tightening torque is 8 Nm.

CAUTION: Do not tighten the grub (set) screws until the bearing unit is positioned on the shaft. If the screws are tightened prematurely, the stepped sleeve may deform.

Table 11

Position and size of dowel pin holes for SKF ConCentra roller bearing units in the FYNT series



| Bearing unit Size | Dimensions | | | | | | |
|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------|
| | J ₁ | J ₂ | J ₃ | J ₄ | J ₅ | J ₆ | N ₄ max. |
| – | mm | | | | | | |
| FYNT 35 | 65 | 17 | 48 | 38,5 | 16 | 66 | 6 |
| FYNT 40 | 71 | 20 | 53 | 43 | 18 | 72 | 6 |
| FYNT 45 | 71 | 20 | 53 | 45,5 | 18 | 72 | 6 |
| FYNT 50 | 77 | 21 | 57 | 49 | 21 | 77 | 6 |
| FYNT 55 | 84 | 22 | 62 | 54,5 | 22 | 84 | 8 |
| FYNT 60 | 90 | 24 | 66 | 59,5 | 24 | 90 | 8 |
| FYNT 65 | – | – | – | – | 85 | 55 | 8 |
| FYNT 70 | – | – | – | – | 87 | 54 | 8 |
| FYNT 75 | – | – | – | – | 93 | 63 | 8 |
| FYNT 80 | – | – | – | – | 95 | 60 | 8 |
| FYNT 90 | – | – | – | – | 112 | 72 | 8 |
| FYNT 100 | – | – | – | – | 122 | 78 | 8 |

Attaching bearing units in the FYNT series to a machine wall

Bearing units in the FYNT series are produced standard with a machined recess, which can be used to centre the housing on a shoulder. With this arrangement, the attachment bolts are not subjected to shear forces. The shoulder can be provided either by machining the wall or by attaching a guide ring to the wall. The dimensions of the recess D_a , are provided in **product table 16.2** on **page 688**.

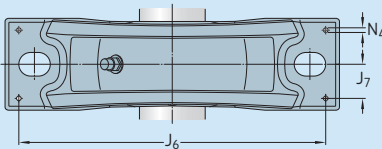
Dowel pins can also be used where necessary. Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 11**.

Pinning or supporting bearing units in the SYNT series

Some load conditions may require the housing to be pinned to its support surface or to provide a stop to accommodate loads acting parallel to the support surface (→ *Additional housing support for bearing units in the SYNT series* on **page 673**). Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 12**.

Table 12

Position and size of dowel pin holes for SKF ConCentra roller bearing units in the SYNT series



| Bearing unit Size | Dimensions | | |
|----------------------|------------|-------|---------------|
| | J_6 | J_7 | N_4 max. |
| mm | | | |
| SYNT 35 | 185 | 21 | 6 |
| SYNT 40 | 185 | 21 | 6 |
| SYNT 45 | 185 | 21 | 6 |
| SYNT 50 | 234 | 26 | 8 |
| SYNT 55 | 234 | 26 | 8 |
| SYNT 60 | 254 | 29 | 8 |
| SYNT 65 | 254 | 29 | 8 |
| SYNT 70 | 290 | 32,5 | 8 |
| SYNT 75 | 292 | 32,5 | 8 |
| SYNT 80 | 320 | 37,5 | 8 |
| SYNT 90 | 355 | 40 | 8 |
| SYNT 100 | 385 | 45 | 8 |

Condition monitoring

SYNT series

SKF ConCentra roller bearing units in the SYNT series are prepared for condition monitoring as they have three flat surfaces cast into the housing (→ **fig. 10**).

Positions 1 and 3 are perpendicular to the shaft, and should be used when the unit is hung from its support or when the load acts away from or toward the support surface.

Position 2 is a measurement point parallel to the shaft and should be used when axial loads occur.

FYNT series

Accelerometers with magnets that can accommodate rounded surfaces can be attached to bearing units in the FYNT series (→ **fig. 11**).

Position 1 (360° surface area) is perpendicular to the shaft, and should be used when the load acts away from or toward the support surface.

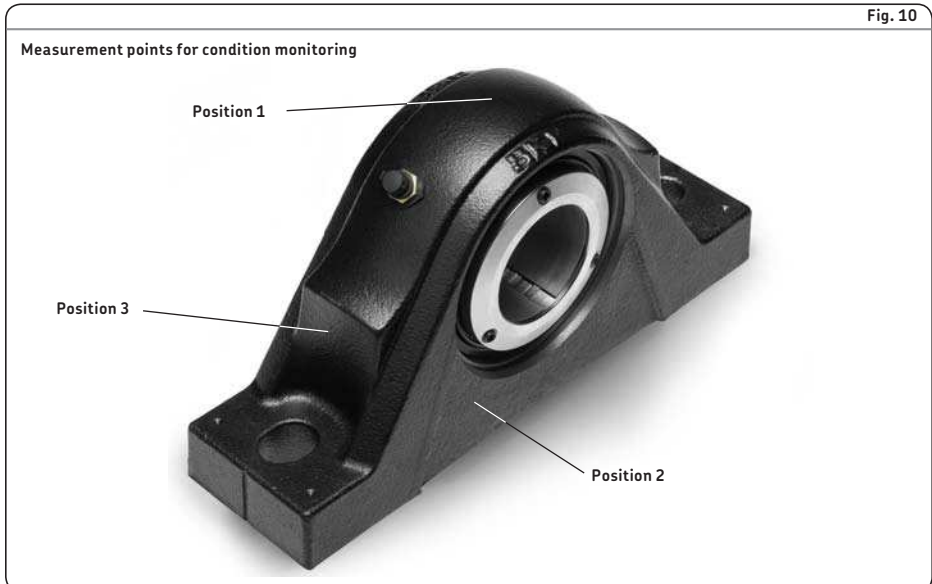
Position 2 (360° surface area) is parallel to the shaft and should be used when axial loads occur.

Accessories

The following accessories are available for SKF ConCentra roller bearing units:

- Adapter for G 1/4 connections: LAPN 1/8
- Automatic lubricator: SKF SYSTEM 24
- Grease meter: LAGM 1000E
- Condition monitoring sensors

For additional information, refer to *SKF tools and products* (→ **page 47**).



Ordering information

SKF ConCentra roller bearing units are supplied assembled, greased and ready-to-mount. End covers must be ordered separately.

Order example

Two SKF ConCentra roller bearing units with a plummer block housing are required for a 50 mm shaft diameter. One bearing unit will accommodate the bearing in the non-locating position at the end of the shaft. The other bearing unit will accommodate the bearing in the locating position and a through shaft. The bearing units should be relubrication-free.

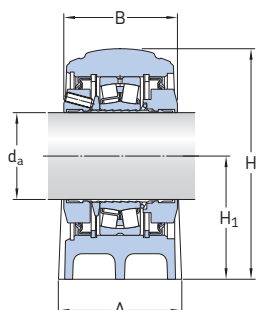
The following items should be ordered:

- 1 bearing unit SYNT 50 FW
- 1 bearing unit SYNT 50 LW
- 1 end cover ECY 210

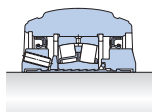


16.1 SKF ConCentra roller bearing units with a plummer block housing, metric shafts

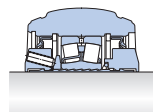
d_a 35 – 100 mm



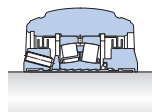
General variant



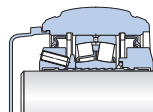
Extreme environment variant
Designation suffix TF



Relubrication-free variant
Designation suffix W



High-speed variant
Designation suffix TS

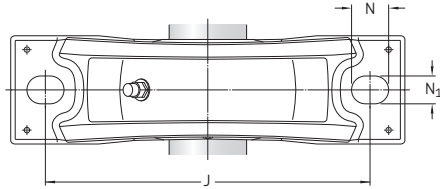
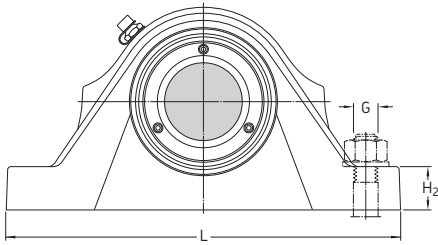


End cover

| Shaft diameter d_a | Bearing unit Designation ¹⁾ Locating | Non-locating | Bearing Designation | Basic load ratings | | Fatigue load limit | End cover Designation |
|-------------------------|---|--------------|------------------------|--------------------|--------|-----------------------|--------------------------|
| | | | | dynamic | static | | |
| mm | – | – | – | C | C_0 | P_u | – |
| | | | | kN | | kN | |
| 35 | SYNT 35 F | SYNT 35 L | 22207 E | 86,5 | 85 | 9,3 | ECY 207 |
| 40 | SYNT 40 F | SYNT 40 L | 22208 E | 96,5 | 90 | 9,8 | ECY 208 |
| 45 | SYNT 45 F | SYNT 45 L | 22209 E | 102 | 98 | 10,8 | ECY 209 |
| 50 | SYNT 50 F | SYNT 50 L | 22210 E | 104 | 108 | 11,8 | ECY 210 |
| 55 | SYNT 55 F | SYNT 55 L | 22211 E | 125 | 137 | 13,7 | ECY 211 |
| 60 | SYNT 60 F | SYNT 60 L | 22212 E | 156 | 166 | 18,6 | ECY 212 |
| 65 | SYNT 65 F | SYNT 65 L | 22213 E | 193 | 216 | 24 | ECY 213 |
| 70 | SYNT 70 F | SYNT 70 L | 22214 E | 208 | 228 | 25,5 | ECY 214 |
| 75 | SYNT 75 F | SYNT 75 L | 22215 E | 212 | 240 | 26,5 | ECY 215 |
| 80 | SYNT 80 F | SYNT 80 L | 22216 E | 236 | 270 | 29 | – |
| 90 | SYNT 90 F | SYNT 90 L | 22218 E | 325 | 375 | 39 | – |
| 100 | SYNT 100 F | SYNT 100 L | 22220 E | 425 | 490 | 49 | – |

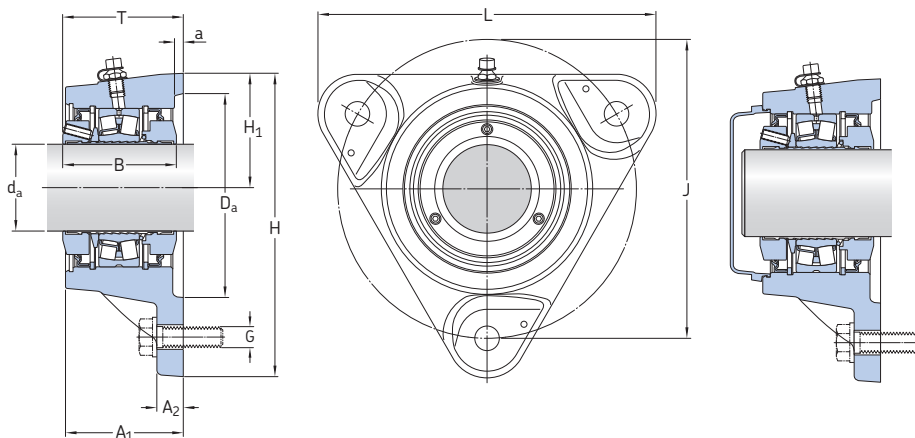
¹⁾ General variant. (For other variants, the appropriate designation suffix should be added.)

²⁾ Also refer to **diagram 4** on **page 681**.



| Shaft diameter d_s | Limiting speeds of unit variants | | | | Dimensions Bearing unit | | | | | | | | | | Mass Unit kg |
|-------------------------|----------------------------------|------------|---------------------|----------------------------------|-------------------------|----|-----|----------------|----------------|-----|-----|----|----------------|----|-----------------|
| | General | High-speed | Extreme environment | Relubrication-free ²⁾ | A | B | H | H ₁ | H ₂ | J | L | N | N ₁ | G | |
| mm | r/min | | | | mm | | | | | | | | | | |
| 35 | 4 100 | 6 500 | 2 050 | 4 100 | 60 | 65 | 111 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,8 |
| 40 | 3 800 | 5 900 | 1 900 | 3 800 | 60 | 65 | 114 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 3,8 |
| 45 | 3 500 | 5 400 | 1 750 | 3 500 | 60 | 65 | 118 | 60 | 25 | 170 | 205 | 20 | 15 | 12 | 4 |
| 50 | 3 300 | 4 900 | 1 650 | 3 300 | 70 | 65 | 131 | 70 | 28 | 210 | 255 | 24 | 18 | 16 | 5,8 |
| 55 | 3 100 | 4 500 | 1 550 | 3 100 | 70 | 66 | 137 | 70 | 30 | 210 | 255 | 24 | 18 | 16 | 6 |
| 60 | 2 900 | 4 100 | 1 450 | 2 900 | 80 | 71 | 151 | 80 | 30 | 230 | 275 | 24 | 18 | 16 | 7,7 |
| 65 | 2 700 | 3 800 | 1 350 | 2 700 | 80 | 72 | 158 | 80 | 30 | 230 | 280 | 24 | 18 | 16 | 8,7 |
| 70 | 2 600 | 3 600 | 1 300 | 2 600 | 90 | 72 | 176 | 95 | 32 | 260 | 315 | 28 | 22 | 20 | 11 |
| 75 | 2 500 | 3 300 | 1 250 | 2 500 | 90 | 72 | 180 | 95 | 32 | 260 | 320 | 28 | 22 | 20 | 12 |
| 80 | 2 300 | 3 100 | 1 150 | 2 300 | 100 | 72 | 191 | 100 | 35 | 290 | 345 | 28 | 22 | 20 | 20 |
| 90 | 2 100 | 2 800 | 1 050 | 2 100 | 110 | 86 | 216 | 112 | 40 | 320 | 380 | 32 | 26 | 24 | 21 |
| 100 | 2 000 | 2 500 | 1 000 | 2 000 | 120 | 86 | 238 | 125 | 45 | 350 | 410 | 32 | 26 | 24 | 26 |

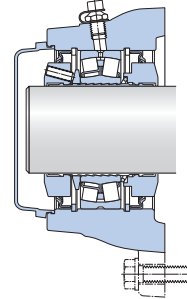
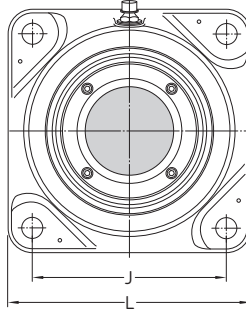
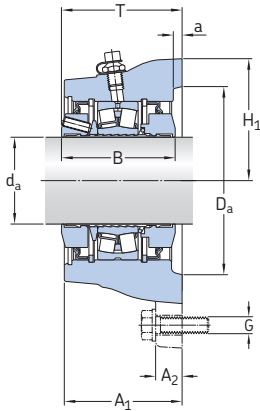
16.2 SKF ConCentra roller bearing units with a flanged housing, metric shafts d_a 35 – 100 mm



Housing design for shaft diameters 35 to 60 mm

End cover

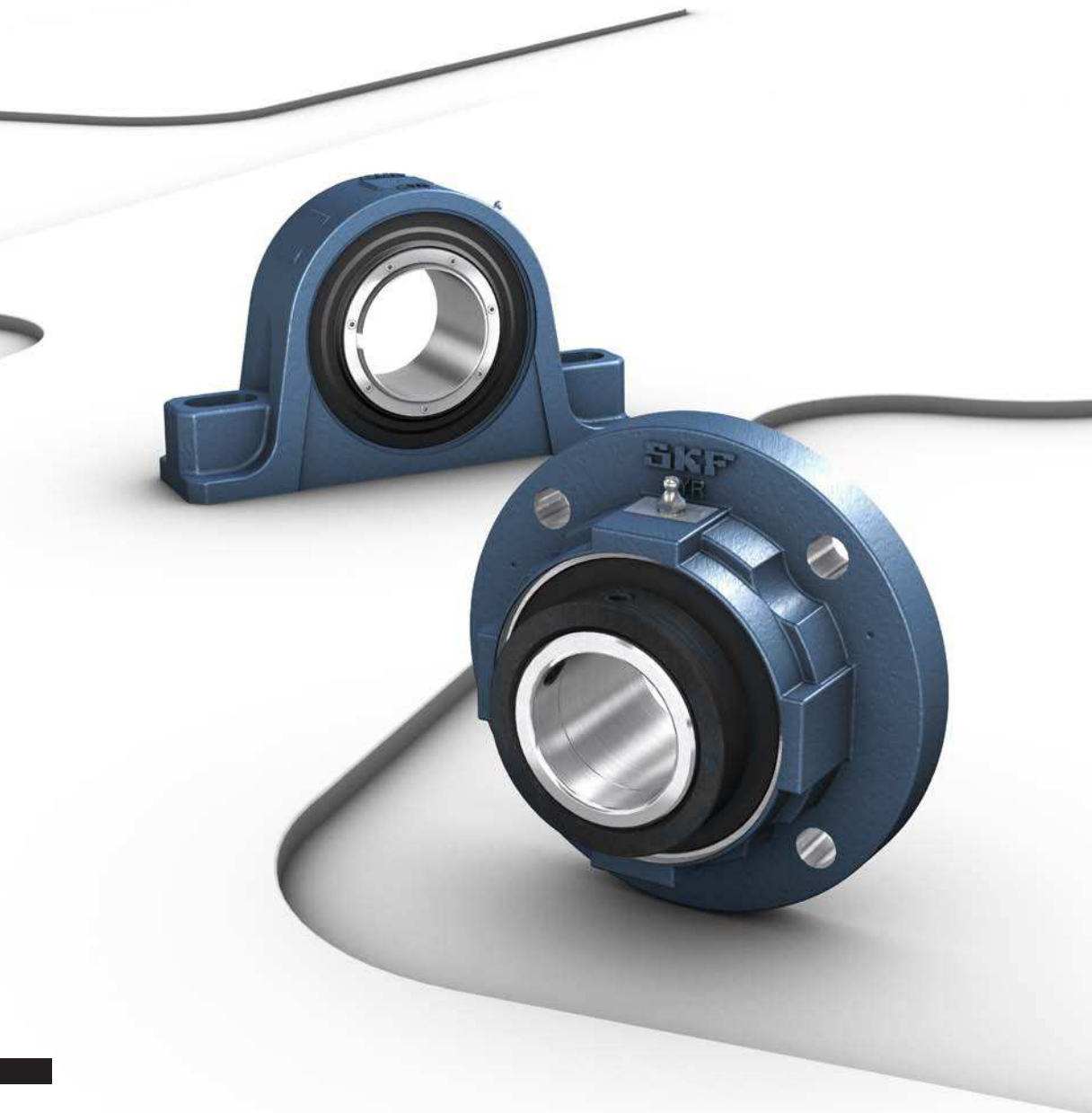
| Shaft diameter d _a | Bearing unit | | Bearing Designation | Basic load ratings | | Fatigue load limit | Limiting speed | End cover Designation |
|----------------------------------|--------------|------------|---------------------|--------------------|----------------|--------------------|----------------|-----------------------|
| | Designation | Locating | | Non-locating | dynamic | | | |
| mm | – | – | – | C | C ₀ | P _u | r/min | – |
| 35 | FYNT 35 F | FYNT 35 L | 22207 E | 86,5 | 85 | 9,3 | 4 100 | ECY 207 |
| 40 | FYNT 40 F | FYNT 40 L | 22208 E | 96,5 | 90 | 9,8 | 3 800 | ECY 208 |
| 45 | FYNT 45 F | FYNT 45 L | 22209 E | 102 | 98 | 10,8 | 3 500 | ECY 209 |
| 50 | FYNT 50 F | FYNT 50 L | 22210 E | 104 | 108 | 11,8 | 3 300 | ECY 210 |
| 55 | FYNT 55 F | FYNT 55 L | 22211 E | 125 | 137 | 13,7 | 3 100 | ECY 211 |
| 60 | FYNT 60 F | FYNT 60 L | 22212 E | 156 | 166 | 18,6 | 2 900 | ECY 212 |
| 65 | FYNT 65 F | FYNT 65 L | 22213 E | 193 | 216 | 24 | 2 700 | ECY 213 |
| 70 | FYNT 70 F | FYNT 70 L | 22214 E | 208 | 228 | 25,5 | 2 600 | ECY 214 |
| 75 | FYNT 75 F | FYNT 75 L | 22215 E | 212 | 240 | 26,5 | 2 500 | ECY 215 |
| 80 | FYNT 80 F | FYNT 80 L | 22216 E | 236 | 270 | 29 | 2 300 | – |
| 90 | FYNT 90 F | FYNT 90 L | 22218 E | 325 | 375 | 39 | 2 100 | – |
| 100 | FYNT 100 F | FYNT 100 L | 22220 E | 425 | 490 | 49 | 2 000 | – |



Housing design for shaft diameters 65 to 100 mm

End cover

| Shaft diameter | Dimensions | | | B | H | J ₁ | J | L | G | D _a | a | Mass Unit | |
|----------------|----------------|----------------|--------|----|-------|----------------|-----|-----|----|----------------|---|-----------|----|
| | A ₁ | A ₂ | T max. | | | | | | | | | | |
| mm | mm | | | | | | | | | | | | kg |
| 35 | 66 | 12 | 72,5 | 65 | 143 | 54 | 140 | 159 | 12 | 90 | 4 | 3 | |
| 40 | 66 | 12 | 72,5 | 65 | 160 | 60 | 160 | 179 | 12 | 100 | 4 | 3,6 | |
| 45 | 66 | 15 | 72,5 | 65 | 160 | 60 | 160 | 179 | 12 | 100 | 5 | 3,9 | |
| 50 | 70 | 15 | 72,7 | 65 | 172,5 | 65 | 170 | 192 | 12 | 105 | 5 | 4,5 | |
| 55 | 70 | 15 | 73,6 | 66 | 189 | 72 | 180 | 210 | 12 | 120 | 5 | 5,9 | |
| 60 | 78 | 15 | 78,7 | 71 | 202,5 | 77,5 | 190 | 225 | 12 | 130 | 5 | 6,7 | |
| 65 | 78 | 25 | 80,3 | 72 | - | 95 | 152 | 190 | 16 | 150 | 6 | 9,3 | |
| 70 | 82 | 25 | 81,3 | 72 | - | 98 | 152 | 196 | 16 | 150 | 6 | 11 | |
| 75 | 82 | 25 | 81,3 | 72 | - | 105 | 170 | 210 | 16 | 170 | 6 | 12 | |
| 80 | 82,5 | 25 | 83 | 72 | - | 105 | 170 | 210 | 16 | 170 | 7 | 13 | |
| 90 | 92 | 30 | 93,5 | 86 | - | 125 | 198 | 250 | 20 | 200 | 6 | 18 | |
| 100 | 98 | 30 | 98,9 | 86 | - | 135 | 219 | 270 | 20 | 220 | 6 | 23 | |



Inch roller bearing units SYE, SYR, FYE and FYR series

Bearing type

- Spherical roller bearings, 222 series

Shaft diameter range

- 1 7/16 to 4 15/16 in.

Typical shaft-bearing combinations

- Plain shaft, bearing fixed using either the locking collar method or the SKF ConCentra locking method

Seals

- Triple-lip
- Labyrinth
- Radial shaft seal

Lubrication

- Grease

Mounting

- Two-bolt mounting
- Four-bolt mounting

Material

- Grey cast iron

Compliance to standards

- Not standardized

SKF inch roller bearings units are robust, ready-to-mount units that are assembled, lubricated and sealed at the factory for maximum service life. With their simple and safe installation and easy alignment, they are an excellent alternative to sleeve-mounted bearings in split housings. The assortment for inch shafts includes SKF ConCentra units and collar-mount units.



Units of measurement

In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on **page 10**.

Inch roller bearing units SYE, SYR, FYE and FYR series

| | | | |
|--|------------|---|-----|
| Designations | 693 | Product tables | |
| Standard bearing unit design | 694 | 17.1 SKF inch roller bearing units with a two-bolt pillow (plummer) block housing | 708 |
| Features and benefits | 696 | 17.2 SKF inch roller bearing units with a four-bolt pillow (plummer) block housing | 714 |
| Housing material | 697 | 17.3 SKF inch roller bearing units with a square flanged housing .. | 716 |
| Sealing solutions | 697 | 17.4 SKF inch roller bearing units with a round or piloted flanged housing | 718 |
| TriGard seals | 698 | | |
| Labyrinth seals | 698 | | |
| Radial shaft seals (garter spring seals) . | 698 | | |
| End plugs | 698 | | |
| Design considerations | 700 | | |
| Bearing life | 700 | | |
| Typical shaft-bearing combinations ... | 700 | | |
| Locating and non-locating bearing positions | 700 | | |
| Load carrying capacity | 703 | | |
| Radial internal clearance | 704 | | |
| Operating temperature | 705 | | |
| Operating speed | 705 | | |
| Shaft specifications | 705 | | |
| Attachment bolt recommendations | 705 | | |
| Lubrication | 706 | | |
| Initial grease fill | 706 | | |
| Relubrication | 706 | | |
| Relubrication intervals | 706 | | |
| Mounting | 707 | | |
| Condition monitoring | 707 | | |
| Accessories | 707 | | |
| Ordering information | 707 | | |

Designations

Designation system for inch roller bearing units

F SYE 2 7/16 NH -118

Prefix

- For pillow block units: two-bolt base
F For pillow block units: four-bolt base

Series

SYE Pillow block unit
SYR Pillow block unit
FYE Square flange unit
FYR Round flange unit
FYRP Piloted flange unit

Size identification

... Shaft diameter [in.]

Suffixes¹⁾

N SKF ConCentra
H Locating bearing unit
Y Closed end (end plug supplied)
-3 Radial shaft seal (for collar-mount units)
-18 Labyrinth seal (for collar-mount units)
-118 Labyrinth seal (for SKF ConCentra units)

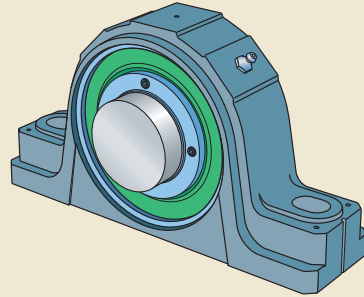
¹⁾ When multiple suffixes are used, they are listed in the same order as shown here.

Standard bearing unit design

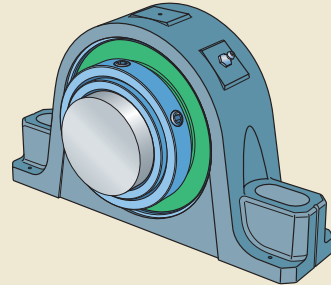
SKF inch roller bearing units consist of a non-split housing, an SKF spherical roller bearing in the 222 series, seals and grease. The bearings are fixed to the shaft using either the locking collar method or the SKF ConCentra locking method (designation suffix N). Inch roller bearing units are available in different series and designs:

- Pillow (plummer) block units with two bolt holes in the base are available in two series. Units in the SYE and SYE .. N series are available for shafts ranging from 1 ⁷/₁₆ to 3 ¹/₂ inches (→ **fig. 1**). Bearing units in the SYR and SYR .. N series are available for shafts ranging from 1 ⁷/₁₆ to 4 inches (→ **fig. 1**).
- Four-bolt base pillow (plummer) block units in the SYE series, designation FSYE and FSYE .. N, are available for shafts ranging from 2 ⁷/₁₆ to 4 ¹⁵/₁₆ inches (→ **fig. 1**).
- Square flange units (FYE series) are available for shafts ranging from 1 ⁷/₁₆ to 4 inches (→ **fig. 2**).
- Round flange units (FYR series) are available for shafts ranging from 1 ⁷/₁₆ to 4 inches (→ **fig. 2**).
- Piloted flange units (FYRP series) are available for shafts ranging from 1 ⁷/₁₆ to 4 inches (→ **fig. 2**).

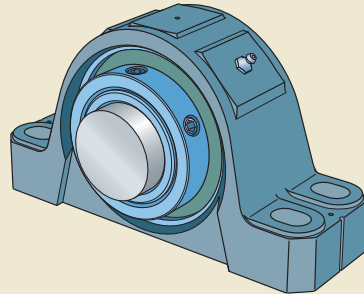
Fig. 1



SYE .. N series

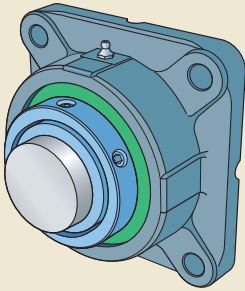


SYR series

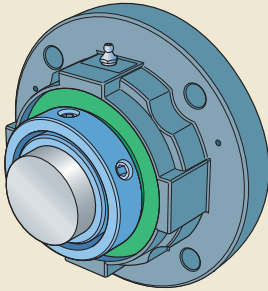


FSYE series

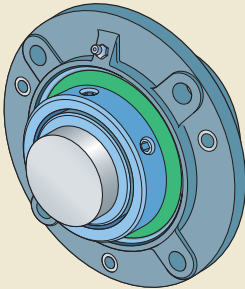
Fig. 2



FYE series



FYR series

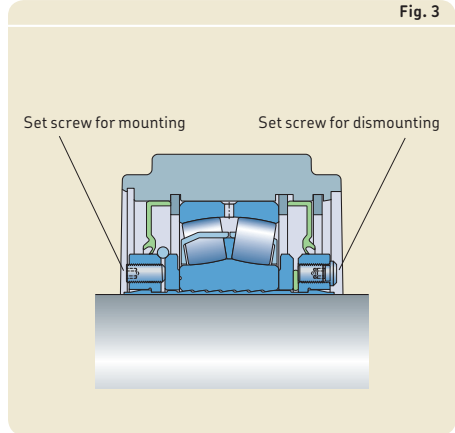


FYRP series

Inch roller bearing units SYE, SYR, FYE and FYR series

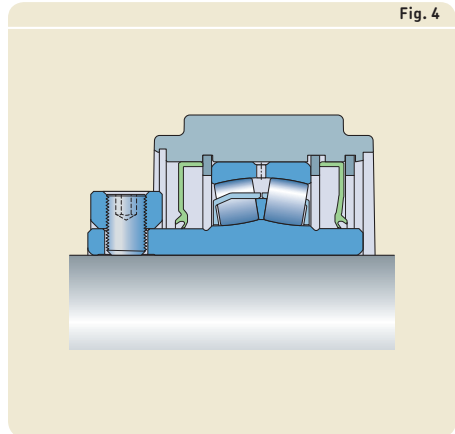
SKF ConCentra locking method

The SKF ConCentra locking concept is based on two sets of inclined planes (serrations): one set in the bearing bore, the other on the stepped sleeve. When the set (grub) screws in the mounting collar are tightened, the bearing is displaced axially, forcing the inner ring to expand. This does two things: it sets the correct internal clearance within the bearing and it exerts pressure on the stepped sleeve, forcing it to contract around the circumference of the shaft for a true concentric, tight fit (→ **fig. 3**). On the opposite side are set (grub) screws for dismounting. An engraving marked "MOUNT.SIDE/DISMOUNT.SIDE" shows the mounting and dismounting sides of the unit.



Locking collar method

The locking collar method uses a collar mounted on the extended inner ring of the bearing (→ **fig. 4**). The extended inner ring has two holes, 62° apart. The collar has two matching tapped holes, each containing a set (grub) screw. When the set (grub) screws are fully tightened, the shaft is held firmly against the inner ring of the bearing.



Features and benefits

SKF roller bearing units share some of the following features and benefits:

Ready-to-mount

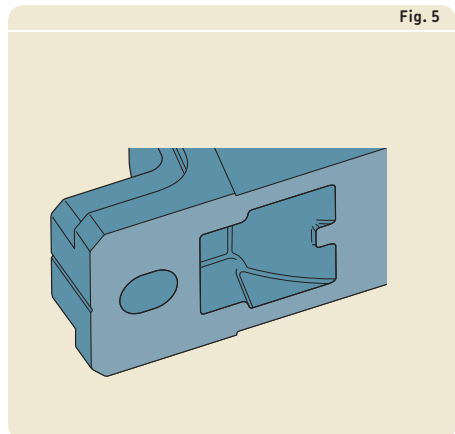
SKF roller bearing units are assembled, greased and ready-to-mount, saving time and reducing the risk of contaminating or damaging the bearing during installation.

Simple mounting

The bearing units can be used with commercial grade shafts and are located easily on the shaft by tightening the set (grub) screws in the mounting collar or locking collar.

Stiff housing

The housing base is reinforced with ribs and the area around the attachment bolt holes is strengthened to minimize the risk of cracking caused by over-tightening the attachment bolts (→ **fig.5**).



Easy replacement

With SKF inch roller bearing units, logistics costs are reduced as there is only one part to order, store and mount.

Housing material

All housings used for SKF inch roller bearing units are made of grey cast iron.

Paint, corrosion protection

The housings are painted blue (RAL 5007) using a water based alkyd/acryl paint. The paint protects the housing in accordance with ISO 12944-2, corrosivity category C2 (i.e. exterior atmospheres with low level of pollution, interior atmospheres where condensation may occur). The paint is not affected by most lubricating or engine oils, cutting fluids or alkalescent washing chemicals. Housings can be repainted with most water or solvent based 1- or 2-component paints.

Unpainted surfaces are protected by a solventless rust inhibitor.

Sealing solutions

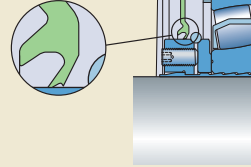
SKF roller bearing units are available with different sealing solutions (→ **fig. 6**):

- triple-lip seals (TriGard)
- labyrinth seals
- radial shaft seals (garter spring seals)
- end plugs

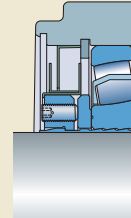
Fig. 6

Sealing solutions for inch roller bearing units

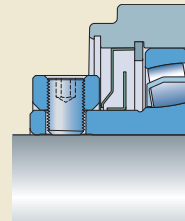
Triple-lip seal
(TriGard)



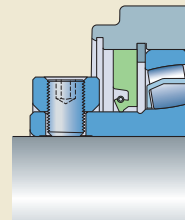
Labyrinth seal
(for SKF ConCentra)



Labyrinth seal
(for collar-mount)



Radial shaft seal



End plug

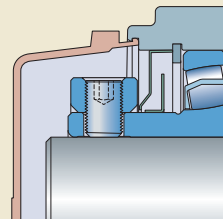


Table 1 provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline and does not substitute for testing a seal in its application.

plugs are identified by the designation suffix Y. For information about the permissible length of the shaft end, contact the SKF application engineering service.

TriGard seals

TriGard seals are standard with inch roller bearing units. These acrylonitrile-butadiene rubber (NBR) seals have the outside surface and seal lips vulcanized to a sheet steel insert. The seal consists of two lips that make contact with the mounting collar or bearing inner ring, and a third, non-contact lip, to protect the seal lips from coarse contaminants. The rubber coated outside circumference secures the seal in the housing and enhances the sealing effect.

Labyrinth seals

As labyrinth seals do not generate friction, bearing units fitted with these seals are capable of relatively high speed operation.

For SKF ConCentra units, the labyrinth is created with three sheet steel rings. Two rings are fixed to the mounting collar or back-up collar and rotate with the shaft to act as flingers. The third ring is secured in the housing bore.

For collar-mount units, the labyrinth is created with two sheet steel rings. One ring is pressed onto the extended inner ring and rotates with the shaft, acting as a flinger. The other ring is secured in the housing bore.

Radial shaft seals (garter spring seals)

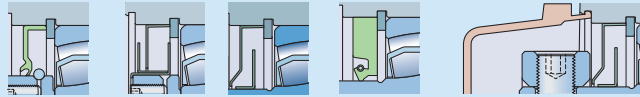
Collar-mount units can be supplied with radial shaft seals on both sides, on request. The seals are made of acrylonitrile-butadiene rubber (NBR) and have no metal reinforcement. They sit firmly in the housing bore providing a static seal. The spring-loaded seal lip provides a dynamic seal against the inner ring shoulder.

End plugs

Bearing units mounted at the end of a shaft should have an end plug (end cover). End plugs for units up to 2¹⁵/₁₆ inches are plastic, while larger sizes are steel. Bearing units with end

Table 1

Seals for inch roller bearing units



Seal

| | | | | |
|----------|-----------------------|-----------|---------------------------------|---|
| Type | triple-lip (TriGard) | labyrinth | radial shaft seal ¹⁾ | end plug |
| Material | nitrile rubber, steel | metal | nitrile rubber | $d_a < 3$ in.: plastic $d_a \geq 3$ in.: steel |

Application conditions and requirements

| | | | | |
|--|-------------------------|-------------------------|-------------------------|---|
| Temperature [°F] | -5 to 230 ²⁾ | -5 to 230 ²⁾ | -5 to 230 ²⁾ | $d_a < 3$ in.: -5 to 230 ²⁾ $d_a \geq 3$ in.: -5 to 230 ²⁾ |
| Max. circumferential speed ³⁾ [m/s] | 13 | not limited | 6 | n/a |
| Max. misalignment [°] | 1,5 | 1,5 | 1,5 | n/a |
| Low friction | + | ++ | - | n/a |
| Axial shaft displacement | ++ | - | + | n/a |
| Vertical shaft arrangement | + | + | + | + |

Sealing suitability

| | | | | |
|----------------------|----|----|----|----|
| Dust | ++ | + | ++ | ++ |
| Fine particles | ++ | + | ++ | ++ |
| Coarse particles | + | + | ++ | ++ |
| Chips | + | ++ | ++ | ++ |
| Liquids when sprayed | + | -- | ++ | ++ |
| Direct sunlight | + | ++ | + | ++ |

Symbols: n/a not applicable ++ very suitable + suitable - limited suitability -- unsuitable

¹⁾ Option only for collar-mount units.

²⁾ Imposed by the grease.

³⁾ To convert circumferential speeds to rotational speeds, refer to **table 7** on **page 37**.

Design considerations

For general information about system design, refer to the following sections:

- *Typical shaft-bearing combinations* (→ **page 41**)
- *Locating/non-locating bearing arrangements* (→ **page 40**)
- *Load carrying capacity* (→ **page 44**)
- *Specifications for shafts and housing support surfaces* (→ **page 45**)

Bearing life

For information about the SKF rating life, minimum load and static safety for bearings in SKF inch roller bearing units, refer to the product information available online at skf.com/bearings. The bearing data are listed in **tables 2** and **3**.

Typical shaft-bearing combinations

SKF inch roller bearing units are designed for plain shafts.

Locating and non-locating bearing positions

SKF inch roller bearing units can be used for both the locating and non-locating bearing positions. Bearing units for the non-locating bearing position have a wide bearing seat to accommodate $\frac{1}{32}$ in. of axial displacement, in either direction from the central position ($\frac{1}{16}$ in. maximum) (→ **fig. 7**).

Bearing units for the locating bearing position are identified by the designation suffix Units for the non-locating bearing position have no suffix.

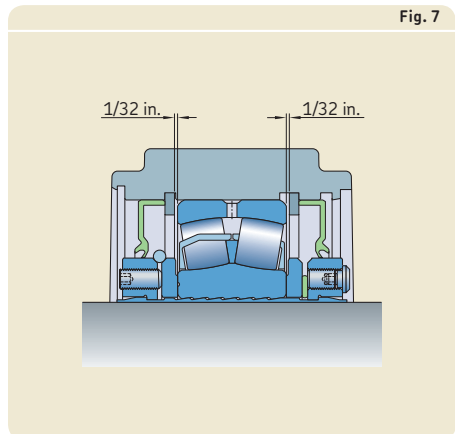


Table 2

Bearing data for inch SKF ConCentra roller bearing units

| Shaft diameter | | Load ratings | | Fatigue load limit | Calculation factors | | | | Bearing mean diameter |
|----------------|-------|--------------|-----------------------|--------------------|---------------------|----------------|----------------|----------------|-----------------------|
| from | to | dynamic C | static C ₀ | P _u | e | Y ₁ | Y ₂ | Y ₀ | d _m |
| in. | | lbf. | | lbf. | – | | | | in. |
| 1 7/16 | 1 1/2 | 21 700 | 20 300 | 2 200 | 0.28 | 2.4 | 3.6 | 2.5 | 2.36 |
| 1 11/16 | 1 3/4 | 23 000 | 22 100 | 2 430 | 0.26 | 2.6 | 3.9 | 2.5 | 2.56 |
| 1 15/16 | 2 | 23 400 | 24 100 | 2 650 | 0.24 | 2.8 | 4.2 | 2.8 | 2.76 |
| 2 3/16 | 2 1/2 | 28 100 | 28 600 | 3 080 | 0.24 | 2.8 | 4.2 | 2.8 | 3.05 |
| 2 7/16 | | 43 400 | 41 100 | 5 400 | 0.24 | 2.8 | 4.2 | 2.8 | 3.64 |
| 2 11/16 | | 47 700 | 54 000 | 5 960 | 0.22 | 3 | 4.6 | 2.8 | 4.04 |
| 3 7/16 | 3 1/2 | 73 100 | 84 400 | 8 770 | 0.24 | 2.8 | 4.2 | 2.8 | 4.92 |
| 3 11/16 | | 95 700 | 110 000 | 11 020 | 0.24 | 2.8 | 4.2 | 2.8 | 5.51 |

Table 3

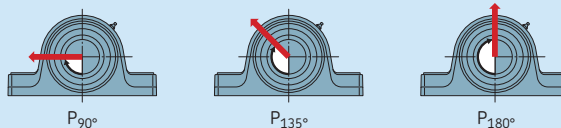
Bearing data for collar-mount roller bearing units

| Shaft diameter | | Load ratings | | Fatigue load limit | Calculation factors | | | | Bearing mean diameter |
|----------------|-------|--------------|-----------------------|--------------------|---------------------|----------------|----------------|----------------|-----------------------|
| from | to | dynamic C | static C ₀ | P _u | e | Y ₁ | Y ₂ | Y ₀ | d _m |
| in. | | lbf. | | lbf. | – | | | | in. |
| 1 7/16 | 1 1/2 | 16 600 | 18 300 | 2 050 | 0.28 | 2.4 | 3.6 | 2.5 | 2.36 |
| 1 11/16 | 1 3/4 | 17 300 | 19 800 | 2 130 | 0.26 | 2.6 | 3.9 | 2.5 | 2.56 |
| 1 15/16 | 2 | 19 000 | 22 500 | 2 470 | 0.24 | 2.8 | 4.2 | 2.8 | 2.76 |
| 2 3/16 | 2 1/2 | 22 400 | 26 500 | 2 900 | 0.24 | 2.8 | 4.2 | 2.8 | 3.05 |
| 2 7/16 | | 33 300 | 41 100 | 4 770 | 0.24 | 2.8 | 4.2 | 2.8 | 3.64 |
| 2 11/16 | | 35 500 | 46 800 | 5 310 | 0.22 | 3 | 4.6 | 2.8 | 4.04 |
| 3 7/16 | 3 1/2 | 56 900 | 76 400 | 8 430 | 0.31 | 2.2 | 3.3 | 2.2 | 4.92 |
| 3 11/16 | | 69 900 | 93 300 | 11 900 | 0.24 | 2.8 | 4.2 | 2.8 | 5.51 |
| 4 7/16 | | 91 700 | 126 000 | 12 800 | 0.25 | 2.7 | 4 | 2.5 | 6.10 |
| 4 15/16 | | 123 000 | 180 000 | 17 500 | 0.26 | 2.6 | 3.9 | 2.5 | 7.09 |

Inch roller bearing units SYE, SYR, FYE and FYR series

Table 4

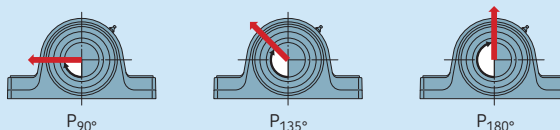
Safe loads for SYE series roller bearing units



| Shaft diameter | | Safe loads | | |
|------------------|------------------|---------------------|-----------------|-----------------|
| from | to | in the direction of | | |
| | | P_{90° | P_{135° | P_{180° |
| in. | | lbf. | | |
| $1\frac{7}{16}$ | $1\frac{7}{16}$ | 4 000 | 1 800 | 1 800 |
| $1\frac{1}{2}$ | $1\frac{1}{2}$ | 7 200 | 4 200 | 4 800 |
| $1\frac{11}{16}$ | $1\frac{11}{16}$ | 7 200 | 4 200 | 4 800 |
| $1\frac{3}{4}$ | $1\frac{3}{4}$ | 9 200 | 5 000 | 5 600 |
| $1\frac{15}{16}$ | 2 | 9 200 | 5 000 | 5 600 |
| $2\frac{3}{16}$ | $2\frac{3}{16}$ | 10 200 | 6 200 | 6 900 |
| $2\frac{7}{16}$ | $2\frac{1}{2}$ | 10 400 | 6 400 | 7 000 |
| $3\frac{11}{16}$ | 3 | 16 000 | 9 600 | 10 800 |
| $3\frac{7}{16}$ | $3\frac{1}{2}$ | 18 000 | 10 400 | 11 800 |

Table 5

Safe loads for SYR series roller bearing units



| Shaft diameter | | Safe loads | | |
|------------------|-----------------|---------------------|-----------------|-----------------|
| from | to | in the direction of | | |
| | | P_{90° | P_{135° | P_{180° |
| in. | | lbf. | | |
| $1\frac{7}{16}$ | $1\frac{1}{2}$ | 6 200 | 3 200 | 3 900 |
| $1\frac{11}{16}$ | $1\frac{3}{4}$ | 7 800 | 4 400 | 5 200 |
| $1\frac{15}{16}$ | 2 | 9 000 | 5 200 | 6 400 |
| $2\frac{3}{16}$ | $2\frac{3}{16}$ | 10 400 | 6 200 | 7 400 |
| $2\frac{7}{16}$ | $2\frac{1}{2}$ | 11 600 | 7 000 | 8 300 |
| $2\frac{11}{16}$ | 3 | 13 000 | 8 200 | 10 000 |
| $3\frac{7}{16}$ | $3\frac{1}{2}$ | 14 600 | 9 200 | 11 300 |
| $3\frac{11}{16}$ | 4 | 16 000 | 10 000 | 12 400 |

Load carrying capacity

Pillow (plummer) blocks

SKF pillow block roller bearing units are intended for loads acting perpendicularly toward the support surface. If the bearing unit is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing.

If loads acting in other directions occur, be sure that the magnitude of the load is permissible for the housing and the attachment bolts. Guideline values for the safe loads of the housings are provided in **tables 4 to 6**. The safe loads have been calculated using a safety factor of 5 against fracture.

If the bearing unit is not supported over its entire base, the load carrying capacity for perpendicular loads may be affected. For additional information, contact the SKF application engineering service.

For a purely axial force, static or dynamic, the permissible load on the housing should not exceed 65% of P_{180° .

Additional housing support

When the housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load.

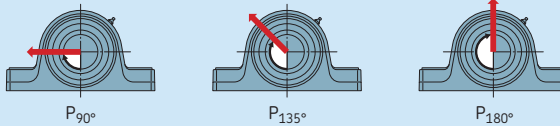
When loads act at angles between 55° and 120° , or when the axial loads are greater than 5% of P_{180° (→ **tables 4 to 6**), the bearing unit should be pinned to the support surface. The dowel pins should be sufficiently strong to accommodate the loads acting parallel to the support surface.

Flanged units

For the safe loads of flanged units, contact the SKF application engineering service.

Table 6

Safe loads for FSYE series roller bearing units



| Shaft diameter | | Safe loads | | |
|----------------|---------|---------------------|-----------------|-----------------|
| from | to | in the direction of | | |
| in. | | P_{90° | P_{135° | P_{180° |
| | | lb. | | |
| 2 7/16 | 3 1/2 | 17 200 | 8 800 | 9 500 |
| 2 11/16 | 3 | 20 800 | 11 000 | 12 000 |
| 3 7/16 | 3 1/2 | 23 600 | 13 600 | 14 400 |
| 3 11/16 | 4 | 26 800 | 16 200 | 16 600 |
| 4 7/16 | 4 1/2 | 29 600 | 18 600 | 19 200 |
| 4 15/16 | 4 15/16 | 32 800 | 20 600 | 21 200 |

Axial holding power

The axial holding power of SKF ConCentra roller bearing units depends on the friction between the shaft and locking device. It is therefore also dependent on the number of set (grub) screws in the mounting collar (→ **table 7**).

For collar-mount units, the axial holding power is determined by the size of the set (grub) screws (→ **table 8**). The values are valid for unhardened shafts after the set screws have been tightened to the recommended torque value.

When mounted correctly, the bearing units can withstand typical shock loads equivalent to the requisite axial holding force. However, the axial load carrying capacity of the bearing unit can be limited by the bearing.

Radial internal clearance

The clearance values for bearings in SKF inch roller bearing units are provided in **tables 9** and **10**. The values are valid for unmounted units under zero measuring load.

Table 7

| Axial holding power of SKF ConCentra roller bearing units | | | | |
|---|---------|------------|-------------------|-----------------------------------|
| Shaft diameter | | Set screws | | Axial holding power ¹⁾ |
| from | to | Number | Tightening torque | |
| in. | | in.-lbf. | | lbf. |
| 1 7/16 | 2 3/16 | 3 | 66 | 3 350 |
| 2 7/16 | 2 3/4 | 4 | 66 | 4 500 |
| 2 15/16 | 3 15/16 | 5 | 66 | 5 600 |
| 3 | 3 1/2 | 4 | 66 | 4 500 |
| 3 7/16 | 4 | 7 | 66 | 7 850 |

¹⁾ Not equivalent to the axial load carrying capacity of the bearing unit.

Table 8

| Axial holding power of collar-mount roller bearing units | | | | | |
|--|---------|------------|-----------|-------------------|-----------------------------------|
| Shaft diameter | | Set screws | | Tightening torque | Axial holding power ¹⁾ |
| from | to | Number | Size | in.-lbf. | lbf. |
| in. | | | | in.-lbf. | lbf. |
| 1 7/16 | 2 3/16 | 2 | 3/8" - 24 | 250 | 515 |
| 2 7/16 | 3 1/2 | 2 | 1/2" - 20 | 620 | 900 |
| 3 1 1/16 | 4 | 2 | 5/8" - 18 | 1 325 | 1 200 |
| 4 7/16 | 4 15/16 | 4 | 5/8" - 18 | 1 325 | 2 400 |

¹⁾ Not equivalent to the axial load carrying capacity of the bearing unit.

Table 9

| Radial internal clearance of bearings in SKF ConCentra roller bearing units | | | |
|---|-------|---------------------------|--------|
| Shaft diameter | | Radial internal clearance | |
| from | to | min. | max. |
| in. | | in. | |
| 1 7/16 | 1 1/2 | 0.0020 | 0.0026 |
| 1 11/16 | 2 | 0.0024 | 0.0031 |
| 2 3/16 | 2 1/2 | 0.0030 | 0.0037 |
| 2 11/16 | 3 | 0.0037 | 0.0047 |
| 3 7/16 | 4 | 0.0043 | 0.0055 |

Table 10

| Radial internal clearance of bearings in collar-mount roller bearing units | | | |
|--|-------|---------------------------|--------|
| Shaft diameter | | Radial internal clearance | |
| from | to | min. | max. |
| in. | | in. | |
| 1 7/16 | 1 1/2 | 0.001 | 0.002 |
| 1 11/16 | 2 | 0.0012 | 0.0022 |
| 2 3/16 | 2 1/2 | 0.0014 | 0.0026 |
| 2 11/16 | 3 | 0.0018 | 0.0031 |
| 3 7/16 | 4 | 0.0024 | 0.0039 |
| 4 7/16 | 4 1/2 | 0.0028 | 0.0047 |
| 4 15/16 | 5 | 0.0035 | 0.0057 |

Operating temperature

The permissible operating temperature is limited by the seals (→ **table 1, page 699**) and the lubricant (→ **table 13, page 706**).

The housing material does not have any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

The housing paint is heat resistant up to 175 °F material temperature or 210 °F ambient temperature.

When temperatures outside the permissible range are expected, contact the SKF application engineering service.

Operating speed

The speeds at which SKF inch roller bearing units can be operated depend on the sealing solution in the bearing unit. For bearing units fitted with TriGard or radial shaft seals, the limiting speeds are based on the permissible circumferential speed at the seal lips (→ **table 1, page 699**). For bearing units fitted with labyrinth seals, the limiting speeds are imposed by the bearing size and grease.

Guideline values for the limiting speeds are listed in the product tables.

Shaft specifications

For SKF ConCentra units, SKF recommends using the shaft tolerances listed in **table 11** for the bearing seat. For collar-mount units, use the values listed in **table 12**.

A small lead-in chamfer should be machined at the shaft end to facilitate mounting.

Attachment bolt recommendations

In typical applications, 8.8 class (SAE J429, Grade 5) hexagon head bolts can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger, 10.9 class (SAE J429, Grade 8) bolts.

SKF inch roller bearing units can withstand loads resulting from tightening the attachment bolts to the torque values recommended by bolt manufacturers. They are valid for oiled, but otherwise untreated, thread surfaces. SKF cannot guarantee that tightening to the recommended value will provide sufficient anchoring. Make sure that attachment bolts, dowels or stops, and a sufficiently strong support can accommodate all occurring loads.

Table 11

| Shaft tolerances for SKF ConCentra units | | | |
|--|-------|-----------|--------|
| Shaft diameter | | Tolerance | |
| from | to | high | low |
| in. | | in. | |
| 1 7/16 | 1 1/2 | 0 | -0.003 |
| 1 11/16 | 2 1/2 | 0 | -0.004 |
| 2 11/16 | 4 | 0 | -0.005 |

Table 12

| Shaft tolerances for collar-mount units | | | |
|---|---------|-----------|---------|
| Shaft diameter | | Tolerance | |
| from | to | high | low |
| in. | | in. | |
| 1 7/16 | 1 15/16 | 0 | -0.0005 |
| 2 | 4 15/16 | 0 | -0.001 |

Lubrication

SKF inch roller bearing units are intended for grease lubrication.

Initial grease fill

SKF inch roller bearing units are filled with a mineral oil based lithium grease that contains EP additives. The initial grease fill at the factory fills the bearing completely and 40 to 50% of the free space in the housing. The technical specifications of the grease are provided in **table 13**. The grease provides reliable performance when operating between 95 and 230 °F. During start-up, temperatures down to -5 °F are permissible. For short periods, temperatures above 230 °F can be tolerated.

For additional information about permissible temperatures of rolling bearing greases (the SKF traffic light concept), refer to the information available online at skf.com/bearings.

Relubrication

SKF inch roller bearing units are typically relubricated in order to realize maximum service life. All bearing units except those in the FYRP series have a lubrication hole with a 1/8-27 NPSF thread. They are provided standard with a grease fitting AH 1/8-27 PTF. Units in the FYRP series have a 1/4-28 UNF straight thread, and are provided with a grease fitting 1/4-28 UNF.

Relubrication intervals

To calculate the relubrication intervals refer to *Relubrication intervals* under *Metric roller bearing units* (→ **page 676**). The relevant calculation factors for SKF inch roller bearing units are provided in **tables 2** and **3** (→ **page 701**).

Relubrication procedure

Before relubricating, the grease fitting and the area surrounding it should be cleaned. High-pressure cleaning equipment should be avoided. During relubrication, grease should be introduced via the grease fitting while the shaft is rotating slowly. Excessive pressure and over-greasing should be avoided, otherwise the seals may be damaged.

Table 13

Technical specifications for the grease in SKF inch roller bearing units

| Property | Specification |
|--------------------------|---------------|
| Thickener | Lithium soap |
| Base oil type | Mineral |
| NLGI consistency class | 2 |
| Temperature range [°F] | -5 to +230 |
| Base oil viscosity [SUS] | |
| • at 105 °F | 900 |
| • at 210 °F | 82 |

Table 14

Grease quantities for relubricating inch roller bearing units

| Shaft diameter | | Grease quantity |
|----------------|--------|-----------------|
| from | to | |
| in. | | g |
| 1 7/16 | 1 1/2 | 4 |
| 1 11/16 | 1 3/4 | 4 |
| 1 15/16 | 2 | 4 |
| 2 3/16 | 2 3/16 | 5 |
| 2 7/16 | 2 1/2 | 7 |
| 2 11/16 | 3 | 8 |
| 3 7/16 | 3 1/2 | 13 |
| 3 11/16 | 4 | 17 |
| 4 7/16 | - | 21 |
| 4 15/16 | - | 28 |

Relubrication quantity

The appropriate quantity of grease for relubrication of SKF inch roller bearing units is provided in **table 14**.

Greases for relubrication

To relubricate SKF inch roller bearing units, SKF recommends using SKF LGEP 2 grease, which is fully compatible with the original grease introduced at the factory. Other compatible greases such as SKF's multipurpose LGMT 2 and LGMT 3 greases can also be used.

Mounting

SKF inch roller bearing units must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces on page 45*). Mounting instructions are provided with each unit.

The mounting collar on SKF ConCentra roller bearing units is equipped with M6 set (grub) screws, the number of which depends on the size of the bearing unit. SKF recommends using a torque wrench to tighten these set (grub) screws. The tightening torque is 66 in-lbf. A specially designed hexagonal key 3L, in accordance with ISO 2936, with a torque indicator is supplied with each bearing unit.

CAUTION: Do not tighten the set (grub) screws until the bearing unit is positioned on the shaft. If the screws are tightened prematurely, the stepped sleeve may deform.

The locking collar of collar-mount units is equipped with two set (grub) screws, the size of which depends on the bearing unit size. SKF recommends using a torque wrench to tighten these set (grub) screws. Recommended tightening torque values are provided in **table 8** (→ **page 704**).

Condition monitoring

SKF inch roller bearing units support condition monitoring during operation. For additional information about condition monitoring and the measurement tools and systems available from SKF, contact the SKF application engineering service.

Accessories

The following accessories are available for SKF inch roller bearing units:

- Grease fitting M1 1/8 NPTF
- Automatic lubricators
- Grease meter: LAGM 1000E
- Condition monitoring sensors

For additional information, refer to *SKF tools and products* (→ **page 47**).

Ordering information

SKF inch roller bearing units are supplied assembled, greased and ready-to-mount.

Order example

Two SKF ConCentra roller bearing units with a pillow (plummer) block housing in the SYE series are required for a 2 in. shaft diameter. The units should be fitted with labyrinth seals. One bearing unit will accommodate the bearing in the non-locating position at the end of the shaft. The other bearing unit will accommodate the bearing in the locating position on a through shaft.

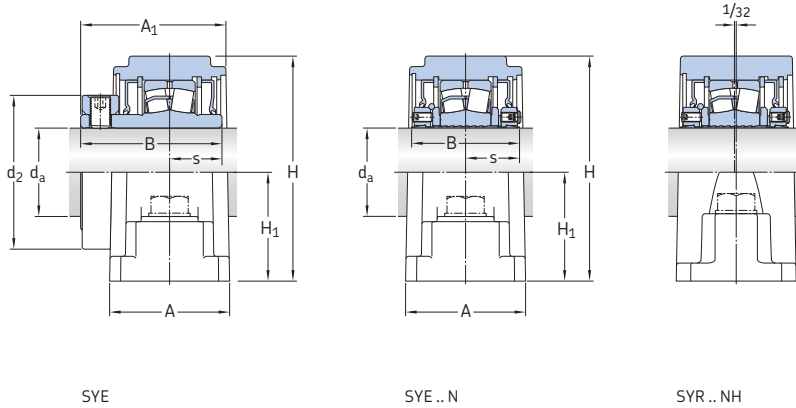
The following items should be ordered:

- 1 bearing unit SYE 2 NY -118
- 1 bearing unit SYE 2 NH -118

17.1 SKF inch roller bearing units with a two-bolt pillow (plummer) block housing

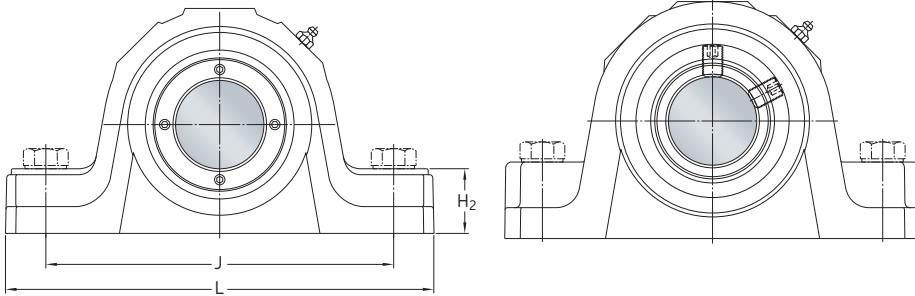
SYE, SYE .. N, SYR and SYR .. N series

d_a 1 7/16 – 2 7/16 in.



| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Basic load rating dynamic C | Limiting speeds | | | Mass lb. | Appropriate attachment bolt size |
|-------------------------|--|--------------------------------|-----------------------|-------------------------|----------------------------|-------------|----------------------------------|
| | | | TriGard seal r/min | Labyrinth seal r/min | Radial shaft seal r/min | | |
| in. | | lbf. | | | | – | |
| 1 7/16 | SYE 17/16 | 16 600 | 5 100 | 5 300 | 1 700 | 8 | 1/2 |
| | SYE 17/16 N | 21 700 | 4 000 | 5 600 | – | 8 | 1/2 |
| | SYR 17/16 | 16 600 | 5 100 | 5 300 | 1 700 | 7 | 1/2 |
| | SYR 17/16 N | 21 700 | 4 000 | 5 600 | – | 7 | 1/2 |
| 1 1/2 | SYE 11/2 | 16 600 | 5 100 | 5 300 | 1 700 | 8 | 1/2 |
| | SYE 11/2 N | 21 700 | 4 000 | 5 600 | – | 8 | 1/2 |
| | SYR 11/2 | 16 600 | 5 100 | 5 300 | 1 700 | 7 | 1/2 |
| | SYR 11/2 N | 21 700 | 4 000 | 5 600 | – | 7 | 1/2 |
| 1 11/16 | SYE 111/16 | 17 300 | 4 500 | 4 700 | 1 600 | 9.3 | 1/2 |
| | SYE 111/16 N | 23 000 | 3 700 | 5 300 | – | 9.3 | 1/2 |
| | SYR 111/16 | 17 300 | 4 500 | 4 700 | 1 600 | 8.1 | 1/2 |
| | SYR 111/16 N | 23 000 | 3 700 | 5 300 | – | 8.1 | 1/2 |
| 1 3/4 | SYE 13/4 | 17 300 | 4 500 | 4 700 | 1 600 | 9.3 | 5/8 |
| | SYE 13/4 N | 23 000 | 3 700 | 5 300 | – | 9.3 | 5/8 |
| | SYR 13/4 | 17 300 | 4 500 | 4 700 | 1 600 | 8.1 | 1/2 |
| | SYR 13/4 N | 23 000 | 3 700 | 5 300 | – | 8.1 | 1/2 |
| 1 15/16 | SYE 115/16 | 19 000 | 4 100 | 4 250 | 1 450 | 10.5 | 5/8 |
| | SYE 115/16 N | 23 400 | 3 500 | 5 000 | – | 10.5 | 5/8 |
| | SYR 115/16 | 19 000 | 4 100 | 4 250 | 1 450 | 9.2 | 5/8 |
| | SYR 115/16 N | 23 400 | 3 500 | 5 000 | – | 9.2 | 5/8 |
| 2 | SYE 2 | 19 000 | 4 100 | 4 250 | 1 450 | 10.5 | 5/8 |
| | SYE 2 N | 23 400 | 3 500 | 5 000 | – | 10.5 | 5/8 |
| | SYR 2 | 19 000 | 4 100 | 4 250 | 1 450 | 9.2 | 5/8 |
| | SYR 2 N | 23 400 | 3 500 | 5 000 | – | 9.2 | 5/8 |
| 2 3/16 | SYE 23/16 | 22 400 | 3 700 | 3 800 | 1 300 | 13.5 | 5/8 |
| | SYE 23/16 N | 28 100 | 3 250 | 4 500 | – | 13.5 | 5/8 |
| | SYR 23/16 | 22 400 | 3 700 | 3 800 | 1 300 | 12 | 5/8 |
| | SYR 23/16 N | 28 100 | 3 250 | 4 500 | – | 12 | 5/8 |
| 2 7/16 | SYE 27/16 | 33 300 | 3 100 | 3 250 | 1 100 | 18.5 | 5/8 |
| | SYE 27/16 N | 43 400 | 2 900 | 3 800 | – | 18.5 | 5/8 |
| | SYR 27/16 | 33 300 | 3 100 | 3 250 | 1 100 | 16 | 5/8 |
| | SYR 27/16 N | 43 400 | 2 900 | 3 800 | – | 16 | 5/8 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



SYE ..N

SYR

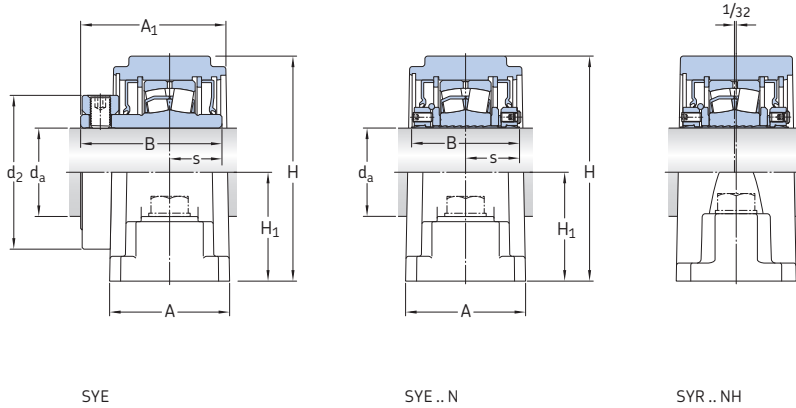
| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Dimensions | | | | | | | | | | |
|-------------------------|---|------------|----------------|---------|-------|---------|----------------|----------------|-----------|-----------|--------|-------|
| | | A | A ₁ | B | d_2 | H | H ₁ | H ₂ | J max. | J min. | L | s |
| in. | - | in. | | | | | | | | | | |
| 17/16 | SYE 17/16 | 2 1/8 | 2 27/32 | 2 3/4 | 2 3/8 | 3 7/8 | 1 7/8 | 1 1/8 | 6 | 5 1/2 | 7 3/8 | 1 |
| | SYE 17/16 N | 2 1/8 | - | 2 11/32 | - | 3 7/8 | 1 7/8 | 1 1/8 | 6 | 5 1/2 | 7 3/8 | 1.17 |
| | SYR 17/16 | 2 1/8 | 2 13/16 | 2 3/4 | 2 3/8 | 3 7/8 | 1 7/8 | 1 3/16 | 5 5/16 | 4 11/16 | 6 7/8 | 1 |
| | SYR 17/16 N | 2 1/16 | - | 2 11/32 | - | 3 7/8 | 1 7/8 | 1 3/16 | 5 5/16 | 4 11/16 | 6 7/8 | 1.17 |
| 1 1/2 | SYE 11/2 | 2 3/8 | 2 31/32 | 2 3/4 | 2 3/8 | 4 1/4 | 2 1/8 | 1 1/4 | 6 1/2 | 6 | 7 7/8 | 1 |
| | SYE 11/2 N | 2 3/8 | - | 2 11/32 | - | 4 1/4 | 2 1/8 | 1 1/4 | 6 1/2 | 6 | 7 7/8 | 1.17 |
| | SYR 11/2 | 2 1/8 | 2 13/16 | 2 3/4 | 2 3/8 | 3 7/8 | 1 7/8 | 1 3/16 | 5 5/16 | 4 11/16 | 6 7/8 | 1 |
| | SYR 11/2 N | 2 1/16 | - | 2 11/32 | - | 3 7/8 | 1 7/8 | 1 3/16 | 5 5/16 | 4 11/16 | 6 7/8 | 1.17 |
| 1 11/16 | SYE 111/16 | 2 3/8 | 2 31/32 | 2 7/8 | 2 5/8 | 4 1/4 | 2 1/8 | 1 1/4 | 6 1/2 | 6 | 7 7/8 | 1 |
| | SYE 111/16 N | 2 3/8 | - | 2 11/32 | - | 4 1/4 | 2 1/8 | 1 1/4 | 6 1/2 | 6 | 7 7/8 | 1.17 |
| | SYR 111/16 | 2 3/8 | 2 15/16 | 2 7/8 | 2 5/8 | 4 1/4 | 2 1/8 | 1 5/16 | 5 13/16 | 5 3/16 | 7 3/8 | 1 |
| | SYR 111/16 N | 2 1/8 | - | 2 11/32 | - | 4 1/4 | 2 1/8 | 1 5/16 | 5 13/16 | 5 3/16 | 7 3/8 | 1.17 |
| 1 3/4 | SYE 13/4 | 2 1/2 | 3 5/32 | 2 7/8 | 2 5/8 | 4 1/2 | 2 1/4 | 1 5/16 | 7 1/4 | 6 3/4 | 8 7/8 | 1 |
| | SYE 13/4 N | 2 1/2 | - | 2 11/32 | - | 4 1/2 | 2 1/4 | 1 5/16 | 7 1/4 | 6 3/4 | 8 7/8 | 1.17 |
| | SYR 13/4 | 2 3/8 | 2 15/16 | 2 7/8 | 2 5/8 | 4 1/4 | 2 1/8 | 1 5/16 | 5 13/16 | 5 3/16 | 7 3/8 | 1 |
| | SYR 13/4 N | 2 1/8 | - | 2 11/32 | - | 4 1/4 | 2 1/8 | 1 5/16 | 5 13/16 | 5 3/16 | 7 3/8 | 1.17 |
| 1 15/16 | SYE 115/16 | 2 1/2 | 3 5/32 | 2 7/8 | 2 7/8 | 4 1/2 | 2 1/4 | 1 5/16 | 7 1/4 | 6 3/4 | 8 7/8 | 1 |
| | SYE 115/16 N | 2 1/2 | - | 2 11/32 | - | 4 1/2 | 2 1/4 | 1 5/16 | 7 1/4 | 6 3/4 | 8 7/8 | 1.17 |
| | SYR 115/16 | 2 3/8 | 2 15/16 | 2 7/8 | 2 7/8 | 4 9/16 | 2 1/4 | 1 3/8 | 6 9/16 | 5 15/16 | 8 3/8 | 1 |
| | SYR 115/16 N | 2 5/16 | - | 2 11/32 | - | 4 9/16 | 2 1/4 | 1 3/8 | 6 9/16 | 5 15/16 | 8 3/8 | 1.17 |
| 2 | SYE 2 | 2 5/8 | 3 11/32 | 2 7/8 | 2 7/8 | 5 | 2 1/2 | 1 1/2 | 8 | 7 1/2 | 9 5/8 | 1 |
| | SYE 2 N | 2 5/8 | - | 2 11/32 | - | 5 | 2 1/2 | 1 1/2 | 8 | 7 1/2 | 9 5/8 | 1.17 |
| | SYR 2 | 2 3/8 | 2 15/16 | 2 7/8 | 2 7/8 | 4 9/16 | 2 1/4 | 1 3/8 | 6 9/16 | 5 15/16 | 8 3/8 | 1 |
| | SYR 2 N | 2 5/16 | - | 2 11/32 | - | 4 9/16 | 2 1/4 | 1 3/8 | 6 9/16 | 5 15/16 | 8 3/8 | 1.17 |
| 2 3/16 | SYE 23/16 | 2 5/8 | 3 11/32 | 3 1/8 | 3 1/4 | 5 | 2 1/2 | 1 1/2 | 8 | 7 1/2 | 9 5/8 | 1 1/8 |
| | SYE 23/16 N | 2 5/8 | - | 2 11/32 | - | 5 | 2 1/2 | 1 1/2 | 8 | 7 1/2 | 9 5/8 | 1.1 |
| | SYR 23/16 | 2 3/8 | 3 7/16 | 3 1/8 | 3 1/4 | 5 11/16 | 2 1/2 | 1 5/8 | 7 1/16 | 6 13/16 | 8 7/8 | 1 1/8 |
| | SYR 23/16 N | 2 3/8 | - | 2 11/32 | - | 5 | 2 1/2 | 1 5/8 | 7 1/16 | 6 7/16 | 8 7/8 | 1.1 |
| 2 7/16 | SYE 27/16 | 2 7/8 | 3 19/32 | 3 3/8 | 4 | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 10 1/2 | 1 1/4 |
| | SYE 27/16 N | 2 7/8 | - | 2 37/64 | - | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 10 1/2 | 1.29 |
| | SYR 27/16 | 2 11/16 | 3 7/16 | 3 3/8 | 4 | 5 11/16 | 2 3/4 | 1 3/4 | 7 7/16 | 6 13/16 | 9 1/4 | 1 1/4 |
| | SYR 27/16 N | 2 11/16 | - | 2 37/64 | - | 5 11/16 | 2 3/4 | 1 3/4 | 7 7/16 | 6 13/16 | 9 1/4 | 1.29 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

17.1 SKF inch roller bearing units with a two-bolt pillow (plummer) block housing

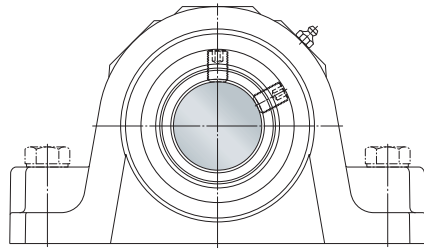
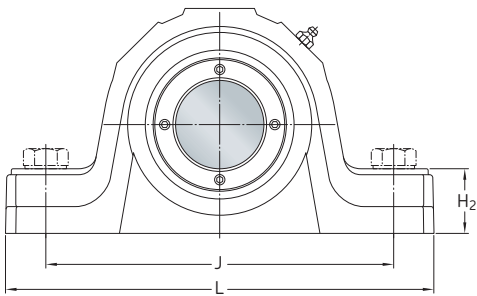
SYE, SYE .. N, SYR and SYR .. N series

d_a 2 1/2 – 3 11/16 in.



| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Basic load rating dynamic C | Limiting speeds | | | Mass | Appropriate attachment bolt size |
|-------------------------|--|--------------------------------|-----------------|----------------|-------------------|------|----------------------------------|
| | | | TriGard seal | Labyrinth seal | Radial shaft seal | | |
| in. | | lbf. | r/min | | | lb. | – |
| 2 1/2 | SYE 2 1/2 | 33 300 | 3 100 | 3 250 | 1 100 | 18.5 | 5/8 |
| | SYE 2 1/2 N | 43 400 | 2 900 | 3 800 | – | 18.5 | 5/8 |
| | SYR 2 1/2 | 33 300 | 3 100 | 3 250 | 1 100 | 16 | 5/8 |
| | SYR 2 1/2 N | 43 400 | 2 900 | 3 800 | – | 16 | 5/8 |
| 2 11/16 | SYE 2 11/16 | 35 500 | 2 800 | 2 800 | 950 | 25.5 | 3/4 |
| | SYE 2 11/16 N | 47 700 | 2 600 | 3 400 | – | 25.5 | 3/4 |
| | SYR 2 11/16 | 35 500 | 2 800 | 2 800 | 950 | 22 | 3/4 |
| | SYR 2 11/16 N | 47 700 | 2 600 | 3 400 | – | 22 | 3/4 |
| 2 3/4 | SYE 2 3/4 | 35 500 | 2 800 | 2 800 | 950 | 25 | 3/4 |
| | SYE 2 3/4 N | 47 700 | 2 600 | 3 400 | – | 25 | 3/4 |
| | SYR 2 3/4 | 35 500 | 2 800 | 2 800 | 950 | 22 | 3/4 |
| | SYR 2 3/4 N | 47 700 | 2 600 | 3 400 | – | 22 | 3/4 |
| 2 15/16 | SYE 2 15/16 | 35 500 | 2 800 | 2 800 | 950 | 24 | 3/4 |
| | SYE 2 15/16 N | 47 700 | 2 600 | 3 400 | – | 24 | 3/4 |
| | SYR 2 15/16 | 35 500 | 2 800 | 2 800 | 950 | 21 | 3/4 |
| | SYR 2 15/16 N | 47 700 | 2 600 | 3 400 | – | 21 | 3/4 |
| 3 | SYE 3 | 35 500 | 2 800 | 2 800 | 950 | 23.5 | 3/4 |
| | SYE 3 N | 47 700 | 2 600 | 3 400 | – | 23.5 | 3/4 |
| | SYR 3 | 35 500 | 2 800 | 2 800 | 950 | 21 | 3/4 |
| | SYR 3 N | 47 700 | 2 600 | 3 400 | – | 21 | 3/4 |
| 3 7/16 | SYE 3 7/16 | 56 900 | 2 300 | 2 200 | 800 | 35.5 | 7/8 |
| | SYE 3 7/16 N | 73 100 | 2 200 | 2 600 | – | 35.5 | 7/8 |
| | SYR 3 7/16 | 56 900 | 2 300 | 2 200 | 800 | 31.5 | 7/8 |
| | SYR 3 7/16 N | 73 100 | 2 200 | 2 600 | – | 31.5 | 7/8 |
| 3 1/2 | SYE 3 1/2 | 56 900 | 2 300 | 2 200 | 800 | 35.5 | 7/8 |
| | SYE 3 1/2 N | 73 100 | 2 200 | 2 600 | – | 35.5 | 7/8 |
| | SYR 3 1/2 | 56 900 | 2 300 | 2 200 | 800 | 31.5 | 7/8 |
| | SYR 3 1/2 N | 73 100 | 2 200 | 2 600 | – | 31.5 | 7/8 |
| 3 11/16 | SYR 3 11/16 | 69 900 | 2 100 | 2 000 | 700 | 44.5 | 1 |
| | SYR 3 11/16 N | 95 700 | 2 000 | 2 200 | – | 44.5 | 1 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



SYE ..N

SYR

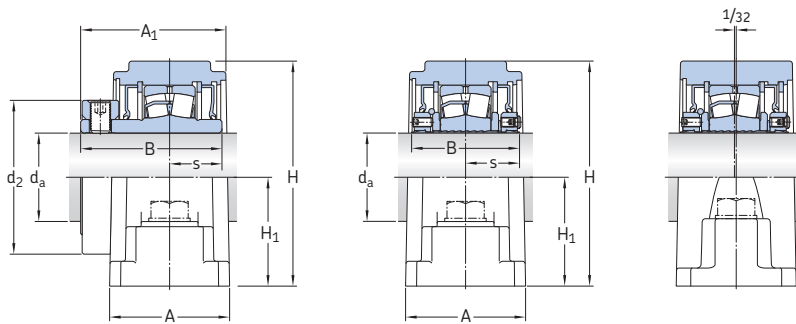
| Shaft diameter d _a | Bearing unit Designation ¹⁾ | Dimensions | | | | | | | | | | |
|----------------------------------|---|------------|----------------|---------|----------------|---------|----------------|----------------|-----------|-----------|---------|--------|
| | | A | A ₁ | B | d ₂ | H | H ₁ | H ₂ | J max. | J min. | L | s |
| in. | - | in. | | | | | | | | | | |
| 2 1/2 | SYE 21/2 | 2 7/8 | 3 19/32 | 3 3/8 | 4 | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 10 1/2 | 1 1/4 |
| | SYE 211/2 N | 2 7/8 | - | 2 37/64 | - | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 10 1/2 | 1.29 |
| | SYR 21/2 | 2 11/16 | 3 7/16 | 3 3/8 | 4 | 5 11/16 | 2 3/4 | 1 3/4 | 7 7/16 | 6 13/16 | 9 1/4 | 1 1/4 |
| | SYR 211/2 N | 2 11/16 | - | 2 37/64 | - | 5 11/16 | 2 3/4 | 1 3/4 | 7 7/16 | 6 13/16 | 9 1/4 | 1.29 |
| 2 11/16 | SYE 211/16 | 3 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1 1/4 |
| | SYE 2111/16 N | 3 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1.29 |
| | SYR 211/16 | 2 11/16 | 3 11/16 | 3 5/8 | 4 1/2 | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1 1/4 |
| | SYR 2111/16 N | 2 11/16 | - | 2 37/64 | - | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1.29 |
| 2 3/4 | SYE 23/4 | 3 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1 1/4 |
| | SYE 23/4 N | 3 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1.29 |
| | SYR 23/4 | 2 11/16 | 3 11/16 | 3 5/8 | 4 1/2 | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1 1/4 |
| | SYR 23/4 N | 2 11/16 | - | 2 37/64 | - | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1.29 |
| 2 15/16 | SYE 215/16 | 3 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1 1/4 |
| | SYE 2151/16 N | 3 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1.29 |
| | SYR 215/16 | 2 11/16 | 3 11/16 | 3 5/8 | 4 1/2 | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1 1/4 |
| | SYR 2151/16 N | 2 11/16 | - | 2 37/64 | - | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1.29 |
| 3 | SYE 3 | 3 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1 1/4 |
| | SYE 3 N | 3 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 3/4 | 9 1/4 | 12 | 1.29 |
| | SYR 3 | 2 11/16 | 3 11/16 | 3 5/8 | 4 1/2 | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1 1/4 |
| | SYR 3 N | 2 11/16 | - | 2 37/64 | - | 6 7/16 | 3 1/4 | 2 1/4 | 8 7/16 | 7 13/16 | 10 7/16 | 1.29 |
| 3 7/16 | SYE 3 7/16 | 3 5/8 | 4 7/16 | 4 1/32 | 5 1/8 | 7 1/2 | 3 3/4 | 2 1/4 | 11 5/16 | 10 11/16 | 14 | 1 7/16 |
| | SYE 3 7/16 N | 3 5/8 | - | 3 5/32 | - | 7 1/2 | 3 3/4 | 2 1/4 | 11 5/16 | 10 11/16 | 14 | 1.57 |
| | SYR 3 7/16 | 3 3/16 | 4 3/32 | 4 1/32 | 5 1/8 | 7 1/2 | 3 3/4 | 2 1/4 | 10 3/4 | 9 1/4 | 13 | 1 7/16 |
| | SYR 3 7/16 N | 3 3/16 | - | 3 5/32 | - | 7 1/2 | 3 3/4 | 2 1/4 | 10 3/4 | 9 1/4 | 13 | 1.57 |
| 3 1/2 | SYE 3 1/2 | 3 5/8 | 4 7/16 | 4 1/32 | 5 1/8 | 7 1/2 | 3 3/4 | 2 1/4 | 11 5/16 | 10 11/16 | 14 | 1 7/16 |
| | SYE 3 1/2 N | 3 5/8 | - | 3 5/32 | - | 7 1/2 | 3 3/4 | 2 1/4 | 11 5/16 | 10 11/16 | 14 | 1.57 |
| | SYR 3 1/2 | 3 3/16 | 4 3/32 | 4 1/32 | 5 1/8 | 7 1/2 | 3 3/4 | 2 1/4 | 10 3/4 | 9 1/4 | 13 | 1 7/16 |
| | SYR 3 1/2 N | 3 3/16 | - | 3 5/32 | - | 7 1/2 | 3 3/4 | 2 1/4 | 10 3/4 | 9 1/4 | 13 | 1.57 |
| 3 11/16 | SYR 3 11/16 | 3 17/32 | 4 21/32 | 4 19/32 | 6 | 8 7/16 | 4 1/8 | 2 1/2 | 11 3/4 | 10 | 14 1/4 | 1 5/8 |
| | SYR 3 11/16 N | 3 17/32 | - | 3 3/8 | - | 8 7/16 | 4 1/8 | 2 1/2 | 11 3/4 | 10 | 14 1/4 | 1.61 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

17.1 SKF inch roller bearing units with a two-bolt pillow (plummer) block housing

SYE, SYE .. N, SYR and SYR .. N series

d_a 3 ¹⁵/₁₆ – 4 in.



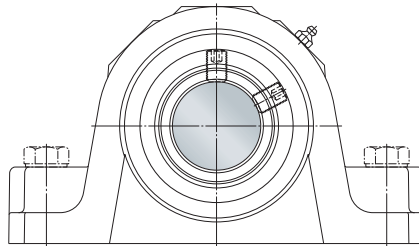
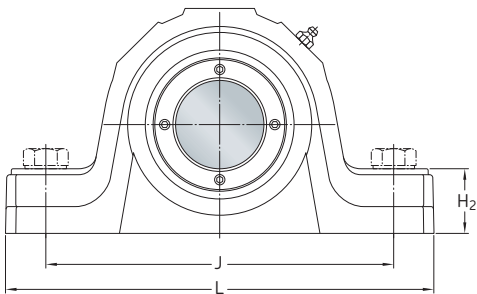
SYE

SYE .. N

SYR .. NH

| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Basic load rating dynamic C | Limiting speeds | | | Mass | Appropriate attachment bolt size |
|---------------------------------|--|--------------------------------|-----------------|----------------|-------------------|------|----------------------------------|
| | | | TriGard seal | Labyrinth seal | Radial shaft seal | | |
| in. | | lbf. | r/min | | | lb. | – |
| 3 ¹⁵ / ₁₆ | SYR 3 15/16 | 69 900 | 2 100 | 2 000 | 700 | 43.5 | 1 |
| | SYR 3 15/16 N | 95 700 | 2 000 | 2 200 | – | 43.5 | 1 |
| 4 | SYR 4 | 69 900 | 2 100 | 2 000 | 700 | 43.5 | 1 |
| | SYR 4 N | 95 700 | 2 000 | 2 200 | – | 43.5 | 1 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



SYE..N

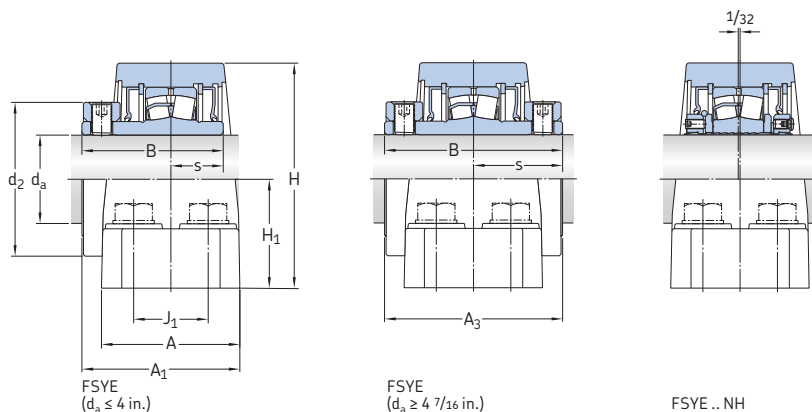
SYR

| Shaft diameter | Bearing unit Designation ¹⁾ | Dimensions | | | | | | | | | | |
|---------------------------------|--|---------------------------------|---------------------------------|---------------------------------|----------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|--------|--------------------------------|-------------------------------|
| | | A | A ₁ | B | d ₂ | H | H ₁ | H ₂ | J max. | J min. | L | s |
| in. | - | in. | | | | | | | | | | |
| 3 ¹⁵ / ₁₆ | SYR 3 15/16 SYR 3 15/16 N | 3 ¹⁷ / ₃₂ | 4 ²¹ / ₃₂ | 4 ¹⁹ / ₃₂ | 6 | 8 ⁷ / ₁₆ | 4 ¹ / ₈ | 2 ¹ / ₂ | 11 ³ / ₄ | 10 | 14 ¹ / ₄ | 1 ⁵ / ₈ |
| | | 3 ¹⁷ / ₃₂ | - | 3 ³ / ₈ | - | 8 ⁷ / ₁₆ | 4 ¹ / ₈ | 2 ¹ / ₂ | 11 ³ / ₄ | 10 | 14 ¹ / ₄ | 1.61 |
| 4 | SYR 4 SYR 4 N | 3 ¹⁷ / ₃₂ | 4 ²¹ / ₃₂ | 4 ¹⁹ / ₃₂ | 6 | 8 ⁷ / ₁₆ | 4 ¹ / ₈ | 2 ¹ / ₂ | 11 ³ / ₄ | 10 | 14 ¹ / ₄ | 1 ⁵ / ₈ |
| | | 3 ¹⁷ / ₃₂ | - | 3 ³ / ₈ | - | 8 ⁷ / ₁₆ | 4 ¹ / ₈ | 2 ¹ / ₂ | 11 ³ / ₄ | 10 | 14 ¹ / ₄ | 1.61 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

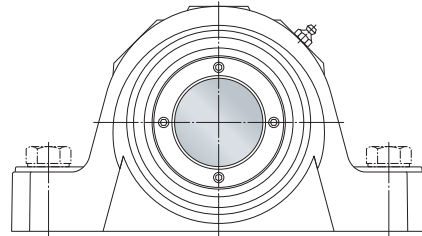
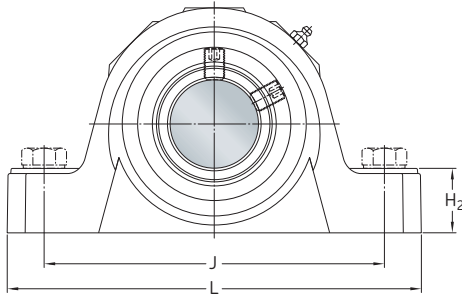
17.2 SKF inch roller bearing units with a four-bolt pillow (plummer) block housing FSYE and FSYE .. N series

d_a 2 7/16 – 4 15/16 in.



| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Basic load rating dynamic C | Limiting speeds | | | Mass | Appropriate attachment bolt size |
|-------------------------|---|--------------------------------------|-----------------|-------------------|----------------------|------|--|
| | | | TriGard seal | Labyrinth seal | Radial shaft seal | | |
| in. | | lbf. | r/min | | | lb. | – |
| 2 7/16 | FSYE 2 7/16 | 33 300 | 3 100 | 3 250 | 1 100 | 19 | 5/8 |
| | FSYE 2 7/16 N | 43 400 | 2 900 | 3 800 | – | 19 | 5/8 |
| 2 1/2 | FSYE 2 1/2 | 33 300 | 3 100 | 3 250 | 1 100 | 18.5 | 5/8 |
| | FSYE 2 1/2 N | 43 400 | 2 900 | 3 800 | – | 18.5 | 5/8 |
| 2 11/16 | FSYE 2 11/16 | 35 500 | 2 800 | 2 800 | 950 | 25.5 | 5/8 |
| | FSYE 2 11/16 N | 47 700 | 2 600 | 3 400 | – | 25.5 | 5/8 |
| 2 3/4 | FSYE 2 3/4 | 35 500 | 2 800 | 2 800 | 950 | 25.5 | 5/8 |
| | FSYE 2 3/4 N | 47 700 | 2 600 | 3 400 | – | 25.5 | 5/8 |
| 2 15/16 | FSYE 2 15/16 | 35 500 | 2 800 | 2 800 | 950 | 24 | 5/8 |
| | FSYE 2 15/16 N | 47 700 | 2 600 | 3 400 | – | 24 | 5/8 |
| 3 | FSYE 3 | 35 500 | 2 800 | 2 800 | 950 | 24 | 5/8 |
| | FSYE 3 N | 47 700 | 2 600 | 3 400 | – | 24 | 5/8 |
| 3 7/16 | FSYE 3 7/16 | 56 900 | 2 300 | 2 200 | 800 | 36.5 | 3/4 |
| | FSYE 3 7/16 N | 73 100 | 2 200 | 2 600 | – | 36.5 | 3/4 |
| 3 1/2 | FSYE 3 1/2 | 56 900 | 2 300 | 2 200 | 800 | 36.5 | 3/4 |
| | FSYE 3 1/2 N | 73 100 | 2 200 | 2 600 | – | 36.5 | 3/4 |
| 3 11/16 | FSYE 3 11/16 | 69 900 | 2 100 | 2 000 | 700 | 50.5 | 3/4 |
| | FSYE 3 11/16 N | 95 700 | 2 000 | 2 200 | – | 50.5 | 3/4 |
| 3 15/16 | FSYE 3 15/16 | 69 900 | 2 100 | 2 000 | 700 | 49.5 | 3/4 |
| | FSYE 3 15/16 N | 95 700 | 2 000 | 2 200 | – | 49.5 | 3/4 |
| 4 | FSYE 4 | 69 900 | 2 100 | 2 000 | 700 | 49.5 | 3/4 |
| | FSYE 4 N | 95 700 | 2 000 | 2 200 | – | 49.5 | 3/4 |
| 4 7/16 | FSYE 4 7/16 | 91 700 | 1 900 | – | – | 71 | 3/4 |
| 4 1/2 | FSYE 4 1/2 | 91 700 | 1 900 | – | – | 71 | 3/4 |
| 4 15/16 | FSYE 4 15/16 | 123 000 | 1 650 | – | – | 100 | 7/8 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



FSYE

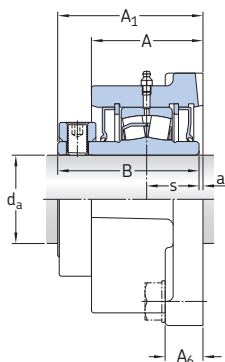
FSYE..N

| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Dimensions | | | | | | | | | | | | |
|-------------------------|--|------------|----------------|---------|----------------|---------|----------------|----------------|-----------|-----------|----------------|--------|--------|--|
| | | A | A ₁ | B | d ₂ | H | H ₁ | H ₂ | J max. | J min. | J ₁ | L | s | |
| in. | - | in. | | | | | | | | | | | | |
| 27/16 | FSYE 2 7/16 FSYE 2 7/16 N | 3 1/2 | 3 19/32 | 3 3/8 | 4 | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 1 7/8 | 10 1/2 | 1 1/4 | |
| | | 3 1/2 | - | 2 37/64 | - | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 1 7/8 | 10 1/2 | 1.29 | |
| 2 1/2 | FSYE 2 1/2 FSYE 2 1/2 N | 3 1/2 | 3 19/32 | 3 3/8 | 4 | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 1 7/8 | 10 1/2 | 1 1/4 | |
| | | 3 1/2 | - | 2 37/64 | - | 5 11/16 | 2 3/4 | 1 5/8 | 8 3/4 | 8 1/4 | 1 7/8 | 10 1/2 | 1.29 | |
| 2 11/16 | FSYE 2 11/16 FSYE 2 11/16 N | 4 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1 1/4 | |
| | | 4 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1.29 | |
| 2 3/4 | FSYE 2 3/4 FSYE 2 3/4 N | 4 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1 1/4 | |
| | | 4 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1.29 | |
| 2 15/16 | FSYE 2 15/16 FSYE 2 15/16 N | 4 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1 1/4 | |
| | | 4 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1.29 | |
| 3 | FSYE 3 FSYE 3 N | 4 | 3 29/32 | 3 5/8 | 4 1/2 | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1 1/4 | |
| | | 4 | - | 2 37/64 | - | 6 5/16 | 3 1/8 | 1 7/8 | 9 7/8 | 9 1/8 | 2 1/8 | 12 | 1.29 | |
| 3 7/16 | FSYE 3 7/16 FSYE 3 7/16 N | 4 1/2 | 4 7/16 | 4 1/32 | 5 1/8 | 7 1/2 | 3 3/4 | 2 1/4 | 11 7/16 | 10 9/16 | 2 3/8 | 14 | 1 7/16 | |
| | | 4 1/2 | - | 3 9/64 | - | 7 1/2 | 3 3/4 | 2 1/4 | 11 7/16 | 10 9/16 | 2 3/8 | 14 | 1.57 | |
| 3 1/2 | FSYE 3 1/2 FSYE 3 1/2 N | 4 1/2 | 4 7/16 | 4 1/32 | 5 1/8 | 7 1/2 | 3 3/4 | 2 1/4 | 11 7/16 | 10 9/16 | 2 3/8 | 14 | 1 7/16 | |
| | | 4 1/2 | - | 3 9/64 | - | 7 1/2 | 3 3/4 | 2 1/4 | 11 7/16 | 10 9/16 | 2 3/8 | 14 | 1.57 | |
| 3 11/16 | FSYE 3 11/16 FSYE 3 11/16 N | 4 1/2 | 4 7/8 | 4 19/32 | 6 | 8 9/16 | 4 1/4 | 2 7/16 | 13 | 12 | 2 1/4 | 15 1/4 | 1 5/8 | |
| | | 4 1/2 | - | 3 25/34 | - | 8 9/16 | 4 1/4 | 2 7/16 | 13 | 12 | 2 1/4 | 15 1/4 | 1.61 | |
| 3 15/16 | FSYE 3 15/16 FSYE 3 15/16 N | 4 1/2 | 4 7/8 | 4 19/32 | 6 | 8 9/16 | 4 1/4 | 2 7/16 | 13 | 12 | 2 1/4 | 15 1/4 | 1 5/8 | |
| | | 4 1/2 | - | 3 25/34 | - | 8 9/16 | 4 1/4 | 2 7/16 | 13 | 12 | 2 1/4 | 15 1/4 | 1.61 | |
| 4 | FSYE 4 FSYE 4 N | 4 1/2 | 4 7/8 | 4 19/32 | 6 | 8 9/16 | 4 1/4 | 2 7/16 | 13 | 12 | 2 1/4 | 15 1/4 | 1 5/8 | |
| | | 4 1/2 | - | 3 25/34 | - | 8 9/16 | 4 1/4 | 2 7/16 | 13 | 12 | 2 1/4 | 15 1/4 | 1.61 | |
| 4 7/16 | FSYE 4 7/16 | 4 5/8 | 6 1/8 | 6 1/8 | 6 1/8 | 9 3/8 | 4 3/4 | 2 3/4 | 13 7/8 | 13 1/8 | 2 1/2 | 16 5/8 | 3 1/16 | |
| 4 1/2 | FSYE 4 1/2 | 4 5/8 | 6 1/8 | 6 1/8 | 6 1/8 | 9 3/8 | 4 3/4 | 2 3/4 | 13 7/8 | 13 1/8 | 2 1/2 | 16 5/8 | 3 1/16 | |
| 4 15/16 | FSYE 4 15/16 | 5 1/8 | 6 5/8 | 6 5/8 | 6 7/8 | 10 7/8 | 5 1/2 | 3 | 15 7/8 | 15 1/8 | 2 3/4 | 18 1/2 | 3 5/16 | |

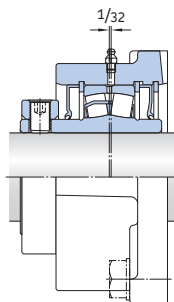
¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

17.3 20.3 SKF inch roller bearing units with a square flanged housing FYE series

d_a 1 7/16 – 4 in.



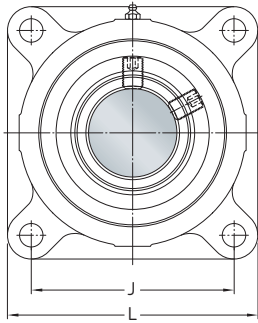
FYE



FYE..H

| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Basic load rating dynamic C | Limiting speeds | | Radial shaft seal | Mass | Appropriate attachment bolt size |
|-------------------------|--|--------------------------------|-----------------|----------------|-------------------|------|----------------------------------|
| | | | TriGard seal | Labyrinth seal | | | |
| in. | | lbf. | r/min | | | lb. | – |
| 1 7/16 | FYE 1 7/16 | 16 600 | 5 100 | 5 300 | 1 700 | 7.2 | 1/2 |
| 1 1/2 | FYE 1 1/2 | 16 600 | 5 100 | 5 300 | 1 600 | 10 | 1/2 |
| 1 11/16 | FYE 1 11/16 | 17 300 | 4 500 | 4 700 | 1 600 | 10 | 1/2 |
| 1 3/4 | FYE 1 3/4 | 17 300 | 4 500 | 4 700 | 1 450 | 11 | 1/2 |
| 1 15/16 | FYE 1 15/16 | 19 000 | 4 100 | 4 250 | 1 450 | 11 | 1/2 |
| 2 | FYE 2 | 19 000 | 4 100 | 4 250 | 1 450 | 11 | 1/2 |
| 2 3/16 | FYE 2 3/16 | 22 400 | 3 700 | 3 800 | 1 300 | 13.5 | 5/8 |
| 2 7/16 | FYE 2 7/16 | 33 300 | 3 100 | 3 250 | 1 100 | 17.5 | 5/8 |
| 2 1/2 | FYE 2 1/2 | 33 300 | 3 100 | 3 250 | 1 100 | 17 | 5/8 |
| 2 11/16 | FYE 2 11/16 | 35 500 | 2 800 | 2 800 | 950 | 28.5 | 3/4 |
| 2 3/4 | FYE 2 3/4 | 35 500 | 2 800 | 2 800 | 950 | 28.5 | 3/4 |
| 2 15/16 | FYE 2 15/16 | 35 500 | 2 800 | 2 800 | 950 | 27 | 3/4 |
| 3 | FYE 3 | 35 500 | 2 800 | 2 800 | 950 | 27 | 3/4 |
| 3 7/16 | FYE 3 7/16 | 56 900 | 2 300 | 2 200 | 800 | 40.5 | 3/4 |
| 3 1/2 | FYE 3 1/2 | 56 900 | 2 300 | 2 200 | 800 | 40 | 3/4 |
| 3 11/16 | FYE 3 11/16 | 69 900 | 2 100 | 2 000 | 700 | 64 | 7/8 |
| 3 15/16 | FYE 3 15/16 | 69 900 | 2 100 | 2 000 | 700 | 69 | 7/8 |
| 4 | FYE 4 | 69 900 | 2 100 | 2 000 | 700 | 68 | 7/8 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

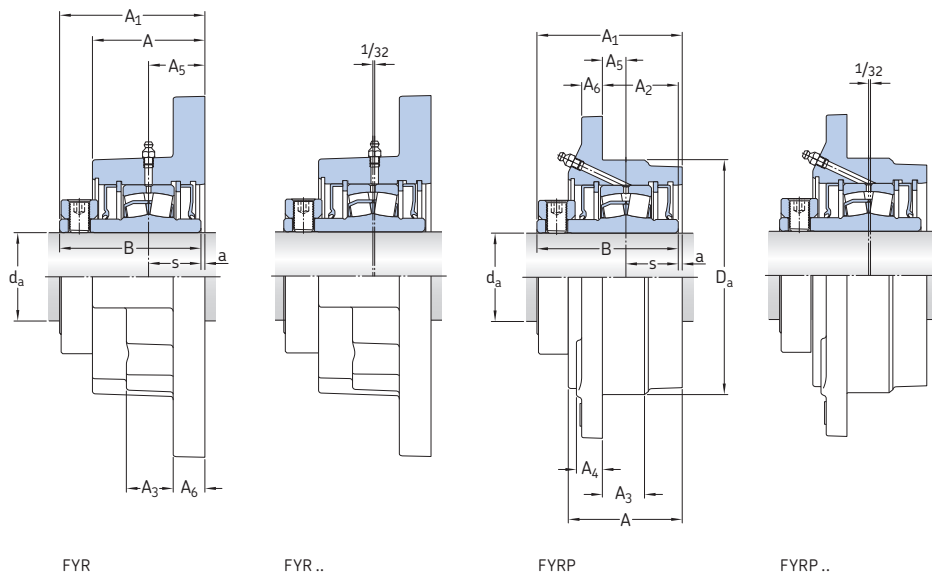


| Shaft diameter | Bearing unit Designation ¹⁾ | Dimensions | | | | | | | |
|----------------|--|----------------|----------------|---------|---------|-------|-------|------|--------|
| | | A ₁ | A ₆ | T | B | J | L | a | s |
| d _a | | in. | | | | | | | |
| 17/16 | FYE 17/16 | 2 1/4 | 3/4 | 2 27/32 | 2 3/4 | 3 1/2 | 4 5/8 | 3/32 | 1 |
| 1 1/2 | FYE 11/2 | 2 5/16 | 3/4 | 2 9/32 | 3 3/4 | 4 1/8 | 5 3/8 | 5/32 | 1 |
| 1 11/16 | FYE 111/16 | 2 5/16 | 3/4 | 3 1/32 | 2 7/8 | 4 1/8 | 5 3/8 | 5/32 | 1 |
| 1 3/4 | FYE 13/4 | 2 1/4 | 3/4 | 2 31/32 | 2 7/8 | 4 1/4 | 5 1/2 | 3/32 | 1 |
| 1 15/16 | FYE 115/16 | 2 1/4 | 3/4 | 2 31/32 | 2 7/8 | 4 1/4 | 5 1/2 | 3/32 | 1 |
| 2 | FYE 2 | 2 1/4 | 3/4 | 2 31/32 | 2 7/8 | 4 1/4 | 5 1/2 | 3/32 | 1 |
| 2 3/16 | FYE 23/16 | 2 3/8 | 3/4 | 3 7/32 | 3 1/8 | 4 3/4 | 6 1/4 | 3/32 | 1 1/8 |
| 2 7/16 | FYE 27/16 | 2 3/4 | 1 | 3 15/32 | 3 3/8 | 5 3/8 | 6 7/8 | 3/32 | 1 1/4 |
| 2 1/2 | FYE 2 1/2 | 2 3/4 | 1 | 3 15/32 | 3 3/8 | 5 3/8 | 6 7/8 | 3/32 | 1 1/4 |
| 2 11/16 | FYE 211/16 | 2 3/4 | 1 1/16 | 3 7/8 | 3 5/8 | 6 | 7 5/8 | 1/4 | 1 1/4 |
| 2 3/4 | FYE 23/4 | 2 3/4 | 1 1/16 | 3 7/8 | 3 5/8 | 6 | 7 5/8 | 1/4 | 1 1/4 |
| 2 15/16 | FYE 215/16 | 2 3/4 | 1 1/16 | 3 7/8 | 3 5/8 | 6 | 7 5/8 | 1/4 | 1 1/4 |
| 3 | FYE 3 | 2 3/4 | 1 1/16 | 3 7/8 | 3 5/8 | 6 | 7 5/8 | 1/4 | 1 1/4 |
| 3 7/16 | FYE 37/16 | 3 5/16 | 1 1/8 | 4 1/4 | 4 1/32 | 7 | 8 3/4 | 7/32 | 1 7/16 |
| 3 1/2 | FYE 3 1/2 | 3 5/16 | 1 1/8 | 4 1/4 | 4 1/32 | 7 | 8 3/4 | 7/32 | 1 7/16 |
| 3 11/16 | FYE 311/16 | 3 1/2 | 1 1/4 | 4 13/16 | 4 13/16 | 7 3/4 | 9 3/4 | 7/32 | 1 5/8 |
| 3 15/16 | FYE 315/16 | 3 1/2 | 1 1/4 | 4 13/16 | 4 13/16 | 7 3/4 | 9 3/4 | 7/32 | 1 5/8 |
| 4 | FYE 4 | 3 1/2 | 1 1/4 | 4 13/16 | 4 13/16 | 7 3/4 | 9 3/4 | 7/32 | 1 5/8 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

17.4 SKF inch roller bearing units with a round or piloted flanged housing FYR and FYRP series

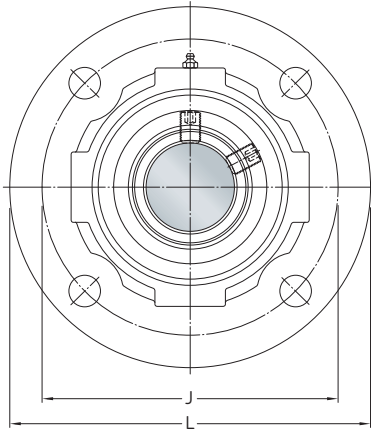
d_a 1 ⁷/₁₆ – 2 ¹¹/₁₆ in.



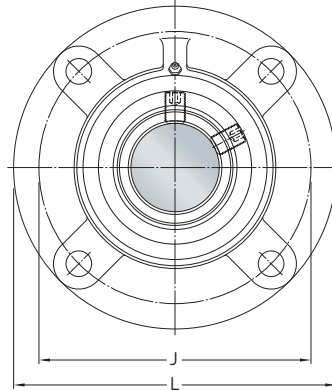
| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Basic load rating dynamic C | Limiting speeds | | Radial shaft seal | Mass | Appropriate attachment bolt size |
|---------------------------------|--|-----------------------------------|-----------------|----------------|-------------------|------|----------------------------------|
| | | | TriGard seal | Labyrinth seal | | | |
| in. | | lbf. | r/min | | | lb. | – |
| 1 ⁷ / ₁₆ | FYR 1 ⁷ / ₁₆ | 16 600 | 5 100 | 5 300 | 1 700 | 8.5 | 1/2 ²⁾ |
| | FYRP 1 ⁷ / ₁₆ | 16 600 | 5 100 | 5 300 | 1 700 | 6.3 | 3/8 |
| 1 ¹ / ₂ | FYR 1 ¹ / ₂ | 16 600 | 5 100 | 5 300 | 1 700 | 8.4 | 1/2 ²⁾ |
| | FYRP 1 ¹ / ₂ | 16 600 | 5 100 | 5 300 | 1 700 | 6.3 | 3/8 |
| 1 ¹¹ / ₁₆ | FYR 1 ¹¹ / ₁₆ | 17 300 | 4 500 | 4 700 | 1 600 | 10.5 | 1/2 |
| | FYRP 1 ¹¹ / ₁₆ | 17 300 | 4 500 | 4 700 | 1 600 | 7.8 | 7/16 |
| 1 ³ / ₄ | FYR 1 ³ / ₄ | 17 300 | 4 500 | 4 700 | 1 600 | 11 | 1/2 |
| | FYRP 1 ³ / ₄ | 17 300 | 4 500 | 4 700 | 1 600 | 7.7 | 7/16 |
| 1 ¹⁵ / ₁₆ | FYR 1 ¹⁵ / ₁₆ | 19 000 | 4 100 | 4 250 | 1 450 | 11 | 1/2 |
| | FYRP 1 ¹⁵ / ₁₆ | 19 000 | 4 100 | 4 250 | 1 450 | 8.2 | 1/2 |
| 2 | FYR 2 | 19 000 | 4 100 | 4 250 | 1 450 | 10.5 | 1/2 |
| | FYRP 2 | 19 000 | 4 100 | 4 250 | 1 450 | 8.2 | 1/2 |
| 2 ³ / ₁₆ | FYR 2 ³ / ₁₆ | 22 400 | 3 700 | 3 800 | 1 300 | 13.5 | 5/8 |
| | FYRP 2 ³ / ₁₆ | 22 400 | 3 700 | 3 800 | 1 300 | 9.9 | 1/2 |
| 2 ⁷ / ₁₆ | FYR 2 ⁷ / ₁₆ | 33 300 | 3 100 | 3 250 | 1 100 | 17.5 | 5/8 |
| | FYRP 2 ⁷ / ₁₆ | 33 300 | 3 100 | 3 250 | 1 100 | 14 | 1/2 |
| 2 ¹ / ₂ | FYR 2 ¹ / ₂ | 33 300 | 3 100 | 3 250 | 1 100 | 17.5 | 5/8 |
| | FYRP 2 ¹ / ₂ | 33 300 | 3 100 | 3 250 | 1 100 | 13.5 | 1/2 |
| 2 ¹¹ / ₁₆ | FYR 2 ¹¹ / ₁₆ | 35 500 | 2 800 | 2 800 | 950 | 27 | 3/4 |
| | FYRP 2 ¹¹ / ₁₆ | 35 500 | 2 800 | 2 800 | 950 | 20.5 | 5/8 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

²⁾ The units are supplied with three attachment bolt holes, which are placed in an angle of 120°.



FYR



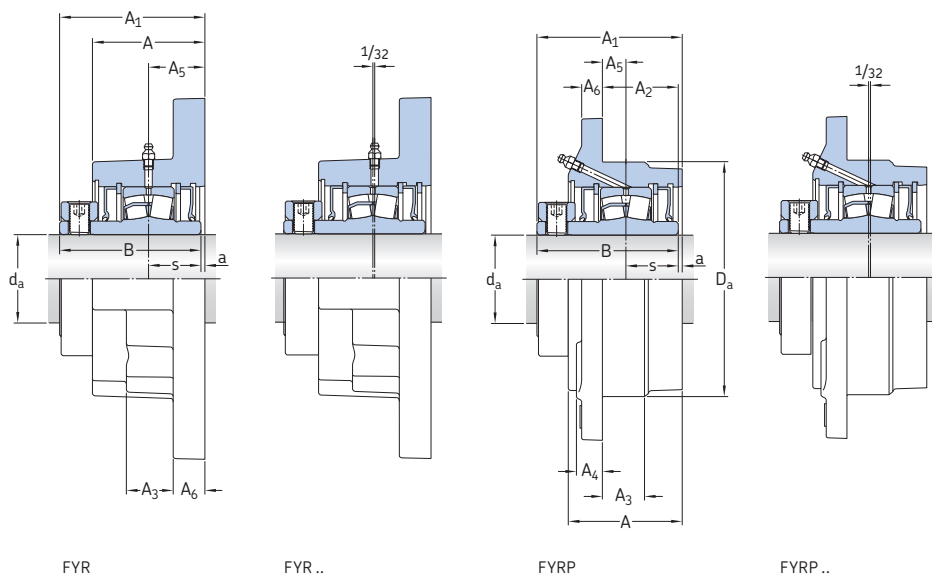
FYRP

| Shaft diameter d _a | Bearing unit Designation ¹⁾ | Dimensions | | | | | | | | | | | | | |
|----------------------------------|--|-----------------|------------------|-----------------|----------------|------------------|----------------|------------------|-------------|----------------|----------------|----------------|------------------|----------------|--|
| | | A | A ₆ | A ₃ | A ₄ | A ₁ | B | A ₅ | a | D _a | J | L | s | A ₂ | |
| in. | – | in. | | | | | | | | | | | | | |
| 1 7/16 | FYR 1 7/16 FYRP 1 7/16 | 2 1/16 2 1/4 | 3/4 1/2 | 3/4 3/4 | – 23/32 | 2 7/8 2 57/64 | 2 3/4 2 3/4 | 1 3/32 27/64 | 1/8 9/64 | 3 7/8 3 5/8 | 5 4 3/8 | 6 1/4 5 1/4 | 31/32 31/32 | – 1 25/64 | |
| 1 1/2 | FYR 1 1/2 FYRP 1 1/2 | 2 1/16 2 1/4 | 3/4 1/2 | 3/4 3/4 | – 23/32 | 2 7/8 2 57/64 | 2 3/4 2 3/4 | 1 3/32 27/64 | 1/8 9/64 | 3 7/8 3 5/8 | 5 4 3/8 | 6 1/4 5 1/4 | 31/32 31/32 | – 1 25/64 | |
| 1 11/16 | FYR 1 11/16 FYRP 1 11/16 | 2 1/4 2 1/2 | 3/4 1/2 | 1 3/16 7/8 | – 5/8 | 3 3 5/32 | 2 7/8 2 7/8 | 1 3/32 5/8 | 1/8 9/32 | 4 1/2 4 1/4 | 5 1/2 5 1/8 | 6 3/4 6 1/8 | 31/32 31/32 | – 1 19/32 | |
| 1 3/4 | FYR 1 3/4 FYRP 1 3/4 | 2 1/4 2 1/2 | 3/4 1/2 | 1 3/16 7/8 | – 5/8 | 3 3 5/32 | 2 7/8 2 7/8 | 1 3/32 5/8 | 1/8 9/32 | 4 1/2 4 1/4 | 5 1/2 5 1/8 | 6 3/4 6 1/8 | 31/32 31/32 | – 1 19/32 | |
| 1 15/16 | FYR 1 15/16 FYRP 1 15/16 | 2 1/4 2 1/2 | 3/4 9/16 | 1 3/16 7/8 | – 5/8 | 3 3 5/32 | 2 7/8 2 7/8 | 1 3/32 5/8 | 1/8 9/32 | 4 3/4 4 1/2 | 5 3/4 5 3/8 | 7 6 3/8 | 31/32 31/32 | – 1 19/32 | |
| 2 | FYR 2 FYRP 2 | 2 1/4 2 1/2 | 3/4 9/16 | 1 3/16 7/8 | – 5/8 | 3 3 5/32 | 2 7/8 2 7/8 | 1 3/32 5/8 | 1/8 9/32 | 4 3/4 4 1/2 | 5 3/4 5 3/8 | 7 6 3/8 | 31/32 31/32 | – 1 19/32 | |
| 2 3/16 | FYR 2 3/16 FYRP 2 3/16 | 2 3/8 2 9/16 | 3/4 9/16 | 1 5/16 1 | – 23/32 | 3 1/4 3 5/16 | 3 1/8 3 1/8 | 1 7/32 9/16 | 1/8 3/16 | 5 1/8 5 | 6 3/8 6 | 7 3/4 7 1/8 | 1 3/32 1 3/32 | – 1 21/32 | |
| 2 7/16 | FYR 2 7/16 FYRP 2 7/16 | 2 9/16 2 5/8 | 1 5/16 5/8 | 1 5/16 1 | – 13/16 | 3 1/2 3 1/2 | 3 3/8 3 3/8 | 1 11/32 15/32 | 1/8 1/8 | 5 3/4 5 1/2 | 6 3/4 6 1/2 | 8 1/8 7 5/8 | 1 7/32 1 7/32 | – 1 11/16 | |
| 2 1/2 | FYR 2 1/2 FYRP 2 1/2 | 2 9/16 2 5/8 | 1 5/16 5/8 | 1 5/16 1 | – 13/16 | 3 1/2 3 1/2 | 3 3/8 3 3/8 | 1 11/32 15/32 | 1/8 1/8 | 5 3/4 5 1/2 | 6 3/4 6 1/2 | 8 1/8 7 5/8 | 1 7/32 1 7/32 | – 1 11/16 | |
| 2 11/16 | FYR 2 11/16 FYRP 2 11/16 | 2 7/8 3 1/8 | 1 5/16 1 1/16 | 1 3/16 1 1/4 | – 13/16 | 3 7/8 3 29/32 | 3 5/8 3 5/8 | 1 15/32 13/16 | 1/4 9/32 | 6 5/8 6 3/8 | 7 7/8 7 1/2 | 9 1/2 8 3/4 | 1 7/32 1 7/32 | – 2 1/32 | |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

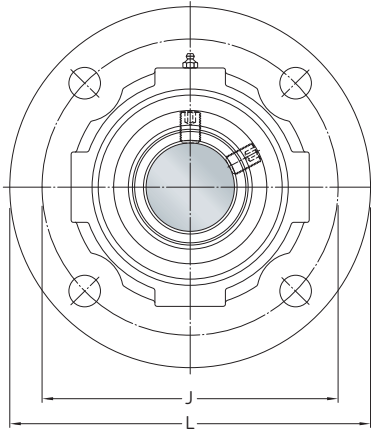
17.4 SKF inch roller bearing units with a round or piloted flanged housing FYR and FYRP series

d_a 2 3/4 – 4 in.

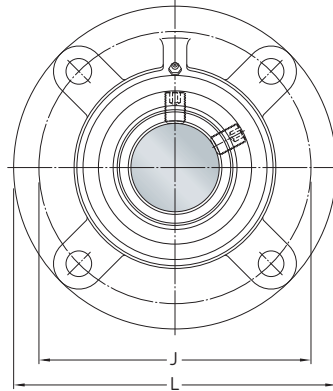


| Shaft diameter d_a | Bearing unit Designation ¹⁾ | Basic load rating dynamic C | Limiting speeds | | Radial shaft seal | Mass | Appropriate attachment bolt size |
|-------------------------|--|-----------------------------------|-----------------|----------------|-------------------|------|----------------------------------|
| | | | TriGard seal | Labyrinth seal | | | |
| in. | | lbf. | r/min | | | lb. | – |
| 2 3/4 | FYR 2 3/4 | 35 500 | 2 800 | 2 800 | 950 | 27 | 3/4 |
| | FYRP 2 3/4 | 35 500 | 2 800 | 2 800 | 950 | 20.5 | 5/8 |
| 2 15/16 | FYR 2 15/16 | 35 500 | 2 800 | 2 800 | 950 | 26 | 3/4 |
| | FYRP 2 15/16 | 35 500 | 2 800 | 2 800 | 950 | 19.5 | 5/8 |
| 3 | FYR 3 | 35 500 | 2 800 | 2 800 | 950 | 26 | 3/4 |
| | FYRP 3 | 35 500 | 2 800 | 2 800 | 950 | 19.5 | 5/8 |
| 3 7/16 | FYR 3 7/16 | 56 900 | 2 300 | 2 200 | 800 | 38.0 | 3/4 |
| | FYRP 3 7/16 | 56 900 | 2 300 | 2 200 | 800 | 30 | 3/4 |
| 3 1/2 | FYR 3 1/2 | 56 900 | 2 300 | 2 200 | 800 | 38 | 3/4 |
| | FYRP 3 1/2 | 56 900 | 2 300 | 2 200 | 800 | 29.0 | 3/4 |
| 3 11/16 | FYR 3 11/16 | 69 900 | 2 100 | 2 000 | 700 | 53.0 | 7/8 |
| | FYRP 3 11/16 | 69 900 | 2 100 | 2 000 | 700 | 41 | 3/4 |
| 3 15/16 | FYR 3 15/16 | 69 900 | 2 100 | 2 000 | 700 | 52 | 7/8 |
| | FYRP 3 15/16 | 69 900 | 2 100 | 2 000 | 700 | 40.0 | 3/4 |
| 4 | FYR 4 | 69 900 | 2 100 | 2 000 | 700 | 52.0 | 7/8 |
| | FYRP 4 | 69 900 | 2 100 | 2 000 | 700 | 40 | 3/4 |

¹⁾ The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



FYR



FYRP

| Shaft diameter | Bearing unit Designation ¹⁾ | Dimensions | | | | | | | | | | | | | |
|----------------|--|------------------|------------------|-----------------|----------------|--------------------|--------------------|------------------|-------------|----------------|-----------------|------------------|--------------------|----------------|--|
| | | A | A ₆ | A ₃ | A ₄ | A ₁ | B | A ₅ | a | D _a | J | L | s | A ₂ | |
| in. | - | in. | | | | | | | | | | | | | |
| 2 3/4 | FYR 2 3/4 FYRP 2 3/4 | 2 7/8 3 1/8 | 1 5/16 1 1/16 | 1 3/16 1 1/4 | - 13/16 | 3 7/8 3 29/32 | 3 5/8 3 5/8 | 1 15/32 13/16 | 1/4 9/32 | 6 5/8 6 3/8 | 7 7/8 7 1/2 | 9 1/2 8 3/4 | 17/32 17/32 | - 2 1/32 | |
| 2 15/16 | FYR 2 15/16 FYRP 2 15/16 | 2 7/8 3 1/8 | 1 5/16 1 1/16 | 1 3/16 1 1/4 | - 13/16 | 3 7/8 3 29/32 | 3 5/8 3 5/8 | 1 15/32 13/16 | 1/4 9/32 | 6 5/8 6 3/8 | 7 7/8 7 1/2 | 9 1/2 8 3/4 | 17/32 17/32 | - 2 1/32 | |
| 3 | FYR 3 FYRP 3 | 2 7/8 3 1/8 | 1 5/16 1 1/16 | 1 3/16 1 1/4 | - 13/16 | 3 7/8 3 29/32 | 3 5/8 3 5/8 | 1 15/32 13/16 | 1/4 9/32 | 6 5/8 6 3/8 | 7 7/8 7 1/2 | 9 1/2 8 3/4 | 17/32 17/32 | - 2 1/32 | |
| 3 7/16 | FYR 3 7/16 FYRP 3 7/16 | 3 1/16 3 3/16 | 1 1/8 7/8 | 1 3/16 1 1/4 | - 1 1/16 | 4 9/32 4 7/32 | 4 1/32 4 1/32 | 1 21/32 17/32 | 1/4 3/16 | 7 5/8 7 3/8 | 9 1/2 8 5/8 | 11 1/8 10 1/4 | 1 15/32 1 15/32 | - 1 15/16 | |
| 3 1/2 | FYR 3 1/2 FYRP 3 1/2 | 3 1/16 3 3/16 | 1 1/8 7/8 | 1 3/16 1 1/4 | - 1 1/16 | 4 9/32 4 7/32 | 4 1/32 4 1/32 | 1 21/32 17/32 | 1/4 3/16 | 7 5/8 7 3/8 | 9 1/2 8 5/8 | 11 1/8 10 1/4 | 1 15/32 1 15/32 | - 1 15/16 | |
| 3 11/16 | FYR 3 11/16 FYRP 3 11/16 | 3 1/2 3 5/8 | 1 1/8 7/8 | 1 7/16 2 | - 1 | 4 27/32 4 13/16 | 4 19/32 4 19/32 | 1 27/32 13/16 | 1/4 7/32 | 8 3/8 8 1/8 | 10 3/4 9 3/8 | 12 5/8 10 7/8 | 1 19/32 1 19/32 | - 2 13/32 | |
| 3 15/16 | FYR 3 15/16 FYRP 3 15/16 | 3 1/2 3 5/8 | 1 1/8 7/8 | 1 7/16 2 | - 1 | 4 27/32 4 13/16 | 4 19/32 4 19/32 | 1 27/32 13/16 | 1/4 7/32 | 8 3/8 8 1/8 | 10 3/4 9 3/8 | 12 5/8 10 7/8 | 1 19/32 1 19/32 | - 2 13/32 | |
| 4 | FYR 4 FYRP 4 | 3 1/2 3 5/8 | 1 1/8 7/8 | 1 7/16 2 | - 1 | 4 27/32 4 13/16 | 4 19/32 4 19/32 | 1 27/32 13/16 | 1/4 7/32 | 8 3/8 8 1/8 | 10 3/4 9 3/8 | 12 5/8 10 7/8 | 1 19/32 1 19/32 | - 2 13/32 | |

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| SE 5 .. | Plummer block housings for bearings on an adapter sleeve, inch shafts | 2.2 | 100 |
| SE 5 .. | Plummer block housings for bearings on a cylindrical seat | 2.3 | 120 |

¹⁾ Starting page of the product table

18.2 Product index

| Series designation | Product | Product table | |
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| SED | Plummer block housings for bearings on an adapter sleeve | 6.1 | 344 |
| SKND | Plummer block housings for converters in steel making | 14.1 | 634 |
| SN | → Split plummer block housings – SNL 2, 3, 5 and 6 series | 2 | 55 |
| SN 30..... | → Split plummer block housings – SNLN 30 series | 4 | 151 |
| SNA | → Split plummer block housings – SNL 2, 3, 5 and 6 series | 2 | 55 |
| SNH | → Split plummer block housings – SNL 2, 3, 5 and 6 series | 2 | 55 |
| SNL 2..... | Plummer block housings for bearings on a cylindrical seat | 2.3 | 120 |
| SNL 30..... | Plummer block housings for bearings on an adapter sleeve, metric shafts | 5.1 | 222 |
| SNL 30..... | Plummer block housings for bearings on an adapter sleeve, inch shafts | 5.2 | 260 |
| SNL 30..... | Plummer block housings for bearings on a cylindrical seat | 5.3 | 302 |
| SNL 30.. G | Plummer block housings for bearings on a cylindrical seat | 5.3 | 302 |
| SNL 31..... | Plummer block housings for bearings on an adapter sleeve, metric shafts | 5.1 | 222 |
| SNL 31..... | Plummer block housings for bearings on an adapter sleeve, inch shafts | 5.2 | 260 |
| SNL 31..... | Plummer block housings for bearings on a cylindrical seat | 5.3 | 302 |
| SNL 31.. G | Plummer block housings for bearings on a cylindrical seat | 5.3 | 302 |
| SNL 32..... | Plummer block housings for bearings on an adapter sleeve, metric shafts | 5.1 | 222 |
| SNL 32..... | Plummer block housings for bearings on an adapter sleeve, inch shafts | 5.2 | 260 |
| SNL 32.. G | Plummer block housings for bearings on a cylindrical seat | 5.3 | 302 |
| SNL 5..... | Plummer block housings for bearings on an adapter sleeve, metric shafts | 2.1 | 86 |
| SNL 5..... | Plummer block housings for bearings on an adapter sleeve, inch shafts | 2.2 | 100 |
| SNL 5..... | Plummer block housings for bearings on a cylindrical seat | 2.3 | 120 |
| SNL 6..... | Plummer block housings for bearings on an adapter sleeve, metric shafts | 2.1 | 86 |
| SNL 6..... | Plummer block housings for bearings on an adapter sleeve, inch shafts | 2.2 | 100 |
| SNLN 30..... | Plummer block housings for bearings on an adapter sleeve | 4.1 | 176 |
| SNLN 30..... | Plummer block housings for bearings on a cylindrical seat | 4.2 | 180 |
| SOFN | → Split plummer block housings – SONL series | 7 | 349 |
| SONL | Plummer block housings for bearings on an adapter sleeve, metric shafts | 7.1 | 370 |
| SONL | Plummer block housings for bearings on an adapter sleeve, inch shafts | 7.2 | 374 |
| SONL | Plummer block housings for bearings on a cylindrical seat | 7.3 | 378 |
| SYE | Inch roller bearing units with a two-bolt pillow block housing | 17.1 | 708 |
| SYE .. N | SKF ConCentra inch roller bearing units with a two-bolt pillow block housing | 17.1 | 708 |
| SYNT | SKF ConCentra roller bearing units with a plummer block housing, metric shafts | 16.1 | 686 |
| SYR | Inch roller bearing units with a two-bolt pillow block housing | 17.1 | 708 |
| SYR .. N | SKF ConCentra inch roller bearing units with a two-bolt pillow block housing | 17.1 | 708 |
| SYT | → Metric roller bearings units – SYNT and FYNT series (SKF ConCentra) | 16 | 659 |
| THDD | Take-up housings for spherical roller bearings on an adapter sleeve and a plain shaft | 10.5 | 526 |
| VJ-PDNB 2..... | Shafts for two-bearing housings in the PDN 2 series | 12.4 | 580 |
| VJ-PDNB 3..... | Shafts for two-bearing housings in the PDN 3 series | 12.5 | 582 |
| VJ-PDPF | Shafts for two-bearing housings in the PDP series | 12.6 | 584 |
| VJ-PDRJ | Shafts for two-bearing housings in the PDR series | 12.7 | 586 |

¹⁾ Starting page of the product table

Bearing index

| Bearing designation | Housing / Pillow block / Bearing unit | Product table | |
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| Self-aligning ball bearings | | | |
| 1205 ETN9 | SNL 205 | 2.3 | 120 |
| | SNL 505 | 2.3 | 120 |
| 1205 EKTN9 + H 205 | SNL 505 | 2.1 | 86 |
| | FNL 505 | 11.1 | 546 |
| 1205 EKTN9 + HE 205 | SNL 505 | 2.2 | 100 |
| 1206 ETN9 | SNL 206-305 | 2.3 | 120 |
| | SNL 506-605 | 2.3 | 120 |
| 1206 EKTN9 + H 206 | SNL 506-605 | 2.1 | 86 |
| | FNL 506 | 11.1 | 546 |
| 1206 EKTN9 + HA 206 | SNL 506-605 | 2.2 | 100 |
| 1206 EKTN9 + HE 206 | SNL 506-605 | 2.2 | 100 |
| 1207 E | SE 207 | 2.3 | 122 |
| | SE 507-606 | 2.3 | 122 |
| 1207 EKTN9 + H 207 | SE 507-606 | 2.1 | 86 |
| | FNL 507 | 11.1 | 546 |
| 1207 EKTN9 + HA 207 | SE 507-606 | 2.2 | 102 |
| 1207 EKTN9 + SNW 7x1.3/16 | SAF 1507 | 8.1 | 418 |
| 1208 ETN9 | SE 208-307 | 2.3 | 122 |
| | SE 508-607 | 2.3 | 122 |
| 1208 EKTN9 + H 208 | SE 508-607 | 2.1 | 88 |
| | FNL 508 | 11.1 | 546 |
| 1208 EKTN9 + HE 208 | SE 508-607 | 2.2 | 102 |
| 1209 ETN9 | SE 209 | 2.3 | 124 |
| | SE 509 | 2.3 | 124 |
| 1209 EKTN9 + H 209 | SE 509 | 2.1 | 88 |
| | FNL 509 | 11.1 | 546 |
| 1209 EKTN9 + HA 209 | SE 509 | 2.2 | 102 |
| 1209 EKTN9 + HE 209 | SE 509 | 2.2 | 104 |
| 1209 EKTN9 + SNW 9x1.7/16 | SAF 1509 | 8.1 | 418 |
| 1210 ETN9 | SE 210 | 2.3 | 124 |
| | SE 510-608 | 2.3 | 124 |
| 1210 EKTN9 + H 210 | SE 510-608 | 2.1 | 88 |
| | FNL 510 | 11.1 | 548 |
| 1210 EKTN9 + HA 210 | SE 510-608 | 2.2 | 104 |
| 1210 EKTN9 + HE 210 | SE 510-608 | 2.2 | 104 |
| 1210 EKTN9 + SNW 10x1.11/16 | SAF 1510 | 8.1 | 418 |
| 1211 ETN9 | SE 211 | 2.3 | 126 |
| | SE 511-609 | 2.3 | 126 |
| 1211 EKTN9 + H 211 | SE 511-609 | 2.1 | 90 |
| | FNL 511 | 11.1 | 548 |
| 1211 EKTN9 + HA 211 | SE 511-609 | 2.2 | 106 |
| 1211 EKTN9 + HE 211 B | SE 511-609 | 2.2 | 106 |
| 1211 EKTN9 + SNW 11x1.15/16 | SAF 1511 | 8.1 | 418 |
| 1212 ETN9 | SE 212 | 2.3 | 126 |
| | SE 512-610 | 2.3 | 126 |
| 1212 EKTN9 + H 212 | SE 512-610 | 2.1 | 90 |
| | FNL 512 | 11.1 | 548 |
| 1213 ETN9 | SE 213 | 2.3 | 128 |
| | SE 513-611 | 2.3 | 128 |
| 1213 EKTN9 + H 213 | SE 513-611 | 2.1 | 90 |
| | FNL 513 | 11.1 | 548 |
| 1213 EKTN9 + HA 213 | SE 513-611 | 2.2 | 106 |
| 1213 EKTN9 + HE 213 | SE 513-611 | 2.2 | 108 |

| Bearing designation | Housing / Pillow block / Bearing unit | Product table | |
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| | | No. | Page |
| 1213 EKTN9 + SNW 13x2.3/16 | SAF 1513 | 8.1 | 418 |
| 1215 | SE 215 | 2.3 | 130 |
| | SE 515-612 | 2.3 | 130 |
| 1215 K + H 215 | SE 515-612 | 2.1 | 92 |
| | FNL 515 | 11.1 | 550 |
| 1215 K + HA 215 | SE 515-612 | 2.2 | 108 |
| 1215 K + HE 215 | SE 515-612 | 2.2 | 108 |
| 1215 K + SNW 15x2.7/16 | SAF 1515 | 8.1 | 418 |
| 1216 | SNL 216 | 2.3 | 130 |
| | SNL 516-613 | 2.3 | 130 |
| 1216 K + H 216 | SNL 516-613 | 2.1 | 92 |
| | FNL 516 | 11.1 | 550 |
| 1216 K + HA 216 | SNL 516-613 | 2.2 | 110 |
| 1216 K + HE 216 | SNL 516-613 | 2.2 | 110 |
| 1216 K + SNW 16x2.11/16 | SAF 1516 | 8.1 | 418 |
| 1217 | SNL 217 | 2.3 | 132 |
| | SNL 517 | 2.3 | 132 |
| 1217 K + H 217 | SNL 517 | 2.1 | 92 |
| | FNL 517 | 11.1 | 550 |
| 1217 K + HA 217 | SNL 517 | 2.2 | 110 |
| 1217 K + HE 217 | SNL 517 | 2.2 | 112 |
| 1217 K + SNW 17x2.15/16 | SAF 1517 | 8.1 | 420 |
| 1218 | SNL 218 | 2.3 | 132 |
| | SNL 518-615 | 2.3 | 132 |
| 1218 K + H 218 | SNL 518-615 | 2.1 | 94 |
| | FNL 518 | 11.1 | 550 |
| 1218 K + HA 218 | SNL 518-615 | 2.2 | 112 |
| 1218 K + HE 218 | SNL 518-615 | 2.2 | 112 |
| 1218 K + SNW 18x3.3/16 | SAF 1518 | 8.1 | 420 |
| 1219 K + H 219 | SNL 519-616 | 2.1 | 94 |
| 1220 | SNL 520-617 | 2.3 | 134 |
| 1220 K + H 220 | SNL 520-617 | 2.1 | 94 |
| | FNL 520 | 11.1 | 550 |
| 1220 K + HA 220 | SNL 520-617 | 2.2 | 114 |
| 1220 K + HE 220 | SNL 520-617 | 2.2 | 114 |
| 1220 K + SNW 20x3.7/16 | SAF 1520 | 8.1 | 420 |
| 1222 | SNL 522-619 | 2.3 | 134 |
| 1222 K + H 222 | SNL 522-619 | 2.1 | 96 |
| | SNL 522-619 | 2.2 | 114 |
| | FNL 522 | 11.1 | 550 |
| 1222 K + HE 222 | SNL 522-619 | 2.2 | 116 |
| 1222 K + SNW 22x3.15/16 | SAF 1522 | 8.1 | 420 |
| 1224 M | SNL 524-620 | 2.3 | 134 |
| 1224 KM + H 3024 | SNL 524-620 | 2.1 | 96 |
| 1224 KM + HA 3024 | SNL 524-620 | 2.2 | 116 |
| 1224 KM + HE 3024 | SNL 524-620 | 2.2 | 116 |
| 1226 M | SNL 526 | 2.3 | 136 |
| 1305 ETN9 | SNL 206-305 | 2.3 | 120 |
| 1305 EKTN9 + H 305 | SNL 506-605 | 2.1 | 86 |
| 1305 EKTN9 + HE 305 | SNL 506-605 | 2.2 | 100 |
| 1306 ETN9 | SE 507-606 | 2.3 | 120 |
| 1306 EKTN9 + H 306 | SE 507-606 | 2.1 | 86 |
| 1306 EKTN9 + HA 306 | SE 507-606 | 2.2 | 100 |
| 1306 EKTN9 + HE 306 | SE 507-606 | 2.2 | 100 |
| 1307 ETN9 | SE 208-307 | 2.3 | 122 |
| 1307 EKTN9 + H 307 | SE 508-607 | 2.1 | 86 |
| 1307 EKTN9 + HA 307 | SE 508-607 | 2.2 | 102 |
| 1308 ETN9 | SE 510-608 | 2.3 | 122 |
| | SAF 1308 | 8.4 | 434 |
| 1308 EKTN9 + H 308 | SE 510-608 | 2.1 | 88 |
| 1308 EKTN9 + HE 308 | SE 510-608 | 2.2 | 102 |
| 1309 ETN9 | SE 511-609 | 2.3 | 124 |
| | SAF 1309 | 8.4 | 434 |
| 1309 EKTN9 + H 309 | SE 511-609 | 2.1 | 88 |
| 1309 EKTN9 + HA 309 | SE 511-609 | 2.2 | 102 |
| 1309 EKTN9 + HE 309 | SE 511-609 | 2.2 | 104 |
| 1309 EKTN9 + SNW 9x1.7/16 | SAF 1609 | 8.1 | 418 |
| 1310 ETN9 | SE 512-610 | 2.3 | 124 |
| | SAF 1310 | 8.4 | 434 |
| 1310 EKTN9 + H 310 | SE 512-610 | 2.1 | 88 |
| 1310 EKTN9 + HA 310 | SE 512-610 | 2.2 | 104 |
| 1310 EKTN9 + HE 310 | SE 512-610 | 2.2 | 104 |
| 1310 EKTN9 + SNW 10x1.11/16 | SAF 1610 | 8.1 | 418 |

18.3 Bearing index

| Bearing designation | Housing / Pillow block / Bearing unit | Product table | |
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| | | No. | Page |
| 1311 ETN9 | SE 513-611 | 2.3 | 126 |
| | SAF 1311 | 8.4 | 434 |
| 1311 EKTN9 + H 311 | SE 513-611 | 2.1 | 90 |
| 1311 EKTN9 + HA 311 | SE 513-611 | 2.2 | 106 |
| 1311 EKTN9 + HE 311 | SE 513-611 | 2.2 | 106 |
| 1311 EKTN9 + SNW 11x1.15/16 | SAF 1611 | 8.1 | 418 |
| 1312 ETN9 | SE 515-612 | 2.3 | 126 |
| | SAF 1312 | 8.4 | 434 |
| 1312 EKTN9 + H 312 | SE 515-612 | 2.1 | 90 |
| 1313 ETN9 | SNL 516-613 | 2.3 | 128 |
| | SAF 1313 | 8.4 | 434 |
| 1313 EKTN9 + H 313 | SNL 516-613 | 2.1 | 90 |
| 1313 EKTN9 + HA 313 | SNL 516-613 | 2.2 | 106 |
| 1313 EKTN9 + HE 313 | SNL 516-613 | 2.2 | 108 |
| 1313 EKTN9 + SNW 13x2.3/16 | SAF 1613 | 8.1 | 418 |
| 1314 | SNL 517 | 2.3 | 128 |
| | SAF 1314 | 8.4 | 434 |
| 1315 | SNL 518-615 | 2.3 | 130 |
| | SAF 1315 | 8.4 | 434 |
| 1315 K + H 315 | SNL 518-615 | 2.1 | 92 |
| 1315 K + HA 315 | SNL 518-615 | 2.2 | 108 |
| 1315 K + HE 315 | SNL 518-615 | 2.2 | 108 |
| 1315 K + SNW 15x2.7/16 | SAF 1615 | 8.1 | 418 |
| 1316 | SNL 519-616 | 2.3 | 130 |
| | SAF 1316 | 8.4 | 434 |
| 1316 K + H 316 | SNL 519-616 | 2.1 | 92 |
| 1316 K + HA 316 | SNL 519-616 | 2.2 | 110 |
| 1316 K + HE 316 | SNL 519-616 | 2.2 | 110 |
| 1316 K + SNW 16x2.11/16 | SAF 1616 | 8.1 | 418 |
| 1317 | SNL 520-617 | 2.3 | 132 |
| | SAF 1317 | 8.4 | 434 |
| 1317 K + H 317 | SNL 520-617 | 2.1 | 92 |
| | SNL 520-617 | 2.2 | 112 |
| 1317 K + HA 317 | SNL 520-617 | 2.2 | 110 |
| 1317 K + SNW 17x2.15/16 | SAF 1617 | 8.1 | 420 |
| 1318 | SAF 1318 | 8.4 | 434 |
| 1318 K + SNW 18x3.3/16 | SAF 1618 | 8.1 | 420 |
| 1319 | SNL 522-619 | 2.3 | 134 |
| 1319 K + H 319 | SNL 522-619 | 2.1 | 94 |
| 1319 K + HE 319 | SNL 522-619 | 2.2 | 112 |
| 1320 | SNL 524-620 | 2.3 | 134 |
| | SAF 1320 | 8.4 | 434 |
| 1320 K + H 320 | SNL 524-620 | 2.1 | 94 |
| 1320 K + HA 320 | SNL 524-620 | 2.2 | 114 |
| 1320 K + HE 320 | SNL 524-620 | 2.2 | 114 |
| 1320 K + SNW 20x3.7/16 | SAF 1620 | 8.1 | 420 |
| 1322 | SAF 1322 | 8.4 | 434 |
| 1322 KM + SNW 22x3.15/16 | SAF 1622 | 8.1 | 420 |
| 2205 ETN9 | SNL 205 | 2.3 | 120 |
| | SNL 505 | 2.3 | 120 |
| 2205 EKTN9 + H 305 | SNL 505 | 2.1 | 86 |
| | FNL 505 | 11.1 | 546 |
| 2205 EKTN9 + HE 305 | SNL 505 | 2.2 | 100 |
| 2206 ETN9 | SNL 206-305 | 2.3 | 120 |
| | SNL 506-605 | 2.3 | 120 |
| 2206 EKTN9 + H 306 | SNL 506-605 | 2.1 | 86 |
| | FNL 506 | 11.1 | 546 |
| 2206 EKTN9 + HA 306 | SNL 506-605 | 2.2 | 100 |
| 2206 EKTN9 + HE 306 | SNL 506-605 | 2.2 | 100 |
| 2207 ETN9 | SE 207 | 2.3 | 122 |
| | SE 507-606 | 2.3 | 122 |
| 2207 EKTN9 + H 307 | SE 507-606 | 2.1 | 86 |
| | FNL 507 | 11.1 | 546 |
| 2207 EKTN9 + HA 307 | SE 507-606 | 2.2 | 102 |
| 2208 ETN9 | SE 208-307 | 2.3 | 122 |
| | SE 508-607 | 2.3 | 122 |
| 2208 EKTN9 + H 308 | SE 508-607 | 2.1 | 88 |
| | FNL 508 | 11.1 | 546 |
| 2208 EKTN9 + HE 308 | SE 508-607 | 2.2 | 102 |
| 2209 ETN9 | SE 209 | 2.3 | 124 |
| | SE 509 | 2.3 | 124 |
| 2209 EKTN9 + H 309 | SE 509 | 2.1 | 88 |
| | FNL 509 | 11.1 | 546 |

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| 2209 EKTN9 + HA 309 | SE 509 | 2.2 | 102 |
| 2209 EKTN9 + HE 309 | SE 509 | 2.2 | 104 |
| 2210 ETN9 | SE 210 | 2.3 | 124 |
| | SE 510-608 | 2.3 | 124 |
| 2210 EKTN9 + H 310 | SE 510-608 | 2.1 | 88 |
| | FNL 510 | 11.1 | 548 |
| 2210 EKTN9 + HA 310 | SE 510-608 | 2.2 | 104 |
| 2210 EKTN9 + HE 310 | SE 510-608 | 2.2 | 104 |
| 2211 ETN9 | SE 211 | 2.3 | 126 |
| | SE 511-609 | 2.3 | 126 |
| 2211 EKTN9 + H 311 | SE 511-609 | 2.1 | 90 |
| | FNL 511 | 11.1 | 548 |
| 2211 EKTN9 + HA 311 | SE 511-609 | 2.2 | 106 |
| 2211 EKTN9 + HE 311 B | SE 511-609 | 2.2 | 106 |
| 2212 ETN9 | SE 212 | 2.3 | 126 |
| | SE 512-610 | 2.3 | 126 |
| 2212 EKTN9 + H 312 | SE 512-610 | 2.1 | 90 |
| | FNL 512 | 11.1 | 548 |
| 2213 ETN9 | SE 213 | 2.3 | 128 |
| | SE 513-611 | 2.3 | 128 |
| 2213 EKTN9 + H 313 | SE 513-611 | 2.1 | 90 |
| | FNL 513 | 11.1 | 548 |
| 2213 EKTN9 + HA 313 | SE 513-611 | 2.2 | 106 |
| 2213 EKTN9 + HE 313 | SE 513-611 | 2.2 | 108 |
| 2215 ETN9 | SE 215 | 2.3 | 130 |
| | SE 515-612 | 2.3 | 130 |
| 2215 EKTN9 + H 315 | SE 515-612 | 2.1 | 92 |
| | FNL 515 | 11.1 | 550 |
| 2215 EKTN9 + HA 315 | SE 515-612 | 2.2 | 108 |
| 2215 EKTN9 + HE 315 | SE 515-612 | 2.2 | 108 |
| 2216 ETN9 | SNL 216 | 2.3 | 130 |
| | SNL 516-613 | 2.3 | 130 |
| 2216 EKTN9 + H 316 | SNL 516-613 | 2.1 | 92 |
| | FNL 516 | 11.1 | 550 |
| 2216 EKTN9 + HA 316 | SNL 516-613 | 2.2 | 110 |
| 2216 EKTN9 + HE 316 | SNL 516-613 | 2.2 | 110 |
| 2217 | SNL 217 | 2.3 | 132 |
| | SNL 517 | 2.3 | 132 |
| 2217 K + H 317 | SONL 217-517 | 7.3 | 378 |
| | SNL 517 | 2.1 | 92 |
| | SONL 217-517 | 7.1 | 370 |
| | FNL 517 | 11.1 | 550 |
| 2217 K + HA 317 | SNL 517 | 2.2 | 110 |
| | SONL 217-517 | 7.2 | 374 |
| 2217 K + HE 317 | SNL 517 | 2.2 | 112 |
| 2218 | SNL 218 | 2.3 | 132 |
| | SNL 518-615 | 2.3 | 132 |
| 2218 K + H 318 | SONL 218-518 | 7.3 | 378 |
| | SNL 518-615 | 2.1 | 94 |
| | SONL 218-518 | 7.1 | 370 |
| | FNL 518 | 11.1 | 550 |
| 2218 K + HA 318 | SNL 518-615 | 2.2 | 112 |
| | SONL 218-518 | 7.2 | 374 |
| 2218 K + HE 318 | SNL 518-615 | 2.2 | 112 |
| 2219 KM + H 319 | SNL 519-616 | 2.1 | 94 |
| 2220 M | SNL 520-617 | 2.3 | 134 |
| | SONL 220-520 | 7.3 | 378 |
| 2220 KM + H 320 | SNL 520-617 | 2.1 | 94 |
| | SONL 220-520 | 7.1 | 370 |
| | FNL 520 | 11.1 | 550 |
| 2220 KM + HA 320 | SNL 520-617 | 2.2 | 114 |
| | SONL 220-520 | 7.2 | 374 |
| 2220 KM + HE 320 | SNL 520-617 | 2.2 | 114 |
| 2222 M | SNL 522-619 | 2.3 | 134 |
| | SONL 222-522 | 7.3 | 378 |
| 2222 KM + H 322 | SNL 522-619 | 2.1 | 96 |
| | SNL 522-619 | 2.2 | 114 |
| | SONL 222-522 | 7.1 | 370 |
| | SONL 222-522 | 7.2 | 374 |
| | FNL 522 | 11.1 | 550 |
| 2222 KM + HE 322 | SNL 522-619 | 2.2 | 116 |
| 2305 ETN9 | SNL 206-305 | 2.3 | 120 |
| 2306 | SE 507-606 | 2.3 | 120 |

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| | | No. | Page |
| 2306 K + H 2306 | SE 507-606 | 2.1 | 86 |
| 2306 K + HA 2306 | SE 507-606 | 2.2 | 100 |
| 2306 K + HE 2306 | SE 507-606 | 2.2 | 100 |
| 2307 ETN9 | SE 208-307 | 2.3 | 122 |
| 2307 EKTN9 + H 2307 | SE 508-607 | 2.1 | 86 |
| 2307 EKTN9 + HA 2307 | SE 508-607 | 2.2 | 102 |
| 2308 ETN9 | SE 510-608 | 2.3 | 122 |
| 2308 EKTN9 + H 2308 | SE 510-608 | 2.1 | 88 |
| 2308 EKTN9 + HE 2308 | SE 510-608 | 2.2 | 102 |
| 2309 ETN9 | SE 511-609 | 2.3 | 124 |
| 2309 EKTN9 + H 2309 | SE 511-609 | 2.1 | 88 |
| 2309 EKTN9 + HA 2309 | SE 511-609 | 2.2 | 102 |
| 2309 EKTN9 + HE 2309 | SE 511-609 | 2.2 | 104 |
| 2310 | SE 512-610 | 2.3 | 124 |
| 2310 K + H 2310 | SE 512-610 | 2.1 | 88 |
| 2310 K + HA 2310 | SE 512-610 | 2.2 | 104 |
| 2310 K + HE 2310 | SE 512-610 | 2.2 | 104 |
| 2311 | SE 513-611 | 2.3 | 126 |
| 2311 K + H 2311 | SE 513-611 | 2.1 | 90 |
| 2311 K + HA 2311 | SE 513-611 | 2.2 | 106 |
| 2311 K + HE 2311 B | SE 513-611 | 2.2 | 106 |
| 2312 | SE 515-612 | 2.3 | 126 |
| 2312 K + H 2312 | SE 515-612 | 2.1 | 90 |
| 2313 | SNL 516-613 | 2.3 | 128 |
| 2313 K + H 2313 | SNL 516-613 | 2.1 | 90 |
| 2313 K + HA 2313 | SNL 516-613 | 2.2 | 106 |
| 2313 K + HE 2313 | SNL 516-613 | 2.2 | 108 |
| 2314 | SNL 517 | 2.3 | 128 |
| 2315 | SNL 518-615 | 2.3 | 130 |
| 2315 K + H 2315 | SNL 518-615 | 2.1 | 92 |
| 2315 K + HA 2315 | SNL 518-615 | 2.2 | 108 |
| 2315 K + HE 2315 | SNL 518-615 | 2.2 | 108 |
| 2316 | SNL 519-616 | 2.3 | 130 |
| 2316 K + H 2316 | SNL 519-616 | 2.1 | 92 |
| 2316 K + HA 2316 | SNL 519-616 | 2.2 | 110 |
| 2316 K + HE 2316 | SNL 519-616 | 2.2 | 110 |
| 2317 | SNL 520-617 | 2.3 | 132 |
| 2317 K + H 2317 | SNL 520-617 | 2.1 | 92 |
| 2317 K + HA 2317 | SNL 520-617 | 2.2 | 110 |
| 2317 K + HE 2317 | SNL 520-617 | 2.2 | 112 |
| 2319 M | SNL 522-619 | 2.3 | 134 |
| 2319 KM + H 2319 | SNL 522-619 | 2.1 | 94 |
| 2319 KM + HE 2319 | SNL 522-619 | 2.2 | 112 |
| 2320 M | SNL 524-620 | 2.3 | 134 |
| 2320 KM + H 2320 | SNL 524-620 | 2.1 | 94 |
| 2320 KM + HA 2320 | SNL 524-620 | 2.2 | 114 |
| 2320 KM + HE 2320 | SNL 524-620 | 2.2 | 114 |

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| 21306 CCK + HA 306 | SE 507-606 | 2.2 | 100 |
| 21306 CCK + HE 2306 | SE 507-606 | 2.2 | 100 |
| 21307 CC | SE 208-307 | 2.3 | 122 |
| 21307 CCK + H 307 | SE 508-607 | 2.1 | 86 |
| 21307 CCK + HA 307 | SE 508-607 | 2.2 | 102 |
| 21308 E | SE 510-608 | 2.3 | 122 |
| 21308 EK + H 308 | SE 510-608 | 2.1 | 88 |
| 21308 EK + HE 308 | SE 510-608 | 2.2 | 102 |
| 21309 E | SE 511-609 | 2.3 | 124 |
| 21309 EK + H 309 | SE 511-609 | 2.1 | 88 |
| 21309 EK + HA 309 | SE 511-609 | 2.2 | 102 |
| 21309 EK + HE 309 | SE 511-609 | 2.2 | 104 |
| 21310 E | SE 512-610 | 2.3 | 124 |
| 21310 EK + H 310 | SE 512-610 | 2.1 | 88 |
| 21310 EK + HA 310 | SE 512-610 | 2.2 | 104 |
| 21310 EK + HE 310 | SE 512-610 | 2.2 | 104 |
| 21311 E | SE 513-611 | 2.3 | 126 |
| 21311 EK + H 311 | SE 513-611 | 2.1 | 90 |
| 21311 EK + HA 311 | SE 513-611 | 2.2 | 106 |
| 21311 EK + HE 311 | SE 513-611 | 2.2 | 106 |
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| 21312 EK + H 312 | SE 515-612 | 2.1 | 90 |
| 21313 E | SNL 516-613 | 2.3 | 128 |
| 21313 EK + H 313 | SNL 516-613 | 2.1 | 90 |
| 21313 EK + HA 313 | SNL 516-613 | 2.2 | 106 |
| 21313 EK + HE 313 | SNL 516-613 | 2.2 | 108 |
| 21314 E | SNL 517 | 2.3 | 128 |
| 21315 E | SNL 518-615 | 2.3 | 130 |
| 21315 EK + H 315 | SNL 518-615 | 2.1 | 92 |
| 21315 EK + HA 315 | SNL 518-615 | 2.2 | 108 |
| 21315 EK + HE 315 | SNL 518-615 | 2.2 | 108 |
| 21316 E | SNL 519-616 | 2.3 | 130 |
| 21316 EK + H 316 | SNL 519-616 | 2.1 | 92 |
| 21316 EK + HA 316 | SNL 519-616 | 2.2 | 110 |
| 21316 EK + HE 316 | SNL 519-616 | 2.2 | 110 |
| 21317 E | SNL 520-617 | 2.3 | 132 |
| 21317 EK + H 317 | SNL 520-617 | 2.1 | 92 |
| | SNL 520-617 | 2.2 | 112 |
| 21317 EK + HA 317 | SNL 520-617 | 2.2 | 110 |
| 21319 E | SNL 522-619 | 2.3 | 134 |
| 21319 EK + H 319 | SNL 522-619 | 2.1 | 94 |
| 21319 EK + HE 319 | SNL 522-619 | 2.2 | 112 |
| 21320 E | SNL 524-620 | 2.3 | 134 |
| 21320 EK + H 320 | SNL 524-620 | 2.1 | 94 |
| 21320 EK + HA 320 | SNL 524-620 | 2.2 | 114 |
| 21320 EK + HE 320 | SNL 524-620 | 2.2 | 114 |
| 22205 E | SNL 205 | 2.3 | 120 |
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| 22205 EK + H 305 | SNL 505 | 2.1 | 86 |
| | FNL 505 | 11.1 | 546 |
| 22205 EK + HE 305 | SNL 505 | 2.2 | 100 |
| 22206 E | SNL 206-305 | 2.3 | 120 |
| | SNL 506-605 | 2.3 | 120 |
| 22206 EK + H 306 | SNL 506-605 | 2.1 | 86 |
| | FNL 506 | 11.1 | 546 |
| 22206 EK + HA 306 | SNL 506-605 | 2.2 | 100 |
| 22206 EK + HE 306 | SNL 506-605 | 2.2 | 100 |
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| | SE 507-606 | 2.3 | 122 |
| | SYNT 35 | 16.1 | 686 |
| | FYNT 35 | 16.2 | 688 |
| 22207 EK + H 307 | SE 507-606 | 2.1 | 86 |
| | FNL 507 | 11.1 | 546 |
| 22207 EK + HA 307 | SE 507-606 | 2.2 | 102 |
| 22207 EK + SNW 7x1.3/16 | SAF 22507 | 8.2 | 422 |

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| 22209 EK + H 309 | SE 509 | 2.1 | 88 |
| | FNL 509 | 11.1 | 546 |
| 22209 EK + HA 309 | SE 509 | 2.2 | 102 |
| 22209 EK + HE 309 | SE 509 | 2.2 | 104 |
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| 22210 E | SE 210 | 2.3 | 124 |
| | SE 510-608 | 2.3 | 124 |
| | SYNT 50 | 16.1 | 686 |
| | FYNT 50 | 16.2 | 688 |
| 22210 EK + H 310 | SE 510-608 | 2.1 | 88 |
| | FNL 510 | 11.1 | 548 |
| 22210 EK + HA 310 | SE 510-608 | 2.2 | 104 |
| 22210 EK + HE 310 | SE 510-608 | 2.2 | 104 |
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| | FYNT 55 | 16.2 | 688 |
| 22211 EK + H 311 | SE 511-609 | 2.1 | 90 |
| | THDD 2211 | 10.5 | 526 |
| | FNL 511 | 11.1 | 548 |
| 22211 EK + HA 311 | SE 511-609 | 2.2 | 106 |
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| 22212 EK + H 312 | SE 512-610 | 2.1 | 90 |
| | THDD 2212 | 10.5 | 526 |
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| | FYNT 65 | 16.2 | 688 |
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| | SBDD 2213 | 10.1 | 502 |
| | THDD 2213 | 10.5 | 526 |
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| | FYNT 75 | 16.2 | 688 |
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| | SBDD 2220 | 10.3 | 514 |
| | SBDD 2220 | 10.4 | 520 |
| | SYNT 100 | 16.1 | 686 |
| | FYNT 100 | 16.2 | 688 |
| | SNL 520-617 | 2.1 | 94 |
| | SONL 220-520 | 7.1 | 370 |
| 22220 EK + H 320 | SBDD 2220 | 10.1 | 502 |
| | SBDD 2220 | 10.2 | 508 |
| | THDD 2220 | 10.5 | 526 |
| 22220 EK + HA 320 | FNL 520 | 11.1 | 550 |
| | SNL 520-617 | 2.2 | 114 |
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| | SDAF 22230 | 9.2 | 474 |
| | SBDD 2230 | 10.3 | 514 |
| | SBDD 2230 | 10.4 | 520 |
| | SNL 530 | 2.1 | 96 |
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| 22230 CCK/W33 + H 3130 | SBDD 2230 | 10.1 | 502 |
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| | SNL 3038 | 5.2 | 260 |
| 22234 CCK/W33 + H 3134 | SNL 532 | 2.2 | 118 |
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| | SAF 22234 | 8.5 | 440 |
| 22234 CCK/W33 + H 3134 | SBDD 2234 | 10.3 | 514 |
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| | SONL 240-540 | 7.1 | 372 |
| | SBDD 2240 | 10.1 | 504 |
| | SBDD 2240 | 10.2 | 510 |
| 22240 CCK/W33 + H 3140/7.1/4 | SNL 3048 | 5.2 | 276 |
| 22240 CCK/W33 + H 3140/7.1/8 | SNL 3048 | 5.2 | 274 |
| 22240 CCK/W33 + HA 3140 | SNL 3048 | 5.2 | 274 |
| 22240 CCK/W33 + HE 3140 | SONL 240-540 | 7.2 | 376 |
| 22240 CCK/W33 + SNW 40 | SNL 3048 | 5.2 | 272 |
| 22240 CCK/W33 + SNW 40x7.3/16 | SDAF 22540 | 9.1 | 472 |
| 22240-2CS5 | SAF 22540 | 8.2 | 428 |
| 22240-2CS5K + H 3140 | SNL 3048 | 5.3 | 306 |
| 22240-2CS5K + H 3140/7.1/4 | SNL 3048 | 5.1 | 228 |
| 22240-2CS5K + H 3140/7.1/4 | SNL 3048 | 5.2 | 276 |
| 22240-2CS5K + H 3140/7.1/8 | SNL 3048 | 5.2 | 274 |
| 22240-2CS5K + HA 3140 | SNL 3048 | 5.2 | 274 |
| 22240-2CS5K + HE 3140 | SNL 3048 | 5.2 | 272 |
| 22244 CC/W33 | SNL 3148 | 5.3 | 308 |
| | SONL 244-544 | 7.3 | 380 |
| | SAF 22244 | 8.5 | 442 |
| | SDAF 22244 | 9.2 | 474 |
| | SBDD 2244 | 10.3 | 516 |
| | SBDD 2244 | 10.4 | 522 |
| 22244 CCK/W33 + H 3044/7.15/16 | SONL 244-544 | 7.2 | 376 |
| 22244 CCK/W33 + H 3144/7.15/16 | SNL 3148 | 5.2 | 278 |
| 22244 CCK/W33 + H 3144/8 | SNL 3148 | 5.2 | 278 |
| 22244 CCK/W33 + OH 3144 H | SNL 3148 | 5.1 | 230 |
| | SONL 244-544 | 7.1 | 372 |
| | SBDD 2244 | 10.1 | 504 |
| | SBDD 2244 | 10.2 | 510 |
| 22244 CCK/W33 + OH 3144 HB | SNL 3148 | 5.2 | 276 |
| 22244 CCK/W33 + OH 3144/7.13/16 H | SNL 3148 | 5.2 | 276 |
| 22244 CCK/W33 + OH 3144/7.7/8 H | SNL 3148 | 5.2 | 276 |
| 22244 CCK/W33 + SNW 44 | SDAF 22544 | 9.1 | 472 |
| 22244 CCK/W33 + SNW 44x7.15/16 | SAF 22544 | 8.2 | 428 |
| 22244-2CS5 | SNL 3148 | 5.3 | 308 |
| 22244-2CS5K + H 3144/7.15/16 | SNL 3148 | 5.2 | 278 |
| 22244-2CS5K + H 3144/8 | SNL 3148 | 5.2 | 278 |
| 22244-2CS5K + OH 3144 H | SNL 3148 | 5.1 | 230 |
| 22248 CC/W33 | SNL 3152 | 5.3 | 310 |
| | SONL 248-548 | 7.3 | 380 |
| | SBDD 2248 | 10.3 | 516 |
| | SBDD 2248 | 10.4 | 522 |

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| | SONL 248-548 | 7.2 | 376 |
| 22248 CCK/W33 + OH 3148 H | SNL 3152 | 5.1 | 232 |
| | SONL 248-548 | 7.1 | 372 |
| 22248 CCK/W33 + OH 3148 HB | SBDD 2248 | 10.1 | 504 |
| 22248 CCK/W33 + OH 3148/8.1/2 H | SBDD 2248 | 10.2 | 510 |
| 22248 CCK/W33 + OH 3148/8.7/16 | SNL 3152 | 5.2 | 280 |
| 22252 CC/W33 | SNL 3152 | 5.2 | 278 |
| | SNL 3064 | 5.3 | 310 |
| | SBDD 2252 | 10.3 | 516 |
| 22252 CCK/W33 + H 3152/9.1/2 | SBDD 2252 | 10.4 | 522 |
| 22252 CCK/W33 + OH 3152 H | SNL 3064 | 5.2 | 282 |
| | SNL 3064 | 5.1 | 234 |
| | SBDD 2252 | 10.1 | 504 |
| 22252 CCK/W33 + OH 3152 HB | SBDD 2252 | 10.2 | 510 |
| 22256 CC/W33 | SNL 3160 | 5.3 | 312 |
| | SBDD 2256 | 10.3 | 516 |
| | SBDD 2256 | 10.4 | 522 |
| 22256 CCK/W33 + H 3156/10.1/2 | SNL 3160 | 5.2 | 284 |
| 22256 CCK/W33 + H 3156/10.7/16 | SNL 3160 | 5.2 | 284 |
| 22256 CCK/W33 + OH 3156 H | SNL 3160 | 5.1 | 236 |
| | SBDD 2256 | 10.1 | 506 |
| 22256 CCK/W33 + OH 3156 HB | SBDD 2256 | 10.2 | 510 |
| 22256 CCK/W33 + OH 3156/10 H | SNL 3160 | 5.2 | 282 |
| 22260 CC/W33 | SNL 3164 | 5.3 | 312 |
| | SBDD 2260 | 10.3 | 518 |
| | SBDD 2260 | 10.4 | 524 |
| 22260 CCK/W33 + OH 3160 H | SNL 3164 | 5.1 | 238 |
| | SBDD 2260 | 10.1 | 506 |
| 22260 CCK/W33 + OH 3160 HB | SBDD 2260 | 10.2 | 512 |
| 22260 CCK/W33 + OH 3160/10.15/16 H | SNL 3164 | 5.2 | 286 |
| 22260 CCK/W33 + OH 3160/11 H | SNL 3164 | 5.2 | 286 |
| 22264 CC/W33 | SNL 3168 | 5.3 | 314 |
| | SBDD 2264 | 10.3 | 518 |
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| 22264 CCK/W33 + OH 3164 H | SNL 3168 | 5.1 | 240 |
| | SBDD 2264 | 10.1 | 506 |
| 22264 CCK/W33 + OH 3164 HB | SBDD 2264 | 10.2 | 512 |
| 22264 CCK/W33 + OH 3164/11.1/2 H | SNL 3168 | 5.2 | 286 |
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| 22272 CAK/W33 + OH 3172/13 H | SNL 3180 | 5.2 | 292 |
| 22308 E | SE 510-608 | 2.3 | 122 |
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| 22308 EK + H 2308 | SE 510-608 | 2.1 | 88 |
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| 22309 EK + HA 2309 | SE 511-609 | 2.2 | 102 |
| 22309 EK + HE 2309 | SE 511-609 | 2.2 | 104 |
| 22309 EK + SNW 109x1.7/16 | SAF 22609 | 8.2 | 422 |
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| | SAF 22310 | 8.5 | 436 |
| 22310 EK + H 2310 | SE 512-610 | 2.1 | 88 |
| 22310 EK + HA 2310 | SE 512-610 | 2.2 | 104 |
| 22310 EK + HE 2310 | SE 512-610 | 2.2 | 104 |
| 22310 EK + SNW 110x1.11/16 | SAF 22610 | 8.2 | 422 |
| 22311 E | SE 513-611 | 2.3 | 126 |
| | SAF 22311 | 8.5 | 436 |
| 22311 EK + H 2311 | SE 513-611 | 2.1 | 90 |
| 22311 EK + HA 2311 | SE 513-611 | 2.2 | 106 |
| 22311 EK + HE 2311 B | SE 513-611 | 2.2 | 106 |
| 22311 EK + SNW 111x1.15/16 | SAF 22611 | 8.2 | 422 |
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| | SAF 22312 | 8.5 | 436 |
| 22312 EK + H 2312 | SE 515-612 | 2.1 | 90 |
| 22313 E | SNL 516-613 | 2.3 | 128 |
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| 22313 EK + H 2313 | SNL 516-613 | 2.1 | 90 |
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| 22315 EK + HA 2315 | SNL 518-615 | 2.2 | 108 |
| 22315 EK + HE 2315 | SNL 518-615 | 2.2 | 108 |
| 22316 CC/W33 | SAF 22316 | 8.5 | 438 |
| 22316 CCK/W33 + SNW 116x2.11/16 | SAF 22616 | 8.2 | 422 |
| 22316 E | SNL 519-616 | 2.3 | 130 |
| 22316 EK + H 2316 | SNL 519-616 | 2.1 | 92 |
| 22316 EK + HA 2316 | SNL 519-616 | 2.2 | 110 |
| 22316 EK + HE 2316 | SNL 519-616 | 2.2 | 110 |
| 22317 CC/W33 | SAF 22317 | 8.5 | 438 |
| 22317 CCK/W33 + SNW 117x2.15/16 | SAF 22617 | 8.2 | 424 |
| 22317 E | SNL 520-617 | 2.3 | 132 |
| 22317 EK + H 2317 | SDAF 22317 | 9.2 | 474 |
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| 22317 EK + HE 2317 | SNL 520-617 | 2.2 | 110 |
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| 22318 CC/W33 | SDAF 22617 | 9.1 | 472 |
| 22318 CCK/W33 + SNW 118x3.3/36 | SAF 22318 | 8.5 | 438 |
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| 22320 CCK/W33 + SNW 120x3.7/16 | SAF 22320 | 8.5 | 438 |
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| 22320 EK + H 2320 | SDAF 22320 | 9.2 | 474 |
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| 22322 CC/W33 | SDAF 22620 | 9.1 | 472 |
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| 22324 CCK/W33 + SNW 124x4.3/16 | SDAF 22324 | 9.2 | 474 |
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| 22326 CCK/W33 + HA 2326 | SNL 3134 | 5.3 | 302 |
| 22326 CCK/W33 + HE 2326 | SAF 22326 | 8.5 | 440 |
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| 22326-2CS5K + H 2326 | SNL 3134 | 5.2 | 260 |
| 22326-2CS5K + HA 2326 | SNL 3134 | 5.2 | 260 |
| 22326-2CS5K + HE 2326 | SNL 3134 | 5.2 | 260 |
| 22328 CC/W33 | SNL 3136 | 5.3 | 302 |
| 22328 CCK/W33 + H 2328 | SAF 22328 | 8.5 | 440 |
| 22328 CCK/W33 + HA 2328 | SDAF 22328 | 9.2 | 474 |
| 22328 CCK/W33 + HE 2328 | SNL 3136 | 5.1 | 222 |
| 22328 CCK/W33 + SNW 128x4.15/16 | SNL 3136 | 5.2 | 260 |
| 22328-2CS5 | SNL 3136 | 5.2 | 260 |
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| 22328-2CS5K + HA 2328 | SNL 3136 | 5.3 | 302 |
| 22328-2CS5K + HE 2328 | SNL 3136 | 5.1 | 222 |
| 22330 CC/W33 | SNL 3136 | 5.2 | 260 |
| 22330 CCK/W33 + H 2330 | SNL 3138 | 5.2 | 260 |
| 22330 CCK/W33 + HA 2330 | SAF 22330 | 8.5 | 440 |
| 22330 CCK/W33 + HE 2330 | SDAF 22330 | 9.2 | 474 |
| | SNL 3138 | 5.1 | 222 |
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| 22330-2CS5K + HE 2330 | SNL 3138 | 5.2 | 260 |
| 22332 CC/W33 | SNL 3140 | 5.3 | 302 |
| | SAF 22332 | 8.5 | 440 |
| | SDAF 22332 | 9.2 | 474 |
| 22332 CCK/W33 + H 2332 | SNL 3140 | 5.1 | 222 |
| 22332 CCK/W33 + HA 2332 | SNL 3140 | 5.2 | 260 |
| 22332 CCK/W33 + HE 2332 | SNL 3140 | 5.2 | 260 |
| 22332 CCK/W33 + SNW 132 | SDAF 22632 | 9.1 | 472 |
| 22332 CCK/W33 + SNW 132x5.7/16 | SAF 22632 | 8.2 | 426 |
| 22332-2CS5 | SNL 3140 | 5.3 | 302 |
| 22332-2CS5K + H 2332 | SNL 3140 | 5.1 | 222 |
| 22332-2CS5K + HA 2332 | SNL 3140 | 5.2 | 260 |
| 22332-2CS5K + HE 2332 | SNL 3140 | 5.2 | 260 |
| 22334 CC/W33 | SNL 3048 | 5.3 | 302 |
| | SAF 22334 | 8.5 | 440 |
| | SDAF 22334 | 9.2 | 474 |
| 22334 CCK/W33 + H 2334 | SNL 3048 | 5.1 | 222 |
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| 22334 CCK/W33 + H 2334/5.7/8 | SNL 3048 | 5.2 | 262 |
| 22334 CCK/W33 + HA 2334 | SNL 3048 | 5.2 | 262 |
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| 22336 CC/W33 | SDAF 22336 | 9.2 | 474 |
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| | SAF 22338 | 8.5 | 442 |
| | SDAF 22338 | 9.2 | 474 |
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| 22338 CCK/W33 + H 2338/6.13/16 | SNL 3148 | 5.2 | 268 |
| 22338 CCK/W33 + H 2338/6.7/8 | SNL 3148 | 5.2 | 270 |
| 22338 CCK/W33 + H 2338/7 | SNL 3148 | 5.2 | 272 |
| 22338 CCK/W33 + HA 2338 | SNL 3148 | 5.2 | 270 |
| 22338 CCK/W33 + HE 2338 | SNL 3148 | 5.2 | 268 |
| 22338 CCK/W33 + SNW 138 | SDAF 22638 | 9.1 | 472 |
| 22338 CCK/W33 + SNW 138x6.15/16 | SAF 22638 | 8.2 | 428 |
| 22340 CC/W33 | SNL 3056 | 5.3 | 306 |
| | SAF 22340 | 8.5 | 442 |
| 22340 CCK/W33 + H 2340 | SNL 3056 | 5.1 | 228 |
| 22340 CCK/W33 + H 2340/7.1/4 | SNL 3056 | 5.2 | 276 |
| 22340 CCK/W33 + H 2340/7.1/8 | SNL 3056 | 5.2 | 274 |
| 22340 CCK/W33 + HA 2340 | SNL 3056 | 5.2 | 274 |
| 22340 CCK/W33 + HE 2340 | SNL 3056 | 5.2 | 272 |
| 22340 CCK/W33 + SNW 140x7.3/16 | SAF 22640 | 8.2 | 428 |
| 22344 CC/W33 | SNL 3156 | 5.3 | 308 |
| 22344 CCK/W33 + H 2344/7.15/16 | SNL 3156 | 5.2 | 278 |
| 22344 CCK/W33 + OH 2344 H | SNL 3156 | 5.1 | 230 |
| 22348 CC/W33 | SNL 3160 | 5.3 | 310 |
| 22348 CCK/W33 + H 2348/8.15/16 | SNL 3160 | 5.2 | 280 |
| 22348 CCK/W33 + OH 2348 H | SNL 3160 | 5.1 | 232 |
| 22352 CC/W33 | SNL 3164 | 5.3 | 310 |
| 22352 CCK/W33 + H 2352/9.1/2 | SNL 3164 | 5.2 | 282 |
| 22352 CCK/W33 + OH 2352 H | SNL 3164 | 5.1 | 234 |
| 22356 CC/W33 | SNL 3168 | 5.3 | 312 |
| 22356 CCK/W33 + H 2356/10.1/2 | SNL 3168 | 5.2 | 284 |
| 22356 CCK/W33 + H 2356/10.7/16 | SNL 3168 | 5.2 | 284 |
| 22356 CCK/W33 + OH 2356 H | SNL 3168 | 5.1 | 236 |
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| | SDAF 230/500 | 9.4 | 482 |
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| 230/500 CAK/W33 + SNP 30/500 x 181/2 | SDAF 230/500 KA x 181/2 | 9.3 | 478 |
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| 230/530 CAK/W33 | SDM 30/530 | 13.5 | 614 |
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| 230/600 CA/W33 | SKND 30/600 | 14.1 | 634 |
| 230/600 CAK/W33 | SDM 30/600 | 13.5 | 614 |
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| 230/600 CAK/W33 + OH 30/600 H | SED 30/600 | 6.1 | 332 |
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| 230/670 CAK/W33 | SDM 30/670 | 13.5 | 616 |
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| 230/670 CAK/W33 + OH 30/670 H | SED 30/670 | 6.1 | 332 |
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| 23024 CCK/W33 + H 3024 | SNLN 3024 | 4.1 | 176 |
| | SBDD 3024 | 10.1 | 502 |
| | SBDD 3024 | 10.2 | 508 |
| 23024 CCK/W33 + SNW 3024x4.3/16 | SAF 23024 KA x 4.3/16 | 8.2 | 424 |
| 23024-2CS5 | SNLN 3024 | 4.2 | 180 |
| 23026 CC/W33 | SNLN 3026 | 4.2 | 180 |
| | SBDD 3026 | 10.3 | 514 |
| | SBDD 3026 | 10.4 | 520 |
| 23026 CCK/W33 + H 3026 | SNLN 3026 | 4.1 | 176 |
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| 23026-2CS5 | SNLN 3026 | 4.2 | 180 |
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| | SBDD 3030 | 10.4 | 520 |
| 23030 CCK/W33 + H 3030 | SNLN 3030 | 4.1 | 176 |
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| | SBDD 3030 | 10.2 | 508 |
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| 23030-2CS5K + H 3030 E | SNLN 3030 | 4.1 | 176 |
| 23032 CC/W33 | SNLN 3032 | 4.2 | 182 |
| | SBDD 3032 | 10.3 | 514 |
| | SBDD 3032 | 10.4 | 520 |
| 23032 CCK/W33 + H 3032 | SNLN 3032 | 4.1 | 176 |
| | SBDD 3032 | 10.1 | 502 |
| | SBDD 3032 | 10.2 | 508 |
| 23032 CCK/W33 + SNW 3032x5.7/16 | SAF 23032 KA x 5.7/16 | 8.2 | 426 |
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| | SBDD 3034 | 10.4 | 520 |
| | THDD 3034 | 10.5 | 526 |
| 23034 CCK/W33 + H 3034 | SNLN 3034 | 4.1 | 178 |
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| | SBDD 3034 | 10.2 | 508 |
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| 23034 CCK/W33 + SNW 3034x5.15/16 | SAF 23034 KA x 5.15/16 | 8.2 | 426 |
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| 23036 CC/W33 | SNLN 3036 | 4.2 | 182 |
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| | SBDD 3036 | 10.3 | 516 |
| | SBDD 3036 | 10.4 | 522 |
| 23036 CCK/W33 + H 3036 | SNLN 3036 | 4.1 | 178 |
| | SNL 3036 | 5.1 | 224 |
| | SBDD 3036 | 10.1 | 504 |
| | SBDD 3036 | 10.2 | 510 |
| 23036 CCK/W33 + H 3036/6.3/8 | SNL 3036 | 5.2 | 264 |
| 23036 CCK/W33 + H 3036/6.5/16 | SNL 3036 | 5.2 | 264 |
| 23036 CCK/W33 + HA 3036 | SNL 3036 | 5.2 | 266 |
| 23036 CCK/W33 + HE 3036 | SNL 3036 | 5.2 | 266 |
| 23036 CCK/W33 + SNW 3036x6.7/16 | SAF 23036 KA x 6.7/16 | 8.2 | 428 |
| 23036-2CS5 | SNLN 3036 | 4.2 | 182 |
| | SNL 3036 | 5.3 | 304 |
| 23036-2CS5K + H 3036 E | SNLN 3036 | 4.1 | 178 |
| | SNL 3036 | 5.1 | 224 |
| | SNL 3036 | 5.2 | 264 |
| 23036-2CS5K + H 3036/6.3/8 E | SNL 3036 | 5.2 | 264 |
| 23036-2CS5K + H 3036/6.5/16 E | SNL 3036 | 5.2 | 264 |
| 23036-2CS5K + HA 3036 E | SNL 3036 | 5.2 | 266 |
| 23036-2CS5K + HE 3036 E | SNL 3036 | 5.2 | 266 |
| 23038 CC/W33 | SNLN 3038 | 4.2 | 182 |
| | SNL 3038 | 5.3 | 304 |
| | SBDD 3038 | 10.3 | 516 |
| | SBDD 3038 | 10.4 | 522 |
| 23038 CCK/W33 + H 3038 | SNLN 3038 | 4.1 | 178 |
| | SNL 3038 | 5.1 | 226 |
| | SBDD 3038 | 10.1 | 504 |
| | SBDD 3038 | 10.2 | 510 |
| | THDD 3038 | 10.5 | 526 |
| 23038 CCK/W33 + H 3038/6.13/16 | SNL 3038 | 5.2 | 268 |
| 23038 CCK/W33 + H 3038/6.7/8 | SNL 3038 | 5.2 | 270 |
| 23038 CCK/W33 + H 3038/7 | SNL 3038 | 5.2 | 272 |
| 23038 CCK/W33 + HA 3038 | SNL 3038 | 5.2 | 270 |
| 23038 CCK/W33 + HE 3038 | SNL 3038 | 5.2 | 268 |
| 23038 CCK/W33 + SNW 3038x6.15/16 | SAF 23038 KA x 6.15/16 | 8.2 | 428 |
| 23040 CC/W33 | SNLN 3040 | 4.2 | 182 |
| | SNL 3040 | 5.3 | 306 |
| | SBDD 3040 | 10.3 | 516 |
| | SBDD 3040 | 10.4 | 522 |
| 23040 CCK/W33 + H 3040 | SNLN 3040 | 4.1 | 178 |
| | SNL 3040 | 5.1 | 228 |
| | SBDD 3040 | 10.1 | 504 |
| | SBDD 3040 | 10.2 | 510 |
| | THDD 3040 | 10.5 | 528 |
| 23040 CCK/W33 + H 3040/7.1/4 | SNL 3040 | 5.2 | 276 |
| 23040 CCK/W33 + H 3040/7.1/8 | SNL 3040 | 5.2 | 274 |
| 23040 CCK/W33 + HA 3040 | SNL 3040 | 5.2 | 274 |
| 23040 CCK/W33 + HE 3040 | SNL 3040 | 5.2 | 272 |
| 23040 CCK/W33 + SNW 3040x7.3/16 | SAF 23040 KA x 7.3/16 | 8.2 | 428 |
| 23040-2CS5 | SNLN 3040 | 4.2 | 182 |
| | SNL 3040 | 5.3 | 306 |
| 23040-2CS5K + H 3040 | SNLN 3040 | 4.1 | 178 |
| | SNL 3040 | 5.1 | 228 |
| | SNL 3040 | 5.2 | 276 |
| 23040-2CS5K + H 3040/7.1/4 | SNL 3040 | 5.2 | 276 |
| 23040-2CS5K + H 3040/7.1/8 | SNL 3040 | 5.2 | 274 |
| 23040-2CS5K + HA 3040 | SNL 3040 | 5.2 | 274 |
| 23040-2CS5K + HE 3040 | SNL 3040 | 5.2 | 272 |
| 23044 CC/W33 | SNLN 3044 | 4.2 | 182 |
| | SNL 3044 | 5.3 | 308 |
| | SBDD 3044 | 10.3 | 516 |
| | SBDD 3044 | 10.4 | 522 |
| 23044 CCK/W33 + H 3044/7.15/16 | SNL 3044 | 5.2 | 278 |
| 23044 CCK/W33 + H 3044/8 | SNL 3044 | 5.2 | 278 |
| 23044 CCK/W33 + OH 3044 H | SNLN 3044 | 4.1 | 178 |
| | SNL 3044 | 5.1 | 230 |
| | SBDD 3044 | 10.1 | 504 |
| | THDD 3044 | 10.5 | 528 |
| 23044 CCK/W33 + OH 3044 HB | SBDD 3044 | 10.2 | 510 |
| 23044 CCK/W33 + OH 3044/7.13/16 H | SNL 3044 | 5.2 | 276 |
| 23044 CCK/W33 + OH 3044/7.7/8 H | SNL 3044 | 5.2 | 276 |
| 23044 CCK/W33 + SNW 3044x7.15/16 | SAF 23044 KA x 7.15/16 | 8.2 | 428 |

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| 23044-2CS5 | SNLN 3044 | 4.2 | 182 |
| | SNL 3044 | 5.3 | 308 |
| 23044-2CS5K + H 3044/7.15/16 | SNL 3044 | 5.2 | 278 |
| 23044-2CS5K + H 3044/8 | SNL 3044 | 5.2 | 278 |
| 23044-2CS5K + OH 3044 H | SNLN 3044 | 4.1 | 178 |
| | SNL 3044 | 5.1 | 230 |
| 23044-2CS5K + OH 3044/7.13/16 H | SNL 3044 | 5.2 | 276 |
| 23044-2CS5K + OH 3044/7.7/8 H | SNL 3044 | 5.2 | 276 |
| 23048 CC/W33 | SNLN 3048 | 4.2 | 182 |
| | SNL 3048 | 5.3 | 310 |
| | SBDD 3048 | 10.3 | 516 |
| | SBDD 3048 | 10.4 | 522 |
| 23048 CCK/W33 + H 3048/8.15/16 | SNL 3048 | 5.2 | 280 |
| 23048 CCK/W33 + OH 3048 H | SNLN 3048 | 4.1 | 178 |
| | SNL 3048 | 5.1 | 232 |
| | SBDD 3048 | 10.1 | 504 |
| 23048 CCK/W33 + OH 3048 HB | SBDD 3048 | 10.2 | 510 |
| 23048 CCK/W33 + OH 3048/8.1/2 H | SNL 3048 | 5.2 | 280 |
| 23048 CCK/W33 + OH 3048/8.7/16 H | SNL 3048 | 5.2 | 278 |
| 23048 CCK/W33 + SNP 3048x8.15/16 | SAF 23048 KA x 8.15/16 | 8.2 | 428 |
| 23048-2CS5 | SNLN 3048 | 4.2 | 182 |
| | SNL 3048 | 5.3 | 310 |
| 23048-2CS5K + H 3048/8.15/16 E | SNL 3048 | 5.2 | 280 |
| 23048-2CS5K + OH 3048 HE | SNLN 3048 | 4.1 | 178 |
| | SNL 3048 | 5.1 | 232 |
| 23048-2CS5K + OH 3048/8.1/2 HE | SNL 3048 | 5.2 | 280 |
| 23048-2CS5K + OH 3048/8.7/16 HE | SNL 3048 | 5.2 | 278 |
| 23052 CC/W33 | SNLN 3052 | 4.2 | 182 |
| | SNL 3052 | 5.3 | 310 |
| | SBDD 3052 | 10.3 | 516 |
| | SBDD 3052 | 10.4 | 522 |
| 23052 CCK/W33 + H 3052/9.1/2 | SNL 3052 | 5.2 | 282 |
| 23052 CCK/W33 + OH 3052 H | SNLN 3052 | 4.1 | 178 |
| | SNL 3052 | 5.1 | 234 |
| | SBDD 3052 | 10.1 | 504 |
| 23052 CCK/W33 + OH 3052 HB | THDD 3052 | 10.5 | 528 |
| 23052 CCK/W33 + OH 3052/9.7/16 H | SBDD 3052 | 10.2 | 510 |
| 23052 CCK/W33 + SNP 3052x9.7/16 | SNL 3052 | 5.2 | 280 |
| 23052-2CS5 | SAF 23052 KA x 9.7/16 | 8.2 | 428 |
| | SNLN 3052 | 4.2 | 182 |
| | SNL 3052 | 5.3 | 310 |
| 23052-2CS5K + H 3052/9.1/2 E | SNL 3052 | 5.2 | 282 |
| 23052-2CS5K + OH 3052 HE | SNLN 3052 | 4.1 | 178 |
| | SNL 3052 | 5.1 | 234 |
| 23052-2CS5K + OH 3052/9.7/16 HE | SNL 3052 | 5.2 | 280 |
| 23056 CACK/W33 + SNP 3056x10.7/16 | SAF 23056 KA x 10.7/16 | 8.2 | 428 |
| 23056 CACK/W33 + SNP 3056x9.15/16 | SAF 23056 KA x 9.15/16 | 8.2 | 428 |
| 23056 CC/W33 | SNLN 3056 | 4.2 | 182 |
| | SNL 3056 | 5.3 | 312 |
| | SBDD 3056 | 10.3 | 516 |
| | SBDD 3056 | 10.4 | 522 |
| 23056 CCK/W33 + H 3056/10.1/2 | SNL 3056 | 5.2 | 284 |
| 23056 CCK/W33 + H 3056/10.7/16 | SNL 3056 | 5.2 | 284 |
| 23056 CCK/W33 + OH 3056 H | SNLN 3056 | 4.1 | 178 |
| | SNL 3056 | 5.1 | 236 |
| | SBDD 3056 | 10.1 | 506 |
| 23056 CCK/W33 + OH 3056 HB | SBDD 3056 | 10.2 | 510 |
| 23056 CCK/W33 + OH 3056/10 H | SNL 3056 | 5.2 | 282 |
| 23056 CCK/W33 + OH 3056/9.15/16 H | SNL 3056 | 5.2 | 282 |
| 23060 CAC/W33 | SDAF 23060 | 9.4 | 480 |
| 23060 CACK/W33 + SNP 3060 x 1015/16 | SDAF 23060 KA x 1015/16 | 9.3 | 476 |
| 23060 CC/W33 | SNL 3060 | 5.3 | 312 |
| | SBDD 3060 | 10.3 | 518 |
| | SBDD 3060 | 10.4 | 524 |
| 23060 CCK/W33 + OH 3060 H | SNL 3060 | 5.1 | 238 |
| | SBDD 3060 | 10.1 | 506 |
| 23060 CCK/W33 + OH 3060 HB | SBDD 3060 | 10.2 | 512 |
| 23060 CCK/W33 + OH 3060/10.15/16 H | SNL 3060 | 5.2 | 286 |
| 23060 CCK/W33 + OH 3060/11 H | SNL 3060 | 5.2 | 286 |
| 23064 CC/W33 | SNL 3064 | 5.3 | 314 |
| | SDAF 23064 | 9.4 | 480 |
| | SBDD 3064 | 10.3 | 518 |
| | SBDD 3064 | 10.4 | 524 |

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| 23064 CCK/W33 + H 3064/11.15/16 | SNL 3064 | 5.2 | 288 |
| 23064 CCK/W33 + H 3064/12 | SNL 3064 | 5.2 | 288 |
| 23064 CCK/W33 + OH 3064 H | SNL 3064 | 5.1 | 240 |
| | SBDD 3064 | 10.1 | 506 |
| 23064 CCK/W33 + OH 3064 HB | SBDD 3064 | 10.2 | 512 |
| 23064 CCK/W33 + OH 3064/11.1/2 H | SNL 3064 | 5.2 | 286 |
| 23064 CCK/W33 + OH 3064/11.7/16 H | SNL 3064 | 5.2 | 286 |
| 23064 CCK/W33 + SNP 3064 x 1115/16 | SDAF 23064 KA x 1115/16 | 9.3 | 476 |
| 23064 CCK/W33 + SNP 3064 x 117/16 | SDAF 23064 KA x 117/16 | 9.3 | 476 |
| 23068 CAC/W33 | SDAF 23068 | 9.4 | 480 |
| 23068 CACK/W33 + SNP 3068 x 127/16 | SDAF 23068 KA x 127/16 | 9.3 | 476 |
| 23068 CC/W33 | SNL 3068 | 5.3 | 314 |
| | SBDD 3068 | 10.3 | 518 |
| | SBDD 3068 | 10.4 | 524 |
| 23068 CCK/W33 | SDM 3068 | 13.5 | 614 |
| | SDM 3068 | 13.6 | 618 |
| 23068 CCK/W33 + OH 3068 H | SNL 3068 | 5.1 | 242 |
| | SBDD 3068 | 10.1 | 506 |
| 23068 CCK/W33 + OH 3068 HB | SBDD 3068 | 10.2 | 512 |
| 23068 CCK/W33 + OH 3068/12.1/2 H | SNL 3068 | 5.2 | 290 |
| 23068 CCK/W33 + OH 3068/12.7/16 H | SNL 3068 | 5.2 | 290 |
| 23072 CAC/W33 | SDAF 23072 | 9.4 | 480 |
| 23072 CACK/W33 + SNP 3072 x 1215/16 | SDAF 23072 KA x 1215/16 | 9.3 | 476 |
| 23072 CACK/W33 + SNP 3072 x 137/16 | SDAF 23072 KA x 137/16 | 9.3 | 476 |
| 23072 CC/W33 | SNL 3072 | 5.3 | 316 |
| | SBDD 3072 | 10.3 | 518 |
| | SBDD 3072 | 10.4 | 524 |
| 23072 CCK/W33 + H 3072/13.1/2 | SNL 3072 | 5.2 | 294 |
| 23072 CCK/W33 + H 3072/13.7/16 | SNL 3072 | 5.2 | 292 |
| 23072 CCK/W33 + OH 3072 H | SNL 3072 | 5.1 | 244 |
| | SBDD 3072 | 10.1 | 506 |
| 23072 CCK/W33 + OH 3072 HB | SBDD 3072 | 10.2 | 512 |
| 23072 CCK/W33 + OH 3072/12.15/16 H | SNL 3072 | 5.2 | 292 |
| 23072 CCK/W33 + OH 3072/13 H | SNL 3072 | 5.2 | 292 |
| 23076 CAC/W33 | SDAF 23076 | 9.4 | 480 |
| 23076 CACK/W33 + SNP 3076 x 1315/16 | SDAF 23076 KA x 1315/16 | 9.3 | 476 |
| 23076 CC/W33 | SNL 3076 | 5.3 | 318 |
| | SBDD 3076 | 10.3 | 518 |
| | SBDD 3076 | 10.4 | 524 |
| 23076 CCK/W33 | SDM 3076 | 13.5 | 614 |
| | SDM 3076 | 13.6 | 618 |
| 23076 CCK/W33 + OH 3076 H | SNL 3076 | 5.1 | 246 |
| | SBDD 3076 | 10.1 | 506 |
| 23076 CCK/W33 + OH 3076 HB | SBDD 3076 | 10.2 | 512 |
| 23076 CCK/W33 + OH 3076/13.15/16 H | SNL 3076 | 5.2 | 294 |
| 23076 CCK/W33 + OH 3076/14 H | SNL 3076 | 5.2 | 296 |
| 23080 CAC/W33 | SDAF 23080 | 9.4 | 480 |
| 23080 CACK/W33 + SNP 3080 x 15 | SDAF 23080 KA x 15 | 9.3 | 478 |
| 23080 CC/W33 | SNL 3080 | 5.3 | 320 |
| | SBDD 3080 | 10.3 | 518 |
| | SBDD 3080 | 10.4 | 524 |
| 23080 CCK/W33 + H 3080/15 | SNL 3080 | 5.2 | 296 |
| 23080 CCK/W33 + OH 3080 H | SNL 3080 | 5.1 | 248 |
| | SBDD 3080 | 10.1 | 506 |
| 23080 CCK/W33 + OH 3080 HB | SBDD 3080 | 10.2 | 512 |
| 23084 CA/W33 | SNL 3084 | 5.3 | 322 |
| | SDAF 23084 | 9.4 | 480 |
| | SBDD 3084 | 10.3 | 518 |
| | SBDD 3084 | 10.4 | 524 |
| 23084 CAK/W33 | SDM 3084 | 13.5 | 614 |
| | SDM 3084 | 13.6 | 618 |
| 23084 CAK/W33 + H 3084/15.3/4 | SNL 3084 | 5.2 | 298 |
| 23084 CAK/W33 + OH 3084 H | SNL 3084 | 5.1 | 250 |
| | SBDD 3084 | 10.1 | 506 |
| 23084 CAK/W33 + OH 3084 HB | SBDD 3084 | 10.2 | 512 |
| 23084 CAK/W33 + SNP 3084 x 153/4 | SDAF 23084 KA x 153/4 | 9.3 | 478 |
| 23088 CA/W33 | SNL 3088 | 5.3 | 324 |
| | SDAF 23088 | 9.4 | 482 |
| 23088 CAK/W33 + OH 3088 H | SNL 3088 | 5.1 | 252 |
| 23088 CAK/W33 + OH 3088/16.1/2 H | SNL 3088 | 5.2 | 298 |
| 23088 CAK/W33 + SNP 3088 x 161/2 | SDAF 23088 KA x 161/2 | 9.3 | 478 |
| 23092 CA/W33 | SNL 3092 | 5.3 | 326 |
| | SDAF 23092 | 9.4 | 482 |

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| 23092 CAK/W33 | SDM 3092 | 13.5 | 614 |
| | SDM 3092 | 13.6 | 618 |
| 23092 CAK/W33 + OH 3092 H | SNL 3092 | 5.1 | 254 |
| 23092 CAK/W33 + OH 3092/17 H | SNL 3092 | 5.2 | 300 |
| 23092 CAK/W33 + SNP 3092 x 17 | SDAF 23092 KA x 17 | 9.3 | 478 |
| 23096 CA/W33 | SNL 3096 | 5.3 | 326 |
| | SDAF 23096 | 9.4 | 482 |
| 23096 CAK/W33 + OH 3096 H | SNL 3096 | 5.1 | 256 |
| 23096 CAK/W33 + OH 3096/18 H | SNL 3096 | 5.2 | 300 |
| 23096 CAK/W33 + SNP 3096 x 18 | SDAF 23096 KA x 18 | 9.3 | 478 |
| 231/500 CAK/W33 + OH 31/500 H | SED 31/500 | 6.1 | 332 |
| 231/530 CAK/W33 | SDM 31/530 | 13.5 | 614 |
| | SDM 31/530 | 13.6 | 618 |
| 231/530 CAK/W33 + OH 31/530 H | SED 31/530 | 6.1 | 332 |
| 231/560 CAK/W33 + OH 31/560 H | SED 31/560 | 6.1 | 332 |
| 231/600 CAK/W33 + OH 31/600 H | SED 31/600 | 6.1 | 332 |
| 231/630 CAK/W33 | SDM 31/630 | 13.5 | 616 |
| | SDM 31/630 | 13.6 | 620 |
| 231/630 CAK/W33 + OH 31/630 H | SED 31/630 | 6.1 | 332 |
| 231/670 CAK/W33 + OH 31/670 H | SED 31/670 | 6.1 | 332 |
| 231/710 CAK/W33 + OH 31/710 H | SED 31/710 | 6.1 | 332 |
| 231/750 CAK/W33 + OH 31/750 H | SED 31/750 | 6.1 | 332 |
| 231/800 CAK/W33 + OH 31/800 H | SED 31/800 | 6.1 | 332 |
| 231/850 CAK/W33 + OH 31/850 H | SED 31/850 | 6.1 | 334 |
| 23122 CC/W33 | SBDD 3122 | 10.3 | 514 |
| | SBDD 3122 | 10.4 | 520 |
| 23122 CCK/W33 + H 3122 | SBDD 3122 | 10.1 | 502 |
| | SBDD 3122 | 10.2 | 508 |
| 23124 CC/W33 | SBDD 3124 | 10.3 | 514 |
| | SBDD 3124 | 10.4 | 520 |
| 23124 CCK/W33 + H 3124 | SBDD 3124 | 10.1 | 502 |
| | SBDD 3124 | 10.2 | 508 |
| 23126 CC/W33 | SBDD 3126 | 10.3 | 514 |
| | SBDD 3126 | 10.4 | 520 |
| 23126 CCK/W33 + H 3126 | SBDD 3126 | 10.1 | 502 |
| | SBDD 3126 | 10.2 | 508 |
| 23128 CC/W33 | SBDD 3128 | 10.3 | 514 |
| | SBDD 3128 | 10.4 | 520 |
| 23128 CCK/W33 + H 3128 | SBDD 3128 | 10.1 | 502 |
| | SBDD 3128 | 10.2 | 508 |
| 23130 CC/W33 | SBDD 3130 | 10.3 | 514 |
| | SBDD 3130 | 10.4 | 520 |
| 23130 CCK/W33 + H 3130 | SBDD 3130 | 10.1 | 502 |
| | SBDD 3130 | 10.2 | 508 |
| 23132 CC/W33 | SBDD 3132 | 10.3 | 514 |
| | SBDD 3132 | 10.4 | 520 |
| 23132 CCK/W33 + H 3132 | SBDD 3132 | 10.1 | 502 |
| | SBDD 3132 | 10.2 | 508 |
| | THDD 3132 | 10.5 | 526 |
| 23134 CC/W33 | SNL 3134 | 5.3 | 302 |
| | SBDD 3134 | 10.3 | 514 |
| | SBDD 3134 | 10.4 | 520 |
| 23134 CCK/W33 + H 3134 | SNL 3134 | 5.1 | 222 |
| | SBDD 3134 | 10.1 | 504 |
| | SBDD 3134 | 10.2 | 508 |
| | THDD 3134 | 10.5 | 526 |
| 23134 CCK/W33 + HA 3134 | SNL 3134 | 5.2 | 262 |
| 23134 CCK/W33 + HE 3134 | SNL 3134 | 5.2 | 264 |
| 23134-2CS5 | SNL 3134 | 5.3 | 302 |
| 23134-2CS5K + H 3134 E | SNL 3134 | 5.1 | 222 |
| 23134-2CS5K + HA 3134 | SNL 3134 | 5.2 | 262 |
| 23134-2CS5K + HE 3134 | SNL 3134 | 5.2 | 264 |
| 23136 CC/W33 | SNL 3136 | 5.3 | 304 |
| | SBDD 3136 | 10.3 | 516 |
| | SBDD 3136 | 10.4 | 522 |
| 23136 CCK/W33 | SBPN 3136 | 13.1 | 606 |
| | ASBPN 3136 | 13.2 | 608 |
| | SBPN 3136 | 13.3 | 610 |
| | ASBPN 3136 | 13.4 | 612 |
| 23136 CCK/W33 + H 3136 | SNL 3136 | 5.1 | 224 |
| | SBDD 3136 | 10.1 | 504 |
| | SBDD 3136 | 10.2 | 510 |
| | THDD 3136 | 10.5 | 526 |

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| 23136 CCK/W33 + HE 3136 | SNL 3136 | 5.2 | 266 |
| 23136-2CS5 | SNL 3136 | 5.3 | 304 |
| 23136-2CS5K + H 3136 L | SNL 3136 | 5.1 | 224 |
| 23136-2CS5K + HA 3136 L | SNL 3136 | 5.2 | 266 |
| 23136-2CS5K + HE 3136 L | SNL 3136 | 5.2 | 266 |
| 23138 CC/W33 | SNL 3138 | 5.3 | 304 |
| | SBDD 3138 | 10.3 | 516 |
| | SBDD 3138 | 10.4 | 522 |
| 23138 CCK/W33 + H 3138 | SNL 3138 | 5.1 | 226 |
| | SBDD 3138 | 10.1 | 504 |
| | SBDD 3138 | 10.2 | 510 |
| | THDD 3138 | 10.5 | 526 |
| 23138 CCK/W33 + HA 3138 | SNL 3138 | 5.2 | 270 |
| 23138 CCK/W33 + HE 3138 | SNL 3138 | 5.2 | 268 |
| 23138-2CS5 | SNL 3138 | 5.3 | 304 |
| 23138-2CS5K + H 3138 | SNL 3138 | 5.1 | 226 |
| 23138-2CS5K + HA 3138 L | SNL 3138 | 5.2 | 270 |
| 23138-2CS5K + HE 3138 L | SNL 3138 | 5.2 | 268 |
| 23140 CC/W33 | SNL 3140 | 5.3 | 306 |
| | SBDD 3140 | 10.3 | 516 |
| | SBDD 3140 | 10.4 | 522 |
| 23140 CCK/W33 | SBPN 3140 | 13.1 | 606 |
| | SBPN 3140 | 13.3 | 610 |
| 23140 CCK/W33 + H 3140 | SNL 3140 | 5.1 | 228 |
| | SBDD 3140 | 10.1 | 504 |
| | SBDD 3140 | 10.2 | 510 |
| | THDD 3140 | 10.5 | 528 |
| 23140 CCK/W33 + HA 3140 | SNL 3140 | 5.2 | 274 |
| 23140 CCK/W33 + HE 3140 | SNL 3140 | 5.2 | 272 |
| 23140-2CS5 | SNL 3140 | 5.3 | 306 |
| 23140-2CS5K + H 3140 | SNL 3140 | 5.1 | 228 |
| 23140-2CS5K + HA 3140 | SNL 3140 | 5.2 | 274 |
| 23140-2CS5K + HE 3140 | SNL 3140 | 5.2 | 272 |
| 23144 CC/W33 | SNL 3144 | 5.3 | 308 |
| | SBDD 3144 | 10.3 | 516 |
| | SBDD 3144 | 10.4 | 522 |
| 23144 CCK/W33 | SBPN 3144 | 13.1 | 606 |
| | ASBPN 3144 | 13.2 | 608 |
| | SBPN 3144 | 13.3 | 610 |
| | ASBPN 3144 | 13.4 | 612 |
| 23144 CCK/W33 + H 3144/7.15/16 | SNL 3144 | 5.2 | 278 |
| 23144 CCK/W33 + OH 3144 H | SNL 3144 | 5.1 | 230 |
| | SBDD 3144 | 10.1 | 504 |
| | THDD 3144 | 10.5 | 528 |
| 23144 CCK/W33 + OH 3144 HB | SBDD 3144 | 10.2 | 510 |
| 23144-2CS5 | SNL 3144 | 5.3 | 308 |
| 23144-2CS5K + H 3144/7.15/16 TL | SNL 3144 | 5.2 | 278 |
| 23144-2CS5K + OH 3144 HTL | SNL 3144 | 5.1 | 230 |
| 23148 CC/W33 | SNL 3148 | 5.3 | 310 |
| | SBDD 3148 | 10.3 | 516 |
| | SBDD 3148 | 10.4 | 522 |
| 23148 CCK/W33 | SBPN 3148 | 13.1 | 606 |
| | SBPN 3148 | 13.3 | 610 |
| 23148 CCK/W33 + H 3148/8.15/16 | SNL 3148 | 5.2 | 280 |
| 23148 CCK/W33 + OH 3148 H | SNL 3148 | 5.1 | 232 |
| | SBDD 3148 | 10.1 | 504 |
| | THDD 3148 | 10.5 | 528 |
| 23148 CCK/W33 + OH 3148 HB | SBDD 3148 | 10.2 | 510 |
| 23148-2CS5 | SNL 3148 | 5.3 | 310 |
| 23148-2CS5K + H 3148/8.15/16 TL | SNL 3148 | 5.2 | 280 |
| 23148-2CS5K + OH 3148 HTL | SNL 3148 | 5.1 | 232 |
| 23152 CAC/W33 | SDAF 23152 | 9.4 | 480 |
| 23152 CACK/W33 + SNP 3152 x 97/16 | SDAF 23152 KA x 97/16 | 9.3 | 476 |
| 23152 CC/W33 | SNL 3152 | 5.3 | 310 |
| | SBDD 3152 | 10.3 | 516 |
| | SBDD 3152 | 10.4 | 522 |
| 23152 CCK/W33 | SBPN 3152 | 13.1 | 606 |
| | ASBPN 3152 | 13.2 | 608 |
| | SBPN 3152 | 13.3 | 610 |
| | ASBPN 3152 | 13.4 | 612 |
| 23152 CCK/W33 + H 3152/9.1/2 | SNL 3152 | 5.2 | 282 |

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| | SBDD 3152 | 10.1 | 504 |
| | THDD 3152 | 10.5 | 528 |
| 23152 CCK/W33 + OH 3152 HB | SBDD 3152 | 10.2 | 510 |
| 23152 CCK/W33 + OH 3152/9.7/16 H | SNL 3152 | 5.2 | 280 |
| 23152-2CS5 | SNL 3152 | 5.3 | 310 |
| 23152-2CS5K + H 3152/9.1/2 TL | SNL 3152 | 5.2 | 282 |
| 23152-2CS5K + OH 3152 HTL | SNL 3152 | 5.1 | 234 |
| 23152-2CS5K + OH 3152/9.7/16 HTL | SNL 3152 | 5.2 | 280 |
| 23156 CAC/W33 | SDAF 23156 | 9.4 | 480 |
| 23156 CACK/W33 + SNP 3156 x 107/16 | SDAF 23156 KA x 107/16 | 9.3 | 476 |
| 23156 CC/W33 | SNL 3156 | 5.3 | 312 |
| | SBDD 3156 | 10.3 | 516 |
| | SBDD 3156 | 10.4 | 522 |
| 23156 CCK/W33 + H 3156/10.1/2 | SNL 3156 | 5.2 | 284 |
| 23156 CCK/W33 + H 3156/10.7/16 | SNL 3156 | 5.2 | 284 |
| 23156 CCK/W33 + OH 3156 H | SNL 3156 | 5.1 | 236 |
| | SBDD 3156 | 10.1 | 506 |
| 23156 CCK/W33 + OH 3156 HB | SBDD 3156 | 10.2 | 510 |
| 23156 CCK/W33 + OH 3156/10 H | SNL 3156 | 5.2 | 282 |
| 23156-2CS5 | SNL 3156 | 5.3 | 312 |
| 23156-2CS5K + H 3156/10.1/2 TL | SNL 3156 | 5.2 | 284 |
| 23156-2CS5K + H 3156/10.7/16 TL | SNL 3156 | 5.2 | 284 |
| 23156-2CS5K + OH 3156 HTL | SNL 3156 | 5.1 | 236 |
| 23156-2CS5K + OH 3156/10 HTL | SNL 3156 | 5.2 | 282 |
| 23160 CAC/W33 | SDAF 23160 | 9.4 | 480 |
| 23160 CACK/W33 + SNP 3160 x 1015/16 | SDAF 23160 KA x 1015/16 | 9.3 | 476 |
| 23160 CC/W33 | SNL 3160 | 5.3 | 312 |
| | SBDD 3160 | 10.3 | 518 |
| | SBDD 3160 | 10.4 | 524 |
| 23160 CCK/W33 | SBPN 3160 | 13.1 | 606 |
| | ASBPN 3160 | 13.2 | 608 |
| | SBPN 3160 | 13.3 | 610 |
| | ASBPN 3160 | 13.4 | 612 |
| 23160 CCK/W33 + OH 3160 H | SNL 3160 | 5.1 | 238 |
| | SBDD 3160 | 10.1 | 506 |
| | THDD 3160 | 10.5 | 528 |
| 23160 CCK/W33 + OH 3160 HB | SBDD 3160 | 10.2 | 512 |
| 23160 CCK/W33 + OH 3160/10.15/16 H | SNL 3160 | 5.2 | 286 |
| 23160 CCK/W33 + OH 3160/11 H | SNL 3160 | 5.2 | 286 |
| 23160-2CS5 | SNL 3160 | 5.3 | 312 |
| 23160-2CS5K + OH 3160 HE | SNL 3160 | 5.1 | 238 |
| 23160-2CS5K + OH 3160/10.15/16 HE | SNL 3160 | 5.2 | 286 |
| 23160-2CS5K + OH 3160/11 HE | SNL 3160 | 5.2 | 286 |
| 23164 CAC/W33 | SDAF 23164 | 9.4 | 480 |
| 23164 CACK/W33 + SNP 3164 x 1115/16 | SDAF 23164 KA x 1115/16 | 9.3 | 476 |
| 23164 CC/W33 | SNL 3164 | 5.3 | 314 |
| | SBDD 3164 | 10.3 | 518 |
| | SBDD 3164 | 10.4 | 524 |
| 23164 CCK/W33 | SBPN 3164 | 13.1 | 606 |
| | ASBPN 3164 | 13.2 | 608 |
| | SBPN 3164 | 13.3 | 610 |
| | ASBPN 3164 | 13.4 | 612 |
| 23164 CCK/W33 + H 3164/11.15/16 | SNL 3164 | 5.2 | 288 |
| 23164 CCK/W33 + H 3164/12 | SNL 3164 | 5.2 | 288 |
| 23164 CCK/W33 + OH 3164 H | SNL 3164 | 5.1 | 240 |
| | SBDD 3164 | 10.1 | 506 |
| | THDD 3164 | 10.5 | 528 |
| 23164 CCK/W33 + OH 3164 HB | SBDD 3164 | 10.2 | 512 |
| 23164-2CS5 | SNL 3164 | 5.3 | 314 |
| 23164-2CS5K + H 3164/11.15/16 | SNL 3164 | 5.2 | 288 |
| 23164-2CS5K + H 3164/12 | SNL 3164 | 5.2 | 288 |
| 23164-2CS5K + OH 3164 H | SNL 3164 | 5.1 | 240 |
| 23168 CAC/W33 | SDAF 23168 | 9.4 | 480 |
| 23168 CACK/W33 + SNP 3168 x 127/16 | SDAF 23168 KA x 127/16 | 9.3 | 476 |
| 23168 CC/W33 | SNL 3168 | 5.3 | 314 |
| | SBDD 3168 | 10.3 | 518 |
| | SBDD 3168 | 10.4 | 524 |
| 23168 CCK/W33 | SDM 3168 | 13.5 | 614 |
| | SDM 3168 | 13.6 | 618 |
| 23168 CCK/W33 + OH 3168 H | SNL 3168 | 5.1 | 242 |
| | SBDD 3168 | 10.1 | 506 |
| | THDD 3168 | 10.5 | 528 |

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| 23168 CCK/W33 + OH 3168/12.1/2 H | SNL 3168 | 5.2 | 290 |
| 23168 CCK/W33 + OH 3168/12.7/16 H | SNL 3168 | 5.2 | 290 |
| 23168-2CS5 | SNL 3168 | 5.3 | 314 |
| 23168-2CS5K + OH 3168 HE | SNL 3168 | 5.1 | 242 |
| 23168-2CS5K + OH 3168/12.1/2 HE | SNL 3168 | 5.2 | 290 |
| 23168-2CS5K + OH 3168/12.7/16 HE | SNL 3168 | 5.2 | 290 |
| 23172 CC/W33 | SNL 3172 | 5.3 | 316 |
| | SDAF 23172 | 9.4 | 480 |
| | SBDD 3172 | 10.3 | 518 |
| | SBDD 3172 | 10.4 | 524 |
| 23172 CCK/W33 + H 3172/13.1/2 | SNL 3172 | 5.2 | 294 |
| 23172 CCK/W33 + H 3172/13.7/16 | SNL 3172 | 5.2 | 292 |
| 23172 CCK/W33 + OH 3172 H | SNL 3172 | 5.1 | 244 |
| | SBDD 3172 | 10.1 | 506 |
| | SBDD 3172 | 10.2 | 512 |
| 23172 CCK/W33 + OH 3172 HB | SBDD 3172 | 10.2 | 512 |
| 23172 CCK/W33 + SNP 3172 x 137/16 | SDAF 23172 KA x 137/16 | 9.3 | 476 |
| 23172-2CS5 | SNL 3172 | 5.3 | 316 |
| 23172-2CS5K + OH 3172 HE | SNL 3172 | 5.1 | 244 |
| 23176 CA/W33 | SNL 3176 | 5.3 | 318 |
| | SDAF 23176 | 9.4 | 480 |
| | SBDD 3176 | 10.3 | 518 |
| | SBDD 3176 | 10.4 | 524 |
| 23176 CAK/W33 + OH 3176 H | SNL 3176 | 5.1 | 246 |
| | SBDD 3176 | 10.1 | 506 |
| | THDD 3176 | 10.5 | 528 |
| 23176 CAK/W33 + OH 3176 HB | SBDD 3176 | 10.2 | 512 |
| 23176 CAK/W33 + OH 3176/13.15/16 H | SNL 3176 | 5.2 | 294 |
| 23176 CAK/W33 + OH 3176/14 H | SNL 3176 | 5.2 | 296 |
| 23176 CAK/W33 + SNP 3176 x 1315/16 | SDAF 23176 KA x 1315/16 | 9.3 | 476 |
| 23180 CA/W33 | SNL 3180 | 5.3 | 320 |
| | SDAF 23180 | 9.4 | 480 |
| | SBDD 3180 | 10.3 | 518 |
| | SBDD 3180 | 10.4 | 524 |
| 23180 CAK/W33 + H 3180/15 | SNL 3180 | 5.2 | 296 |
| 23180 CAK/W33 + OH 3180 H | SNL 3180 | 5.1 | 248 |
| | SBDD 3180 | 10.1 | 506 |
| | SBDD 3180 | 10.2 | 512 |
| 23180 CAK/W33 + OH 3180 HB | SBDD 3180 | 10.2 | 512 |
| 23180 CAK/W33 + SNP 3180 x 1415/16 | SDAF 23180 KA x 1415/16 | 9.3 | 476 |
| 23180-2CS5 | SNL 3180 | 5.3 | 320 |
| 23180-2CS5K + OH 3180 HE | SNL 3180 | 5.1 | 248 |
| 23184 CA/W33 | SDAF 23184 | 9.4 | 480 |
| 23184 CAK/W33 + SNP 3184 x 153/4 | SDAF 23184 KA x 153/4 | 9.3 | 478 |
| 23184 CJ/W33 | SNL 3184 | 5.3 | 322 |
| | SBDD 3184 | 10.3 | 518 |
| | SBDD 3184 | 10.4 | 524 |
| 23184 CKJ/W33 | SDM 3184 | 13.5 | 614 |
| | SDM 3184 | 13.6 | 618 |
| 23184 CKJ/W33 + H 3184/15.3/4 | SNL 3184 | 5.2 | 298 |
| 23184 CKJ/W33 + OH 3184 H | SNL 3184 | 5.1 | 250 |
| | SBDD 3184 | 10.1 | 506 |
| 23184 CKJ/W33 + OH 3184 HB | SBDD 3184 | 10.2 | 512 |
| 23188 CA/W33 | SNL 3188 | 5.3 | 324 |
| | SDAF 23188 | 9.4 | 482 |
| 23188 CAK/W33 + OH 3188 H | SNL 3188 | 5.1 | 252 |
| 23188 CAK/W33 + OH 3188/16.1/2 H | SNL 3188 | 5.2 | 298 |
| 23188 CAK/W33 + SNP 3188 x 161/2 | SDAF 23188 KA x 161/2 | 9.3 | 478 |
| 23192 CA/W33 | SNL 3192 | 5.3 | 326 |
| | SDAF 23192 | 9.4 | 482 |
| 23192 CAK/W33 + OH 3192 H | SNL 3192 | 5.1 | 254 |
| 23192 CAK/W33 + OH 3192/17 H | SNL 3192 | 5.2 | 300 |
| 23192 CAK/W33 + SNP 3192 x 17 | SDAF 23192 KA x 17 | 9.3 | 478 |
| 23196 CA/W33 | SNL 3196 | 5.3 | 326 |
| | SDAF 23196 | 9.4 | 482 |
| 23196 CAK/W33 + OH 3196 H | SNL 3196 | 5.1 | 256 |
| 23196 CAK/W33 + OH 3196/18 H | SNL 3196 | 5.2 | 300 |
| 23196 CAK/W33 + SNP 3196 x 18 | SDAF 23196 KA x 18 | 9.3 | 478 |
| 232/500 CAK/W33 + OH 32/500 H | SED 32/500 | 6.1 | 332 |
| 232/530 CAK/W33 + OH 32/530 H | SED 32/530 | 6.1 | 332 |
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| 232/600 CAK/W33 + OH 32/600 H | SED 32/600 | 6.1 | 332 |
| 232/670 CAK/W33 + OH 32/670 H | SED 32/670 | 6.1 | 332 |
| 232/710 CAK/W33 + OH 32/710 H | SED 32/710 | 6.1 | 332 |

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| | SAW 22218 | 8.5 | 438 |
| 23218 CCK/W33 + H 2318 | SNL 518-615 | 2.1 | 94 |
| 23218 CCK/W33 + HA 2318 | SNL 518-615 | 2.2 | 112 |
| 23218 CCK/W33 + HE 2318 | SNL 518-615 | 2.2 | 112 |
| 23218 CCK/W33 + SNW 118x3.3/16 | SAW 23518 | 8.2 | 424 |
| 23220 CC/W33 | SNL 520-617 | 2.3 | 134 |
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| | SAW 23220 | 8.5 | 438 |
| 23220 CCK/W33 + H 2320 | SNL 520-617 | 2.1 | 94 |
| 23220 CCK/W33 + HA 2320 | SNL 520-617 | 2.2 | 114 |
| 23220 CCK/W33 + HE 2320 | SNL 520-617 | 2.2 | 114 |
| 23220 CCK/W33 + SNW 120x3.7/16 | SAW 23520 | 8.2 | 424 |
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| 23222 CC/W33 | SNL 522-619 | 2.3 | 134 |
| | SAWS 23222 | 8.5 | 438 |
| | SBDD 3222 | 10.3 | 514 |
| | SBDD 3222 | 10.4 | 520 |
| 23222 CCK/W33 + H 2322 | SNL 522-619 | 2.1 | 96 |
| | SNL 522-619 | 2.2 | 114 |
| | SBDD 3222 | 10.1 | 502 |
| | SBDD 3222 | 10.2 | 508 |
| | THDD 3222 | 10.5 | 526 |
| 23222 CCK/W33 + HE 2322 | SNL 522-619 | 2.2 | 116 |
| 23222 CCK/W33 + SNW 122x3.15/16 | SAWS 23522 | 8.2 | 424 |
| 23224 CC/W33 | SNL 524-620 | 2.3 | 134 |
| | SAW 23224 | 8.5 | 440 |
| | SBDD 3224 | 10.3 | 514 |
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| 23224 CCK/W33 + H 2324 | SNL 524-620 | 2.1 | 96 |
| | SBDD 3224 | 10.2 | 508 |
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| 23224 CCK/W33 + H 2334 | SBDD 3224 | 10.1 | 502 |
| 23224 CCK/W33 + HA 2324 | SNL 524-620 | 2.2 | 116 |
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| | SAW 23226 | 8.5 | 440 |
| | SBDD 3226 | 10.3 | 514 |
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| 23226 CCK/W33 + H 2326 | SNL 526 | 2.1 | 96 |
| | SBDD 3226 | 10.2 | 508 |
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| 23226 CCK/W33 + H 2336 | SBDD 3226 | 10.1 | 502 |
| 23226 CCK/W33 + HA 2326 | SNL 526 | 2.2 | 116 |
| 23226 CCK/W33 + HE 2326 | SNL 526 | 2.2 | 116 |
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| 23226-2CS5 | SNL 526 | 2.3 | 136 |
| 23226-2CS5K + H 2326 L | SNL 526 | 2.1 | 96 |
| 23226-2CS5K + HA 2326 | SNL 526 | 2.2 | 116 |
| 23226-2CS5K + HE 2326 | SNL 526 | 2.2 | 116 |
| 23228 CC/W33 | SNL 528 | 2.3 | 136 |
| | SAW 23228 | 8.5 | 440 |
| | SBDD 3228 | 10.3 | 514 |
| | SBDD 3228 | 10.4 | 520 |
| 23228 CCK/W33 + H 2328 | SNL 528 | 2.1 | 96 |
| | SBDD 3228 | 10.2 | 508 |
| | THDD 3228 | 10.5 | 526 |
| 23228 CCK/W33 + H 2338 | SBDD 3228 | 10.1 | 502 |
| 23228 CCK/W33 + HA 2328 | SNL 528 | 2.2 | 118 |
| 23228 CCK/W33 + HE 2328 | SNL 528 | 2.2 | 118 |
| 23228 CCK/W33 + SNW 128x4.15/16 | SAW 23528 | 8.2 | 426 |
| 23228-2CS5 | SNL 528 | 2.3 | 136 |
| 23228-2CS5K + H 2328 | SNL 528 | 2.1 | 96 |
| 23228-2CS5K + HA 2328 | SNL 528 | 2.2 | 118 |
| 23228-2CS5K + HE 2328 | SNL 528 | 2.2 | 118 |
| 23230 CC/W33 | SNL 530 | 2.3 | 136 |
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| | SBDD 3230 | 10.1 | 502 |
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| 23230 CCK/W33 + HA 2330 | SNL 530 | 2.2 | 118 |
| 23230 CCK/W33 + HE 2330 | SNL 530 | 2.2 | 118 |
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| 23230-2CS5K + HA 2330 | SNL 530 | 2.2 | 118 |
| 23230-2CS5K + HE 2330 | SNL 530 | 2.2 | 118 |
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| 23232 CCK/W33 + H 2330 | THDD 3230 | 10.5 | 526 |
| 23232 CCK/W33 + H 2332 | SNL 532 | 2.1 | 98 |
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| | SBDD 3232 | 10.1 | 502 |
| | SBDD 3232 | 10.2 | 508 |
| | THDD 3232 | 10.5 | 526 |
| 23232 CCK/W33 + HA 2332 | SNL 532 | 2.2 | 118 |
| 23232 CCK/W33 + HE 2332 | SNL 532 | 2.2 | 118 |
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| | SAW 23234 | 8.5 | 440 |
| | SBDD 3234 | 10.3 | 514 |
| | SBDD 3234 | 10.4 | 520 |
| 23234 CCK/W33 + H 2334 | SNL 3234 | 5.1 | 222 |
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| 23234 CCK/W33 + HE 2334 | SNL 3234 | 5.2 | 264 |
| 23234 CCK/W33 + SNW 134x5.15/16 | SAW 23534 | 8.2 | 426 |
| 23236 CC/W33 | SNL 3236 | 5.3 | 304 |
| | SAW 23236 | 8.5 | 440 |
| | SBDD 3236 | 10.3 | 516 |
| | SBDD 3236 | 10.4 | 522 |
| 23236 CCK/W33 + H 2336 | SNL 3236 | 5.1 | 224 |
| | SBDD 3236 | 10.1 | 504 |
| | SBDD 3236 | 10.2 | 510 |
| | THDD 3236 | 10.5 | 526 |
| 23236 CCK/W33 + HA 2336 | SNL 3236 | 5.2 | 266 |
| 23236 CCK/W33 + HE 2336 | SNL 3236 | 5.2 | 266 |
| 23236 CCK/W33 + SNW 136x6.7/16 | SAW 23536 | 8.2 | 428 |
| 23238 CC/W33 | SNL 3238 | 5.3 | 304 |
| | SAW 23238 | 8.5 | 442 |
| | SBDD 3238 | 10.3 | 516 |
| | SBDD 3238 | 10.4 | 522 |
| 23238 CCK/W33 + H 2338 | SNL 3238 | 5.1 | 226 |
| | SBDD 3238 | 10.1 | 504 |
| | SBDD 3238 | 10.2 | 510 |
| 23238 CCK/W33 + H 2338/6.13/16 | SNL 3238 | 5.2 | 268 |
| 23238 CCK/W33 + H 2338/6.7/8 | SNL 3238 | 5.2 | 270 |
| 23238 CCK/W33 + H 2338/7 | SNL 3238 | 5.2 | 272 |
| 23238 CCK/W33 + HA 2338 | SNL 3238 | 5.2 | 270 |
| 23238 CCK/W33 + HE 2338 | SNL 3238 | 5.2 | 268 |
| 23238 CCK/W33 + SNW 138x6.15/16 | SAW 23538 | 8.2 | 428 |
| 23240 CC/W33 | SNL 3240 | 5.3 | 306 |
| | SAW 23240 | 8.5 | 442 |
| | SBDD 3240 | 10.3 | 516 |
| | SBDD 3240 | 10.4 | 522 |
| 23240 CCK/W33 + H 2340 | SNL 3240 | 5.1 | 228 |
| | SBDD 3240 | 10.1 | 504 |
| | SBDD 3240 | 10.2 | 510 |
| | THDD 3240 | 10.5 | 528 |
| 23240 CCK/W33 + H 2340/7.1/4 | SNL 3240 | 5.2 | 276 |
| 23240 CCK/W33 + H 2340/7.1/8 | SNL 3240 | 5.2 | 274 |
| 23240 CCK/W33 + HA 2340 | SNL 3240 | 5.2 | 274 |
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| | SBDD 3244 | 10.4 | 522 |
| 23244 CCK/W33 + H 2344/7.15/16 | SNL 3244 | 5.2 | 278 |
| 23244 CCK/W33 + OH 2344 H | SNL 3244 | 5.1 | 230 |
| | SBDD 3244 | 10.1 | 504 |
| | THDD 3244 | 10.5 | 528 |
| 23244 CCK/W33 + OH 2344 HB | SBDD 3244 | 10.2 | 510 |
| 23244 CCK/W33 + SNW 144x7.15/16 | SAW 23544 | 8.2 | 428 |
| 23248 CAC/W33 | SDAF 23248 | 9.4 | 480 |
| 23248 CACK/W33 + SNP 148 x 815/16 | SDAF 23248 KA x 815/16 | 9.3 | 476 |
| 23248 CC/W33 | SNL 3248 | 5.3 | 310 |
| | SBDD 3248 | 10.3 | 516 |
| | SBDD 3248 | 10.4 | 522 |
| 23248 CCK/W33 + H 2348/8.15/16 | SNL 3248 | 5.2 | 280 |
| 23248 CCK/W33 + OH 2348 H | SNL 3248 | 5.1 | 232 |
| | SBDD 3248 | 10.1 | 504 |
| | THDD 3248 | 10.5 | 528 |
| 23248 CCK/W33 + OH 2348 HB | SBDD 3248 | 10.2 | 510 |
| 23252 CAC/W33 | SDAF 23252 | 9.4 | 480 |
| 23252 CACK/W33 + SNP 152 x 97/16 | SDAF 23252 KA x 97/16 | 9.3 | 476 |
| 23252 CC/W33 | SNL 3252 | 5.3 | 310 |
| | SBDD 3252 | 10.3 | 516 |
| | SBDD 3252 | 10.4 | 522 |
| 23252 CCK/W33 + H 2352/9.1/2 | SNL 3252 | 5.2 | 282 |
| 23252 CCK/W33 + OH 2352 H | SNL 3252 | 5.1 | 234 |
| | SBDD 3252 | 10.1 | 504 |
| | THDD 3252 | 10.5 | 528 |
| 23252 CCK/W33 + OH 2352 HB | SBDD 3252 | 10.2 | 510 |
| 23252 CCK/W33 + OH 2352/9.7/16 H | SNL 3252 | 5.2 | 280 |
| 23256 CAC/W33 | SDAF 23256 | 9.4 | 480 |
| 23256 CACK/W33 + SNP 3256 x 107/16 | SDAF 23256 KA x 107/16 | 9.3 | 476 |
| 23256 CC/W33 | SNL 3256 | 5.3 | 312 |
| | SBDD 3256 | 10.3 | 516 |
| | SBDD 3256 | 10.4 | 522 |
| 23256 CCK/W33 + H 2356/10.1/2 | SNL 3256 | 5.2 | 284 |
| 23256 CCK/W33 + H 2356/10.7/16 | SNL 3256 | 5.2 | 284 |
| 23256 CCK/W33 + OH 2356 H | SNL 3256 | 5.1 | 236 |
| | SBDD 3256 | 10.1 | 506 |
| | THDD 3256 | 10.5 | 528 |
| 23256 CCK/W33 + OH 2356 HB | SBDD 3256 | 10.2 | 510 |
| 23260 CAC/W33 | SDAF 23260 | 9.4 | 480 |
| 23260 CACK/W33 + SNP 3260 x 1015/16 | SDAF 23260 KA x 1015/16 | 9.3 | 476 |
| 23260 CC/W33 | SNL 3260 | 5.3 | 312 |
| | SBDD 3260 | 10.3 | 518 |
| | SBDD 3260 | 10.4 | 524 |
| 23260 CCK/W33 + OH 2360 HB | SBDD 3260 | 10.2 | 512 |
| 23260 CCK/W33 + OH 2360 H | SNL 3260 | 5.1 | 238 |
| | SBDD 3260 | 10.1 | 506 |
| | THDD 3260 | 10.5 | 528 |
| 23260 CCK/W33 + OH 3260/10.15/16 H | SNL 3260 | 5.2 | 286 |
| 23260 CCK/W33 + OH 3260/11 H | SNL 3260 | 5.2 | 286 |
| 23264 CAC/W33 | SDAF 23264 | 9.4 | 480 |
| 23264 CACK/W33 + SNP 3264 x 1115/16 | SDAF 23264 KA x 1115/16 | 9.3 | 476 |
| 23264 CC/W33 | SNL 3264 | 5.3 | 314 |
| | SBDD 3264 | 10.3 | 518 |
| | SBDD 3264 | 10.4 | 524 |
| 23264 CCK/W33 + H 3264/11.15/16 | SNL 3264 | 5.2 | 288 |
| 23264 CCK/W33 + H 3264/12 | SNL 3264 | 5.2 | 288 |
| 23264 CCK/W33 + OH 2364 HB | SBDD 3264 | 10.2 | 512 |
| 23264 CCK/W33 + OH 3264 H | SNL 3264 | 5.1 | 240 |
| | SBDD 3264 | 10.1 | 506 |
| | THDD 3264 | 10.5 | 528 |
| 23268 CA/W33 | SNL 3268 | 5.3 | 314 |
| | SDAF 23268 | 9.4 | 480 |
| | SBDD 3268 | 10.3 | 518 |
| | SBDD 3268 | 10.4 | 524 |
| 23268 CAK/W33 + OH 3268 H | SNL 3268 | 5.1 | 242 |
| | SBDD 3268 | 10.1 | 506 |
| | THDD 3268 | 10.5 | 528 |
| 23268 CAK/W33 + OH 3268 HB | SBDD 3268 | 10.2 | 512 |
| 23268 CAK/W33 + OH 3268/12.1/2 H | SNL 3268 | 5.2 | 290 |

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| 23268 CAK/W33 + SNP 3268 x 127/16 | SDAF 23268 KA x 127/16 | 9.3 | 476 |
| 23272 CA/W33 | SNL 3272 | 5.3 | 316 |
| | SDAF 23272 | 9.4 | 480 |
| | SBDD 3272 | 10.3 | 518 |
| | SBDD 3272 | 10.4 | 524 |
| 23272 CAK/W33 + H 3272/13.1/2 | SNL 3272 | 5.2 | 294 |
| 23272 CAK/W33 + H 3272/13.7/16 | SNL 3272 | 5.2 | 292 |
| 23272 CAK/W33 + OH 3272 H | SNL 3272 | 5.1 | 244 |
| | SBDD 3272 | 10.1 | 506 |
| | THDD 3272 | 10.5 | 528 |
| | SBDD 3272 | 10.2 | 512 |
| 23272 CAK/W33 + OH 3272 HB | SDAF 23272 KA x 137/16 | 9.3 | 476 |
| 23272 CAK/W33 + SNP 3272 x 137/16 | SNL 3276 | 5.3 | 318 |
| 23276 CA/W33 | SDAF 23276 | 9.4 | 480 |
| | SBDD 3276 | 10.3 | 518 |
| | SBDD 3276 | 10.4 | 524 |
| 23276 CAK/W33 + OH 3276 H | SNL 3276 | 5.1 | 246 |
| | SBDD 3276 | 10.1 | 506 |
| | THDD 3276 | 10.5 | 528 |
| | SBDD 3276 | 10.2 | 512 |
| 23276 CAK/W33 + OH 3276 HB | SNL 3276 | 5.2 | 294 |
| 23276 CAK/W33 + OH 3276/13.15/16 H | SNL 3276 | 5.2 | 296 |
| 23276 CAK/W33 + OH 3276/14 H | SDAF 23276 KA x 1315/16 | 9.3 | 476 |
| 23276 CAK/W33 + SNP 3276 x 1315/16 | SNL 3280 | 5.3 | 320 |
| 23280 CA/W33 | SDAF 23280 | 9.4 | 480 |
| | SBDD 3280 | 10.3 | 518 |
| | SBDD 3280 | 10.4 | 524 |
| 23280 CAK/W33 + H 3280/15 | SNL 3280 | 5.2 | 296 |
| 23280 CAK/W33 + OH 3280 H | SNL 3280 | 5.1 | 248 |
| | SBDD 3280 | 10.1 | 506 |
| | THDD 3280 | 10.5 | 528 |
| | SBDD 3280 | 10.2 | 512 |
| 23280 CAK/W33 + OH 3280 HB | SDAF 23280 KA x 15 | 9.3 | 476 |
| 23280 CAK/W33 + SNP 3280 x 15 | SNL 3284 | 5.3 | 322 |
| 23284 CA/W33 | SDAF 23284 | 9.4 | 480 |
| | SBDD 3284 | 10.3 | 518 |
| | SBDD 3284 | 10.4 | 524 |
| 23284 CAK/W33 + H 3284/15.3/4 | SNL 3284 | 5.2 | 298 |
| 23284 CAK/W33 + OH 3284 H | SNL 3284 | 5.1 | 250 |
| | SBDD 3284 | 10.1 | 506 |
| | THDD 3284 | 10.5 | 528 |
| | SBDD 3284 | 10.2 | 512 |
| 23284 CAK/W33 + SNP 3284 x 153/4 | SDAF 23284 KA x 153/4 | 9.3 | 478 |
| 23288 CA/W33 | SNL 3288 | 5.3 | 324 |
| | SDAF 23288 | 9.4 | 482 |
| 23288 CAK/W33 + OH 3288 H | SNL 3288 | 5.1 | 252 |
| 23288 CAK/W33 + OH 3288/16.1/2 H | SNL 3288 | 5.2 | 298 |
| 23288 CAK/W33 + SNP 3288 x 161/2 | SDAF 23288 KA x 161/2 | 9.3 | 478 |
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| 239/600 CAK/W33 + OH 39/600 H | SED 39/600 | 6.1 | 332 |
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| 239/850 CAK/W33 + KOH 39/850 | FSDR 39/850 K | 15.1 | 656 |
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| C 2206 KTN9 + H 306 E | SNL 506-605 | 2.1 | 86 |
| | FNL 506 | 11.1 | 546 |
| C 2206 KTN9 + HA 306 E | SNL 506-605 | 2.2 | 100 |
| C 2206 KTN9 + HE 306 E | SNL 506-605 | 2.2 | 100 |
| C 2207 TN9 | SE 207 | 2.3 | 122 |
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| | FNL 507 | 11.1 | 546 |
| C 2207 KTN9 + HA 307 E | SE 507-606 | 2.2 | 102 |
| | SAF C2507 | 8.3 | 430 |
| C 2208 TN9 | SE 208-307 | 2.3 | 122 |
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| | FNL 508 | 11.1 | 546 |
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| | FNL 510 | 11.1 | 548 |
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| C 2216 K + H 316 E | SNL 516-613 | 2.1 | 92 |
| | FNL 516 | 11.1 | 550 |
| C 2216 K + HA 316 E | SNL 516-613 | 2.2 | 110 |
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| | FNL 518 | 11.1 | 550 |
| C 2218 K + HA 318 E | SNL 518-615 | 2.2 | 112 |
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| | SNL 519-616 | 2.1 | 94 |
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| | FNL 520 | 11.1 | 550 |
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| C 2220 K + HA 320 E | SONL 220-520 | 7.2 | 374 |
| | SAF C2520 | 8.3 | 432 |
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| | SNL 522-619 | 2.2 | 114 |
| | SONL 222-522 | 7.1 | 370 |
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| | FNL 522 | 11.1 | 550 |
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| | SNL 526 | 2.2 | 116 |
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| | SAF C2228 | 8.6 | 446 |
| C 2226 K + H 3126 L | SNL 528 | 2.1 | 96 |
| | SONL 228-528 | 7.1 | 370 |
| | SAF C2528 | 8.3 | 432 |
| C 2226 K + HA 3126 E | SNL 528 | 2.2 | 118 |
| | SONL 228-528 | 7.2 | 374 |
| | SNL 528 | 2.2 | 118 |
| C 2226 K + HE 3126 L | SONL 228-528 | 7.2 | 374 |
| | SNL 528 | 2.2 | 118 |
| | SNL 530 | 2.3 | 136 |
| C 2228 | SONL 230-530 | 7.3 | 378 |
| | SAF C2230 | 8.6 | 446 |
| | SNL 530 | 2.1 | 96 |
| C 2228 K + H 3128 L | SONL 230-530 | 7.1 | 370 |
| | SNL 530 | 2.3 | 136 |
| | SONL 230-530 | 7.1 | 370 |

18.3 Bearing index

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| C 2230 K + HA 3130 L | SNL 530 | 2.2 | 118 |
| | SONL 230-530 | 7.2 | 374 |
| | SAF C2530 | 8.3 | 432 |
| C 2230 K + HE 3130 L | SNL 530 | 2.2 | 118 |
| C 2234 | SNL 3040 | 5.3 | 302 |
| | SONL 234-534 | 7.3 | 380 |
| | SAF C2234 | 8.6 | 446 |
| C 2234 K + H 3134 L | SNL 3040 | 5.1 | 222 |
| | SONL 234-534 | 7.1 | 370 |
| C 2234 K + H 3134/5.13/16 L | SNL 3040 | 5.2 | 262 |
| C 2234 K + H 3134/5.7/8 L | SNL 3040 | 5.2 | 262 |
| C 2234 K + HA 3134 L | SONL 234-534 | 7.2 | 376 |
| | SAF C2534 | 8.3 | 432 |
| C 2238 | SNL 3140 | 5.3 | 304 |
| | SONL 238-538 | 7.3 | 380 |
| | SAF C2238 | 8.6 | 446 |
| C 2238 K + H 3138 | SNL 3140 | 5.1 | 226 |
| | SONL 238-538 | 7.1 | 372 |
| C 2238 K + H 3138/6.13/16 | SNL 3140 | 5.2 | 268 |
| C 2238 K + H 3138/6.7/8 | SNL 3140 | 5.2 | 270 |
| C 2238 K + H 3138/7 | SNL 3140 | 5.2 | 272 |
| C 2238 K + HA 3138 | SONL 238-538 | 7.2 | 376 |
| | SAF C2538 | 8.3 | 432 |
| C 2238 K + HE 3138 | SNL 3140 | 5.2 | 268 |
| C 2244 | SNL 3148 | 5.3 | 308 |
| | SONL 244-544 | 7.3 | 380 |
| | SAF C2244 | 8.6 | 446 |
| C 2244 K + H 3044/7.15/16 | SONL 244-544 | 7.2 | 376 |
| C 2244 K + H 3144/201.612 | SAF C2544 | 8.3 | 432 |
| C 2244 K + H 3144/7.15/16 | SNL 3148 | 5.2 | 278 |
| C 2244 K + H 3144/8 | SNL 3148 | 5.2 | 278 |
| C 2244 K + OH 3144 H | SNL 3148 | 5.1 | 230 |
| | SONL 244-544 | 7.1 | 372 |
| C 2314 | SAF C2314 | 8.6 | 444 |
| C 2315 | SNL 518-615 | 2.3 | 130 |
| | SAF C2315 | 8.6 | 444 |
| C 2315 K + H 2315 | SNL 518-615 | 2.1 | 92 |
| C 2315 K + HA 2315 | SNL 518-615 | 2.2 | 108 |
| | SAF C2615 | 8.3 | 430 |
| C 2315 K + HE 2315 | SNL 518-615 | 2.2 | 108 |
| C 2316 | SNL 519-616 | 2.3 | 130 |
| | SAF C2316 | 8.6 | 444 |
| C 2316 K + H 2316 | SNL 519-616 | 2.1 | 92 |
| C 2316 K + HA 2316 | SNL 519-616 | 2.2 | 110 |
| | SAF C2616 | 8.3 | 430 |
| C 2316 K + HE 2316 | SNL 519-616 | 2.2 | 110 |
| C 2317 | SNL 520-617 | 2.3 | 132 |
| | SAF C2317 | 8.6 | 444 |
| C 2317 K + H 2317 | SNL 520-617 | 2.1 | 92 |
| C 2317 K + HA 2317 | SNL 520-617 | 2.2 | 110 |
| | SAF C2617 | 8.3 | 430 |
| C 2317 K + HE 2317 | SNL 520-617 | 2.2 | 112 |
| C 2318 | SAF C2318 | 8.6 | 444 |
| C 2318 K + HA 2318 | SNL 522-619 | 8.3 | 430 |
| C 2319 | SNL 522-619 | 2.3 | 134 |
| C 2319 K + H 2319 | SNL 522-619 | 2.1 | 94 |
| C 2319 K + HE 2319 | SNL 522-619 | 2.2 | 112 |
| C 2320 | SNL 524-620 | 2.3 | 134 |
| | SAF C2320 | 8.6 | 446 |
| C 2320 K + H 2320 | SNL 524-620 | 2.1 | 94 |
| C 2320 K + HA 2320 | SNL 524-620 | 2.2 | 114 |
| | SAF C2620 | 8.3 | 432 |
| C 2320 K + HE 2320 | SNL 524-620 | 2.2 | 114 |
| C 30/500 M | SNL 30/500 | 5.3 | 328 |
| C 30/500 KM + OH 30/500 H | SNL 30/500 | 5.1 | 258 |
| C 30/500 KM + OH 30/500/18.1/2 H | SNL 30/500 | 5.2 | 300 |
| C 30/530 M | SNL 30/530 | 5.3 | 328 |
| C 30/530 KM | SDM 30/530 | 13.5 | 614 |
| | SDM 30/530 | 13.6 | 618 |
| C 30/530 KM + OH 30/530 H | SNL 30/530 | 5.1 | 258 |
| C 30/530 KM + OH 30/530/19.1/2 H | SNL 30/530 | 5.2 | 300 |
| C 30/530 M/VB569 | SKND 30/530 | 14.1 | 634 |

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| C 30/600 M/VB569 | SKND 30/600 | 14.1 | 634 |
| C 30/600 KM | SDM 30/600 | 13.5 | 614 |
| | SDM 30/600 | 13.6 | 618 |
| C 30/670 M/VB569 | SKND 30/670 | 14.1 | 634 |
| C 30/670 KM/HA3C4 | SDM 30/670 | 13.5 | 616 |
| | SDM 30/670 | 13.6 | 620 |
| C 3024 | SNLN 3024 | 4.2 | 180 |
| C 3024 K + H 3024 E | SNLN 3024 | 4.1 | 176 |
| C 3026 | SNLN 3026 | 4.2 | 180 |
| C 3026 K + H 3026 | SNLN 3026 | 4.1 | 176 |
| C 3028 | SNLN 3028 | 4.2 | 180 |
| C 3028 K + H 3028 E | SNLN 3028 | 4.1 | 176 |
| C 3030 V | SNLN 3030 | 4.2 | 180 |
| C 3030 KV + H 3030 | SNLN 3030 | 4.1 | 176 |
| C 3032 | SNLN 3032 | 4.2 | 182 |
| C 3032 K + H 3032 E | SNLN 3032 | 4.1 | 176 |
| C 3034 | SNLN 3034 | 4.2 | 182 |
| C 3034 K + H 3034 E | SNLN 3034 | 4.1 | 178 |
| C 3036 | SNLN 3036 | 4.2 | 182 |
| | SNL 3036 | 5.3 | 304 |
| C 3036 K + H 3036 | SNLN 3036 | 4.1 | 178 |
| | SNL 3036 | 5.1 | 224 |
| C 3036 K + H 3036/6.3/8 | SNL 3036 | 5.2 | 264 |
| C 3036 K + H 3036/6.5/16 | SNL 3036 | 5.2 | 264 |
| C 3036 K + HA 3036 | SNL 3036 | 5.2 | 266 |
| | SAF C3036 KA x 6.7/16 | 8.3 | 432 |
| C 3036 K + HE 3036 | SNL 3036 | 5.2 | 266 |
| C 3038 | SNLN 3038 | 4.2 | 182 |
| | SNL 3038 | 5.3 | 304 |
| C 3038 K + H 3038 | SNLN 3038 | 4.1 | 178 |
| | SNL 3038 | 5.1 | 226 |
| C 3038 K + H 3038/6.13/16 | SNL 3038 | 5.2 | 268 |
| C 3038 K + H 3038/6.7/8 | SNL 3038 | 5.2 | 270 |
| C 3038 K + H 3038/7 | SNL 3038 | 5.2 | 272 |
| C 3038 K + HA 3038 | SNL 3038 | 5.2 | 270 |
| | SAF C3038 KA x 6.15/16 | 8.3 | 432 |
| C 3038 K + HE 3038 | SNL 3038 | 5.2 | 268 |
| C 3040 | SNLN 3040 | 4.2 | 182 |
| | SNL 3040 | 5.3 | 306 |
| C 3040 K + H 3040 | SNLN 3040 | 4.1 | 178 |
| | SNL 3040 | 5.1 | 228 |
| C 3040 K + H 3040/7.1/4 | SNL 3040 | 5.2 | 276 |
| C 3040 K + H 3040/7.1/8 | SNL 3040 | 5.2 | 274 |
| C 3040 K + HA 3040 | SNL 3040 | 5.2 | 274 |
| | SAF C3040 KA x 7.3/16 | 8.3 | 432 |
| C 3040 K + HE 3040 | SNL 3040 | 5.2 | 272 |
| C 3044 | SNLN 3044 | 4.2 | 182 |
| | SNL 3044 | 5.3 | 308 |
| C 3044 K + H 3044/201.6 | SAF C3044 KA x 7.15/16 | 8.3 | 432 |
| C 3044 K + H 3044/7.15/16 | SNL 3044 | 5.2 | 278 |
| C 3044 K + H 3044/8 | SNL 3044 | 5.2 | 278 |
| C 3044 K + OH 3044 H | SNLN 3044 | 4.1 | 178 |
| | SNL 3044 | 5.1 | 230 |
| C 3044 K + OH 3044/7.13/16 H | SNL 3044 | 5.2 | 276 |
| C 3044 K + OH 3044/7.7/8 H | SNL 3044 | 5.2 | 276 |
| C 3048 | SNLN 3048 | 4.2 | 182 |
| | SNL 3048 | 5.3 | 310 |
| C 3048 K + H 3048/227 | SAF C3048 KA x 8.15/16 | 8.3 | 432 |
| C 3048 K + H 3048/8.15/16 | SNL 3048 | 5.2 | 280 |
| C 3048 K + OH 3048 H | SNLN 3048 | 4.1 | 178 |
| | SNL 3048 | 5.1 | 232 |
| C 3048 K + OH 3048/8.1/2 H | SNL 3048 | 5.2 | 280 |
| C 3048 K + OH 3048/8.7/16 H | SNL 3048 | 5.2 | 278 |
| C 3052 | SNLN 3052 | 4.2 | 182 |
| | SNL 3052 | 5.3 | 310 |
| C 3052 K + H 3052/239.7 | SAF C3052 KA x 9.7/16 | 8.3 | 432 |
| C 3052 K + H 3052/9.1/2 | SNL 3052 | 5.2 | 282 |
| C 3052 K + OH 3052 H | SNLN 3052 | 4.1 | 178 |
| | SNL 3052 | 5.1 | 234 |
| C 3052 K + OH 3052/9.7/16 H | SNL 3052 | 5.2 | 280 |
| C 3056 | SNLN 3056 | 4.2 | 182 |
| | SNL 3056 | 5.3 | 312 |
| C 3056 K + H 3056/10.1/2 | SNL 3056 | 5.2 | 284 |

18.3 Bearing index

| Bearing designation | Housing / Pillow block / Bearing unit | Product table | |
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| | | No. | Page |
| C 3056 K + H 3056/10.7/16 | SNL 3056 | 5.2 | 284 |
| C 3056 K + H 3056/252.4 | SAF C3056 KA x 10.7/16 | 8.3 | 432 |
| C 3056 K + H 3056/265.1 | SAF C3056 KA x 9.15/16 | 8.3 | 432 |
| C 3056 K + OH 3056 H | SNLN 3056 | 4.1 | 178 |
| C 3056 K + OH 3056/10 H | SNL 3056 | 5.1 | 236 |
| C 3056 K + OH 3056/9.15/16 H | SNL 3056 | 5.2 | 282 |
| C 3060 M | SNL 3056 | 5.2 | 282 |
| C 3060 M | SNL 3060 | 5.3 | 312 |
| C 3060 KM + OH 3060 H | SNL 3060 | 5.1 | 238 |
| C 3060 KM + OH 3060/10.15/16 H | SNL 3060 | 5.2 | 286 |
| C 3060 KM + OH 3060/11 H | SNL 3060 | 5.2 | 286 |
| C 3064 M | SNL 3064 | 5.3 | 314 |
| C 3064 KM + H 3064/11.15/16 | SNL 3064 | 5.2 | 288 |
| C 3064 KM + H 3064/12 | SNL 3064 | 5.2 | 288 |
| C 3064 KM + OH 3064 H | SNL 3064 | 5.1 | 240 |
| C 3064 KM + OH 3064/11.1/2 H | SNL 3064 | 5.2 | 286 |
| C 3064 KM + OH 3064/11.7/16 H | SNL 3064 | 5.2 | 286 |
| C 3068 M | SNL 3068 | 5.3 | 314 |
| C 3068 K | SDM 3068 | 13.5 | 614 |
| C 3068 K | SDM 3068 | 13.6 | 618 |
| C 3068 KM + OH 3068 H | SNL 3068 | 5.1 | 242 |
| C 3068 KM + OH 3068/12.1/2 H | SNL 3068 | 5.2 | 290 |
| C 3068 KM + OH 3068/12.7/16 H | SNL 3068 | 5.2 | 290 |
| C 3072 M | SNL 3072 | 5.3 | 316 |
| C 3072 KM + H 3072/13.1/2 | SNL 3072 | 5.2 | 294 |
| C 3072 KM + H 3072/13.7/16 | SNL 3072 | 5.2 | 292 |
| C 3072 KM + OH 3072 H | SNL 3072 | 5.1 | 244 |
| C 3072 KM + OH 3072/12.15/16 H | SNL 3072 | 5.2 | 292 |
| C 3072 KM + OH 3072/13 H | SNL 3072 | 5.2 | 292 |
| C 3076 M | SNL 3076 | 5.3 | 318 |
| C 3076 K | SDM 3076 | 13.5 | 614 |
| C 3076 K | SDM 3076 | 13.6 | 618 |
| C 3076 KM + OH 3076 H | SNL 3076 | 5.1 | 246 |
| C 3076 KM + OH 3076/13.15/16 H | SNL 3076 | 5.2 | 294 |
| C 3076 KM + OH 3076/14 H | SNL 3076 | 5.2 | 296 |
| C 3080 M | SNL 3080 | 5.3 | 320 |
| C 3080 KM + H 3080/15 | SNL 3080 | 5.2 | 296 |
| C 3080 KM + OH 3080 H | SNL 3080 | 5.1 | 248 |
| C 3084 M | SNL 3084 | 5.3 | 322 |
| C 3084 KM | SDM 3084 | 13.5 | 614 |
| C 3084 KM | SDM 3084 | 13.6 | 618 |
| C 3084 KM + H 3084/15.3/4 | SNL 3084 | 5.2 | 298 |
| C 3084 KM + OH 3084 H | SNL 3084 | 5.1 | 250 |
| C 3088 MB | SNL 3088 | 5.3 | 324 |
| C 3088 KMB + OH 3088 HE | SNL 3088 | 5.1 | 252 |
| C 3088 KMB + OH 3088/16.1/2 HE | SNL 3088 | 5.2 | 298 |
| C 3092 M | SNL 3092 | 5.3 | 326 |
| C 3092 KM | SDM 3092 | 13.5 | 614 |
| C 3092 KM | SDM 3092 | 13.6 | 618 |
| C 3092 KM + OH 3092 H | SNL 3092 | 5.1 | 254 |
| C 3092 KM + OH 3092/17 H | SNL 3092 | 5.2 | 300 |
| C 3096 M | SNL 3096 | 5.3 | 326 |
| C 3096 KM + OH 3096 H | SNL 3096 | 5.1 | 256 |
| C 3096 KM + OH 3096/18 H | SNL 3096 | 5.2 | 300 |
| C 31/530 KM | SDM 31/530 | 13.5 | 614 |
| C 31/630 KMB/HA3C4 | SDM 31/530 | 13.6 | 618 |
| C 31/630 KMB/HA3C4 | SDM 31/630 | 13.5 | 616 |
| C 31/630 KMB/HA3C4 | SDM 31/630 | 13.6 | 620 |
| C 3134 K + H 3134 E | SNL 3134 | 5.1 | 222 |
| C 3134 K + HA 3134 L | SNL 3134 | 5.2 | 262 |
| C 3136 | SNL 3136 | 5.3 | 304 |
| C 3136 K | SBPN 3136 | 13.1 | 606 |
| C 3136 K | ASBPN 3136 | 13.2 | 608 |
| C 3136 K | SBPN 3136 | 13.3 | 610 |
| C 3136 K | ASBPN 3136 | 13.4 | 612 |
| C 3136 K + H 3136 L | SNL 3136 | 5.1 | 224 |
| C 3136 K + HA 3136 L | SNL 3136 | 5.2 | 266 |
| C 3136 K + HE 3136 L | SNL 3136 | 5.2 | 266 |
| C 3138 | SNL 3138 | 5.3 | 304 |
| C 3138 KV + H 3138 | SNL 3138 | 5.1 | 226 |
| C 3138 KV + HA 3138 | SNL 3138 | 5.2 | 270 |
| C 3138 KV + HE 3138 | SNL 3138 | 5.2 | 268 |
| C 3140 | SNL 3140 | 5.3 | 306 |

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| C 3140 K | SBPN 3140 | 13.1 | 606 |
| | SBPN 3140 | 13.3 | 610 |
| C 3140 K + H 3140 | SNL 3140 | 5.1 | 228 |
| C 3140 K + HA 3140 | SNL 3140 | 5.2 | 274 |
| C 3140 K + HE 3140 | SNL 3140 | 5.2 | 272 |
| C 3144 | SNL 3144 | 5.3 | 308 |
| C 3144 K | SBPN 3144 | 13.1 | 606 |
| | ASBPN 3144 | 13.2 | 608 |
| | SBPN 3144 | 13.3 | 610 |
| | ASBPN 3144 | 13.4 | 612 |
| C 3144 K + H 3144/7.15/16 TL | SNL 3144 | 5.2 | 278 |
| C 3144 K + OH 3144 HTL | SNL 3144 | 5.1 | 230 |
| C 3148 | SNL 3148 | 5.3 | 310 |
| C 3148 K | SBPN 3148 | 13.1 | 606 |
| | SBPN 3148 | 13.3 | 610 |
| C 3148 K + H 3148/8.15/16 TL | SNL 3148 | 5.2 | 280 |
| C 3148 K + OH 3148 HTL | SNL 3148 | 5.1 | 232 |
| C 3152 | SNL 3152 | 5.3 | 310 |
| C 3152 K | SBPN 3152 | 13.1 | 606 |
| | ASBPN 3152 | 13.2 | 608 |
| | SBPN 3152 | 13.3 | 610 |
| | ASBPN 3152 | 13.4 | 612 |
| C 3152 K + H 3152/9.1/2 TL | SNL 3152 | 5.2 | 282 |
| C 3152 K + OH 3152 HTL | SNL 3152 | 5.1 | 234 |
| C 3152 K + OH 3152/9.7/16 HTL | SNL 3152 | 5.2 | 280 |
| C 3156 | SNL 3156 | 5.3 | 312 |
| C 3156 K + H 3156/10.1/2 TL | SNL 3156 | 5.2 | 284 |
| C 3156 K + H 3156/10.7/16 TL | SNL 3156 | 5.2 | 284 |
| C 3156 K + OH 3156 HTL | SNL 3156 | 5.1 | 236 |
| C 3156 K + OH 3156/10 HTL | SNL 3156 | 5.2 | 282 |
| C 3160 | SNL 3160 | 5.3 | 312 |
| C 3160 K | SBPN 3160 | 13.1 | 606 |
| | ASBPN 3160 | 13.2 | 608 |
| | SBPN 3160 | 13.3 | 610 |
| | ASBPN 3160 | 13.4 | 612 |
| C 3160 K + OH 3160 H | SNL 3160 | 5.1 | 238 |
| C 3160 K + OH 3160/10.15/16 H | SNL 3160 | 5.2 | 286 |
| C 3160 K + OH 3160/11 H | SNL 3160 | 5.2 | 286 |
| C 3164 M | SNL 3164 | 5.3 | 314 |
| C 3164 KM | SBPN 3164 | 13.1 | 606 |
| | ASBPN 3164 | 13.2 | 608 |
| | SBPN 3164 | 13.3 | 610 |
| | ASBPN 3164 | 13.4 | 612 |
| C 3164 KM + H 3164/12 | SNL 3164 | 5.2 | 288 |
| C 3164 KM + H 3164/11.15/16 | SNL 3164 | 5.2 | 288 |
| C 3164 KM + OH 3164 H | SNL 3164 | 5.1 | 240 |
| C 3168 M | SNL 3168 | 5.3 | 314 |
| C 3168 KM | SDM 3168 | 13.5 | 614 |
| | SDM 3168 | 13.6 | 618 |
| C 3168 KM + OH 3168 H | SNL 3168 | 5.1 | 242 |
| C 3168 KM + OH 3168/12.1/2 H | SNL 3168 | 5.2 | 290 |
| C 3168 KM + OH 3168/12.7/16 H | SNL 3168 | 5.2 | 290 |
| C 3172 M | SNL 3172 | 5.3 | 316 |
| C 3172 KM + H 3172/13.1/2 | SNL 3172 | 5.2 | 294 |
| C 3172 KM + H 3172/13.7/16 | SNL 3172 | 5.2 | 292 |
| C 3172 KM + OH 3172 H | SNL 3172 | 5.1 | 244 |
| C 3176 KMB + OH 3176 HE | SNL 3176 | 5.1 | 246 |
| C 3176 KMB + OH 3176/13.15/16 HE | SNL 3176 | 5.2 | 294 |
| C 3176 KMB + OH 3176/14 HE | SNL 3176 | 5.2 | 296 |
| C 3180 M | SNL 3180 | 5.3 | 320 |
| C 3180 KM + H 3180/15 | SNL 3180 | 5.2 | 296 |
| C 3180 KM + OH 3180 H | SNL 3180 | 5.1 | 248 |
| C 3184 M | SNL 3184 | 5.3 | 322 |
| C 3184 KM | SDM 3184 | 13.5 | 614 |
| | SDM 3184 | 13.6 | 618 |
| C 3184 KM + H 3184/15.3/4 | SNL 3184 | 5.2 | 298 |
| C 3184 KM + OH 3184 H | SNL 3184 | 5.1 | 250 |
| C 3188 KMB + OH 3188 HE | SNL 3188 | 5.1 | 252 |
| C 3188 KMB + OH 3188/16.1/2 HE | SNL 3188 | 5.2 | 298 |
| C 3192 M | SNL 3192 | 5.3 | 326 |
| C 3192 KM + OH 3192 H | SNL 3192 | 5.1 | 254 |
| C 3192 KM + OH 3192/17 H | SNL 3192 | 5.2 | 300 |
| C 3196 KMB + OH 3196 HE | SNL 3196 | 5.1 | 256 |

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| C 3196 KMB + OH 3196/18 HE | SNL 3196 | 5.2 | 300 |
| C 3224 | SNL 524-620 | 2.3 | 134 |
| C 3224 K + H 2324 L | SNL 524-620 | 2.1 | 96 |
| C 3224 K + HA 2324 L | SNL 524-620 | 2.2 | 116 |
| C 3224 K + HE 2324 L | SNL 524-620 | 2.2 | 116 |
| C 3232 | SNL 532 | 2.3 | 136 |
| | SNL 3038 | 5.3 | 302 |
| C 3232 K + H 2332 L | SNL 532 | 2.1 | 98 |
| | SNL 3038 | 5.1 | 222 |
| C 3232 K + HA 2332 L | SNL 532 | 2.2 | 118 |
| | SNL 3038 | 5.2 | 260 |
| C 3232 K + HE 2332 L | SNL 532 | 2.2 | 118 |
| | SNL 3038 | 5.2 | 260 |
| C 3236 | SNL 3236 | 5.3 | 304 |
| C 3236 K + H 2336 | SNL 3236 | 5.1 | 224 |
| C 3236 K + HA 2336 | SNL 3236 | 5.2 | 266 |
| C 3236 K + HE 2336 | SNL 3236 | 5.2 | 266 |
| C 4024 V | SNLN 3024 | 4.2 | 180 |
| C 4024-2CS5V | SNLN 3024 | 4.2 | 180 |
| C 4026 | SNLN 3026 | 4.2 | 180 |
| C 4026-2CS5V | SNLN 3026 | 4.2 | 180 |
| C 4028 V | SNLN 3028 | 4.2 | 180 |
| C 4028-2CS5V | SNLN 3028 | 4.2 | 180 |
| C 4030 V | SNLN 3030 | 4.2 | 180 |
| C 4030-2CS5V | SNLN 3030 | 4.2 | 180 |
| C 4032 | SNLN 3032 | 4.2 | 182 |
| C 4032-2CS5V | SNLN 3032 | 4.2 | 182 |
| C 4036 V | SNL 3036 | 5.3 | 304 |
| C 4036-2CS5V | SNL 3036 | 5.3 | 304 |
| C 4038 | SNL 3038 | 5.3 | 304 |
| C 4038-2CS5V | SNL 3038 | 5.3 | 304 |
| C 4040 V | SNL 3040 | 5.3 | 306 |
| C 4040-2CS5V | SNL 3040 | 5.3 | 306 |
| C 4044 V | SNL 3044 | 5.3 | 308 |
| C 4060 M | SNL 3060 | 5.3 | 312 |
| C 49/1000 MB1/VB569 | SKND 49/1000 | 14.1 | 634 |
| C 49/1060 MB1/VB569 | SKND 49/1060 | 14.1 | 636 |
| C 49/1120 MB1/VB569 | SKND 49/1120 | 14.1 | 636 |
| C 49/1180 MB1/VB569 | SKND 49/1180 | 14.1 | 636 |
| C 49/710 MB1/VB569 | SKND 49/710 | 14.1 | 634 |
| C 49/750 MB1/VB569 | SKND 49/750 | 14.1 | 634 |
| C 49/800 MB1/VB569 | SKND 49/800 | 14.1 | 634 |
| C 49/850 MB1/VB569 | SKND 49/850 | 14.1 | 634 |
| C 49/900 MB1/VB569 | SKND 49/900 | 14.1 | 634 |
| C 49/950 MB1/VB569 | SKND 49/950 | 14.1 | 634 |

| Bearing designation | Housing / Pillow block / Bearing unit | Product table | |
|--------------------------------------|---------------------------------------|---------------|------|
| | | No. | Page |
| Angular contact ball bearings | | | |
| 7214 BECBP | PDP 214 | 12.2 | 576 |
| 7216 BECBP | PDP 216 | 12.2 | 576 |
| 7218 BECBP | PDP 218 | 12.2 | 576 |
| 7220 BECBP | PDP 220 | 12.2 | 576 |
| 7222 BECBP | PDP 222 | 12.2 | 576 |
| 7224 BCBM | PDP 224 | 12.2 | 576 |

Deep groove ball bearings

| | | | |
|------------|---------------|------|-----|
| 6206 | PDN 206 | 12.1 | 572 |
| 6207 | PDN 207 | 12.1 | 572 |
| 6208 | PDN 208 | 12.1 | 572 |
| 6210 | PDN 210 | 12.1 | 572 |
| 6211 | PDN 211 | 12.1 | 572 |
| 6212 | PDN 212 | 12.1 | 572 |
| 6214 | PDN 214 | 12.1 | 572 |
| 6215 | PDN 215 | 12.1 | 572 |
| 6216 | PDN 216 | 12.1 | 572 |
| 6218 | PDN 218 | 12.1 | 574 |
| 6220 | PDN 220 | 12.1 | 574 |
| 6222 | PDN 222 | 12.1 | 574 |
| 6224 | PDN 224 | 12.1 | 574 |
| 6305 | PDN 305 | 12.1 | 572 |
| 6306 | PDN 306 | 12.1 | 572 |
| 6307 | PDN 307 | 12.1 | 572 |
| 6308 | PDN 308 | 12.1 | 572 |
| 6309 | PDN 309 | 12.1 | 572 |
| 6310 | PDN 310 | 12.1 | 572 |
| 6311 | PDN 311 | 12.1 | 572 |
| 6312 | PDN 312 | 12.1 | 572 |
| 6313 | PDN 313 | 12.1 | 572 |
| 6314 | PDN 314 | 12.1 | 572 |
| 6315 | PDN 315 | 12.1 | 572 |
| | PDR 315 | 12.3 | 578 |
| 6316 | PDN 316 | 12.1 | 572 |
| | PDR 316 | 12.3 | 578 |
| 6317 | PDN 317 | 12.1 | 574 |
| | PDR 317 | 12.3 | 578 |
| 6318 | PDN 318 | 12.1 | 574 |
| | PDR 318 | 12.3 | 578 |
| 6319 | PDN 319 | 12.1 | 574 |
| | PDR 319 | 12.3 | 578 |
| 6320 | PDN 320 | 12.1 | 574 |
| | PDR 320 | 12.3 | 578 |
| 6322 | PDN 322 | 12.1 | 574 |
| | PDR 322 | 12.3 | 578 |
| 6324 | PDN 324 | 12.1 | 574 |
| | PDR 324 | 12.3 | 578 |

Cylindrical roller bearings

| | | | |
|-------------------|---------------|------|-----|
| NU 2214 ECP | PDP 214 | 12.2 | 576 |
| NU 2216 ECP | PDP 216 | 12.2 | 576 |
| NU 2218 ECP | PDP 218 | 12.2 | 576 |
| NU 2220 ECP | PDP 220 | 12.2 | 576 |
| NU 2222 ECP | PDP 222 | 12.2 | 576 |
| NU 2224 ECP | PDP 224 | 12.2 | 576 |
| NU 315 ECP | PDR 315 | 12.3 | 578 |
| NU 316 ECP | PDR 316 | 12.3 | 578 |
| NU 317 ECP | PDR 317 | 12.3 | 578 |
| NU 318 ECP | PDR 318 | 12.3 | 578 |
| NU 319 ECP | PDR 319 | 12.3 | 578 |
| NU 320 ECP | PDR 320 | 12.3 | 578 |
| NU 322 ECP | PDR 322 | 12.3 | 578 |
| NU 324 ECP | PDR 324 | 12.3 | 578 |