

# SKF bearing housings and roller bearing units

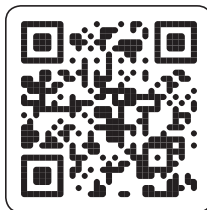


## SKF mobile apps

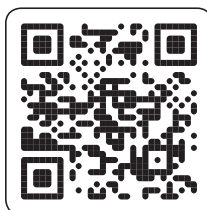
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**PUB BU/P1 13186/1 EN** · February 2015

This catalogue supersedes publication number 13186 EN.

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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

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**Notice**

For important updates and changes to this catalogue, go to [skf.com/errata](https://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			
<b>Length</b>	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
<b>Area</b>	square inch	1 mm <sup>2</sup>	0.00155 sq-in	1 sq-in	645,16 mm <sup>2</sup>
	square foot	1 m <sup>2</sup>	10.76 sq-ft	1 sq-ft	0,0929 m <sup>2</sup>
<b>Volume</b>	cubic inch	1 cm <sup>3</sup>	0.061 cu-in	1 cu-in	16,387 cm <sup>3</sup>
	cubic foot	1 m <sup>3</sup>	35 cu-ft	1 cu-ft	0,02832 m <sup>3</sup>
	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
<b>Speed, velocity</b>	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
<b>Mass</b>	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
<b>Density</b>	pound per cubic inch	1 g/cm <sup>3</sup>	0.0361 lb/cu-in	1 lb/cu-in	27,680 g/cm <sup>3</sup>
<b>Force</b>	pound-force	1 N	0.225 lbf.	1 lbf.	4,4482 N
<b>Pressure, stress</b>	pounds per square inch	1 MPa	145 psi	1 psi	6,8948 × 10 <sup>3</sup> Pa
		1 N/mm <sup>2</sup>	145 psi	1 psi	0,068948 bar
		1 bar	14,5 psi		
<b>Moment</b>	pound-force inch	1 Nm	8.85 lbf-in	1 lbf-in	0,113 Nm
<b>Power</b>	foot-pound per second	1 W	0.7376 ft-lbf/s	1 ft-lbf/s	1,3558 W
	horsepower	1 kW	1.36 hp	1 hp	0,736 kW
<b>Temperature</b>	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.

## 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

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

## 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

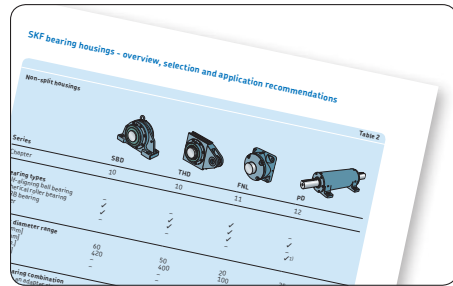
The bearing index (→ **page 742**) is a quick way to find a housing for a particular bearing. All bearings, which can be accommodated by a housing in this catalogue, are listed per bearing type and sorted alphanumerically, but with cylindrical bore bearings listed before tapered bore bearings.

### Find specific information quickly

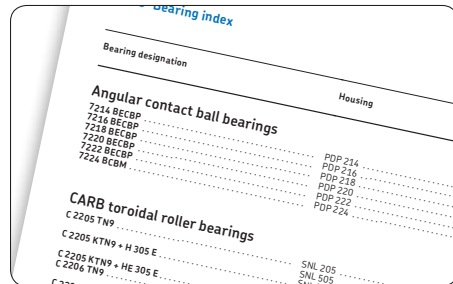
To make it easy to find specific information, there is a full table of contents at the front of the catalogue. In chapter 18, there is a product index and a full text index.

### Find product details quickly

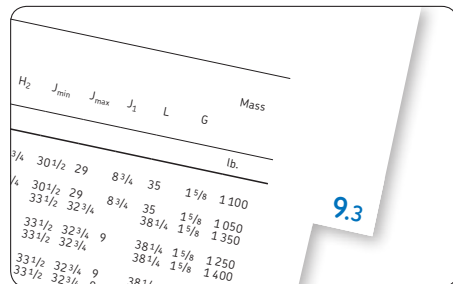
A quick way to access detailed product data is via the product table number. Product table numbers are listed in the full table of contents at the front of the catalogue, in the table of contents at the start of each product chapter and in the product and bearing indexes.



Product overview



The bearing index lists all bearings and their appropriate housings



Numbered product tables make it easier to access product data.

## Foreword

### Identify products

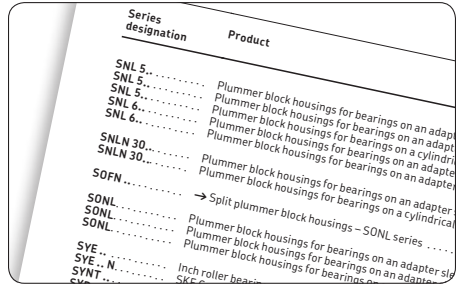
Product designations for SKF bearing housings typically contain information about the housing and additional features. To specify a housing or to find more information about an existing SKF housing, SKF product designations can be found in:

- 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

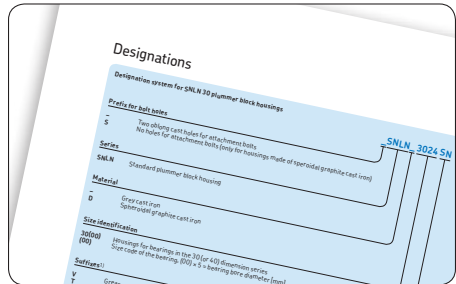
This catalogue is for global use. Therefore, the predominant units of measurement are in accordance with ISO 80000-1. Imperial units are used whenever necessary. Unit conversions can be made using the conversion table (→ page 10).

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 roller bearing
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 roller bearing
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
SYE..... N	Inch roller bearings
SYNT.....	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 D100 Superalloy/graphite cast iron
Size identification	300 (mm) Housing for bearings in the 300 (for 400) diameter series Size code of the bearing: (B) × D = bearing bore diameter (mm)
Suffixes	2024 EN

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](http://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.



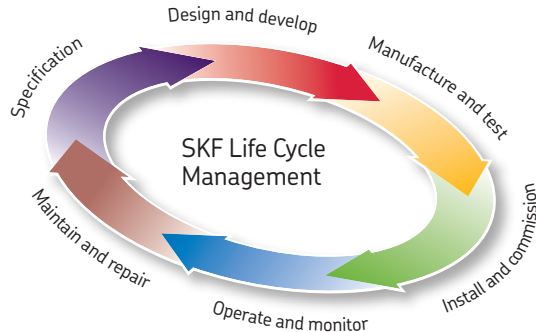
*Working with SKF IT and logistics systems and application experts, SKF Authorized Distributors deliver a valuable mix of product and application knowledge to customers worldwide.*



# 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:

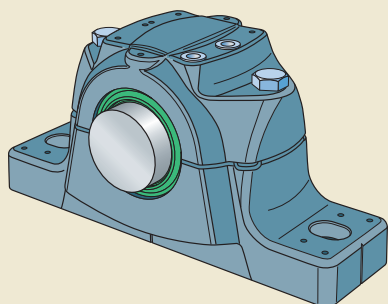
- support the bearing and transmit operating static and dynamic loads
- protect the bearing and lubricant from contaminants
- contain the lubricant and accommodate lubrication system components
- accommodate monitoring system components
- maximize the performance and service life of the incorporated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

## Terminology

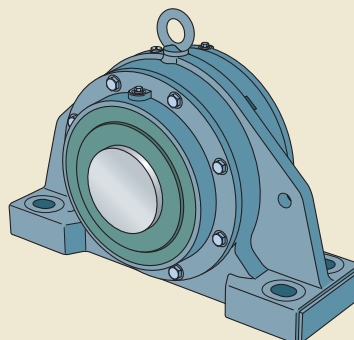
An overview of the terminology used in this catalogue is provided in **figs. 1 to 4**:

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

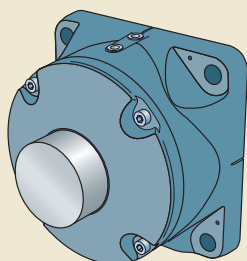
Fig. 1



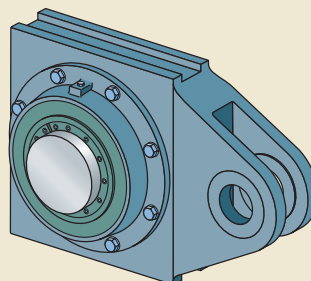
Split plummer (pillow) block housing



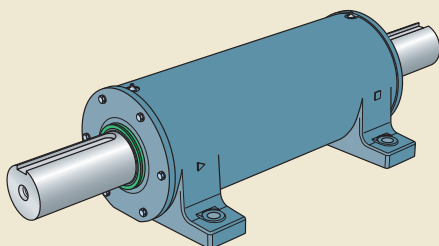
Non-split plummer (pillow) block housing



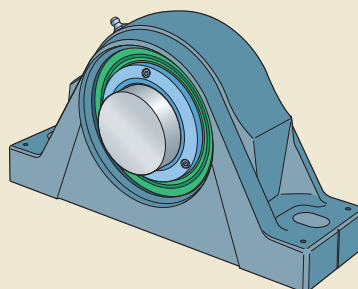
Flanged housing



Take-up housing



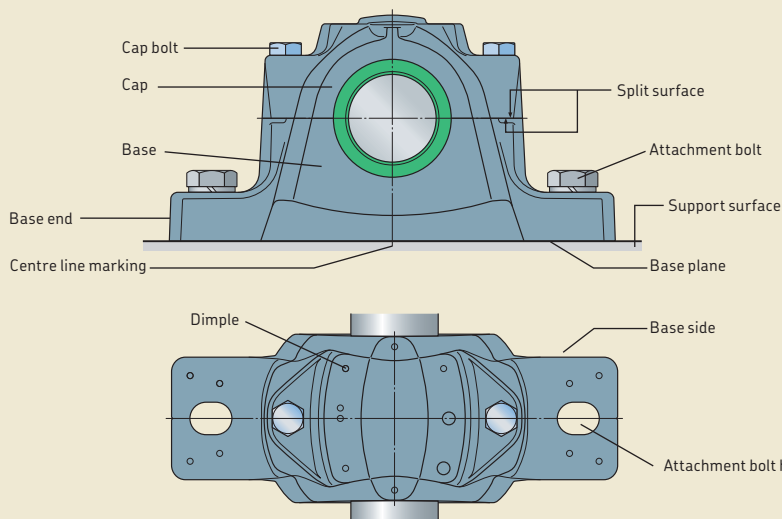
Two-bearing housing



Roller bearing unit

Fig. 2

SE plummer (pillow) block housing



SONL plummer (pillow) block housing

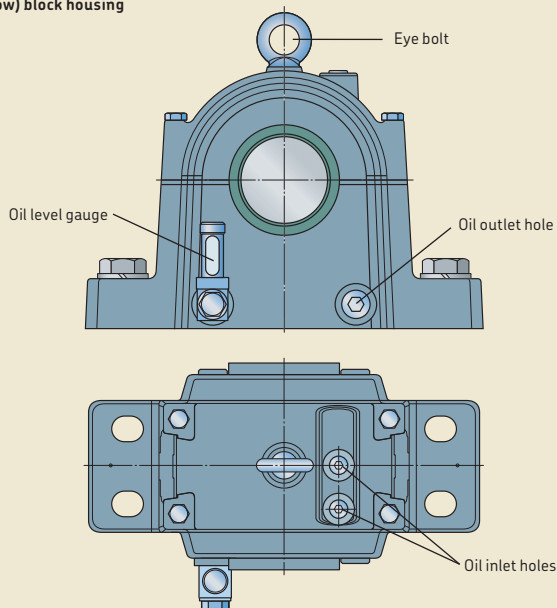
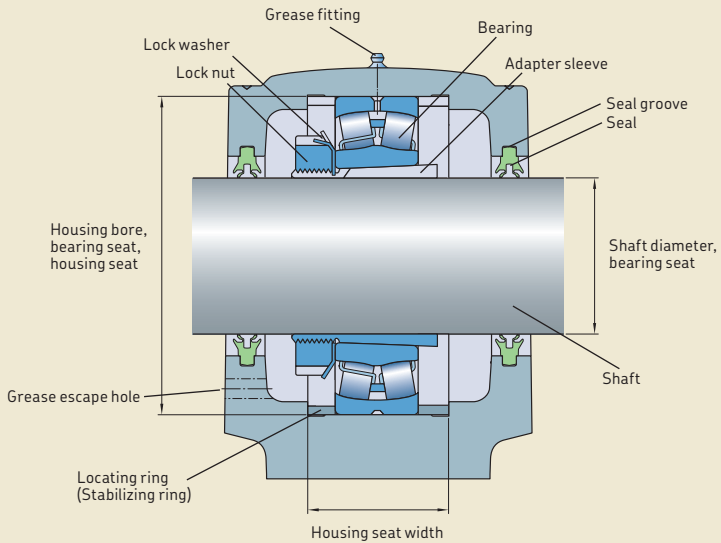


Fig. 3

SE plummer (pillow) block housing



FNL flanged housing

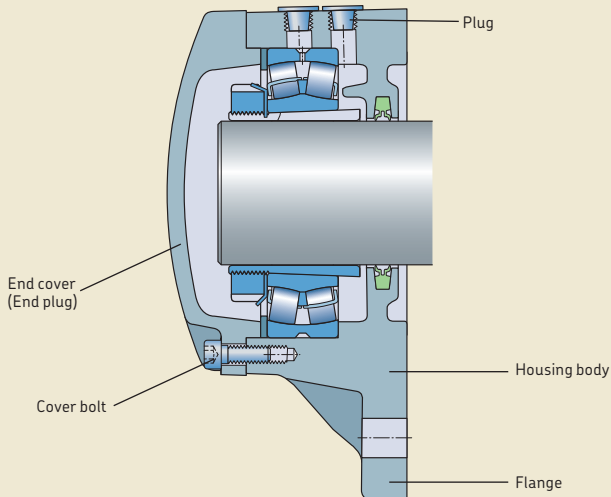
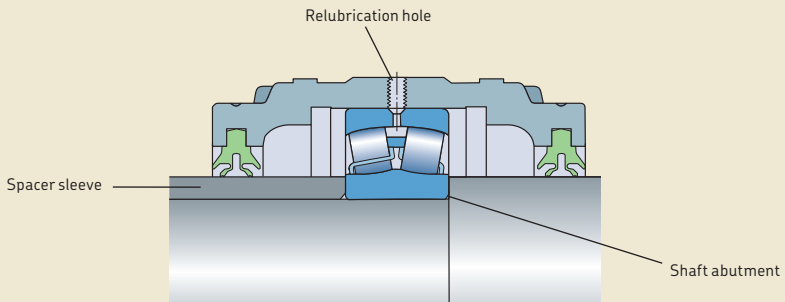
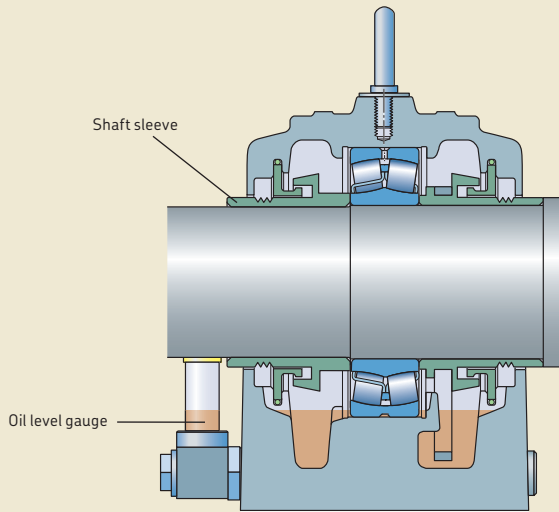


Fig. 4



## 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

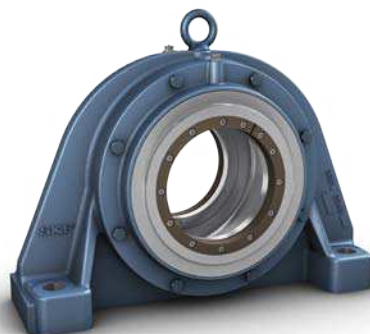


Fig. 7



### 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

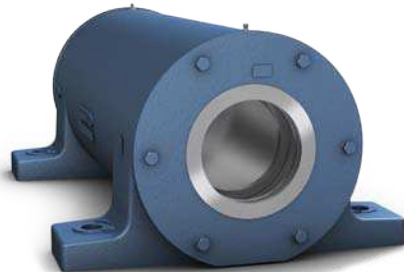


Fig. 10





## 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

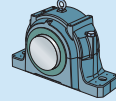
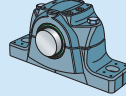
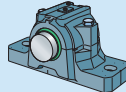
Grey cast iron is the standard material for most SKF housings and is sufficient for the majority of applications. It is characterized by high strength, good damping capability and good thermal conductivity.

### 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
<b>Bearing types</b>			
Self-aligning ball bearing	✓	✓	–
Spherical roller bearing	✓	✓	✓
CARB bearing	✓	✓	✓
<b>Shaft diameter range</b>			
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 $5\frac{1}{2}$	$2\frac{1}{2}$	–
<b>Shaft-bearing combination</b>			
Bearing on an adapter sleeve	✓	✓	✓
Bearing on a withdrawal sleeve	✓	✓	✓
Bearing on a cylindrical seat	✓	✓	✓
<b>Sealing solutions</b>			
Lip seal	✓	✓	✓ <sup>1)</sup>
Radial shaft seal	–	–	–
V-ring seal	✓	✓	✓ <sup>1)</sup>
Felt seal	✓	✓	✓ <sup>1)</sup>
Labyrinth seal	✓	✓	✓
Taconite heavy-duty seal	✓	✓	✓
Multi-seal	–	–	–
<b>Lubrication</b>			
Grease	✓	✓	✓
Oil	optional	optional <sup>2)</sup>	–
<b>Materials</b>			
Grey cast iron	standard	standard	standard
Spheroidal graphite cast iron	optional	optional	optional
Cast steel	–	–	–
<b>Mounting</b>			
No attachment bolts	✓	✓	✓
Two-bolt mounting	✓	✓	✓
Four-bolt mounting	✓	✓	✓
Eight-bolt mounting	–	–	–
<b>Supersedes (SKF)</b>	SNH, SNA, SN	SNL 2,3,5 and 6, SNH, SNA, SN	SN 30
<b>Replacement for (non-SKF)</b>	ISO 113 standard housing	ISO 113 standard housing	ISO 113 standard housing

<sup>1)</sup> Not available for sizes 34 and above.

<sup>2)</sup> For sizes 518 to 532 circulating oil only.

## Overview of SKF bearing housings

Table 1

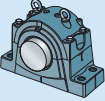
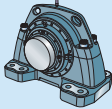
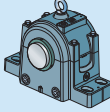
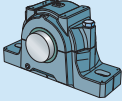
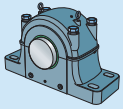
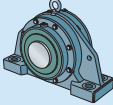
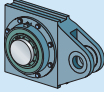

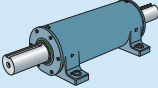
				
SNL 30, 31 and 32	SED	SONL	SAF, SAW	SDAF
5	6	7	8	9
- ✓ ✓	- ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	- ✓ ✓
115 530 4 7/16 19 1/2	430 900 - -	75 240 2 15/16 8 15/16	40 220 1 3/16 10 1/2	85 530 2 15/16 20
✓ ✓ ✓	✓ - ✓	✓ - ✓	✓ - ✓	✓ - ✓
- - - ✓ ✓ -	- - - - ✓	- - - ✓ - -	- - - ✓ ✓ -	- ✓ - ✓ ✓ -
✓ ✓	✓ ✓	- ✓	✓ ✓	✓ ✓
standard optional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

Table 2

Non-split housings

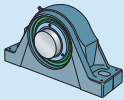
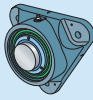
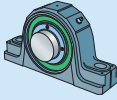
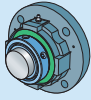
				
Series	SBD	THD	FNL	PD
Chapter	10	10	11	12
<b>Bearing types</b>				
Self-aligning ball bearing	–	–	✓	–
Spherical roller bearing	✓	✓	✓	✓
CARB bearing	✓	✓	✓	–
Other	–	–	–	✓ <sup>1)</sup>
<b>Shaft diameter range</b>				
from [mm]	60	50	20	25
to [mm]	420	400	100	120
from [in.]	–	–	–	–
to [in.]	–	–	–	–
<b>Shaft-bearing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

<sup>1)</sup> Typical bearings include deep groove ball bearings, angular contact ball bearings, and cylindrical roller bearings.

<sup>2)</sup> Housings with a triangular flange have three attachment bolts.

Table 3

## Roller bearing units

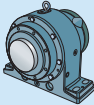
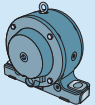
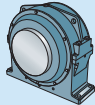
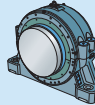
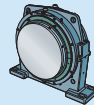
				
Series	SYNT	FYNT	SYE .. N, SYR .. N, FSYE	FYE, FYR, FYRP
Chapter	16	16	17	17
<b>Bearing types</b>				
Self-aligning ball bearing	–	–	–	–
Spherical roller bearing	✓	✓	✓	✓
CARB bearing	–	–	–	–
<b>Shaft diameter range</b>				
from [mm]	35	35	–	–
to [mm]	100	100	–	–
from [in.]	–	–	1 7/16	1 7/16
to [in.]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

<sup>1)</sup> Housings with a triangular flange have three attachment bolts.

## SKF bearing housings – overview, selection and application recommendations

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
<b>Bearing types</b>					
Self-aligning ball bearing	–	–	–	–	–
Spherical roller bearing	✓	✓	✓	✓	✓
CARB bearing	✓	✓	✓	✓	–
<b>Shaft diameter range</b>					
from [mm]	180	60	340	530	825
to [mm]	320	180	670	1 180	1 460
from [in.]	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>
to [in.]	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>	1) <sup>1)</sup>
<b>Shaft-bearing combination</b>					
Bearing on an unthreaded sleeve	–	–	–	–	✓ <sup>2)</sup>
Bearing on a cylindrical seat	–	optional	–	✓	–
Bearing on a tapered seat	✓	✓	✓	–	–
<b>Sealing solutions</b>					
Lip seal	–	–	–	✓	–
V-ring seal	–	–	–	–	✓
Labyrinth seal	✓	✓	–	–	✓
Gap-type seal	–	–	✓	–	–
<b>Lubrication</b>					
Grease	–	–	–	✓	✓
Oil	✓	✓	✓	–	–
<b>Materials</b>					
Grey cast iron	✓	✓	✓	–	✓
Spheroidal graphite cast iron	–	–	–	✓	optional
<b>Mounting</b>					
No attachment bolts	–	–	–	–	–
Two-bolt mounting	–	✓	–	–	–
Four-bolt mounting	✓	optional	✓	✓	✓
<b>Supersedes (SKF)</b>	SBP	SBF <sup>2)</sup>	–	SDKD	–

<sup>1)</sup> Contact SKF.

<sup>2)</sup> 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](http://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](http://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 categories<sup>1)</sup>

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

<sup>1)</sup> In accordance with ISO 12944-2.

<sup>2)</sup> 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					
<b>20</b>	1 910	3 820	6 680	7 640	11 460	12 410
<b>25</b>	1 530	3 060	5 350	6 110	9 170	9 930
<b>30</b>	1 270	2 550	4 460	5 090	7 640	8 280
<b>35</b>	1 090	2 180	3 820	4 370	6 550	7 090
<b>40</b>	950	1 910	3 340	3 820	5 730	6 210
<b>45</b>	850	1 700	2 970	3 400	5 090	5 520
<b>50</b>	760	1 530	2 670	3 060	4 580	4 970
<b>55</b>	690	1 390	2 430	2 780	4 170	4 510
<b>60</b>	640	1 270	2 230	2 550	3 820	4 140
<b>65</b>	590	1 180	2 060	2 350	3 530	3 820
<b>70</b>	550	1 090	1 910	2 180	3 270	3 550
<b>75</b>	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**):

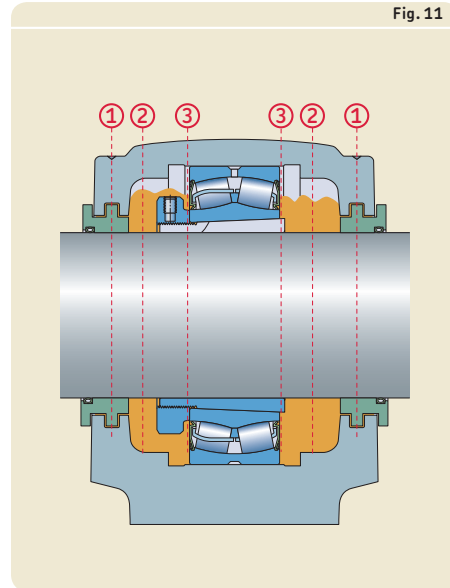
- 1<sup>st</sup> barrier – external housing seal
- 2<sup>nd</sup> barrier – housing grease
- 3<sup>rd</sup> barrier – integral bearing seal

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](http://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.

Fig. 11



## 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

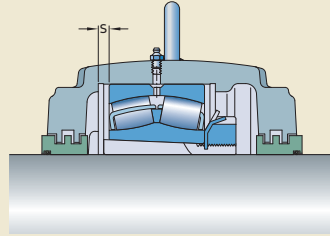
### Locating/non-locating bearing arrangements

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**).

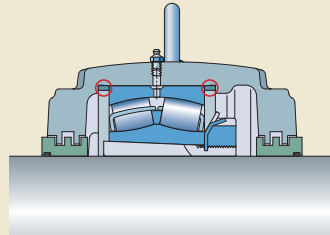
Some SKF housing series are available with a wide bearing seat for axial displacement, designation suffix L, and a bearing seat that matches the width of the bearing to locate it axially, designation suffix F (→ **fig. 14**).

Fig. 12



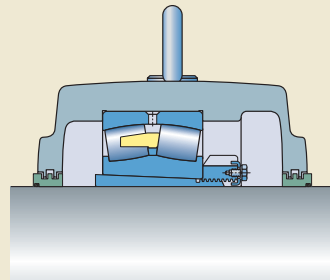
Wide bearing seat for the non-locating bearing position

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 separate 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-

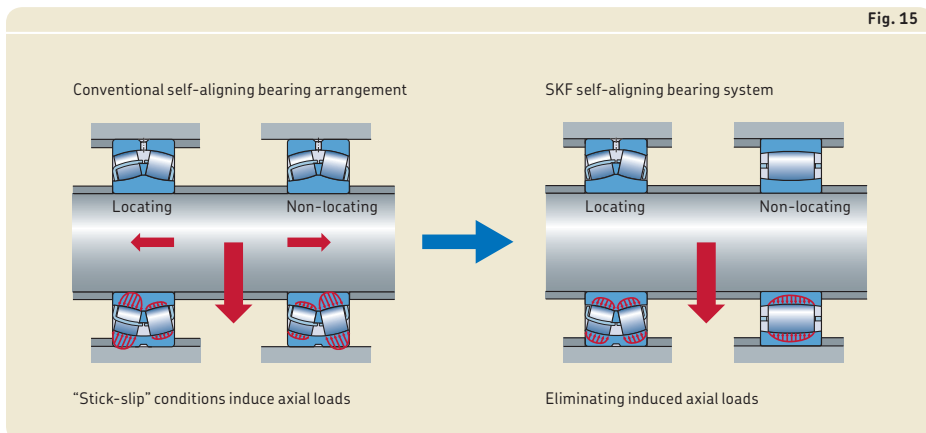
ing in less maintenance. The solution contributes to improved reliability and extended bearing service life.

### Typical shaft-bearing combinations

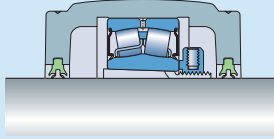
Bearings in SKF housings can be mounted either directly on a shaft or on a sleeve on the shaft. There are four typical combinations (→ **table 8, pages 42–43**):

- 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

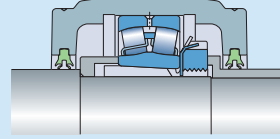
For information about the shaft-bearing combination alternatives for a particular housing type, refer to **tables 1 to 4**, starting on **page 30**, or the relevant product chapter.



## Comparison of typical shaft-bearing combinations



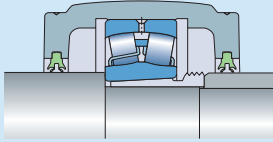
**Plain shaft with bearing on an adapter sleeve**



**Stepped shaft with bearing on an adapter sleeve**

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

Table 8



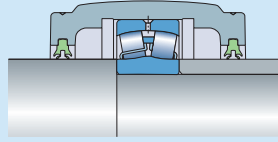
**Stepped shaft with bearing on a withdrawal sleeve**

- 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 ( $P_{180^\circ}$ ) 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](http://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](http://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](http://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](http://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](http://skf.com/lubrication). The SKF grease selection program *LubeSelect*, also available online at [skf.com/lubrication](http://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](http://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.



Fig. 16

## 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](http://mapro.skf.com) and [skf.com/lubrication](http://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 ( $\text{cm}^3$  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](http://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](http://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.

Fig. 23

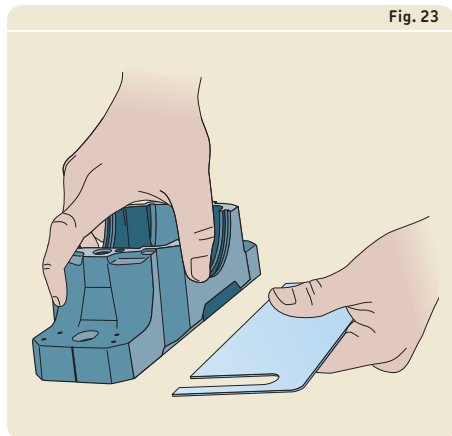
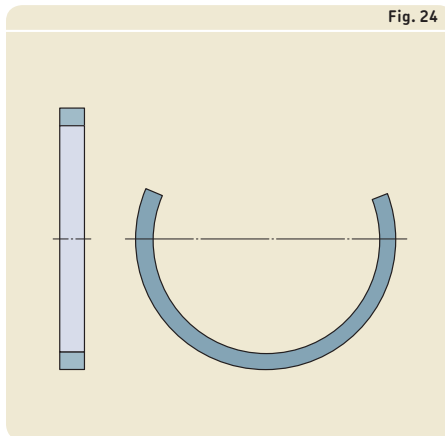


Fig. 24



## 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](http://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]

### Suffixes<sup>1)</sup>

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

<sup>1)</sup> 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

<b>TSN</b>	Seal for SNL plummer block housings
<b>FS</b>	Felt strip
<b>FSB</b>	Felt strip for high operating temperature

#### Size identification

<b>2(00)</b>	Housing for bearings with a cylindrical bore, diameter series 2
<b>3(00)</b>	Housing for bearings with a cylindrical bore, diameter series 3
<b>5(00)</b>	Housing for bearings on an adapter sleeve, diameter series 2
<b>6(00)</b>	Housing for bearings on an adapter sleeve, diameter series 3
<b>(00)</b>	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

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

#### Indication for an inch shaft

<b>A, E</b>	Seal for inch shaft
-------------	---------------------

### Designation system for end covers

**ASNH 518-615**

#### Series

<b>ASNH</b>	End cover for SNL plummer block housings
-------------	--

#### Size identification

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

### Designation system for locating rings

**FRB 17.5/160**

#### Series

<b>FRB</b>	Locating ring for SKF bearing housings
------------	--

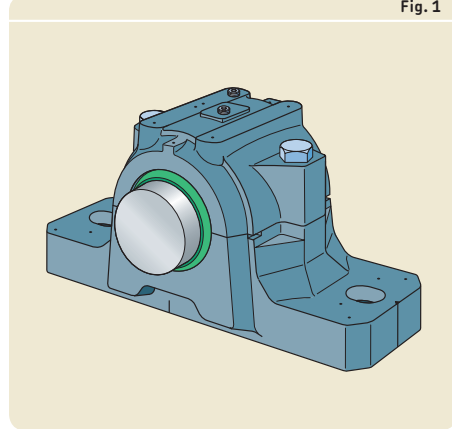
#### Size identification

...	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.

Fig. 1



## 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

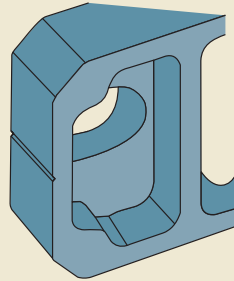


Fig. 3

Extra rib for better heat conduction

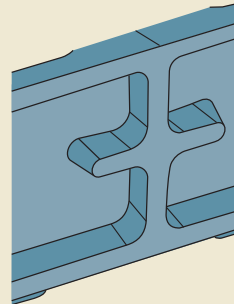


Fig. 4

Grease guiding system

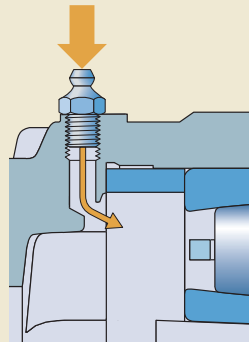




Fig. 5

Individually marked cap and base

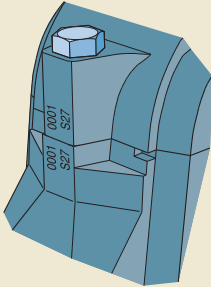


Fig. 6

Dimples indicate positions for accessories

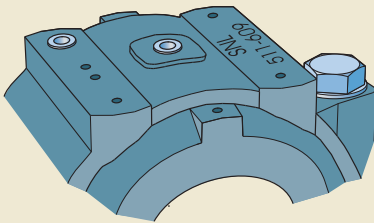
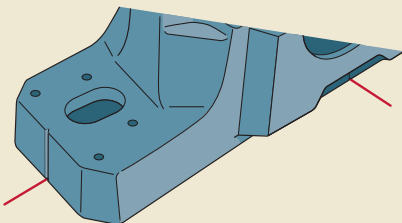


Fig. 7

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).

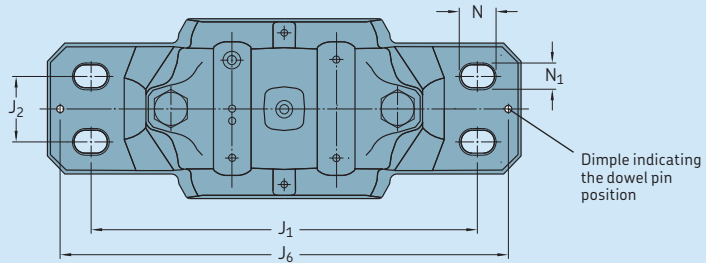
### Attachment bolt holes

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 <sub>1</sub>	J <sub>1</sub>	J <sub>2</sub>	J <sub>6</sub>	Size	Tightening torque <sup>1)</sup>
-		mm					-	Nm
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

<sup>1)</sup> 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.

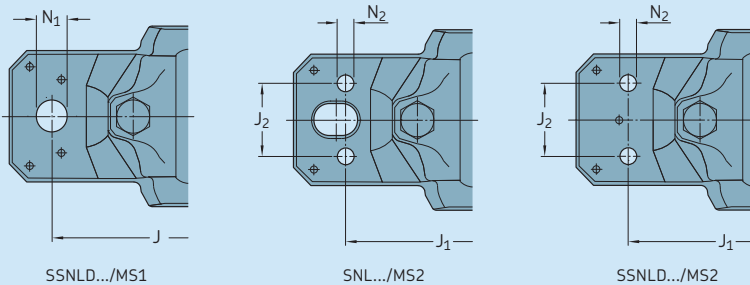
All two-bolt housings have dimples, which mark the bolt hole positions for four-bolt mounting.

- 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 <sub>1</sub>	Appropriate bolt size		Dimensions J <sub>1</sub>	J <sub>2</sub>	N <sub>2</sub>	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) 520-617	–	–	–	–	–	–	–	–	–
(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

**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

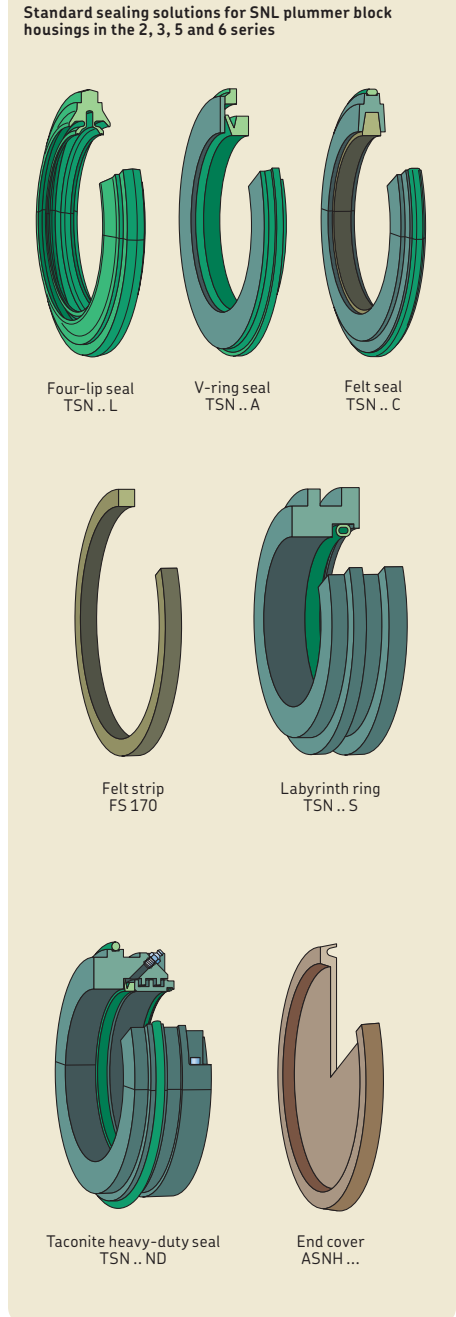


Table 3

## 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 <sup>2)</sup>	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 <sup>1)</sup> [m/s]	13	7 <sup>2)</sup>	4 <sup>2)</sup>	4 <sup>2)</sup>	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	+	++ <sup>3)</sup>	--	--	--	-	++
Replacement	++	-	+	+	-	-	++
Shaft tolerance class	h9(E)	n/a	h9(E)	h9(E)	h9(E)	h9(E)	n/a
Shaft roughness R <sub>a</sub> [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

<sup>1)</sup> To convert circumferential speeds to rotational speeds → table 7, page 37

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

<sup>3)</sup> 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  $\leq 100$  mm in diameter is approximately  $1^\circ$  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  $1^\circ$  for shaft diameters  $\geq 150$  mm.

The axial movement of the shaft relative to the housing is limited to  $\pm 1$  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 ( $2 \times 4$  mm), supplied with the rings, hold the rings in place on the shaft.

### Taconite heavy-duty seals with a radial labyrinth

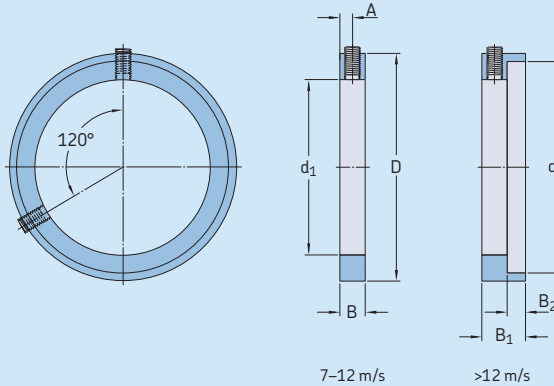
For bearing arrangements that must operate under highly contaminated conditions, such as those encountered in mining, taconite heavy-duty seals, which can be filled with grease, are recommended. Grease enhances the sealing effect and extends the service life of the seals.

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  $\pm 1$  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	– <sup>2)</sup>	3,5	M 4×5	45 VAR	CR 400450
50	50	59,1	7	11,5	4,5	– <sup>2)</sup>	3,5	M 4×5	50 VAR	CR 400500
55	55	64,1	7	11,5	4,5	– <sup>2)</sup>	3,5	M 4×5	55 VAR	CR 400550
60	60	69,1	7	11,5	4,5	– <sup>2)</sup>	3,5	M 4×5	60 VAR	CR 400600
65	65	74,1	7	11,5	4,5	– <sup>2)</sup>	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

<sup>1)</sup>  $d_a$ : shaft diameter for bearings on an adapter sleeve

$d_b$ : shaft diameter for bearings on stepped shafts

<sup>2)</sup> 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**.

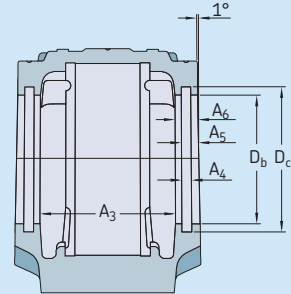
### Using sealed bearings

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

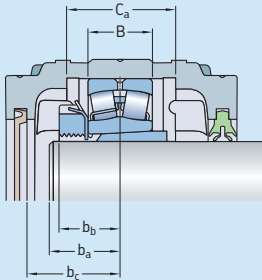
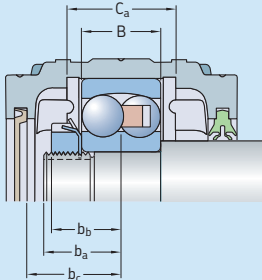


Housing Size	Dimensions					
	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	A <sub>6</sub>	D <sub>b</sub>	D <sub>c</sub>
mm						
SNL 205	44	5	7,5	10	36,5	44,5
SNL 206-305	54	5	7,5	10	46,5	54,5
SE 207	58	5	8	11	56,5	64,5
SE 208-307	61	5	8	11	62	70,5
SE 209	59	5	9	12	67	75,5
SE 210	64	5	9	12	72	80,5
SE 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	
<b>SNL 205</b>	18	24	25	<b>22205 E</b>	18	17
<b>SNL 206-305</b>	20	29	32	<b>2305 E</b>	24	19
<b>SE 207</b>	23	32	34	<b>22207 E</b>	23	20,5
<b>SE 208-307</b>	26 (22)	33	39	<b>2307 E</b>	31	24,5
<b>SE 209</b>	25	32	30	<b>22209 E</b>	23	22,5
<b>SE 210</b>	28 (24)	35	41	<b>22210 E</b>	23	23,5
<b>SE 211</b>	30 (25)	37	44	<b>22211 E</b>	25	25
<b>SE 212</b>	33 (26)	42	48	<b>22212 E</b>	28	27
<b>SE 213</b>	35 (30)	45	51	<b>22213 E</b>	31	29,5
<b>SE 215</b>	37 (30)	47	56	<b>22215 E</b>	31	30,5
<b>SNL 216</b>	39 (33)	50	58	<b>22216 E</b>	33	33,5
<b>SNL 217</b>	40 (35)	52	61	<b>22217 E</b>	36	36
<b>SNL 218</b>	45 (35)	60	65	<b>23218 CC/W33</b>	52,4	44,2
<b>SNL 505</b>	18	24	25	<b>22205 EK</b>	18	17
<b>SNL 506-605</b>	20	29	32	<b>2305 EK</b>	24	19
<b>SE 507-606</b>	23	32	34	<b>2306 EK</b>	27	21,5
<b>SE 508-607</b>	26 (22)	33	39	<b>2307 EK</b>	31	24,5
<b>SE 509</b>	25	32	30	<b>22209 EK</b>	23	22,5
<b>SE 510-608</b>	28 (24)	35	41	<b>22308 EK</b>	33	26,5
<b>SE 511-609</b>	30 (25)	37	44	<b>22309 EK</b>	36	29
<b>SE 512-610</b>	33 (26)	42	48	<b>22310 EK</b>	40	32
<b>SE 513-611</b>	35 (30)	45	51	<b>22311 EK</b>	43	33,5
<b>SE 515-612</b>	37 (30)	47	56	<b>22312 EK</b>	46	36
<b>SNL 516-613</b>	39 (33)	50	58	<b>22313 EK</b>	48	38
<b>SNL 517</b>	40 (35)	52	61	<b>22217 EK</b>	36	36
<b>SNL 518-615</b>	45 (35)	60	65	<b>22315 EK</b>	55	42,5
<b>SNL 519-616</b>	47 (40)	61	68	<b>22316 EK</b>	58	46
<b>SNL 520-617</b>	51 (45)	69	70	<b>23220 CCK/W33</b>	60,3	50,2
<b>SNL 522-619</b>	61	75	80	<b>23222 CCK/W33</b>	69,8	55,9
<b>SNL 524-620</b>	65	79	86	<b>23224 CCK/W33</b>	76	60
<b>SNL 526</b>	65	81	90	<b>23226 CCK/W33</b>	80	63
<b>SNL 528</b>	70	89	98	<b>23228 CCK/W33</b>	88	68
<b>SNL 530</b>	80	98	106	<b>23230 CCK/W33</b>	96	74
<b>SNL 532</b>	85	104	114	<b>23232 CCK/W33</b>	104	80

<sup>1)</sup> 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

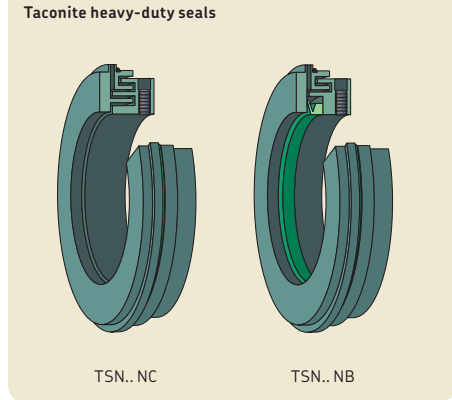


Table 7

#### 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] <sup>1)</sup>	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)

<sup>1)</sup> 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](http://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  $\text{E}$  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.

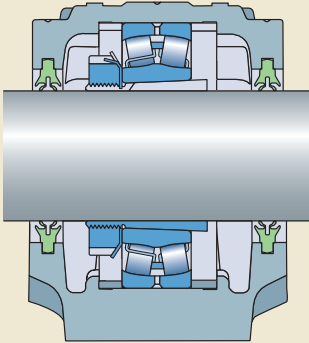
The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing on both sides with locating rings. Appropriate locating rings are listed in the product tables.

### Load carrying capacity

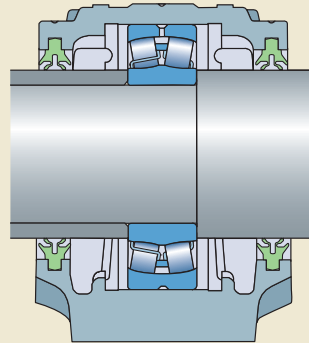
SNL housings are intended for loads acting perpendicularly toward the support surface. If the housing is supported over its entire base and the loads are purely perpendicular, loads are limited only by the bearing. If loads acting in other directions occur, or if the housing is not supported over its 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.

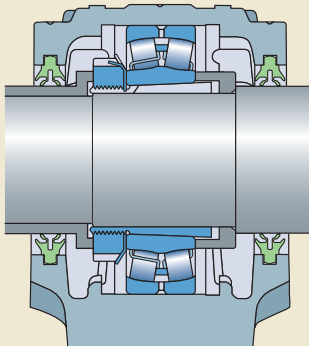
Fig. 10



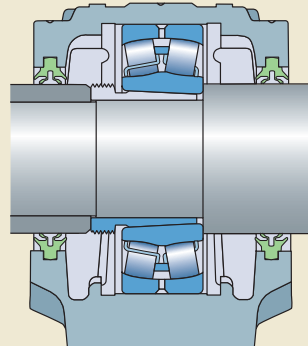
Plain shaft with bearing on an adapter sleeve



Stepped shaft with bearing on a cylindrical seat



Stepped shaft with bearing on an adapter sleeve



Stepped shaft with bearing on a withdrawal sleeve

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

### 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  $P_{0^\circ}$  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  $55^\circ$  and  $120^\circ$ , or when the axial loads are greater than 5% of  $P_{180^\circ}$  (→ **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](http://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.

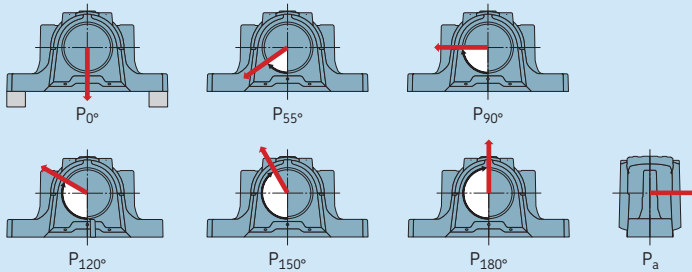
The housing paint is heat resistant up to  $80^\circ\text{C}$  ( $175^\circ\text{F}$ ) material temperature or  $100^\circ\text{C}$  ( $210^\circ\text{F}$ ) ambient temperature. When temperatures outside the permissible range are expected, contact the SKF application engineering service.

### 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](http://skf.com/bearings).

Table 8

Breaking loads for SNL plummer block housings

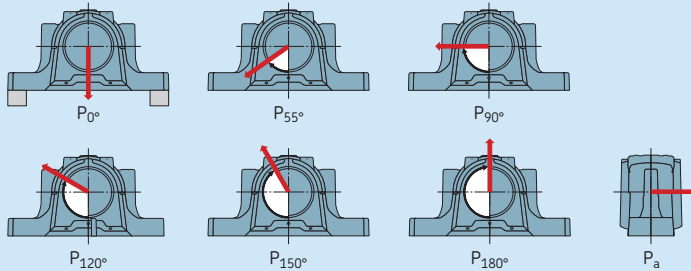


Housing Size		Breaking loads						
		$P_{0^\circ}$	$P_{55^\circ}$	$P_{90^\circ}$	$P_{120^\circ}$	$P_{150^\circ}$	$P_{180^\circ}$	$P_a$
-		kN						
SNL 205	SNL 505	100	155	95	70	60	80	52
SNL 206-305	SNL 506-605	130	170	100	80	65	85	55
SE 207	SE 507-606	140	190	115	85	80	95	60
SE 208-307	SE 508-607	150	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 218	(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 218	(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 <sup>1)</sup>						
		P <sub>0°</sub>	P <sub>55°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>	P <sub>a</sub>
– kN/lbf.								
SNL 205	SNL 505	20	31	19	14	12	16	10,4
SNL 206-305	SNL 506-605	4 500	6 975	4 275	3 150	2 700	3 600	2 340
		26	34	20	16	13	17	11
SE 207	SE 507-606	5 850	7 650	4 500	3 600	2 925	3 825	2 475
		28	38	23	17	16	19	12
SE 208-307	SE 508-607	6 300	8 550	5 175	3 825	3 600	4 275	2 700
		30	43	26	19	17	22	14
SE 209	SE 509	6 750	9 675	5 850	4 275	3 825	4 950	3 150
		32	46	28	20	18	23	15
SE 210	SE 510-608	7 200	10 350	6 300	4 500	4 050	5 175	3 375
		34	53	31	24	22	26	17
(F)SE 211	(F)SE 511-609	7 650	11 925	6 975	5 400	4 950	5 850	3 825
		38	55	34	25	23	28	18
(F)SE 212	(F)SE 512-610	8 550	12 375	7 650	5 625	5 175	6 300	4 050
		42	60	36	26	24	30	20
(F)SE 213	(F)SE 513-611	9 450	13 500	8 100	5 850	5 400	6 750	4 500
		54	68	41	30	26	34	22
(F)SE 215	(F)SE 515-612	12 150	15 300	9 225	6 750	5 850	7 650	4 950
		58	82	50	37	32	41	27
(F)SNL 216	(F)SNL 516-613	13 050	18 450	11 250	8 325	7 200	9 225	6 075
		70	86	52	38	35	43	28
(F)SNL 217	(F)SNL 517	15 750	19 350	11 700	8 550	7 875	9 675	6 300
		74	96	58	41	38	48	31
(F)SNL 219	(F)SNL 518-615	16 650	21 600	13 050	9 225	8 550	10 800	6 975
		86	110	68	50	43	55	36
(F)SNL 219	(F)SNL 519-616	19 350	24 750	15 300	11 250	9 675	12 375	8 100
		90	116	70	52	46	58	38
(F)SNL 219	(F)SNL 520-617	20 250	26 100	15 750	11 700	10 350	13 050	8 550
		94	124	74	56	50	62	40
(F)SNL 219	(F)SNL 522-619	21 150	27 900	16 650	12 600	11 250	13 950	9 000
		120	136	82	62	55	68	44
(F)SNL 219	(F)SNL 524-620	27 000	30 600	18 450	13 950	12 375	15 300	9 900
		160	158	94	70	64	80	52
(F)SNL 219	(F)SNL 526	36 000	35 550	21 150	15 750	14 400	18 000	11 700
		180	180	108	82	72	90	59
(F)SNL 219	(F)SNL 528	40 500	40 500	24 300	18 450	16 200	20 250	13 275
		200	210	126	94	86	106	69
(F)SNL 219	(F)SNL 530	45 000	47 250	28 350	21 150	19 350	23 850	15 525
		220	240	146	108	96	120	78
(F)SNL 219	(F)SNL 532	49 500	54 000	32 850	24 300	21 600	27 000	17 550
		260	290	172	128	114	144	94
(F)SNL 219	(F)SNL 532	58 500	65 250	38 700	28 800	25 650	32 400	21 150

<sup>1)</sup> The values are based on a safety factor of 5.



### Attachment bolt recommendations

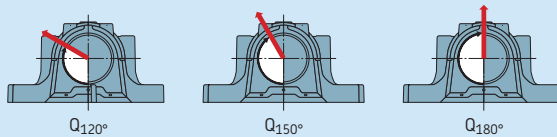
In typical applications, 8.8 class hexagon head bolts in accordance with ISO 4014 can be used together with washers. If the load does not act perpendicular toward the base, it may be necessary to use stronger 10.9 class bolts.

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 <sup>1)</sup> Tightening torque <sup>2)</sup>	
		Q <sub>120°</sub>	Q <sub>150°</sub>	Q <sub>180°</sub>			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

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

<sup>2)</sup> 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/cm<sup>3</sup>). 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.

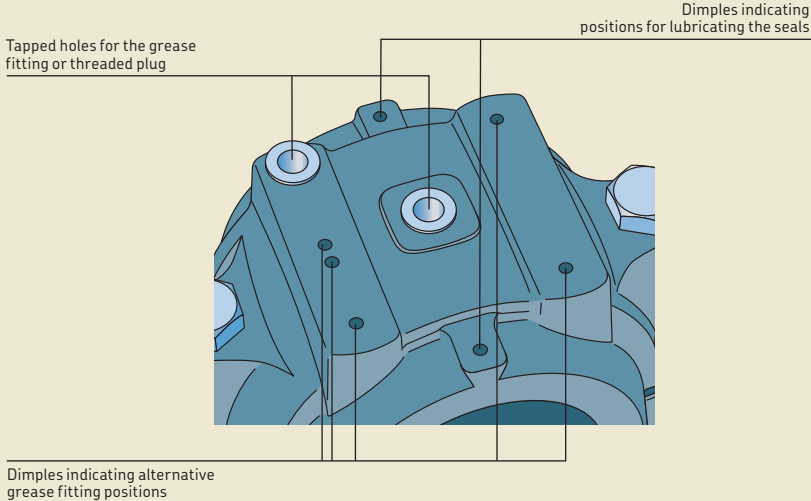
Table 11

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	1 000
	(F)SNL 526	700	1 100
	(F)SNL 528	900	1 400
	(F)SNL 530	1 100	1 700
	(F)SNL 532	1 300	2 000

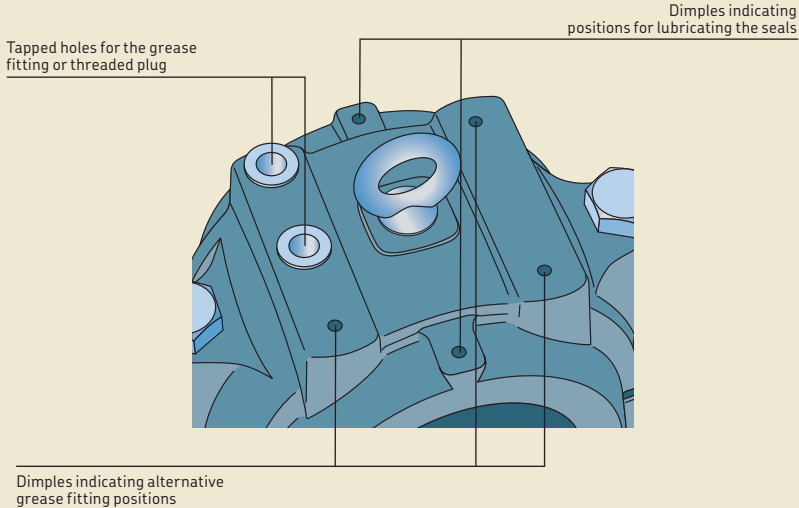
Fig. 11

**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**.

Fig. 12

Relubrication via the outer ring

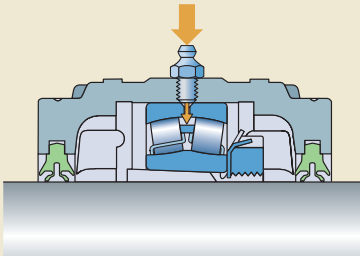


Fig. 13

Relubrication from the side

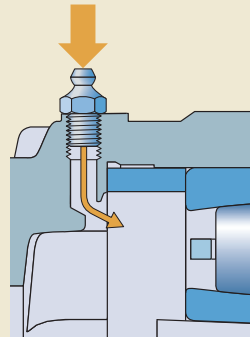
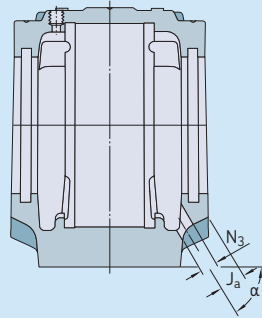


Table 12

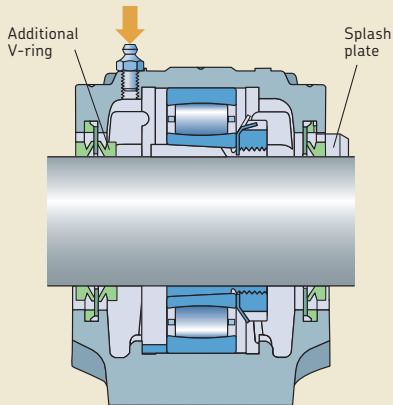
Recommended dimensions for grease escape holes



Housing Size		Dimensions		
		Ja	N <sub>3</sub>	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](http://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*.

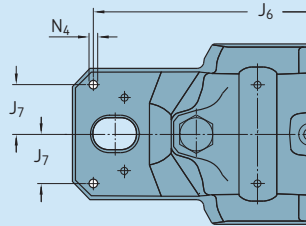
### Pinning or supporting the housing

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 <sub>6</sub>	J <sub>7</sub>	N <sub>4</sub>
		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.

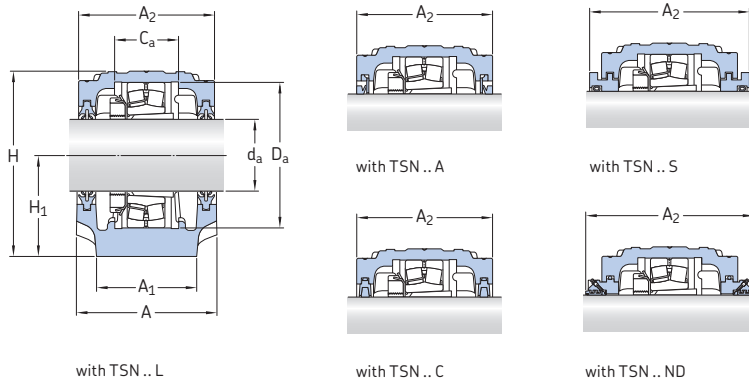
The following items should be ordered (in addition to the bearings and adapter sleeves):

- 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<sub>a</sub> 20 – 30 mm

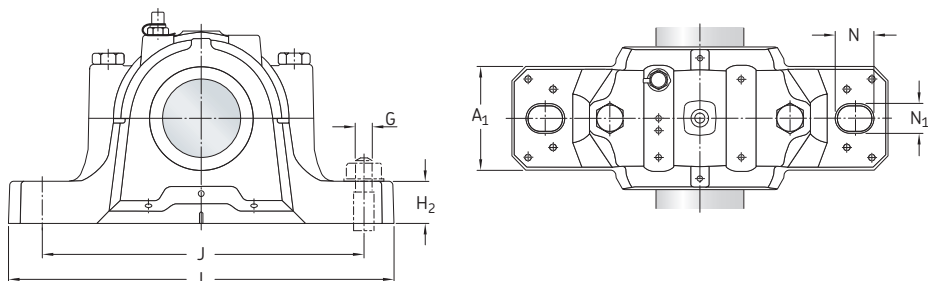


Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
20	SNL 505	1205 EKTN9	H 205	FRB 5/52	TSN 505 A	ASNH 505	67
		2205 EKTN9	H 305	FRB 3.5/52	TSN 505 C		67
		22205 EK	H 305	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
	25	SNL 506-605	1206 EKTN9	H 206	FRB 8/62	TSN 506 A	ASNH 506-605
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	85 97 145			

<sup>1)</sup> 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

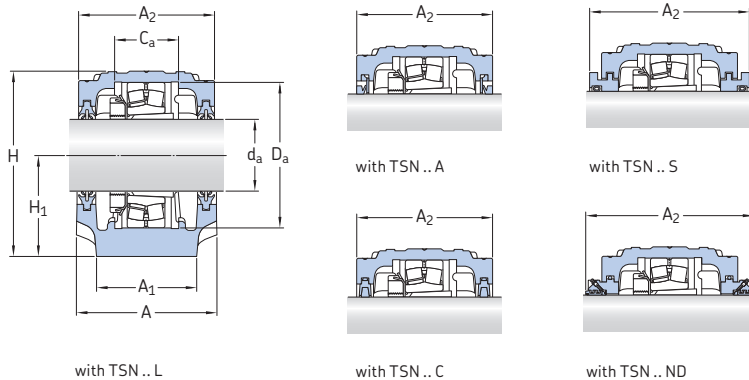
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

<sup>3)</sup> 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
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<sub>a</sub> 35 – 45 mm

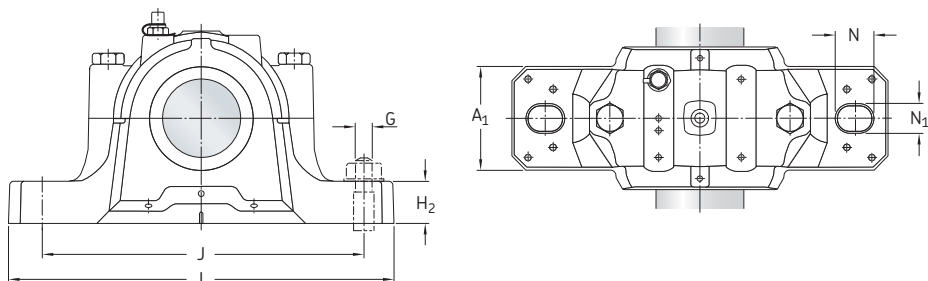


Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals
							A <sub>2</sub>
35	SE 508-607	1208 EKTN9	H 208	FRB 10.5/80	TSN 508 L	ASNH 508-607	85
		2208 EKTN9	H 308	FRB 8/80	TSN 508 A		85
		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

<sup>1)</sup> 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

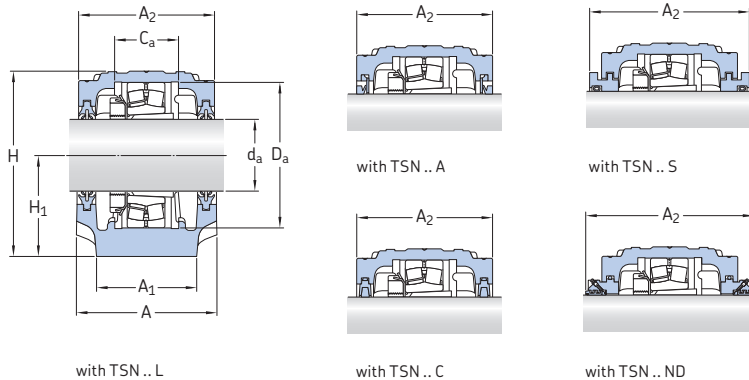
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

<sup>3)</sup> 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<sub>a</sub> 50 – 60 mm

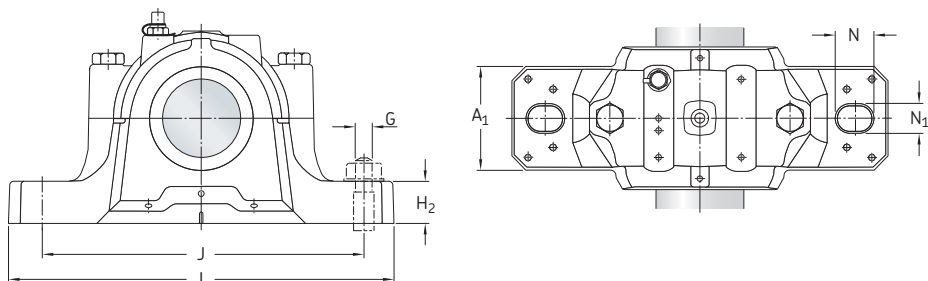


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>							
mm	–	–					mm
50	SE 511-609	1211 EKTN9	H 211	FRB 11.5/100	TSN 511 L	ASNH 511-609	95
		2211 EKTN9	H 311	FRB 9.5/100	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

<sup>1)</sup> 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

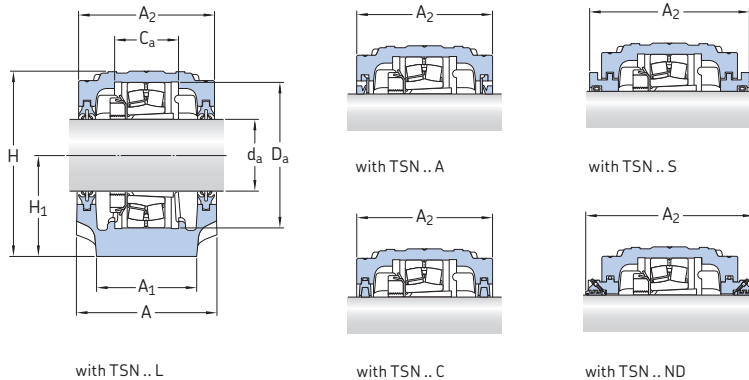
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

<sup>3)</sup> 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	Mass Housing
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<sub>a</sub> 65 – 75 mm



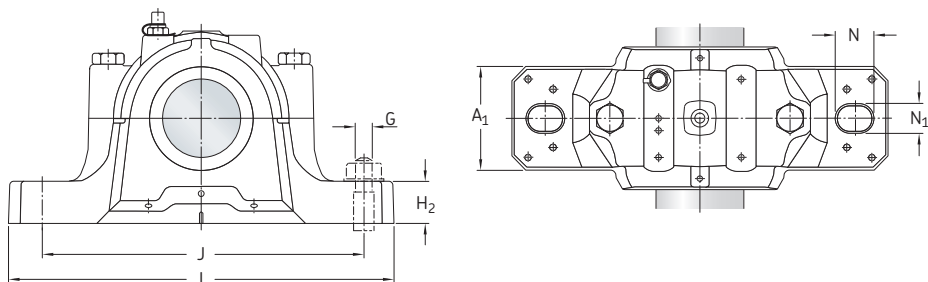
Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
65	SE 515-612	1215 K	H 215	FRB 15.5/130	TSN 515 L	ASNH 515-612	115
		2215 EKTN9	H 315	FRB 12.5/130	TSN 515 A		115
		22215 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

<sup>1)</sup> 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

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

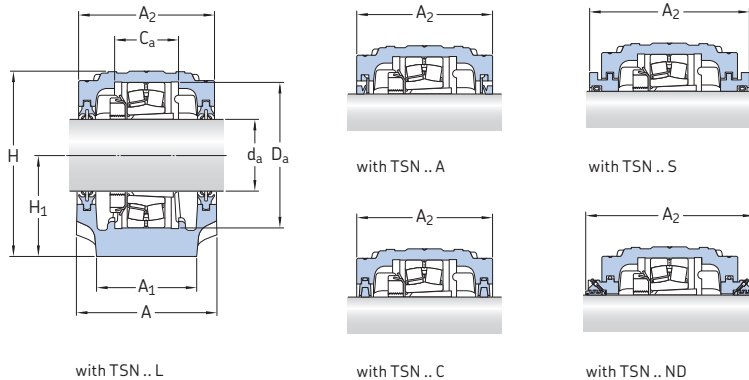
<sup>3)</sup> The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.





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
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<sub>a</sub> 80 – 90 mm

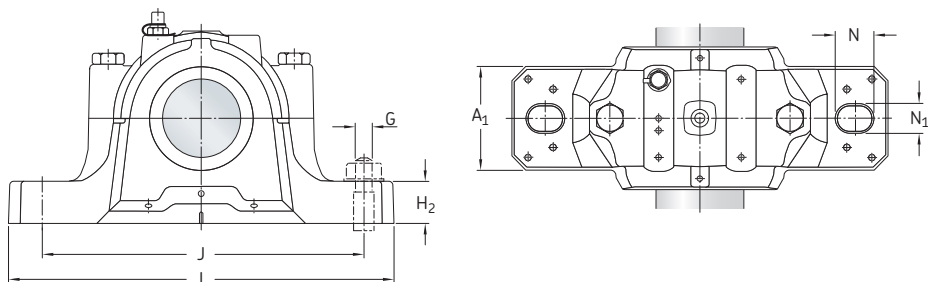


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>							
mm	-	-					mm
80	SNL 518-615	1218 K	H 218	FRB 17.5/160	TSN 518 L	ASNH 518-615	140
		2218 K	H 318	FRB 12.5/160	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				

<sup>1)</sup> 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

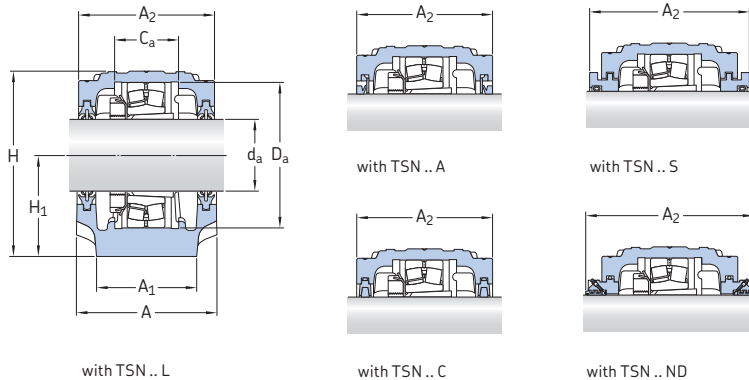
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

<sup>3)</sup> 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 <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	L	N	N <sub>1</sub>	G	
d <sub>a</sub>	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<sub>a</sub> 100 – 135 mm

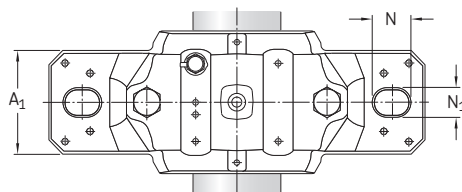
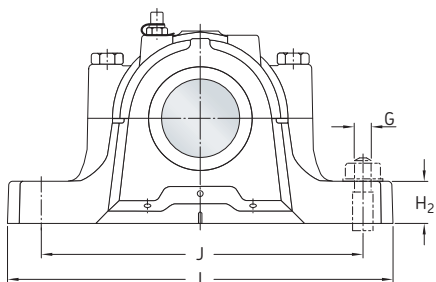


Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
mm	-	-					mm
100	SNL 522-619	1222 K	H 222	FRB 21/200	TSN 522 L	ASNH 522-619	175
		2222 KM	H 322	FRB 13.5/200	TSN 522 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

<sup>1)</sup> 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

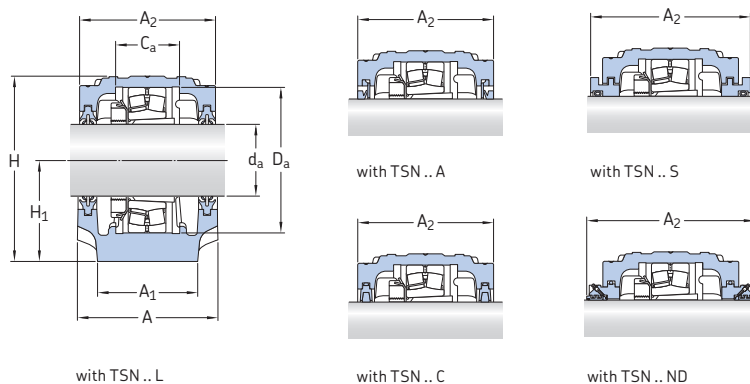
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

<sup>3)</sup> 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
<b>100</b>	175	120	80	200	242	125	45	350	410	32	26	24	-	22,0
<b>110</b>	185	120	86	215	271	140	45	350	410	32	26	24	M10	26,2
<b>115</b>	190	130	90	230	290	150	50	380	445	35	28	24	M10	33,0
<b>125</b>	205	150	98	250	302	150	50	420	500	42	35	30	M12	40,0
<b>135</b>	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<sub>a</sub> 140 mm

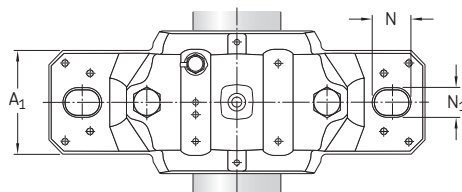
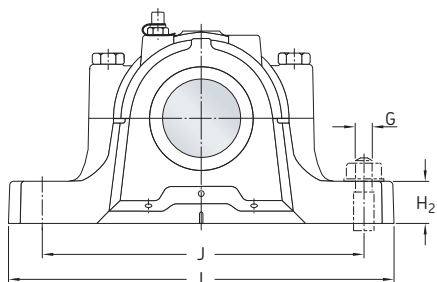


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>							
mm	-	-					mm
<b>140</b>	<b>SNL 532</b>	22232 CCK/W33 22232-2CS5K 23232 CCK/W33 C 2322 K	H 3132 H 3132 H 2332 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

<sup>1)</sup> 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

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

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

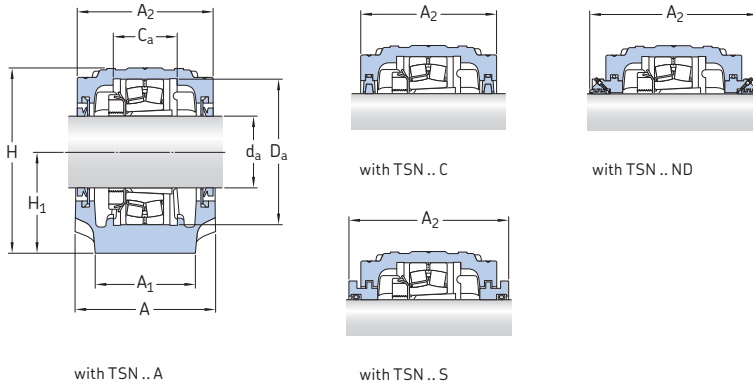


Shaft diameter	Dimensions												Eye bolt acc. to DIN 580	Mass Housing
$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L	N	$N_1$	G		
mm	mm												-	kg
140	235	160	114	290	344	170	60	470	550	42	35	30	M12	55,0

## 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



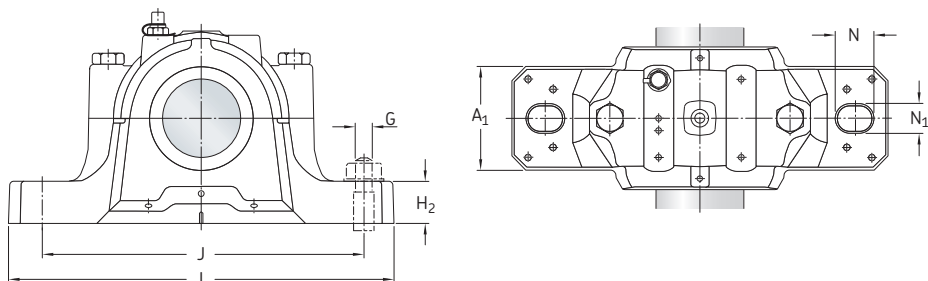
Shaft diameter $d_a$	Housing	Appropriate parts					
		Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–	–	–	–	–	mm
$\frac{3}{4}$ 19,05	SNL 505	1205 EKTN9	HE 205	FRB 5/52	TSN 505 A	ASNH 505	67
		2205 EKTN9	HE 305	FRB 3.5/52	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

<sup>1)</sup> 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

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

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

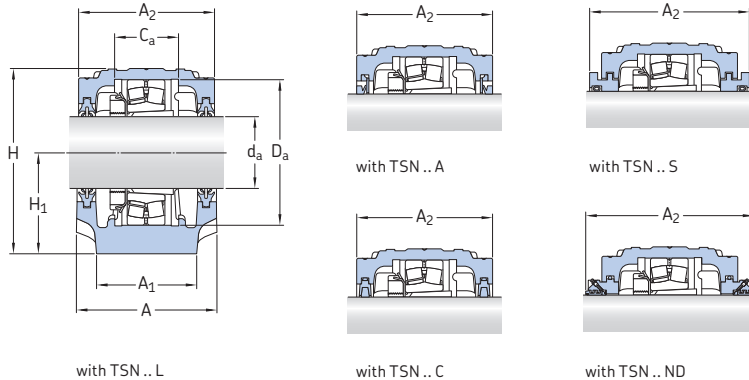




Shaft diameter	Dimensions													Mass Housing	
	$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L	N	$N_1$	G		G
in./mm	mm													in.	kg
$\frac{3}{4}$ 19,05	67	46	25	52	74	40	19	130	165	20	15	12	$\frac{1}{2}$	1,45	
	77	52	32	62	89	50	22	150	185	20	15	12	$\frac{1}{2}$	2,00	
$\frac{15}{16}$ 23,813	77	52	32	62	89	50	22	150	185	20	15	12	$\frac{1}{2}$	2,00	
	82	52	34	72	94	50	22	150	185	20	15	12	$\frac{1}{2}$	2,60	
1 25,4	77	52	32	62	89	50	22	150	185	20	15	12	$\frac{1}{2}$	2,00	
	83	52	34	72	94	50	22	150	185	20	15	12	$\frac{1}{2}$	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

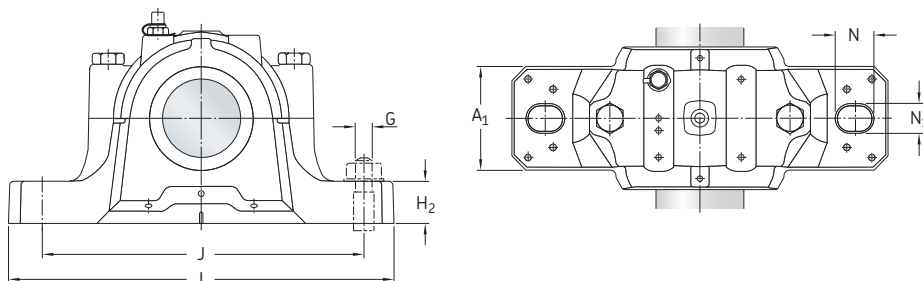


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals
							$A_2$
in./mm	–	–					mm
$1\frac{3}{16}$ 30,163	<b>SE 507-606</b>	1207 EKTN9	HA 207	FRB 8.5/72	TSN 507 L	ASNH 507-606	82
		2207 EKTN9	HA 307	FRB 5.5/72	TSN 507 A		82
		22207 EK	HA 307	FRB 5.5/72	TSN 507 C		82
		C 2207 KTN9	HA 307 E	FRB 5.5/72	TSN 507 SA		94
					TSNA 507 NDA		145
	<b>SE 508-607</b>	1307 EKTN9	HA 307	FRB 9/80	TSN 607 L	ASNH 508-607	85
		2307 EKTN9	HA 2307	FRB 4/80	TSN 607 A		85
		21307 CCK	HA 307	FRB 9/80	TSN 607 C		85
					TSN 607 SA		97
					TSN 607 NDA		145
$1\frac{1}{4}$ 31,75	<b>SE 508-607</b>	1208 EKTN9	HE 208	FRB 10.5/80	TSN 508 AE	ASNH 508-607	85
		2208 EKTN9	HE 308	FRB 8/80	TSN 508 CE		85
		22208 EK	HE 308	FRB 8/80	TSN 508 SE		97
		C 2208 KTN9	HE 308 E	FRB 8/80	TSN 508 NDE		150
	<b>SE 510-608</b>	1308 EKTN9	HE 308	FRB 9/90	TSN 608 AE	ASNH 510-608	90
2308 EKTN9		HE 2308	FRB 4/90	TSN 608 CE	90		
21308 EK		HE 308	FRB 9/90	TSN 608 SE	102		
22308 EK		HE 2308	FRB 4/90	TSN 608 NDE	150		
$1\frac{7}{16}$ 36,513	<b>SE 509</b>	1209 EKTN9	HA 209	FRB 5.5/85	TSN 509 AE	ASNH 509	85
		2209 EKTN9	HA 309	FRB 3.5/85	TSN 509 CE		85
		22209 EK	HA 309	FRB 3.5/85	TSN 509 SA		97
		B52-2209-2CSK	HA 309 E	FRB 1/85	TSN 509 NDA		150
		C 2209 KTN9	HA 309 E	FRB 3.5/85			
		<b>SE 511-609</b>	1309 EKTN9	HA 309	FRB 9.5/100	TSN 609 AE	ASNH 511-609
2309 EKTN9	HA 2309		FRB 4/100	TSN 609 CE	95		
		21309 EK	HA 309	FRB 9.5/100	TSN 609 SA		107
		22309 EK	HA 2309	FRB 4/100	TSN 609 NDA		155

<sup>1)</sup> 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

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

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

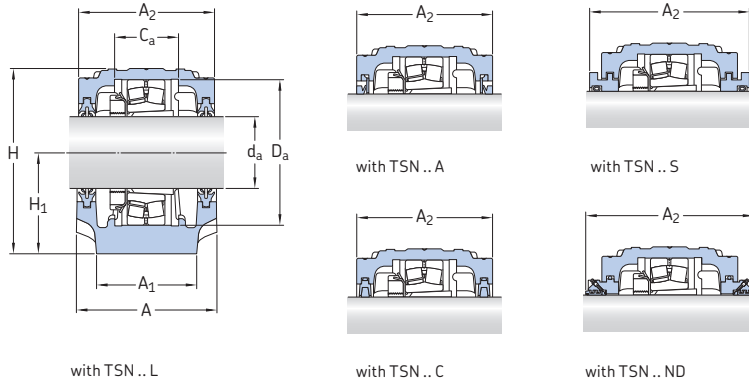


Shaft diameter	Dimensions													Mass Housing	
	$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L	N	$N_1$	G		G
in./mm	mm													in.	kg
$1\frac{3}{16}$ 30,163	83	52	34	72	94	50	22	150	185	20	15	12	$\frac{1}{2}$	2,60	
	85	60	39	80	108	60	25	170	205	20	15	12	$\frac{1}{2}$	2,90	
$1\frac{1}{4}$ 31,75	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

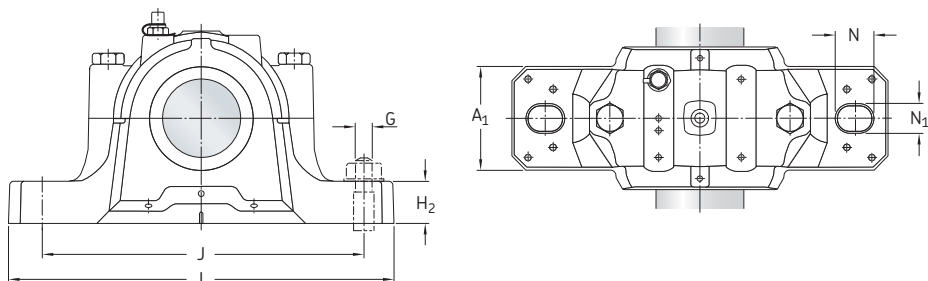


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–	–	–	–	–	mm
1 1/2 38,1	SE 509	1209 EKTN9	HE 209	FRB 5.5/85	TSN 509 AE	ASNH 509	85
		2209 EKTN9	HE 309	FRB 3.5/85	TSN 509 CE		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		

<sup>1)</sup> 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

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

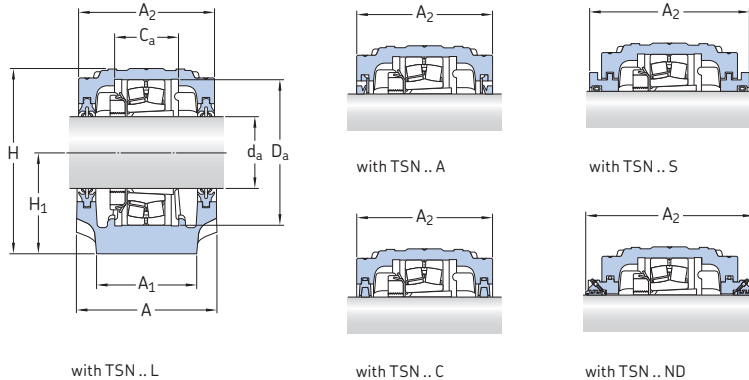
<sup>3)</sup> The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



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

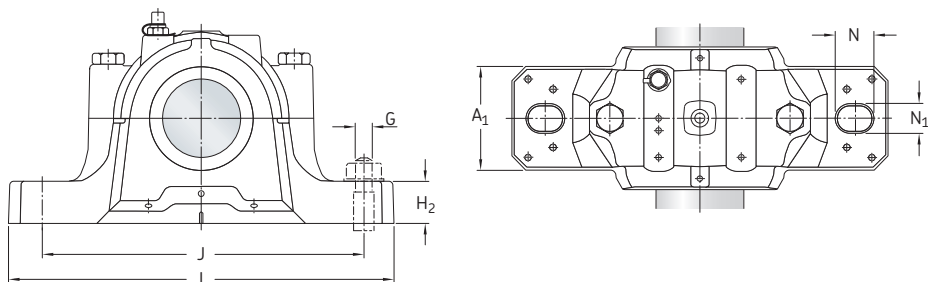


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	-	-					mm
$1\frac{15}{16}$ 49,213	SE 511-609	1211 EKTN9	HA 211	FRB 11.5/100	TSN 511 L	ASNH 511-609	95
		2211 EKTN9	HA 311	FRB 9.5/100	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	ASNH 513-611	110
		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	95
		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	ASNH 513-611	110
		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	110
		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	ASNH 516-613	120
		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

<sup>1)</sup> 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

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

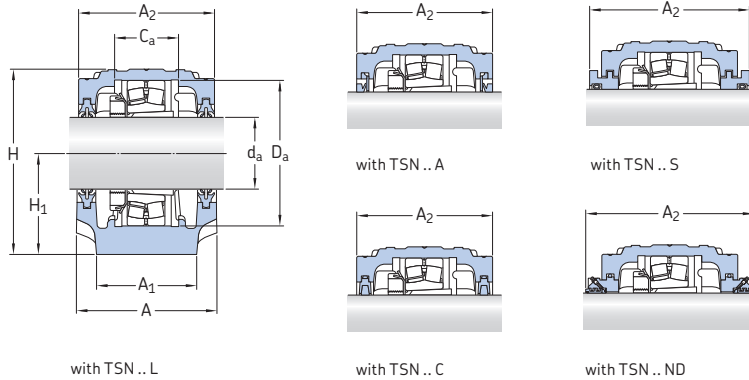
<sup>3)</sup> The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.



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
<b>2</b> 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



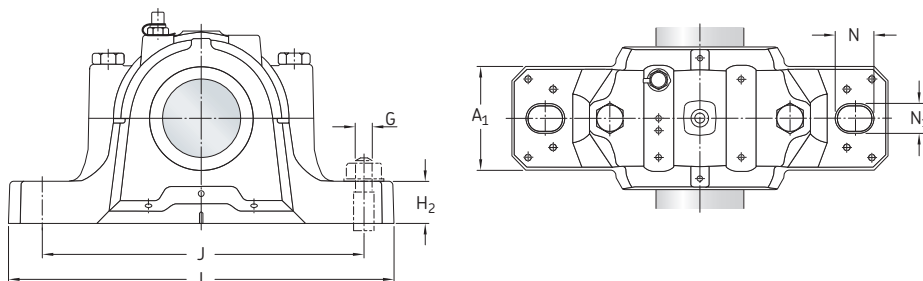
Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
in./mm	–	–					mm
2 1/4 57,15	SE 513-611	1213 EKTN9	HE 213	FRB 14/120	TSN 513 A	ASNH 513-611	110
		2213 EKTN9	HE 313	FRB 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				

<sup>1)</sup> 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

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

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

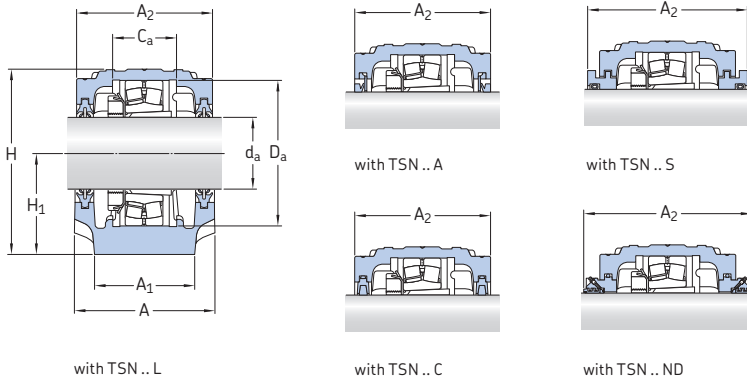




Shaft diameter $d_a$	Dimensions													Mass Housing	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	L	N	N <sub>1</sub>	G	G		
in./mm	mm													in.	kg
<b>2 1/4</b> 57,15	110	80	51	120	150	80	30	230	275	24	18	16	5/8	7,90	
	120	90	58	140	177	95	32	260	315	28	22	20	3/4	9,50	
<b>2 7/16</b> 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	
<b>2 1/2</b> 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

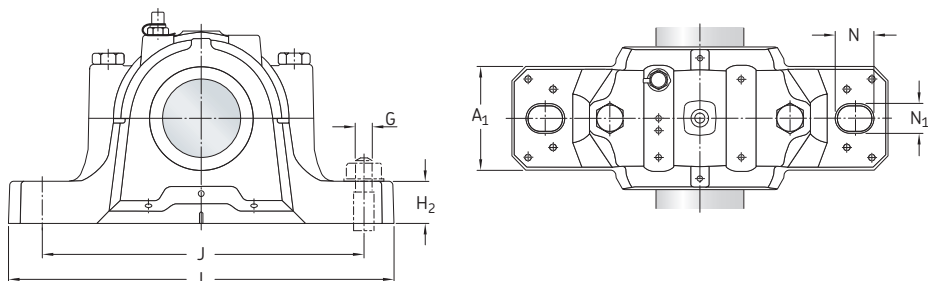


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
in./mm	–	–					mm
$2\frac{11}{16}$ 68,263	<b>SNL 516-613</b>	1216 K 2216 EKTN9 22216 EK B52-2216-2CSK C 2216 K	HA 216 HA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

<sup>1)</sup> 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

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

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

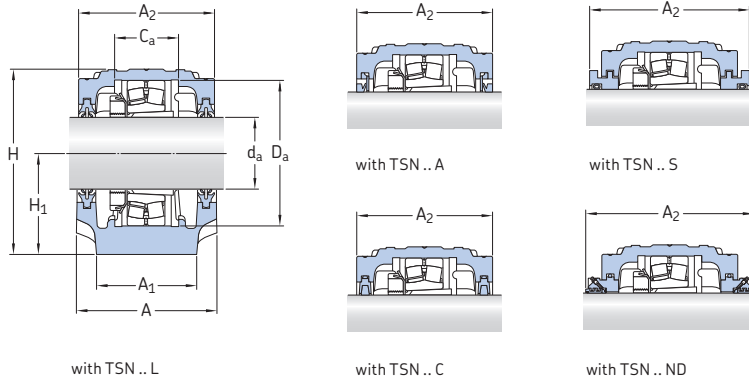


Shaft diameter $d_a$	Dimensions												Mass Housing	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	L	N	N <sub>1</sub>	G	G	in.
in./mm	mm												in.	kg
<b>2<sup>14</sup>/<sub>16</sub></b> 68,263	120	90	58	140	177	95	32	260	315	28	22	20	3/4	9,50
	145	100	68	170	212	112	35	290	345	28	22	20	3/4	13,7
<b>2<sup>3</sup>/<sub>4</sub></b> 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
<b>2<sup>15</sup>/<sub>16</sub></b> 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

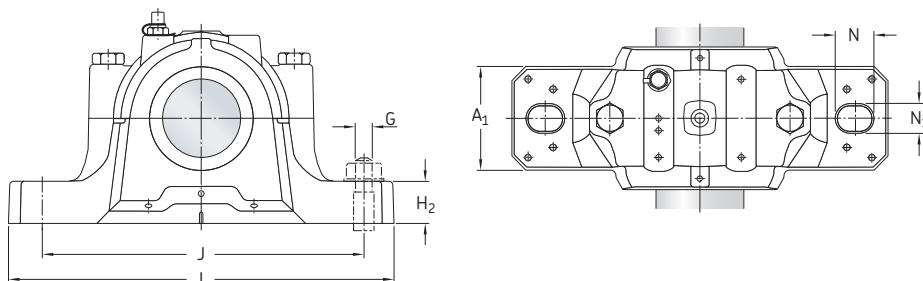


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
in./mm	–	–					mm
3 76,2	SNL 517	1217 K	HE 217	FRB 16.5/150	TSN 517 L	ASNH 517	125
		2217 K	HE 317	FRB 12.5/150	TSN 517 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				

<sup>1)</sup> 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

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

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

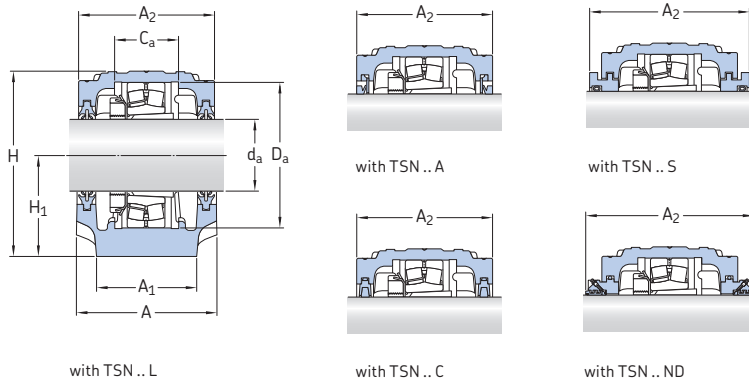


Shaft diameter	Dimensions												Mass Housing	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	L	N	N <sub>1</sub>	G	G	in.
in./mm	mm												in.	kg
<b>3</b> 76,2	125	90	61	150	183	95	32	260	320	28	22	20	3/4	10,0
	160	110	70	180	218	112	40	320	380	32	26	24	7/8	17,6
<b>3 3/16</b> 80,963	140	100	65	160	194	100	35	290	345	28	22	20	3/4	12,5
<b>3 1/4</b> 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

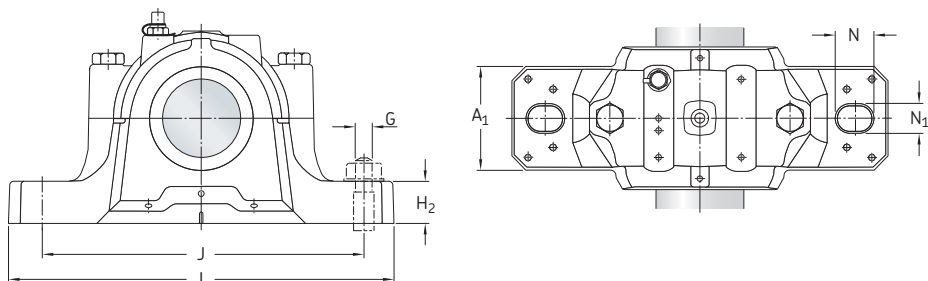


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–					mm
3 7/16 87,313	SNL 520-617	1220 K 2220 KM 22220 EK B52-2220-2CS5K 23220 CCK/W33 C 2220 K	HA 220 HA 320 HA 320 E HA 2320 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 22220 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 22222 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

<sup>1)</sup> 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

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

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

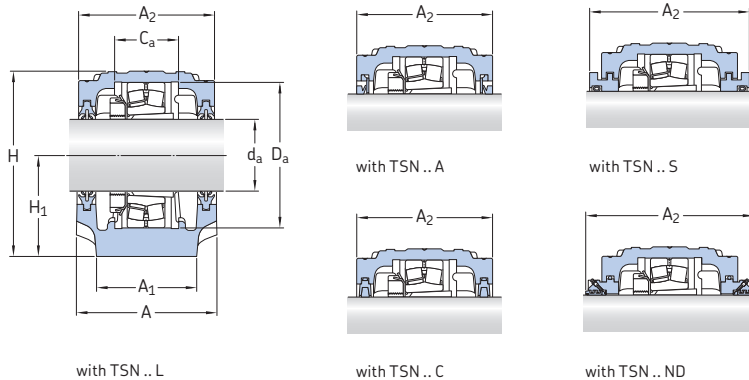


Shaft diameter	Dimensions														Eye bolt acc. to DIN 580	Mass Housing	
	$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L	N	$N_1$	G	G			
in./mm	mm														in.	-	kg
$3\frac{7}{16}$ 87,313	160	110	70	180	218	112	40	320	380	32	26	24	$\frac{7}{8}$	$\frac{7}{8}$	-	17,6	
	185	120	86	215	271	140	45	350	410	32	26	24	$\frac{7}{8}$	$\frac{7}{8}$	M10	26,2	
$3\frac{1}{2}$ 88,9	160	110	70	180	218	112	40	320	380	32	26	24	$\frac{7}{8}$	$\frac{7}{8}$	-	17,6	
	185	120	86	215	271	140	45	350	410	32	26	24	$\frac{7}{8}$	$\frac{7}{8}$	M10	26,2	
$3\frac{15}{16}$ 100,012	175	120	80	200	242	125	45	350	410	32	26	24	$\frac{7}{8}$	$\frac{7}{8}$	-	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



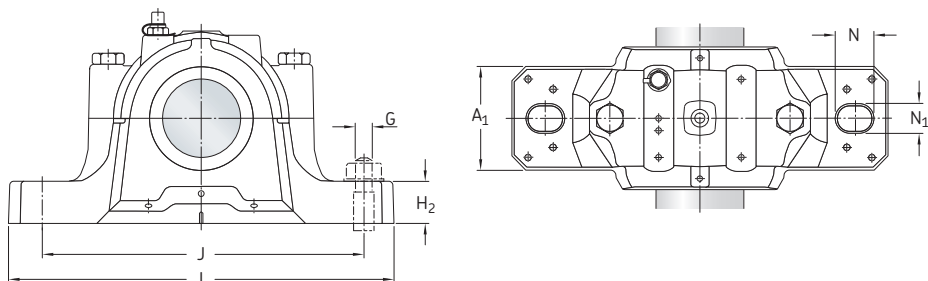
Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–					mm
4 101,6	SNL 522-619	1222 K	HE 222	FRB 21/200	TSN 522 L	ASNH 522-619	175
		2222 KM	HE 322	FRB 13.5/200	TSN 522 A		175
		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

<sup>1)</sup> 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

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

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



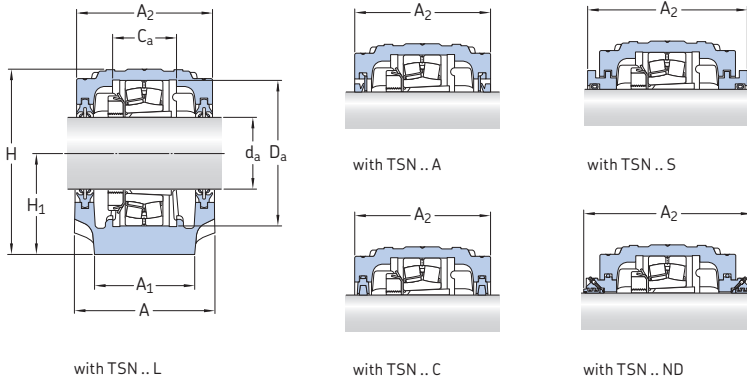


Shaft diameter	Dimensions													Eye bolt acc. to DIN 580	Mass Housing	
	$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L	N	$N_1$	G			G
in./mm	mm													in.	-	kg
<b>4</b> 101,6	175	120	80	200	242	125	45	350	410	32	26	24	7/8	-	22,0	
<b>4 3/16</b> 106,363	185	120	86	215	271	140	45	350	410	32	26	24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

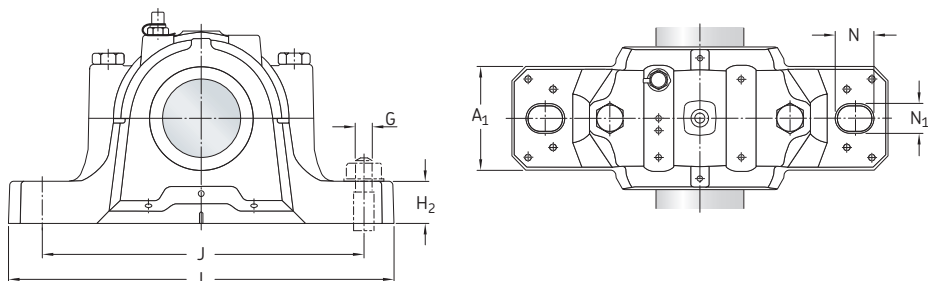


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–					mm
4 15/16 125,413	SNL 528	22228 CCK/W33	HA 3128	FRB 15/250	TSN 528 L	ASNH 528	205
		22228-2CS5K	HA 3128 L	FRB 15/250	TSN 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

<sup>1)</sup> 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

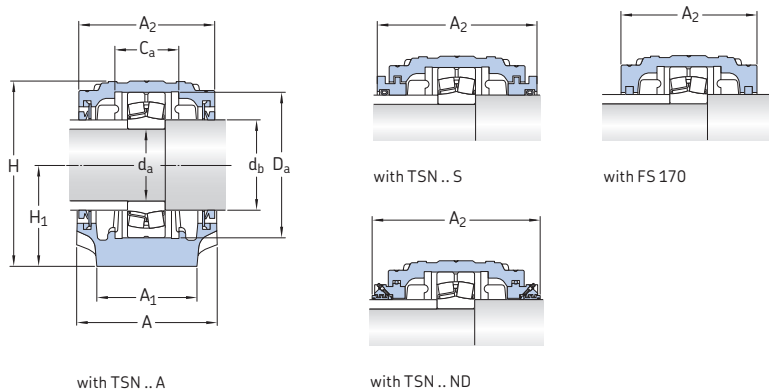
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Other adapter sleeve variants can also be used.

<sup>3)</sup> 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 $\frac{1}{4}$	M12	40,0	
5 127	205	150	98	250	302	150	50	420	500	42	35	30	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 $\frac{1}{4}$	M12	49,0	
$5\frac{1}{4}$ 133,35	220	160	106	270	323	160	60	450	530	42	35	30	1 $\frac{1}{4}$	M12	49,0	
$5\frac{7}{16}$ 138,113	235	160	114	290	344	170	60	470	550	42	35	30	1 $\frac{1}{4}$	M12	55,0	
$5\frac{1}{2}$ 139,7	235	160	114	290	344	170	60	470	550	42	35	30	1 $\frac{1}{4}$	M12	55,0	

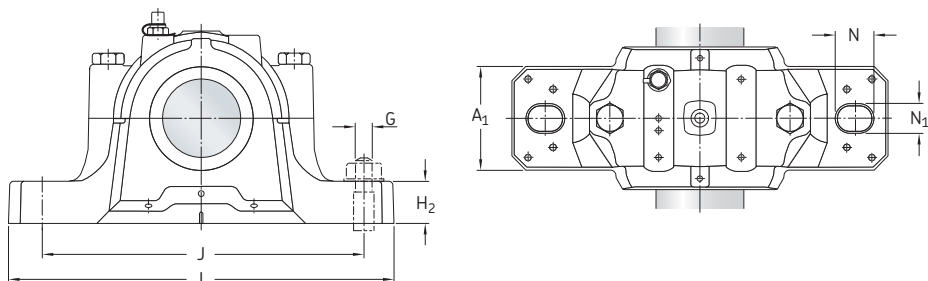
## 2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 25 – 30 mm



Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
mm	-	-	-	-	-	mm
25	SNL 205	1205 ETN9 2205 ETN9 22205 E B52-2205-2CS 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 B52-2205-2CS 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 B52-2206-2CS 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 B52-2206-2CS 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

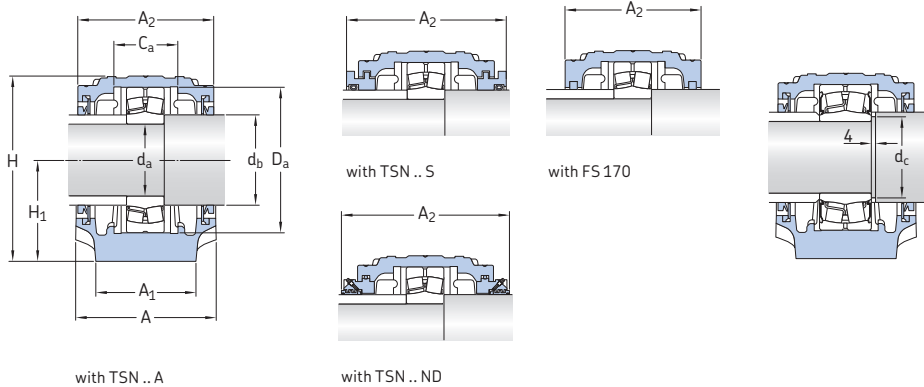
<sup>1)</sup> Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

<sup>2)</sup> 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	
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

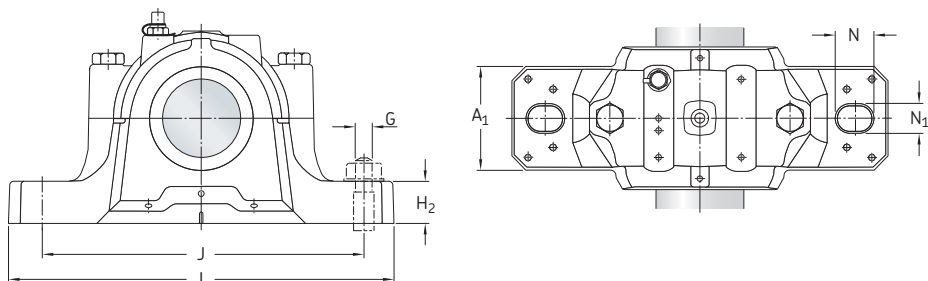


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals $A_2$
mm	-	-	-	-	-	mm
35	SE 207	1207 E	FRB 8.5/72	TSN 207 A	ASNH 509	82
		2207 ETN9	FRB 5.5/72	TSN 207 S		96
		22207 E	FRB 5.5/72	TSN 207 ND		160
	BS2-2207-2CS <sup>3)</sup>	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 <sup>3)</sup>	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 <sup>3)</sup>	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 <sup>3)</sup>	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 <sup>3)</sup>	FRB 1.5/90			

<sup>1)</sup> 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

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

<sup>3)</sup> The shaft must be modified according to the  $d_c$  value for the bearing.

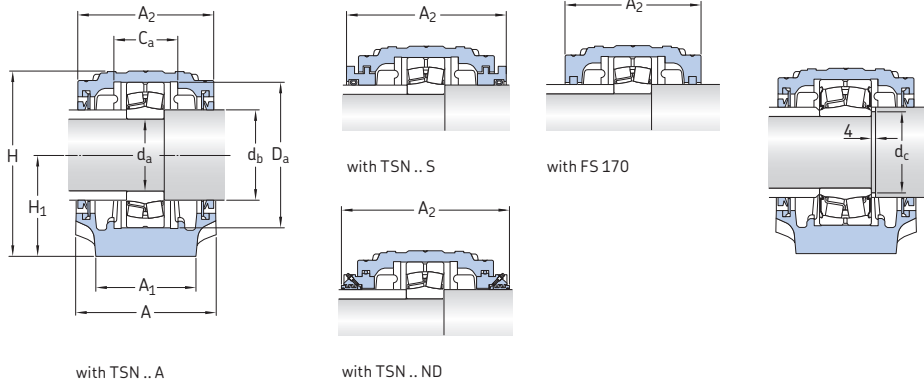


Shaft diameter				Dimensions												Mass Housing
$d_a$	$d_b$	$d_c^{1)}$ min	$d_c^{1)}$ max	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L	N	$N_1$	G	kg
mm				mm												kg
35	45			83	52	34	72	94	50	22	150	185	20	15	12	2,45
		42	43													
	45			83	52	34	72	94	50	22	150	185	20	15	12	2,60
		42	43													
	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													

<sup>1)</sup> 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



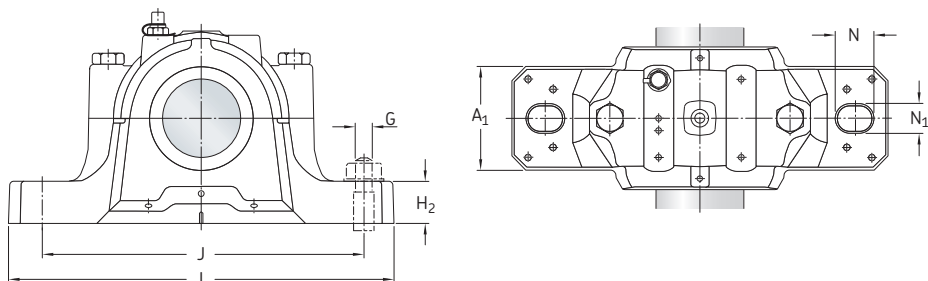
Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals $A_2$
$d_a$						
mm	–	–				mm
45	SE 209	1209 ETN9	FRB 5.5/85	TSN 209 A	ASNH 511-609	85
		2209 ETN9	FRB 3.5/85	TSN 209 S		97
		22209 E	FRB 3.5/85	TSN 209 ND		160
		BS2-2209-2CS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

<sup>1)</sup> 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

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

<sup>3)</sup> The shaft must be modified according to the  $d_c$  value for the bearing.



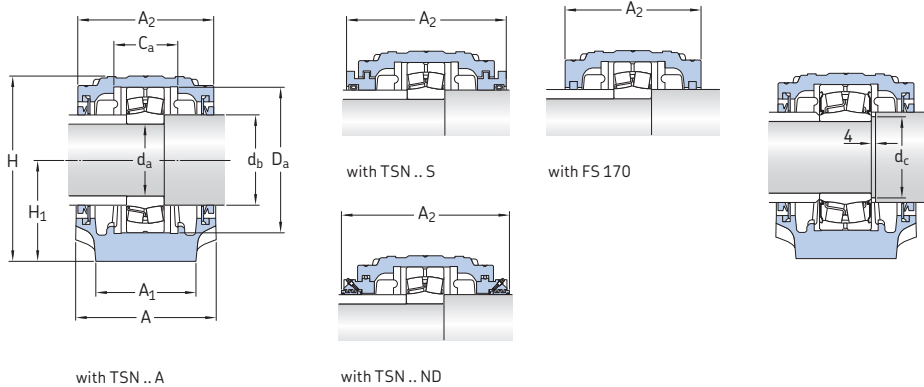


Shaft diameter				Dimensions											Mass Housing	
$d_a$	$d_b$	$d_c^{1)}$ min	$d_c^{1)}$ max	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L	N	$N_1$	G	kg
mm				mm											kg	
45	55			85	60	30	85	109	60	25	170	205	20	15	12	3,20
		52	53													
	55			85	60	30	85	109	60	25	170	205	20	15	12	3,40
		52	53													
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

<sup>1)</sup> 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

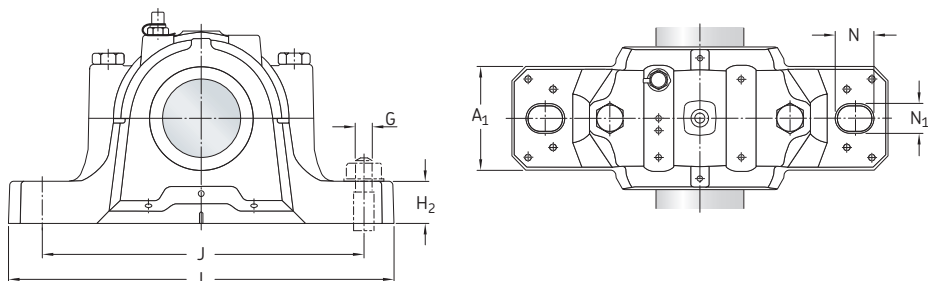


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals $A_2$
mm	–	–	–	–	–	mm
55	SE 211	1211 ETN9 2211 ETN9 22211 E BS2-2211-2CS <sup>3)</sup> C 2211 TN9	FRB 11.5/100 FRB 9.5/100 FRB 9.5/100 FRB 6.5/100 FRB 9.5/100	TSN 211 A TSN 211 S TSN 211 ND	ASNH 513-611	95 107 170
	SE 511-609	1211 ETN9 2211 ETN9 22211 E BS2-2211-2CS <sup>3)</sup> 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 <sup>3)</sup> 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 <sup>3)</sup> 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

<sup>1)</sup> 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

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

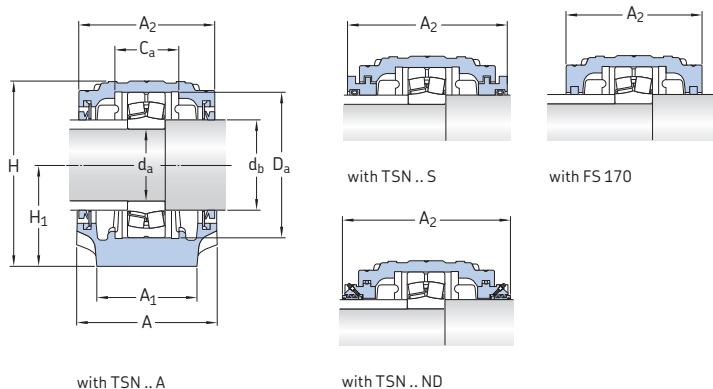
<sup>3)</sup> The shaft must be modified according to the  $d_c$  value for the bearing.



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																	
<b>55</b>	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	
<b>60</b>	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	

<sup>1)</sup> Valid for some sealed spherical roller bearings only.

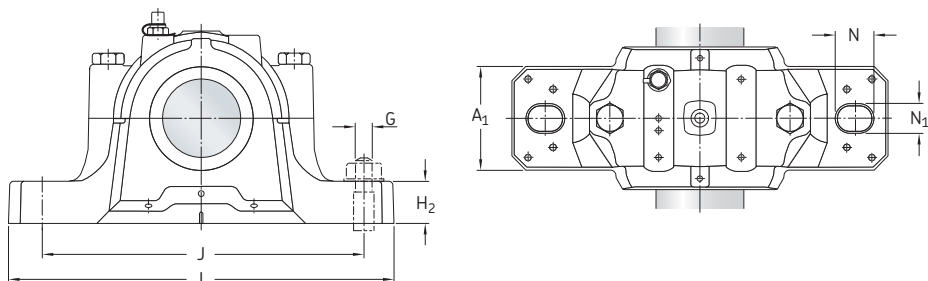
## 2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 65 – 70 mm



Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>						
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				
65	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			
		C 2213 TN9	FRB 10/120			
65	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			

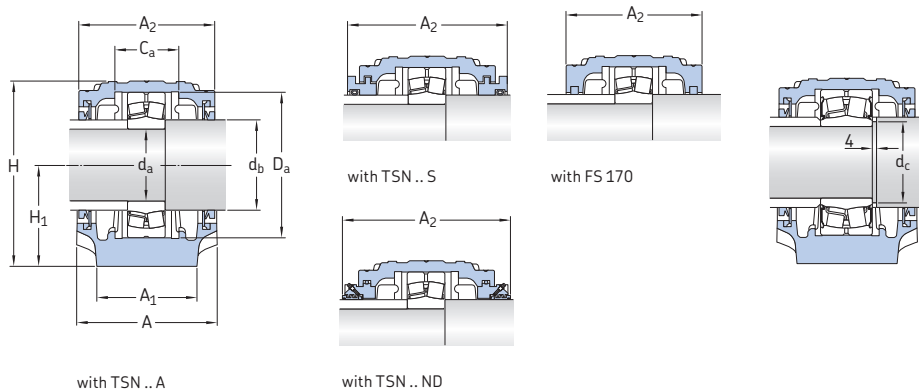
<sup>1)</sup> Only the basic bearing designation is listed. Other bearing variants can also fit the housing. 12(00), 22(00), 13(00) – self-aligning ball bearings, 222(00), 213(00), B52... – spherical roller bearings, C... – CARB toroidal roller bearing

<sup>2)</sup> 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	
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

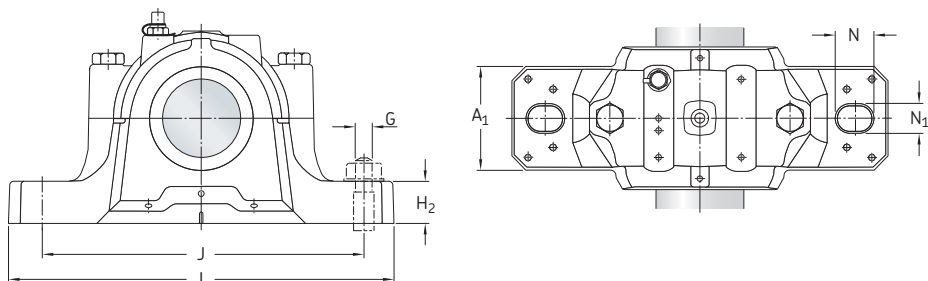


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
mm	–	–	–	–	–	mm
75	SE 215	1215	FRB 15.5/130	TSN 215 A	ASNH 518-615	115
		2215 ETN9	FRB 12.5/130	TSN 215 S		133
		22215 E	FRB 12.5/130	TSN 215 ND		195
		BS2-2215-2CS <sup>3)</sup>	FRB 9/130			
		C 2215	FRB 12.5/130			
	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 <sup>3)</sup>	FRB 9/130			
		C 2215	FRB 12.5/130			
	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			
	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			
	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			

<sup>1)</sup> 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

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

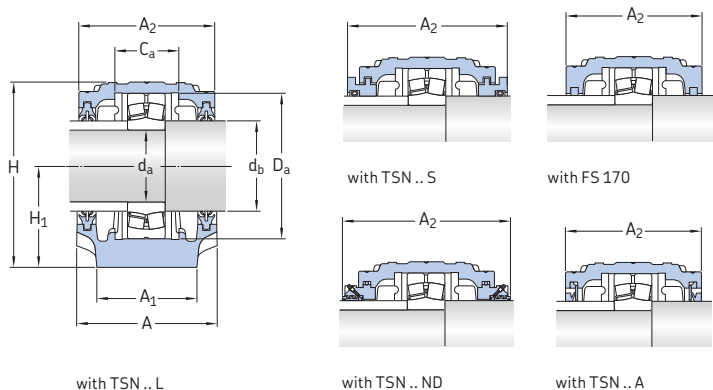
<sup>3)</sup> The shaft must be modified according to the d<sub>c</sub> value for the bearing.



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

<sup>1)</sup> 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

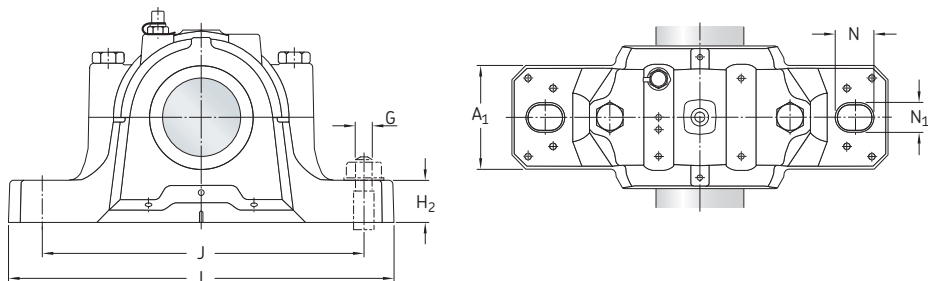


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>						
mm	-	-				mm
85	SNL 217	1217	FRB 16.5/150	TSN 217 A	ASNH 217	125
		2217	FRB 12.5/150	TSN 217 S		143
		22217 E	FRB 12.5/150	TSN 217 ND		205
		BS2-2217-2CS	FRB 8.5/150			
		C 2217	FRB 12.5/150			
	SNL 517	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			
	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				
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				

<sup>1)</sup> 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

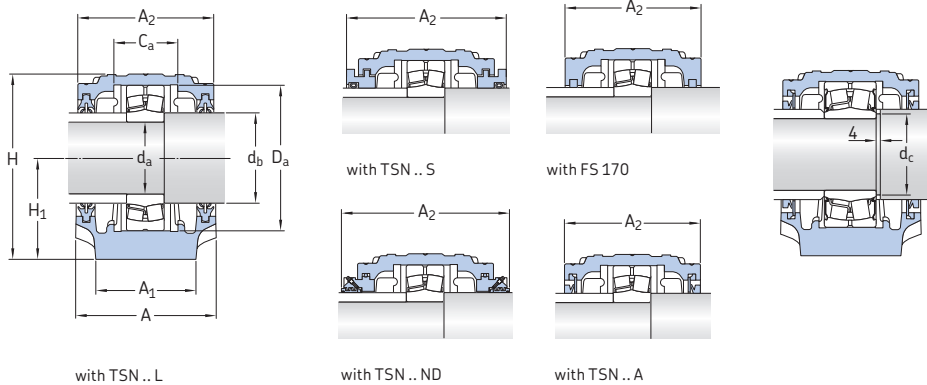
<sup>2)</sup> The locating ring fits the bearing in the same line only. Two locating rings are required for each housing.




**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

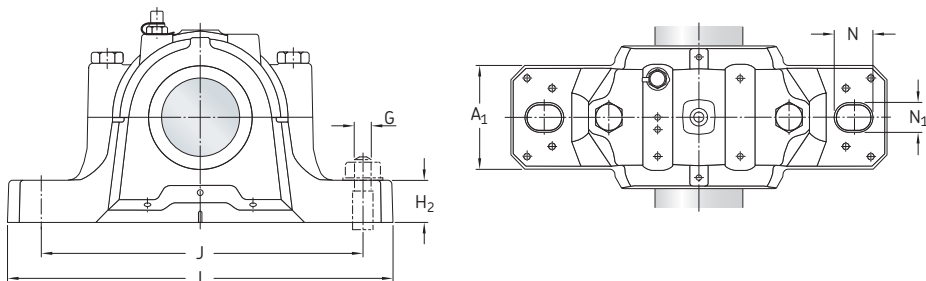


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>						
mm	-	-				mm
95	SNL 522-619	1319	FRB 17.5/200	TSN 319 A	ASNH 522-619	175
		2319 M	FRB 6.5/200	TSN 319 S		191
		21319 E	FRB 17.5/200	TSN 319 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 <sup>3)</sup>	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
		23222 CC/W33	FRB 5.1/200			
C 2222	FRB 13.5/200					
120	SNL 524-620	1224 M	FRB 22/215	TSN 224 L	ASNH 524-620	185
		2224 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			

<sup>1)</sup> 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

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

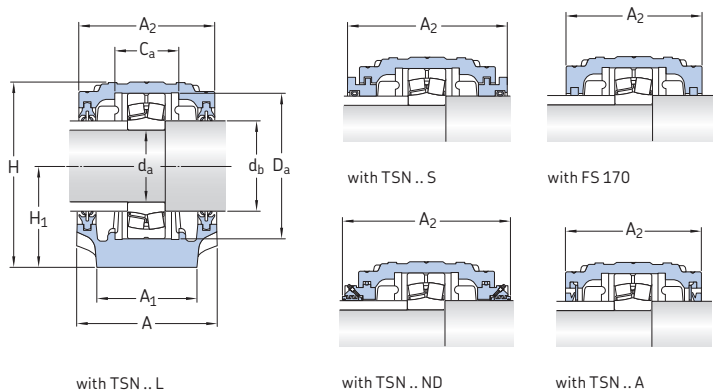
<sup>3)</sup> The shaft must be modified according to the d<sub>c</sub> value for the bearing.



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		mm														-	kg
<b>95</b>	110	-	-	175	120	80	200	242	125	45	350	410	32	26	24	-	22,0
<b>100</b>	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
<b>110</b>	125	-	-	175	120	80	200	242	125	45	350	410	32	26	24	-	22,0
<b>120</b>	135	-	-	185	120	86	215	271	140	45	350	410	32	26	24	M10	26,2

<sup>1)</sup> Valid for some sealed spherical roller bearings only.

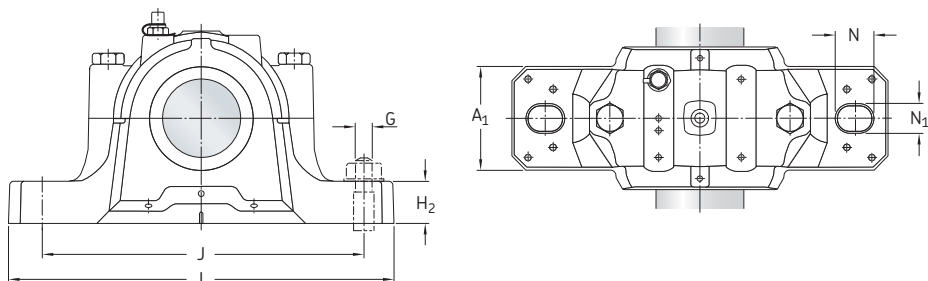
## 2.3 SNL and SE plummer block housings for bearings on a cylindrical seat d 130 – 160 mm



Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>						
mm	–	–				mm
130	SNL 526	1226 M	FRB 22/230	TSN 226 L	ASNH 26	190
		22226 E	FRB 13/230	TSN 226 A		190
		BS2-2226-2CS5	FRB 7.5/230	TSN 226 S		208
		23226 CC/W33	FRB 5/230	TSN 226 ND		275
		23226-2CS5 C 2226	FRB 5/230 FRB 13/230			
140	SNL 528	22228 CC/W33	FRB 15/250	TSN 228 L	ASNH 528	205
		22228-2CS5	FRB 15/250	TSN 228 A		205
		23228 CC/W33	FRB 5/250	TSN 228 S		223
		23228-2CS5	FRB 5/250	TSN 228 ND		290
		C 2228	FRB 15/250			
150	SNL 530	22230 CC/W33	FRB 16.5/270	TSN 230 L	ASNH 530	220
		22230-2CS5	FRB 16.5/270	TSN 230 A		220
		23230 CC/W33	FRB 5/270	TSN 230 S		241
		23230-2CS5	FRB 5/270	TSN 230 ND		310
		C 2230	FRB 16.5/270			
160	SNL 532	22232 CC/W33	FRB 17/290	TSN 232 A	ASNH 532	235
		22232-2CS5	FRB 17/290	TSN 232 S		254
		23232 CC/W33	FRB 5/290	TSN 232 ND		325
		C 3232	FRB 5/290			
			FRB 5/290			

<sup>1)</sup> 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

<sup>2)</sup> 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
<b>130</b>	145	190	130	90	230	290	150	50	380	445	35	28	24	M10	33,0
<b>140</b>	155	205	150	98	250	302	150	50	420	500	42	35	30	M12	40,0
<b>150</b>	165	220	160	106	270	323	160	60	450	530	42	35	30	M12	49,0
<b>160</b>	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

## 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
- 1<sup>5</sup>/<sub>16</sub> 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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# Designations

## Designation system for SE plummer (pillow) block housings

		SE	512-610	TD
<b>Prefix for bolt holes</b>				
–	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)			
<b>Series</b>				
SE	Standard plummer block housing			
<b>Material</b>				
–	Grey cast iron			
D	Spheroidal graphite cast iron			
<b>Size identification</b>				
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]			
<b>Suffixes<sup>1)</sup></b>				
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			

<sup>1)</sup> 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

<b>TSN</b>	Seal for SE plummer block housings
<b>FS</b>	Felt strip
<b>FSB</b>	Felt strip for high operating temperature

#### Size identification

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

#### Seal type

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

#### Indication for an inch shaft

<b>A, E</b>	Seal for inch shaft
-------------	---------------------

### Designation system for end covers

**ASNH 512-610**

#### Series

<b>ASNH</b>	End cover for SE plummer block housings
-------------	---

#### Size identification

<b>...</b>	Housing size identification
------------	-----------------------------

### Designation system for locating rings

**FRB 13/110**

#### Series

<b>FRB</b>	Locating ring for SKF bearing housings
------------	--

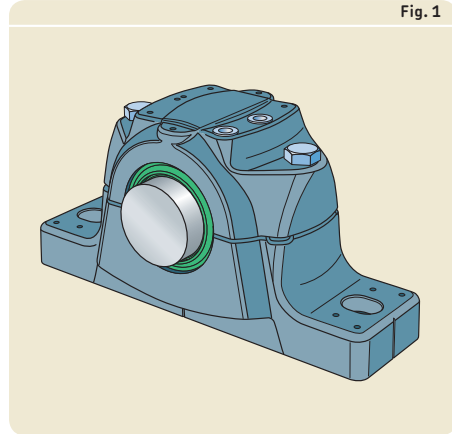
#### Size identification

<b>...</b>	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

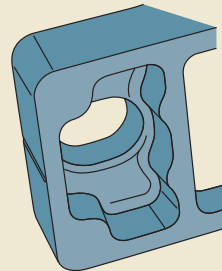


Fig. 3

Enlarged central rib for better support and heat dissipation

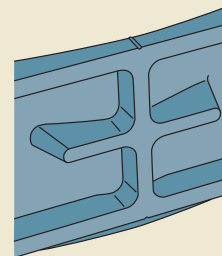
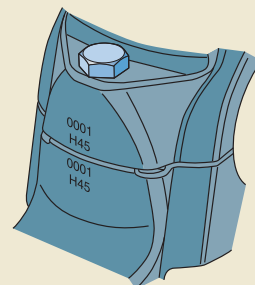


Fig. 4

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

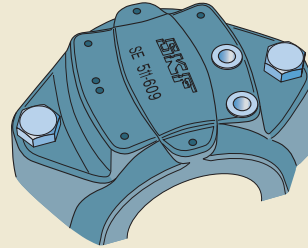
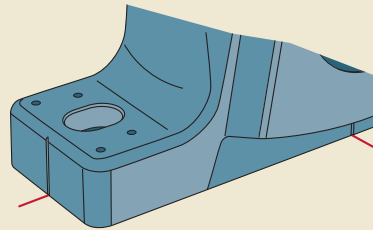


Fig. 6

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

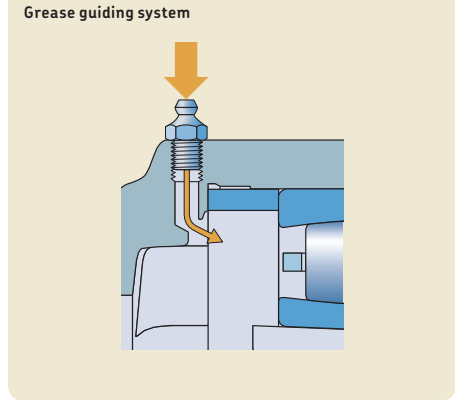


Fig. 8

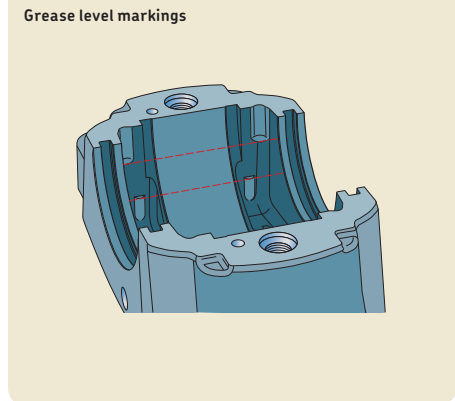
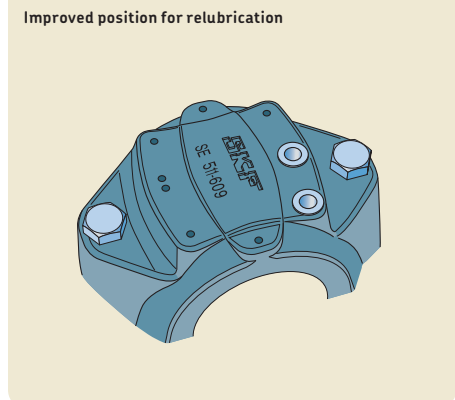


Fig. 9



**New position of grease escape hole**

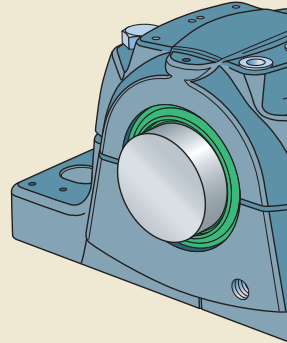
The grease escape hole, on housings with a V suffix, is parallel to the shaft (→ **fig. 10**) for easier access after the housing is mounted. The hole is threaded and plugged.

**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 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 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
- 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 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]

### Suffixes<sup>1)</sup>

- 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

<sup>1)</sup> 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

**A<sup>1)</sup>** V-ring seal  
**C<sup>1)</sup>** Felt seal  
**CB<sup>1)</sup>** Felt seal for high operating temperature  
**L<sup>1)</sup>** Four-lip seal  
**S** Labyrinth seal  
**NB<sup>1)</sup>** Taconite heavy-duty seal with axial labyrinth and V-ring seal  
**NC<sup>1)</sup>** Taconite heavy-duty seal with axial labyrinth  
**ND<sup>1)</sup>** Taconite heavy-duty seal with radial labyrinth and V-ring seal

<sup>1)</sup> 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

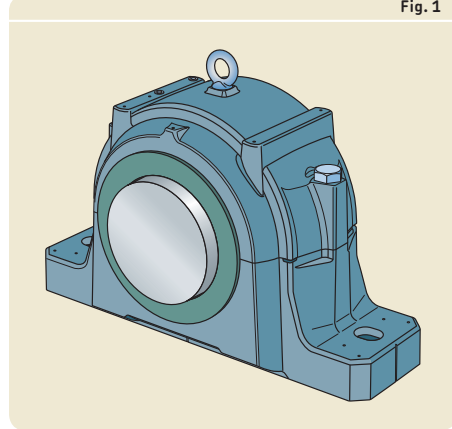
... Width and outside diameter of the locating ring [mm]

## 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.

Fig. 1



4

### 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

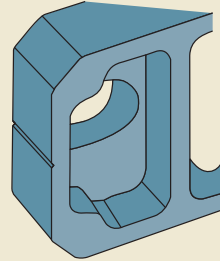


Fig. 3

Centre cross for better heat dissipation

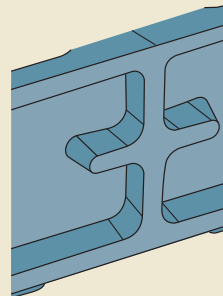
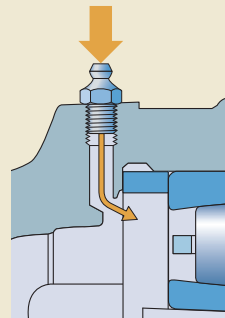


Fig. 4

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 packs<sup>1)</sup>. 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

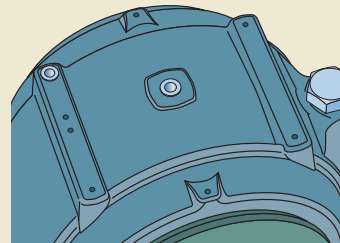
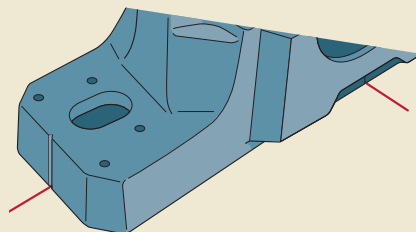


Fig. 7

Cast indications mark the centre of the housing bore



<sup>1)</sup> 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.

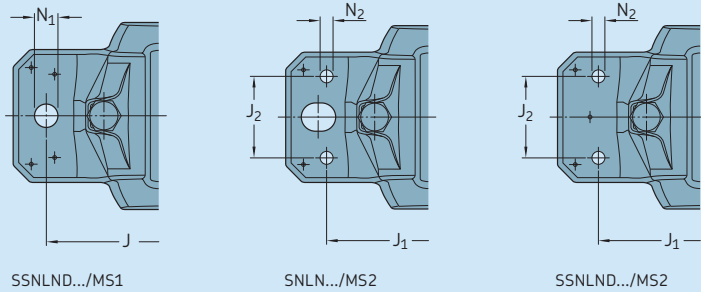
### Bearing seat tolerance

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 <sub>1</sub>	Appropriate bolt size	Dimensions J <sub>1</sub>	J <sub>2</sub>	N <sub>2</sub>	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 ..)

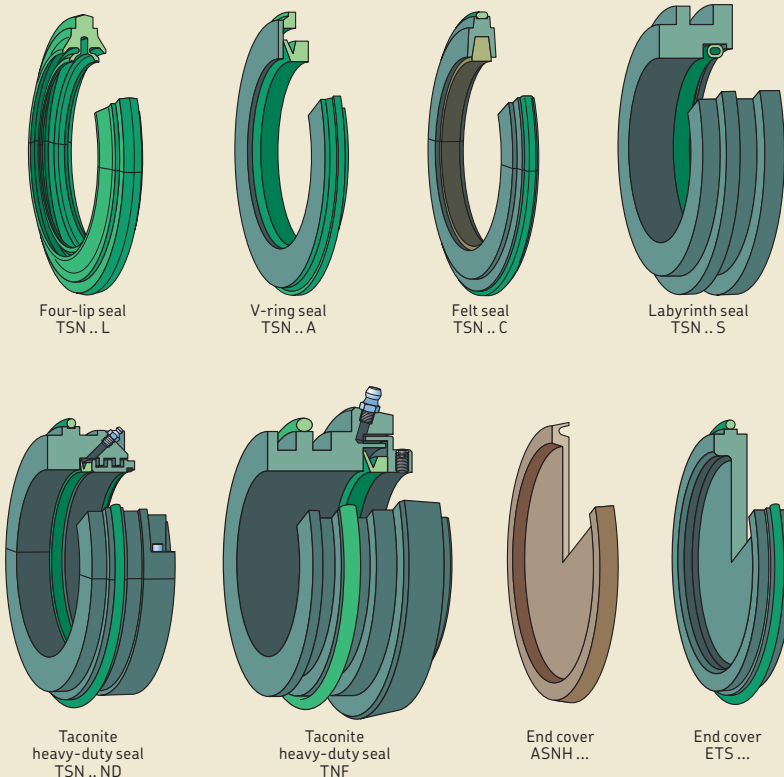
The housing size determines which sealing solutions can be used. **Table 2, page 162**, provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, and does not substitute for testing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

Fig. 8

Standard sealing solutions for SNLN 30 plummer block housings



## 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

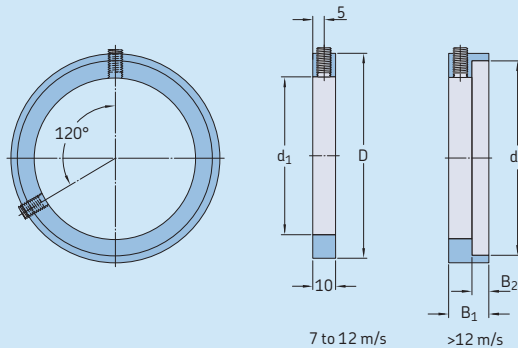
1° for larger shafts. The axial movement of the shaft relative to the housing is limited to  $\pm 1,5$  mm.

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

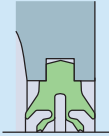
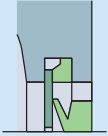
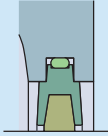


Shaft diameter $d_a, d_b^{1)}$	Dimensions					Grub screw to DIN 913	V-ring seal Standard designation	Alternative designation
	$d_1$	$d_2$	$B_1$	$B_2$	D			
mm	mm					-	-	
<b>110</b>	110	122,9	17,5	7,5	128	M6 x 8	110 VAR	CR 401100
<b>115</b>	115	127,4	17,5	7,5	133	M6 x 8	110 VAR	CR 401100
<b>125</b>	125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



<sup>1)</sup>  $d_a$ : 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 <sup>1)</sup> [m/s]	13	7 <sup>2)</sup>	4
Max. misalignment [°]	0,5	1 to 1,5	0,5
Low friction	++	++	-
Axial shaft displacement	++	-	++
Vertical shaft arrangement	+	++ <sup>3)</sup>	--
Replacement	++	-	+
Shaft tolerance class	h9 	n/a	h9 
Shaft roughness R <sub>a</sub> [μm]	≤ 3,2	n/a	≤ 3,2

### Sealing suitability

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

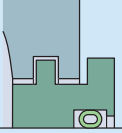

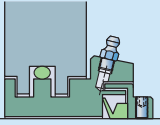
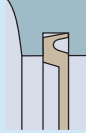




Symbols: n/a not applicable, ++ very suitable, + suitable, - limited suitability, -- unsuitable

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

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

<sup>3)</sup> 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,  $\pm 2$  mm for shaft diameters ranging from 160 to 200 mm and  $\pm 4$  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

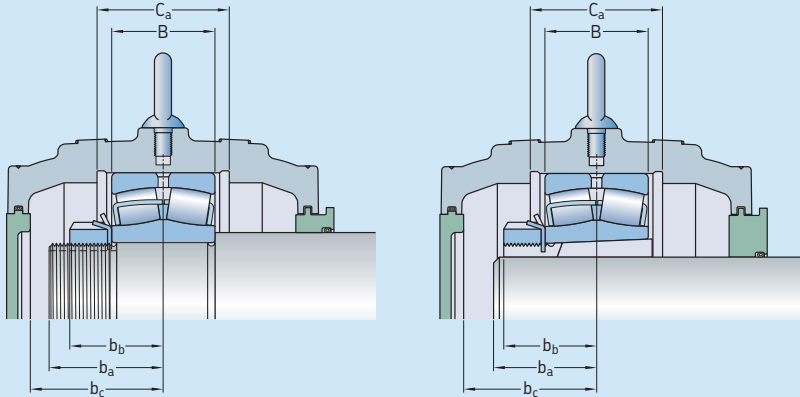
Using sealed bearings in housings with standard seals is a good solution for highly contaminated environments. The sealed bearing together with the housing seal and grease provide three layers of protection ( $\rightarrow$  *SKF three-barrier solution*, **page 39**).

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

<sup>1)</sup> 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

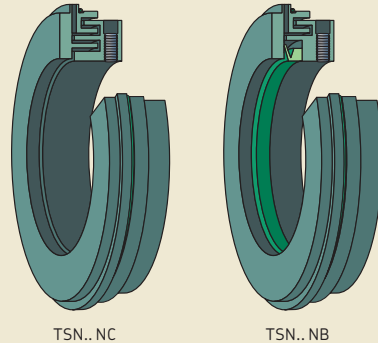


Table 5

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 <sup>1)</sup> [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 <sup>Ⓔ</sup>	h9 <sup>Ⓔ</sup>

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

## Custom seals

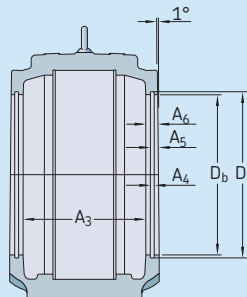
SNLN 30 housings can be equipped with any type of seal that fits the seal groove dimensions in the housing. The relevant dimensions are provided in **table 6**.

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

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Table 6

### Seal groove dimensions



Housing Size	Dimensions					
	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	A <sub>6</sub>	D <sub>b</sub>	D <sub>c</sub>
–	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](http://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.

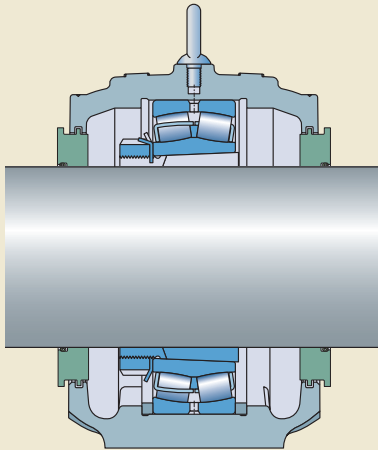
### Locating and non-locating bearing positions

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

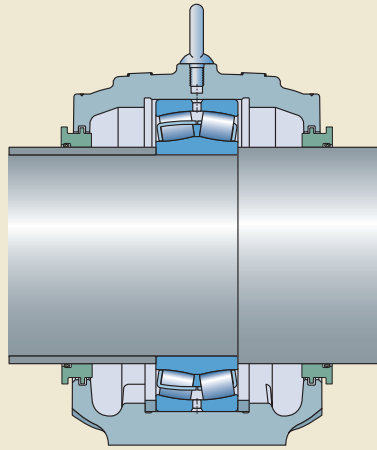
The housings are machined standard for bearings in the non-locating position. Bearings in the locating position as well as CARB toroidal roller bearings must be secured in the housing on both sides with locating rings. Appropriate locating rings are listed in the product tables.

Fig. 10

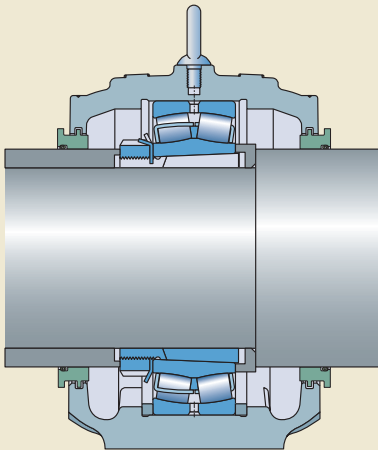
4



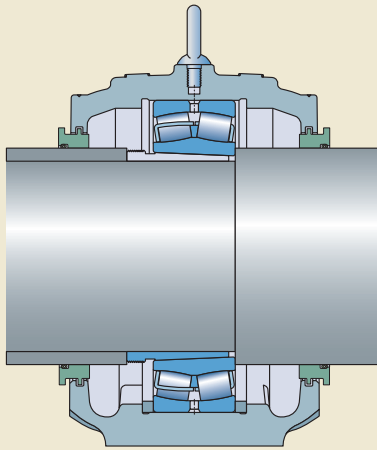
Plain shaft with bearing on an adapter sleeve



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.

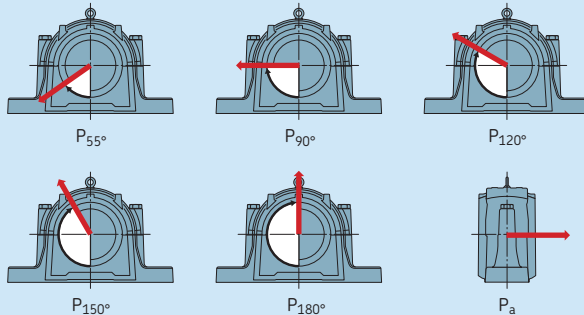
**Breaking loads and safety factors**

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 <sub>55°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>	P <sub>a</sub>
–	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  $P_{180^\circ}$  (→ **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.

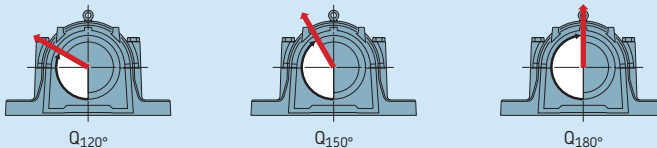
Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 11** on **page 177**.

**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	
	$Q_{120^\circ}$	$Q_{150^\circ}$	$Q_{180^\circ}$			Size	Tightening torque <sup>1)</sup>
–	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

<sup>1)</sup> 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.

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

### 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](http://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](http://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



## 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](http://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/cm<sup>3</sup>). 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	
<b>SNLN 3024</b>	0,25	0,45
<b>SNLN 3026</b>	0,35	0,65
<b>SNLN 3028</b>	0,50	0,70
<b>SNLN 3030</b>	0,50	0,90
<b>SNLN 3032</b>	0,50	1,0
<b>SNLN 3034</b>	0,75	1,4
<b>SNLN 3036</b>	0,95	1,8
<b>SNLN 3038</b>	1,0	1,9
<b>SNLN 3040</b>	1,1	2,0
<b>SNLN 3044</b>	1,5	2,7
<b>SNLN 3048</b>	1,5	2,8
<b>SNLN 3052</b>	2,1	3,8
<b>SNLN 3056</b>	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

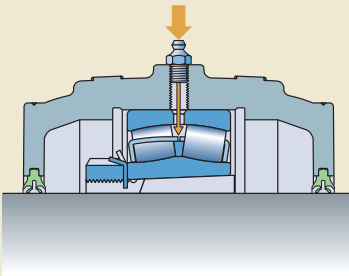


Fig. 13

Relubrication from the side

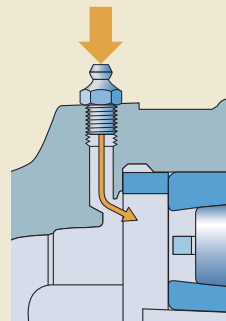
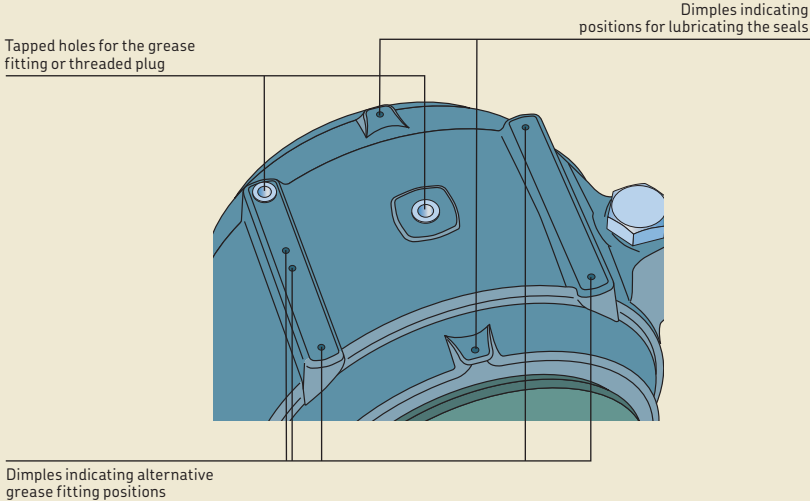


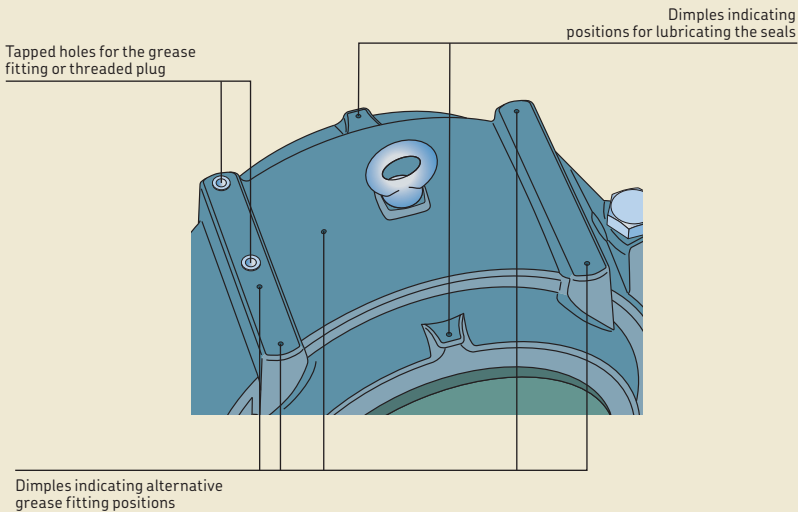
Fig. 11

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**.

Fig. 14

V-ring and splash plate set mounted in an SNLN 30 housing

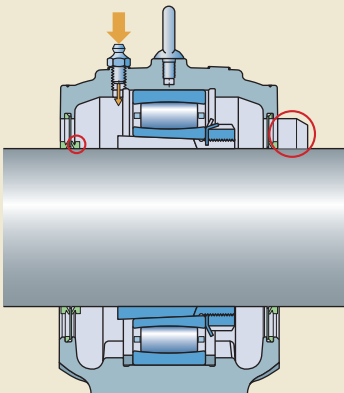
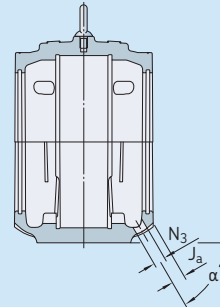


Table 10

Recommended dimensions for grease escape hole



Housing Size	Dimensions		
	$J_a$	$N_3$	$\alpha$
–	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](http://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**.

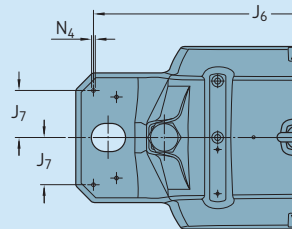
### Pinning or supporting the housing

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 <sub>6</sub>	J <sub>7</sub>	N <sub>4</sub>
–	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.

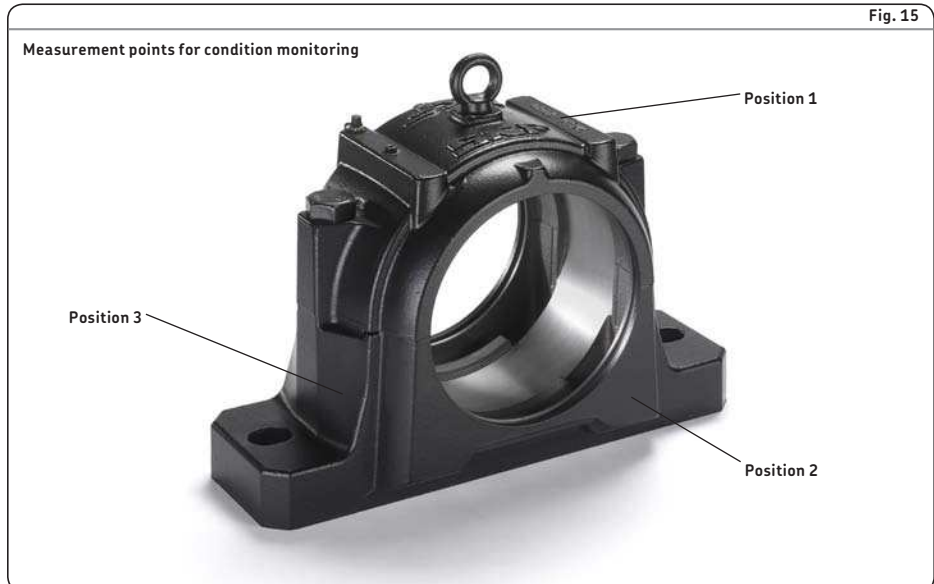
**Position 3** is a measurement point that is approximately 20° to 45° to the shaft axis.

## 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

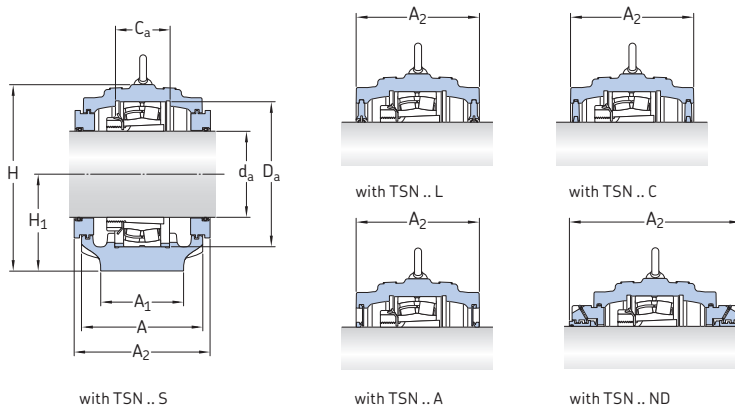
Two plummer block housings with four-lip seals are required for two 23024 CCK/W33 spherical roller bearings on H 3024 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing and a through shaft.

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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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

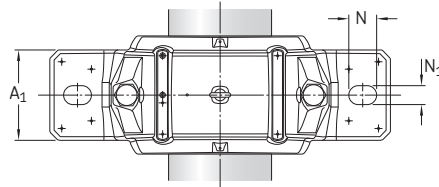
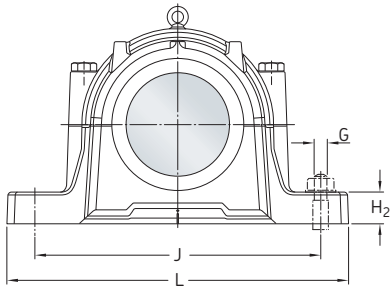
<sup>1)</sup> Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

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

<sup>2)</sup> The adapter sleeve fits the bearing in the same row only.

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

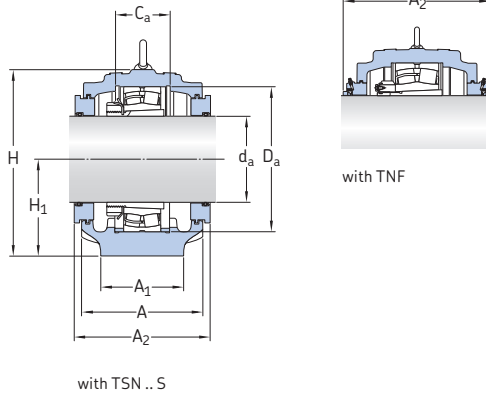




Shaft diameter $d_a$	Dimensions Housing												Eye bolt according to DIN 580	Mass Housing
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	L	N	N <sub>1</sub>	G		
mm	mm												-	kg
110	160	110	70	180	218	112	40	320	380	32	26	24	-	17,5
115	175	120	79	200	242	125	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



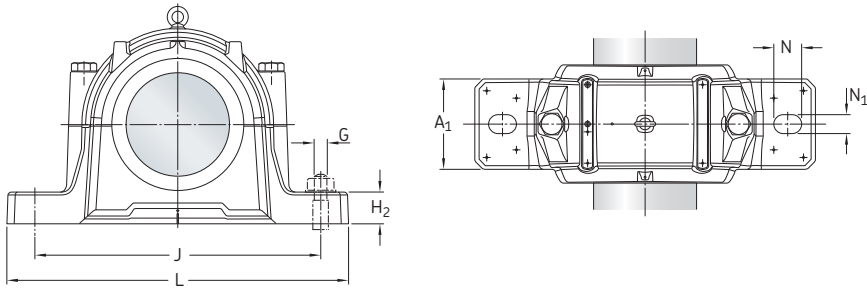
Shaft diameter $d_a$	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width
							incl. seals $A_2$
mm	–	–					mm
150	SNLN 3034	23034 CCK/W33	H 3034	FRB 10/260	TSN 3034 S	ETS 3034	230
		23034-2CS5K C 3034 K	H 034 E H 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

<sup>1)</sup> 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

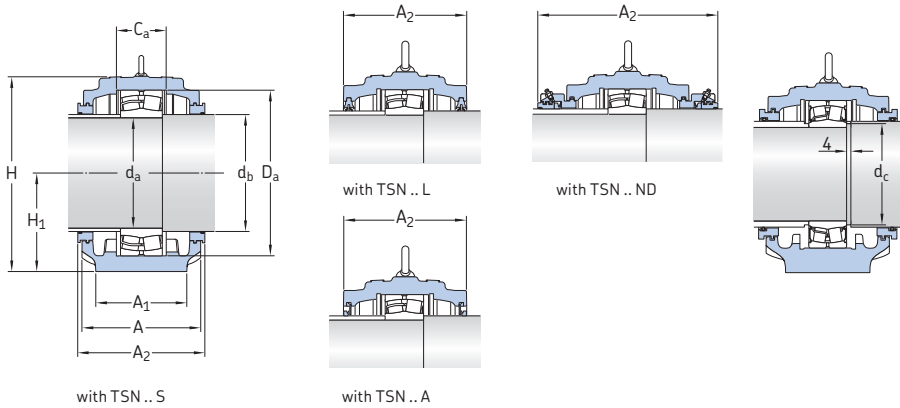
<sup>2)</sup> The adapter sleeve fits the bearing in the same row only.

<sup>3)</sup> 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 <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	L	N	N <sub>1</sub>	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

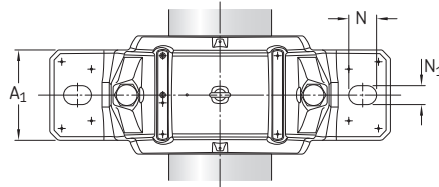
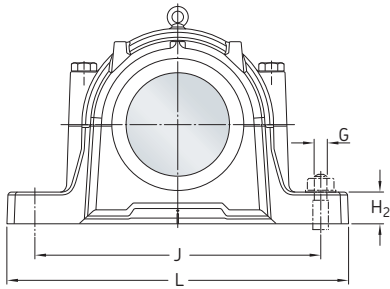
## 4.2 SNLN 30 plummer block housings for bearings on a cylindrical seat d 120 – 150 mm



Shaft diameter	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>						
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					

<sup>1)</sup> 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

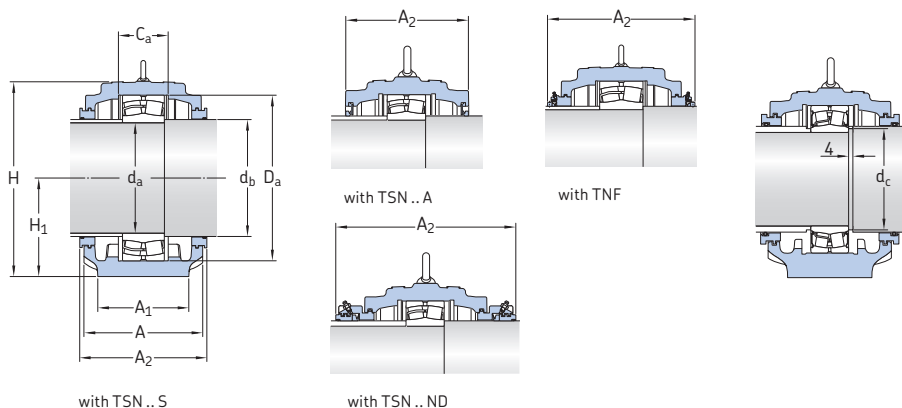
<sup>2)</sup> The locating ring fits the bearing in the same row only. Two locating rings are required.



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
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														

<sup>1)</sup> Valid for the sealed spherical roller bearing in the same row only.

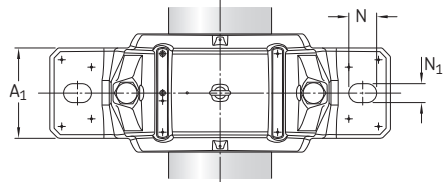
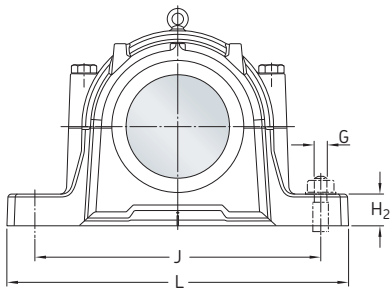
## 4.2 SNLN 30 plummer block housings for bearings on a cylindrical seat d 160 – 280mm



Shaft diameter	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>						
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	FRB 10/290	TSN 3038/205 S	ETS 3038	255
		C 3038	FRB 10/290	TNF 3038/205		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

<sup>1)</sup> 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

<sup>2)</sup> 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	

<sup>1)</sup> 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

### Suffixes<sup>1)</sup>

– 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

<sup>1)</sup> 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

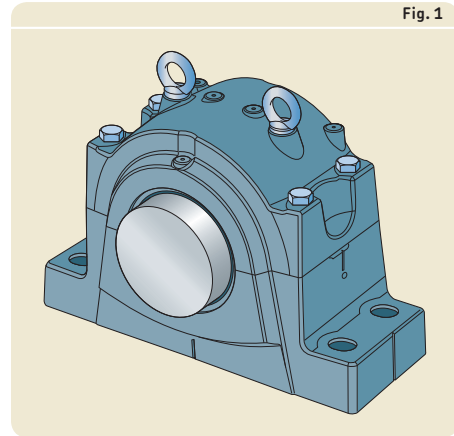
**FRB** Locating ring for SKF bearing housings

#### 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

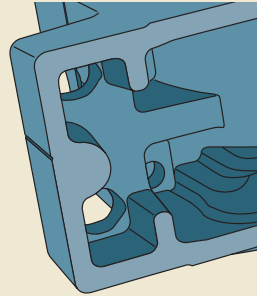


Fig. 3

Centre cross for better heat conduction

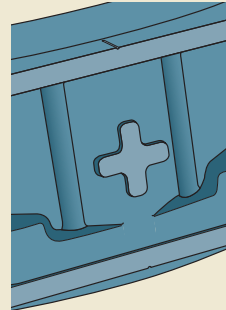


Fig. 4

Individually marked cap and base

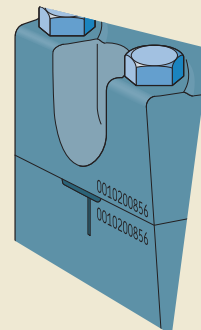


Fig. 5

Dimples indicate positions for accessories

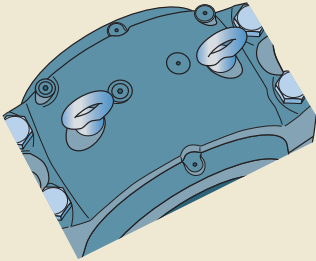
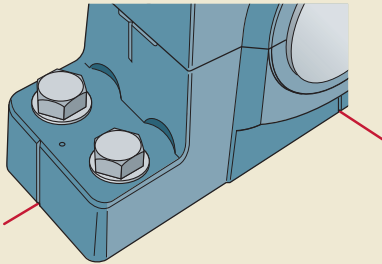


Fig. 6

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.

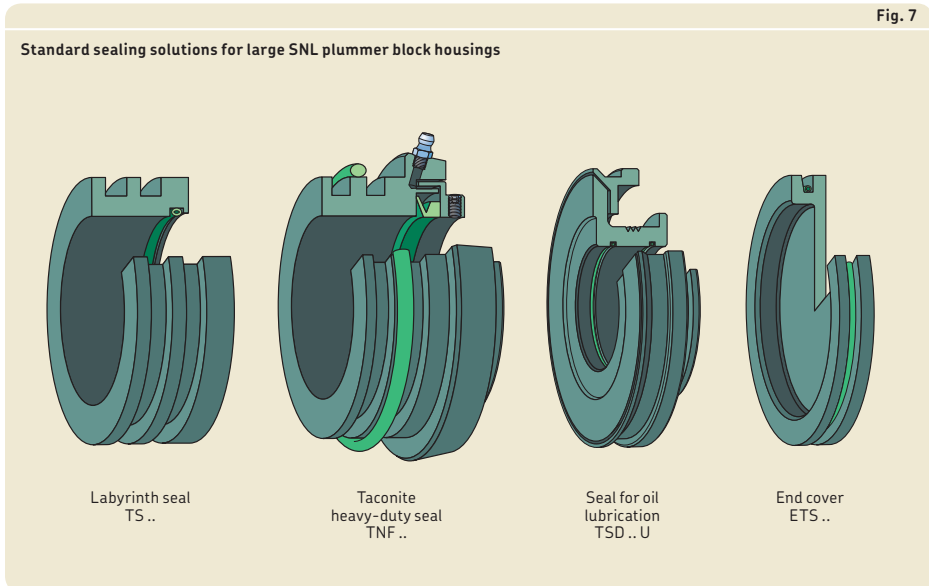
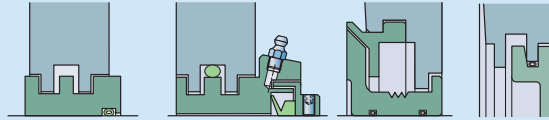




Table 1

## Standard seals for large SNL plummer block housings



## Seal

Type	Labyrinth	Taconite	Oil	End cover
Designation	TS ..	TNF ..	TSD .. U <sup>1)</sup>	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 <sup>Ⓔ</sup>	h9 <sup>Ⓔ</sup>	h9 <sup>Ⓔ</sup>	n/a
Shaft roughness R <sub>a</sub> [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

<sup>1)</sup> 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  $\pm 2$  mm for shaft diameters up to 200 mm and  $\pm 4$  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**.

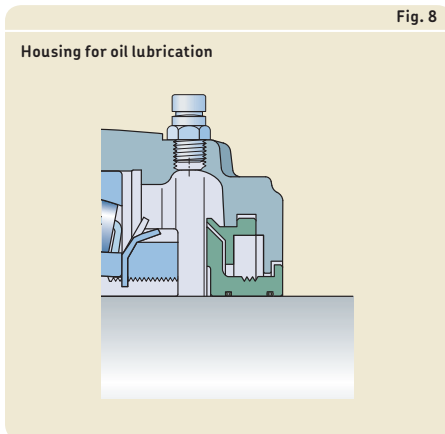
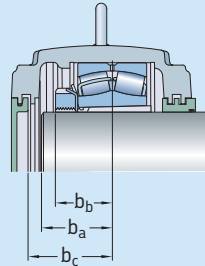
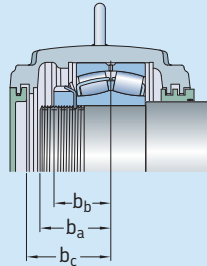


Table 2

## Permissible length of a shaft end



Housing Size	Bearing	Dimensions			
		$b_a$ min	$b_a$ max <sup>1)</sup>	$b_b$	$b_c$
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

Housing Size	Bearing	Dimensions			
		$b_a$ min	$b_a$ max <sup>1)</sup>	$b_b$	$b_c$
mm					
–	–	–	–	–	–
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

<sup>1)</sup> 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.

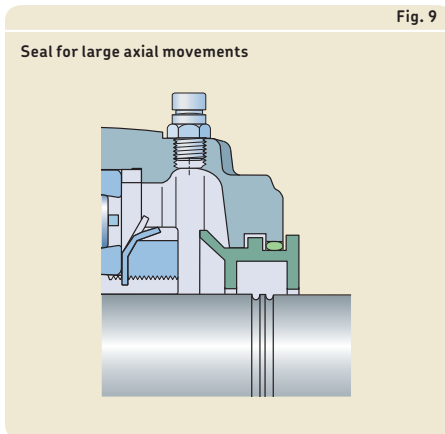
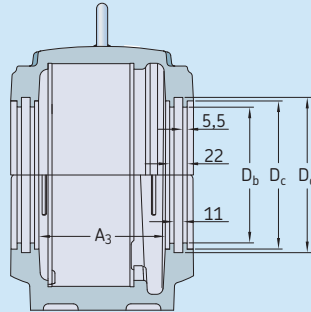


Table 3

## Seal groove dimensions

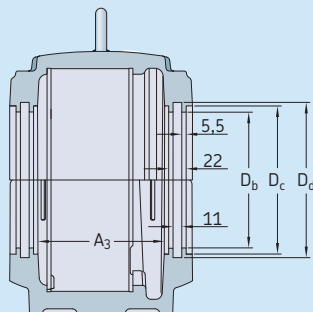


Housing Size	Dimensions				Housing Size	Dimensions			
	A <sub>3</sub>	D <sub>b</sub>	D <sub>c</sub>	D <sub>d</sub>		A <sub>3</sub>	D <sub>b</sub>	D <sub>c</sub>	D <sub>d</sub>
–	mm				–	mm			
<b>SNL 3036</b>	158	181,2	196,4	205,2	<b>SNL 3176</b>	328	382,4	397,4	406,4
<b>SNL 3038</b>	168	191,4	206,4	215,4	<b>SNL 3180</b>	358	402,8	417,8	426,8
<b>SNL 3040</b>	186	201,4	216,4	225,4	<b>SNL 3184</b>	388	422,8	437,8	446,8
<b>SNL 3044</b>	206	221,4	236,4	245,4	<b>SNL 3188</b>	388	442,8	457,8	466,8
<b>SNL 3048</b>	214	241,4	256,4	265,4	<b>SNL 3192</b>	398	463	478	487
<b>SNL 3052</b>	231	261,6	276,6	285,6	<b>SNL 3196</b>	398	483	498	507
<b>SNL 3056</b>	249	281,6	296,6	305,6	<b>SNL 3234</b>	186	201,4	216,4	225,4
<b>SNL 3060</b>	249	301,6	316,6	325,6	<b>SNL 3236</b>	187	191,4	206,4	215,4
<b>SNL 3064</b>	279	321,8	336,8	345,8	<b>SNL 3238</b>	207	201,4	216,4	225,4
<b>SNL 3068</b>	299	342,4	357,4	366,4	<b>SNL 3240</b>	214	241,4	256,4	265,4
<b>SNL 3072</b>	297	362,4	377,4	386,4	<b>SNL 3244</b>	231	241,4	256,4	265,4
<b>SNL 3076</b>	328	382,4	397,4	406,4	<b>SNL 3248</b>	249	261,6	276,6	285,6
<b>SNL 3080</b>	328	402,8	417,8	426,8	<b>SNL 3252</b>	279	321,8	336,8	345,8
<b>SNL 3084</b>	328	422,8	437,8	446,8	<b>SNL 3256</b>	280	301,6	316,8	325,6
<b>SNL 3088</b>	358	442,8	457,8	466,8	<b>SNL 3260</b>	300	321,8	336,8	345,8
<b>SNL 3092</b>	388	463	478	487	<b>SNL 3264</b>	328	342,4	357,4	366,4
<b>SNL 3096</b>	388	483	498	507	<b>SNL 3268</b>	328	382,4	397,4	406,4
<b>SNL 30/500</b>	388	503	518	527	<b>SNL 3272</b>	358	402,8	417,8	426,8
<b>SNL 30/530</b>	398	533	548	557	<b>SNL 3276</b>	388	463	478	487
<b>SNL 3134</b>	159	171,2	186,4	195,2	<b>SNL 3280</b>	388	442,8	457,8	466,8
<b>SNL 3136</b>	169	181,2	196,4	205,2	<b>SNL 3284</b>	398	463	478	487
<b>SNL 3138</b>	187	191,4	206,4	215,4	<b>SNL 3288</b>	398	483	498	507
<b>SNL 3140</b>	207	201,4	216,4	225,4					
<b>SNL 3144</b>	215	221,4	236,4	245,4					
<b>SNL 3148</b>	231	241,4	256,4	265,4					
<b>SNL 3152</b>	249	261,6	276,6	285,6					
<b>SNL 3156</b>	249	281,6	296,6	305,6					
<b>SNL 3160</b>	280	301,6	316,8	325,6					
<b>SNL 3164</b>	300	321,8	336,8	345,8					
<b>SNL 3168</b>	328	342,4	357,4	366,4					
<b>SNL 3172</b>	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 <sub>3</sub>	D <sub>b</sub>	D <sub>c</sub>	D <sub>d</sub>		A <sub>3</sub>	D <sub>b</sub>	D <sub>c</sub>	D <sub>d</sub>
–	mm				–	mm			
<b>SNL 3036 G</b>	156	221,4	236,4	245,4	<b>SNL 3176 G</b>	325	422,8	437,8	446,8
<b>SNL 3038 G</b>	166	221,4	236,4	245,4	<b>SNL 3180 G</b>	354	463	478	487
<b>SNL 3040 G</b>	184	241,4	256,4	265,4	<b>SNL 3184 G</b>	384	483	498	507
<b>SNL 3044 G</b>	203	261,6	276,6	285,6	<b>SNL 3188 G</b>	384	503	518	527
<b>SNL 3048 G</b>	211	281,6	296,6	305,6	<b>SNL 3192 G</b>	395	533	548	557
<b>SNL 3052 G</b>	228	301,6	316,8	325,6	<b>SNL 3196 G</b>	394	563	578	587
<b>SNL 3056 G</b>	247	321,8	336,8	345,8	<b>SNL 3234 G</b>	186	201,4	216,4	225,4
<b>SNL 3060 G</b>	247	342,4	357,4	366,4	<b>SNL 3236 G</b>	185	221,4	236,4	245,4
<b>SNL 3064 G</b>	277	362,4	377,4	386,4	<b>SNL 3238 G</b>	204	241,4	256,4	265,4
<b>SNL 3068 G</b>	295	382,4	397,4	406,4	<b>SNL 3240 G</b>	214	241,4	256,4	265,4
<b>SNL 3072 G</b>	293	402,8	417,8	426,8	<b>SNL 3244 G</b>	230	281,6	296,6	305,6
<b>SNL 3076 G</b>	325	422,8	437,8	446,8	<b>SNL 3248 G</b>	248	301,6	316,8	325,6
<b>SNL 3080 G</b>	325	463	478	487	<b>SNL 3252 G</b>	279	321,8	336,8	345,8
<b>SNL 3084 G</b>	325	483	498	507	<b>SNL 3256 G</b>	278	341,8	356,8	365,8
<b>SNL 3088 G</b>	354	503	518	527	<b>SNL 3260 G</b>	297	361,8	376,8	385,8
<b>SNL 3092 G</b>	384	533	548	557	<b>SNL 3264 G</b>	325	382,4	397,4	406,4
<b>SNL 3096 G</b>	384	533	548	557	<b>SNL 3268 G</b>	328	382,4	397,4	406,4
<b>SNL 30/500 G</b>	384	563	578	587	<b>SNL 3272 G</b>	358	402,8	417,8	426,8
<b>SNL 30/530 G</b>	392	603	618	627	<b>SNL 3276 G</b>	387	463	478	487
<b>SNL 3134 G</b>	157	201,4	216,4	225,4	<b>SNL 3280 G</b>	386	503	518	527
<b>SNL 3136 G</b>	166	221,4	236,4	245,4	<b>SNL 3284 G</b>	393	533	548	557
<b>SNL 3138 G</b>	185	221,4	236,4	245,4	<b>SNL 3288 G</b>	392	563	578	587
<b>SNL 3140 G</b>	204	241,4	256,4	265,4					
<b>SNL 3144 G</b>	213	261,6	276,6	285,6					
<b>SNL 3148 G</b>	230	281,6	296,6	305,6					
<b>SNL 3152 G</b>	248	301,6	316,8	325,6					
<b>SNL 3156 G</b>	248	321,8	336,8	345,8					
<b>SNL 3160 G</b>	278	342,4	357,4	366,4					
<b>SNL 3164 G</b>	297	362,4	377,4	386,4					
<b>SNL 3168 G</b>	325	382,4	397,4	406,4					
<b>SNL 3172 G</b>	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](http://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

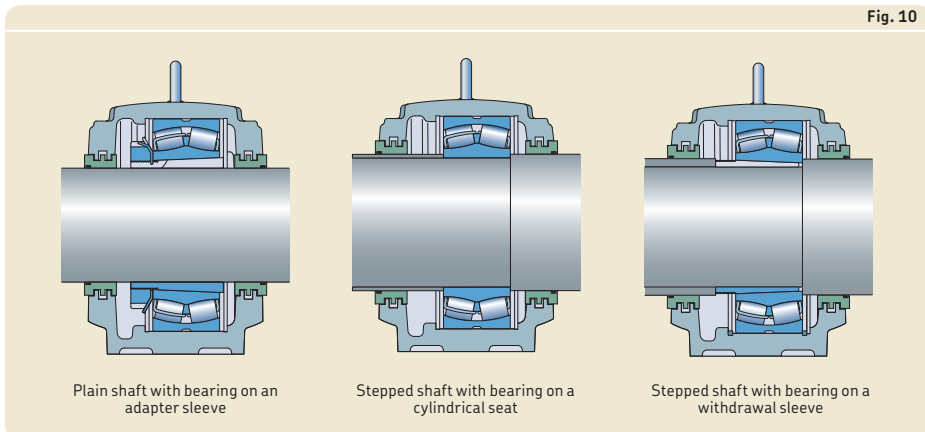
Housings, appropriate parts and dimensions are listed in **product table 5.3**, starting on **page 302**.

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  $P_{0^\circ}$  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

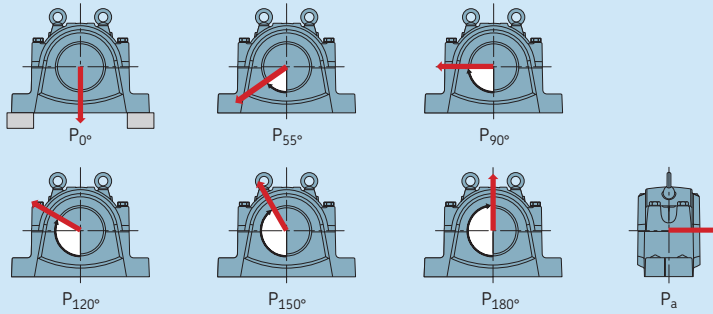
When the housing is subjected to loads acting parallel to the support surface, it may be necessary to pin the housing to the support surface or to provide a stop to counter the load. When loads act at angles between  $55^\circ$  and  $120^\circ$ , or when the axial loads are greater than 5% of  $P_{180^\circ}$  (→ **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



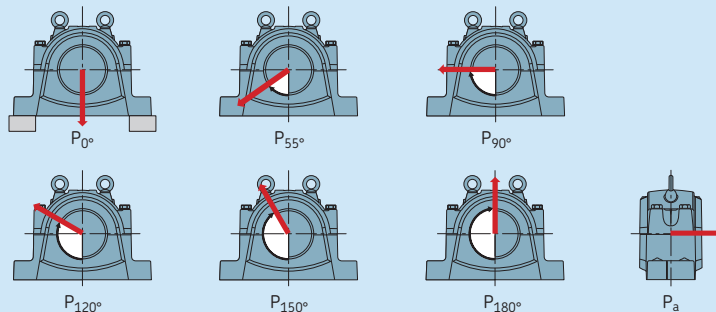
Housing Size	Breaking loads						
	$P_{0^\circ}$	$P_{55^\circ}$	$P_{90^\circ}$	$P_{120^\circ}$	$P_{150^\circ}$	$P_{180^\circ}$	$P_a$
–	kN						
SNL 3036	1 700	2 100	1 000	760	680	850	550
SNL 3038	1 900	2 400	1 150	850	760	950	620
SNL 3040	2 200	2 700	1 300	1 000	880	1 100	710
SNL 3044	2 600	3 200	1 600	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

continues on next page

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

cont. Table 5

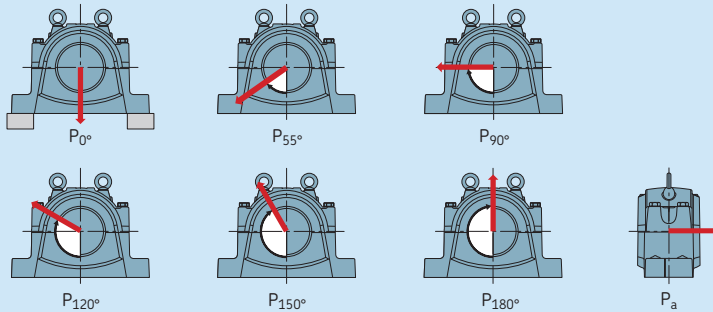
Breaking loads for large SNL plummer block housings made of grey cast iron



Housing Size	Breaking loads						
	$P_{0^\circ}$	$P_{55^\circ}$	$P_{90^\circ}$	$P_{120^\circ}$	$P_{150^\circ}$	$P_{180^\circ}$	$P_a$
–	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 <sup>1)</sup>						
	P <sub>0°</sub>	P <sub>55°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>	P <sub>a</sub>
–	kN / lbf.						
<b>SNL 3036</b>	340 76 500	420 94 500	200 45 000	152 34 200	136 30 600	170 38 250	110 24 750
<b>SNL 3038</b>	380 85 500	480 108 000	230 51 750	170 38 250	152 34 200	190 42 750	124 27 900
<b>SNL 3040</b>	440 99 000	540 121 500	260 58 500	200 45 000	176 39 600	220 49 500	142 31 950
<b>SNL 3044</b>	520 117 000	640 144 000	320 72 000	220 49 500	200 45 000	260 58 500	168 37 800
<b>SNL 3048</b>	620 139 500	800 180 000	380 85 500	280 63 000	260 58 500	320 72 000	200 45 000
<b>SNL 3052</b>	680 153 000	840 189 000	400 90 000	300 67 500	280 63 000	340 76 500	220 49 500
<b>SNL 3056</b>	760 171 000	940 211 500	460 103 500	340 76 500	300 67 500	380 85 500	240 54 000
<b>SNL 3060</b>	800 180 000	1 000 225 000	480 108 000	360 81 000	320 72 000	400 90 000	260 58 500
<b>SNL 3064</b>	960 216 000	1 200 270 000	580 130 500	440 99 000	380 85 500	480 108 000	300 67 500
<b>SNL 3068</b>	1 080 243 000	1 400 315 000	680 153 000	500 112 500	440 99 000	560 126 000	360 81 000
<b>SNL 3072</b>	1 080 243 000	1 080 243 000	680 153 000	500 112 500	440 99 000	560 126 000	360 81 000
<b>SNL 3076</b>	1 200 270 000	1 500 337 500	720 162 000	520 117 000	460 103 500	600 135 000	380 85 500
<b>SNL 3080</b>	1 200 270 000	1 540 346 500	720 162 000	540 121 500	480 108 000	600 135 000	400 90 000
<b>SNL 3084</b>	1 220 274 500	1 600 360 000	780 175 500	580 130 500	500 112 500	640 144 000	420 94 500
<b>SNL 3088</b>	1 400 315 000	1 740 391 500	840 189 000	620 139 500	540 121 500	700 157 500	440 99 000
<b>SNL 3092</b>	1 520 342 000	1 920 432 000	920 207 000	680 153 000	600 135 000	760 171 000	480 108 000
<b>SNL 3096</b>	1 520 342 000	1 920 432 000	920 207 000	680 153 000	600 135 000	760 171 000	480 108 000
<b>SNL 30/500</b>	1 600 360 000	2 000 450 000	960 216 000	720 162 000	620 139 500	800 180 000	500 112 500
<b>SNL 30/530</b>	1 760 396 000	2 240 504 000	1 080 243 000	800 180 000	700 157 500	880 198 000	560 126 000

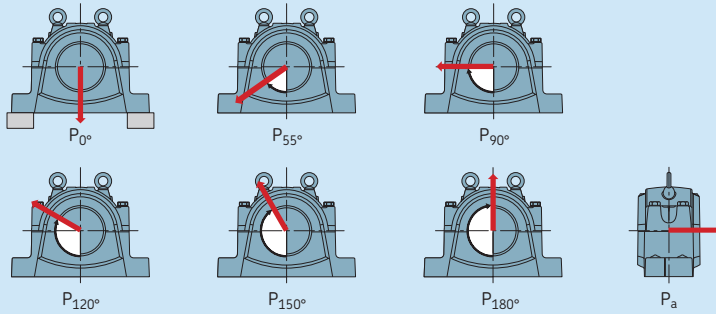
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<sup>1)</sup> The values are based on a safety factor of 5.

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

cont. Table 6

### Safe loads for large SNL plummer block housings made of grey cast iron

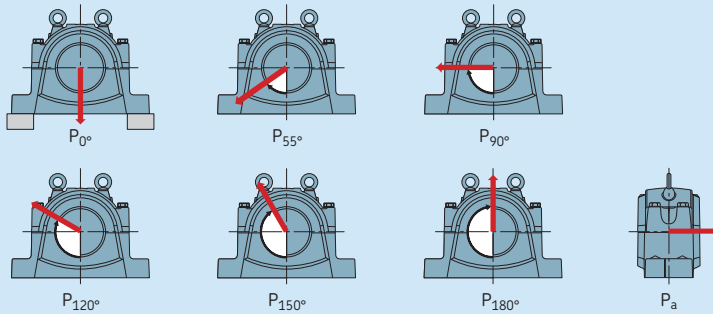


Housing Size	Safe loads <sup>1)</sup>						
	$P_{0^\circ}$	$P_{55^\circ}$	$P_{90^\circ}$	$P_{120^\circ}$	$P_{150^\circ}$	$P_{180^\circ}$	$P_a$
–	kN / lbf.						
SNL 3134	340	420	200	152	136	170	110
	76 500	94 500	45 000	34 200	30 600	38 250	24 750
SNL 3136	380	480	230	170	152	190	124
	85 500	108 000	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	380	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	140 000	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

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<sup>1)</sup> 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 <sup>1)</sup>						
	P <sub>0°</sub>	P <sub>55°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>	P <sub>a</sub>
–	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

<sup>1)</sup> The values are based on a safety factor of 5.

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

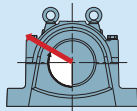
### Load carrying capacity of the cap bolts

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.

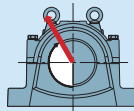
If a safety factor of 6 is used for the permissible load of grey cast iron SNL housings, the cap bolts do not need to be considered. In this case, the permissible load of the housing is less than the permissible load for the cap bolts.

Table 7

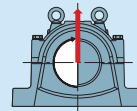
Load carrying capacity and torque values for cap bolts and attachment bolts



$Q_{120^\circ}$



$Q_{150^\circ}$



$Q_{180^\circ}$

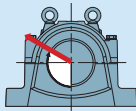
Housing Size	Cap bolts Yield point for four bolts			Size	Tightening torque	Attachment bolts	
	$Q_{120^\circ}$	$Q_{150^\circ}$	$Q_{180^\circ}$			Size	Tightening torque <sup>1)</sup>
–	kN			–	Nm	–	Nm
SNL 3036	1800	1040	900	M 24×140	350	M 24	665
SNL 3038	1800	1040	900	M 24×140	350	M 24	665
SNL 3040	1800	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

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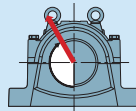
<sup>1)</sup> Recommended by bolt manufacturers

cont. Table 7

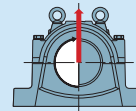
Load carrying capacity and torque values for cap bolts and attachment bolts



$Q_{120^\circ}$



$Q_{150^\circ}$



$Q_{180^\circ}$

Housing Size	Cap bolts Yield point for four bolts			Size	Tightening torque	Attachment bolts	
	$Q_{120^\circ}$	$Q_{150^\circ}$	$Q_{180^\circ}$			Size	Tightening torque <sup>1)</sup>
–	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

<sup>1)</sup> 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](http://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](http://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](http://skf.com/bearings).

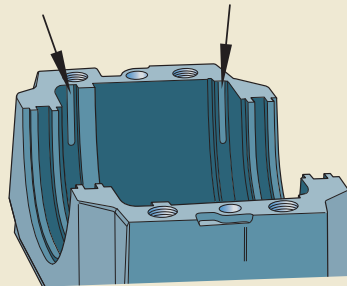
## Initial grease fill

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/cm<sup>3</sup>). 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

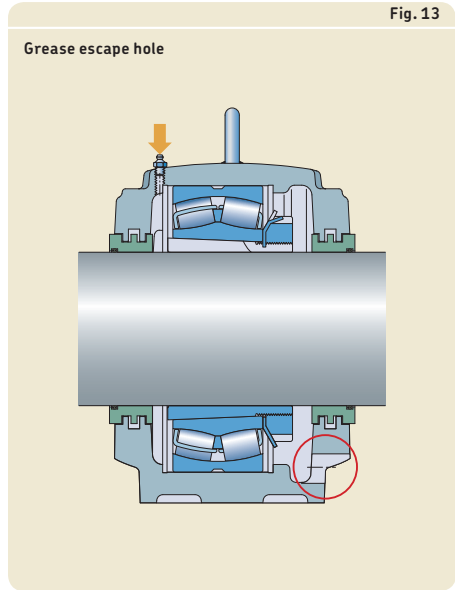
When relubricating from the side, which is typically necessary for CARB toroidal roller bearings, the offset hole in the housing should be used (→ **fig. 12**).

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.

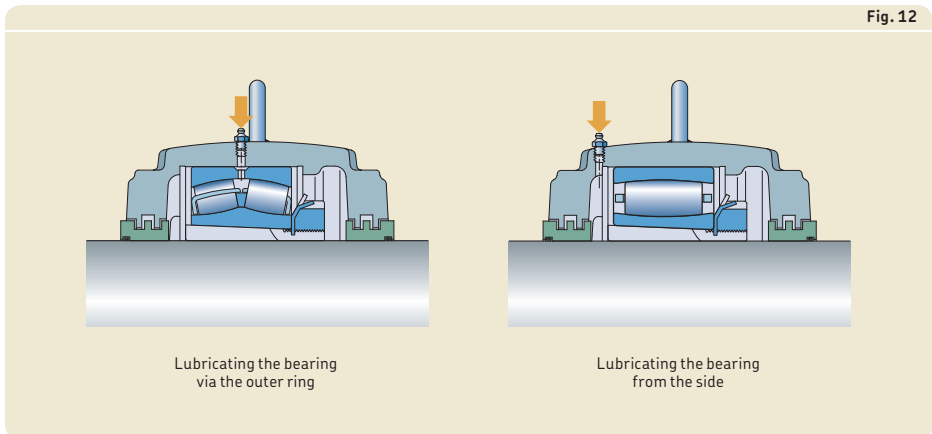
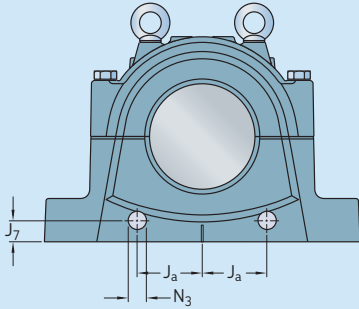


Table 9

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 3048	SNL 3144	SNL 3238	120	36	30
		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 <sup>1)</sup>											
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		

<sup>1)</sup> 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 <sup>1)</sup>												
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			58	69	48	58			
SNL 3138	125	52	59			59	71	49	61			
	160											
	135									53	64	
SNL 3140	160	54	61					48	61			
	170											
	140									71	84	
SNL 3144	170	65	74					60	73	64	80	
	200	62	71					56	70			
SNL 3148	170					75	91					
	200			69	84							
	220	68	78							64	81	67
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					93	116					
	280			83	107							
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			

<sup>1)</sup> 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 <sup>1)</sup>					
Housing Size	Shaft diameter	Design and bearing series			
		TURT 232 min.	max.	C 32 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		

<sup>1)</sup> 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](http://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*.

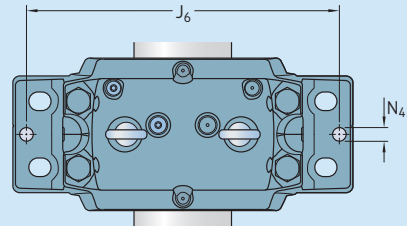
### Pinning or supporting the housing

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).

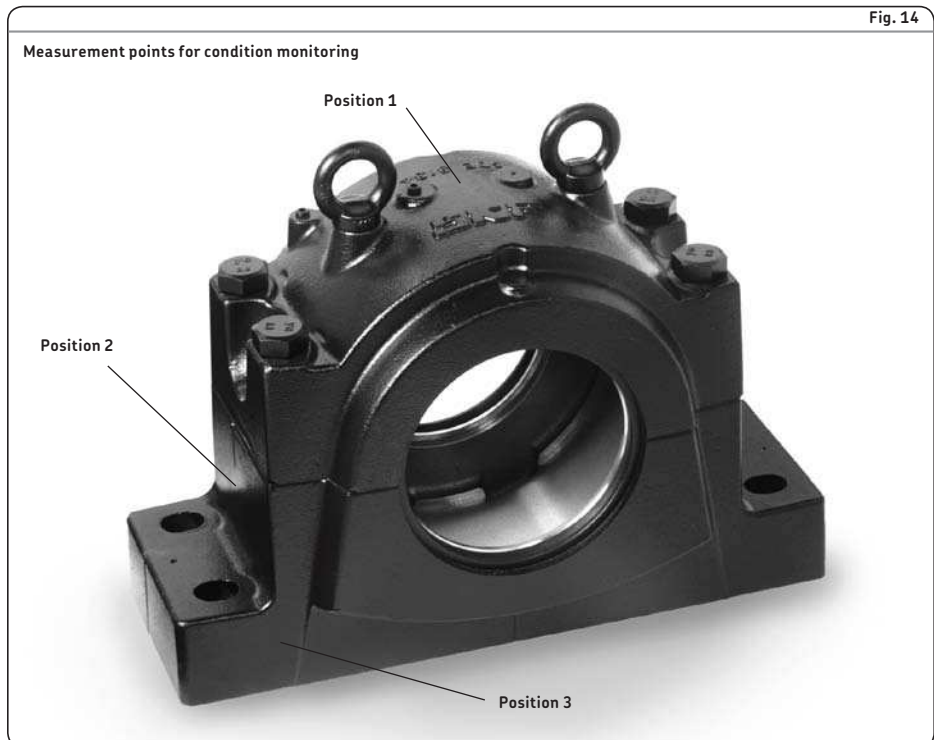
**Position 1** is a measurement point perpendicular to the shaft and should be used when loads act away from the support surface.

**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

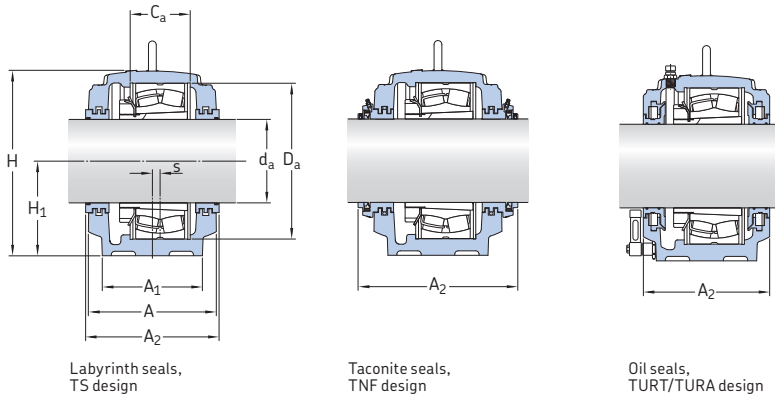
Two plummer block housings with labyrinth seals are required for two 23036 CCK/W33 bearings on H 3036 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housings will accommodate the locating bearing and a through shaft.

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

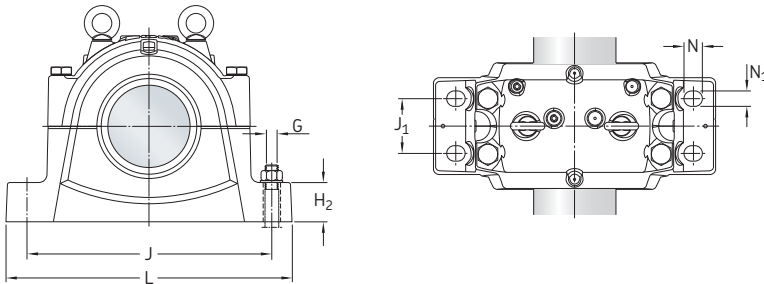


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
mm	–	–					mm
115	SNL 3134	22326 CCK/W33	H 2326	2 FRB 7.5/280	TS 34/115	ETS 34	240
		22326-2CS5K	H 2326	2 FRB 7.5/280	TNF 34/115		299
125	SNL 3136	22328 CCK/W33	H 2328	2 FRB 7/300	TS 36/125	ETS 36	250
		22328-2CS5K	H 2328	2 FRB 7/300	TNF 36/125		310
135	SNL 3138	22330 CCK/W33	H 2330	2 FRB 8/320	TS 38/135	ETS 38	270
		22330-2CS5K	H 2330	2 FRB 8/320	TNF 38/135		330
140	SNL 3038	22232 CCK/W33	H 3132	2 FRB 17.5/290	TS 38/140	ETS 38	250
		22232-2CS5K	H 3132	2 FRB 17.5/290	TNF 38/140		312
		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
		22332-2CS5K	H 2332	2 FRB 9/340	TNF 40/140		347
150	SNL 3134	23134 CCK/W33	H 3134	2 FRB 10/280	TS 34	ETS 34	240
		23134-2CS5K	H 3134 E	2 FRB 10/280	TNF 34		299
		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
	SNL 3040	22234 CCK/W33	H 3134	2 FRB 18/310	TS 40/150	ETS 40	270
22234-2CS5K		H 3134	2 FRB 18/310	TNF 40/150		327	
C 2234 K		H 3134 L	2 FRB 18/310				
	SNL 3048	22334 CCK/W33	H 2334	2 FRB 10/360	TS 48/150	ETS 48	300
					TNF 48/150		380

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

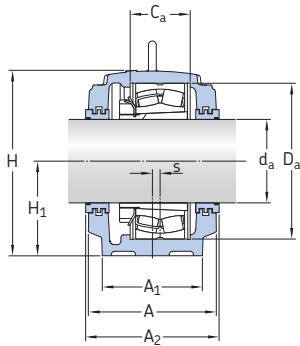
<sup>3)</sup> The locating rings fit the bearing in the same line only.



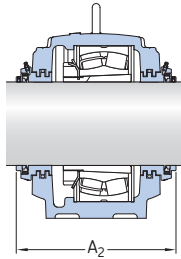
Shaft diameter $d_a$	Dimensions															Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G			
mm	mm															-	kg
<b>115</b>	230	180	108	280	333	170	70	430	100	510	34	28	14	24	M16	69,5	
<b>125</b>	240	190	116	300	353	180	75	450	110	530	34	28	15	24	M16	77,5	
<b>135</b>	260	210	124	320	375	190	80	480	120	560	34	28	10	24	M20	97,5	
<b>140</b>	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	
<b>150</b>	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

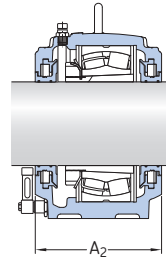
$d_a$  160 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design



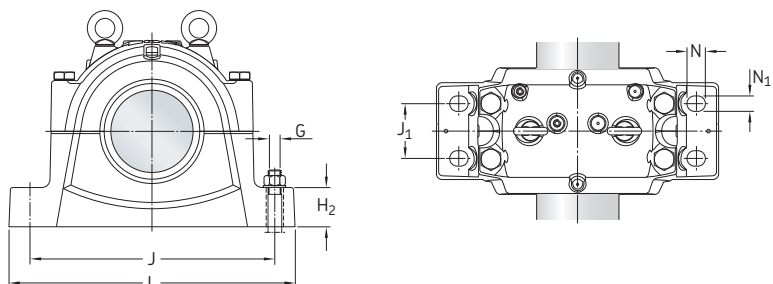
Oil seals,  
TURT/TURA design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
$d_a$	–	–					mm
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
	SNL 3036 TURA	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	TNF 38/160		
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			

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

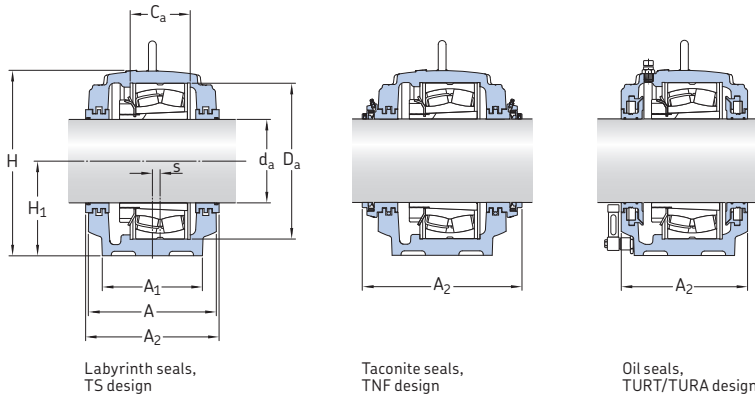
<sup>3)</sup> The locating rings fit the bearing in the same line only.



Shaft diameter $d_a$	Dimensions															Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G			
mm	mm															-	kg
<b>160</b>	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

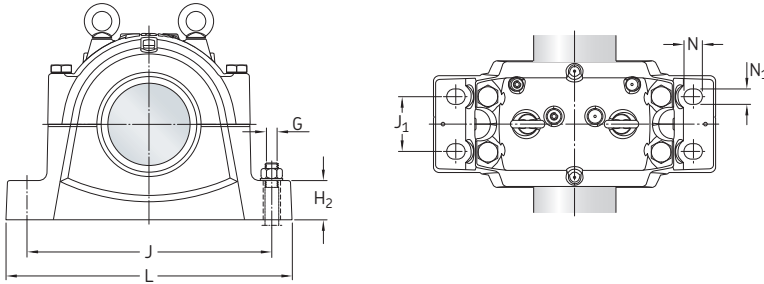


Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals
							$A_2$
mm	–	–					mm
170	SNL 3038	23038 CCK/W33 C 3038 K	H 3038 H 3038	4 FRB 10/290 4 FRB 10/290	TS 38 TNF 38	ETS 38	250 312
	SNL 3038 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 23138-2CS5K 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 22238-2CS5K 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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

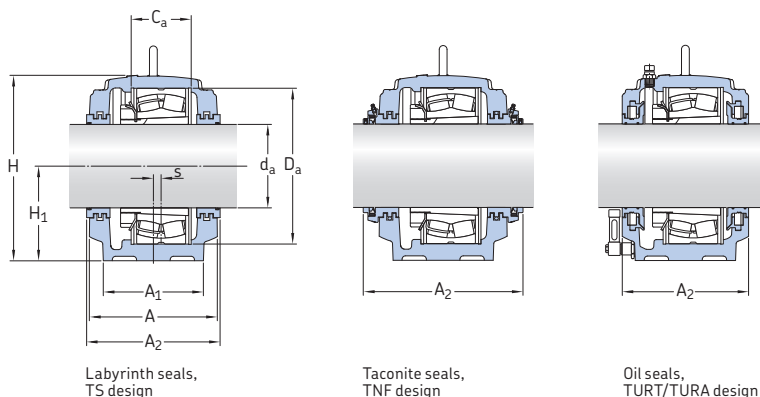
<sup>3)</sup> The locating rings fit the bearing in the same line only.



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
<b>170</b>	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



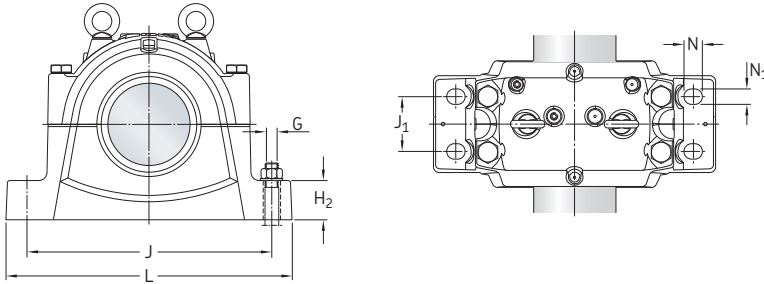
Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
$d_a$							
mm	–	–					mm
180	SNL 3040	23040 CCK/W33	H 040	4 FRB 10/310	TS 40	ETS 40	270
		23040-2CS5K	H 040	4 FRB 10/310	TNF 40		327
		C 3040 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	

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

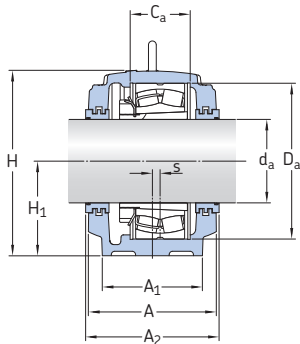




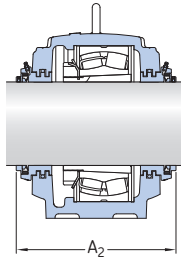
Shaft diameter $d_a$	Dimensions														Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G		
mm	mm														-	kg
<b>180</b>	260	210	122	310	375	190	80	480	120	560	34	28	10	24	M 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

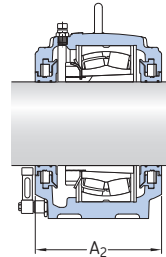
$d_a$  200 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design



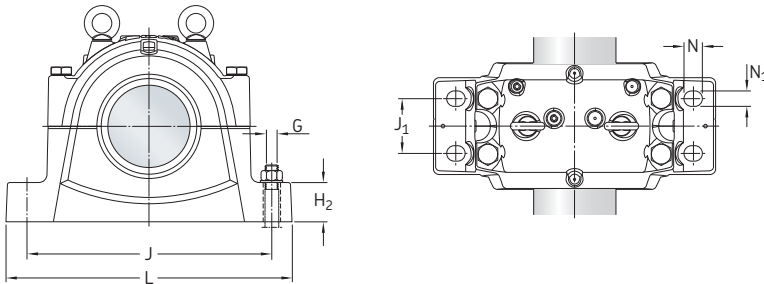
Oil seals,  
TURT/TURA design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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
	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	
SNL 3156	22344 CCK/W33	OH 2344 H	2 FRB 10.5/460	TS 56/200 TNF 56/200	ETS 56	330 404	

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

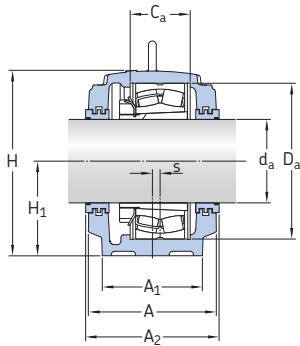
<sup>3)</sup> The locating rings fit the bearing in the same line only.



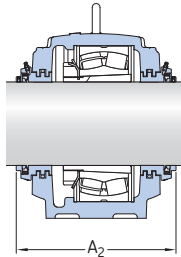
Shaft diameter	Dimensions															Eye bolt according to DIN 580	Mass Housing
$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm															-	kg
<b>200</b>	280	230	130	340	411	210	85	510	130	610	42	35	10	30	M 20	123	
	280	230	130	340	411	210	85	510	130	610	42	35	10	30	M 20	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

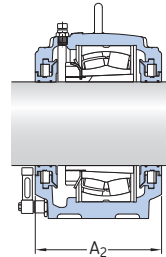
$d_a$  220 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design



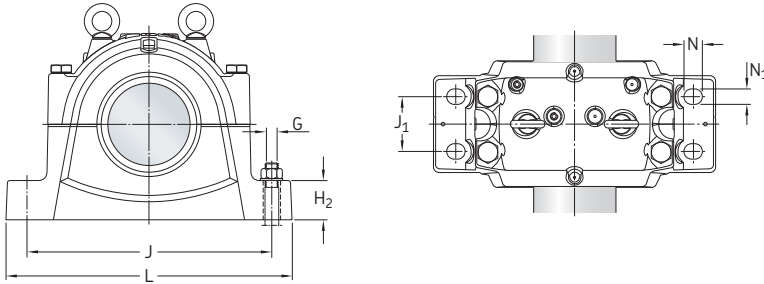
Oil seals,  
TURT/TURA design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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	

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

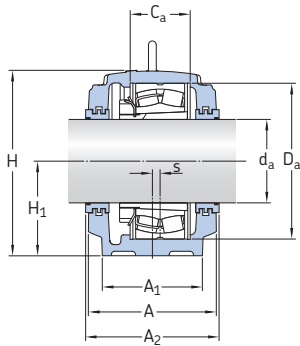
<sup>3)</sup> The locating rings fit the bearing in the same line only.



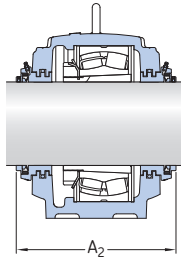
Shaft diameter	Dimensions															Eye bolt according to DIN 580	Mass Housing
$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm															-	kg
<b>220</b>	290	240	140	360	434	220	90	540	140	640	42	35	12	30	M 20	139	
	290	240	140	360	434	220	90	540	140	640	42	35	12	30	M 20	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

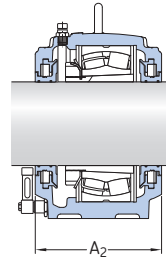
$d_a$  240 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design



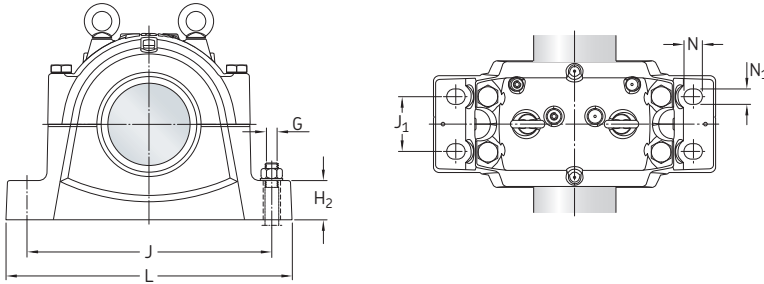
Oil seals,  
TURT/TURA design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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	

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

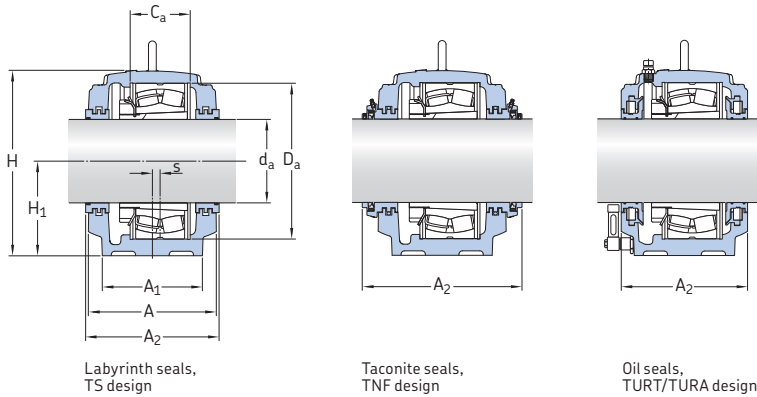
<sup>3)</sup> The locating rings fit the bearing in the same line only.



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
<b>240</b>	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



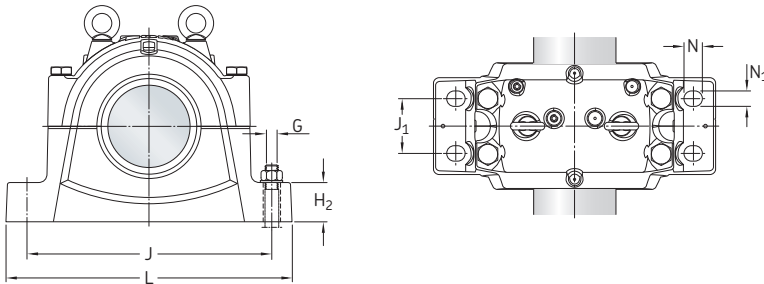
Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
$d_a$							
mm	–	–					mm
260	SNL 3056	23056 CCK/W33 C 3056 K	OH 056 H OH 3056 H	6 FRB 10/420 6 FRB 10/420	TS 56 TNF 56	ETS 56	330 404
	SNL 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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

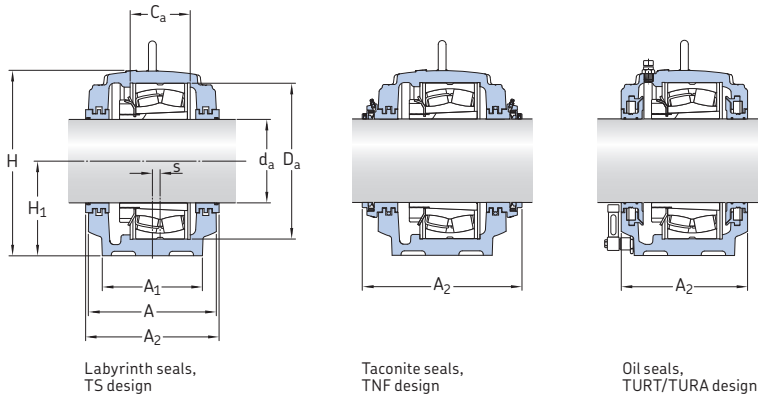




Shaft diameter	Dimensions															Eye bolt according to DIN 580	Mass Housing
$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm															-	kg
<b>260</b>	320	280	166	420	516	260	100	650	160	770	50	42	13	36	M 24	221	
	320	280	166	420	516	260	100	650	160	770	50	42	13	36	M 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

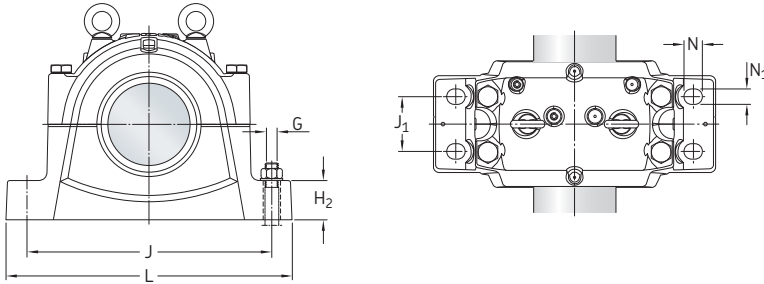
Oil seals,  
TURT/TURA design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
$d_a$	–	–					mm
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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

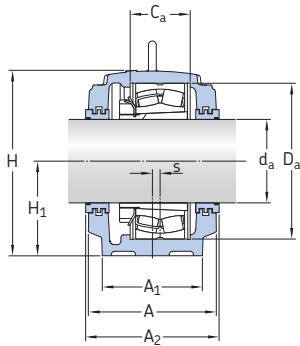
<sup>3)</sup> The locating rings fit the bearing in the same line only.



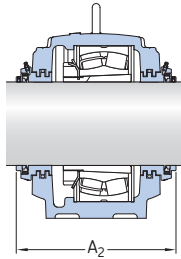
Shaft diameter	Dimensions														Eye bolt according to DIN 580	Mass Housing
$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		
mm	mm														-	kg
<b>280</b>	320	280	168	460	550	280	105	670	160	790	50	42	16	36	M 24	252
	320	280	168	460	550	280	105	670	160	790	50	42	16	36	M 24	252
	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

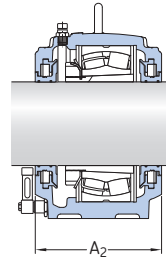
$d_a$  300 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design



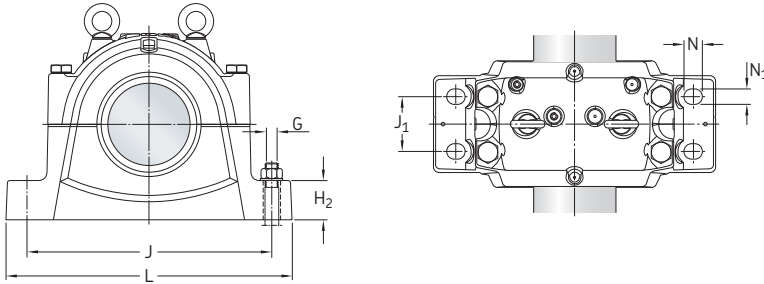
Oil seals,  
TURT/TURA design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
mm	–	–					mm
300	<b>SNL 3064</b>	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
	<b>SNL 3064 TURT</b>	23064 CCK/W33	OH 3064 H	6 FRB 10/480	included	ETS 3064 R	345
	<b>SNL 3064 TURA</b>	C 3064 KM	OH 3064 H	6 FRB 10/480	included	ETS 3064 R	345
	<b>SNL 3164</b>	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
	<b>SNL 3164 TURT</b>	23164 CCK/W33	OH 3164 H	2 FRB 10/540	included	ETS 3164 R	365
	<b>SNL 3164 TURA</b>	C 3164 KM	OH 3164 H	2 FRB 10/540	included	ETS 3164 R	365
	<b>SNL 3264 F</b>	23264 CCK/W33	OH 3264 H	–	TS 68/300 TNF 68/300	ETS 68	410 483
	<b>SNL 3264 L</b>	23264 CCK/W33	OH 3264 H	–	TS 68/300 TNF 68/300	ETS 68	410 483
	<b>SNL 3168 F</b>	22264 CCK/W33	OH 3164 H	2 FRB 20/580	TS 68/300 TNF 68/300	ETS 68	410 483

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

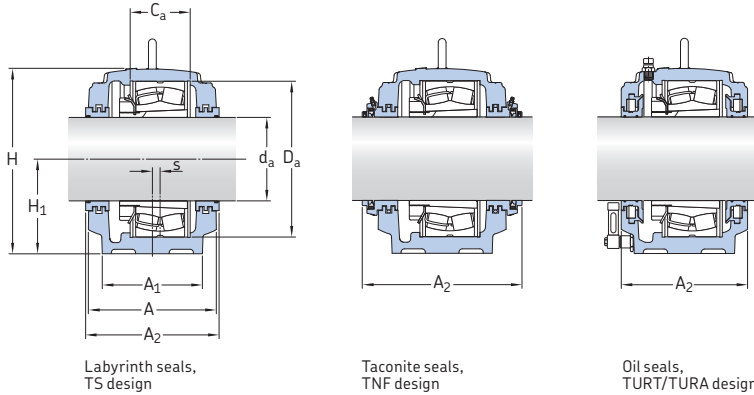
<sup>3)</sup> The locating rings fit the bearing in the same line only.



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
<b>300</b>	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

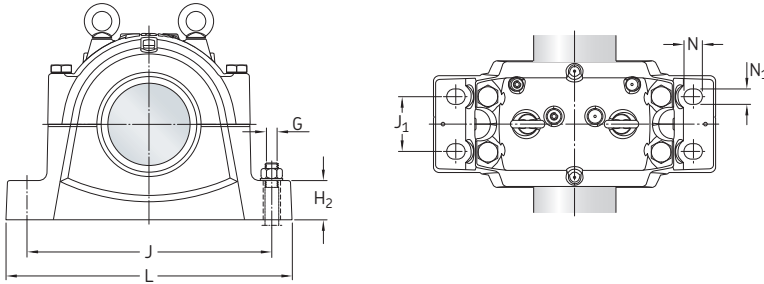


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
mm	–	–					mm
320	SNL 3068	23068 CCK/W33 C 3068 KM	OH 3068 H OH 3068 H	4 FRB 16/520 4 FRB 16/520	TS 68 TNF 68	ETS 68	380 453
	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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

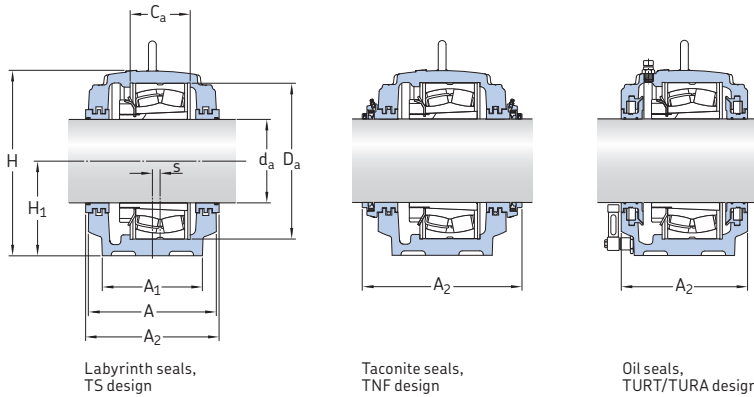
<sup>3)</sup> The locating rings fit the bearing in the same line only.



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
<b>320</b>	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



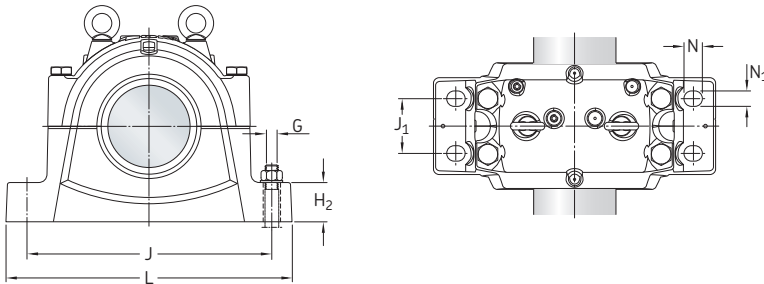
Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width
							incl. seals $A_2$
mm	–	–					mm
340	SNL 3072	23072 CCK/W33 C 3072 KM	OH 072 H OH 3072 H	4 FRB 16/540 4 FRB 16/540	TS 72 TNF 72	ETS 72	380 453
	SNL 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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

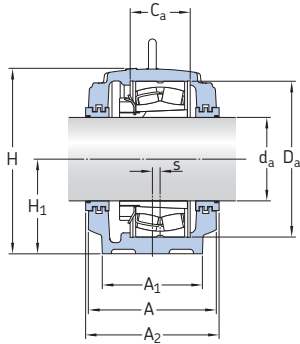




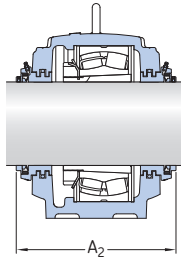
Shaft diameter	Dimensions															Eye bolt according to DIN 580	Mass Housing
$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm															-	kg
<b>340</b>	370	330	198	540	631	320	115	750	200	880	50	42	23	36	M 30	339	
	370	330	198	540	631	320	115	750	200	880	50	42	23	36	M 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

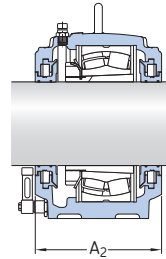
$d_a$  360 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design

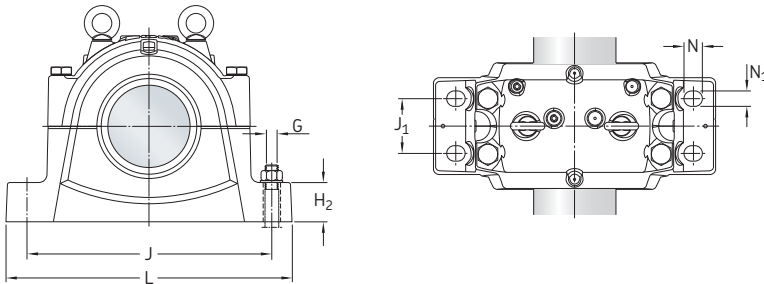


Oil seals,  
TURT/TURA design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	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

<sup>1)</sup> 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.

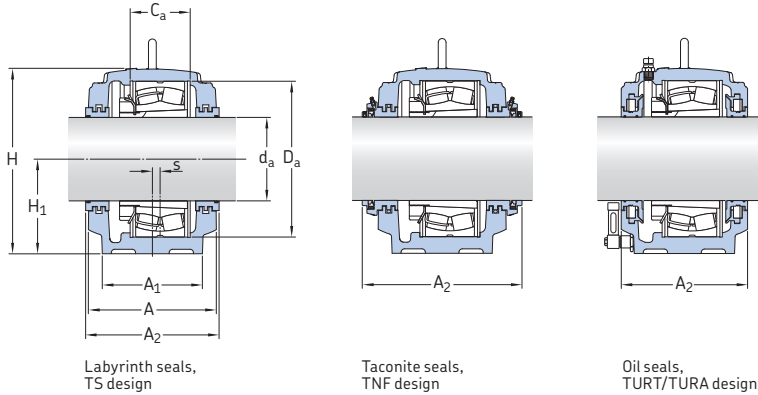
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



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
<b>360</b>	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

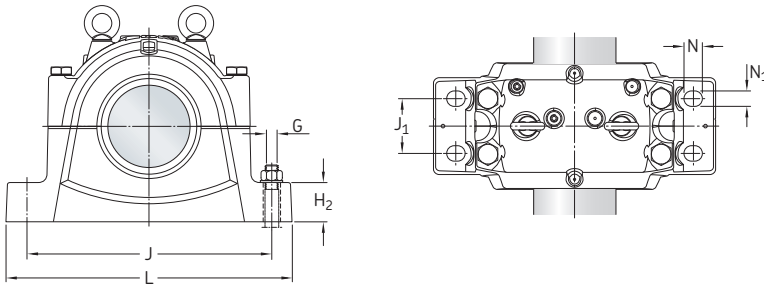
$d_a$  380 mm



Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Seals	End cover	Width incl. seals $A_2$
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

<sup>1)</sup> 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.

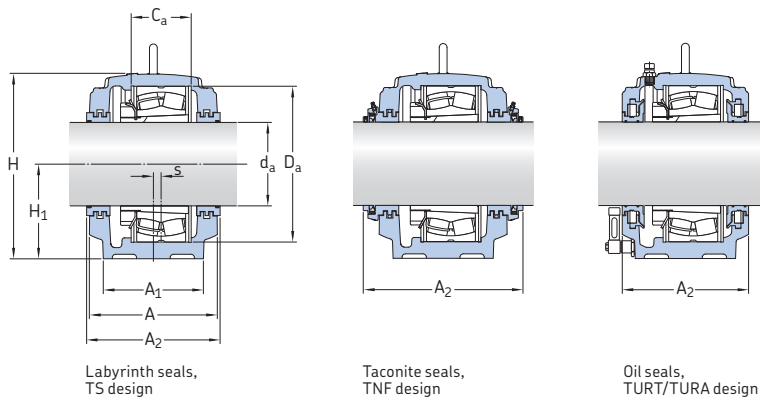
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



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
<b>380</b>	400	360	148	600	695	350	120	840	220	1000	50	42	30	36	M 36	458
	400	360	148	600	695	350	120	840	220	1000	50	42	30	36	M 36	458
	400	360	148	600	695	350	120	840	220	1000	50	42	30	36	M 36	458
	400	360	192	600	695	350	120	840	220	1000	50	42	30	36	M 36	454
	400	360	192	600	695	350	120	840	220	1000	50	42	30	36	M 36	454
	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
	430	390	200	650	755	380	125	950	240	1120	60	48	30	42	M 42	595
	430	390	220	650	755	380	125	950	240	1120	60	48	30	42	M 42	595
	430	390	220	650	755	380	125	950	240	1120	60	48	30	42	M 42	595
	460	430	256	720	835	420	135	1030	260	1220	60	48	35	42	M 42	755
	460	430	276	720	835	420	135	1030	260	1220	60	48	35	42	M 42	751

## 5.1 Large SNL plummer block housings for bearings on an adapter sleeve, metric shafts

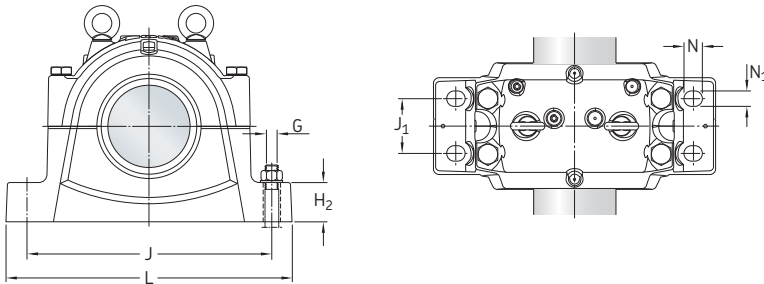
$d_a$  400 mm



Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$						
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

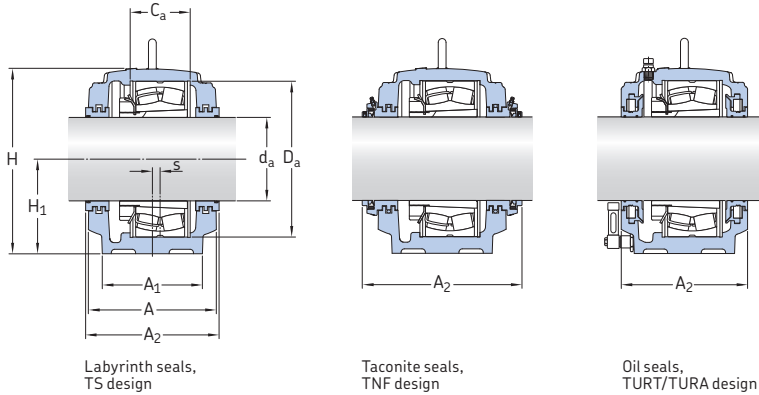
<sup>1)</sup> 222(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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<sub>a</sub> 410 mm

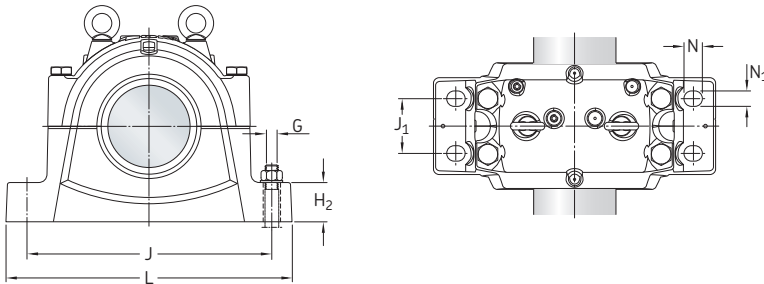


Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
d <sub>a</sub>	-	-				mm
mm	-	-				mm
410	SNL 3088 F	23088 CAK/W33 C 3088 KMB	OH 088 H OH 3088 HE	TS 88 TNF 88	ETS 88	440 513
	SNL 3088 FTURT	23088 CAK/W33	OH 3088 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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.

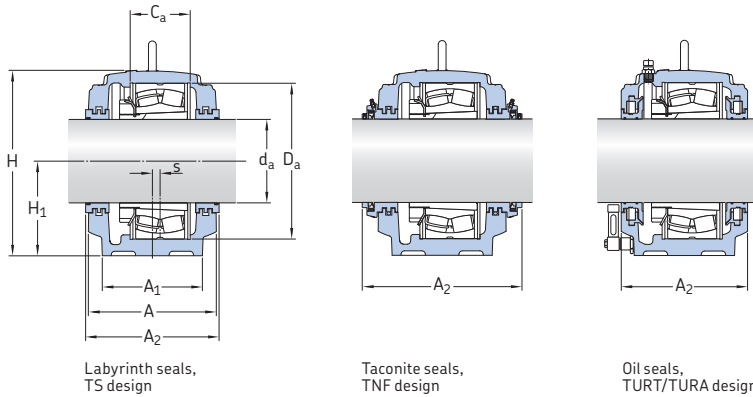




Shaft diameter	Dimensions															Eye bolt according to DIN 580	Mass Housing
$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm															-	kg
<b>410</b>	430	390	157	650	755	380	125	950	240	1120	60	48	30	42	M 42	595	
	430	390	157	650	755	380	125	950	240	1120	60	48	30	42	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

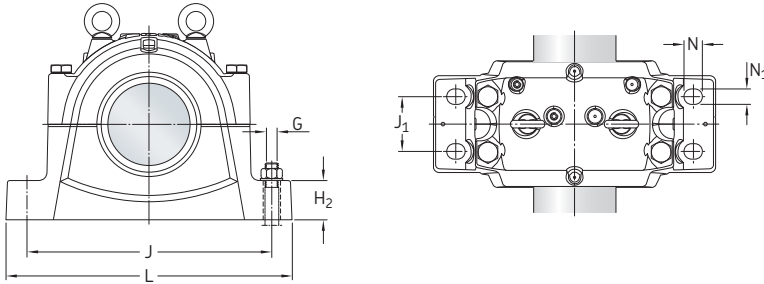
$d_a$  430 mm



Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	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

<sup>1)</sup> 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.

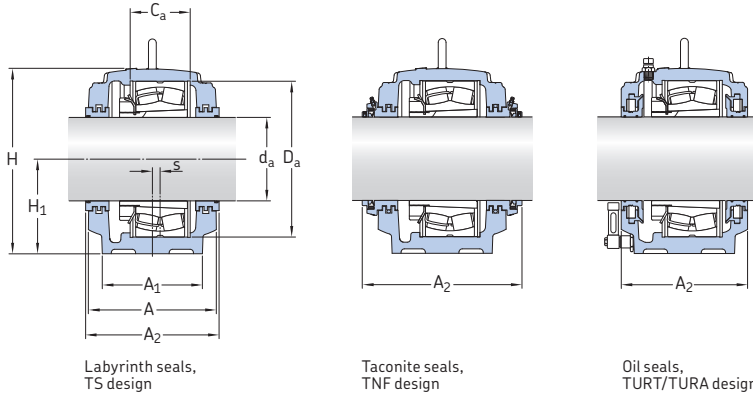
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



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
<b>430</b>	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

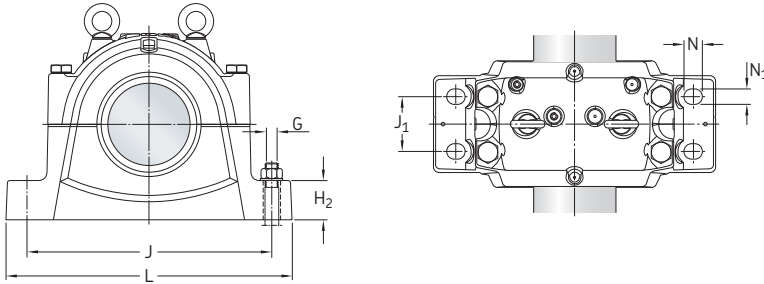
$d_a$  450 mm



Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$						
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

<sup>1)</sup> 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.

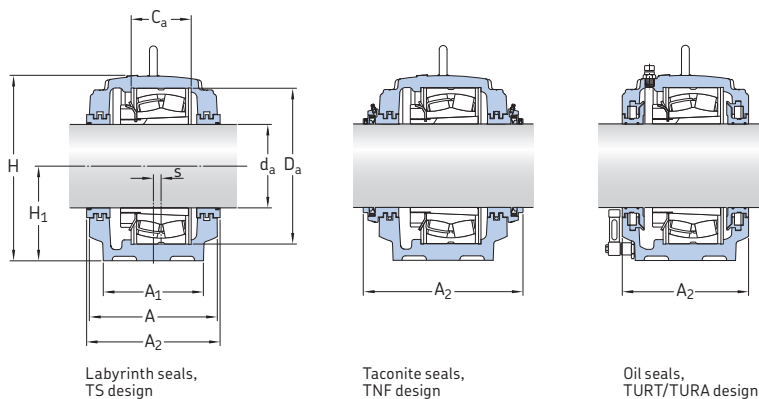
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



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
<b>450</b>	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

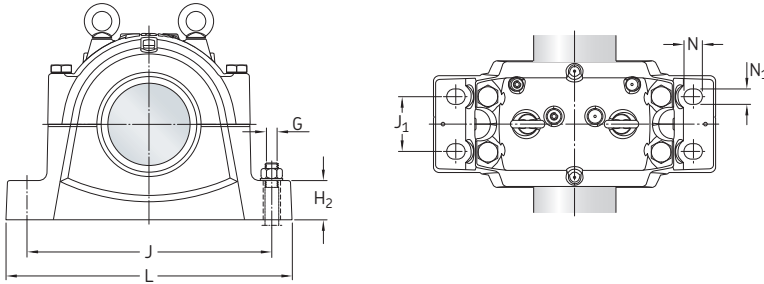
$d_a$  470 – 500 mm



Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	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

<sup>1)</sup> 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.

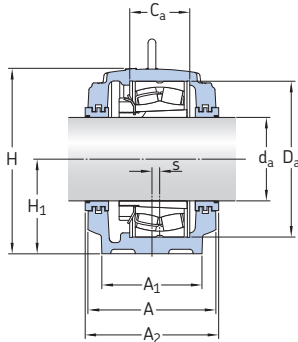
<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. Only typical adapter sleeves are listed. Other variants can also fit the housing.



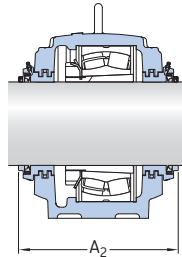
Shaft diameter $d_a$	Dimensions															Eye bolt according to DIN 580	Mass Housing kg
	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm															-	kg
<b>470</b>	460	430	167	720	835	420	135	1030	260	1220	60	48	35	42	M 42	755	
	460	430	167	720	835	420	135	1030	260	1220	60	48	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	
<b>500</b>	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



Labyrinth seals,  
TS design



Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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

<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

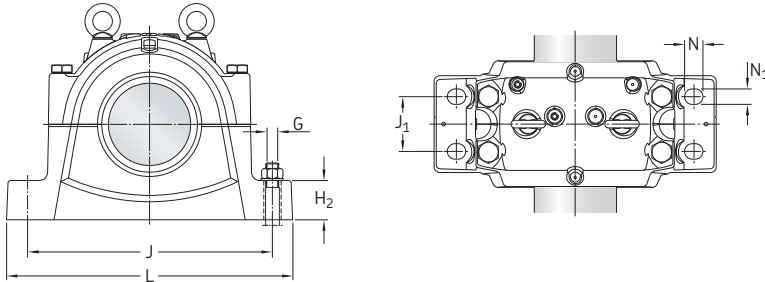
Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

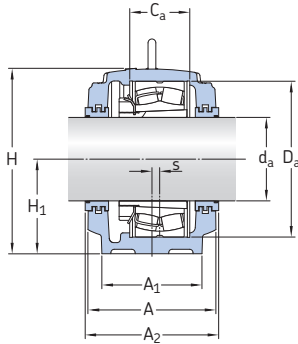




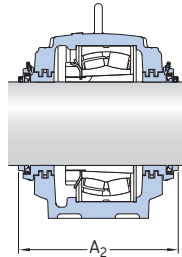
Shaft diameter	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>4 7/16</b> 112,713	230	180	108	280	333	170	70	430	100	510	34	28	14	24	1	M 16	69,5	
<b>4 1/2</b> 114,300	230	180	108	280	333	170	70	430	100	510	34	28	14	24	1	M 16	69,5	
<b>4 15/16</b> 125,413	240	190	116	300	353	180	75	450	110	530	34	28	15	24	1	M 16	77,5	
<b>5</b> 127,000	240	190	116	300	353	180	75	450	110	530	34	28	15	24	1	M 16	77,5	
<b>5 3/16</b> 131,763	260	210	124	320	375	190	80	480	120	560	34	28	10	24	1	M 20	97,5	
<b>5 1/4</b> 133,350	260	210	124	320	375	190	80	480	120	560	34	28	10	24	1	M 20	97,5	
<b>5 7/16</b> 138,113	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	
<b>5 1/2</b> 139,700	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	

## 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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

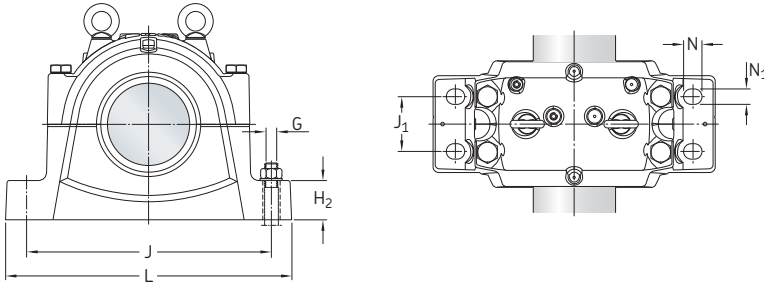
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

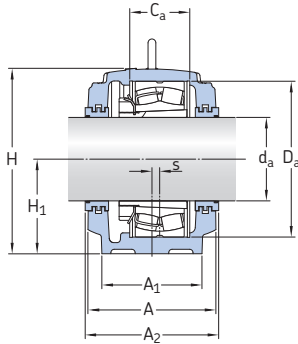


Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>5<sup>13</sup>/<sub>16</sub></b> 147,638	260	210	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 <sup>1</sup> / <sub>4</sub>	M 20	139	
<b>5<sup>7</sup>/<sub>8</sub></b> 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 <sup>1</sup> / <sub>4</sub>	M 20	139	
<b>5<sup>15</sup>/<sub>16</sub></b> 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 <sup>1</sup> / <sub>4</sub>	M 20	139	

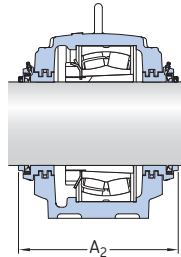
## 5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

$d_a$  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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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

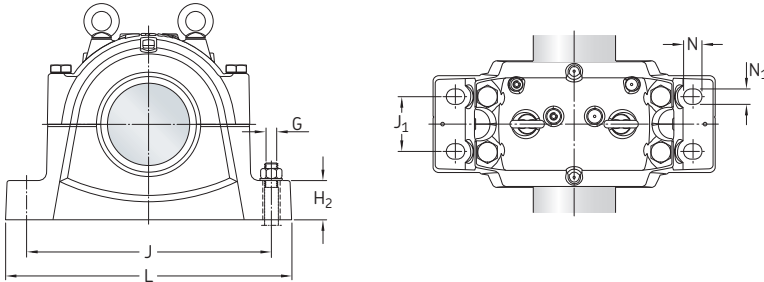
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

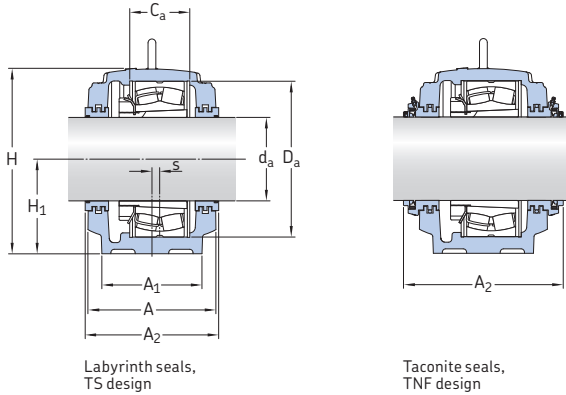
<sup>3)</sup> The locating rings fit the bearing in the same line only.



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
<b>6</b> 152,4	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 <sup>1/4</sup>	M 20	139		
<b>6 5/16</b> 160,338	230	180	108	280	333	170	70	430	100	510	34	28	14	24	1	M 16	69,5		
	260	210	124	320	375	190	80	480	120	560	34	28	10	24	1	M 20	97,5		
<b>6 3/8</b> 161,925	230	180	108	280	333	170	70	430	100	510	34	28	14	24	1	M 16	69,5		
	260	210	124	320	375	190	80	480	120	560	34	28	10	24	1	M 20	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



Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–					mm
6 7/16 163,513	<b>SNL 3036</b>	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
	<b>SNL 3136</b>	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
	<b>SNL 3236</b>	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
	<b>SNL 3138</b>	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	<b>SNL 3036</b>	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
	<b>SNL 3136</b>	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
	<b>SNL 3138</b>	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
	<b>SNL 3236</b>	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

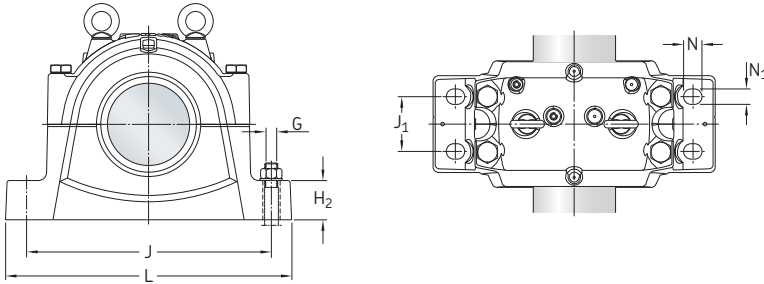
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

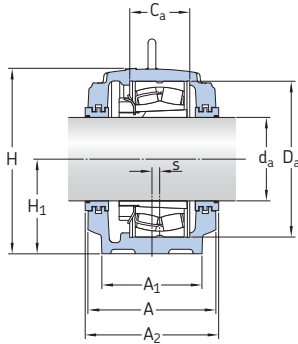
<sup>3)</sup> The locating rings fit the bearing in the same line only.



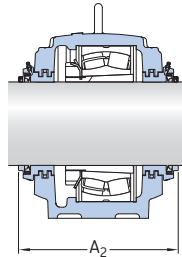
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>6 7/16</b> 163,513	230	180	108	280	333	170	70	430	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	
	260	210	124	320	375	190	80	480	120	560	34	28	10	24	1	M20	97,5	
<b>6 1/2</b> 165,1	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	
	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 3/4 – 6 13/16 in.  
171,45 – 173,038 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design

Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$	–	–					mm
in./mm	–	–					mm
6 3/4 171,45	SNL 3038	23038 CCK/W33	HE 3038	4 FRB 10/290	TS 38/6.3/4	ETS 38	250 312
		C 3038 K	HE 3038	4 FRB 10/290	TNF 38/6.3/4		
	SNL 3138	23138 CCK/W33	HE 3138	2 FRB 10/320	TS 38/6.3/4	ETS 38	270 330
		23138-2CS5K	HE 3138 L	2 FRB 10/320	TNF 38/6.3/4		
		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	290 347	
	22238-2CS5K	HE 3138	4 FRB 10/340	TNF 40/6.3/4			
6 13/16 173,038	SNL 3038	23038 CCK/W33	H 3038/6.13/16	4 FRB 10/290	TS 38/6.13/16	ETS 38	250 312
		C 3038 K	H 3038/6.13/16	4 FRB 10/290	TNF 38/6.13/16		
	SNL 3140	22238 CCK/W33	H 3138/6.13/16	4 FRB 10/340	TS 40/6.13/16	ETS 40	290 347
		22238-2CS5K	H 3138/6.13/16	4 FRB 10/340	TNF 40/6.13/16		
C 2238 K		H 3138/6.13/16	4 FRB 10/340				
SNL 3238	23238 CCK/W33	H 2338/6.13/16	2 FRB 6/340	TS 40/6.13/16	ETS 40	290 347	
			2 FRB 6/340	TNF 40/6.13/16			
SNL 3148	22338 CCK/W33	H 2338/6.13/16	2 FRB 8/400	TS 48/6.13/16	ETS 48	315 396	
			2 FRB 8/400	TNF 48/6.13/16			

<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

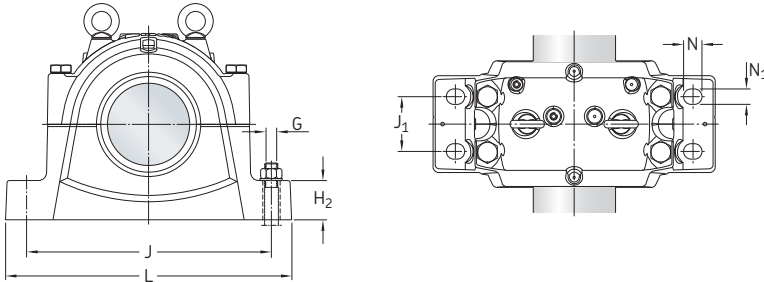
Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

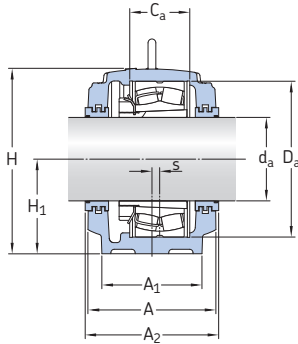




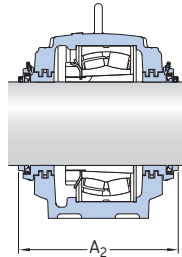
Shaft diameter	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>6 3/4</b> 171,45	240	190	115	290	353	180	75	450	110	530	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	
<b>6 13/16</b> 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–					mm
6 7/8 174,625	<b>SNL 3038</b>	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
	<b>SNL 3140</b>	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
	<b>SNL 3238</b>	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
	<b>SNL 3148</b>	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	<b>SNL 3038</b>	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
	<b>SNL 3138</b>	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
	<b>SNL 3238</b>	23238 CCK/W33	HA 2338	2 FRB 6/340	TS 40/6.15/16 TNF 40/6.15/16	ETS 40	290 347
	<b>SNL 3140</b>	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
	<b>SNL 3148</b>	22338 CCK/W33	HA 2338	2 FRB 8/400	TS 48/6.15/16 TNF 48/6.15/16	ETS 48	315 396

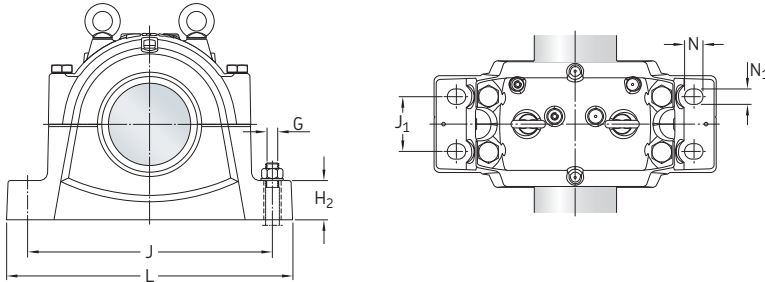
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

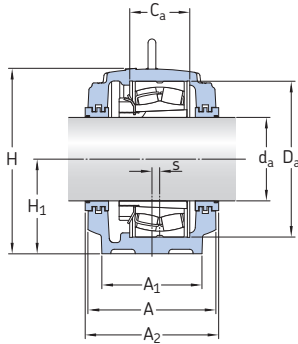
<sup>3)</sup> The locating rings fit the bearing in the same line only.



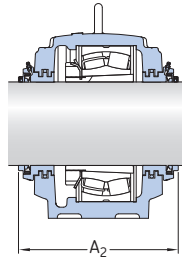
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G				
in./mm	mm																in.	-	kg
<b>6 7/8</b> 174,625	240	190	115	290	353	180	75	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		
<b>6 15/16</b> 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
in./mm	–	–					mm
7 177,8	<b>SNL 3038</b>	23038 CCK/W33 C 3038 K	H 3038/7 H 3038/7	4 FRB 10/290 4 FRB 10/290	TS 38/7 TNF 38/7	ETS 38	250 312
	<b>SNL 3140</b>	22238 CCK/W33 22238-2CS5K C 2238 K	H 138/7 H 138/7 H 138/7	4 FRB 10/340 4 FRB 10/340 4 FRB 10/340	TS 40/7 TNF 40/7	ETS 40	290 347
	<b>SNL 3238</b>	23238 CCK/W33	H 338/7	2 FRB 6/340	TS 40/7 TNF 40/7	ETS 40	290 347
	<b>SNL 3148</b>	22338 CCK/W33	H 338/7	2 FRB 8/400	TS 48/7 TNF 48/7	ETS 48	315 396
	<b>SNL 3040</b>	23040 CCK/W33 23040-2CS5K C 3040 K	HE 3040 HE 3040 HE 3040	4 FRB 10/310 4 FRB 10/310 4 FRB 10/310	TS 40/7 TNF 40/7	ETS 40	270 327
	<b>SNL 3140</b>	23140 CCK/W33 23140-2CS5K C 3140 K	HE 3140 HE 3140 HE 3140	2 FRB 10/340 2 FRB 10/340 2 FRB 10/340	TS 40/7 TNF 40/7	ETS 40	290 347
	<b>SNL 3048</b>	22240 CCK/W33 22240-2CS5K	HE 3140 HE 3140	2 FRB 21/360 2 FRB 21/360	TS 48/7 TNF 48/7	ETS 48	300 380
	<b>SNL 3240</b>	23240 CCK/W33	HE 2340	2 FRB 6/360	TS 48/7 TNF 48/7	ETS 48	300 380
	<b>SNL 3056</b>	22340 CCK/W33	HE 2340	2 FRB 14/420	TS 56/7 TNF 56/7	ETS 56	330 404

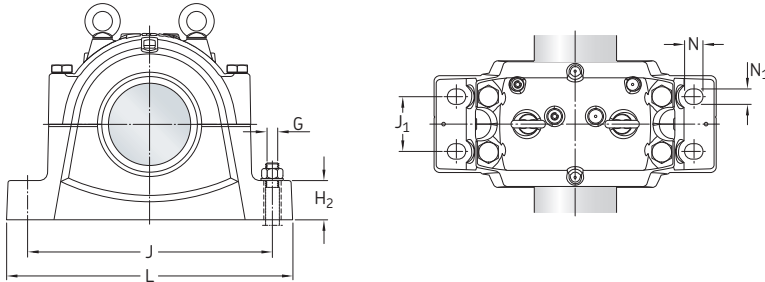
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

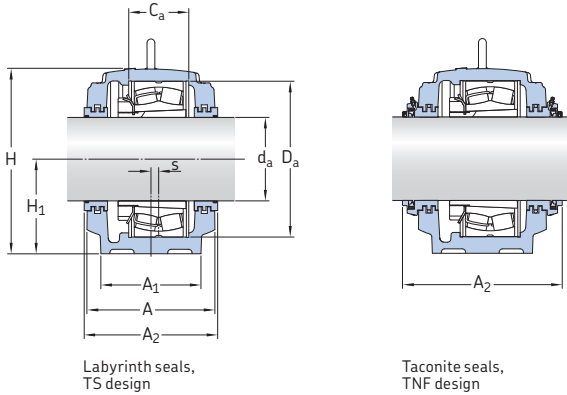
<sup>3)</sup> The locating rings fit the bearing in the same line only.



Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G				
in./mm	mm																in.	-	kg
<b>7</b> 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

$d_a$   $7 \frac{1}{8} - 7 \frac{3}{16}$  in.  
180,975 – 182,563 mm



Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–					mm
$7 \frac{1}{8}$ 180,975	SNL 3040	23040 CCK/W33 23040-2CS5K C 3040 K	H 3040/7.1/8 H 3040/7.1/8 H 3040/7.1/8	4 FRB 10/310 4 FRB 10/310 4 FRB 10/310	TS 40/7.1/8 TNF 40/7.1/8	ETS 40	270 327
	SNL 3048	22240 CCK/W33 22240-2CS5K	H 3140/7.1/8 H 3140/7.1/8	2 FRB 21/360 2 FRB 21/360	TS 48/7.1/8 TNF 48/7.1/8	ETS 48	300 380
	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
$7 \frac{3}{16}$ 182,563	SNL 3040	23040 CCK/W33 23040-2CS5K C 3040 K	HA 3040 HA 3040 HA 3040	4 FRB 10/310 4 FRB 10/310 4 FRB 10/310	TS 40/7.3/16 TNF 40/7.3/16	ETS 40	270 327
	SNL 3140	23140 CCK/W33 23140-2CS5K C 3140 K	HA 3140 HA 3140 HA 3140	2 FRB 10/340 2 FRB 10/340 2 FRB 10/340	TS 40/7.3/16 TNF 40/7.3/16	ETS 40	290 347
	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 22240-2CS5K	HA 3140 HA 3140	2 FRB 21/360 2 FRB 21/360	TS 48/7.3/16 TNF 48/7.3/16	ETS 48	300 380
	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

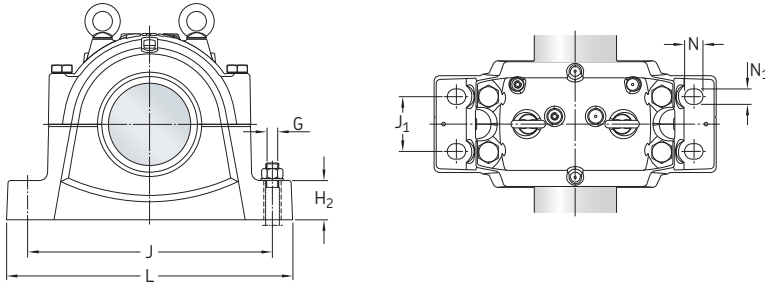
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

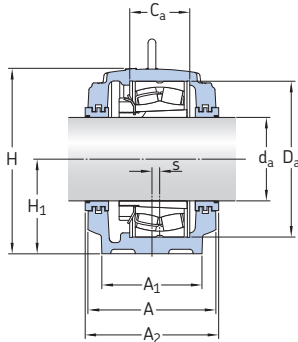
<sup>3)</sup> The locating rings fit the bearing in the same line only.



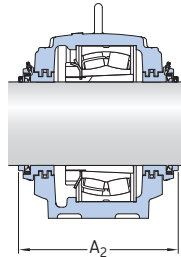
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>7 1/8</b> 180,975	260	210	122	310	375	190	80	480	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	
<b>7 3/16</b> 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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	ETS 48	300		
				TNF 48/7.1/4		380		
SNL 3056	22340 CCK/W33	H 2340/7.1/4	2 FRB 14/420	TS 56/7.1/4	ETS 56	330		
				TNF 56/7.1/4		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	ETS 48	315		
				TNF 48/7.13/16		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	ETS 48	315		
				TNF 48/7.7/8		396		

<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

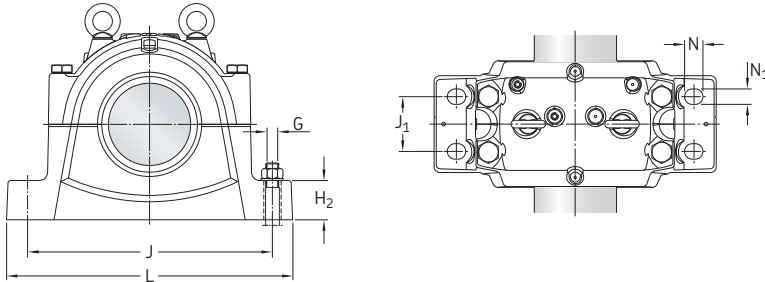
Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

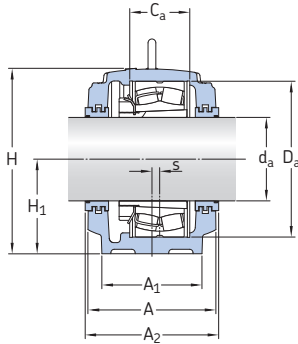




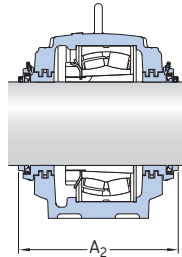
Shaft diameter	Dimensions																Eye bolt according to DIN 580	Mass Housing
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
d <sub>a</sub>	mm															in.	-	kg
in./mm																		
<b>7 1/4</b> 184,15	260	210	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	
<b>7 13/16</b> 198,438	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	
<b>7 7/8</b> 200,025	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	

## 5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

$d_a$  7 <sup>15</sup>/<sub>16</sub> – 8 <sup>7</sup>/<sub>16</sub> in.  
201,613 – 214,312 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$			
in./mm	–	–					mm			
7 <sup>15</sup> / <sub>16</sub> 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								
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	ETS 56	330				
				TNF 56/7.15/16			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 <sup>7</sup> / <sub>16</sub> 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	ETS 52	330				
				TNF 52/8.7/16			412			

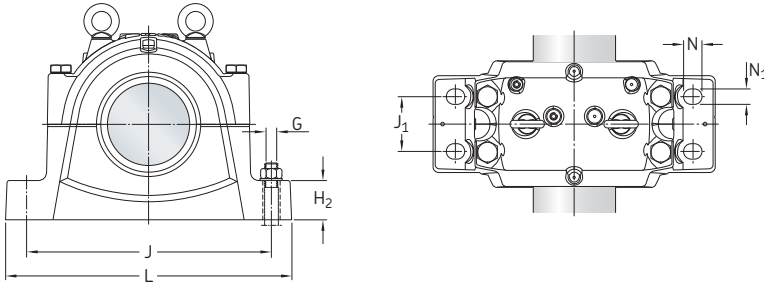
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

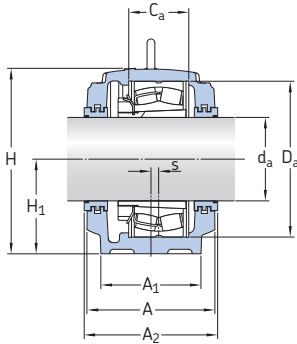
<sup>3)</sup> The locating rings fit the bearing in the same line only.



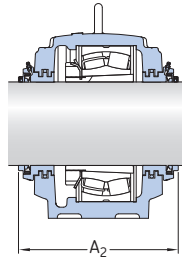
Shaft diameter	Dimensions																Eye bolt according to DIN 580	Mass Housing	
	$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G	G			
in./mm	mm																in.	-	kg
<b>7<sup>15</sup>/<sub>16</sub></b> 201,613	280	230	130	340	411	210	85	510	130	610	42	35	10	30	1 <sup>1</sup> / <sub>4</sub>	M 20	123		
	290	240	140	370	434	220	90	540	140	640	42	35	12	30	1 <sup>1</sup> / <sub>4</sub>	M 20	138		
	310	260	148	400	474	240	95	600	150	700	42	35	12	30	1 <sup>1</sup> / <sub>4</sub>	M 24	187		
	310	260	164	400	474	240	95	600	150	700	42	25	12	30	1 <sup>1</sup> / <sub>4</sub>	M 24	187		
	320	280	166	460	550	280	105	670	160	790	50	42	16	36	1 <sup>1</sup> / <sub>2</sub>	M 24	252		
<b>8</b> 203,2	280	230	130	340	411	210	85	510	130	610	42	35	10	30	1 <sup>1</sup> / <sub>4</sub>	M 20	123		
	310	260	148	400	474	240	95	600	150	700	42	35	12	30	1 <sup>1</sup> / <sub>4</sub>	M 24	187		
<b>8<sup>7</sup>/<sub>16</sub></b> 214,312	290	240	140	360	434	220	90	540	140	640	42	35	12	30	1 <sup>1</sup> / <sub>4</sub>	M 20	139		
	320	280	164	440	516	260	100	650	160	770	50	42	13	36	1 <sup>1</sup> / <sub>2</sub>	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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	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
		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
		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
		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
		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
		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	

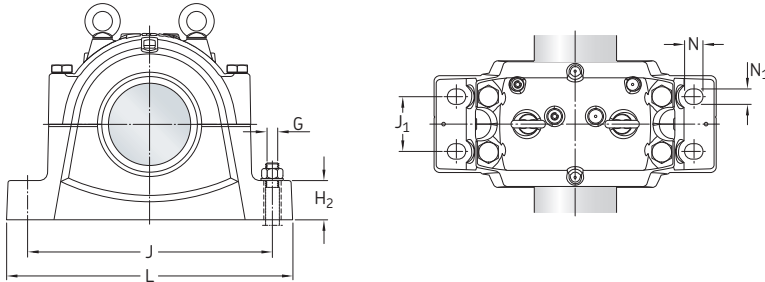
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

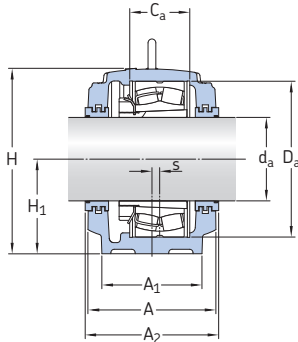
<sup>3)</sup> The locating rings fit the bearing in the same line only.



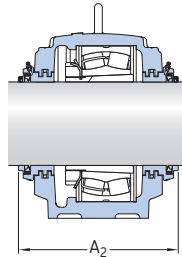
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G				
in./mm	mm																in.	-	kg
<b>8 1/2</b> 215,9	290	240	140	360	434	220	90	540	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		
<b>8 15/16</b> 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		
<b>9 7/16</b> 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	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>		
$d_a$									
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	H 052/9.1/2 E	2 FRB 22/400	TNF 52/9.1/2		394		
		C 3052 K	H 3052/9.1/2	2 FRB 22/400					
		SNL 3152	23152 CCK/W33	H 3152/9.1/2	2 FRB 10/440		TS 52/9.1/2	ETS 52	330
			23152-2CS5K	H 152/9.1/2 TL	2 FRB 10/440		TNF 52/9.1/2		412
		C 3152 K	H 152/9.1/2 TL	2 FRB 10/440					
9 15/16 252,413	SNL 3056	22252 CCK/W33	H 3152/9.1/2	2 FRB 25.5/480	TS 64/9.1/2	ETS 64	360		
		23252 CCK/W33	H 2352/9.1/2	2 FRB 10/480	TNF 64/9.1/2		434		
		22352 CCK/W33	H 2352/9.1/2	2 FRB 15.5/540	TS 64/9.1/2		ETS 64	360	
					TNF 64/9.1/2			434	
		SNL 3164	22352 CCK/W33	H 2352/9.1/2	2 FRB 15.5/540		TS 64/9.1/2	ETS 64	380
				TNF 64/9.1/2	454				
10 254	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		
10 254	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	OH 3156/10 HTL	2 FRB 10/460	TNF 56/10		404		
		C 3156 K	OH 3156/10 HTL	2 FRB 10/460					
	SNL 3160	22256 CCK/W33	OH 3156/10 H	2 FRB 25/500	TS 60/10	ETS 60	360		
					TNF 60/10		434		

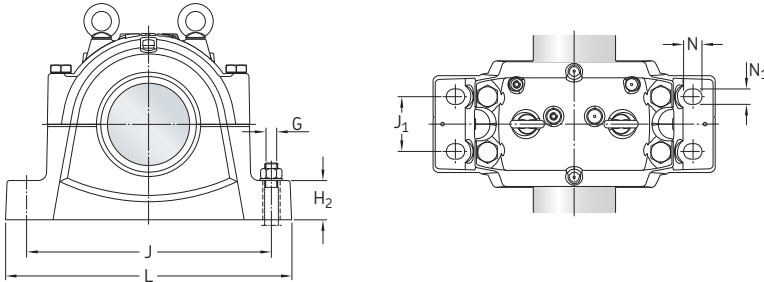
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

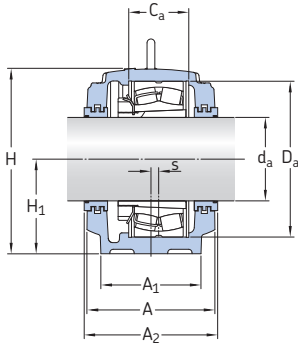
<sup>3)</sup> The locating rings fit the bearing in the same line only.



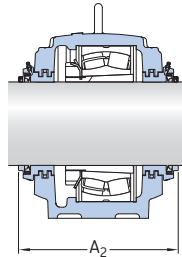
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G				
in./mm	mm																in.	-	kg
<b>9 1/2</b> 241,3	310	260	148	400	474	240	95	600	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		
<b>9 15/16</b> 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		
<b>10</b> 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 $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
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

<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

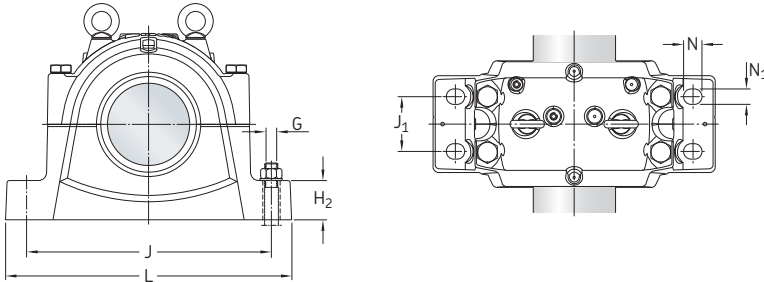
Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

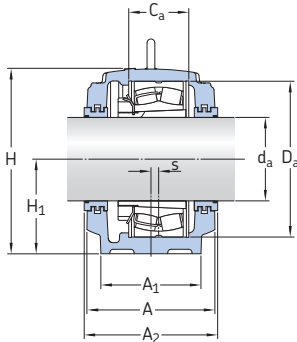




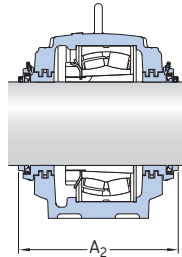
Shaft diameter	Dimensions																Eye bolt according to DIN 580	Mass Housing kg	
	$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G	G			
in./mm	mm																in.	-	kg
<b>10 7/16</b> 265,113	320	280	166	420	516	260	100	650	160	770	50	42	13	36	1 1/2	M 24	221		
	320	280	166	460	550	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		
<b>10 1/2</b> 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



Labyrinth seals,  
TS design



Taconite seals,  
TNF design

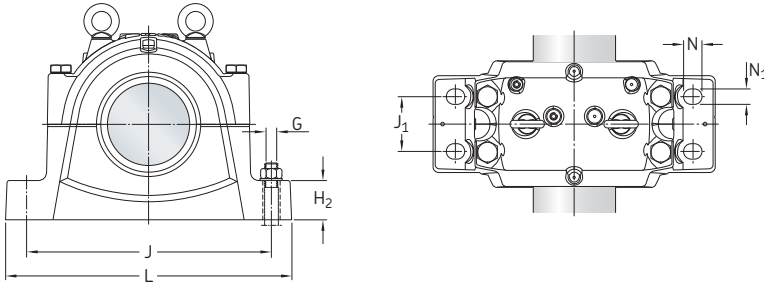
Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							mm
in./mm	–	–					mm
$10^{15/16}$ 277,813	SNL 3060	23060 CCK/W33 C3060 KM	OH 060/10.15/16 H OH 3060/10.15/16 H	2 FRB 25/460 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

<sup>1)</sup> 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.

<sup>2)</sup> 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.

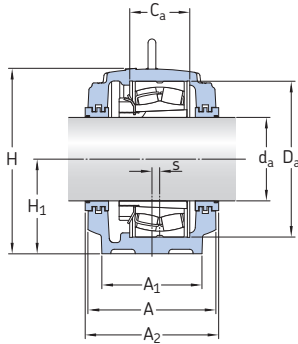
<sup>3)</sup> The locating rings fit the bearing in the same line only.



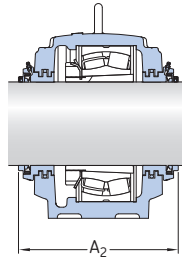
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>10<sup>15/16</sup></b> 277,813	320	280	168	460	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	
<b>11</b> 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	
<b>11<sup>7/16</sup></b> 290,513	350	310	181	480	591	300	110	710	190	830	50	42	22	36	1 1/2	M 30	301	
	<b>11 1/2</b> 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
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

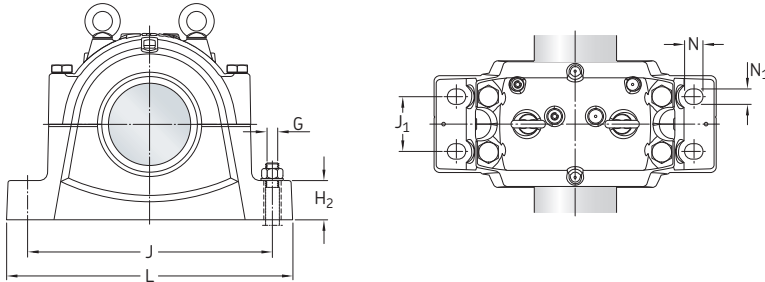
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

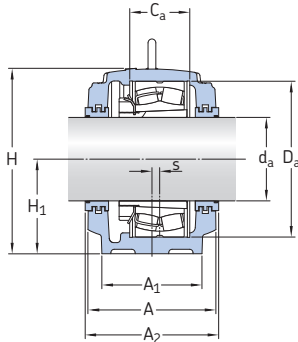
<sup>3)</sup> The locating rings fit the bearing in the same line only.



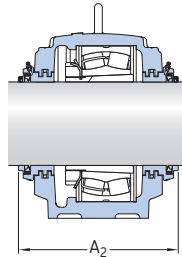
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>11<sup>15/16</sup></b> 303,213	350	310	181	480	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	
<b>12</b> 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 $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
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

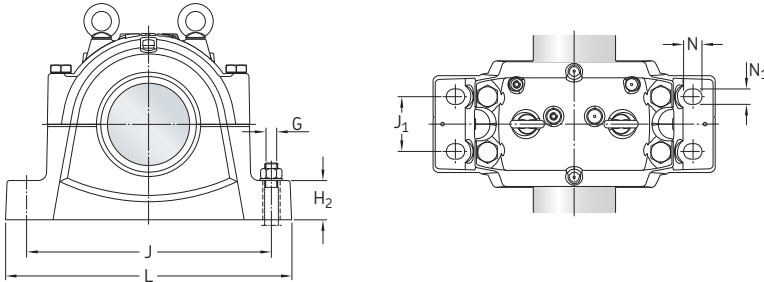
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

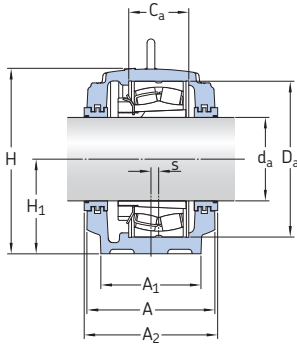
<sup>3)</sup> The locating rings fit the bearing in the same line only.



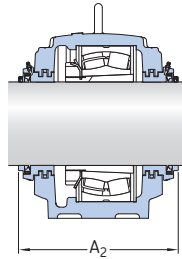
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>127<sub>16</sub></b> 315,913	370	330	197	520	631	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	
<b>121<sub>2</sub></b> 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$							
in./mm	–	–					mm
$12 \frac{15}{16}$ 328,613	SNL 3072	23072 CCK/W33	OH 072/12.15/16 H	4 FRB 16/540	TS 72/12.15/16	ETS 72	380
		C 3072 KM	OH 3072/12.15/16 H	4 FRB 16/540	TNF 72/12.15/16		
13 330,2	SNL 3072	23072 CCK/W33	OH 3072/13 H	4 FRB 16/540	TS 72/13	ETS 72	380
		C 3072 KM	OH 3072/13 H	4 FRB 16/540	TNF 72/13		
	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	H 3072/13.7/16	4 FRB 16/540	TS 72/13.7/16	ETS 72	380
		C 3072 KM	H 3072/13.7/16	4 FRB 16/540	TNF 72/13.7/16		
	SNL 3172 F	23172 CCK/W33	H 3172/13.7/16	–	TS 72/13.7/16	ETS 72	410
		C 3172 KM	H 3172/13.7/16	–	TNF 72/13.7/16		
	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	

<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

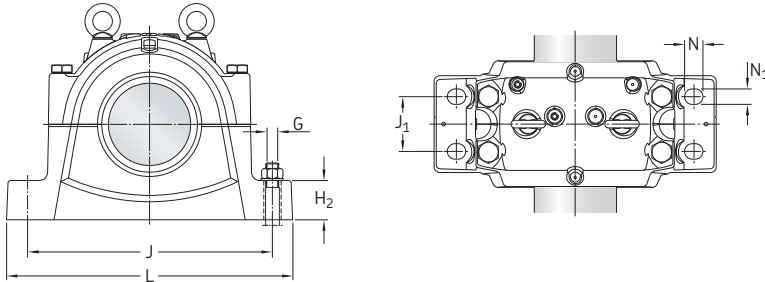
Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

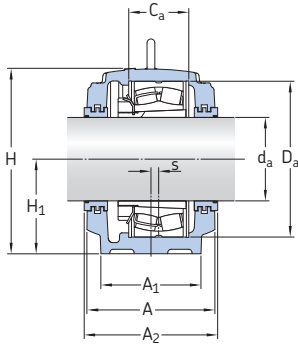




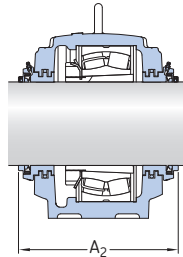
Shaft diameter	Dimensions																Eye bolt according to DIN 580	Mass Housing	
	$d_a$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G	G			
in./mm	mm																in.	-	kg
<b>12<sup>15/16</sup></b> 328,613	370	330	198	540	631	320	115	750	200	880	50	42	23	36	1 1/2	M 30	339		
<b>13</b> 330,2	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		
<b>13 7/16</b> 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–					mm
13 1/2 342,9	SNL 3072	23072 CCK/W33 C3072 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 C3172 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 C3076 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 C3176 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

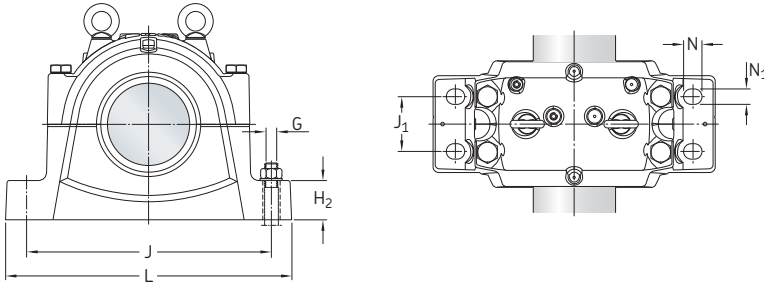
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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.

<sup>3)</sup> The locating rings fit the bearing in the same line only.

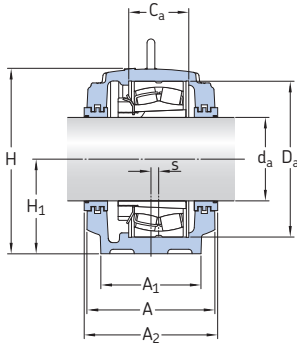


Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G				
in./mm	mm																in.	-	kg
<b>13<sup>1/2</sup></b> 342,9	370	330	198	540	631	320	115	750	200	880	50	42	23	36	1 <sup>1/2</sup>	M 30	339		
	400	360	192	600	695	350	120	840	220	1000	50	42	30	36	1 <sup>1/2</sup>	M 36	458		
	400	360	212	600	695	350	120	840	220	1000	50	42	30	36	1 <sup>1/2</sup>	M 36	454		
	430	390	220	650	755	380	125	950	240	1120	60	48	30	42	1 <sup>3/4</sup>	M 42	595		
	430	390	232	650	755	380	125	950	240	1120	60	48	30	42	1 <sup>3/4</sup>	M 42	595		
	430	390	252	650	755	380	125	950	240	1120	60	48	30	42	1 <sup>3/4</sup>	M 42	595		
<b>13<sup>15/16</sup></b> 354,013	400	360	135	560	675	340	120	810	220	950	50	42	24	36	1 <sup>1/2</sup>	M 30	430		
	400	360	180	560	675	340	120	810	220	950	50	42	24	36	1 <sup>1/2</sup>	M 30	427		
	400	360	194	620	715	360	120	870	220	1040	50	42	30	36	1 <sup>1/2</sup>	M 36	473		
	400	360	214	620	715	360	120	870	220	1040	50	42	30	36	1 <sup>1/2</sup>	M 36	470		
	460	420	240	680	810	410	130	1000	260	1170	60	48	35	42	1 <sup>3/4</sup>	M 42	716		
	460	420	260	680	810	410	130	1000	260	1170	60	48	35	42	1 <sup>3/4</sup>	M 42	709		

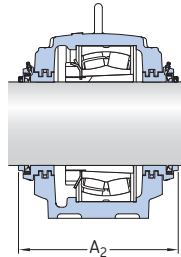
## 5.2 Large SNL plummer block housings for bearings on an adapter sleeve, inch shafts

$d_a$  14 – 15 in.

355,6 – 381 mm



Labyrinth seals,  
TS design



Taconite seals,  
TNF design

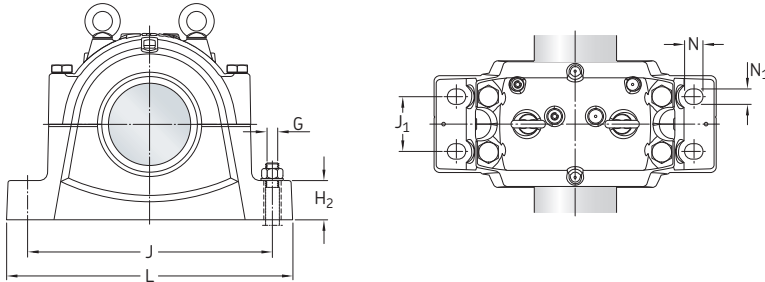
Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–				mm
14 355,6	SNL 3076 F	23076 CCK/W33 C 3076 KM	OH 076/14 H OH 3076/14 H	TS 76/14 TNF 76/14	ETS 76	410 483
	SNL 3076 L	23076 CCK/W33	OH 3076/14 H	TS 76/14 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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

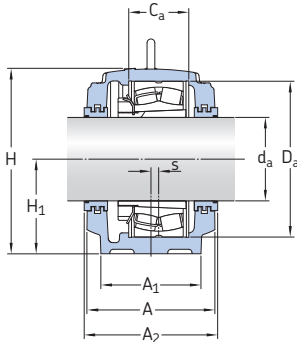
Only typical adapter sleeves are listed. Other variants can also fit the housing.



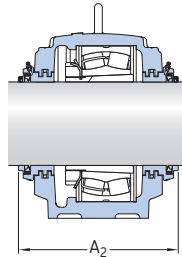
Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G				
in./mm	mm																in.	-	kg
<b>14</b> 355,6	400	360	135	560	675	340	120	810	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		
<b>15</b> 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

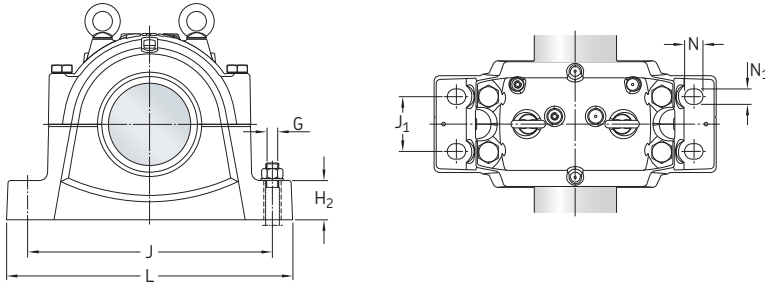
Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Seals	End cover	Width incl. seals $A_2$
in./mm	–	–				mm
15 3/4 400,05	SNL 3084 F	23084 CAK/W33 C 3084 KM	H 3084/15.3/4 H 3084/15.3/4	TS 84/15.3/4 TNF 84/15.3/4	ETS 84	410 483
	SNL 3084 L	23084 CAK/W33	H 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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

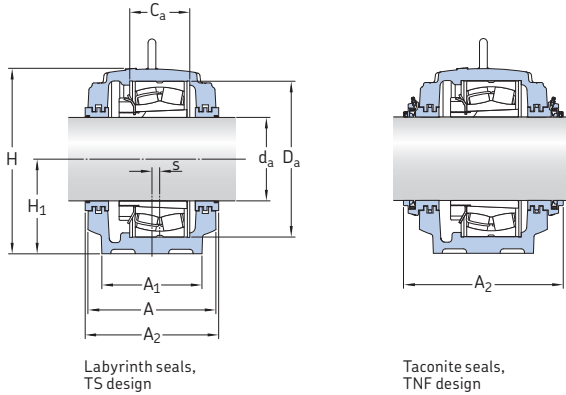
Only typical adapter sleeves are listed. Other variants can also fit the housing.



Shaft diameter $d_a$	Dimensions																Eye bolt according to DIN 580	Mass Housing kg
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>15 3/4</b> 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	
<b>16 1/2</b> 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



Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	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

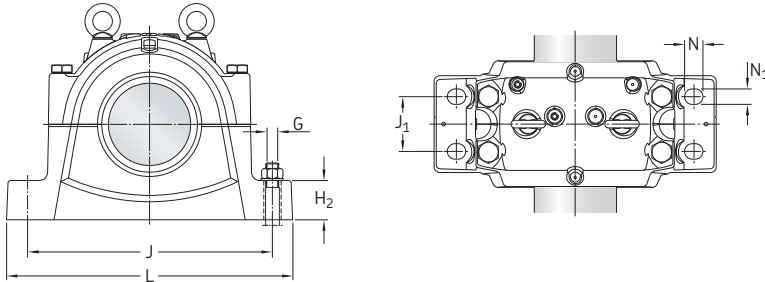
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00)... – spherical roller bearing, C... – CARB toroidal roller bearing.

Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only. If an oil lubricated adapter sleeve is wanted, contact SKF for availability.

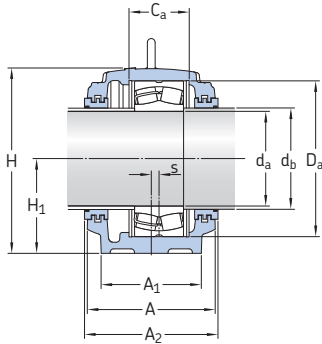
Only typical adapter sleeves are listed. Other variants can also fit the housing.



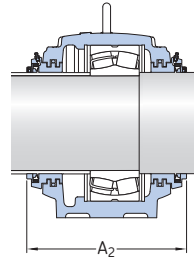


Shaft diameter $d_a$	Dimensions															Eye bolt according to DIN 580	Mass Housing kg	
	A	A <sub>1</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G			
in./mm	mm															in.	-	kg
<b>17</b> 431,8	460	420	163	680	810	410	130	1000	260	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	
<b>18</b> 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	
<b>18 1/2</b> 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	
<b>19 1/2</b> 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

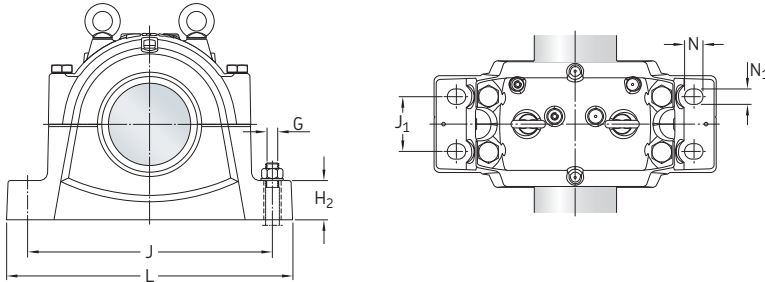


Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	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

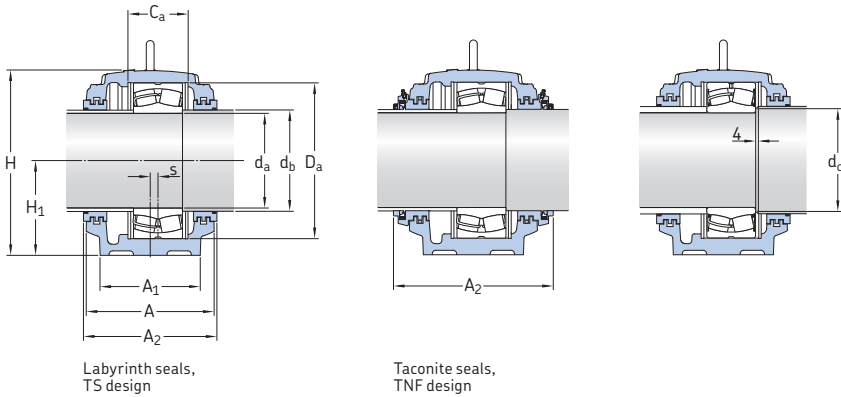
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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
<b>130</b>	150	230	180	108	280	333	170	70	430	100	510	34	28	14	24	M16	69,5
<b>140</b>	160	240	190	116	300	353	180	75	450	110	530	34	28	15	24	M16	77,5
<b>150</b>	170	260	210	124	320	375	190	80	480	120	560	34	28	10	24	M20	97,5
<b>160</b>	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
<b>170</b>	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<sub>a</sub> 180 – 190 mm



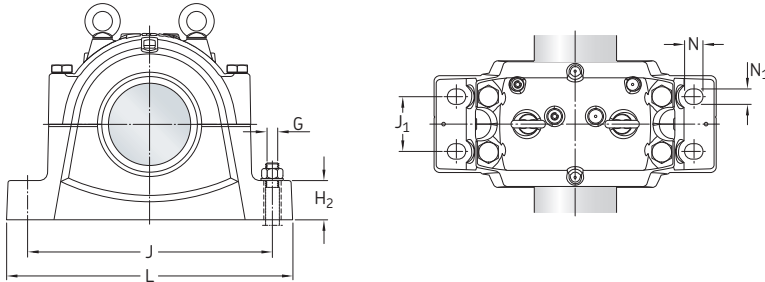
Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>	
mm	–	–				mm	
180	SNL 3036 G	23036 CC/W33	2 FRB 17/280	TS 44	ETS 44	240 301	
		23036-2CS5 <sup>3)</sup>	2 FRB 17/280	TNF 44			
		24036 CC/W33	2 FRB 4/280				
		24036-2CS5 <sup>3)</sup>	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				
	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	
				TNF 48/210			

<sup>1)</sup> 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.

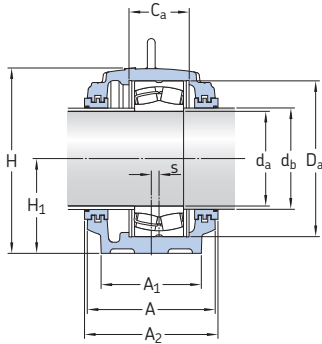
<sup>2)</sup> The locating rings fit the bearing in the same line only.

<sup>3)</sup> The shaft must be modified according to the d<sub>c</sub> value for the bearing.

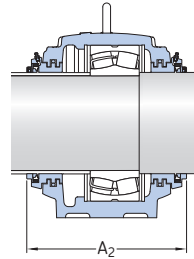


Shaft diameter		Dimensions Housings																Eye bolt according to DIN 580	Mass Housing		
$d_a$	$d_b$	$d_c$ min	$d_c$ max	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		kg		
mm				mm																-	kg
<b>180</b>	200	191	199	230	180	108	280	333	170	70	430	100	510	34	28	14	24	M16	69,5		
		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		
	200	-	-	260	210	124	320	375	190	80	480	120	560	34	28	10	24	M20	97,5		
<b>190</b>	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

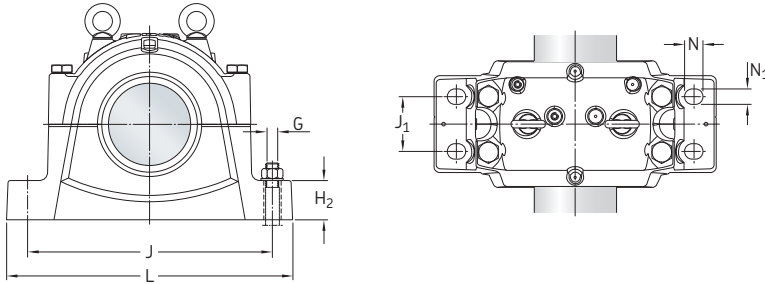


Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	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 TNF 56/220	ETS 56	330 404	

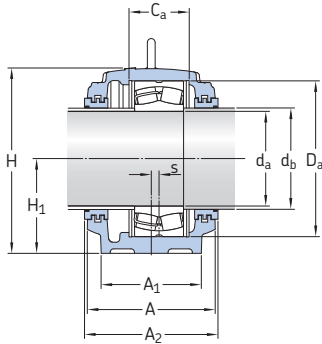
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> The locating rings fit the bearing in the same line only.

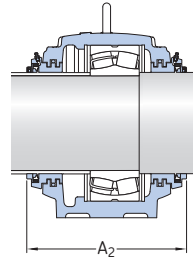


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing
$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		
mm	mm															-	kg
200	220	260	210	122	310	375	190	80	480	120	560	34	28	10	24	M 20	97,5
	220	280	230	132	340	411	210	85	510	130	610	42	35	10	30	M 20	123
	220	290	240	140	360	434	220	90	540	140	640	42	35	12	30	M 20	139
	220	290	240	140	360	434	220	90	540	140	640	42	35	12	30	M 20	139
	220	320	280	166	420	516	260	100	650	160	770	50	42	13	36	M 24	221

### 5.3 Large SNL plummer block housings for bearings on a cylindrical seat $d_a$ 220 mm



Labyrinth seals,  
TS design



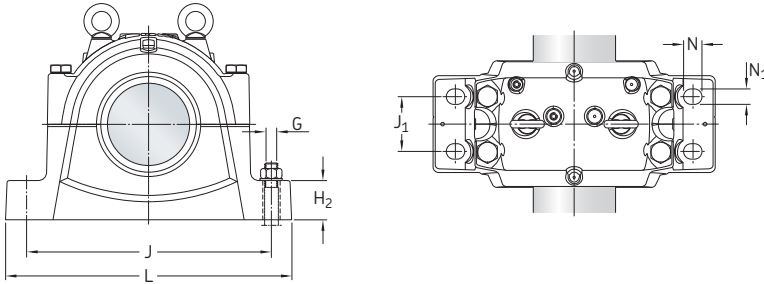
Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	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	23144 CC/W33	2 FRB 6/340	2 FRB 10/370	TS 52	ETS 52	300
		C 3044	4 FRB 10/340		TNF 52		372
	SNL 3244 G	23244 CC/W33	2 FRB 10/400	TS 56/240	ETS 56	315	
	SNL 3148 G	22244 CC/W33	4 FRB 10/400	TNF 56/240		386	
SNL 3156	22344 CC/W33	22244-2CS5	4 FRB 10/400	TS 56/240	ETS 56	315	
		C 2244	4 FRB 10/400	TNF 56/240		386	
		22344 CC/W33	2 FRB 10.5/460	TS 56/240	ETS 56	330	
				TNF 56/240		404	

<sup>1)</sup> 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.

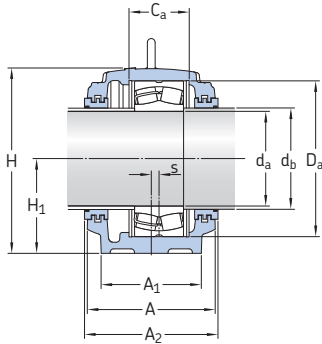
<sup>2)</sup> The locating rings fit the bearing in the same line only.



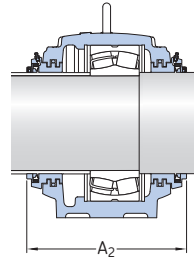


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing kg
	$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s		
mm	mm															-	kg
220	240	280	230	130	340	411	210	85	510	130	610	42	35	10	30	M20	123
	240	290	240	140	370	434	220	90	540	140	640	42	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<sub>a</sub> 240 – 260 mm



Labyrinth seals,  
TS design

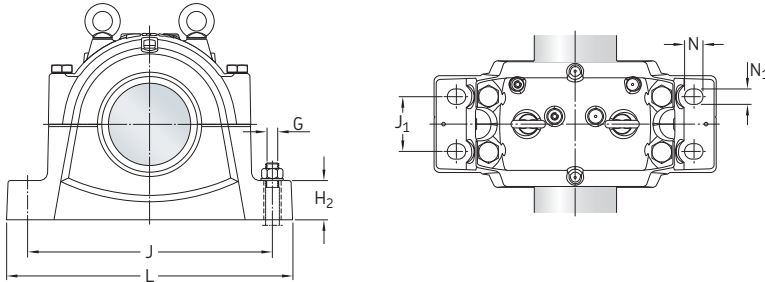


Taconite seals,  
TNF design

Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>	
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 23148-2CS5 C 3148	2 FRB 10/400	2 FRB 10/400	TS 56	ETS 56	315 386	
		2 FRB 10/400	2 FRB 10/400	TNF 56			
		2 FRB 10/400	2 FRB 10/400				
SNL 3248 G	23248 CC/W33	2 FRB 10/440	2 FRB 10/440	TS 60/260 TNF 60/260	ETS 60	330 404	
SNL 3152 G	22248 CC/W33	2 FRB 22/440	2 FRB 22/440	TS 60/260 TNF 60/260	ETS 60	330 412	
SNL 3160	22348 CC/W33	2 FRB 12.5/500	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 23152-2CS5 C 3152	2 FRB 10/440	2 FRB 10/440	TS 60	ETS 60	330 412
			2 FRB 10/440	2 FRB 10/440	TNF 60		
			2 FRB 10/440	2 FRB 10/440			
SNL 3252 G	23252 CC/W33	2 FRB 10/480	2 FRB 10/480	TS 64/280 TNF 64/280	ETS 64	360 434	
SNL 3064	22252 CC/W33	2 FRB 25.5/480	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	2 FRB 15.5/540	TS 64/290 TNF 64/290	ETS 64	380 454	

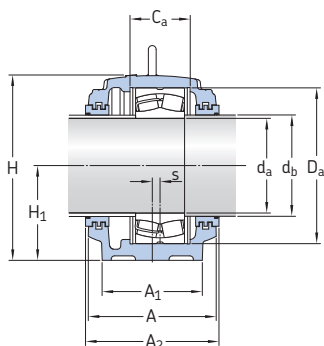
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> The locating rings fit the bearing in the same line only.

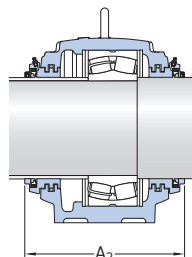


Shaft diameter	Dimensions Housings																Eye bolt according to DIN 580	Mass Housing kg
	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm																-	kg
240	260	290	240	140	360	434	220	90	540	140	640	42	35	12	30	M 20	139	
	260	310	260	148	400	474	240	95	600	150	700	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<sub>a</sub> 280 – 300 mm



Labyrinth seals,  
TS design

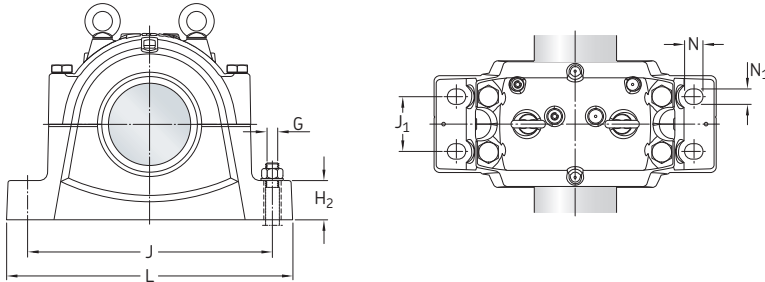


Taconite seals,  
TNF design

Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
mm	–	–				mm
280	SNL 3056 G	23056 CC/W33	6 FRB 10/420	TS 64	ETS 64	330
		24056 CC/W33	2 FRB 13/420	TNF 64		404
	SNL 3156 G	23156 CC/W33	2 FRB 10/460	TS 64	ETS 64	330
		C 3156	2 FRB 10/460	TNF 64		404
	SNL 3256 G	23256 CC/W33	2 FRB 10/500	TS 68/300	ETS 68	360
			TNF 68/300	433		
280	SNL 3160 G	22256 CC/W33	2 FRB 25/500	TS 68/300	ETS 68	360
				TNF 68/300		433
	SNL 3168 L	22356 CC/W33	2 FRB 17.5/580	TS 68/310		ETS 68
			TNF 68/310	483		
300	SNL 3060 G	23060 CC/W33	2 FRB 25/460	TS 68	ETS 68	330
		24060 CC/W33	2 FRB 4/460	TNF 68		403
		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
		C 3160	2 FRB 10/500	TNF 68		433
	SNL 3260 G	23260 CC/W33	2 FRB 10/540	TS 72/320	ETS 72	380
				TNF 72/320		453
SNL 3164 G	22260 CC/W33	2 FRB 28/540	TS 72/320	ETS 72	380	
			TNF 72/320		453	

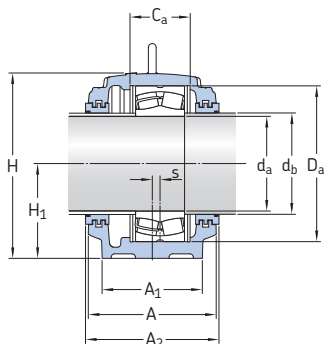
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> The locating rings fit the bearing in the same line only.

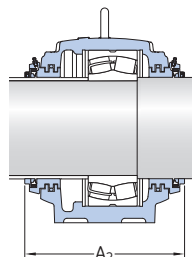


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing
$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		
mm	mm															-	kg
<b>280</b>	300	320	280	166	420	516	260	100	650	160	770	50	42	13	36	M 24	221
	300	320	280	166	460	550	280	105	670	160	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
<b>300</b>	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<sub>a</sub> 320 – 340 mm



Labyrinth seals,  
TS design

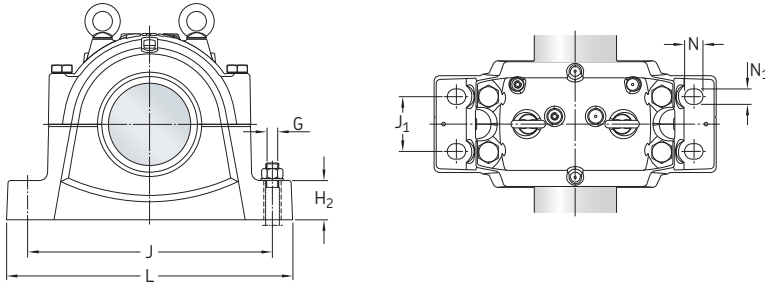


Taconite seals,  
TNF design

Shaft diameter d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
mm	–	–				mm
320	SNL 3064 G	23064 CC/W33	6 FRB 10/480	TS 72	ETS 72	360
		24064 CC/W33	2 FRB 10.5/480	TNF 72		433
		C 3064 M	6 FRB 10/480			
	SNL 3164 G	23164 CC/W33	2 FRB 10/540	TS 72	ETS 72	380
		23164-2CS5	2 FRB 10/540	TNF 72		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	4 FRB 16/520	TS 76	ETS 76	380
		24068 CC/W33	2 FRB 8.5/520	TNF 76		453
		C 3068 M	4 FRB 16/520			
	SNL 3168 GF	23168 CC/W33	–	TS 76	ETS 76	410
		23168-2CS5	–	TNF 76		483
		SNL 3168 GL	23168 CC/W33	–	TS 76	ETS 76
	SNL 3268 GF	23168-2CS5	–	TNF 76	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

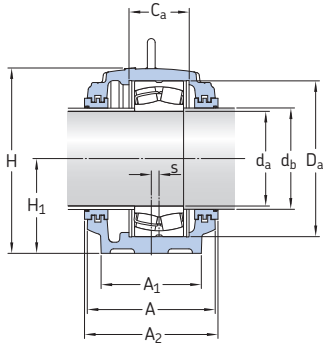
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> The locating rings fit the bearing in the same line only.

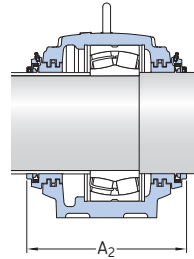


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing
$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		
mm	mm															-	kg
<b>320</b>	340	350	310	181	480	591	300	110	710	190	830	50	42	22	36	M 30	301
	340	370	330	196	540	631	320	115	750	200	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
<b>340</b>	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



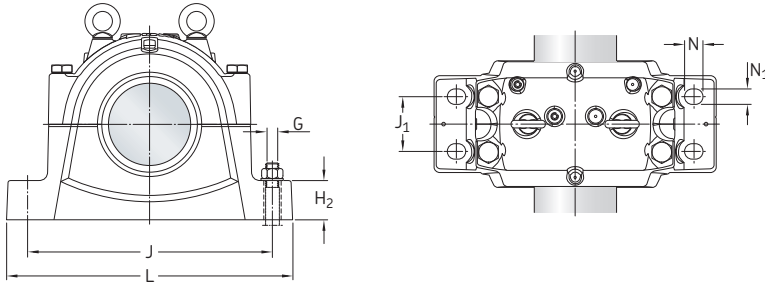
Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	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

<sup>1)</sup> 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.

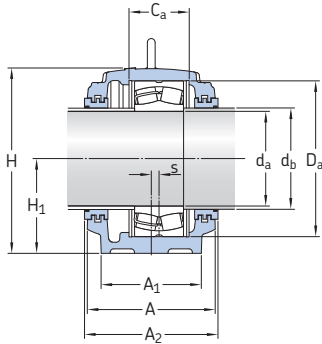
<sup>2)</sup> The locating rings fit the bearing in the same line only.



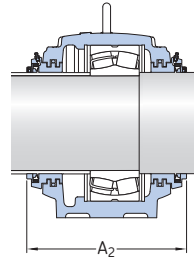


Shaft diameter	Dimensions Housings																Eye bolt according to DIN 580	Mass Housing
$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm																-	kg
360	380	370	330	198	540	631	320	115	750	200	880	50	42	23	36	M 30	339	
	380	400	360	192	600	695	350	120	840	220	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



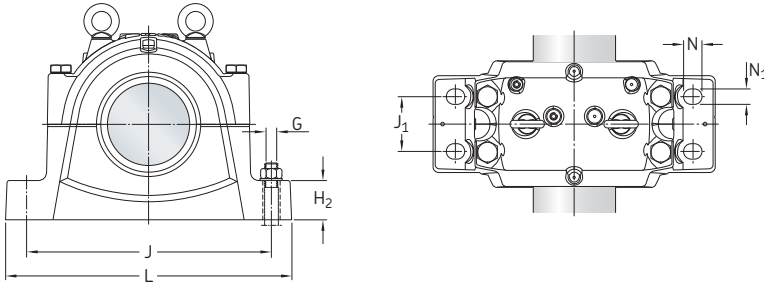
Labyrinth seals,  
TS design



Taconite seals,  
TNF design

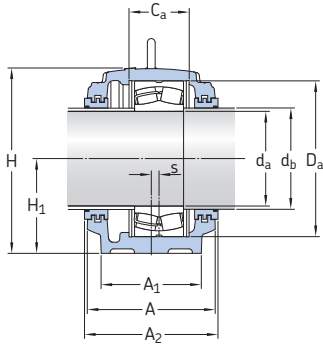
Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$					
mm	–	–			mm
380	SNL 3076 GF	23076 CC/W33 C 3076 M	TS 84 TNF 84	ETS 84	410 483
	SNL 3076 GL	23076 CC/W33	TS 84 TNF 84	ETS 84	410 483
	SNL 3176 GF	23176 CA/W33	TS 84 TNF 84	ETS 84	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

<sup>1)</sup> 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.

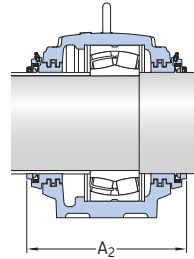


Shaft diameter	Dimensions																Eye bolt according to DIN 580	Mass Housing
	Housings																	
$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G			
mm	mm															-	kg	
<b>380</b>	400	400	360	135	560	675	340	120	810	220	950	50	42	24	36	M 30	430	
	400	400	360	180	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



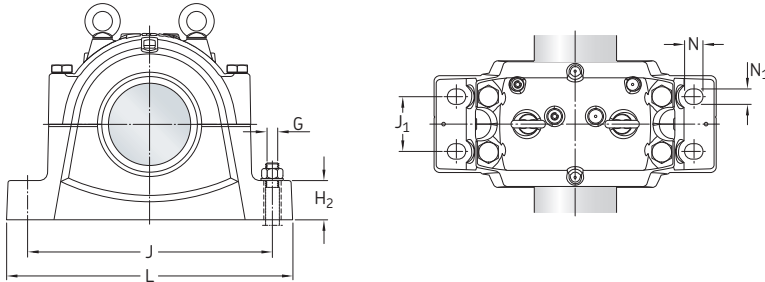
Labyrinth seals,  
TS design



Taconite seals,  
TNF design

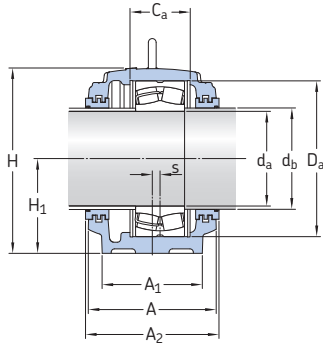
Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Seals	End cover	Width incl. seals $A_2$
mm	–	–			mm
400	SNL 3080 GF	23080 CC/W33 C 3080 M	TS 92 TNF 92	ETS 92	410 483
	SNL 3080 GL	23080 CC/W33	TS 92 TNF 92	ETS 92	410 483
	SNL 3180 GF	23180 CA/W33 23180-2CS5 C 3180 M	TS 92 TNF 92	ETS 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

<sup>1)</sup> 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.

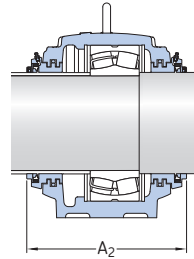


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing
	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		
mm	mm															-	kg
400	430	400	360	148	600	695	350	120	840	220	1000	50	42	30	36	M 36	458
	430	400	360	192	600	695	350	120	840	220	1000	50	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



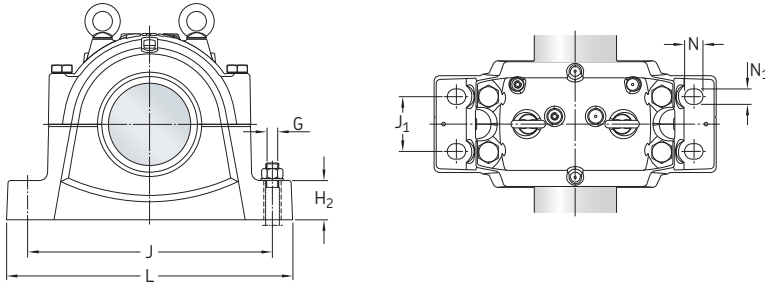
Labyrinth seals,  
TS design



Taconite seals,  
TNF design

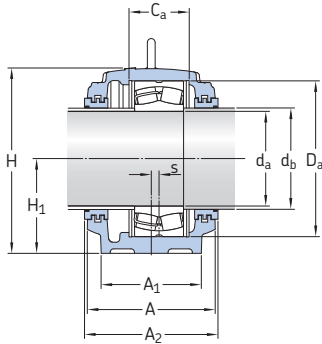
Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Seals	End cover	Width incl. seals $A_2$
mm	–	–			mm
420	SNL 3084 GF	23084 CA/W33 C 3084 M	TS 96 TNF 96	ETS 96	410 483
	SNL 3084 GL	23084 CA/W33	TS 96 TNF 96	ETS 96	410 483
	SNL 3184 GF	23184 CJ/W33 C 3184 M	TS 96 TNF 96	ETS 96	470 543
	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

<sup>1)</sup> 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.

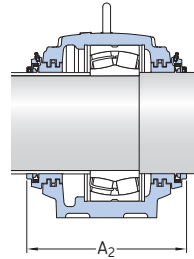


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing
	$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s		
mm	mm															-	kg
<b>420</b>	450	400	360	150	620	715	360	120	870	220	1040	50	42	30	36	M36	473
	450	400	360	194	620	715	360	120	870	220	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

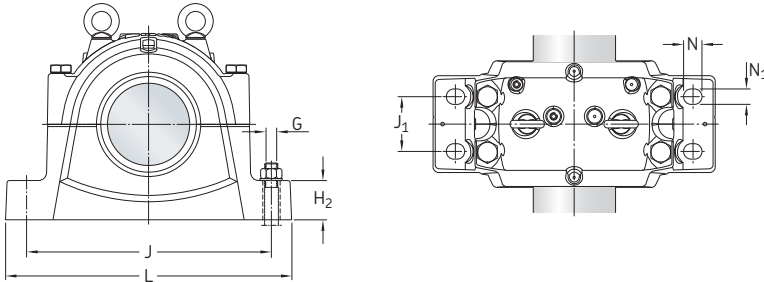


Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	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

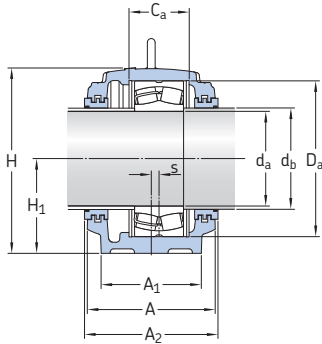
<sup>1)</sup> 222(00), 223(00), 230(00), 231(00), 232(00), 240(00) – spherical roller bearing, C... – CARB toroidal roller bearing.  
 Only typical bearings are listed. Other bearing variants can also fit the housing.



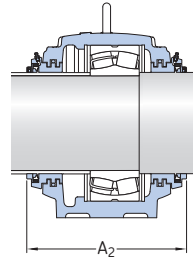


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing
$d_a$	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		
mm	mm															-	kg
440	470	430	390	157	650	755	380	125	950	240	1120	60	48	30	42	M 42	595
	470	430	390	200	650	755	380	125	950	240	1120	60	48	30	42	M 42	595
	470	460	430	226	720	835	420	135	1030	260	1220	60	48	35	42	M 42	755
	470	460	430	246	720	835	420	135	1030	260	1220	60	48	35	42	M 42	751
	480	470	440	280	790	920	460	155	1110	260	1330	70	56	40	48	M 48	947
	480	470	440	300	790	920	460	155	1110	260	1330	70	56	40	48	M 48	941
	470	430	390	212	650	755	380	125	950	240	1120	60	48	30	42	M 42	595
	470	430	390	232	650	755	380	125	950	240	1120	60	48	30	42	M 42	595

### 5.3 Large SNL plunger block housings for bearings on a cylindrical seat $d_a$ 460 – 480 mm



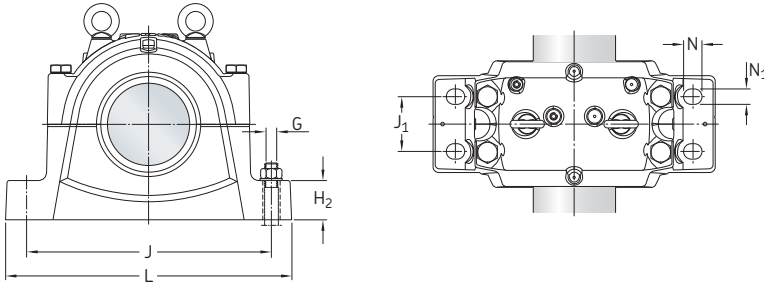
Labyrinth seals,  
TS design



Taconite seals,  
TNF design

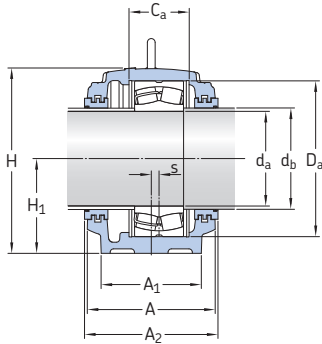
Shaft diameter	Housing	Appropriate parts Bearing <sup>1)</sup>	Seals	End cover	Width incl. seals A <sub>2</sub>
$d_a$					
mm	–	–			mm
460	SNL 3092 GF	23092 CA/W33 C 3092 M	TS 530 TNF 530	ETS 530	470 543
	SNL 3092 GL	23092 CA/W33	TS 530 TNF 530	ETS 530	470 543
	SNL 3192 GF	23192 CA/W33 C 3192 M	TS 530 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

<sup>1)</sup> 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.

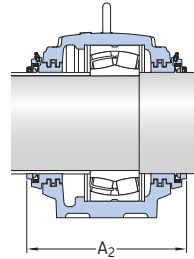


Shaft diameter	Dimensions Housings															Eye bolt according to DIN 580	Mass Housing kg
	$d_b$	A	$A_1$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	s	G		
mm	mm															-	kg
460	500	460	420	163	680	810	410	130	1000	260	1170	60	48	35	42	M42	716
	500	460	420	224	680	810	410	130	1000	260	1170	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



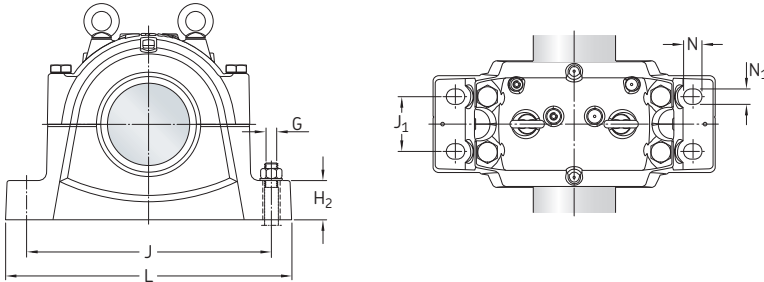
Labyrinth seals,  
TS design



Taconite seals,  
TNF design

Shaft diameter $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	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

<sup>1)</sup> 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
<b>500</b>	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
<b>530</b>	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

## **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

### Suffixes<sup>1)</sup>

**–** 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)

<sup>1)</sup> 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.

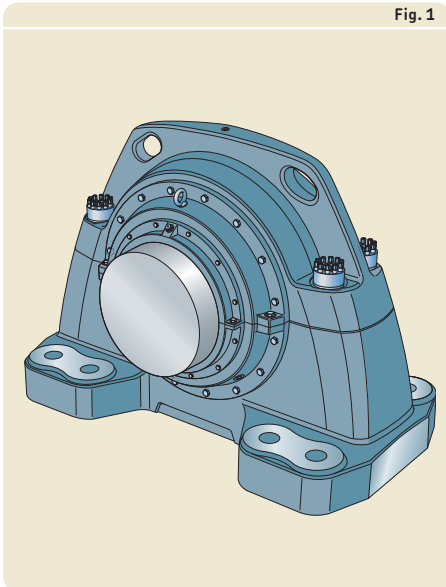


Fig. 1

### 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

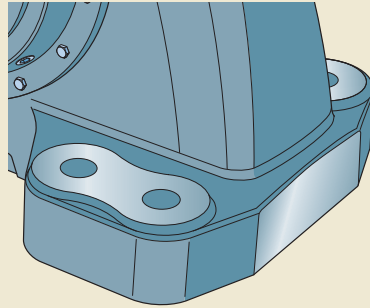


Fig. 2

Stiff housing

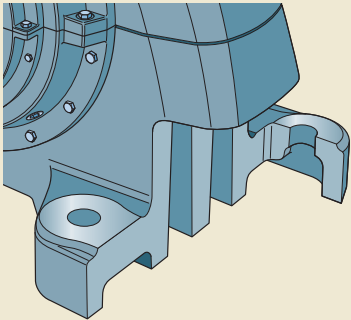


Fig. 5

Lifting holes

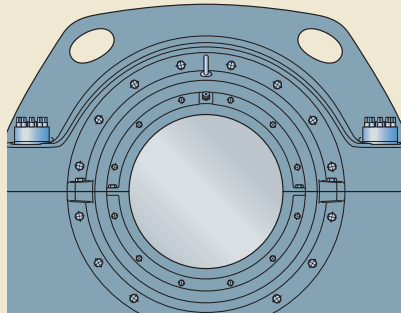


Fig. 3

Superbolts

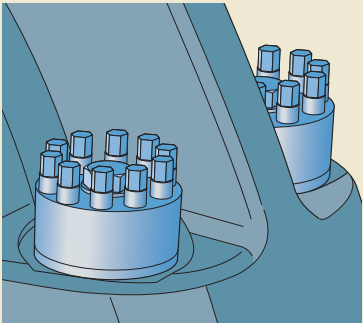
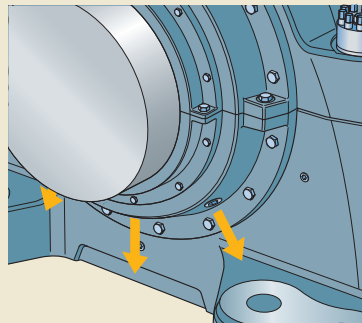


Fig. 6

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 relubrication 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

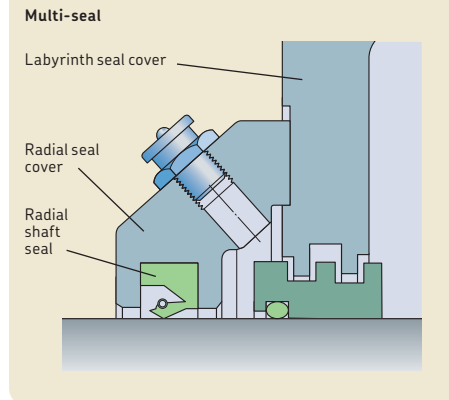


Table 1

#### 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 <sup>1)</sup> [m/s]	7,5
Max. misalignment [°]	0,3
Low friction	suitable
Shaft tolerance class	h9
Shaft roughness R <sub>a</sub> [µm]	≤ 3,2

##### Sealing suitability

Dust	++
Fine particles	++
Coarse particles	++
Chips	++
Liquids when sprayed	+
Direct sunlight	++
Symbols: ++ very suitable	+ suitable

<sup>1)</sup> 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](http://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.

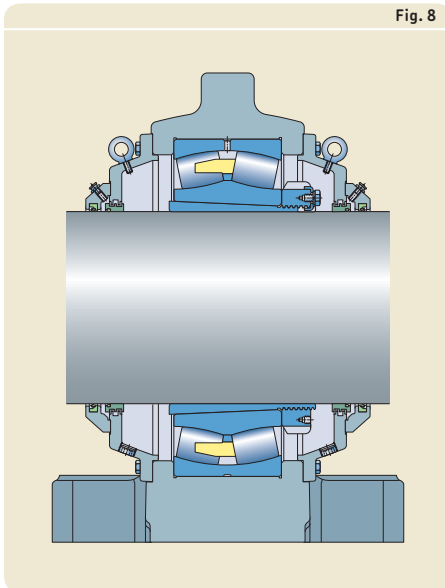
## Locating and non-locating bearing positions

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**.

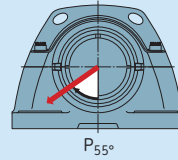
If the housing is not supported over its entire base, the load carrying capacity may be affected. For additional information, contact the SKF application engineering service.

**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 $P_{55^\circ}$
–	kN
1	26 000
2	30 000
3	35 000
4	48 000
5	49 000
6	69 000

6

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](http://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](http://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

<sup>1)</sup> 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 <sup>1)</sup>	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](http://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

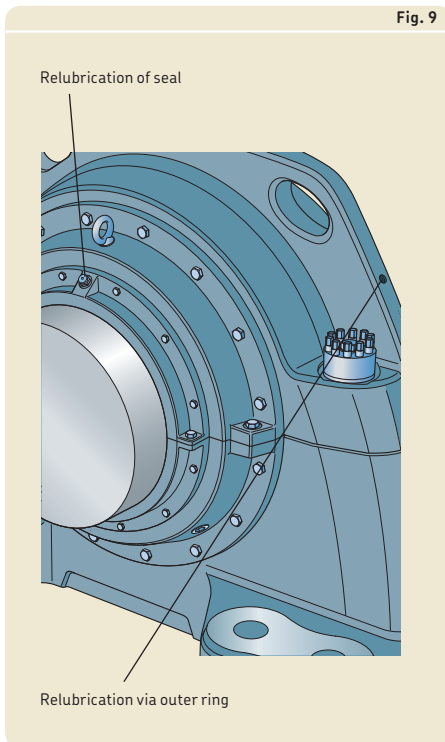
SED housings with the designation suffix RT can be used for circulating oil lubrication systems. The same holes that are used for grease relubrication (via the annular groove and lubrication holes in the outer ring of the bearing) can be used as the oil inlet.

## 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](http://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 8800<sup>1)</sup>.

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.

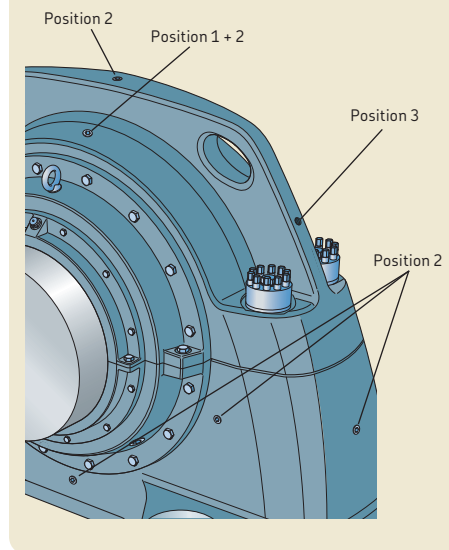
**Position 2** is a measurement point perpendicular or parallel to the shaft appropriate for vibration sensors.

**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**).

Fig. 10



## 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.

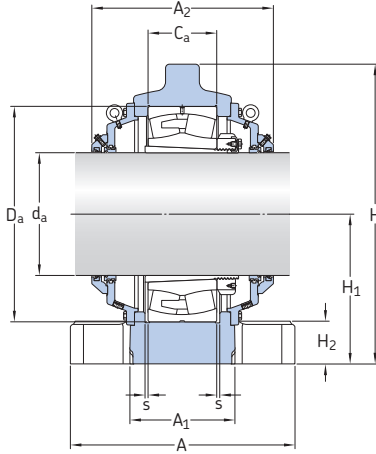
The following items should be ordered:

- 1 housing SED 30/560 BF
- 1 housing SED 30/560 AL

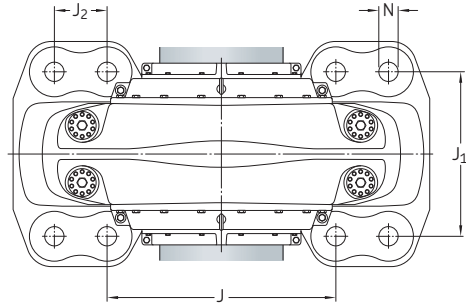
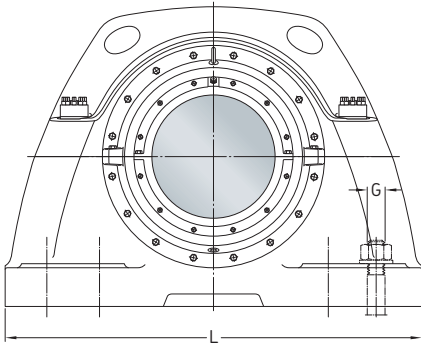
<sup>1)</sup> Check availability before ordering.

## 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



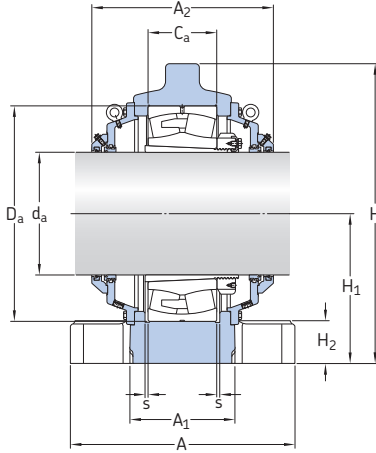
6.1

Shaft diameter Dimensions

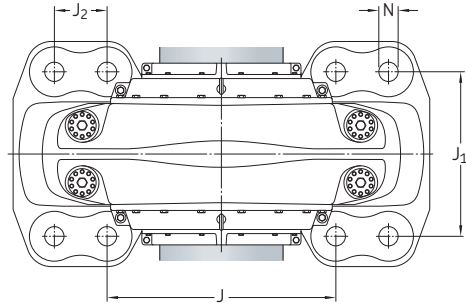
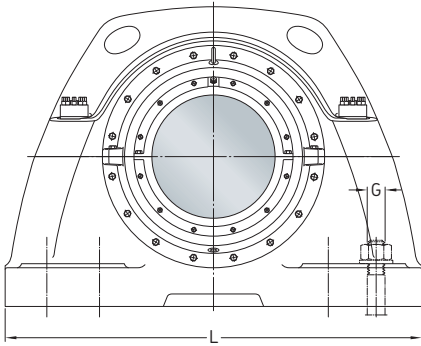
$d_a$	A	$A_1$	$A_2$	$D_a$	$C_a$	H	$H_1$	$H_2$	J	$J_1$	L	N	$J_2$	G	s
mm	mm														
430	860	400	696	830	296	1150	575	165	880	630	1600	76	200	72	8
450	920	450	731	870	310	1230	630	175	940	700	1700	76	205	72	9
470	860	400	696	830	264	1150	575	165	880	630	1600	76	200	72	8
	1000	500	786	920	336	1325	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	810	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 SED 30/850 SED 31/850	239/850 CAK/W33 230/850 CAK/W33 231/850 CAK/W33	OH 50 H OH 30/850 H OH 31/850 H	3 600 4 175 6 500	3 5 6
850	SED 39/900 SED 30/900	239/900 CAK/W33 230/900 CAK/W33	OH 39/900 H OH 30/900 H	3 600 4 175	3 5
900	SED 39/950 SED 30/950	239/950 CAK/W33 230/950 CAK/W33	OH 39/950 H OH 30/950 H	4 175 4 175	5 5



6.1

Shaft Dimensions  
diameter

d <sub>a</sub>	A	A <sub>1</sub>	A <sub>2</sub>	D <sub>a</sub>	C <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	J <sub>2</sub>	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 <sup>15</sup>/<sub>16</sub> to 8 <sup>15</sup>/<sub>16</sub> 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 SONL 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) × 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) × 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

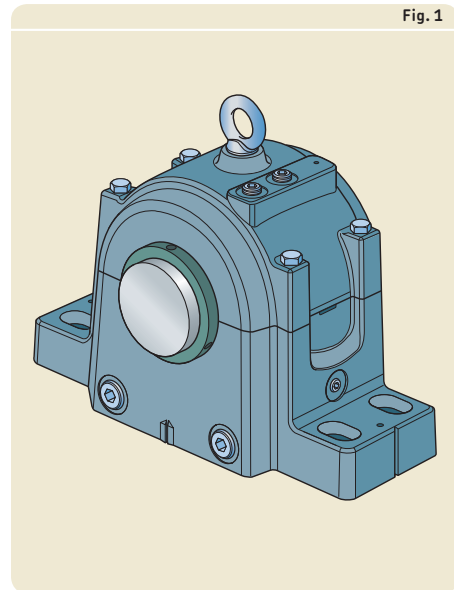
#### Size identification

**.../...** 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

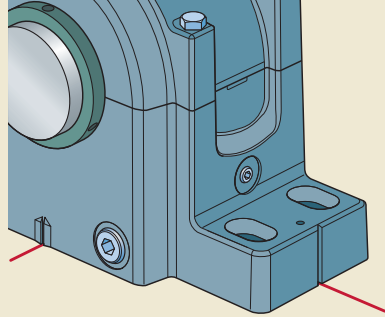


Fig. 3

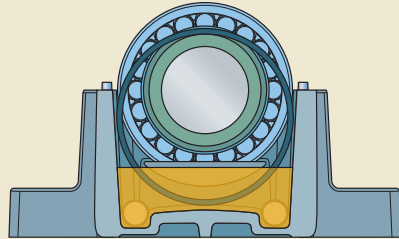
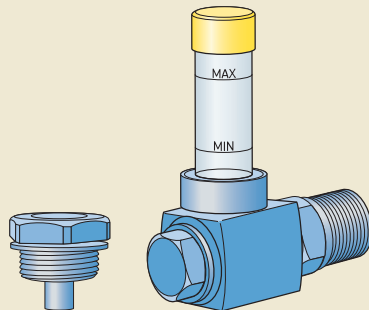


Fig. 4



**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**

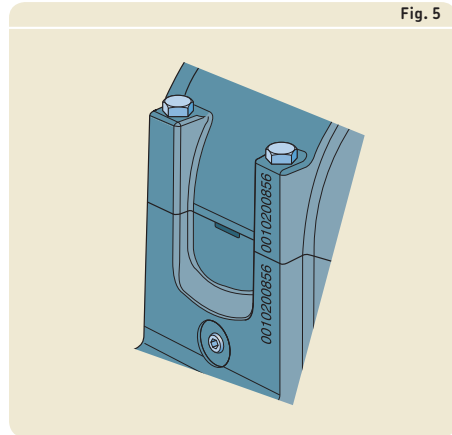
The dimensions of SONL plumber block housings are not standardized either nationally or internationally.

**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**.

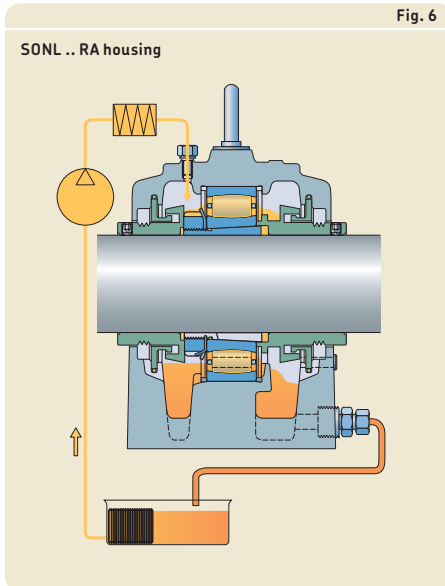
## Sealing solutions

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.

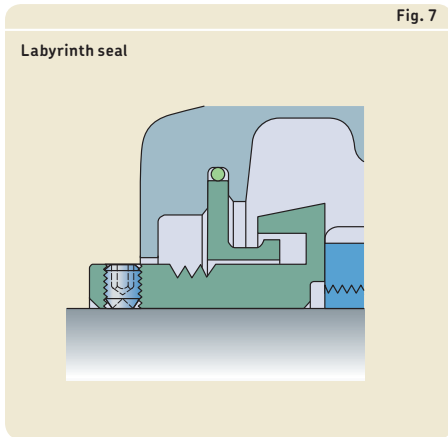
A labyrinth seal consists of a shaft sleeve and a labyrinth ring, to form a multi-stage labyrinth. The sleeve has a clearance fit on the shaft while the labyrinth ring is stationary and mounted in the housing with an O-ring. To guide the oil pick-up ring, one shaft sleeve is provided with a groove.

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
<b>Application conditions and requirements</b>		
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		

<sup>1)</sup> 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.

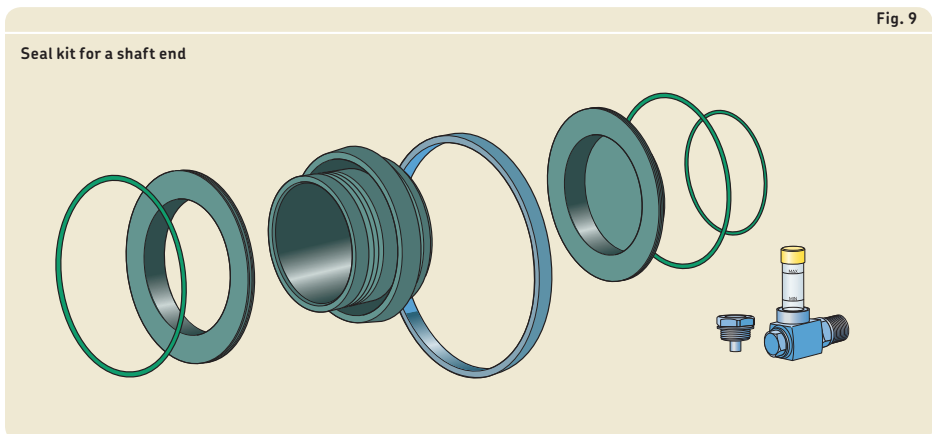
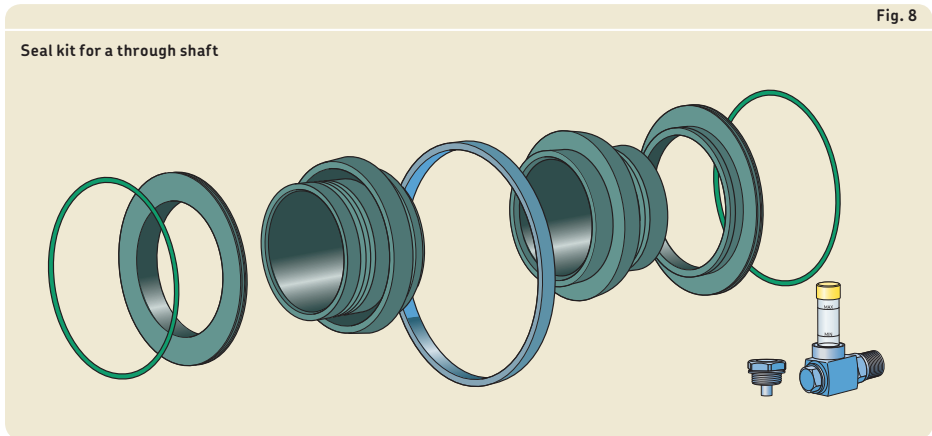
### Seal kits for bearings mounted on a cylindrical seat on plain shafts

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.

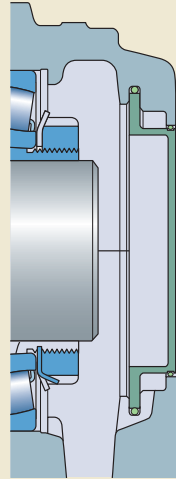
End covers are supplied as a part of the TSO .. A seal kit, but can also be ordered separately.

### 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](http://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.

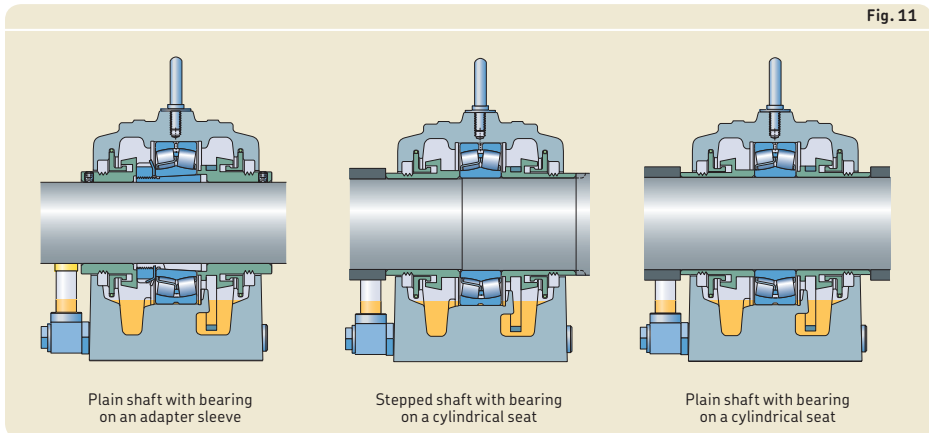
#### Plain shaft with bearing on a cylindrical seat

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,

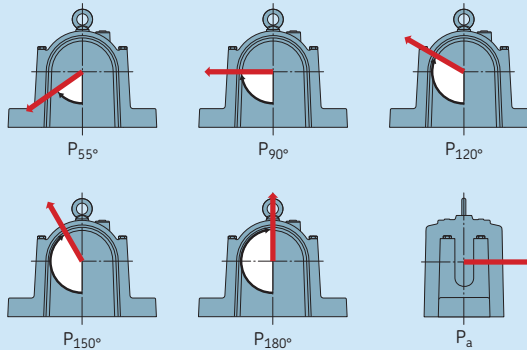
contact the SKF application engineering service.

### 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					
	$P_{55^\circ}$	$P_{90^\circ}$	$P_{120^\circ}$	$P_{150^\circ}$	$P_{180^\circ}$	$P_a$
–	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  $P_{180^\circ}$  (→ 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](http://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

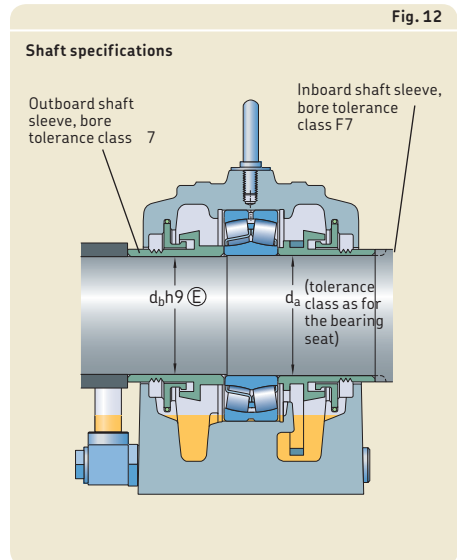
The permissible operating speed of the incorporated bearing is not limited by the housing.

## 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

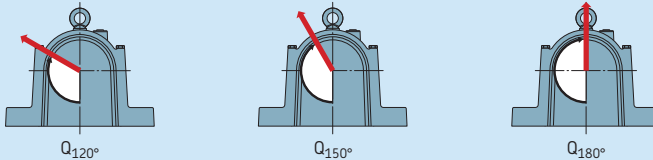
In typical applications, 8.8 class hexagon head bolts, in accordance with ISO 4014, can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger 10.9 class bolts.

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	$Q_{150^\circ}$	$Q_{180^\circ}$			Size	Tightening torque <sup>1)</sup>
–	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

<sup>1)</sup> 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](http://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

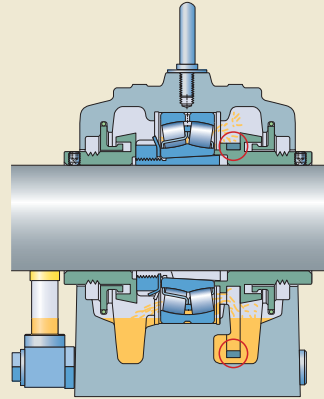


Table 4

#### 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

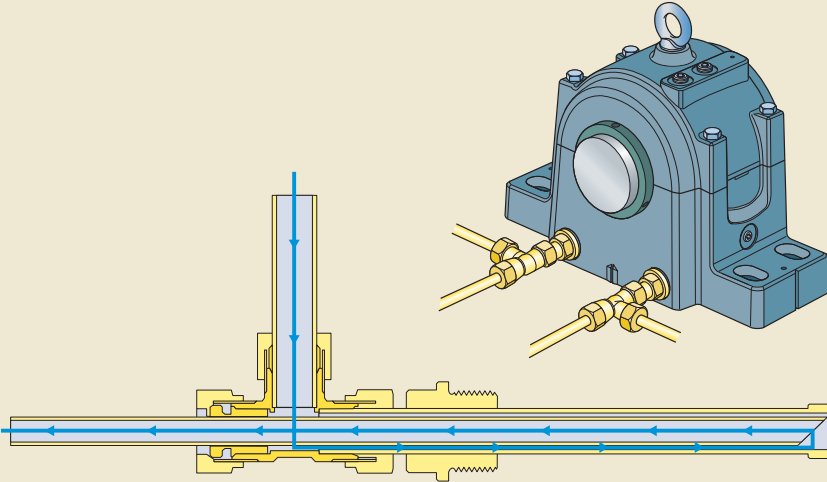
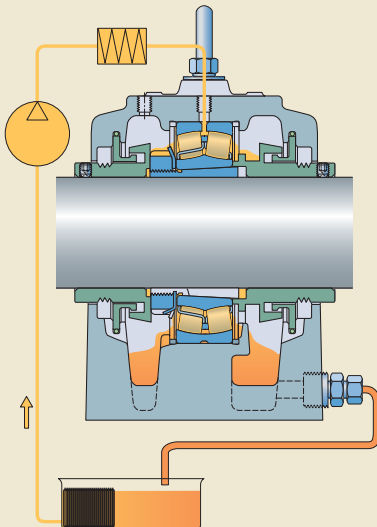


Fig. 15

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**

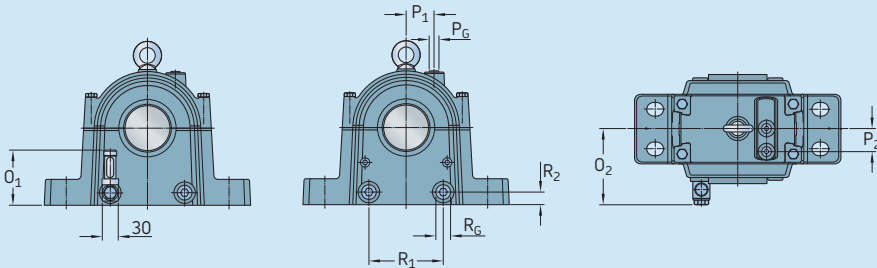
In a circulating oil lubrication system, CARB toroidal roller bearings and self-aligning ball bearings, which are relubricated from the side, require another design compared to spherical

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.

Table 7

Abutment dimensions for circulating oil lubrication systems and oil bath lubrication with a pick-up ring



Housing Size	Dimensions		P <sub>2</sub>	R <sub>G</sub>	R <sub>1</sub>	R <sub>2</sub>	O <sub>1</sub>	O <sub>2</sub>
	P <sub>G</sub>	P <sub>1</sub>						
–	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](http://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

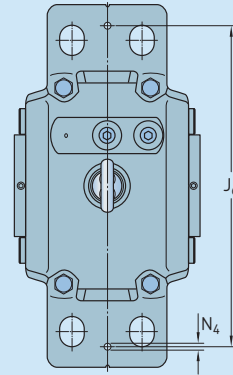
SONL plummer (pillow) block housings have appropriate positions for condition monitoring sensors (→ **fig. 16**).

**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

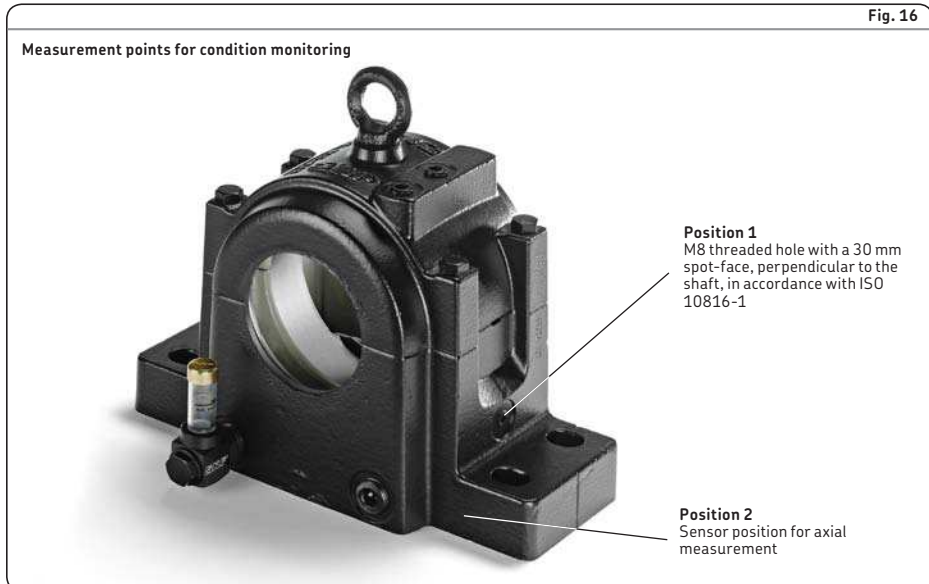
### Order example

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.

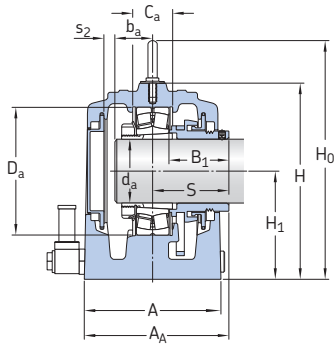
The following items should be ordered:

- 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

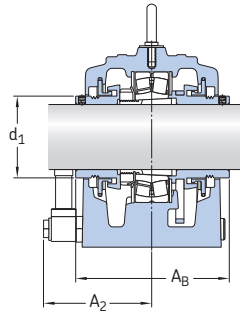
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## 7.1 SONL plummer block housings for bearings on an adapter sleeve, metric shafts d<sub>a</sub> 75 – 150 mm



Housing for shaft end



Housing for through shaft

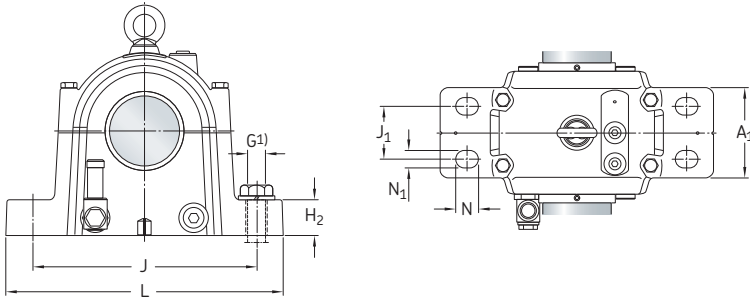
Shaft diameter d <sub>a</sub>	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seal kit for through shaft <sup>4)</sup>	End cover	Dimensions Housing			
							A	A <sub>1</sub>	A <sub>2</sub>	A <sub>A</sub>
mm	-	-					mm			
75	SONL 217-517	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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only.

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

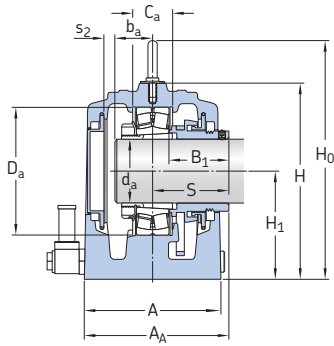
<sup>4)</sup> Seal kits for a shaft end have the designation suffix A, i.e. TSO...A.



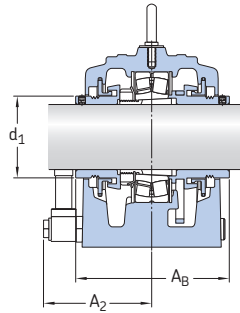
Shaft diameter $d_a$	Dimensions Housing																	Eye bolt according to DIN 580	Mass Housing kg
	$A_B$	$d_1$	$B_1$	$C_a$	$D_a$	$b_a$	$s_2$	H	$H_0$	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	S		
mm	mm																	-	kg
75	180	96	72	46	150	40	19	230	283	125	35	260	60	330	28	22	90	M10	26
80	190	100	75	50	160	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

<sup>1)</sup> 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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seal kit for through shaft <sup>4)</sup>	End cover	Dimensions Housing			
							A	A <sub>1</sub>	A <sub>2</sub>	A <sub>A</sub>
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

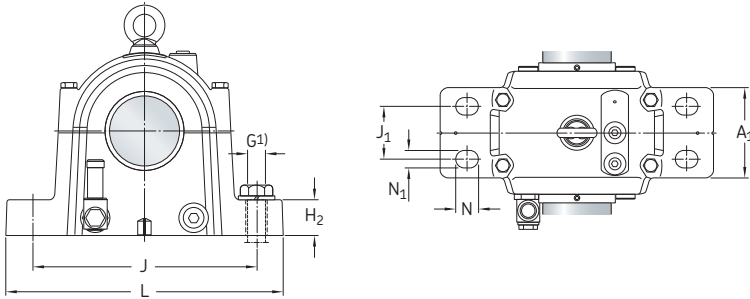
<sup>1)</sup> 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing  
 Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only.

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

<sup>4)</sup> Seal kits for a shaft end have the designation suffix A, i.e. TSO ... A.



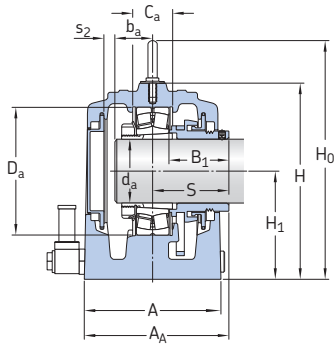


Shaft diameter $d_a$	Dimensions Housing																			Eye bolt according to DIN 580	Mass Housing kg
	$A_B$	$d_1$	$B_1$	$C_a$	$D_a$	$b_a$	$s_2$	H	$H_0$	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	S				
mm	mm																			-	kg
<b>160</b>	360	205	137	114	320	78	53,5	455	545	245	75	545	150	650	42	35	180	M 24	213		
<b>170</b>	370	220	139	120	340	82	52,5	480	570	260	85	590	150	720	50	42	185	M 24	249		
<b>180</b>	378	227	140	126	360	86	51	510	600	275	85	600	160	730	50	42	189	M 24	273		
<b>200</b>	404	255	148	136	400	95	50	565	674	305	95	670	180	820	50	42	202	M 24	361		
<b>220</b>	420	270	150	148	440	105	45,5	625	734	340	100	740	190	900	50	42	210	M 24	456		

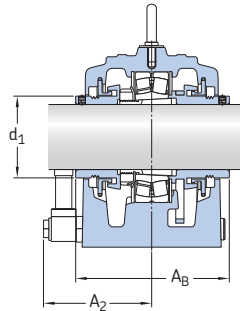
<sup>1)</sup> For sizes and tightening torques of the attachment bolts refer to table 3 on page 363.

## 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

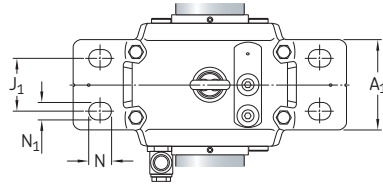
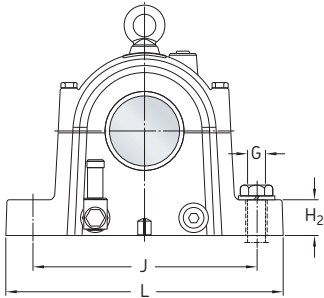
Shaft diameter $d_a$	Housing Designation	Appropriate parts				End cover	Dimensions Housing			
		Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring <sup>3)</sup>	Seal kit for through shaft <sup>4)</sup>		A	A <sub>1</sub>	A <sub>2</sub>	A <sub>A</sub>
in./mm	–	–				mm				
2 15/16 74,613	<b>SONL 217-517</b>	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	<b>SONL 218-518</b>	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	<b>SONL 220-520</b>	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	<b>SONL 222-522</b>	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	<b>SONL 224-524</b>	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	<b>SONL 226-526</b>	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	<b>SONL 228-528</b>	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	<b>SONL 230-530</b>	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

<sup>1)</sup> 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.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only.

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

<sup>4)</sup> Seal kits for a shaft end have the designation suffix A, i.e. TSO .. A.

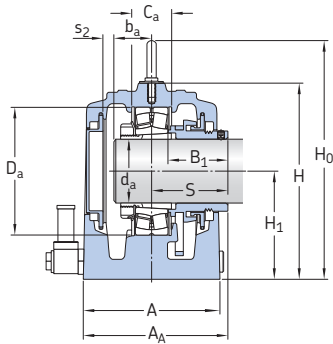


## 7.2

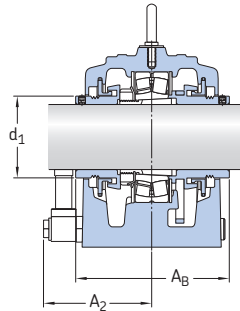
Shaft diameter	Dimensions Housing																	Eye bolt according to DIN 580	Mass Housing				
	$d_a$	$A_B$	$d_1$	$B_1$	$C_a$	$D_a$	$b_a$	$s_2$	H	$H_0$	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$			S	G	G	in.
in./mm	mm																				in.	-	kg
$2\frac{15}{16}$ 74,613	180	96	72	46	150	40	19	230	283	125	35	260	60	330	28	22	90	20	$\frac{3}{4}$	M10	26		
$3\frac{3}{16}$ 80,963	190	100	75	50	160	42	19	245	298	135	45	290	70	360	28	22	95	20	$\frac{3}{4}$	M12	33		
$3\frac{7}{16}$ 87,313	206	112	80	60	180	47	25	270	323	145	50	320	75	400	32	26	103	24	$\frac{7}{8}$	M12	42		
$3\frac{15}{16}$ 100,013	229	120	88	71	200	52	32,5	290	343	160	50	347	75	420	32	26	114,5	24	$\frac{7}{8}$	M12	53		
$4\frac{3}{16}$ 106,363	276	135	109	82	215	56	47	315	386	170	55	347	90	420	32	26	138	24	$\frac{7}{8}$	M16	72		
$4\frac{7}{16}$ 112,713	270	145	103	86	230	60	43	335	406	180	60	377	100	450	35	28	135	24	1	M16	87		
$4\frac{15}{16}$ 125,413	280	160	106	90	250	63	42	355	426	190	65	415	100	500	42	35	140	30	$1\frac{1}{4}$	M20	102		
$5\frac{3}{16}$ 131,763	280	170	103,5	93	270	67,5	37,5	375	446	200	65	450	115	540	42	35	140	30	$1\frac{1}{4}$	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

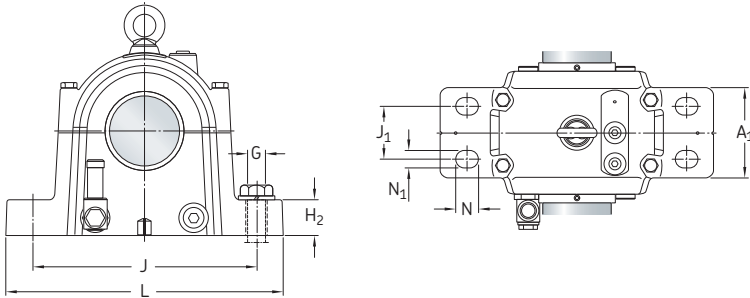
Shaft diameter $d_a$	Housing Designation	Appropriate parts		Locating ring <sup>3)</sup>	Seal kit for through shaft <sup>4)</sup>	End cover	Dimensions Housing			
		Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>				A	A <sub>1</sub>	A <sub>2</sub>	A <sub>A</sub>
in./mm	-	-					mm			
5 7/16 138,113	SONL 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

<sup>1)</sup> 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing  
Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> The adapter sleeve fits the bearing in the same line only.

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

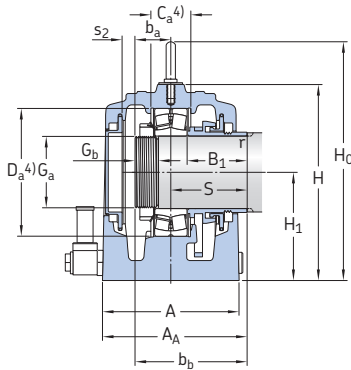
<sup>4)</sup> Seal kits for a shaft end have the designation suffix A, i.e. TSO ... A.



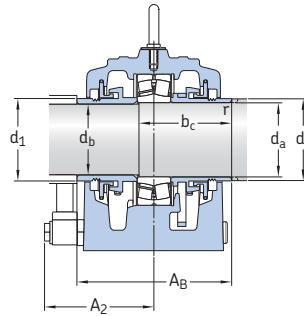
Shaft diameter	Dimensions Housing																	Eye bolt according to DIN 580	Mass Housing		
	$d_a$	$A_B$	$d_1$	$B_1$	$C_a$	$D_a$	$b_a$	$s_2$	$H$	$H_0$	$H_1$	$H_2$	$J$	$J_1$	$L$	$N$	$N_1$			$S$	$G$
in./mm	mm																	in.	-	kg	
<b>5 7/16</b> 138,113	316	178	118	104	290	73	42	406	477	215	65	470	120	560	42	35	158	30	1 1/4	M 20	141
<b>5 15/16</b> 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
<b>6 7/16</b> 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
<b>6 15/16</b> 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
<b>7 3/16</b> 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
<b>7 15/16</b> 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
<b>8 15/16</b> 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



Housing for shaft end



Housing for through shaft

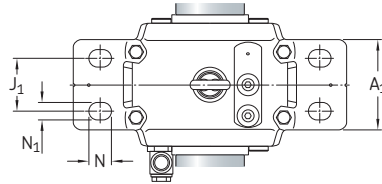
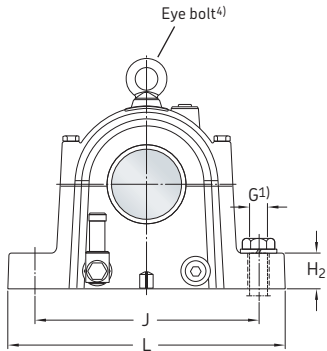
Shaft diameter $d_a$	Housing Designation	Appropriate parts		Lock nut	Locking washer	Seal kit for through shaft <sup>3)</sup>	End cover	Dimensions Housing					
		Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>					A	A <sub>1</sub>	A <sub>2</sub>	A <sub>A</sub>	A <sub>B</sub>	d <sub>1</sub>
mm	-	-	-	-	-	-	-	mm					
85	SONL 217-517	2217 22217 E C 2217	FRB 5/150 FRB 5/150 FRB 5/150	KM 17 KM 17 KMFE 17	MB 17 MB 17 -	TSO 217	ECO 217-517	163	110	138	172	180	96
90	SONL 218-518	2218 22218 E C 2218	FRB 5/160 FRB 5/160 FRB 5/160	KM 18 KM 18 KMFE 18	MB 18 MB 18 -	TSO 218	ECO 218-518	170	120	142	180	190	100
100	SONL 220-520	2220 M 22220 E C 2220	FRB 7/180 FRB 7/180 FRB 7/180	KM 20 KM 20 KMFE 20	MB 20 MB 20 -	TSO 220	ECO 220-520	186	130	150	196	206	112
110	SONL 222-522	2222 M 22222 E C 2222	FRB 9/200 FRB 9/200 FRB 9/200	KM 22 KM 22 KMFE 22	MB 22 MB 22 -	TSO 222	ECO 222-522	213	145	163	221	229	120
120	SONL 224-524	22224 E C 2224	FRB 12/215 FRB 12/215	KM 24 KML 24	MB 24 MBL 24	TSO 224	ECO 224-524	245	170	179	261	276	135
130	SONL 226-526	22226 E C 2226	FRB 11/230 FRB 11/230	KM 26 KML 26	MB 26 MBL 26	TSO 226	ECO 226-526	255	180	184	263	270	145
140	SONL 228-528	22228 CC C 2228	FRB 11/250 FRB 11/250	KM 28 KML 28	MB 28 MBL 28	TSO 228	ECO 228-528	260	190	187	270	280	160
150	SONL 230-530	22230 CC C 2230	FRB 10/270 FRB 10/270	KM 30 KML 30	MB 30 MBL 30	TSO 230	ECO 230-530	260	190	187	270	280	170
160	SONL 232-532	22232 CC	FRB 12/290	KM 32	MB 32	TSO 232	ECO 232-532	278	205	196	297	316	178

<sup>1)</sup> 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.

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

<sup>3)</sup> TSO .. is the seal kit for through shaft. For shaft ends, order TSO .. A. ECO .. is the end cover.

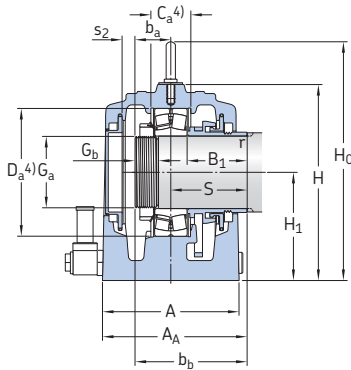
<sup>4)</sup> For C<sub>a</sub>, D<sub>a</sub> and eye bolt sizes, refer to **product tables 7.1 and 7.2**.


**Shaft Dimensions  
diam-  
eter**

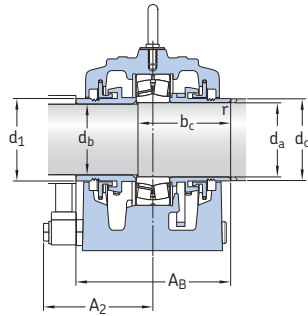
Housing														Shaft					Mass Housing		
$d_a$	$B_1$	$s_2$	H	$H_0$	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	S	$b_a$	$b_b$	$b_c$	$d_b$	$d_c$ min	$G_a$	$G_b$	r	
mm	mm																				kg
85	72	19	230	283	125	35	260	60	330	28	22	90	40	130	105	83	91	M85x2	24	1,6	26
90	75	19	245	298	135	45	290	70	360	28	22	95	42	137	112	88	96	M90x2	24	1,6	33
100	80	25	270	323	145	50	320	75	400	32	26	103	46	150	123	98	106	M100x2	26	1,6	42
110	88	32,5	290	343	160	50	347	75	420	32	26	114,5	52	167	138	108	116	M110x2	28	1,6	52
120	109	47	315	386	170	55	347	90	420	32	26	138	56	194	164	118	126	M120x2	29	1,6	70
130	103	43	335	406	180	60	377	100	450	35	28	135	60	195	164	128	138	M130x2	31	1,6	84
140	106	42	355	426	190	65	415	100	500	42	35	140	63	203	170	138	148	M140x2	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	M150x2	34	1,6	113
160	118	42	406	477	215	65	470	120	560	42	35	158	73	231	195	158	168	M160x3	36	1,6	136

<sup>1)</sup> 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<sub>a</sub> 170 – 240 mm



Housing for shaft end



Housing for through shaft

Shaft diameter d <sub>a</sub>	Housing Designation	Appropriate parts				Seal kit for through shaft <sup>3)</sup>	End cover	Dimensions Housing				
		Bearing <sup>1)</sup>	Locating ring <sup>2)</sup>	Lock nut	Locking washer			A	A <sub>1</sub>	A <sub>2</sub>	A <sub>A</sub>	A <sub>B</sub>
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

<sup>1)</sup> 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

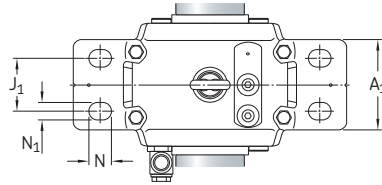
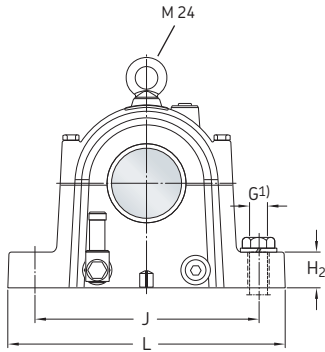
Only typical bearings are listed. Other bearing variants can also fit the housing.

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

<sup>3)</sup> Seal kits for a shaft end have the designation suffix A, i.e. TSO .. A.

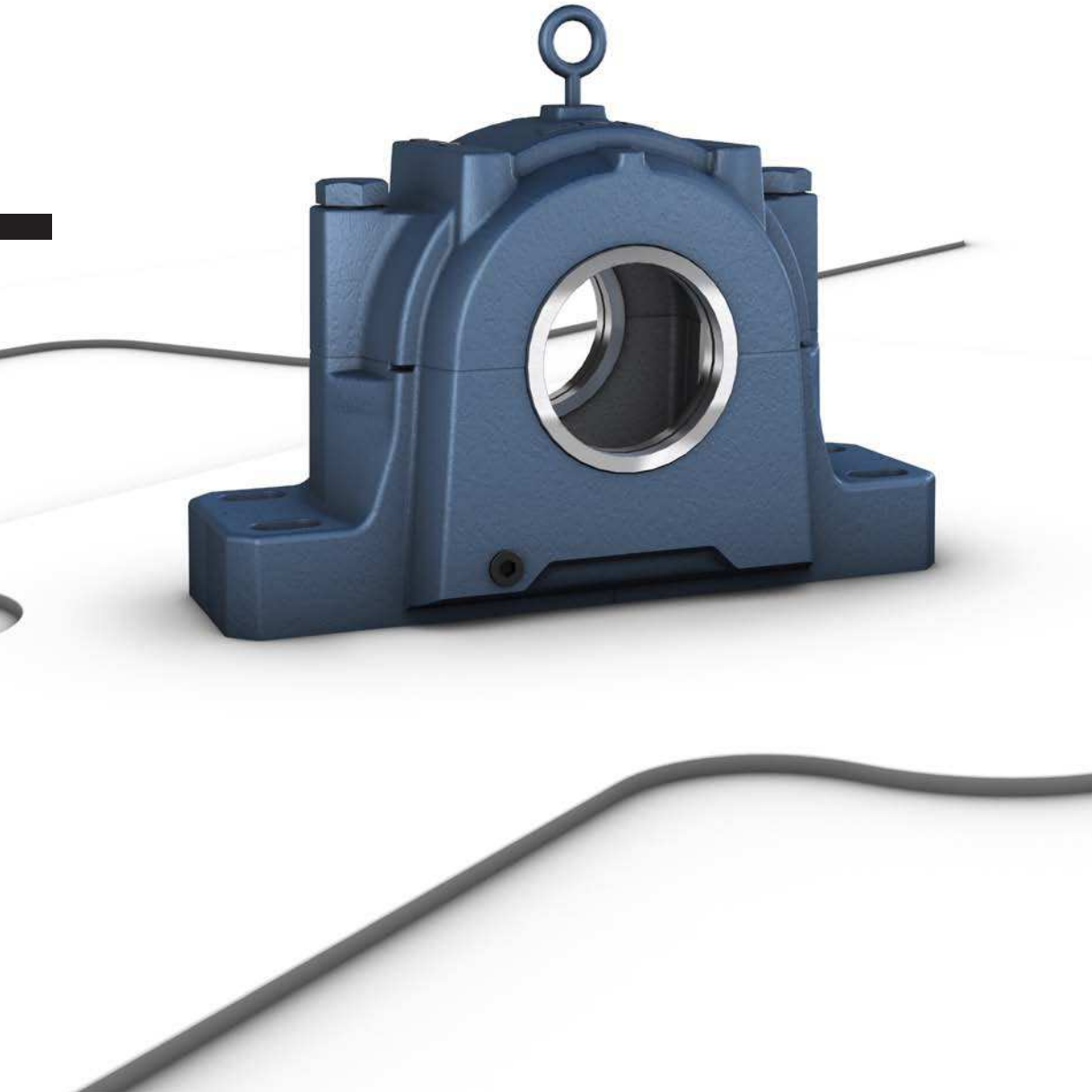
<sup>4)</sup> The values for C<sub>a</sub> and D<sub>a</sub> can be found, for each housing size, in **product tables 7.1 and 7.2**.





Shaft diameter	Dimensions Housing														Shaft							Mass Housing			
	$d_a$	$d_1$	$B_1$	$s_2$	H	$H_0$	$H_1$	$H_2$	J	$J_1$	L	N	$N_1$	S	$b_a$	$b_b$	$b_c$	$d_b$	$d_c$ min	$G_a$	$G_b$	r	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		

<sup>1)</sup> 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 <sup>3</sup>/<sub>16</sub> to 10 <sup>1</sup>/<sub>2</sub> in. (SAF)
- 3 <sup>3</sup>/<sub>16</sub> to 7 <sup>15</sup>/<sub>16</sub> 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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# 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]

### Suffixes<sup>1)</sup>

**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

<sup>1)</sup> 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

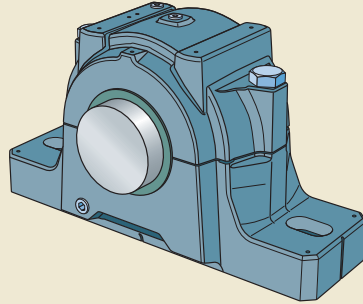


Fig. 2

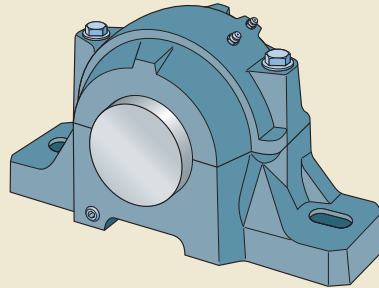
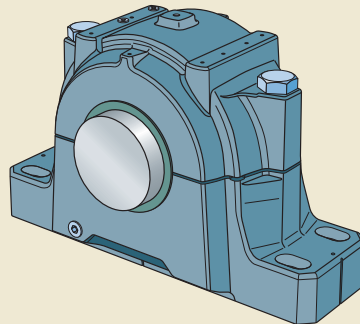


Fig. 3



## 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.

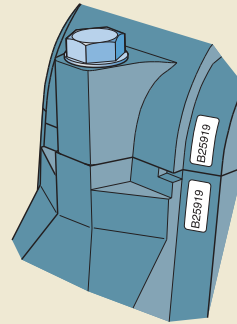
### Paint, corrosion protection

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 alkalinescent 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.



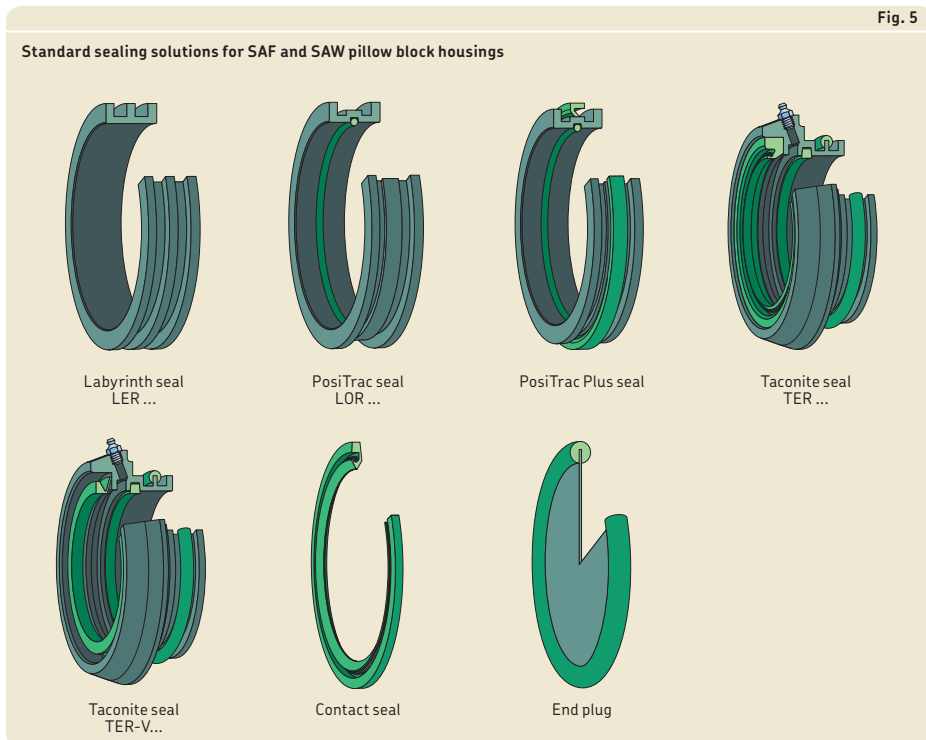
## Sealing solutions

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)

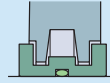
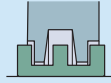
**Table 1, page 390** provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, which cannot substitute for testing a seal in its application. **Table 2 on page 392** provides an overview 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 <sub>a</sub> 0(00)	d <sub>a</sub> 5(00)	d <sub>a</sub> 6(00)	d <sub>b</sub> 2(00)	d <sub>c</sub> 2(00)	d <sub>b</sub> 3(00)	d <sub>c</sub> 3(00)	Labyrinth seal <sup>1)</sup> Ring seal	O-ring for LOR <sup>2)</sup>
	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 1 1/16		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 1 1/16		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 <sup>3)</sup>	Speed limit <sup>4)</sup>	Taconite seals with contact seal <sup>5)</sup>	with V-ring seal	Speed limit <sup>4)</sup>	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

<sup>3)</sup> B-10724-### 's are the SKF PosiTrac Plus seal and require the LOR

<sup>4)</sup> For stepped shaft housing designs, the largest shaft diameter is the speed limit

<sup>5)</sup> 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 <sub>a</sub> 0(00)	d <sub>a</sub> 5(00)	d <sub>a</sub> 6(00)	d <sub>b</sub> 2(00)	d <sub>c</sub> 2(00)	d <sub>b</sub> 3(00)	d <sub>c</sub> 3(00)	Labyrinth seal <sup>1)</sup> Ring seal	O-ring for LOR <sup>2)</sup>
	Series	Series	Series	Series	Series	Series	Series		
in.	–								
2 <sup>15</sup> / <sub>16</sub> 2 <sup>15</sup> / <sub>16</sub> 3		517*		213	216	313		LOR-53 LOR-59 LOR-185	AS-568-141 AS-568-151 AS-568-151
3 3 3 <sup>1</sup> / <sub>16</sub>		517 518		213	216*	313		LOR-54 LOR-60 LOR-186	AS-568-041 AS-568-151 38309-186
3 <sup>1</sup> / <sub>16</sub> 3 <sup>1</sup> / <sub>16</sub> 3 <sup>1</sup> / <sub>8</sub>			618	213*	216 217	313*		LOR-55 LOR-61 LOR-187	38309-55 38309-61 AS-568-152
3 <sup>1</sup> / <sub>8</sub> 3 <sup>1</sup> / <sub>8</sub> 3 <sup>3</sup> / <sub>16</sub>		518*	618*	213	216 217	313 314		LOR-56 LOR-62 LOR-188	AS-568-042 AS-568-042 AS-568-152
3 <sup>3</sup> / <sub>16</sub> 3 <sup>1</sup> / <sub>4</sub> 3 <sup>1</sup> / <sub>4</sub>		518	618		217*	314		LOR-63 LOR-189 LOR-64	AS-568-042 AS-568-152 AS-568-042
3 <sup>5</sup> / <sub>16</sub> 3 <sup>5</sup> / <sub>16</sub> 3 <sup>5</sup> / <sub>16</sub>		520	620		220 217 218			LOR-100 LOR-65 LOR-190	38309-100 38309-65 38309-190
3 <sup>3</sup> / <sub>8</sub> 3 <sup>3</sup> / <sub>8</sub> 3 <sup>3</sup> / <sub>8</sub>				215/216	217 220	315		LOR-78 LOR-66 LOR-101	AS-568-043 AS-568-043 AS-568-153
3 <sup>3</sup> / <sub>8</sub> 3 <sup>7</sup> / <sub>16</sub> 3 <sup>7</sup> / <sub>16</sub>		520*	620*	215*/216	220	315*		LOR-191 LOR-79 LOR-102	AS-568-153 AS-568-043 AS-568-153
3 <sup>1</sup> / <sub>2</sub> 3 <sup>1</sup> / <sub>2</sub> 3 <sup>9</sup> / <sub>16</sub>		520	620	215/216	220	315		LOR-80 LOR-103 LOR-81	AS-568-043 AS-568-153 38309-81
3 <sup>9</sup> / <sub>16</sub> 3 <sup>5</sup> / <sub>8</sub> 3 <sup>5</sup> / <sub>8</sub>				215/216*		316 315 316*		LOR-83 LOR-82 LOR-84	38309-83 AS-568-044 AS-568-154
3 <sup>11</sup> / <sub>16</sub> 3 <sup>11</sup> / <sub>16</sub> 3 <sup>3</sup> / <sub>4</sub>						316 316		LOR-85 LOR-104 LOR-86	AS-568-154 AS-568-154 AS-568-154
3 <sup>3</sup> / <sub>4</sub> 3 <sup>13</sup> / <sub>16</sub> 3 <sup>13</sup> / <sub>16</sub>						316 220*		LOR-105 LOR-87 LOR-106	AS-568-154 38309-87 38309-106
3 <sup>13</sup> / <sub>16</sub> 3 <sup>7</sup> / <sub>8</sub> 3 <sup>7</sup> / <sub>8</sub>		522	622			317 317		LOR-107 LOR-108 LOR-88	38309-107 AS-568-155 AS-568-045
3 <sup>15</sup> / <sub>16</sub> 3 <sup>15</sup> / <sub>16</sub> 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 <sup>3)</sup>	Speed limit <sup>4)</sup>	Taconite seals with contact seal <sup>5)</sup>	with V-ring seal	Speed limit <sup>4)</sup>	End plug
	r/min	–		r/min	–
B-10724-53	1950	TER-53	TER-53 V	1 050	EPR-9
B-10724-184	1900	TER-59	TER-59 V	850	EPR-10
B-10724-184	1950	TER-185	TER-185 V	1 050	EPR-10
B-10724-53	1950	TER-54	TER-54 V	850	EPR-9
B-10724-184	1900	TER-60	TER-60 V	850	EPR-10
B-10724-188	1800	TER-186	TER-186 V	950	EPR-11
B-10724-53	1950	TER-55	TER-55 V	1 000	EPR-9
B-10724-64	1450	TER-61	TER-61 V	775	EPR-9
B-10724-188	1800	TER-187	TER-187 V	950	EPR-11
B-10724-53	1950	TER-56	TER-56 V	1 000	EPR-9
B-10724-64	1450	TER-62	TER-62 V	775	EPR-9
B-10724-188	1800	TER-188	TER-188 V	950	EPR-11
B-10724-64	1450	TER-63	TER-63 V	775	EPR-9
B-10724-188	1800	TER-189	TER-189 V	950	EPR-11
B-10724-64	1450	TER-64	TER-64 V	925	EPR-9
B-10724-102	1650	TER-100	TER-100 V	900	EPR-12
B-10724-64	1450	TER-65	TER-65 V	775	EPR-9
B-10724-188	1800	TER-190	TER-190 V	750	EPR-11
B-10724-79	1650	TER-78	TER-78 V	900	–
B-10724-64	1450	TER-66	TER-66 V	775	EPR-9
B-10724-102	1650	TER-101	TER-101 V	900	EPR-12
B-10724-188	1800	TER-191	TER-191 V	750	EPR-11
B-10724-79	1450	TER-79	TER-79 V	900	–
B-10724-102	1650	TER-102	TER-102 V	900	EPR-12
B-10724-79	1450	TER-80	TER-80 V	900	–
B-10724-102	1650	TER-103	TER-103 V	900	EPR-12
B-10724-79	1450	TER-81	TER-81 V	900	–
B-10724-106	1275	TER-83	TER-83 V	850	EPR-12
B-10724-79	1450	TER-82	TER-82 V	850	–
B-10724-106	1275	TER-84	TER-84 V	850	EPR-12
B-10724-106	1275	TER-85	TER-85 V	850	EPR-12
B-10724-106	1275	TER-104	TER-104 V	675	EPR-12
B-10724-106	1275	TER-86	TER-86 V	850	EPR-12
B-10724-106	1275	TER-105	TER-105 V	675	EPR-12
B-10724-106	1275	TER-87	TER-87 V	850	EPR-12
B-10724-106	1275	TER-106	TER-106 V	675	EPR-12
B-10724-109	1450	TER-107	TER-107 V	775	EPR-13
B-10724-109	1450	TER-108	TER-108 V	775	EPR-13
B-10724-89	1450	TER-88	TER-88 V	775	–
B-10724-109	1450	TER-109	TER-109 V	775	EPR-13
B-10724-89	1450	TER-89	TER-89 V	775	–
B-10724-109	1450	TER-110	TER-110 V	775	EPR-13

<sup>3)</sup> B-10724-###'s are the SKF PosiTrac Plus seal and require the LOR

<sup>4)</sup> For stepped shaft housing designs, the largest shaft diameter is the speed limit

<sup>5)</sup> 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 <sub>a</sub> 0(00)	d <sub>a</sub> 5(00)	d <sub>a</sub> 6(00)	d <sub>b</sub> 2(00)	d <sub>c</sub> 2(00)	d <sub>b</sub> 3(00)	d <sub>c</sub> 3(00)	Labyrinth seal <sup>1)</sup> Ring seal	O-ring for LOR <sup>2)</sup>
	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 <sup>3)</sup>	Speed limit <sup>4)</sup>	Taconite seals with contact seal <sup>5)</sup>	with V-ring seal	Speed limit <sup>4)</sup>	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	–

<sup>3)</sup> B-10724-###'s are the SKF PosiTrac Plus seal and require the LOR

<sup>4)</sup> For stepped shaft housing designs, the largest shaft diameter is the speed limit

<sup>5)</sup> 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 <sub>a</sub> 0(00)	d <sub>a</sub> 5(00)	d <sub>a</sub> 6(00)	d <sub>b</sub> 2(00)	d <sub>c</sub> 2(00)	d <sub>b</sub> 3(00)	d <sub>c</sub> 3(00)	Labyrinth seal <sup>1)</sup> Ring seal	O-ring for LOR <sup>2)</sup>
	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 <sup>3)</sup>	Speed limit <sup>4)</sup>	Taconite seals with contact seal <sup>5)</sup>	with V-ring seal	Speed limit <sup>4)</sup>	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

<sup>3)</sup> B-10724-###'s are the SKF PosiTrac Plus seal and require the LOR

<sup>4)</sup> For stepped shaft housing designs, the largest shaft diameter is the speed limit

<sup>5)</sup> 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.

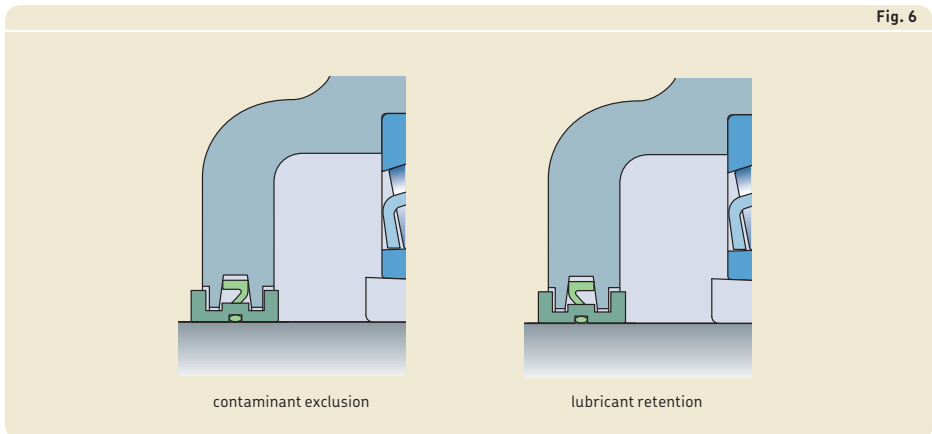
To further protect against the ingress of contaminants, SKF taconite seals have a grease fitting to purge grease and any trapped contaminants from the seal cavity, through the outboard seal.

### 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](http://skf.com/bearings).

### Typical shaft-bearing combinations

SAF and SAW pillow (plummer) block housings can accommodate different shaft-bearing combinations (→ fig. 7):

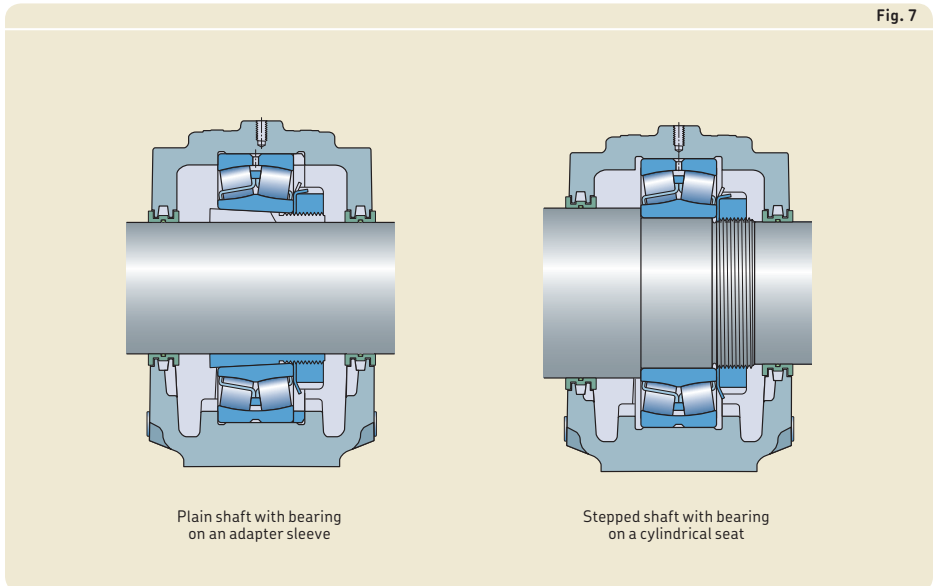
- Plain shaft with bearing on an adapter sleeve
- Stepped shaft with bearing on a cylindrical seat

#### 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.

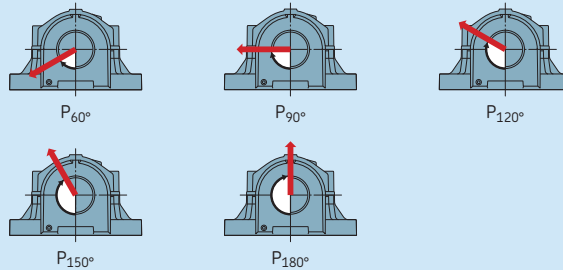
If the housing is not supported over its entire base, the load carrying capacity for vertical loads may be affected. For additional information, contact the SKF application engineering service.

For a purely axial force, static or dynamic, the permissible load on the pillow block housing should not exceed 65% of  $P_{180^\circ}$ . 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 <sub>60°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>				
	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
309	609	6 500	3 900	2 500	2 200	2 800	(2) 7/16-14	45	5
	511	7 900	4 700	3 000	2 700	3 300	(2) 1/2-13	110	8
310	610	10 100	6 100	3 900	3 500	4 300	(2) 1/2-13	60	5
	513	8 800	5 300	3 200	2 900	3 500	(2) 1/2-13	110	8
311	611	11 300	6 800	4 000	3 600	4 300	(2) 1/2-13	60	5
	311*	9 700	5 800	3 600	3 300	4 000	(2) 1/2-13	110	8
312	611*	8 000	4 800	3 000	2 700	3 200	(2) 1/2-13	110	8
	515	11 100	6 700	4 100	3 700	4 500	(2) 1/2-13	110	8
312*	515*	9 500	5 700	3 500	3 100	3 800	(2) 1/2-13	110	8
	613	17 000	10 200	6 300	5 700	6 800	(2) 1/2-13	60	5
313	613	12 200	7 300	4 500	4 100	5 000	(2) 1/2-13	60	5
	313*	18 700	11 200	6 800	6 000	7 100	(2) 5/8-11	220	8
216	516	13 600	8 100	4 900	4 400	5 200	(2) 5/8-11	110	5
	216*	20 800	12 500	7 800	6 900	8 500	(2) 5/8-11	220	8
314	517	20 800	12 500	7 800	6 900	8 500	(2) 5/8-11	220	8
	314*	19 000	11 400	7 100	6 400	7 800	(2) 5/8-11	110	5
217	517*	13 800	8 300	5 200	4 700	5 700	(2) 5/8-11	110	5
	518	27 200	16 300	10 200	9 100	11 200	(2) 5/8-11	110	5
218	518*	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*	615*	22 800	13 700	8 600	7 800	9 500	(2) 5/8-11	220	8
316	616	19 300	11 600	7 200	6 500	7 800	(2) 3/4-10	380	8
316*	616*	20 800	12 500	7 600	6 900	8 300	(2) 3/4-10	380	8

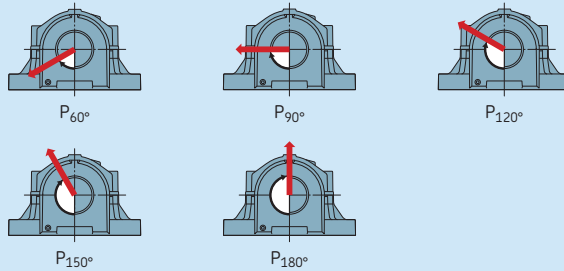
continues on next page

\* 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

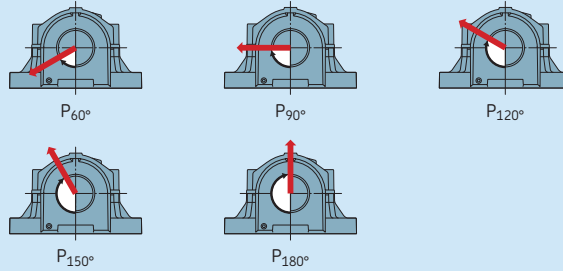


Housing Size	Recommended safe loads					Cap bolt (no.)	Size	Torque	SAE grade		
	P <sub>60°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>						
		lbf.					in.	ft.-lbs.			
024	220	317	617	21 200	12 700	8 000	7 200	8 600	(2) 3/4-10	380	8
		317*	617*	23 300	14 000	8 800	8 000	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	620	33 400	20 000	12 500	11 400	13 700	(2) 3/4-10	150	5
028	320	224	524	41 700	25 000	16 300	15 000	18 300	(2) 1-8	295	5
		328	620	41 700	25 000	16 300	15 000	18 300	(2) 1-8	900	8
030/032	226	322	622	42 500	25 500	16 600	15 300	19 000	(2) 1-8	295	5
		228	528	42 500	25 500	16 600	15 300	19 000	(2) 1-8	900	8
034	228	322	622	55 900	33 500	21 200	19 300	23 200	(2) 1-8	295	5
		228	528	55 900	33 500	21 200	19 300	23 200	(2) 1-8	295	5
036/038	040	230	624	51 700	31 000	19 600	18 000	21 600	(4) 3/4-10	150	5
		232	532	50 900	30 500	19 300	17 600	21 200	(4) 3/4-10	150	5
		234	534	52 600	31 500	19 300	17 300	20 800	(4) 3/4-10	150	5
044	048	236	630	52 600	31 500	19 000	17 000	20 000	(4) 3/4-10	150	5
		238	538	65 100	39 000	24 000	21 200	25 500	(4) 7/8-9	200	5
		240	540	81 800	49 000	30 500	27 000	32 500	(4) 7/8-9	200	5
052	056	244	638	95 100	57 000	36 000	32 500	39 000	(4) 1-8	295	5
		340	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

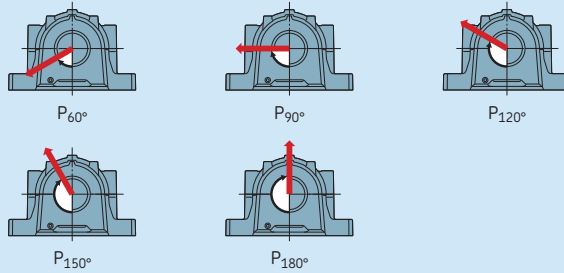


Housing Size	Recommended safe loads					Cap bolt (no.)	Size	Torque	SAE grade				
	P <sub>60°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>								
	lbf.						in.	ft.-lbs.					
216	515	23 300	13 400	8 300	7 500	9 000	(2) 1/2-13	110	8				
	515*	17 000	10 200	6 400	5 700	6 900	(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	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 <sub>60°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>			
–	lb.					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<sub>180°</sub>, 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](http://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](http://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](http://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/in<sup>3</sup>). 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		Cylindrical mounting	
			$d_a$	$d_b$ and $d_c$		
			high	low	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	616 6.4 12.9
	317	617 6.4 12.9
024	220	520 6.4 12.9
	318	618 8.2 17
026	222	522 8.2 17
028	224 320	524 620 13.4 27
030	226 322	526 622 13.5 27
032		13.5 27
034	228	528 17 35
	230 324	530 624 22 44
036	232 326	532 626 28 57
038		28 57
040	234 328	534 628 31 62
	236 330	536 630 46 93
044	238 332	538 632 59 119
048	240 334	540 634 76 152
052	244 338	544 638 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

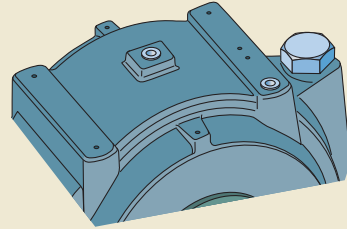


Fig. 9

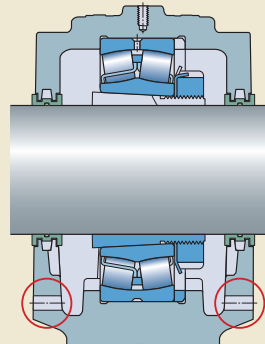


Fig. 10

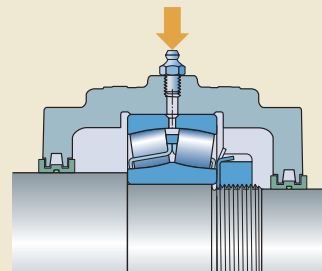
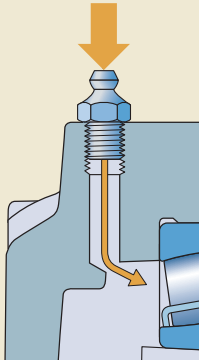


Fig. 11



## 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  $\frac{1}{8}$  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 <sup>1)</sup>
232(00)	235(00)	
–		in.
23226	23528	$2\frac{1}{16}$
23220	23526	$2\frac{3}{8}$
23236		$2\frac{7}{16}$
23238	23538	$2\frac{1}{2}$
23240	23540	$2\frac{1}{2}$
23244	23544	$3\frac{3}{16}$

<sup>1)</sup> 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 <sup>1)</sup>	Housing series	13(00)	16(00)	222(00)	223(00)	225(00)	226(00)
in.	-						
7/8		1507				22507	
31/32						22509	
1		1509					
1 3/32						22510, 22513	
1 1/8		1510				22515	
1 3/16		1513				22511	
1 7/32	1308			22216		22516	
1 1/4		1511, 1515			22309		22609
1 9/32							
1 5/16	1309	1516	1609		22312		
1 13/32					22313		22613
1 3/8	1312			22217	22310	22517	22610
1 7/16	1310, 1313	1517	1610, 1613		22311		22611
1 15/32					22314		
1 1/2	1311	1518	1611	22218		22518	
1 9/16	1314				22315		22615
1 19/32		1520		22220		22520	
1 21/32							
1 11/16	1315		1615		22316		22616
1 23/32					22317		22617
1 3/4							
1 25/32		1522		22222		22520	
1 13/16	1316		1616		22308		
1 27/32				22224		22524	
1 7/8	1317		1617		22318		22618
1 15/16							
2	1318		1618	22230		22530	
2 1/32				22228	22320	22528	22620
2 1/16				22232		22532	
2 5/32				22234		22534	
2 3/16	1320		1620				
2 7/32							
2 1/4							
2 11/32				22226		22526	
2 3/8				22236	22324	22536	22624
2 13/32					22322		22622
2 7/16				22238	22326	22538	22626
2 15/32				22240		22540	
2 1/2	1322		1622				
2 9/16					22328		22628
2 5/8					22330		22630
2 11/16					22332		22632
2 3/4					22334		22634
2 7/8							
3 1/8				22244		22544	
3 3/8					22338		22638
3 7/16					22340		22640

<sup>1)</sup> 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 <sup>1)</sup>
						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	C2226		C2526		C3048 KA C3044 KA	$\frac{23}{16}$ $\frac{27}{32}$ $\frac{21}{4}$
	C2238		C2538			$\frac{211}{32}$ $\frac{23}{8}$ $\frac{213}{32}$
						$\frac{27}{16}$ $\frac{215}{32}$ $\frac{21}{2}$
						$\frac{29}{16}$ $\frac{25}{8}$ $\frac{211}{16}$
23052 KA 23056 KA	C2224		C2544		C3052 KA C3056 KA	$\frac{23}{4}$ $\frac{27}{8}$ $\frac{31}{8}$
						$\frac{33}{8}$ $\frac{37}{16}$

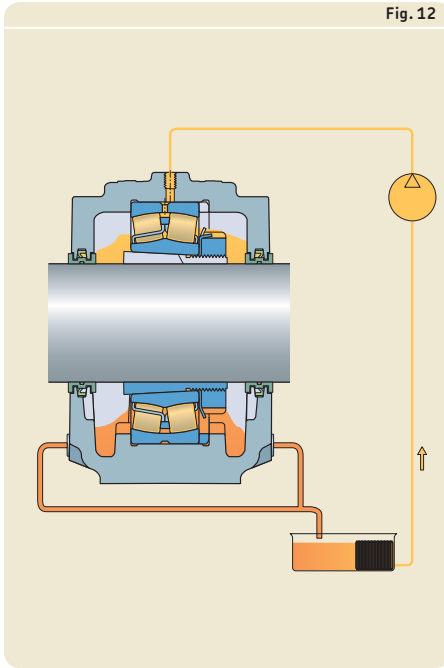


Fig. 12

### 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.

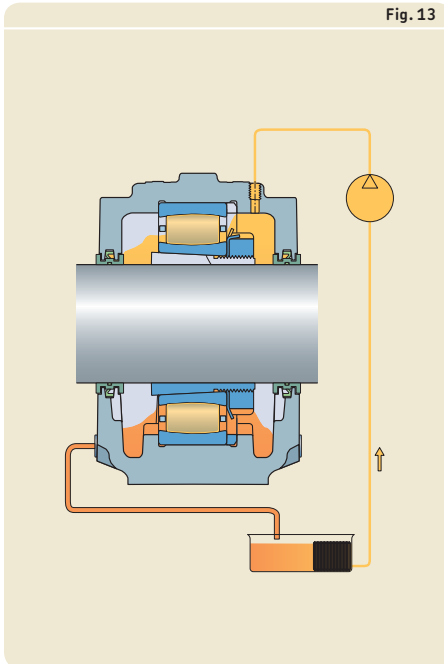


Fig. 13

## 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](http://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.

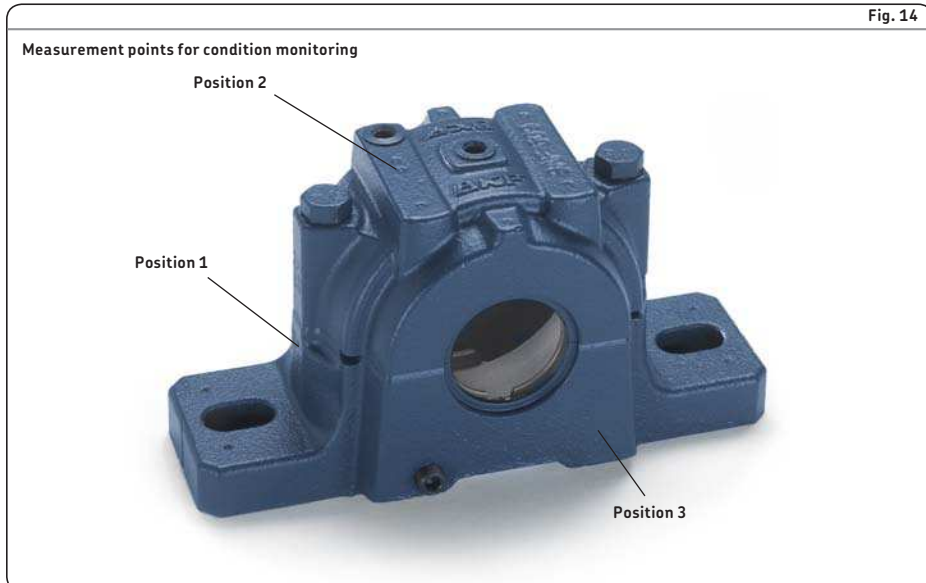
SAF and SAW housings have dimples cast into the housing cap to show where condition monitoring sensors can be mounted for maximum effectiveness.

## 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 <sup>3</sup>/<sub>16</sub> 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:

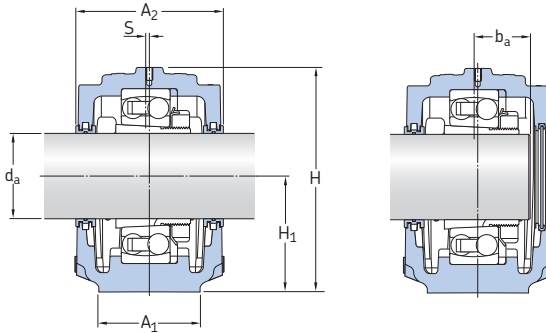
- 2 housings SAF 524
- 2 spherical roller bearings 22224 EK
- 2 adapter sleeves with lock nuts SNW 24x4.3/16
- 2 locating rings SR 24-20
- 4 labyrinth rings with O-rings LOR 113
- 3 contact elements B-10724-113
- 1 end plug EPR 14



## 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.

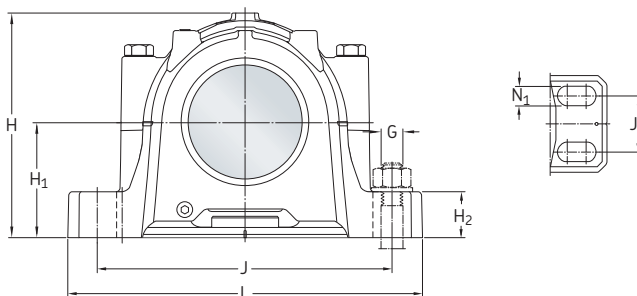


**Units of measurement**  
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

Shaft diameter $d_a$	Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	Adapter assembly	(Qty), Stabilizing Ring, required <sup>2)</sup>	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

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> 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



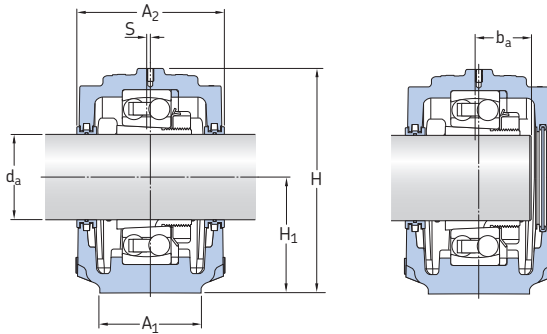
**Complete pillow block**  
Designation Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
–	in.												
<b>SAF 1507</b>	2	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>16</sub>	3 <sup>29</sup> / <sub>32</sub>	2.000	1 <sup>3</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>8</sub>	–	7 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
<b>SAF 1509</b>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	2.250	1 <sup>3</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>4</sub>	7	–	8 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
<b>SAF 1609</b>	2 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub>	0	1 <sup>1</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>16</sub>	2.750	1	7 <sup>3</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	–	9 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>SAF 1510</b>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>64</sub>	4 <sup>13</sup> / <sub>16</sub>	2.500	1 <sup>5</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	7	–	8 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
<b>SAF 1610</b>	2 <sup>3</sup> / <sub>4</sub>	4 <sup>5</sup> / <sub>8</sub>	0	1 <sup>5</sup> / <sub>32</sub>	5 <sup>13</sup> / <sub>16</sub>	3.000	1 <sup>1</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>4</sub>	9	–	10 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>SAF 1511</b>	2 <sup>3</sup> / <sub>4</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>32</sub>	5 <sup>1</sup> / <sub>4</sub>	2.750	1 <sup>5</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>4</sub>	–	9 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>SAF 1611</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	0	1 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>8</sub>	–	11	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>FSAF 1611</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	0	1 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>8</sub>	2	11	5 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
<b>SAF 1513</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	0	1 <sup>9</sup> / <sub>64</sub>	5 <sup>13</sup> / <sub>16</sub>	3.000	1	8 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	–	11	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>SAF 1613</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>16</sub>	0	1 <sup>11</sup> / <sub>32</sub>	6 <sup>19</sup> / <sub>32</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	11	9 <sup>5</sup> / <sub>8</sub>	–	13	7 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>
<b>FSAF 1613</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>16</sub>	0	1 <sup>11</sup> / <sub>32</sub>	6 <sup>19</sup> / <sub>32</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	11	9 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	13	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>SAF 1515</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>11</sup> / <sub>16</sub>	0	1 <sup>7</sup> / <sub>32</sub>	6 <sup>7</sup> / <sub>32</sub>	3.250	1 <sup>1</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	–	11 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>FSAF 1515</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>11</sup> / <sub>16</sub>	0	1 <sup>7</sup> / <sub>32</sub>	6 <sup>7</sup> / <sub>32</sub>	3.250	1 <sup>1</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
<b>SAF 1615</b>	3 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	0	1 <sup>15</sup> / <sub>32</sub>	7 <sup>9</sup> / <sub>16</sub>	4.000	1 <sup>5</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>8</sub>	–	13 <sup>3</sup> / <sub>4</sub>	7 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>
<b>FSAF 1615</b>	3 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	0	1 <sup>15</sup> / <sub>32</sub>	7 <sup>9</sup> / <sub>16</sub>	4.000	1 <sup>5</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>SAF 1516</b>	3 <sup>1</sup> / <sub>2</sub>	5	0	1 <sup>1</sup> / <sub>4</sub>	6 <sup>11</sup> / <sub>16</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	11	–	13	7 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>
<b>FSAF 1516</b>	3 <sup>1</sup> / <sub>2</sub>	5	0	1 <sup>1</sup> / <sub>4</sub>	6 <sup>11</sup> / <sub>16</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	11	2 <sup>1</sup> / <sub>8</sub>	13	1 <sup>11</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>8</sub>
<b>SAF 1616</b>	3 <sup>7</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	0	1 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>4</sub>	4.250	1 <sup>3</sup> / <sub>4</sub>	12 <sup>5</sup> / <sub>8</sub>	10 <sup>5</sup> / <sub>8</sub>	–	14 <sup>1</sup> / <sub>4</sub>	7 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>
<b>FSAF 1616</b>	3 <sup>7</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	0	1 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>4</sub>	4.250	1 <sup>3</sup> / <sub>4</sub>	12 <sup>5</sup> / <sub>8</sub>	10 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>

## 8.1 SAF pillow blocks with self-aligning ball bearings on an adapter sleeve

### Series SAF 15(00) and 16(00)

$d_a$  2 <sup>15</sup>/<sub>16</sub> – 3 <sup>15</sup>/<sub>16</sub> in.

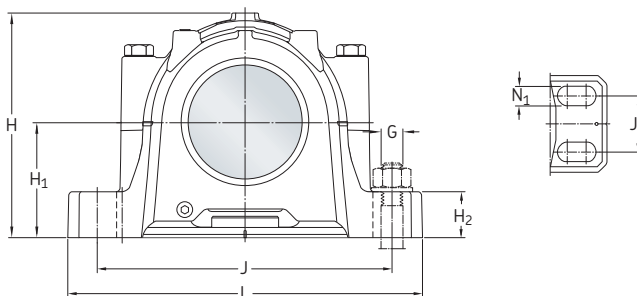


Shaft diameter	Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	Adapter assembly	(Qty), Stabilizing Ring, required <sup>2)</sup>	Labyrinth ring (2 incl.)	Mass
$d_a$							
in.	–	–					lb.
2 <sup>15</sup> / <sub>16</sub>	SAF 1517	SAF 517	1217 K	SNW 17x2.15/16	(2) SR 1517	LOR 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 <sup>3</sup> / <sub>16</sub>	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 <sup>7</sup> / <sub>16</sub>	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 <sup>15</sup> / <sub>16</sub>	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

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> 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





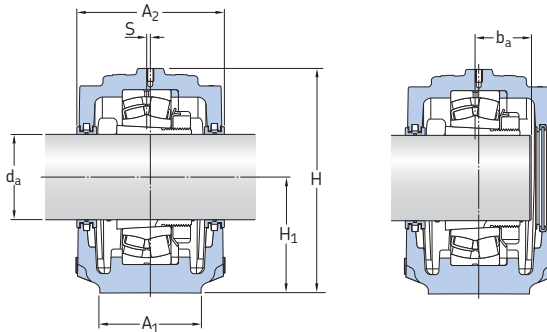
**Complete pillow block**  
**Designation**    **Dimensions**

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
-	in.												
<b>SAF 1517</b>	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
<b>FSAF 1517</b>	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
<b>SAF 1617</b>	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
<b>FSAF 1617</b>	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
<b>SAF 1518</b>	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
<b>FSAF 1518</b>	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
<b>SAF 1618</b>	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
<b>SAF 1520</b>	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
<b>FSAF 1520</b>	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
<b>SAF 1620</b>	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
<b>SAF 1522</b>	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
<b>SAF 1622</b>	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

## 8.2 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)

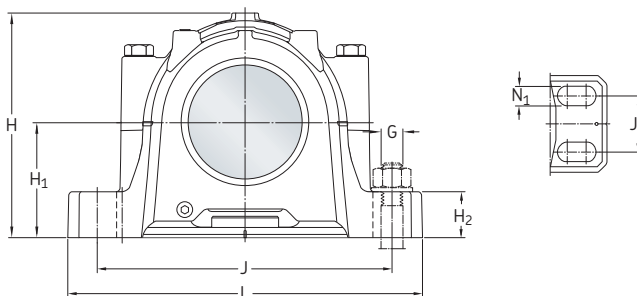
$d_a$  1 3/16 – 2 11/16 in.



**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 <sup>1)</sup>	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
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

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request



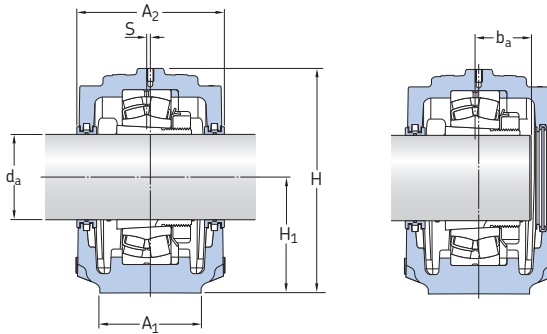
**Complete pillow block**  
Designation    Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
–	in.												
<b>SAF 22507</b>	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
<b>SAF 22509</b>	2 3/8	3 1/2	7/64	15/16	4 7/16	2.250	13/16	6 1/4	7	–	8 1/4	5/8	1/2
<b>SAF 22609</b>	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
<b>SAF 22510</b>	2 3/8	3 1/2	9/64	1 1/64	4 13/16	2.500	15/16	6 1/2	7	–	8 1/4	5/8	1/2
<b>SAF 22610</b>	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
<b>SAF 22511</b>	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
<b>SAF 22611</b>	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
<b>FSAF 22611</b>	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
<b>SAF 22513</b>	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
<b>SAF 22613</b>	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
<b>FSAF 22613</b>	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
<b>SAF 22515</b>	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
<b>SAF 22615</b>	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
<b>FSAF 22515</b>	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
<b>FSAF 22615</b>	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
<b>SAF 22516</b>	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
<b>SAF 22616</b>	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
<b>FSAF 22516</b>	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
<b>FSAF 22616</b>	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)

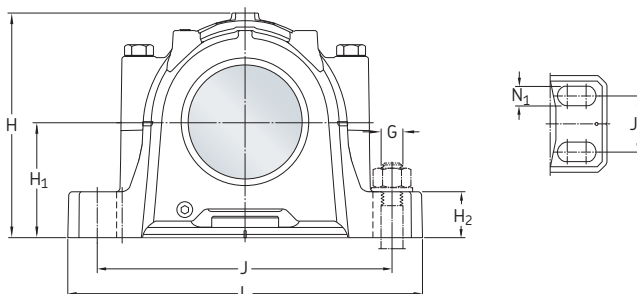
$d_a$  2 <sup>15</sup>/<sub>16</sub> – 4 <sup>3</sup>/<sub>16</sub> in.



Shaft diameter $d_a$	Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	Adapter assembly	Stabilizing ring (1 incl.)	Labyrinth ring (2 incl.)	Mass
in.	–	–					lb.
2 <sup>15</sup> / <sub>16</sub>	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 <sup>3</sup> / <sub>16</sub>	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 <sup>7</sup> / <sub>16</sub>	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 <sup>15</sup> / <sub>16</sub>	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 <sup>3</sup> / <sub>16</sub>	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 <sup>2)</sup>	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 <sup>2)</sup>	LOR 113	63
	SAW 22524	SAW 524	23224 CCK/W33	SNW 124x4.3/16	SR 24-20	LOR 113	110

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> Two stabilizing rings are required, but none are included.



**Complete pillow block**  
Designation

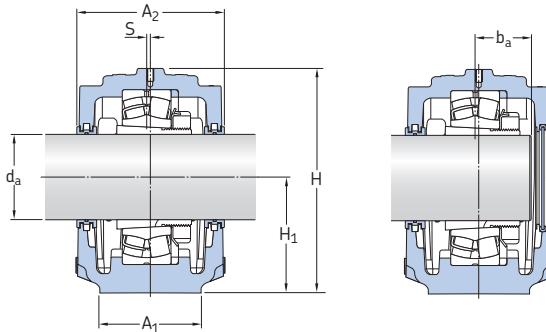
Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	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)

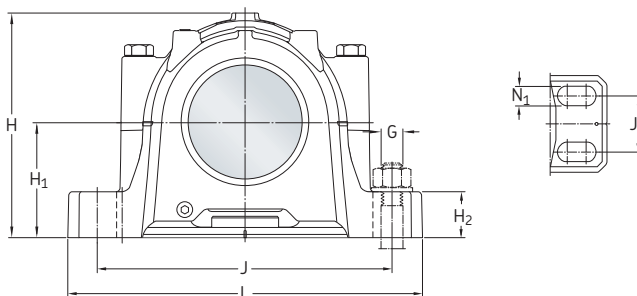
$d_a$  4 7/16 – 5 15/16 in.



Shaft diameter $d_a$	Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	LOR 140	148
	SAW 23534	SAW 534	23234 CCK/W33	SNW 134x5.15/16	SR 34-0	LOR 140	297

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> Two stabilizing rings are required, but none are included.



**Complete pillow block**  
Designation

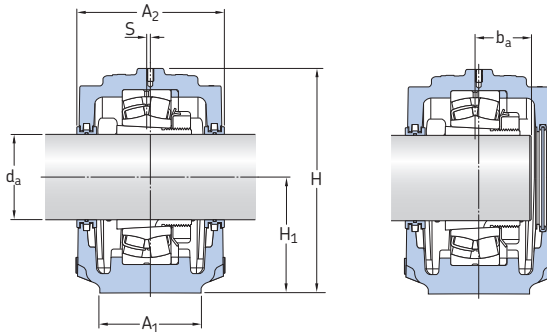
Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
–	in.												
<b>SAF 22526</b>	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
<b>SAF 22626</b>	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
<b>SAF 23026 KA x 4.7/16</b>	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
<b>SAW 23526</b>	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
<b>SAF 22528</b>	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
<b>SAF 22628</b>	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
<b>SAF 23028 KA x 4.15/16</b>	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
<b>SAW 23528</b>	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
<b>SAF 22530</b>	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
<b>SAF 22630</b>	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
<b>SAF 23030 KA x 5.3/16</b>	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
<b>SAW 23530</b>	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
<b>SAF 22532</b>	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
<b>SAF 22632</b>	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
<b>SAF 23032 KA x 5.7/16</b>	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
<b>SAW 23532</b>	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
<b>SAF 22534</b>	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
<b>SAF 22634</b>	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
<b>SAF 23034 KA x 5.15/16</b>	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
<b>SAW 23534</b>	6 3/4	9 9/16	3/16	3 19/32	14 3/16	7.062	2 3/4	19 3/8	21 5/8	4 1/4	24 3/4	1 1/8	1

## 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 <sup>7</sup>/<sub>16</sub> – 10 <sup>7</sup>/<sub>16</sub> in.

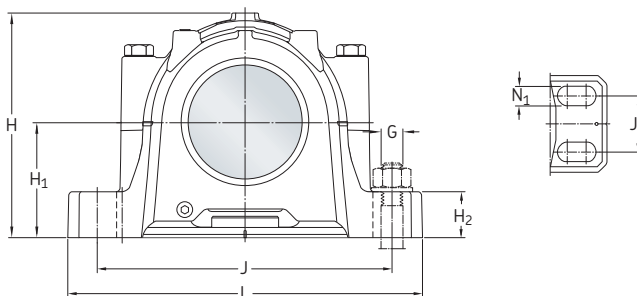


Shaft diameter $d_a$	Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	Adapter assembly	Stabilizing ring (1 incl.)	Labyrinth ring (2 incl.)	Mass
in.	–	–					lb.
6 <sup>7</sup> / <sub>16</sub>	SAF 22536	SAF 536	22236 CCK/W33	SNW 36x6.7/16	SR 36-30	LOR 148	301
	SAF 23036 KA x 6.7/17	SAF 036 KA x 6.7/16	23036 CCK/W33	SNW 3036x6.7/16	38151-36 <sup>2)</sup>	LOR 148	209
	SAW 23536	SAW 536	23236 CCK/W33	SNW 136x6.7/16	SR 36-30	LOR 148	325
6 <sup>15</sup> / <sub>16</sub>	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 <sup>2)</sup>	LOR 155	200
	SAW 23538	SAW 538	23238 CCK/W33	SNW 138x6.15/16	SR 38-32	LOR 155	430
7 <sup>3</sup> / <sub>16</sub>	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
	SAF 23040 KA x 7.3/16	SAF 040 KA x 7.3/16	23040 CCK/W33	SNW 3040x7.3/16	38151-40 <sup>2)</sup>	LOR 159	259
	SAW 23540	SAW 540	23240 CCK/W33	SNW 140x7.3/16	SR 40-34	LOR 159	515
7 <sup>15</sup> / <sub>16</sub>	SAF 22544	SAF 544	22244 CCK/W33	SNW 44x7.15/16	SR 44-38	LOR 167	577
	SAF 23044 KA x 7.15/16	SAF 044 KA x 7.15/16	23044 CCK/W33	SNW 3044x7.15/16	36053-140 <sup>2)</sup>	LOR 167	386
	SAW 23544	SAW 544	23244 CCK/W33	SNW 144x7.15/16	SR 44-38	LOR 167	710
8 <sup>15</sup> / <sub>16</sub>	SAF 23048 KA x 8.15/16	SAF 048 KA x 8.15/16	23048 CCK/W33	SNP 3048x8.15/16	A-8897 <sup>2)</sup>	LOR 552	474
9 <sup>7</sup> / <sub>16</sub>	SAF 23052 KA x 9.7/16	SAF 052 KA x 9.7/16	23052 CCK/W33	SNP 3052x9.7/16	A-8898 <sup>2)</sup>	LOR 553	530
9 <sup>15</sup> / <sub>16</sub>	SAF 23056 KA x 9.15/16	SAF 056 KA x 9.15/16	23056 CACK/W33	SNP 3056x9.15/16	A-8819 <sup>2)</sup>	LOR 607	800
10 <sup>7</sup> / <sub>16</sub>	SAF 23056 KA x 10.7/16	SAF 056 KA x 10.7/16	23056 CACK/W33	SNP 3056x10.7/16	A-8819 <sup>2)</sup>	LOR 606	800

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> Two stabilizing rings are required, but none are included.





### Complete pillow block

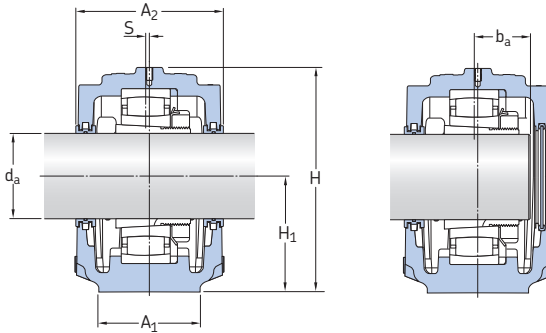
Designation

Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
	in.												
SAF 22536	7 <sup>1</sup> / <sub>8</sub>	10	3 <sup>1</sup> / <sub>16</sub>	3 <sup>9</sup> / <sub>64</sub>	14 <sup>7</sup> / <sub>8</sub>	7.500	3	20 <sup>7</sup> / <sub>8</sub>	23 <sup>5</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	26 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	1
SAF 23036 KA x 6.7/16	6 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	0	2 <sup>25</sup> / <sub>32</sub>	13 <sup>1</sup> / <sub>4</sub>	6.688	2 <sup>5</sup> / <sub>8</sub>	17 <sup>3</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	22	1 <sup>1</sup> / <sub>8</sub>	1
SAW 23536	7 <sup>1</sup> / <sub>8</sub>	10	3 <sup>1</sup> / <sub>16</sub>	3 <sup>21</sup> / <sub>32</sub>	14 <sup>7</sup> / <sub>8</sub>	7.500	3	20 <sup>7</sup> / <sub>8</sub>	23 <sup>5</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	26 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	1
SAF 22538	7 <sup>1</sup> / <sub>2</sub>	10 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>19</sup> / <sub>64</sub>	15 <sup>11</sup> / <sub>16</sub>	7.875	3 <sup>1</sup> / <sub>8</sub>	21 <sup>5</sup> / <sub>8</sub>	24 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	28	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
SAF 22638	8 <sup>3</sup> / <sub>4</sub>	12	3 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	18 <sup>5</sup> / <sub>8</sub>	9.500	3 <sup>3</sup> / <sub>4</sub>	24 <sup>3</sup> / <sub>4</sub>	27 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
SAF 23038 KA x 6.15/16	6 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	0	2 <sup>13</sup> / <sub>16</sub>	13 <sup>1</sup> / <sub>4</sub>	6.688	2 <sup>5</sup> / <sub>8</sub>	17 <sup>3</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	22	1 <sup>1</sup> / <sub>8</sub>	1
SAW 23538	7 <sup>1</sup> / <sub>2</sub>	10 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>27</sup> / <sub>32</sub>	15 <sup>11</sup> / <sub>16</sub>	7.875	3 <sup>1</sup> / <sub>8</sub>	21 <sup>5</sup> / <sub>8</sub>	24 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	28	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
SAF 22540	8	11 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>2</sub>	8.250	3 <sup>3</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	25	5	29 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
SAF 22640	9	12 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>2</sub>	9.875	4	26 <sup>1</sup> / <sub>4</sub>	29 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	34 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
SAF 23040 KA x 7.3/16	6 <sup>3</sup> / <sub>4</sub>	9 <sup>9</sup> / <sub>16</sub>	0	3 <sup>1</sup> / <sub>32</sub>	14 <sup>3</sup> / <sub>16</sub>	7.062	2 <sup>3</sup> / <sub>4</sub>	19 <sup>3</sup> / <sub>8</sub>	21 <sup>5</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	24 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub>	1
SAW 23540	8	11 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>2</sub>	8.250	3 <sup>3</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	25	5	29 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
SAF 22544	8 <sup>3</sup> / <sub>4</sub>	12	3 <sup>1</sup> / <sub>16</sub>	3 <sup>5</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>8</sub>	9.500	3 <sup>3</sup> / <sub>4</sub>	24 <sup>3</sup> / <sub>4</sub>	27 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
SAF 23044 KA x 7.15/16	7 <sup>1</sup> / <sub>2</sub>	10 <sup>3</sup> / <sub>4</sub>	0	3 <sup>7</sup> / <sub>32</sub>	15 <sup>11</sup> / <sub>16</sub>	7.875	3 <sup>1</sup> / <sub>8</sub>	21 <sup>5</sup> / <sub>8</sub>	24 <sup>3</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	28	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
SAW 23544	8 <sup>3</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>32</sub>	18 <sup>5</sup> / <sub>8</sub>	9.500	3 <sup>3</sup> / <sub>4</sub>	24 <sup>3</sup> / <sub>4</sub>	27 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
SAF 23048 KA x 8.15/16	8	11 <sup>1</sup> / <sub>4</sub>	0	3 <sup>9</sup> / <sub>16</sub>	16 <sup>1</sup> / <sub>2</sub>	8.250	3 <sup>3</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>2</sub>	25	5	29 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
SAF 23052 KA x 9.7/16	8 <sup>3</sup> / <sub>4</sub>	12	0	3 <sup>7</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>8</sub>	9.500	3 <sup>3</sup> / <sub>4</sub>	24 <sup>3</sup> / <sub>4</sub>	27 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	32 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
SAF 23056 KA x 9.15/16	9	12 <sup>3</sup> / <sub>8</sub>	0	4	19 <sup>1</sup> / <sub>2</sub>	9.875	4	26 <sup>1</sup> / <sub>4</sub>	29 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	34 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>
SAF 23056 KA x 10.7/16	9	12 <sup>3</sup> / <sub>8</sub>	0	4	19 <sup>1</sup> / <sub>2</sub>	9.875	4	26 <sup>1</sup> / <sub>4</sub>	29 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	34 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>

### 8.3 SAF pillow blocks with CARB bearings on an adapter sleeve Series SAF C25(00), C26(00) and C30(00)

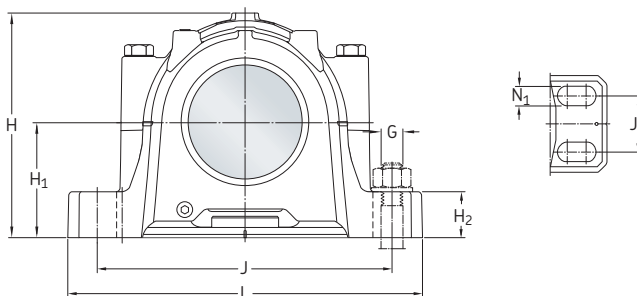
$d_a$  1 3/16 – 3 3/16 in.



**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 <sup>1)</sup>	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

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

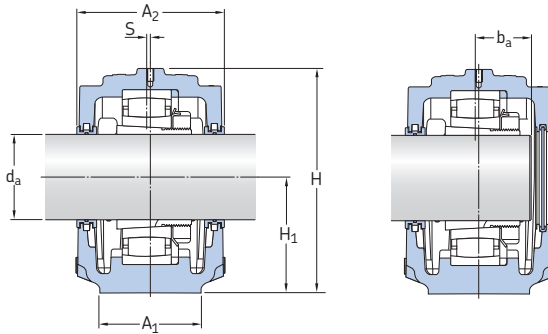


### Complete pillow block

Designation	Dimensions												
	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	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)

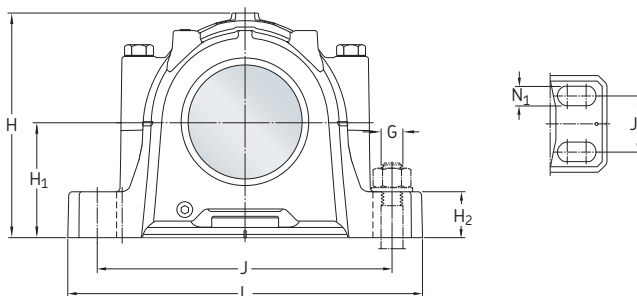
$d_a$  3 7/16 – 10 7/16 in.



Shaft diameter $d$	Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	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 <sup>2)</sup>	LOR 606	800

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> Two stabilizing rings are required, but none are included.



**Complete pillow block**

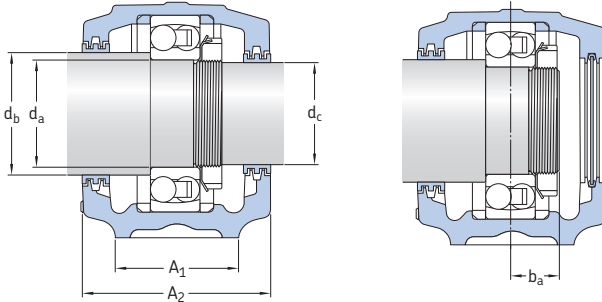
Designation

Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	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)

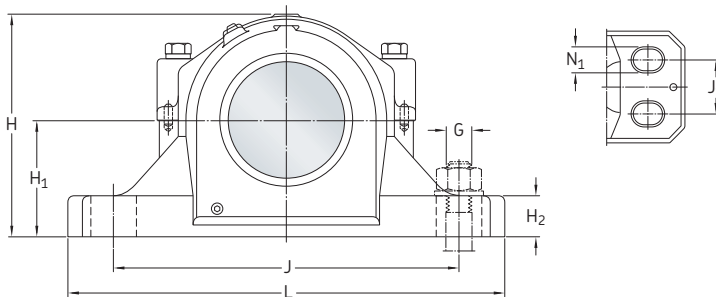
$d_a$  40 – 110 mm



**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	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 <sup>1)</sup>						
mm	in.		–	–		(2 required)					lb.
40	1 <sup>15</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	<b>SAF 1308</b>	SAF 308	1308 ETN9	SR 1608	LER 24	LER 17	N 08	W 08	14
45	2 <sup>1</sup> / <sub>8</sub>	1 <sup>11</sup> / <sub>16</sub>	<b>SAF 1309</b>	SAF 309	1309 ETN9	SR 1609	LER 28	LER 20	N 09	W 09	18
50	2 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	<b>SAF 1310</b>	SAF 310	1310 ETN9	SR 1610	LER 35	LER 23	N 10	W 10	21
55	2 <sup>9</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	<b>SAF 1311</b>	SAF 311	1311 ETN9	SR 1611	LER 40	LER 27	N 11	W 11	25
			<b>FSAF 1311</b>	FSAF 311	1311 ETN9	SR 1611	LER 40	LER 27	N 11	W 11	25
60	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	<b>SAF 1312</b>	SAF 312	1312 ETN9	SR 1612	LOR 47	LOR 33	N 12	W 12	29
			<b>FSAF 1312</b>	FSAF 312	1312 ETN9	SR 1612	LOR 47	LOR 33	N 12	W 12	29
65	3 <sup>4</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	<b>SAF 1313</b>	SAF 313	1313 ETN9	SR 1613	LOR 55	LOR 37	N 13	W 13	35
			<b>FSAF 1313</b>	FSAF 313	1313 ETN9	SR 1613	LOR 55	LOR 37	N 13	W 13	35
70	3 <sup>1</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	<b>SAF 1314</b>	SAF 314	1314	SR 1614	LOR 64	LOR 43	N 14	W 14	40
			<b>FSAF 1314</b>	FSAF 314	1314	SR 1614	LOR 64	LOR 43	N 14	W 14	40
75	3 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	<b>SAF 1315</b>	SAF 315	1315	SR 1615	LOR 79	LOR 46	AN 15	W 15	44
			<b>FSAF 1315</b>	FSAF 315	1315	SR 1615	LOR 79	LOR 46	AN 15	W 15	44
80	3 <sup>5</sup> / <sub>8</sub>	3	<b>SAF 1316</b>	SAF 316	1316	SR 1616	LOR 84	LOR 60	AN 16	W 16	63
			<b>FSAF 1316</b>	FSAF 316	1316	SR 1616	LOR 84	LOR 60	AN 16	W 16	63
85	3 <sup>15</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	<b>SAF 1317</b>	SAF 317	1317	SR 1617	LOR 109	LOR 188	AN 17	W 17	66
			<b>FSAF 1317</b>	FSAF 317	1317	SR 1617	LOR 109	LOR 188	AN 17	W 17	66
90	4 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	<b>SAF 1318</b>	SAF 318	1318	SR 1618	LOR 112	LOR 191	AN 18	W 18	86
100	4 <sup>1</sup> / <sub>2</sub>	3 <sup>13</sup> / <sub>16</sub>	<b>SAF 1320</b>	SAF 320	1320	SR 1620	LOR 118	LOR 106	AN 20	W 20	97
110	4 <sup>7</sup> / <sub>8</sub>	4 <sup>3</sup> / <sub>16</sub>	<b>SAF 1322</b>	SAF 322	1322	SR 1622	LOR 121	LOR 113	AN 22	W 22	132

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request



### Complete pillow block

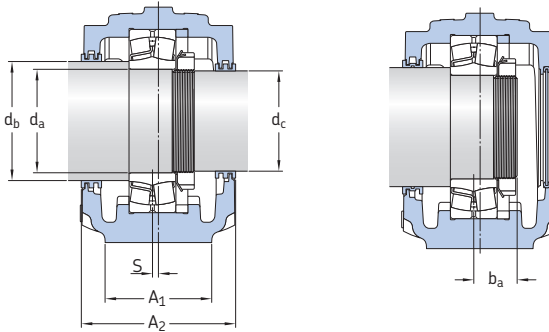
Designation

Dimensions

	A <sub>1</sub>	A <sub>2</sub>	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
–	in.											
<b>SAF 1308</b>	2 <sup>3</sup> / <sub>8</sub>	4	1 <sup>1</sup> / <sub>4</sub>	4 <sup>13</sup> / <sub>16</sub>	2.500	1	6 <sup>1</sup> / <sub>2</sub>	7	–	8 <sup>1</sup> / <sub>4</sub>	5/8	1/2
<b>SAF 1309</b>	2 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>16</sub>	2.750	1	7 <sup>3</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	–	9 <sup>5</sup> / <sub>8</sub>	3/4	5/8
<b>SAF 1310</b>	2 <sup>3</sup> / <sub>4</sub>	4 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>32</sub>	5 <sup>13</sup> / <sub>16</sub>	3.000	11/8	7 <sup>3</sup> / <sub>4</sub>	9	–	10 <sup>5</sup> / <sub>8</sub>	3/4	5/8
<b>SAF 1311</b>	3 <sup>1</sup> / <sub>8</sub>	5	1 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	–	11	3/4	5/8
<b>FSAF 1311</b>	3 <sup>1</sup> / <sub>8</sub>	5	1 <sup>3</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	2	11	5/8	1/2
<b>SAF 1312</b>	3 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>8</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	9 <sup>5</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>8</sub>	–	11 <sup>1</sup> / <sub>4</sub>	3/4	5/8
<b>FSAF 1312</b>	3 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>8</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	9 <sup>5</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	5/8	1/2
<b>SAF 1313</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>32</sub>	6 <sup>19</sup> / <sub>32</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	11	–	13	7/8	3/4
<b>FSAF 1313</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>32</sub>	6 <sup>19</sup> / <sub>32</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	11	2 <sup>1</sup> / <sub>8</sub>	13	3/4	5/8
<b>SAF 1314</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	3.750	1 <sup>1</sup> / <sub>4</sub>	9 <sup>7</sup> / <sub>8</sub>	11	–	13	7/8	3/4
<b>FSAF 1314</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	3.750	1 <sup>1</sup> / <sub>4</sub>	9 <sup>7</sup> / <sub>8</sub>	11	2 <sup>1</sup> / <sub>8</sub>	13	3/4	5/8
<b>SAF 1315</b>	3 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>32</sub>	7 <sup>9</sup> / <sub>16</sub>	4.000	1 <sup>5</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	–	13 <sup>3</sup> / <sub>4</sub>	7/8	3/4
<b>FSAF 1315</b>	3 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>32</sub>	7 <sup>9</sup> / <sub>16</sub>	4.000	1 <sup>5</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	3/4	5/8
<b>SAF 1316</b>	3 <sup>7</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>4</sub>	4.250	1 <sup>3</sup> / <sub>4</sub>	10 <sup>5</sup> / <sub>8</sub>	12 <sup>5</sup> / <sub>8</sub>	–	14 <sup>1</sup> / <sub>4</sub>	7/8	3/4
<b>FSAF 1316</b>	3 <sup>7</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>4</sub>	4.250	1 <sup>3</sup> / <sub>4</sub>	10 <sup>5</sup> / <sub>8</sub>	12 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>4</sub>	3/4	5/8
<b>SAF 1317</b>	4 <sup>3</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	4.500	1 <sup>3</sup> / <sub>4</sub>	11 <sup>5</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>8</sub>	–	15 <sup>1</sup> / <sub>4</sub>	1	7/8
<b>FSAF 1317</b>	4 <sup>3</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	4.500	1 <sup>3</sup> / <sub>4</sub>	11 <sup>5</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>4</sub>	7/8	3/4
<b>SAF 1318</b>	4 <sup>3</sup> / <sub>8</sub>	6 <sup>7</sup> / <sub>8</sub>	1 <sup>11</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>4</sub>	4.750	2	12	13 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>4</sub>	15 <sup>1</sup> / <sub>2</sub>	7/8	3/4
<b>SAF 1320</b>	4 <sup>3</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>8</sub>	1 <sup>27</sup> / <sub>32</sub>	10 <sup>3</sup> / <sub>16</sub>	5.250	2 <sup>1</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>2</sub>	7/8	3/4
<b>SAF 1322</b>	5 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>8</sub>	1 <sup>15</sup> / <sub>16</sub>	11 <sup>5</sup> / <sub>16</sub>	6.000	2 <sup>3</sup> / <sub>8</sub>	14 <sup>5</sup> / <sub>8</sub>	16	3 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	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

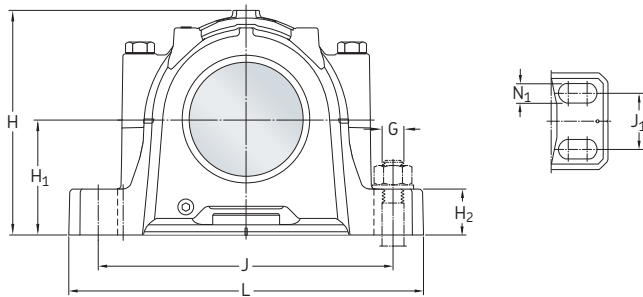


**Units of measurement**  
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

Shaft diameter			Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	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 <sup>15</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	<b>SAF 22308</b>	SAF 308	22308 E	SR 10-8	LER 24	LER 17	N 08	W 08	15
45	2 <sup>1</sup> / <sub>8</sub>	1 <sup>11</sup> / <sub>16</sub>	<b>SAF 22309</b>	SAF 309	22309 E	SR 11-9	LER 28	LER 20	N 09	W 09	19
50	2 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	<b>SAF 22310</b>	SAF 310	22310 E	SR 0-10	LER 35	LER 23	N 10	W 10	22
55	2 <sup>9</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>	<b>SAF 22311</b>	SAF 311	22311 E	SR 13-11	LER 40	LER 27	N 11	W 11	27
			<b>FSAF 22311</b>	FSAF 311	22311 E	SR 13-11	LER 40	LER 27	N 11	W 11	27
60	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	<b>SAF 22312</b>	SAF 312	22312 E	SR 15-12	LOR 47	LOR 33	N 12	W 12	31
			<b>FSAF 22312</b>	FSAF 312	22312 E	SR 15-12	LOR 47	LOR 33	N 12	W 12	31
65	3 <sup>1</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	<b>SAF 22213</b>	SAF 213	22213 E	SR 13-0	LOR 55	LOR 37	N 13	W 13	22
			<b>SAF 22313</b>	SAF 313	22313 E	SR 16-13	LOR 55	LOR 37	N 13	W 13	38
			<b>FSAF 22313</b>	FSAF 313	22313 E	SR 16-13	LOR 55	LOR 37	N 13	W 13	38
70	3 <sup>1</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	<b>SAF 22314</b>	SAF 314	22314 CC/W33	SR 17-14	LOR 64	LOR 43	N 14	W 14	42
			<b>FSAF 22314</b>	FSAF 314	22314 CC/W33	SR 17-14	LOR 64	LOR 43	N 14	W 14	42
75	3 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	<b>SAF 22215</b>	SAF 215	22215 E	SR 15-0	LOR 79	LOR 46	AN 15	W 15	27
			<b>SAF 22315</b>	SAF 315	22315 CC/W33	SR 18-15	LOR 79	LOR 46	AN 15	W 15	48
	3 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	<b>FSAF 22215</b>	FSAF 215	22215 E	SR 15-0	LOR 79	LOR 46	AN 15	W 15	27
			<b>FSAF 22315</b>	FSAF 315	22315 CC/W33	SR 18-15	LOR 79	LOR 46	AN 15	W 15	48

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request





### Complete pillow block

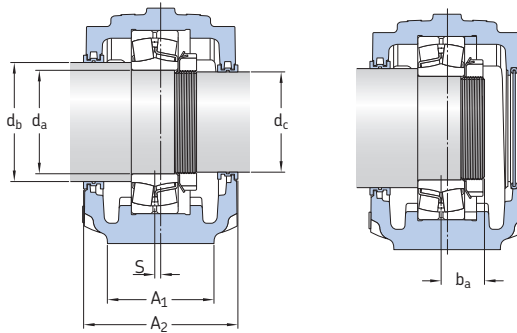
Designation      Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
–	in.												
<b>SAF 22308</b>	2 <sup>3</sup> / <sub>8</sub>	4	3/16	1 <sup>5</sup> / <sub>32</sub>	4 <sup>13</sup> / <sub>16</sub>	2.500	1	6 <sup>1</sup> / <sub>2</sub>	7	–	8 <sup>1</sup> / <sub>4</sub>	5/8	1/2
<b>SAF 22309</b>	2 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>4</sub>	3/16	1 <sup>5</sup> / <sub>16</sub>	5 <sup>5</sup> / <sub>16</sub>	2.750	1	7 <sup>3</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	–	9 <sup>5</sup> / <sub>8</sub>	3/4	5/8
<b>SAF 22310</b>	2 <sup>3</sup> / <sub>4</sub>	4 <sup>5</sup> / <sub>8</sub>	3/16	1 <sup>7</sup> / <sub>16</sub>	5 <sup>13</sup> / <sub>16</sub>	3.000	1 <sup>1</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>4</sub>	9	–	10 <sup>5</sup> / <sub>8</sub>	3/4	5/8
<b>SAF 22311</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	3/16	1 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>16</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	–	11	3/4	5/8
<b>FSAF 22311</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	3/16	1 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>16</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	2	11	5/8	1/2
<b>SAF 22312</b>	3 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	3/16	1 <sup>9</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>8</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	–	11 <sup>1</sup> / <sub>4</sub>	3/4	5/8
<b>FSAF 22312</b>	3 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	3/16	1 <sup>9</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>8</sub>	3.250	1 <sup>3</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	5/8	1/2
<b>SAF 22213</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	5/32	1 <sup>25</sup> / <sub>64</sub>	5 <sup>13</sup> / <sub>16</sub>	3.000	1	8 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	–	11	3/4	5/8
<b>SAF 22313</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>16</sub>	3/16	1 <sup>11</sup> / <sub>16</sub>	6 <sup>19</sup> / <sub>32</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	11	–	13	7/8	3/4
<b>FSAF 22313</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>5</sup> / <sub>16</sub>	3/16	1 <sup>11</sup> / <sub>16</sub>	6 <sup>19</sup> / <sub>32</sub>	3.500	1 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	11	2 <sup>1</sup> / <sub>8</sub>	13	3/4	5/8
<b>SAF 22314</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3/16	1 <sup>11</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>8</sub>	3.750	1 <sup>1</sup> / <sub>4</sub>	9 <sup>7</sup> / <sub>8</sub>	11	–	13	7/8	3/4
<b>FSAF 22314</b>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>8</sub>	3/16	1 <sup>11</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>8</sub>	3.750	1 <sup>1</sup> / <sub>4</sub>	9 <sup>7</sup> / <sub>8</sub>	11	2 <sup>1</sup> / <sub>8</sub>	13	3/4	5/8
<b>SAF 22215</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>11</sup> / <sub>16</sub>	1/8	1 <sup>7</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>32</sub>	3.250	1 <sup>1</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	–	11 <sup>1</sup> / <sub>4</sub>	3/4	5/8
<b>SAF 22315</b>	3 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	3/16	1 <sup>7</sup> / <sub>8</sub>	7 <sup>9</sup> / <sub>16</sub>	4.000	1 <sup>5</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	–	13 <sup>3</sup> / <sub>4</sub>	7/8	3/4
<b>FSAF 22215</b>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>11</sup> / <sub>16</sub>	1/8	1 <sup>7</sup> / <sub>16</sub>	6 <sup>7</sup> / <sub>32</sub>	3.250	1 <sup>1</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	5/8	1/2
<b>FSAF 22315</b>	3 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	3/16	1 <sup>7</sup> / <sub>8</sub>	7 <sup>9</sup> / <sub>16</sub>	4.000	1 <sup>5</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	3/4	5/8

## 8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore

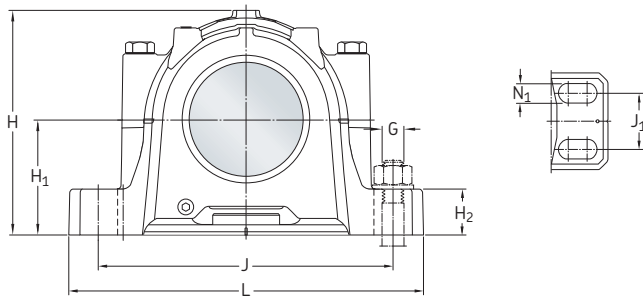
### Series SAF 222(00), 223(00) and SAW series 232(00)

$d_a$  80 – 110 mm



Shaft diameter			Complete pillow block	Components		Stabilizing ring (1 incl.)	Labyrinth seals Shaft diameter $d_b$	Lock nut	Locking washer	Mass	
$d_a$	$d_b$	$d_c$		Pillow block housing	Bearing <sup>1)</sup>						
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
			FSAF 22317	FSAF 317	22317 CC/W33	SR20-17	LOR109	LOR188	AN 17	W 17	71
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	LOR112	LOR191	AN 18	W 18	44
			SAW 23218	SAW 218	23218 CC/W33	SR18-15	LOR112	LOR191	AN 18	W 18	48
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

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request



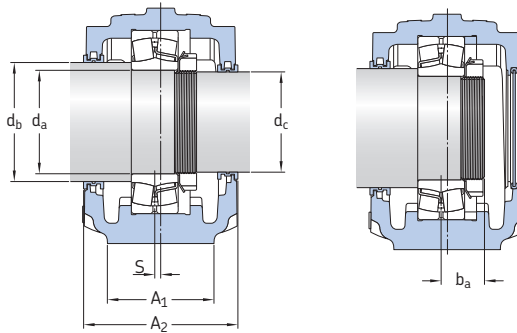
**Complete pillow block**

Designation      Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	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

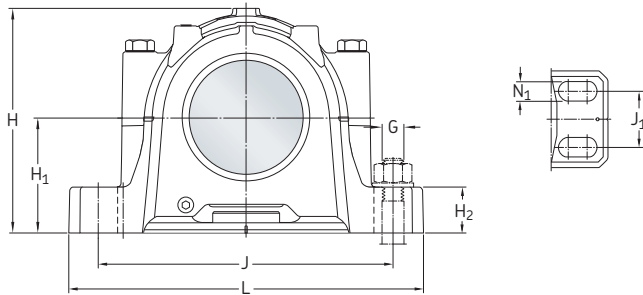
## 8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore Series SAF 222(00), 223(00) and SAW series 232(00)

$d_a$  120 – 180 mm



Shaft diameter			Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	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.	
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

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request



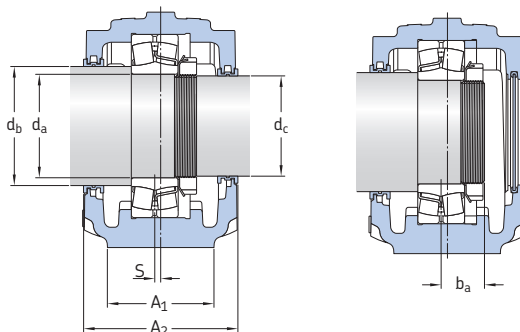
**Complete pillow block**

Designation      Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	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 13/16	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

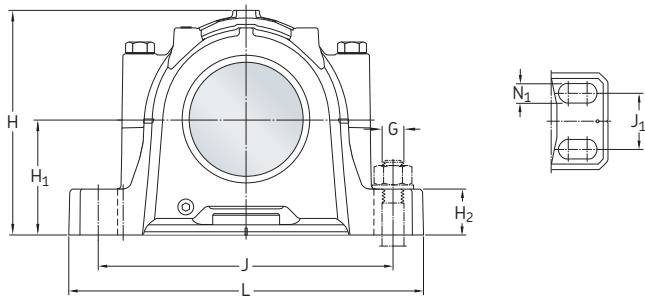
## 8.5 SAF and SAW pillow blocks with spherical roller bearings with a cylindrical bore Series SAF 222(00), 223(00) and SAW series 232(00)

$d_a$  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 <sup>1)</sup>						
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

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request



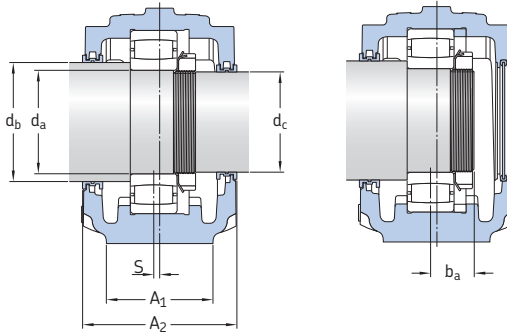
**Complete pillow block**

Designation      Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
–	in.												
<b>SAF 22238</b>	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
<b>SAF 22338</b>	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
<b>SAW 23238</b>	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
<b>SAF 22240</b>	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
<b>SAF 22340</b>	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
<b>SAW 23240</b>	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
<b>SAF 22244</b>	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
<b>SAW 23244</b>	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



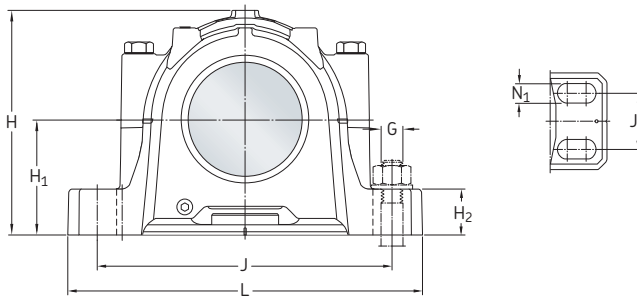
**Units of measurement**  
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

Shaft diameter			Complete pillow block	Components		Stabilizing ring	Labyrinth seals <sup>2)</sup>		Lock nut	Locking washer		Mass
$d_a$	$d_b$	$d_c$		Pillow block housing	Bearing <sup>1)</sup>		Shaft diameter $d_b$	Shaft diameter $d_c$		Locking washer		
mm	in.		–	–		(1 incl.)					lb.	
65	3 <sup>1</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	SAF C2213	SAF 213	C 2213 TN9	SR 13-0	LOR 55	LOR 37	KMFE 13	–	22	
70	3 <sup>1</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>8</sub>	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 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	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 <sup>7</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub>	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 <sup>5</sup> / <sub>8</sub>	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 <sup>5</sup> / <sub>8</sub>	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 <sup>15</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	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 <sup>15</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	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 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	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 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	FSAF C2218	FSAF 218	C 2218	SR 18-15	LOR 112	LOR 191	KMFE 18	–	44	

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> 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)





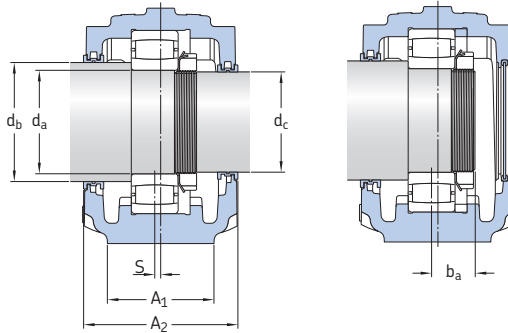
### Complete pillow block

Designation      Dimensions

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	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 SAF pillow blocks with CARB bearings with a cylindrical bore Series SAF C22(00) and C23(00)

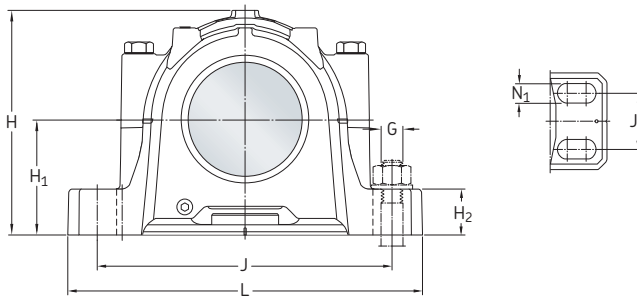
$d_a$  100 – 220 mm



Shaft diameter			Complete pillow block	Components			Stabilizing ring (1 incl.)	Labyrinth Shaft diameter $d_b$	seals <sup>2)</sup> Shaft diameter $d_c$	Lock nut	Locking washer	Mass
$d_a$	$d_b$	$d_c$		Pillow block housing	Bearing <sup>1)</sup>							
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	

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request

<sup>2)</sup> 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 <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	N <sub>1</sub>	G
–	in.												
<b>SAF C2220</b>	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
<b>SAF C2320</b>	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
<b>FSAF C2220</b>	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
<b>SAF C2222</b>	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
<b>SAF C2226</b>	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
<b>SAF C2228</b>	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
<b>SAF C2230</b>	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
<b>SAF C2234</b>	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
<b>SAF C2238</b>	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
<b>SAF C2244</b>	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 <sup>15</sup>/<sub>16</sub> to 9 <sup>9</sup>/<sub>16</sub> 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 <sup>15</sup>/<sub>16</sub> to 9 <sup>9</sup>/<sub>16</sub> inches. SDAF extended range housings can accommodate bearings in the 30, 31 and 32 dimension series for shaft diameters ranging from 8 <sup>15</sup>/<sub>16</sub> 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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# Designations

Designation system for SDAF housings and standard SDAF extended range housings

**SDAF\_22634 TA**

## Housing series

<b>S</b>	Standard pillow block
<b>D</b>	Heavy-duty series
<b>A</b>	Inch dimensions
<b>F</b>	Labyrinth seal

## Material

<b>-</b>	Cast iron (standard)
<b>D</b>	Ductile iron (spheroidal graphite cast iron)
<b>S</b>	Cast steel

## Size identification

<b>222(00)</b>	Kits with spherical roller bearings with a cylindrical bore, diameter series 2
<b>223(00)</b>	Kits with spherical roller bearings with a cylindrical bore, diameter series 3
<b>225(00)</b>	Kits with spherical roller bearings on an adapter sleeve, diameter series 2
<b>226(00)</b>	Kits with spherical roller bearings on an adapter sleeve, diameter series 3
<b>230(00)</b>	Kits with spherical roller bearings with a cylindrical bore, diameter series 0
<b>230(00) KA</b>	Kits with spherical roller bearings on an adapter sleeve, diameter series 0
<b>231(00)</b>	Kits with spherical roller bearings with a cylindrical bore, diameter series 1
<b>231(00) KA</b>	Kits with spherical roller bearings on an adapter sleeve, diameter series 1
<b>232(00)</b>	Kits with spherical roller bearings with a cylindrical bore, diameter series 2
<b>232(00) KA</b>	Kits with spherical roller bearings on an adapter sleeve, diameter series 2
<b>..20 to 96</b>	Size code, related to the bearing bore size
<b>../500 to /530</b>	Size code, related to the bearing bore size

## Suffix<sup>1)</sup>

<b>T</b>	Taconite seal with contact seal or bolt-on taconite seals
<b>TV</b>	Taconite seal with V-ring
<b>TA or TVA</b>	Taconite seal with button head grease fitting
<b>TB or TVB</b>	Taconite seal with giant button head grease fitting
<b>Y</b>	One end closed (i.e. supplied with end plugs)
<b>/VZ...</b>	Special feature / modification

<sup>1)</sup> 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

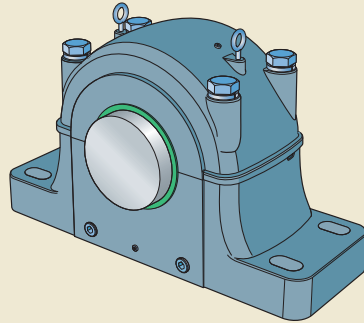


Fig. 2

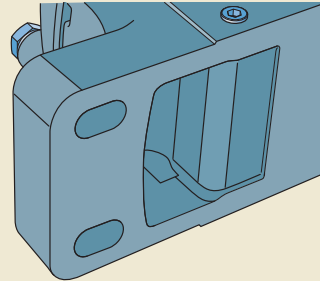
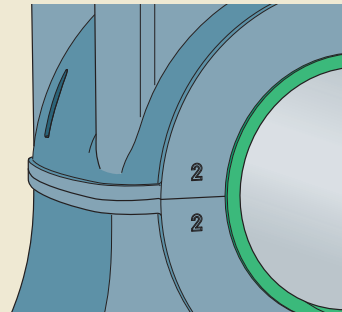


Fig. 3





## 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.

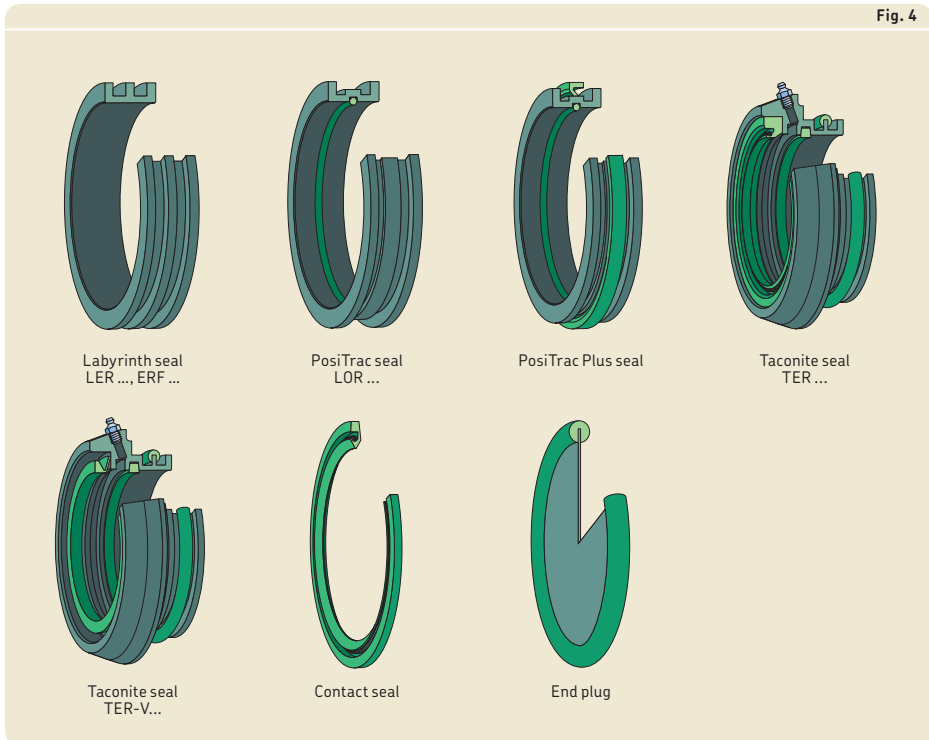
**Table 1, page 456**, provides an overview of the characteristics and suitability of each sealing solution. Details are provided in the following text. This information should be used as a guideline, and does not substitute for testing a seal in its application. **Tables 2 and 3 on page 458 and 460** 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.

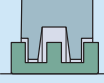
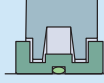



**Labyrinth seals for SDAF extended range housings**

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)

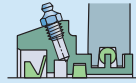
### Standard seals for SDAF and SDAF extended range plummer block housings

Seal			
Type	Labyrinth	PosiTrac	PosiTrac Plus
Designation	LER, ERF	LOR	LOR with B-10724
Material	aluminum or steel	aluminum, nitrile rubber	aluminum, nitrile rubber
<b>Application conditions and requirements</b>			
Temperature [°F]	-30 to 300	-30 to 220	-30 to 220
Max. circumferential speed	same as bearing	same as bearing	limited <sup>1)</sup>
Misalignment [°]	0,3	0,3	0,3
Low friction	++	++	+
Axial shaft displacement	++	+	-
Vertical shaft arrangement	-	-	++
Grease relubrication	+	+	+
Oil lubrication	-	-	++
Replacement	+	+	+
<b>Sealing suitability</b>			
Dust	-	-	+
Fine particles	-	-	+
Coarse particles	+	+	+
Chips	+	+	-
Liquids when sprayed	--	--	-
Direct sunlight	+	+	+
Symbol:	n/a not applicable ++ very suitable + suitable - limited suitability -- unsuitable		

<sup>1)</sup> For speed limits → tables 2 and 3.

<sup>2)</sup> 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  
-<sup>2)</sup>

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

limited<sup>1)</sup>

limited<sup>1)</sup>

limited<sup>1)</sup>

limited

n/a

0,1

0,1

0,5

0,5

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 <sub>a</sub> 5(00) Series	d <sub>a</sub> 6(00) Series	d <sub>b</sub> 2(00) Series	d <sub>c</sub> 2(00) Series	d <sub>b</sub> 3(00) Series	d <sub>c</sub> 3(00) Series	Labyrinth seal <sup>1)</sup> Ring seal	O-Ring for LOR <sup>2)</sup>
in.	in.							
2 <sup>13</sup> / <sub>16</sub>		617					LOR-57	AS-568-150
2 <sup>7</sup> / <sub>8</sub>		617					LOR-58	AS-568-150
2 <sup>15</sup> / <sub>16</sub>		617*					LOR-59	AS-568-151
3		617					LOR-60	AS-568-151
3 <sup>1</sup> / <sub>16</sub>		618					LER-67	–
4 <sup>9</sup> / <sub>16</sub>	526	626					LOR-119	38309-119
4 <sup>1</sup> / <sub>2</sub>			220*		320*		LER-205	–
4 <sup>9</sup> / <sub>16</sub>	528			224*		324*	LOR-119	38309-119
4 <sup>7</sup> / <sub>8</sub>	528		222*		322*		LOR-121	AS-568-159
4 <sup>15</sup> / <sub>16</sub>	528*			226*		326*	LOR-122	AS-568-159
5 <sup>1</sup> / <sub>8</sub>	530	630					LOR-124	AS-568-160
5 <sup>3</sup> / <sub>16</sub>	530*	630*					LOR-125	AS-568-160
5 <sup>1</sup> / <sub>4</sub>	530	630					LOR-126	AS-568-160
5 <sup>5</sup> / <sub>16</sub>	530	630	224*	228*	324*		LOR-127	38309-127
5 <sup>3</sup> / <sub>8</sub>	530	630					LOR-128	AS-568-161
5 <sup>3</sup> / <sub>8</sub>	532						LOR-129	AS-568-253
5 <sup>7</sup> / <sub>16</sub>	532*						LOR-130	AS-568-254
5 <sup>1</sup> / <sub>2</sub>	532						LOR-131	AS-568-254
5 <sup>7</sup> / <sub>16</sub>		632*					LER-211	–
5 <sup>3</sup> / <sub>4</sub>				230*		330*	LOR-134	AS-568-162
5 <sup>7</sup> / <sub>8</sub>			226*		326*		LOR-136	AS-568-163
5 <sup>15</sup> / <sub>16</sub>		634*					LER-215	–
6 <sup>1</sup> / <sub>16</sub>					232*		LOR-142	38309-142
6 <sup>1</sup> / <sub>16</sub>						332*	LER-217	–
6 <sup>1</sup> / <sub>4</sub>					228*		LOR-144	AS-568-164
6 <sup>5</sup> / <sub>16</sub>	536						LOR-146	38309-146
6 <sup>3</sup> / <sub>8</sub>	536						LOR-147	AS-568-260
6 <sup>7</sup> / <sub>16</sub>	536*						LOR-148	AS-568-260
6 <sup>1</sup> / <sub>2</sub>	536						LOR-149	AS-568-260
6 <sup>7</sup> / <sub>16</sub>		636*				334*	LER-220	–
6 <sup>5</sup> / <sub>8</sub>			230*		330*		LOR-151	AS-568-166
6 <sup>7</sup> / <sub>8</sub>				236*			LOR-154	AS-568-262
6 <sup>7</sup> / <sub>8</sub>						336*	LER-223	–
6 <sup>15</sup> / <sub>16</sub>	538*	638*					LER-224	–
7			232*				LOR-156	AS-568-262
7					332*		LER-225	–
7 <sup>3</sup> / <sub>16</sub>	540*	640*					LER-228	–
7 <sup>1</sup> / <sub>4</sub>				238*		338*	LER-229	–
7 <sup>7</sup> / <sub>16</sub>					334*		LER-230	–
7 <sup>5</sup> / <sub>8</sub>				240*			LER-233	–
7 <sup>13</sup> / <sub>16</sub>			236*				LOR-165	AS-568-266
7 <sup>13</sup> / <sub>16</sub>					336*		LER-234	–
7 <sup>15</sup> / <sub>16</sub>	544*						LER-236	–
8 <sup>5</sup> / <sub>16</sub>				244*			LER-239	–
8 <sup>3</sup> / <sub>8</sub>			238*		338*		LER-240	–
8 <sup>3</sup> / <sub>4</sub>			240*				LER-244	–
9 <sup>9</sup> / <sub>16</sub>			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 <sup>3)</sup>	Speed limit <sup>4)</sup>	Taconite seals with contact seal <sup>5)</sup>	with V-Ring seal	Speed limit <sup>4)</sup>	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 – <sup>6)</sup>	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
– <sup>6)</sup>	–	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
– <sup>6)</sup>	–	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	–
– <sup>6)</sup>	–	TER-215	TER-215 V	515	EPR-19
B-10724-140	950	TER-142	TER-142 V	435	EPR-18
– <sup>6)</sup>	–	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
– <sup>6)</sup>	–	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
– <sup>6)</sup>	–	TER-224	TER-224 V	440	EPR-21
B-10724-155	825	TER-156	TER-156 V	435	–
– <sup>6)</sup>	–	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
– <sup>6)</sup>	–	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	–
– <sup>6)</sup>	–	TER-236	TER-236 V	385	EPR-24
– <sup>6)</sup>	–	TER-239	TER-239 V	315	EPR-25
– <sup>6)</sup>	–	TER-240	TER-240 V	365	–
B-9784-159	650	TER-244	TER-244 V	350	–
– <sup>6)</sup>	–	TER-248	TER-248 V	315	–

<sup>4)</sup> For stepped shaft housing designs, the largest shaft diameter defines the speed limit.

<sup>5)</sup> Most taconite seals are made to order; contact SKF for availability, all V ring versions are made to order.

<sup>6)</sup> 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 <sub>a</sub> 230(00) Series	d <sub>a</sub> 231(00) Series	d <sub>a</sub> 232(00) Series	Labyrinth seal <sup>1)</sup> Ring seal	Taconite seal <sup>2)</sup> with contact seal    with V-ring seal		Speed limit	End plug
in.	–	–	–	–	–	–	r/min.	–
8 <sup>15</sup> / <sub>16</sub>			3248 KA* <sup>3)</sup>	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 <sup>7</sup> / <sub>16</sub>		3152 KA* <sup>3)</sup>	3252 KA* <sup>3)</sup>	ERF-891	TER-891	TER-891 V	275	X-5217-53
9 <sup>1</sup> / <sub>2</sub>		3152 KA	3252 KA	ERF-842	TER-842	TER-842 V	275	X-5217-53
9 <sup>15</sup> / <sub>16</sub>		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 <sup>15</sup> / <sub>16</sub>	3080 KA* <sup>3)</sup>			ERF-882	TER-882	TER-882 V	200	–
14 <sup>15</sup> / <sub>16</sub>		3180 KA* <sup>3)</sup>	3280 KA* <sup>3)</sup>	ERF-976	TER-976	TER-976 V	200	–
15	3080 KA* <sup>3)</sup>			ERF-847	TER-847	TER-847 V	200	X-5217-21
15 <sup>3</sup> / <sub>4</sub>	3084 KA* <sup>3)</sup>			ERF-969	TER-969	TER-969 V	185	X-5217-23
15 <sup>3</sup> / <sub>4</sub>		3184 KA* <sup>3)</sup>	3284 KA* <sup>3)</sup>	ERF-907	TER-907	TER-907 V	185	X-5217-5
16 <sup>1</sup> / <sub>2</sub>	3088 KA* <sup>3)</sup>	3188 KA* <sup>3)</sup>	3288 KA* <sup>3)</sup>	ERF-958	TER-958	TER-958 V	180	–
17	3092 KA* <sup>3)</sup>	3192 KA* <sup>3)</sup>		ERF-838	TER-838	TER-838 V	175	X-5217-48
18	3096 KA* <sup>3)</sup>	3196 KA* <sup>3)</sup>		ERF-888	TER-888	TER-888 V	170	–
18 <sup>1</sup> / <sub>2</sub>	230/500 KA* <sup>3)</sup>			ERF-978	TER-978	TER-978 V	170	–
19 <sup>1</sup> / <sub>2</sub>	230/500 KA* <sup>3)</sup>			ERF-926	TER-926	TER-926 V	165	–

\* = Standard shaft diameter, all others are optional shaft diameters  
<sup>1)</sup> Speed rating same as bearing speed rating  
<sup>2)</sup> Bolt-on taconite seals should be used when taconite seals in the TER series are not available.  
<sup>3)</sup> 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.

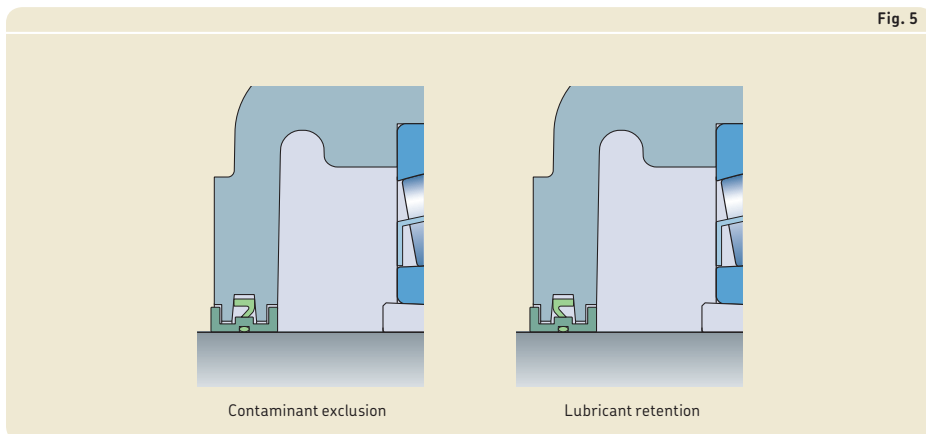
Bolt-on taconite seals are available for all SDAF extended range housings. For SDAF extended range housings, the designation suffix T indicates bolt-on taconite seals, e.g. SDAF 23272 KAT x 13 <sup>7</sup>/<sub>16</sub>.

### 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 <sup>7</sup>/<sub>8</sub> 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](http://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

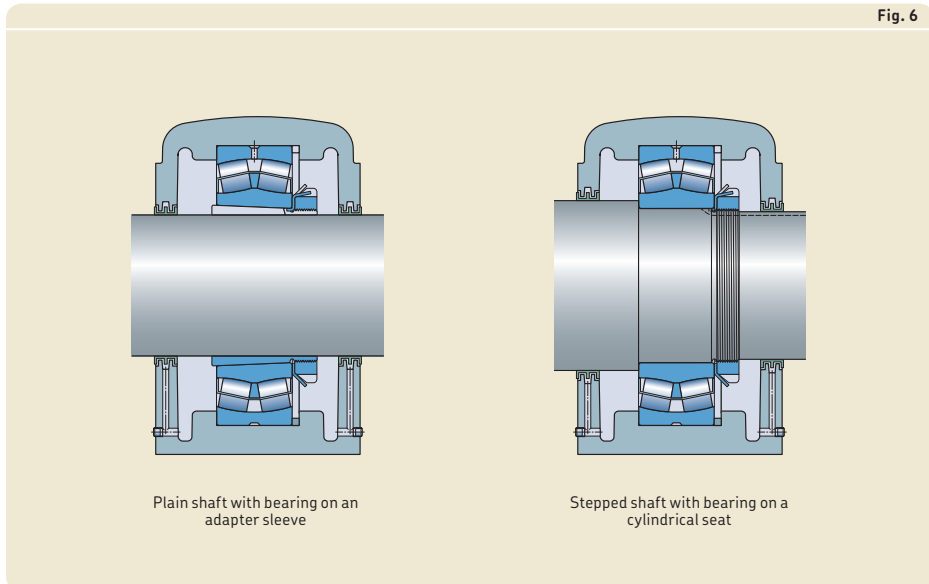
All SDAF housings can be used for both the locating and non-locating bearing positions.

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

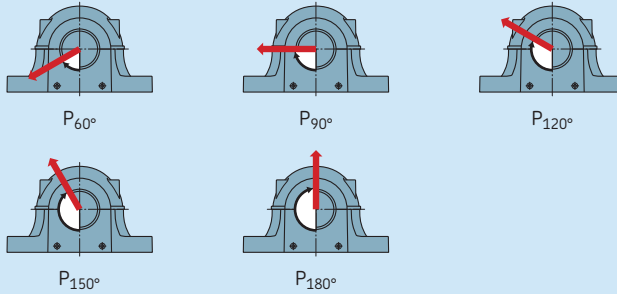
Guideline values for the safe loads of housings made of grey cast iron are listed in **tables 4** and **5**. The safe loads have been calculated using a safety factor of 5 against base fracture and a factor of 2 against cap bolt yield.

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  $P_{180^\circ}$ . 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 <sub>60°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>	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

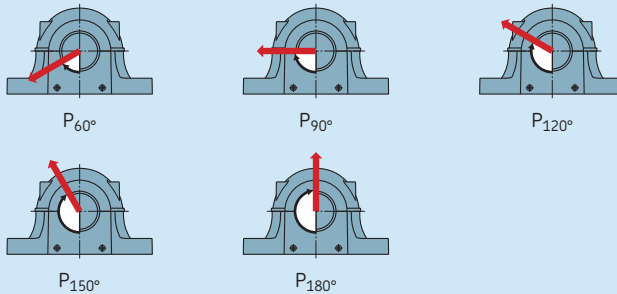
**Additional housing support**

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  $P_{180^\circ}$ , 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			
	$P_{60^\circ}$	$P_{90^\circ}$	$P_{120^\circ}$	$P_{150^\circ}$	$P_{180^\circ}$	Cap bolt size	Torque	SAE grade		
	lbf.						in.	ft.-lbs.		
3060	3152	3252	294 000	17 600	110 000	98 000	118 000	1.1/2-6	1950	5
3064	3160	3256	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](http://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](http://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](http://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/in<sup>3</sup>). 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	618
	522	617
	522	618
224	320	620
	322	622
	322	622
228	528	628
	530	630
	532	632
230	324	624
	326	626
	326	626
232	532	632
	532	632
	532	632
234	328	628
	330	630
	332	632
236	534	634
	536	636
	538	638
238	332	632
	332	632
	332	632
240	334	634
	336	636
	340	640
244	544	638
	544	638
	544	638

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
	3164	3260
	3168	3264
3080	3172	3268
	3176	3272
	3180	3276
3088	3180	3280
	3180	3280
	3180	3280
3092	3184	3284
	3184	3284
	3184	3284
3096	3188	3288
	3188	3288
	3188	3288
30/500	3192	3292
	3192	3292
	3192	3292
30/530	3196	3296
	3196	3296
	3196	3296

## 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 ( $\rightarrow$  **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 ( $\rightarrow$  **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) ( $\rightarrow$  **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

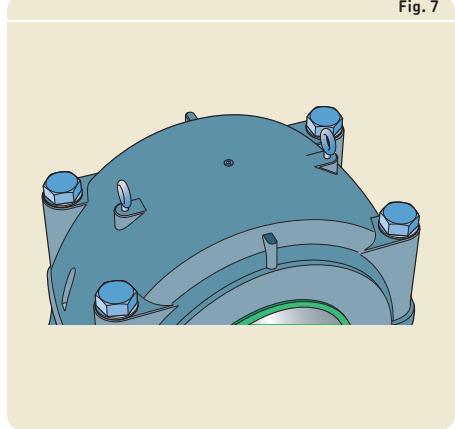


Fig. 8

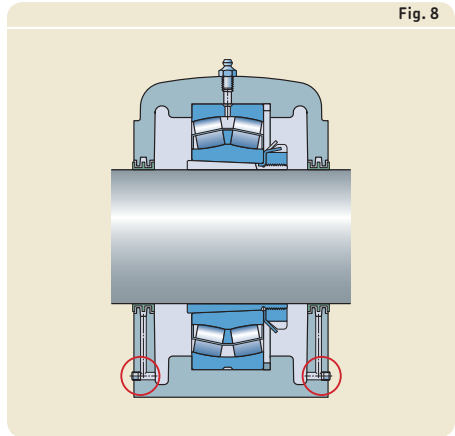
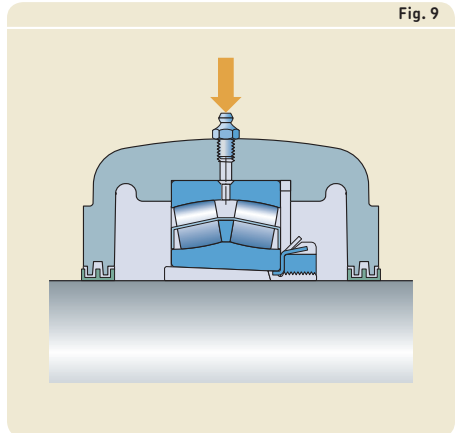


Fig. 9





**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](http://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 <sup>3</sup>/<sub>16</sub> 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:

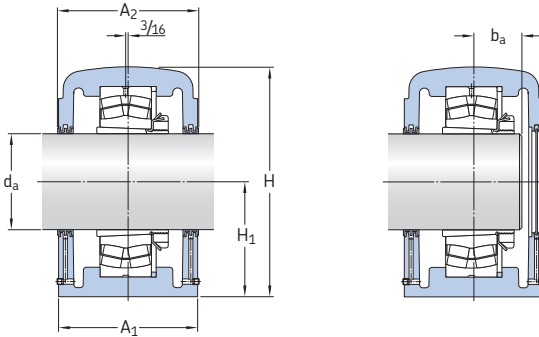
- 2 housings SDAF 524
- 2 spherical roller bearings 22224 EK
- 2 adapter sleeves with lock nuts SNW 24x4.3/16
- 2 locating rings SR 24-20
- 3 labyrinth rings with O-rings LOR 113
- 3 contact elements B-10724-113
- 1 end plug EPR 14



## 9.1 SDAF pillow blocks with spherical roller bearings on an adapter sleeve

### Series SDAF 225(00), 226(00)

$d_a$  2 <sup>15</sup>/<sub>16</sub> – 7 <sup>15</sup>/<sub>16</sub> 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.

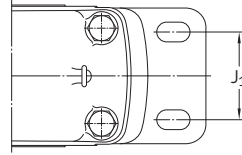
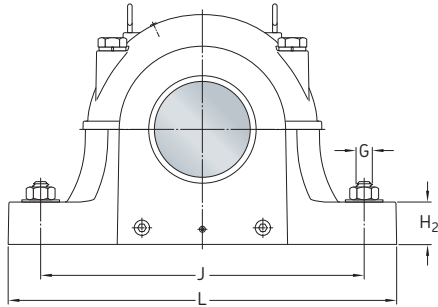
Shaft diameter		Complete pillow block	Components		Adapter assembly	Stabilizing ring <sup>3)</sup> (1 incl.)	Labyrinth ring (2 incl.)	Mass
Standard	Optional <sup>1)</sup>		Pillow block housing	Bearing <sup>2)</sup>				
$d_a$								
in.		–	–					lb.
2 <sup>15</sup> / <sub>16</sub>	2 <sup>13</sup> / <sub>16</sub> , 2 <sup>7</sup> / <sub>8</sub> , 3	<b>SDAF 22617</b>	SDAF 617	22317 EK	SNW 117	SR 20-17	LER 59	84
3 <sup>7</sup> / <sub>16</sub>	3 <sup>5</sup> / <sub>16</sub> , 3 <sup>3</sup> / <sub>8</sub> , 3 <sup>1</sup> / <sub>2</sub>	<b>SDAF 22520</b> <b>SDAF 22620</b>	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 <sup>15</sup> / <sub>16</sub>	3 <sup>13</sup> / <sub>16</sub> , 3 <sup>7</sup> / <sub>8</sub> , 4	<b>SDAFS 22522<sup>4)</sup></b> <b>SDAF 22622</b>	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 <sup>3</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>16</sub> , 4 <sup>1</sup> / <sub>8</sub> , 4 <sup>1</sup> / <sub>4</sub>	<b>SDAF 22524</b> <b>SDAF 22624</b>	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 <sup>7</sup> / <sub>16</sub>	4 <sup>5</sup> / <sub>16</sub> , 4 <sup>3</sup> / <sub>8</sub> , 4 <sup>1</sup> / <sub>2</sub>	<b>SDAF 22526</b> <b>SDAF 22626</b>	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 <sup>15</sup> / <sub>16</sub>	4 <sup>13</sup> / <sub>16</sub> , 4 <sup>7</sup> / <sub>8</sub> , 5	<b>SDAFS 22528<sup>4)</sup></b>	SDAFS 528	22228 CCK/W33	SNW 28	SR 28-0	LOR 122	220
5 <sup>3</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub> , 5 <sup>1</sup> / <sub>4</sub>	<b>SDAF 22530</b>	SDAF 530	22230 CCK/W33	SNW 30	SR 30-0	LOR 125	259
5 <sup>7</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>8</sub> , 5 <sup>1</sup> / <sub>2</sub>	<b>SDAF 22532</b> <b>SDAF 22632</b>	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 <sup>15</sup> / <sub>16</sub>	5 <sup>13</sup> / <sub>16</sub> , 5 <sup>7</sup> / <sub>8</sub> , 6	<b>SDAF 22634</b>	SDAF 634	22334 CCK/W33	SNW 134	SR 40-34	LER 215	530
6 <sup>7</sup> / <sub>16</sub>	6 <sup>5</sup> / <sub>16</sub> , 6 <sup>3</sup> / <sub>8</sub> , 6 <sup>1</sup> / <sub>2</sub>	<b>SDAF 22536</b>	SDAF 536	22236 CCK/W33	SNW 36	SR 36-30	LOR 148	403
6 <sup>7</sup> / <sub>16</sub>	6 <sup>5</sup> / <sub>16</sub> , 6 <sup>3</sup> / <sub>8</sub> , 6 <sup>1</sup> / <sub>2</sub>	<b>SDAF 22636</b>	SDAF 636	22336 CCK/W33	SNW 136	SR 0-36	LER 220	630
6 <sup>15</sup> / <sub>16</sub>	6 <sup>13</sup> / <sub>16</sub> , 6 <sup>7</sup> / <sub>8</sub> , 7	<b>SDAF 22538</b> <b>SDAF 22638</b>	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 <sup>3</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>8</sub> , 7 <sup>1</sup> / <sub>4</sub>	<b>SDAF 22540</b>	SDAF 540	22240 CCK/W33	SNW 40	SR 40-34	LER 228	544
7 <sup>15</sup> / <sub>16</sub>	7 <sup>13</sup> / <sub>16</sub> , 7 <sup>7</sup> / <sub>8</sub> , 8	<b>SDAF 22544</b>	SDAF 544	22244 CCK/W33	SNW 44	SR 44-38	LER 236	795

<sup>1)</sup> Optional shaft diameters require different adapter sleeve and seals.

<sup>2)</sup> Optional internal radial clearance (e.g. C3) available on request.

<sup>3)</sup> For a free unit, discard the enclosed stabilizing ring.

<sup>4)</sup> Available only in steel.



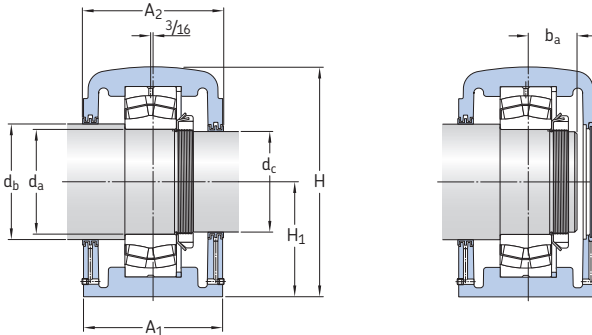
### Complete pillow block

Designation      Dimensions

	A <sub>1</sub>	A <sub>2</sub>	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	G
–	in.										
<b>SDAF 22617</b>	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
<b>SDAF 22520</b>	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
<b>SDAF 22620</b>	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
<b>SDAFS 22522</b>	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
<b>SDAF 22622</b>	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
<b>SDAF 22524</b>	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
<b>SDAF 22624</b>	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
<b>SDAF 22526</b>	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
<b>SDAF 22626</b>	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
<b>SDAFS 22528</b>	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
<b>SDAF 22530</b>	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
<b>SDAF 22532</b>	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
<b>SDAF 22632</b>	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
<b>SDAF 22634</b>	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
<b>SDAF 22536</b>	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
<b>SDAF 22636</b>	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
<b>SDAF 22538</b>	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
<b>SDAF 22638</b>	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
<b>SDAF 22540</b>	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
<b>SDAF 22544</b>	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



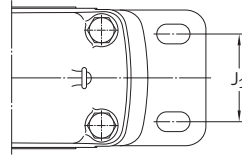
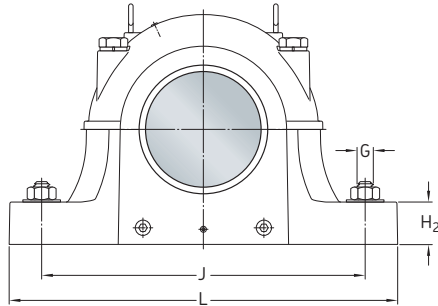
**Units of measurement**  
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

Shaft diameter			Complete pillow block	Components		Stabilizing ring <sup>2)</sup> (1 incl.)	Labyrinth seal		Lock nut	Lock washer		Mass
$d_a$	$d_b$	$d_c$		Pillow block housing	Bearing <sup>1)</sup>		Shaft $d_b$	Shaft $d_c$				
mm	in.										lb.	
85	3 15/16	3 3/16	<b>SDAF 22317</b>	SDAF 317	22317 E	SR 20-17	LER 93	LER 69	AN 17	W 17	83	
100	4 1/2	3 13/16	<b>SDAF 22220</b>	SDAF 220	22220 E	SR 20-17	LER 205	LER 87	AN 20	W 20	80	
			<b>SDAF 22320</b>	SDAF 320	22320 E	SR 24-20	LER 205	LER 87	AN 20	W 20	141	
110	4 7/8	4 3/16	<b>SDAFS 22222<sup>3)</sup></b>	SDAFS 222	22222 E	SR 22-19	LOR 121	LOR 113	AN 22	W 22	102	
			<b>SDAF 22322</b>	SDAF 322	22322 E	SR 0-22	LOR 121	LOR 113	AN 22	W 22	172	
120	5 5/16	4 9/16	<b>SDAF 22224</b>	SDAF 224	22224 E	SR 24-20	LOR 127	LOR 119	AN 24	W 24	118	
			<b>SDAF 22324</b>	SDAF 324	22324 CC/W33	SR 0-24	LOR 127	LOR 119	AN 24	W 24	304	
130	5 7/8	4 15/16	<b>SDAF 22226</b>	SDAF 226	22226 E	SR 26-0	LOR 136	LOR 122	AN 26	W 26	169	
			<b>SDAF 22326</b>	SDAF 326	22326 CC/W33	SR 0-26	LOR 136	LOR 122	AN 26	W 26	330	
140	6 1/4	5 5/16	<b>SDAFS 22228<sup>3)</sup></b>	SDAFS 228	22228 CC/W33	SR 28-0	LOR 144	LOR 127	AN 28	W 28	175	
			<b>SDAF 22328</b>	SDAF 328	22328 CC/W33	SR 0 28	LOR 144	LOR 127	AN 28	W 28	331	
150	6 5/8	5 3/4	<b>SDAF 22230</b>	SDAF 230	22230 CC/W33	SR 30-0	LOR 151	LOR 134	AN 30	W 30	200	
			<b>SDAF 22330</b>	SDAF 330	22330 CC/W33	SR 36-30	LOR 151	LOR 134	AN 30	W 30	466	
160	7	6 1/16	<b>SDAF 22232</b>	SDAF 232	22232 CC/W33	SR 32-0	LOR 156	LOR 142	AN 32	W 32	264	
			<b>SDAF 22332</b>	SDAF 332	22332 CC/W33	SR 38-32	LER 225	LER 217	AN 32	W 32	537	
170	7 7/16	6 7/16	<b>SDAF 22334</b>	SDAF 334	22334 CC/W33	SR 40-34	LER 230	LER 220	AN 34	W 34	554	
180	7 13/16	6 7/8	<b>SDAF 22236</b>	SDAF 236	22236 CC/W33	SR 36-30	LOR 165	LOR 154	AN 36	W 36	436	
			<b>SDAF 22336</b>	SDAF 336	22336 CC/W33	SR 0-36	LER 234	LER 223	AN 36	W 36	623	
190	8 3/8	7 1/4	<b>SDAF 22238</b>	SDAF 238	22238 CC/W33	SR 38-32	LER 240	LER 229	AN 38	W 38	510	
			<b>SDAF 22338</b>	SDAF 338	22338 CC/W33	SR 44-38	LER 240	LER 229	AN 38	W 38	734	
200	8 3/4	7 5/8	<b>SDAF 22240</b>	SDAF 240	22240 CC/W33	SR 40-34	LER 244	LER 233	AN 40	W 40	389	
220	9 9/16	8 5/16	<b>SDAF 22244</b>	SDAF 244	22244 CC/W33	SR 44-38	LER 248	LER 239	N 44	W 44	787	

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request.

<sup>2)</sup> For a free unit, discard the enclosed stabilizing ring.

<sup>3)</sup> Available only in steel.



**Complete pillow block**

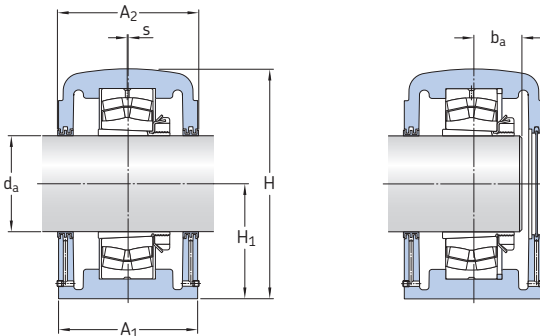
Designation      Dimensions

	A <sub>1</sub>	A <sub>2</sub>	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	G
–	in.										
<b>SDAF 22317</b>	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
<b>SDAF 22220</b>	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
<b>SDAF 22320</b>	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
<b>SDAFS 22222</b>	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
<b>SDAF 22322</b>	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
<b>SDAF 22224</b>	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
<b>SDAF 22324</b>	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
<b>SDAF 22226</b>	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
<b>SDAF 22326</b>	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
<b>SDAFS 22228</b>	7 1/2	7 3/16	–	12 1/16	6	2 3/8	16	17 1/8	4 1/2	20 1/8	1
<b>SDAF 22328</b>	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
<b>SDAF 22230</b>	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
<b>SDAF 22330</b>	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
<b>SDAF 22232</b>	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
<b>SDAF 22332</b>	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
<b>SDAF 22334</b>	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
<b>SDAF 22236</b>	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
<b>SDAF 22336</b>	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
<b>SDAF 22238</b>	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
<b>SDAF 22338</b>	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
<b>SDAF 22240</b>	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
<b>SDAF 22244</b>	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 <sup>15</sup>/<sub>16</sub> – 14 <sup>15</sup>/<sub>16</sub> 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 Stand- ard $d_a$	Op- tional <sup>1)</sup>	Complete pillow block	Components Pillow block housing	Bearing <sup>2)</sup>	Adapter assembly	Stabilizing ring <sup>3)</sup> (2 req'd)	Laby- rinth ring (2 incl.)
in.	–	–	–	–	–	–	–
8 <sup>15</sup> / <sub>16</sub>	9	SDAF 23248 KA x 8 <sup>15</sup> / <sub>16</sub>	SDAF 3248 KA x 8 <sup>15</sup> / <sub>16</sub>	23248 CACK/W33	SNP 148 x 8 <sup>15</sup> / <sub>16</sub>	36053-114	ERF 914
9 <sup>7</sup> / <sub>16</sub>	9 1/2	SDAF 23152 KA x 9 <sup>7</sup> / <sub>16</sub> SDAF 23252 KA x 9 <sup>7</sup> / <sub>16</sub>	SDAF 3152 KA x 9 <sup>7</sup> / <sub>16</sub> SDAF 3252 KA x 9 <sup>7</sup> / <sub>16</sub>	23152 CACK/W33 23252 CACK/W33	SNP 3152 x 9 <sup>7</sup> / <sub>16</sub> SNP 152 x 9 <sup>7</sup> / <sub>16</sub>	36053-114 A 8968	ERF 891 ERF 891
10 <sup>7</sup> / <sub>16</sub>	10 1/2	SDAF 23156 KA x 10 <sup>7</sup> / <sub>16</sub> SDAF 23256 KA x 10 <sup>7</sup> / <sub>16</sub>	SDAF 3156 KA x 10 <sup>7</sup> / <sub>16</sub> SDAF 3256 KA x 10 <sup>7</sup> / <sub>16</sub>	23156 CACK/W33 23256 CACK/W33	SNP 3156 x 10 <sup>7</sup> / <sub>16</sub> SNP 3256 x 10 <sup>7</sup> / <sub>16</sub>	A 8967 36053-157	ERF 973 ERF 973
10 <sup>15</sup> / <sub>16</sub>	11	SDAF 23060 KA x 10 <sup>15</sup> / <sub>16</sub> SDAF 23160 KA x 10 <sup>15</sup> / <sub>16</sub>	SDAF 3060 KA x 10 <sup>15</sup> / <sub>16</sub> SDAF 3160 KA x 10 <sup>15</sup> / <sub>16</sub>	23060 CACK/W33 23160 CACK/W33	SNP 3060 x 10 <sup>15</sup> / <sub>16</sub> SNP 3160 x 10 <sup>15</sup> / <sub>16</sub>	A 8967 <sup>4)</sup> 36053-157	ERF 858 ERF 858
10 <sup>15</sup> / <sub>16</sub>	11	SDAF 23260 KA x 10 <sup>15</sup> / <sub>16</sub>	SDAF 3260 KA x 10 <sup>15</sup> / <sub>16</sub>	23260 CACK/W33	SNP 3260 x 10 <sup>15</sup> / <sub>16</sub>	36053-130	ERF 1002
11 <sup>7</sup> / <sub>16</sub>	11 1/2	SDAF 23064 KA x 11 <sup>7</sup> / <sub>16</sub>	SDAF 3064 KA x 11 <sup>7</sup> / <sub>16</sub>	23064 CCK/W33	SNP 3064 x 11 <sup>7</sup> / <sub>16</sub>	A 8968 <sup>4)</sup>	ERF 861
11 <sup>15</sup> / <sub>16</sub>	12	SDAF 23064 KA x 11 <sup>15</sup> / <sub>16</sub> SDAF 23164 KA x 11 <sup>15</sup> / <sub>16</sub> SDAF 23264 KA x 11 <sup>15</sup> / <sub>16</sub>	SDAF 3064 KA x 11 <sup>15</sup> / <sub>16</sub> SDAF 3164 KA x 11 <sup>15</sup> / <sub>16</sub> SDAF 3264 KA x 11 <sup>15</sup> / <sub>16</sub>	23064 CCK/W33 23164 CACK/W33 23264 CACK/W33	SNP 3064 x 11 <sup>15</sup> / <sub>16</sub> SNP 3164 x 11 <sup>15</sup> / <sub>16</sub> SNP 3264 x 11 <sup>15</sup> / <sub>16</sub>	A 8968 <sup>4)</sup> A 8970 36053-137	ERF 859 ERF 900 ERF 900
12 <sup>7</sup> / <sub>16</sub>	12 1/2	SDAF 23068 KA x 12 <sup>7</sup> / <sub>16</sub> SDAF 23168 KA x 12 <sup>7</sup> / <sub>16</sub> SDAF 23268 KA x 12 <sup>7</sup> / <sub>16</sub>	SDAF 3068 KA x 12 <sup>7</sup> / <sub>16</sub> SDAF 3168 KA x 12 <sup>7</sup> / <sub>16</sub> SDAF 3268 KA x 12 <sup>7</sup> / <sub>16</sub>	23068 CACK/W33 23168 CACK/W33 23268 CCK/W33	SNP 3068 x 12 <sup>7</sup> / <sub>16</sub> SNP 3168 x 12 <sup>7</sup> / <sub>16</sub> SNP 3268 x 12 <sup>7</sup> / <sub>16</sub>	A 8969 <sup>4)</sup> 36053-137 36053-143	ERF 865 ERF 975 ERF 975
12 <sup>15</sup> / <sub>16</sub>	13	SDAF 23072 KA x 12 <sup>15</sup> / <sub>16</sub>	SDAF 3072 KA x 12 <sup>15</sup> / <sub>16</sub>	23072 CACK/W33	SNP 3072 x 12 <sup>15</sup> / <sub>16</sub>	A 8970 <sup>4)</sup>	ERF 869
13 <sup>7</sup> / <sub>16</sub>	13 1/2	SDAF 23072 KA x 13 <sup>7</sup> / <sub>16</sub> SDAF 23172 KA x 13 <sup>7</sup> / <sub>16</sub> SDAF 23272 KA x 13 <sup>7</sup> / <sub>16</sub>	SDAF 3072 KA x 13 <sup>7</sup> / <sub>16</sub> SDAF 3172 KA x 13 <sup>7</sup> / <sub>16</sub> SDAF 3272 KA x 13 <sup>7</sup> / <sub>16</sub>	23072 CACK/W33 23172 CCK/W33 23272 CCK/W33	SNP 3072 x 13 <sup>7</sup> / <sub>16</sub> SNP 3172 x 13 <sup>7</sup> / <sub>16</sub> SNP 3272 x 13 <sup>7</sup> / <sub>16</sub>	A 8970 <sup>4)</sup> 36053-167 36053-150	ERF 872 ERF 872 ERF 979
13 <sup>15</sup> / <sub>16</sub>	14	SDAF 23076 KA x 13 <sup>15</sup> / <sub>16</sub> SDAF 23176 KA x 13 <sup>15</sup> / <sub>16</sub> SDAF 23276 KA x 13 <sup>15</sup> / <sub>16</sub>	SDAF 3076 KA x 13 <sup>15</sup> / <sub>16</sub> SDAF 3176 KA x 13 <sup>15</sup> / <sub>16</sub> SDAF 3276 KA x 13 <sup>15</sup> / <sub>16</sub>	23076 CACK/W33 23176 CCK/W33 23276 CCK/W33	SNP 3076 x 13 <sup>15</sup> / <sub>16</sub> SNP 3176 x 13 <sup>15</sup> / <sub>16</sub> SNP 3276 x 13 <sup>15</sup> / <sub>16</sub>	A 8971 <sup>4)</sup> 36053-143 36053-152	ERF 875 ERF 875 ERF 977
14 <sup>15</sup> / <sub>16</sub>	15	SDAF 23180 KA x 14 <sup>15</sup> / <sub>16</sub> SDAF 23280 KA x 15	SDAF 3180 KA x 14 <sup>15</sup> / <sub>16</sub> SDAF 3280 KA x 15	23180 CCK/W33 23280 CCK/W33	SNP 3180 x 14 <sup>15</sup> / <sub>16</sub> SNP 3280 x 15	36053-150 36053-165	ERF 882 ERF 976

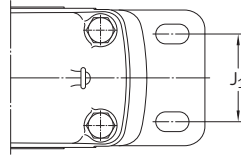
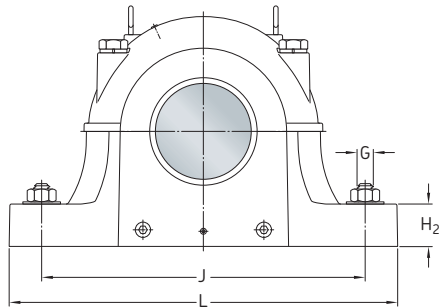
<sup>1)</sup> Requires different adapter sleeve and seals.

<sup>2)</sup> Optional internal radial clearance (e.g. C3) available on request.

<sup>3)</sup> For a held unit, order stabilizing rings separately.

<sup>4)</sup> Only one stabilizing ring required.





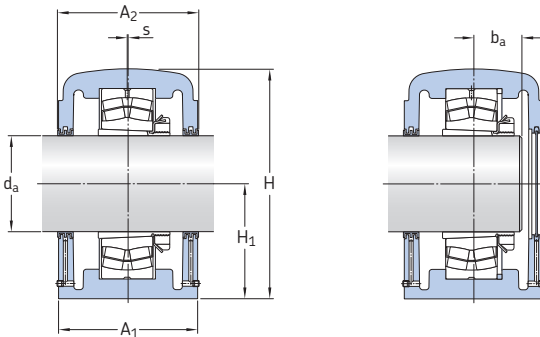
**Complete pillow block**  
Designation

Designation	Dimensions												Mass
	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	G	
–	in.												lb.
SDAF 23248 KA x 8 <sup>15/16</sup>	13 <sup>1/8</sup>	13 <sup>3/4</sup>	0	4 <sup>7/8</sup>	20 <sup>7/8</sup>	10 <sup>1/4</sup>	3 <sup>3/4</sup>	29	30 <sup>1/2</sup>	8 <sup>3/4</sup>	35	1 <sup>5/8</sup>	1100
SDAF 23152 KA x 9 <sup>7/16</sup>	13 <sup>3/8</sup>	13 <sup>3/4</sup>	0	4 <sup>5/8</sup>	20 <sup>7/8</sup>	10 <sup>1/4</sup>	3 <sup>3/4</sup>	29	30 <sup>1/2</sup>	8 <sup>3/4</sup>	35	1 <sup>5/8</sup>	1050
SDAF 23252 KA x 9 <sup>7/16</sup>	14 <sup>3/4</sup>	15 <sup>1/2</sup>	0	5 <sup>7/32</sup>	23 <sup>7/16</sup>	12	4	32 <sup>3/4</sup>	33 <sup>1/2</sup>		38 <sup>1/4</sup>	1 <sup>5/8</sup>	1350
SDAF 23156 KA x 10 <sup>7/16</sup>	14 <sup>3/4</sup>	15 <sup>1/2</sup>	0	4 <sup>25/32</sup>	23 <sup>7/16</sup>	12	4	32 <sup>3/4</sup>	33 <sup>1/2</sup>	9	38 <sup>1/4</sup>	1 <sup>5/8</sup>	1250
SDAF 23256 KA x 10 <sup>7/16</sup>	14 <sup>3/4</sup>	15 <sup>1/2</sup>	0	5 <sup>11/32</sup>	23 <sup>7/16</sup>	12	4	32 <sup>3/4</sup>	33 <sup>1/2</sup>		38 <sup>1/4</sup>	1 <sup>5/8</sup>	1400
SDAF 23060 KA x 10 <sup>15/16</sup>	14 <sup>3/4</sup>	15 <sup>1/2</sup>	3/16	4 <sup>11/32</sup>	23 <sup>7/16</sup>	12	3 <sup>3/8</sup>	32 <sup>3/4</sup>	33 <sup>1/2</sup>	9	38 <sup>1/4</sup>	1 <sup>5/8</sup>	1200
SDAF 23160 KA x 10 <sup>15/16</sup>	14 <sup>3/4</sup>	15 <sup>1/2</sup>	0	5 <sup>1/8</sup>	23 <sup>7/16</sup>	12	4	32 <sup>3/4</sup>	33 <sup>1/2</sup>	9	38 <sup>1/4</sup>	1 <sup>5/8</sup>	1350
SDAF 23260 KA x 10 <sup>15/16</sup>	15 <sup>3/4</sup>	16 <sup>3/4</sup>	0	5 <sup>3/4</sup>	25 <sup>3/4</sup>	12 <sup>13/16</sup>	4 <sup>1/2</sup>	35	36 <sup>1/2</sup>	10 <sup>1/2</sup>	41 <sup>3/4</sup>	1 <sup>7/8</sup>	1900
SDAF 23064 KA x 11 <sup>7/16</sup>	14 <sup>3/4</sup>	15 <sup>1/2</sup>	3/16	4 <sup>1/2</sup>	23 <sup>7/16</sup>	12	3 <sup>3/8</sup>	32 <sup>3/4</sup>	33 <sup>1/2</sup>	9	38 <sup>1/4</sup>	1 <sup>5/8</sup>	1300
SDAF 23064 KA x 11 <sup>15/16</sup>	14 <sup>3/4</sup>	15 <sup>1/2</sup>	3/16	4 <sup>1/2</sup>	23 <sup>7/16</sup>	12	3 <sup>3/8</sup>	32 <sup>3/4</sup>	33 <sup>1/2</sup>	9	38 <sup>1/4</sup>	1 <sup>5/8</sup>	1250
SDAF 23164 KA x 11 <sup>15/16</sup>	15 <sup>3/4</sup>	16 <sup>3/4</sup>	0	5 <sup>17/32</sup>	25 <sup>3/4</sup>	12 <sup>13/16</sup>	4 <sup>1/2</sup>	35	36 <sup>1/2</sup>	10 <sup>1/2</sup>	41 <sup>3/4</sup>	1 <sup>7/8</sup>	1850
SDAF 23264 KA x 11 <sup>15/16</sup>	17 <sup>3/4</sup>	18 <sup>3/4</sup>	0	6 <sup>5/32</sup>	27 <sup>7/8</sup>	14	5	36 <sup>3/4</sup>	38 <sup>1/4</sup>	10 <sup>3/4</sup>	43 <sup>3/4</sup>	2	2500
SDAF 23068 KA x 12 <sup>7/16</sup>	15 <sup>1/4</sup>	15 <sup>3/4</sup>	3/16	4 <sup>7/8</sup>	24	11 <sup>13/16</sup>	4 <sup>3/16</sup>	32	33 <sup>1/2</sup>	10	39	1 <sup>7/8</sup>	1550
SDAF 23168 KA x 12 <sup>7/16</sup>	17 <sup>3/4</sup>	18 <sup>3/4</sup>	0	5 <sup>29/32</sup>	27 <sup>7/8</sup>	14	5	36 <sup>3/4</sup>	38 <sup>1/4</sup>	10 <sup>3/4</sup>	43 <sup>3/4</sup>	2	2450
SDAF 23268 KA x 12 <sup>7/16</sup>	17 <sup>3/8</sup>	17 <sup>5/8</sup>	0	6 <sup>19/32</sup>	28 <sup>7/8</sup>	14 <sup>1/2</sup>	5 <sup>1/4</sup>	39 <sup>1/4</sup>	40 <sup>3/4</sup>	11	46	2	2650
SDAF 23072 KA x 12 <sup>15/16</sup>	15 <sup>3/4</sup>	16 <sup>3/4</sup>	3/16	4 <sup>7/8</sup>	25 <sup>3/4</sup>	12 <sup>13/16</sup>	4 <sup>1/2</sup>	35	36 <sup>1/2</sup>	10 <sup>1/2</sup>	41 <sup>3/4</sup>	1 <sup>7/8</sup>	1650
SDAF 23072 KA x 13 <sup>7/16</sup>	15 <sup>3/4</sup>	16 <sup>3/4</sup>	3/16	4 <sup>7/8</sup>	25 <sup>3/4</sup>	12 <sup>13/16</sup>	4 <sup>1/2</sup>	35	36 <sup>1/2</sup>	10 <sup>1/2</sup>	41 <sup>3/4</sup>	1 <sup>7/8</sup>	1600
SDAF 23172 KA x 13 <sup>7/16</sup>	17 <sup>1/8</sup>	17 <sup>5/8</sup>	0	5 <sup>31/32</sup>	28 <sup>7/8</sup>	14 <sup>1/2</sup>	5 <sup>1/4</sup>	39 <sup>1/4</sup>	40 <sup>3/4</sup>	11	46	2	2500
SDAF 23272 KA x 13 <sup>7/16</sup>	18 <sup>3/4</sup>	19 <sup>1/4</sup>	0	6 <sup>3/4</sup>	30 <sup>1/2</sup>	15 <sup>1/2</sup>	5 <sup>1/2</sup>	41 <sup>3/4</sup>	43 <sup>1/2</sup>	12 <sup>1/4</sup>	48 <sup>3/4</sup>	2 <sup>1/4</sup>	2950
SDAF 23076 KA x 13 <sup>15/16</sup>	15 <sup>3/4</sup>	16 <sup>3/4</sup>	3/16	5 <sup>1/8</sup>	25 <sup>3/4</sup>	12 <sup>13/16</sup>	4 <sup>1/2</sup>	35	36 <sup>1/2</sup>	10 <sup>1/2</sup>	41 <sup>3/4</sup>	1 <sup>7/8</sup>	1700
SDAF 23176 KA x 13 <sup>15/16</sup>	17 <sup>3/8</sup>	17 <sup>5/8</sup>	0	6 <sup>1/8</sup>	28 <sup>7/8</sup>	14 <sup>1/2</sup>	5 <sup>1/4</sup>	39 <sup>1/4</sup>	40 <sup>3/4</sup>	11	46	2	2500
SDAF 23276 KA x 13 <sup>15/16</sup>	18 <sup>3/4</sup>	19 <sup>1/4</sup>	0	7 <sup>1/32</sup>	30 <sup>1/2</sup>	15 <sup>1/2</sup>	5 <sup>1/2</sup>	41 <sup>3/4</sup>	43 <sup>1/2</sup>	12 <sup>1/4</sup>	48 <sup>3/4</sup>	2 <sup>1/4</sup>	3050
SDAF 23180 KA x 15	18 <sup>3/4</sup>	19 <sup>1/4</sup>	0	6 <sup>13/32</sup>	30 <sup>1/2</sup>	15 <sup>1/2</sup>	5 <sup>1/2</sup>	41 <sup>3/4</sup>	43 <sup>1/2</sup>	12 <sup>1/4</sup>	48 <sup>3/4</sup>	2 <sup>1/4</sup>	2800
SDAF 23280 KA x 15	21	21 <sup>3/4</sup>	0	7 <sup>1/2</sup>	33 <sup>3/4</sup>	17	5 <sup>1/2</sup>	44 <sup>3/8</sup>	46 <sup>1/8</sup>	14 <sup>1/2</sup>	52	2 <sup>1/4</sup>	4500

## 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 <sup>1)</sup>	Complete pillow block	Components Pillow block housing	Bearing <sup>2)</sup>	Adapter assembly	Stabilizing ring <sup>3)</sup> (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 <sup>4)</sup>	ERF 847
15 3/4	– <sup>5)</sup>	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 <sup>4)</sup> 36053-160 36053-154	ERF 969 ERF 907 ERF 907
16 1/2	– <sup>5)</sup>	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 <sup>4)</sup> 36053-165 36053-159	ERF 958 ERF 958 ERF 958
17	– <sup>5)</sup>	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 <sup>4)</sup> 36053-154	ERF 838 ERF 838
18	– <sup>5)</sup>	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 <sup>4)</sup> 36053-159	ERF 888 ERF 888
18 1/2	– <sup>5)</sup>	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 <sup>4)</sup>	ERF 978
19 1/2	– <sup>5)</sup>	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 <sup>4)</sup>	ERF 926

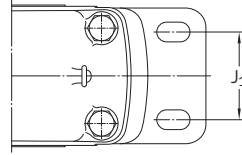
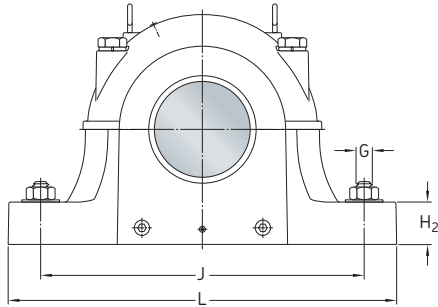
1) Requires different adapter sleeve and seals.

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

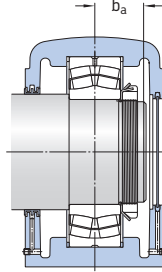
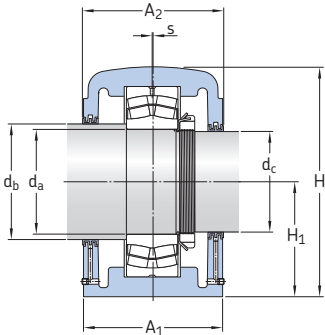
Dimensions

Mass

	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	G	Mass
	in.												lb.
<b>SDAF 23080 KA x 15</b>	17 <sup>1</sup> / <sub>8</sub>	17 <sup>5</sup> / <sub>8</sub>	3/16	5 <sup>17</sup> / <sub>32</sub>	29	14 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>4</sub>	39 <sup>1</sup> / <sub>4</sub>	40 <sup>3</sup> / <sub>4</sub>	11	46	2	2 300
<b>SDAF 23084 KA x 15<sup>3</sup>/<sub>4</sub></b>	17 <sup>1</sup> / <sub>8</sub>	17 <sup>5</sup> / <sub>8</sub>	3/16	5 <sup>9</sup> / <sub>16</sub>	29	14 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>4</sub>	39 <sup>1</sup> / <sub>4</sub>	40 <sup>3</sup> / <sub>4</sub>	11	46	2	2 300
<b>SDAF 23184 KA x 15<sup>3</sup>/<sub>4</sub></b>	21	21 <sup>3</sup> / <sub>4</sub>	0	6 <sup>7</sup> / <sub>8</sub>	33 <sup>3</sup> / <sub>4</sub>	17	5 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>8</sub>	46 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	53	2 <sup>1</sup> / <sub>4</sub>	4 300
<b>SDAF 23284 KA x 15<sup>3</sup>/<sub>4</sub></b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>	0	7 <sup>13</sup> / <sub>16</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	5 000
<b>SDAF 23088 KA x 16<sup>1</sup>/<sub>2</sub></b>	18 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>4</sub>	3/16	5 <sup>3</sup> / <sub>4</sub>	30 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	41 <sup>3</sup> / <sub>4</sub>	43 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>4</sub>	48 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	2 550
<b>SDAF 23188 KA x 16<sup>1</sup>/<sub>2</sub></b>	21	21 <sup>3</sup> / <sub>4</sub>	0	7 <sup>7</sup> / <sub>32</sub>	33 <sup>3</sup> / <sub>4</sub>	17	5 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>8</sub>	46 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	53	2 <sup>1</sup> / <sub>4</sub>	4 300
<b>SDAF 23288 KA x 16<sup>1</sup>/<sub>2</sub></b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>	0	8 <sup>9</sup> / <sub>32</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	5 050
<b>SDAF 23092 KA x 17</b>	18 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>4</sub>	3/16	5 <sup>7</sup> / <sub>8</sub>	30 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	41 <sup>3</sup> / <sub>4</sub>	43 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>4</sub>	48 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	2 850
<b>SDAF 23192 KA x 17</b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>	0	7 <sup>1</sup> / <sub>2</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	5 000
<b>SDAF 23096 KA x 18</b>	21	21 <sup>3</sup> / <sub>4</sub>	3/16	5 <sup>29</sup> / <sub>32</sub>	33 <sup>3</sup> / <sub>4</sub>	17	5 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>8</sub>	46 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	53	2 <sup>1</sup> / <sub>4</sub>	4 250
<b>SDAF 23196 KA x 18</b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>	0	7 <sup>21</sup> / <sub>32</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	5 300
<b>SDAF 230/500 KA x 18<sup>1</sup>/<sub>2</sub></b>	21	21 <sup>3</sup> / <sub>4</sub>	3/16	6 <sup>1</sup> / <sub>2</sub>	33 <sup>3</sup> / <sub>4</sub>	17	5 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>8</sub>	46 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	53	2 <sup>1</sup> / <sub>4</sub>	4 350
<b>SDAF 230/530 KA x 19<sup>1</sup>/<sub>2</sub></b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>	3/16	6 <sup>27</sup> / <sub>32</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	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



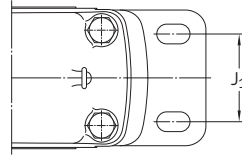
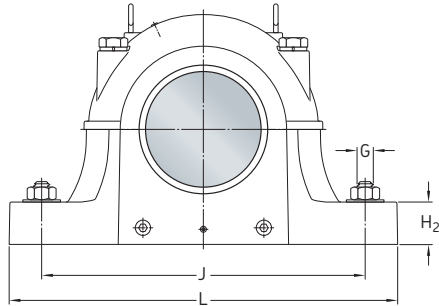
**Units of measurement**  
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

Shaft diameter			Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	Stabilizing ring <sup>2)</sup> (2 req'd)	Labyrinth Seal Shaft $d_b$	Lock nut	Lock washer	Mass	
$d_a$	$d_b$	$d_c$									
mm	in.									lb.	
240	10 1/2	9 3/16	<b>SDAF 23248</b>	SDAF 3248	23248 CAC/W33	36053-114	ERF 840	ERF 923	N 048	PL 48	1 100
260	11 1/2	9 15/16	<b>SDAF 23152</b>	SDAF 3152	23152 CAC/W33	36053-114	ERF 832	ERF 845	N 052	PL 52	1 050
	11 1/2	9 15/16	<b>SDAF 23252</b>	SDAF 3252	23252 CAC/W33	A 8968	ERF 832	ERF 845	N 052	PL 52	1 350
280	12 1/2	10 3/4	<b>SDAF 23156</b>	SDAF 3156	23156 CAC/W33	A 8967	ERF 866	ERF 826	N 056	PL 56	1 250
	12 1/2	10 3/4	<b>SDAF 23256</b>	SDAF 3256	23256 CAC/W33	36053-157	ERF 866	ERF 826	N 056	PL 56	1 400
300	13	11 1/2	<b>SDAF 23060</b>	SDAF 3060	23060 CAC/W33	A 8967 <sup>3)</sup>	ERF 824	ERF 832	N 060	PL 60	1 200
	13	11 1/2	<b>SDAF 23160</b>	SDAF 3160	23160 CAC/W33	36053-157	ERF 846	ERF 856	N 060	PL 60	1 350
	13	11 1/2	<b>SDAF 23260</b>	SDAF 3260	23260 CAC/W33	36053-130	ERF 846	ERF 856	N 060	PL 60	1 900
320	13 3/4	12 1/4	<b>SDAF 23064</b>	SDAF 3064	23064 CC/W33	A 8968 <sup>3)</sup>	ERF 943	ERF 804	N 064	PL 64	1 300
	14	12 1/4	<b>SDAF 23164</b>	SDAF 3164	23164 CAC/W33	A 8970	ERF 876	ERF 983	N 064	PL 64	1 850
	14	12 1/4	<b>SDAF 23264</b>	SDAF 3264	23264 CAC/W33	36053-137	ERF 876	ERF 983	N 064	PL 64	2 500
340	15	13	<b>SDAF 23068</b>	SDAF 3068	23068 CAC/W33	A 8969 <sup>3)</sup>	ERF 806	ERF 824	N 068	PL 68	1 550
	15	13	<b>SDAF 23168</b>	SDAF 3168	23168 CAC/W33	36053-137	ERF 847	ERF 846	N 068	PL 68	2 450
	15	13	<b>SDAF 23268</b>	SDAF 3268	23268 CA/W33	36053-143	ERF 847	ERF 846	N 068	PL 68	2 650
360	15 3/4	13 3/4	<b>SDAF 23072</b>	SDAF 3072	23072 CAC/W33	A 8970 <sup>3)</sup>	ERF 969	ERF 874	N 072	PL 72	1 650
	16	13 3/4	<b>SDAF 23172</b>	SDAF 3172	23172 CC/W33	36053-167	ERF 809	ERF 874	N 072	PL 72	2 500
	16	13 3/4	<b>SDAF 23272</b>	SDAF 3272	23272 CA/W33	36053-150	ERF 965	ERF 981	N 072	PL 72	2 950
380	16 3/4	14 1/2	<b>SDAF 23076</b>	SDAF 3076	23076 CAC/W33	A 8971 <sup>3)</sup>	ERF 822	ERF 950	N 076	PL 76	1 700
	17	14 1/2	<b>SDAF 23176</b>	SDAF 3176	23176 CA/W33	36053-143	ERF 811	ERF 950	N 076	PL 76	2 500
	17	14 1/2	<b>SDAF 23276</b>	SDAF 3276	23276 CA/W33	36053-152	ERF 838	ERF 984	N 076	PL 76	3 050
400	17 1/2	15 3/8	<b>SDAF 23080</b>	SDAF 3080	23080 CAC/W33	36053-153 <sup>3)</sup>	ERF 999	ERF 942	N 080	PL 80	2 300
	17 1/2	15 1/4	<b>SDAF 23180</b>	SDAF 3180	23180 CA/W33	36053-150	ERF 967	ERF 895	N 080	PL 80	2 800
	17 1/2	15 1/4	<b>SDAF 23280</b>	SDAF 3280	23280 CA/W33	36053-165	ERF 967	ERF 895	N 080	PL 80	4 500
420	18	16	<b>SDAF 23084</b>	SDAF 3084	23084 CA/W33	36053-143 <sup>3)</sup>	ERF 812	ERF 809	N 084	PL 84	2 300
	18 1/2	15 3/4	<b>SDAF 23184</b>	SDAF 3184	23184 CA/W33	36053-160	ERF 978	ERF 907	N 084	PL 84	4 300
	18 1/2	15 3/4	<b>SDAF 23284</b>	SDAF 3284	23284 CA/W33	36053-154	ERF 978	ERF 907	N 084	PL 84	5 000

<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request.

<sup>2)</sup> For a held unit, order stabilizing rings separately.

<sup>3)</sup> Only one stabilizing ring required.



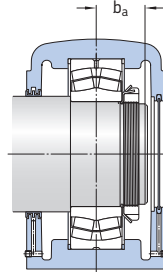
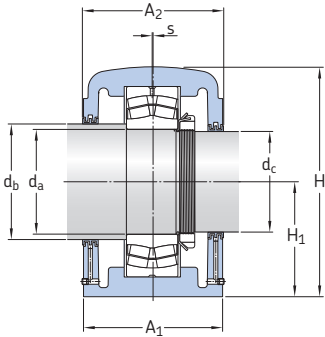
### Complete pillow block

Designation	Dimensions											
	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>3</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	G
–	in.											
<b>SDAF 23248</b>	13 1/8	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
<b>SDAF 23152</b>	13 1/8	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
<b>SDAF 23252</b>	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
<b>SDAF 23156</b>	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
<b>SDAF 23256</b>	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
<b>SDAF 23060</b>	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
<b>SDAF 23160</b>	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
<b>SDAF 23260</b>	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
<b>SDAF 23064</b>	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
<b>SDAF 23164</b>	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
<b>SDAF 23264</b>	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
<b>SDAF 23068</b>	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
<b>SDAF 23168</b>	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
<b>SDAF 23268</b>	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
<b>SDAF 23072</b>	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
<b>SDAF 23172</b>	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
<b>SDAF 23272</b>	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
<b>SDAF 23076</b>	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
<b>SDAF 23176</b>	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
<b>SDAF 23276</b>	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
<b>SDAF 23080</b>	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
<b>SDAF 23180</b>	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
<b>SDAF 23280</b>	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
<b>SDAF 23084</b>	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
<b>SDAF 23184</b>	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
<b>SDAF 23284</b>	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

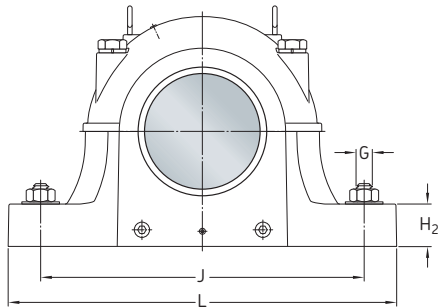


**Units of measurement**  
In this chapter only imperial units are used. To convert imperial units to metric units, refer to the conversion table on page 10.

Shaft diameter			Complete pillow block	Components Pillow block housing	Bearing <sup>1)</sup>	Stabilizing ring <sup>2)</sup> (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	<b>SDAF 23088</b>	SDAF 3088	23088 CA/W33	36053-150	ERF 926	ERF 838	N 088	PL 88	2 550
	19 1/2	17	<b>SDAF 23188</b>	SDAF 3188	23188 CA/W33	36053-165	ERF 926	ERF 838	N 088	PL 88	4 300
	19 1/2	17	<b>SDAF 23288</b>	SDAF 3288	23288 CA/W33	36053-159	ERF 926	ERF 838	N 088	PL 88	5 050
460	20	17 3/4	<b>SDAF 23092</b>	SDAF 3092	23092 CA/W33	36053-152	ERF 808	ERF 906	N 092	PL 92	2 850
	20	17 3/4	<b>SDAF 23192</b>	SDAF 3192	23192 CA/W33	36053-154	ERF 808	ERF 906	N 092	PL 92	5 000
480	21	18 1/2	<b>SDAF 23096</b>	SDAF 3096	23096 CA/W33	36053-200	ERF 933	ERF 978	N 096	PL 96	4 250
	21	18 1/2	<b>SDAF 23196</b>	SDAF 3196	23196 CA/W33	36053-159	ERF 933	ERF 978	N 096	PL 96	5 300
500	21	19	<b>SDAF 230/500</b>	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	<b>SDAF 230/530</b>	SDAF 30/530	230/530 CA/W33	36053-166	ERF 997	ERF 998	N 530	PL 530	5 200

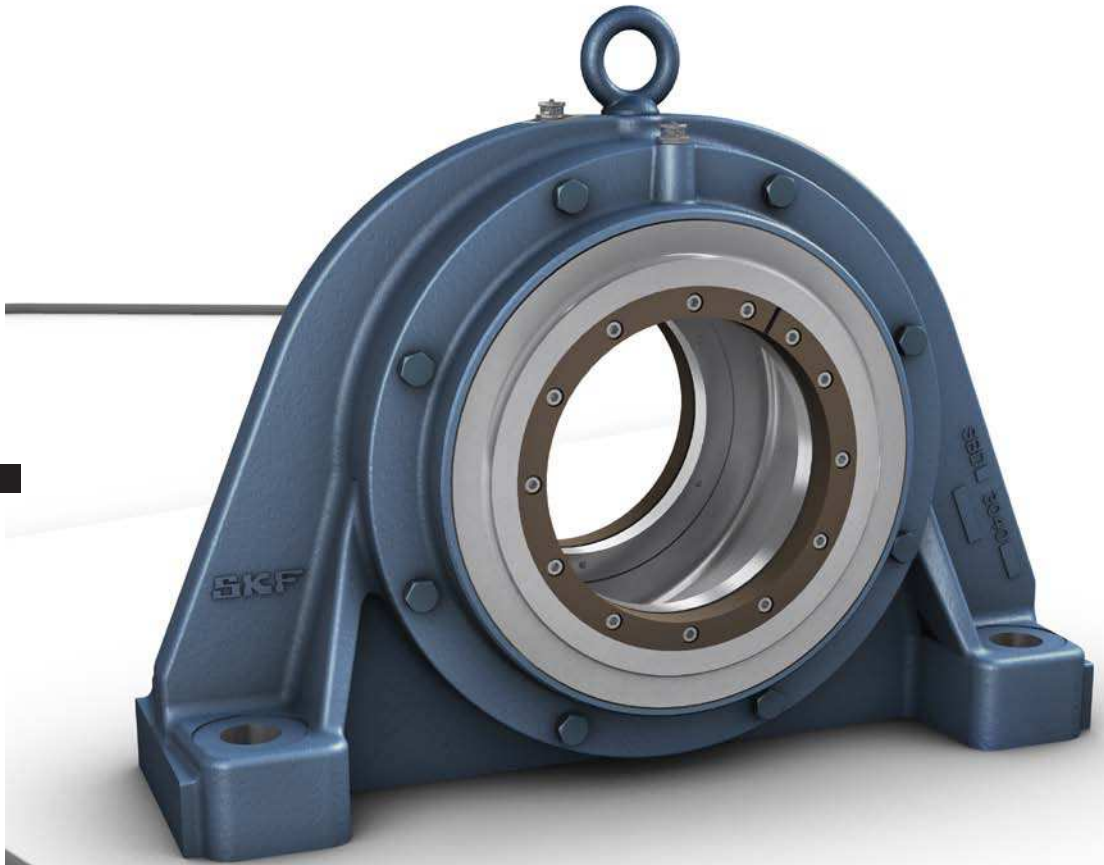
<sup>1)</sup> Optional internal radial clearance (e.g. C3) available on request.

<sup>2)</sup> For a held unit, order stabilizing rings separately.



### Complete pillow block

Designation	Dimensions											
	A <sub>1</sub>	A <sub>2</sub>	S	b <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J <sub>min</sub>	J <sub>max</sub>	J <sub>1</sub>	L	G
–	in.											
<b>SDAF 23088</b>	18 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>4</sub>		5 <sup>3</sup> / <sub>4</sub>	30 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	41 <sup>3</sup> / <sub>4</sub>	43 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>4</sub>	48 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>
<b>SDAF 23188</b>	21	21 <sup>3</sup> / <sub>4</sub>		7 <sup>7</sup> / <sub>32</sub>	33 <sup>3</sup> / <sub>4</sub>	17	5 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>8</sub>	46 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	53	2 <sup>1</sup> / <sub>4</sub>
<b>SDAF 23288</b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>		8 <sup>9</sup> / <sub>32</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>
<b>SDAF 23092</b>	18 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>4</sub>		5 <sup>7</sup> / <sub>8</sub>	30 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	41 <sup>3</sup> / <sub>4</sub>	43 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>4</sub>	48 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>
<b>SDAF 23192</b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>		7 <sup>1</sup> / <sub>2</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>
<b>SDAF 23096</b>	21	21 <sup>3</sup> / <sub>4</sub>		5 <sup>29</sup> / <sub>32</sub>	33 <sup>3</sup> / <sub>4</sub>	17	5 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>8</sub>	46 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	53	2 <sup>1</sup> / <sub>4</sub>
<b>SDAF 23196</b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>		7 <sup>21</sup> / <sub>32</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>
<b>SDAF 230/500</b>	21	21 <sup>3</sup> / <sub>4</sub>		6 <sup>1</sup> / <sub>2</sub>	33 <sup>3</sup> / <sub>4</sub>	17	5 <sup>1</sup> / <sub>2</sub>	44 <sup>3</sup> / <sub>8</sub>	46 <sup>1</sup> / <sub>8</sub>	14 <sup>1</sup> / <sub>2</sub>	53	2 <sup>1</sup> / <sub>4</sub>
<b>SDAF 230/530</b>	21 <sup>5</sup> / <sub>8</sub>	22 <sup>1</sup> / <sub>4</sub>		6 <sup>27</sup> / <sub>32</sub>	35 <sup>3</sup> / <sub>4</sub>	18	5 <sup>3</sup> / <sub>4</sub>	47 <sup>1</sup> / <sub>8</sub>	48 <sup>7</sup> / <sub>8</sub>	15	54 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>





# 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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# 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]

### Suffixes<sup>1)</sup>

**-** 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

<sup>1)</sup> 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]

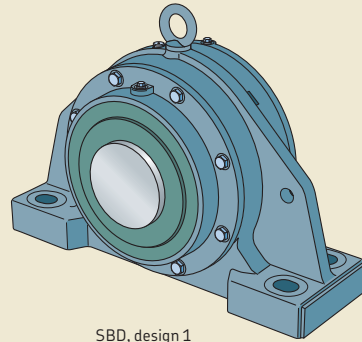
## Standard housing design

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**).

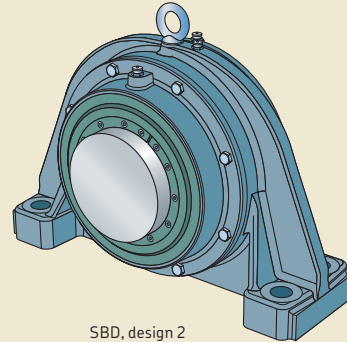
SBD housings are available in two designs (→ **fig. 1**), depending on the housing size. The main difference is the holes for the attachment bolts: one design has cast oblong holes, the other has drilled holes. Other design differences include the overall shape of the housing and the thickness of the 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

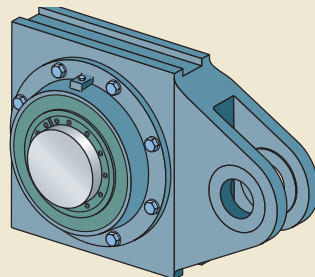


SBD, design 1



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

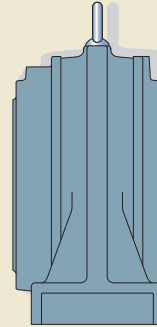
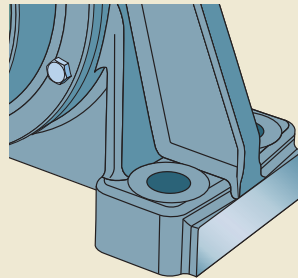


Fig. 4

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**.

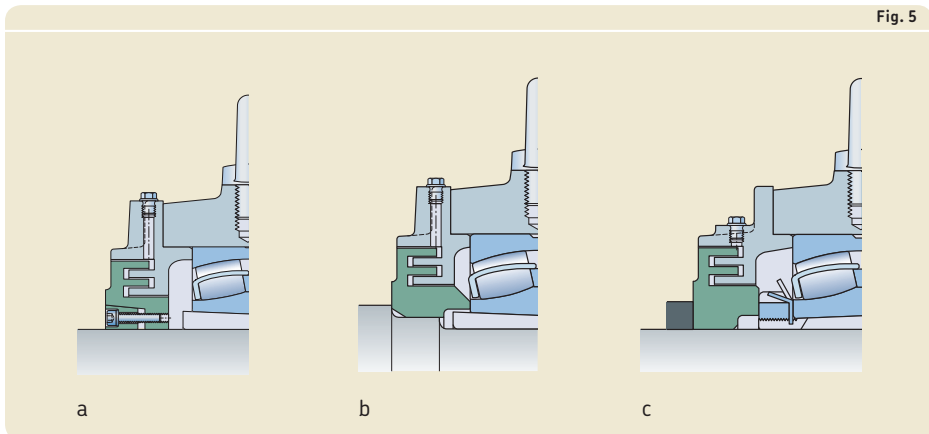
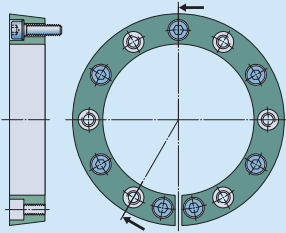


Table 1

Adapter rings for SBD plummer block housings and THD take-up housings



Adapter ring	Adapter ring bolts	
	Size	Tightening torque
-	-	Nm
PSBD 50	M3	1
PSBD 55	M3	1
PSBD 60	M4	2
PSBD 70	M5	4
PSBD 80	M5	4
PSBD 90	M5	4
PSBD 100	M5	4
PSBD 110	M5	4
PSBD 115	M5	4
PSBD 120	M5	4
PSBD 125	M5	4
PSBD 130	M5	4
PSBD 135	M6	7
PSBD 140	M6	7
PSBD 150	M6	7
PSBD 160	M6	7
PSBD 170	M6	7
PSBD 180	M6	7
PSBD 190	M6	7
PSBD 200	M8	10
PSBD 220	M8	10
PSBD 240	M8	10
PSBD 260	M8	10
PSBD 280	M8	10
PSBD 300	M8	10
PSBD 320	M8	10
PSBD 340	M10	12
PSBD 360	M10	12
PSBD 380	M10	12
PSBD 400	M10	12
PSBD 420	M10	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
<b>Application conditions and requirements</b>	
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 <sub>a</sub> [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](http://skf.com/bearings).

### Typical shaft-bearing combinations

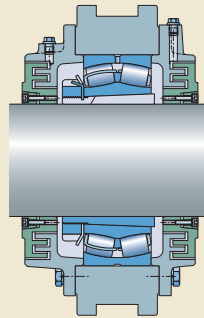
SBD plummer block housings can accommodate different shaft-bearing combinations (→ **fig. 6**):

- 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

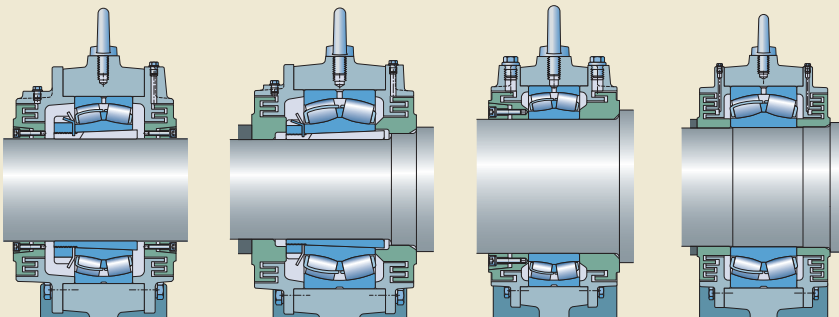
THD take-up housings are available for bearings on an adapter sleeve on plain shafts (→ **fig. 7**).

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").

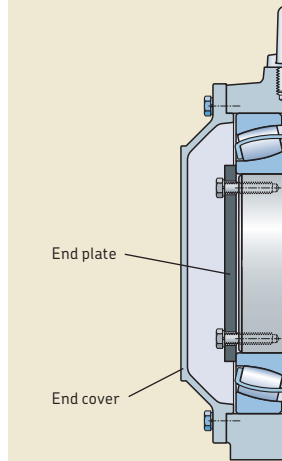
### Load carrying capacity

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  $P_{180^\circ}$  (→ **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](http://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 $\oplus$ .
- Housings with suffix C  
The recommended shaft tolerance class is h6 $\oplus$  (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 $\oplus$ , and for larger bearings r6 $\oplus$ . The shaft tolerance class under the outer labyrinth seal is h6 $\oplus$ .

- Housings with suffix G  
The recommended shaft tolerance class for bearings with a bore diameter up to 140 mm is p6 $\oplus$ , and for larger bearings r6 $\oplus$ . Where a labyrinth ring is mounted on a separate seat, the recommended shaft tolerance class is h6 $\oplus$ .

The recommended shaft tolerances under the labyrinth rings are also provided in the illustrations in the product tables.

### Attachment bolt recommendations

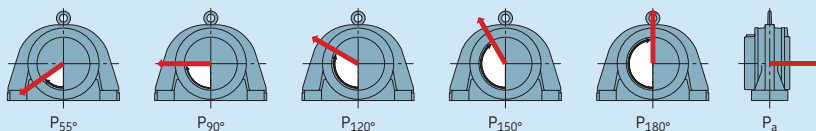
In typical applications 8.8 class hexagonal bolts in accordance with ISO 4014 can be used together with washers. If the load does not act perpendicularly toward the base, it may be necessary to use stronger 10.9 class bolts.

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)

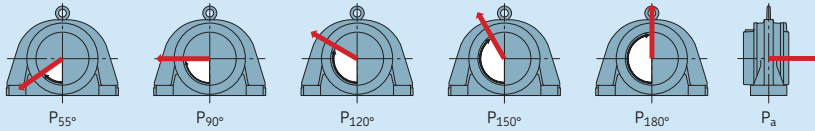


Housing Size		Breaking loads					
		P <sub>55°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>	P <sub>a</sub>
–		kN					
2213							
2218							
2220	3024						
		3122					
2222	3026						
2224	3028						
		3124	3222				
		3126	3224				
2226	3030						
		3128	3226				
2228	3032						
	3034						
		3130	3228				
2230	3036						
		3132	3230				
2232	3038						
2234	3040						
		3134	3232				
		3136	3234				
2236	3044						
2238							
		3138	3236				
2240	3048						
		3140	3238				
2244	3052						
		3144	3240				
	3056						
2248	3060						
		3148	3244				
		3152	3248				
2252	3064						
2256	3068						
		3156	3252				

<sup>1)</sup> Contact SKF for missing values

Table 3 cont.

Breaking loads for SBDD housings (spheroidal graphite cast iron housings)



Housing Size		Breaking loads								
		P <sub>55°</sub>	P <sub>90°</sub>	P <sub>120°</sub>	P <sub>150°</sub>	P <sub>180°</sub>	P <sub>a</sub>			
-		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 3084	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	
				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	14 000	11 200	5 760	4 560	5 760	1 150
		3276		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	1 460
			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](http://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](http://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/cm<sup>3</sup>) 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

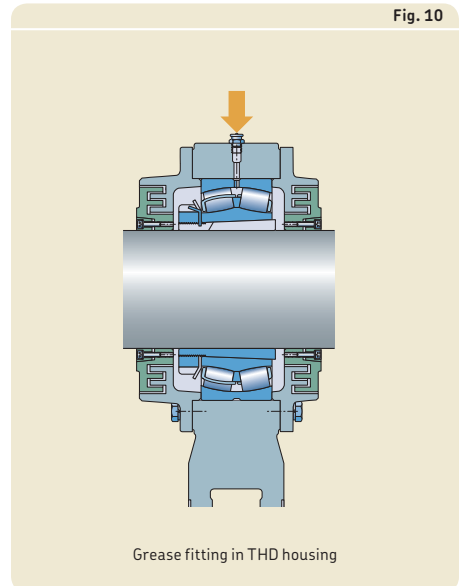
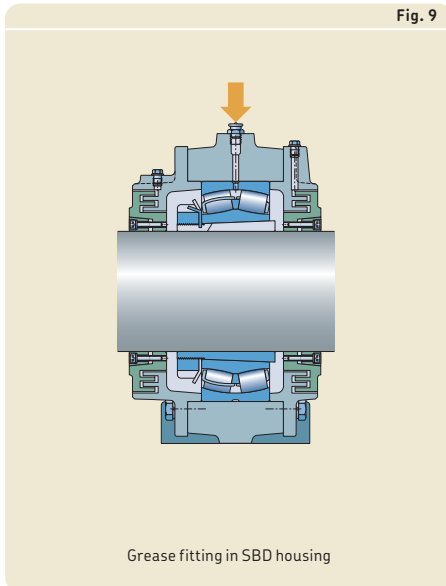


Table 4

Initial grease fill

Housing	Initial fill <sup>1)</sup>		Housing	Initial fill <sup>1)</sup>		Housing	Initial fill <sup>1)</sup>		Housing	Initial fill <sup>1)</sup>	
	Housing type			Housing type			Housing type			Housing type	
	A	B		A	B		A	B		A	B
–	kg		–	kg		–	kg		–	kg	
SBD 2213	0,10	0,10	SBD 3122	0,40	0,30	THD 2211	0,070	0,070	THD 3222	0,55	0,50
SBD 2218	0,25	0,25	SBD 3124	0,50	0,40	THD 2212	0,080	0,080	THD 3224	0,75	0,70
SBD 2220	0,90	0,40	SBD 3126	0,50	0,50	THD 2213	0,10	0,10	THD 3226	0,85	0,80
SBD 2222	1,00	0,50	SBD 3128	0,70	0,60	THD 2216	0,20	0,20	THD 3228	1,05	1,00
SBD 2224	1,00	0,50	SBD 3130	0,90	0,90	THD 2218	0,25	0,25	THD 3230	1,30	1,25
SBD 2226	1,10	0,60	SBD 3132	1,20	1,10	THD 2220	0,40	0,35	THD 3232	1,55	1,50
SBD 2228	1,20	0,80	SBD 3134	1,40	1,30	THD 2222	0,55	0,50	THD 3236	2,10	2,00
SBD 2230	1,20	0,90	SBD 3136	1,60	1,50	THD 2224	0,60	0,55	THD 3240	2,60	2,50
SBD 2232	1,30	1,00	SBD 3138	2,00	1,80	THD 2228	0,85	0,75	THD 3244	3,40	3,25
SBD 2234	1,40	1,20	SBD 3140	2,40	2,10				THD 3248	4,25	4,00
SBD 2236	1,80	1,50	SBD 3144	2,90	2,50				THD 3252	5,05	4,75
SBD 2238	1,80	1,60	SBD 3148	3,40	3,00	THD 3030	0,60	0,55	THD 3256	5,50	5,00
SBD 2240	2,00	1,80	SBD 3152	4,40	3,80	THD 3034	0,90	0,75	THD 3260	7,00	6,25
SBD 2244	2,60	2,40	SBD 3156	4,80	4,20	THD 3038	1,15	1,00	THD 3264	8,15	7,25
SBD 2248	3,60	3,40	SBD 3160	6,00	5,20	THD 3040	1,45	1,20	THD 3268	9,85	8,75
SBD 2252	4,10	3,80	SBD 3164	7,50	6,40	THD 3044	1,75	1,50	THD 3272	12,0	10,5
SBD 2256	5,20	4,90	SBD 3168	10,0	8,20	THD 3052	4,10	3,55	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	THD 3284	23,0	20,5
			SBD 3180	15,5	12,5	THD 3134	1,35	1,25			
			SBD 3184	18,0	15,0	THD 3136	2,40	1,60			
SBD 3024	0,40	0,30				THD 3138	2,85	2,60			
SBD 3026	0,50	0,40				THD 3140	2,30	2,00			
SBD 3028	0,50	0,50	SBD 3222	0,60	0,50	THD 3144	2,90	2,50			
SBD 3030	0,60	0,60	SBD 3224	0,80	0,70				THD 3148	3,40	3,00
SBD 3032	0,70	0,60	SBD 3226	0,90	0,80	THD 3152	4,40	3,75	THD 3160	6,00	5,15
SBD 3034	0,80	0,70	SBD 3228	1,10	1,00	THD 3164	7,50	6,40			
SBD 3036	1,00	0,90	SBD 3230	1,30	1,30	THD 3168	10,0	8,20			
SBD 3038	1,10	1,00	SBD 3232	1,60	1,50	THD 3176	14,0	11,0			
SBD 3040	1,30	1,10	SBD 3234	1,80	1,80						
SBD 3044	1,70	1,50	SBD 3236	2,10	2,00						
SBD 3048	2,00	1,70	SBD 3238	2,40	2,30						
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						

<sup>1)</sup> 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			Cover bolts Size	Tightening torque	Attachment bolts <sup>1)</sup>	
	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](http://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.

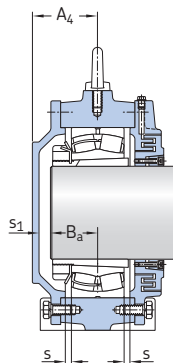
### Order example

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.

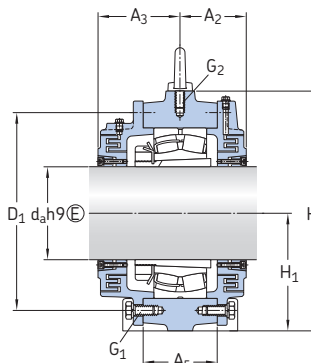
The following items should be ordered:

- 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<sub>a</sub> 60 – 140 mm



Type AL  
Non-locating bearing  
Housing for shaft end

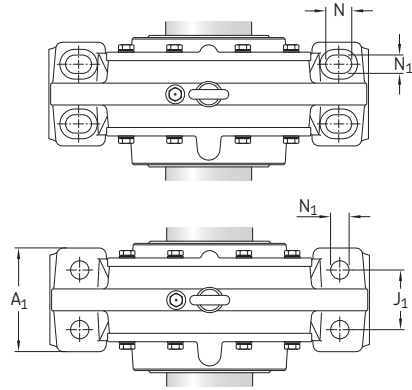
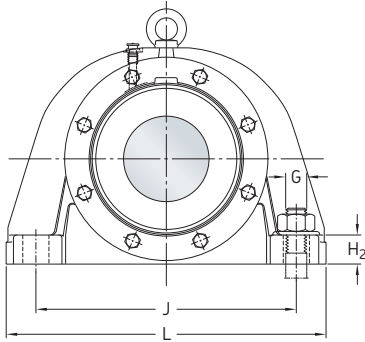


Type BF  
Locating bearing  
Housing for through shaft

Shaft diam. d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Adapter ring (included)	Dimensions Housing						
					A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	D <sub>1</sub>	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

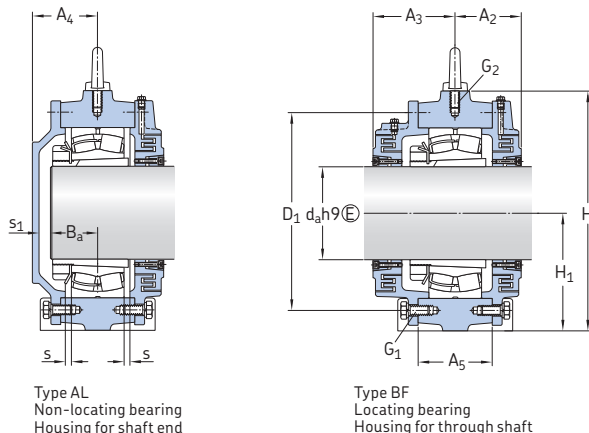
<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> Only typical adapter sleeves are listed. Other variants can also fit the housing.



Shaft diam.	Dimensions Housing											Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Other		Mass Housing type A B	
	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G <sub>1</sub>	B <sub>a</sub>		s <sub>1</sub>	A	B	
mm	mm											-	mm		kg	
<b>60</b>	80	25	220	50	280	-	19	2	16	M8	-	32	6	8,9	9,3	
<b>80</b>	110	38	290	60	370	-	24	2	20	M8	M10	40	5	21	23	
<b>90</b>	115	35	300	60	370	-	24	2	20	M8	M12	45	11	23	25	
<b>100</b>	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	
<b>110</b>	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	
<b>115</b>	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	
<b>125</b>	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	
<b>135</b>	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	
<b>140</b>	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	

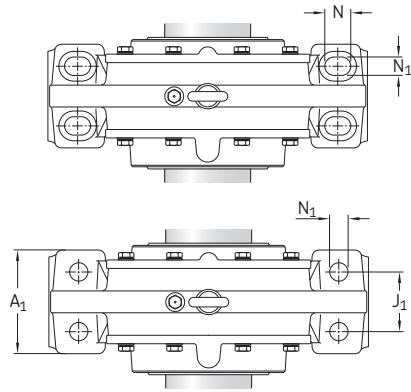
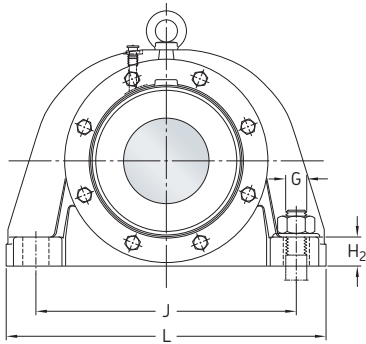
## 10.1 SBD plummer block housings for bearings on an adapter sleeve and a plain shaft d<sub>a</sub> 150 – 240 mm



Shaft diam. d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Adapter ring (included)	Dimensions Housing						
					A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	D <sub>1</sub>	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

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

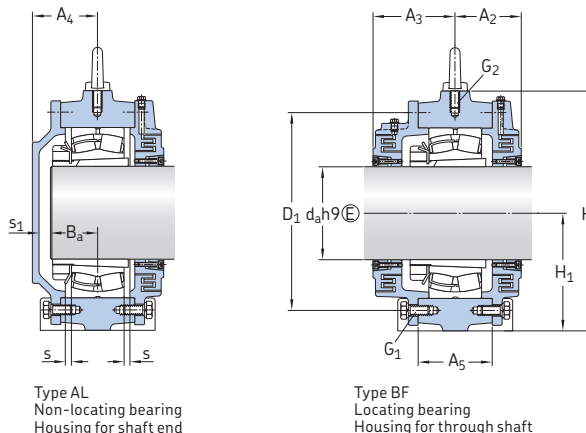
<sup>2)</sup> Only typical adapter sleeves are listed. Other variants can also fit the housing.



Shaft diam.	Dimensions Housing											Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Other		Mass Housing type A B	
	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G <sub>1</sub>	B <sub>a</sub>		s <sub>1</sub>	A	B	
mm	mm											-	mm		kg	
<b>150</b>	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	
<b>160</b>	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	
<b>170</b>	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	
<b>180</b>	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	
<b>200</b>	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	
<b>220</b>	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	
<b>240</b>	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

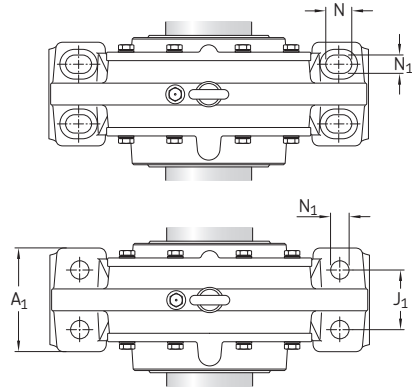
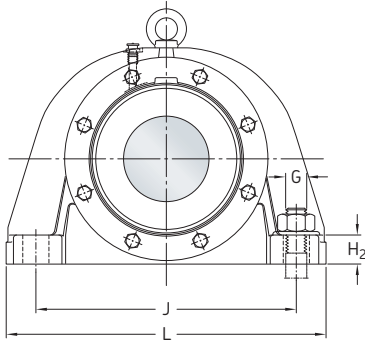
## 10.1 SBD plummer block housings for bearings on an adapter sleeve and a plain shaft d<sub>a</sub> 260 – 400 mm



Shaft diam. d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Adapter ring (included)	Dimensions Housing						
					A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	D <sub>1</sub>	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

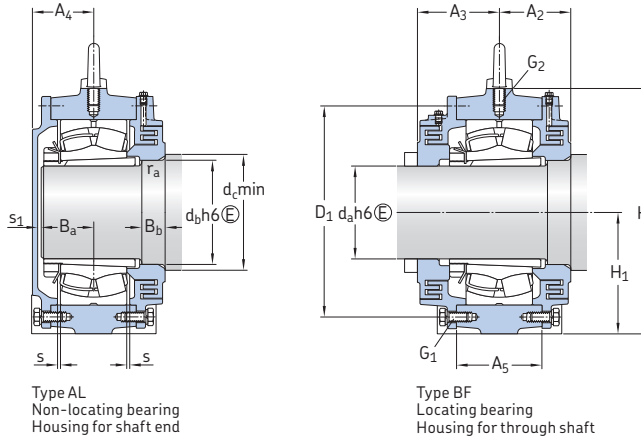
<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> Only typical adapter sleeves are listed. Other variants can also fit the housing.



Shaft diam.	Dimensions Housing											Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Other		Mass Housing type	
	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G <sub>1</sub>	B <sub>a</sub>		s <sub>1</sub>	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	

## 10.2 SBDD plummer block housings for bearings on an adapter sleeve and a stepped shaft d<sub>a</sub> 90 – 150 mm

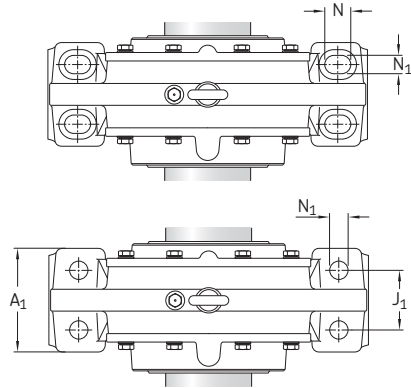
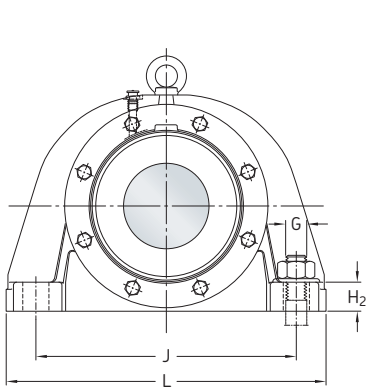


Shaft diam. d <sub>a</sub>	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Dimensions Housing											
				A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	D <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J		
mm	–	–		mm											
90	SBDD 2220 C	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		

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> Only typical adapter sleeves are listed. Other variants can also fit the housing.

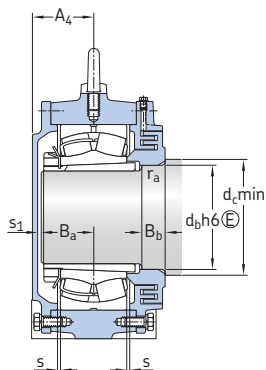




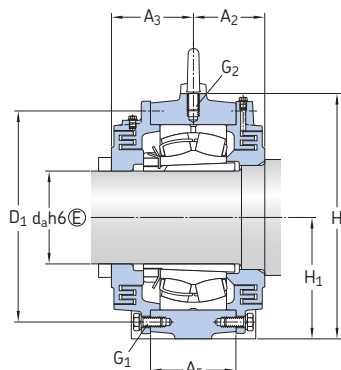
Shaft diam.	Dimensions Housing								Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Shaft abutment and fillet						Mass Housing type	
	d <sub>a</sub>	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G <sub>1</sub>		B <sub>a</sub>	B <sub>b</sub>	d <sub>b</sub>	d <sub>c min</sub>	r <sub>a</sub>	s <sub>1</sub>	A	B
mm	mm								–	mm						kg	
<b>90</b>	60	370	–	24	2	20	M8	M12	45	35	102	115	4	11	23	25	
<b>100</b>	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	
<b>110</b>	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	
<b>115</b>	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	
<b>125</b>	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	
<b>135</b>	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	
<b>140</b>	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	
	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	
<b>150</b>	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	
	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	

10.2

## 10.2 SBD plummer block housings for bearings on an adapter sleeve and a stepped shaft d<sub>a</sub> 160 – 260 mm



Type AL  
Non-locating bearing  
Housing for shaft end

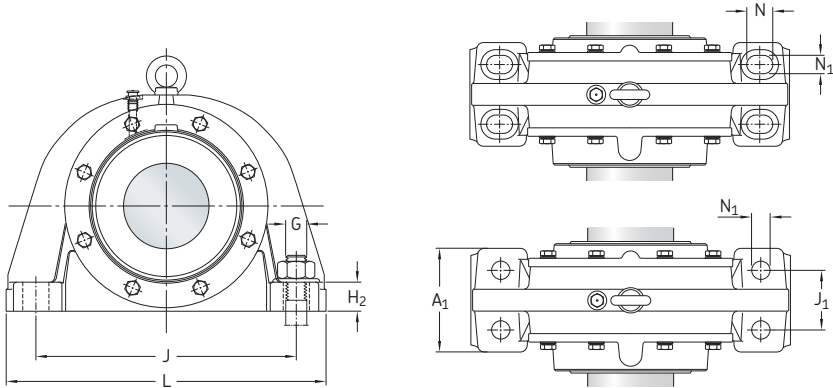


Type BF  
Locating bearing  
Housing for through shaft

Shaft diam. d <sub>a</sub>	Housing	Appropriate parts		Dimensions										
		Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Housing		A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	D <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>
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	

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

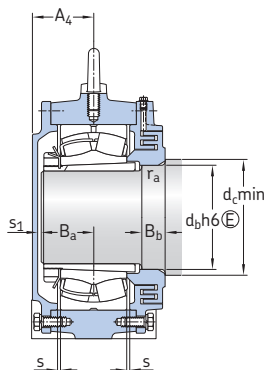
<sup>2)</sup> Only typical adapter sleeves are listed. Other variants can also fit the housing.



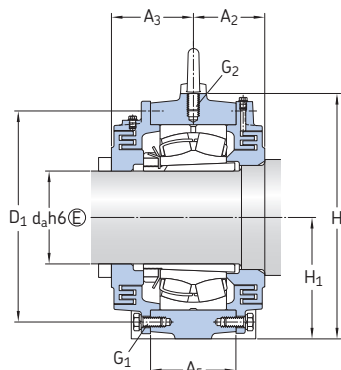
Shaft diam.	Dimensions Housing							Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Shaft abutment and fillet						Mass Housing type	
	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G <sub>1</sub>		B <sub>a</sub>	B <sub>b</sub>	d <sub>b</sub>	d <sub>c min</sub>	r <sub>a</sub>	s <sub>1</sub>	A	B
mm	mm							-	mm						kg	
<b>160</b>	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
<b>170</b>	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
<b>180</b>	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
<b>200</b>	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
<b>220</b>	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
<b>240</b>	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
<b>260</b>	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 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

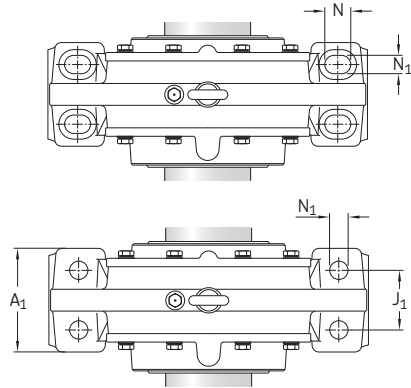
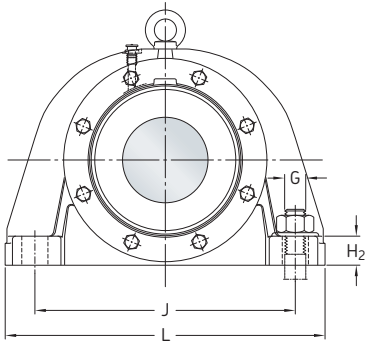


Type BF  
Locating bearing  
Housing for through shaft

Shaft diam. $d_a$	Housing	Appropriate parts		Dimensions										
		Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Housing		A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	D <sub>1</sub>	H	H <sub>1</sub>	H <sub>2</sub>
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	

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

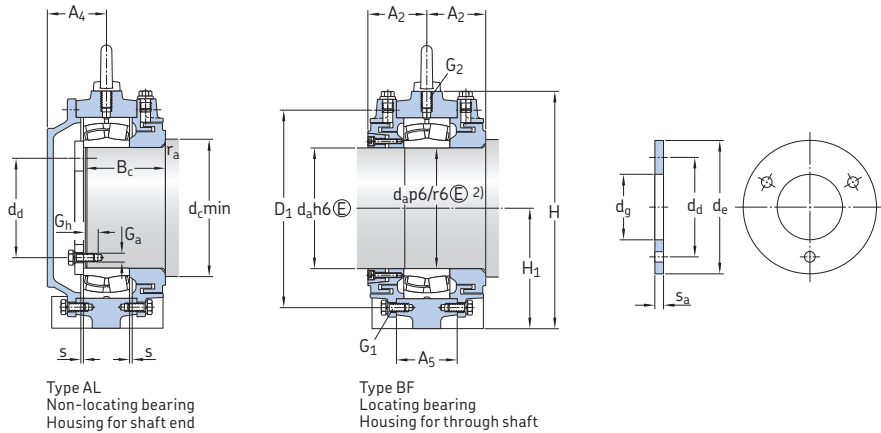
<sup>2)</sup> Only typical adapter sleeves are listed. Other variants can also fit the housing.



Shaft diam.	Dimensions Housing								Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Shaft abutment and fillet						Mass Housing type	
	J <sub>1</sub>	L	N	N <sub>1</sub>	s	G	G <sub>1</sub>	B <sub>a</sub>		B <sub>b</sub>	d <sub>b</sub>	d <sub>c min</sub>	r <sub>a</sub>	s <sub>1</sub>	A	B	
mm	mm								-	mm						kg	
<b>280</b>	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	
<b>300</b>	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	
<b>320</b>	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	
<b>340</b>	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	
<b>360</b>	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	
<b>380</b>	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	
<b>400</b>	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	

## 10.3 SBD plummer block housings for bearings on a cylindrical seat and a stepped shaft

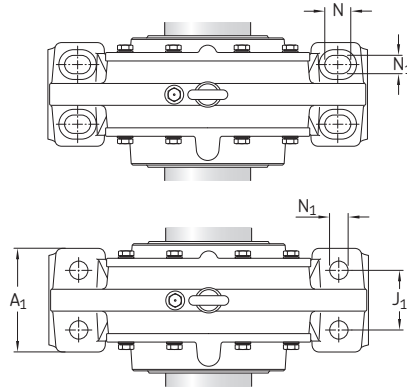
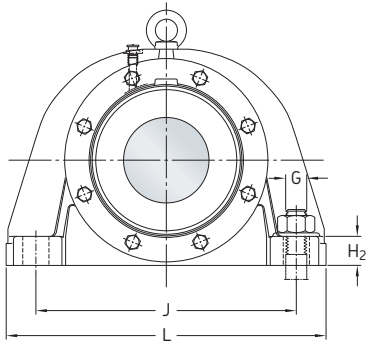
$d_a$  100 – 170 mm



Shaft diam. $d_a$	Housing	Appropriate parts		Dimensions												
		Bearing <sup>1)</sup>	Adapter ring (included)	Housing		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		

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

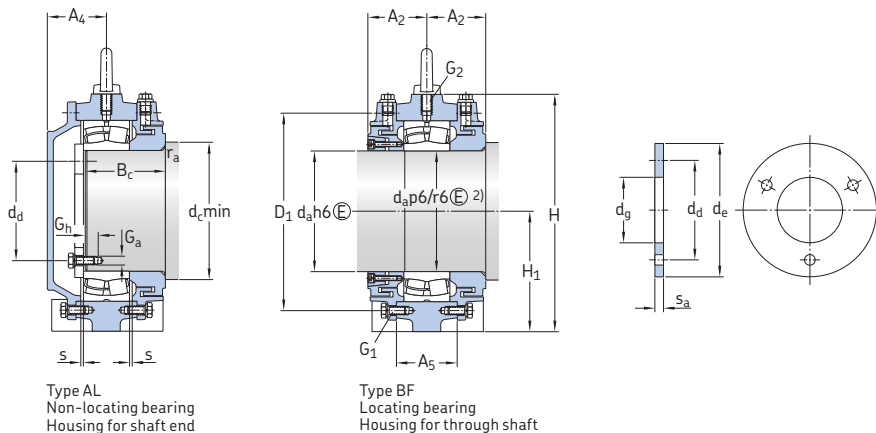
<sup>2)</sup> Tolerance p6 for shaft diameters up to 140 mm and tolerance r6 for larger sizes.



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	M8	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 SBD plummer block housings for bearings on a cylindrical seat and a stepped shaft

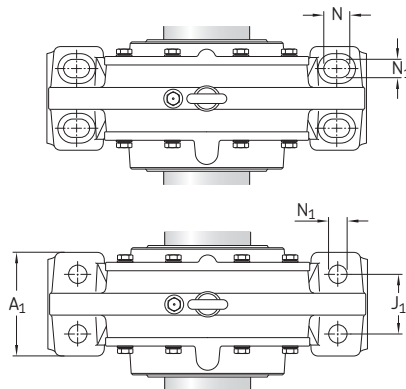
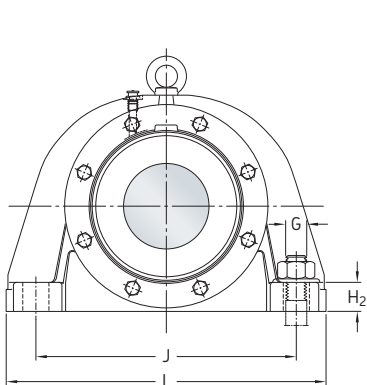
$d_a$  180 – 280 mm



Shaft diam. $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	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	

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

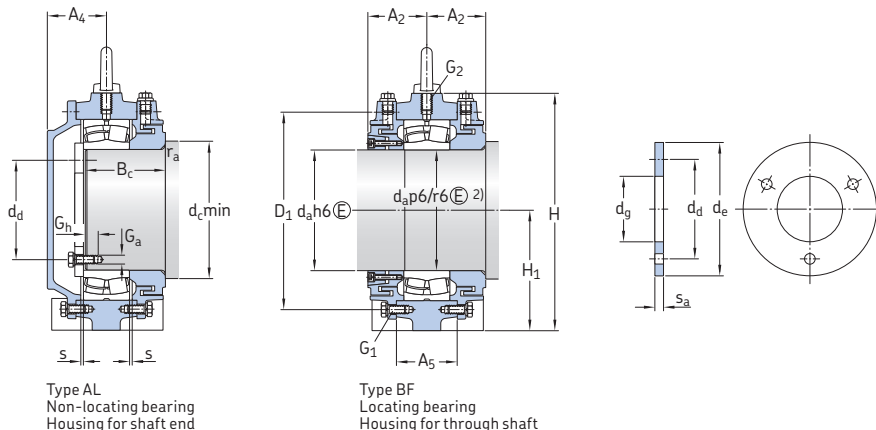




Shaft diam.	Dimensions Housing					Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Shaft abutment and fillet					End plate					Mass Housing type	
	d <sub>a</sub>	N	N <sub>1</sub>	s	G		G <sub>1</sub>	B <sub>c</sub>	d <sub>c</sub> min	r <sub>a</sub>	G <sub>a</sub>	G <sub>H</sub>	d <sub>d</sub>	d <sub>e</sub>	d <sub>gmax</sub>	s <sub>a</sub>	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	M10×30	64	70
	45	35	3	30	M16	M20	163	205	8	M12	20	150	195	105	12	M12×30	118	130
	-	42	4	36	M16	M20	157	205	8	M16	25	140	210	70	16	M16×45	112	120
	45	35	3	30	M16	M20	185	205	8	M12	20	150	205	85	12	M12×30	147	160
190	-	35	3	30	M12	M16	128	215	8	M12	20	160	205	115	12	M12×30	74	80
	45	35	3	36	M16	M20	172	215	8	M12	20	160	210	110	12	M12×30	146	160
	-	42	4	36	M16	M20	160	215	8	M16	25	150	220	80	16	M16×45	126	135
	45	35	4	30	M16	M20	197	215	8	M12	20	160	215	95	12	M12×30	170	185
200	-	35	4	30	M12	M16	135	225	8	M16	25	160	215	105	16	M16×45	83	90
	52	42	3	36	M16	M24	180	225	8	M12	20	170	220	120	12	M12×30	175	190
	-	42	4	36	M16	M20	167	225	8	M20	30	150	235	65	20	M20×55	145	155
	52	42	4	36	M16	M24	198	225	8	M16	25	160	230	80	16	M16×45	200	220
220	-	42	4	36	M16	M20	144	245	8	M16	25	180	240	120	16	M16×45	107	115
	52	42	4	36	M16	M24	191	245	8	M16	25	180	245	115	16	M16×45	205	220
	-	42	4	36	M16	M20	175	245	8	M20	30	170	260	80	20	M20×55	187	200
	52	42	4	36	M20	M24	216	245	8	M16	25	180	255	95	16	M16×45	270	290
240	-	42	4	36	M16	M20	145	265	8	M20	30	190	260	120	20	M20×55	120	130
	52	42	4	36	M20	M24	212	265	8	M16	25	200	265	135	16	M16×45	250	270
	-	42	5	36	M20	M24	186	265	8	M20	30	190	285	95	20	M20×55	235	250
	52	42	5	36	M20	M24	224	265	8	M16	25	200	280	110	16	M16×45	345	370
260	-	42	4	36	M16	M20	155	285	8	M20	30	210	285	135	20	M20×55	153	165
	52	42	4	36	M20	M24	220	285	8	M16	25	220	285	155	16	M16×45	300	320
	-	42	5	36	M20	M24	205	285	8	M20	30	210	305	95	20	M20×55	290	310
	65	42	5	36	M20	M24	249	285	8	M16	25	220	305	115	16	M16×45	435	470
280	-	42	5	36	M16	M20	166	305	8	M20	30	230	305	155	20	M20×55	177	190
	65	42	5	36	M24	M24	225	305	8	M16	25	240	305	175	16	M16×45	325	350
	-	42	5	36	M20	M24	212	305	8	M24	35	220	325	195	24	M24×65	330	350
	65	42	5	36	M24	M30	261	305	8	M20	30	230	325	80	20	M20×55	490	530

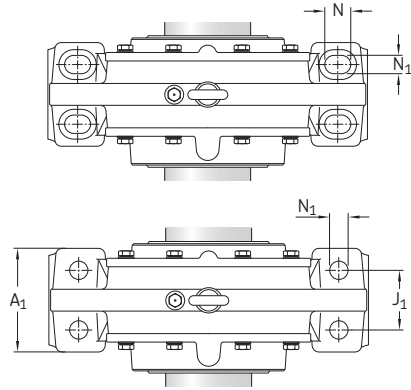
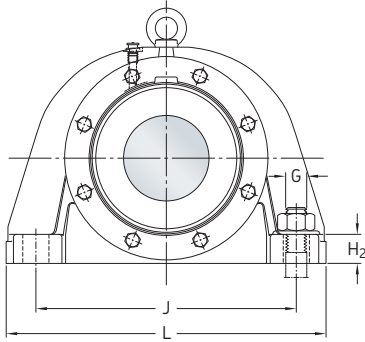
## 10.3 SBD plummer block housings for bearings on a cylindrical seat and a stepped shaft

$d_a$  300 – 420 mm



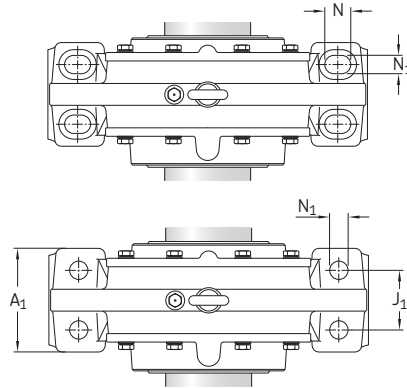
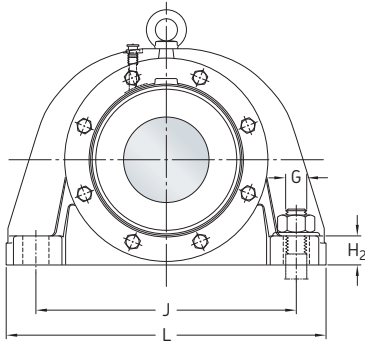
Shaft diam. $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter ring (included)	Dimensions Housing											
				$A_1$	$A_2$	$A_4$	$A_5$	$D_1$	H	$H_1$	$H_2$	J	$J_1$	L	
mm	-	-		mm											
300	SBDD 3060 E	23060 CC/W33	PSBD 300	250	122	132	144	500	570	285	85	690	150	820	
	SBDD 3160 E	23160 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	

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.



Shaft diam.	Dimensions Housing					Eye bolt acc. to DIN 580 G <sub>2</sub>	Dimensions Shaft abutment and fillet					End plate				attachment bolts (for end plate)	Mass Housing type	
	d <sub>a</sub>	N	N <sub>1</sub>	s	G		G <sub>1</sub>	B <sub>c</sub>	d <sub>c</sub> min	r <sub>a</sub>	G <sub>a</sub>	G <sub>h</sub>	d <sub>d</sub>	d <sub>e</sub>	d <sub>gmax</sub>		s <sub>a</sub>	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
	-	60	6	56	M 24	M 36	308	365	8	M 24	35	280	420	125	24	M 24x65	830	900
	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
	-	68	7	64	M 24	M 36	337	385	8	M 24	35	300	440	145	24	M 24x65	950	1020
	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
	-	68	7	64	M 30	M 36	346	405	8	M 30	45	305	465	130	30	M 30x80	1060	1140
	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
	-	68	7	64	M 30	M 36	364	425	8	M 30	45	325	495	145	30	M 30x80	1240	1330
	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
	-	72	8	64	M 30	M 36	380	445	8	M 30	45	345	520	155	30	M 30x80	1500	1600
	90	72	8	64	M 30	M 36	380	445	8	M 30	45	345	520	155	30	M 30x80	1500	1600

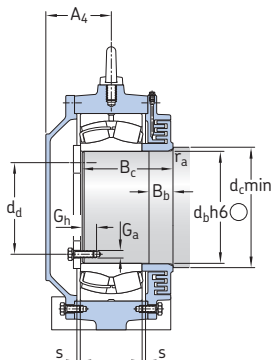




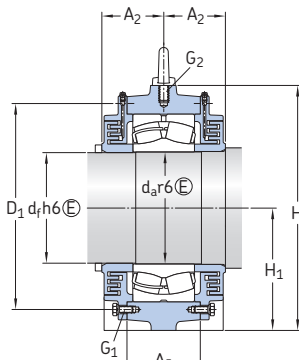
Shaft diam.	Dimensions Housing				Eye bolt acc. to DIN 580	Dimensions Shaft abutment and fillet										End plate					Mass Housing type		
	$d_a$	$N_1$	s	G		$G_1$	$G_2$	$B_b$	$B_c$	$d_b$	$d_c$ min	$d_f$	$r_a$	$G_a$	$G_h$	$d_d$	$d_e$	$d_{gmax}$	$s_a$	attachment bolts (for end plate)	A	B	kg
mm	mm				-	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	M10	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 SBD plummer block housings for bearings on a cylindrical seat and a multi-stepped shaft

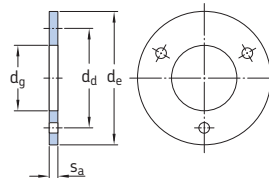
$d_a$  180 – 280 mm



Type AL  
Non-locating bearing  
Housing for shaft end

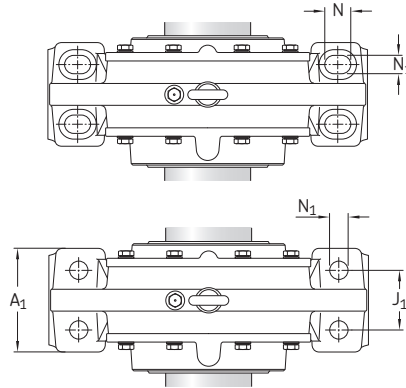
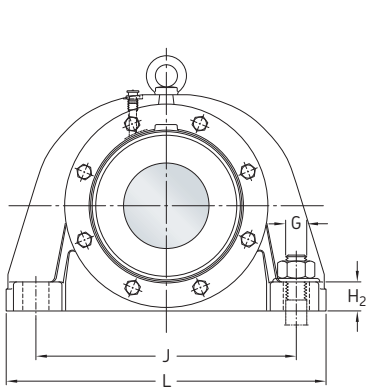


Type BF  
Locating bearing  
Housing for through shaft



Shaft diam. $d_a$	Housing	Appropriate bearing <sup>1)</sup>	Dimensions Housing												
			$A_1$	$A_2$	$A_4$	$A_5$	$D_1$	H	$H_1$	$H_2$	J	$J_1$	L	N	
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	

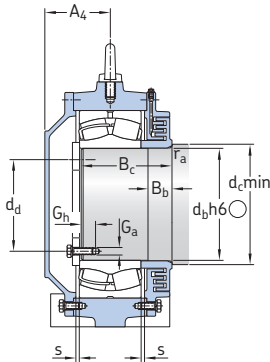
<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.



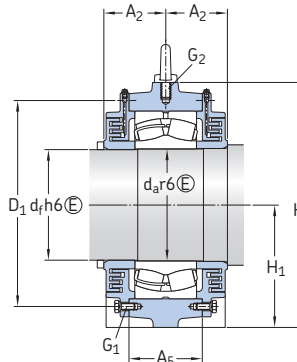
Shaft diam.	Dimensions Housing					Eye bolt acc. to DIN 580		Dimensions Shaft abutment and fillet							End plate						Mass Housing type	
	$d_a$	$N_1$	s	G	$G_1$	$G_2$	$B_b$	$B_c$	$d_b$	$d_c$	$d_f$	$r_a$	$G_a$	$G_h$	$d_d$	$d_e$	$d_{gmax}$	$s_a$	attachment bolts (for end plate)		A	B
mm	mm					-	mm							mm						kg		
<b>180</b>	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		
<b>190</b>	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		
<b>200</b>	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	M20	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		
<b>220</b>	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		
<b>240</b>	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		
<b>260</b>	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		
<b>280</b>	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 SBD plummer block housings for bearings on a cylindrical seat and a multi-stepped shaft

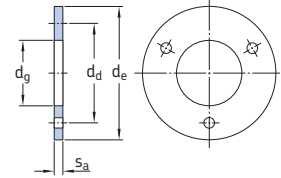
$d_a$  300 – 420 mm



Type AL  
Non-locating bearing  
Housing for shaft end



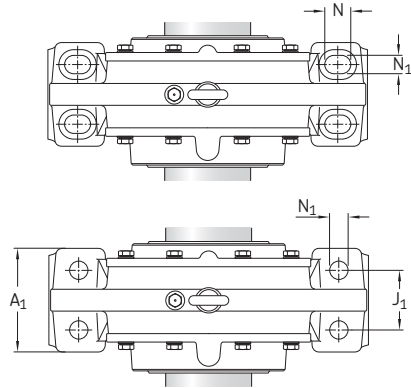
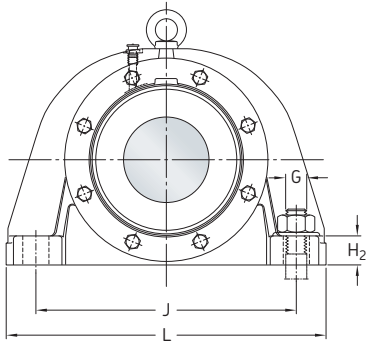
Type BF  
Locating bearing  
Housing for through shaft



Shaft diam.	Housing	Appropriate bearing <sup>1)</sup>	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											
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

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

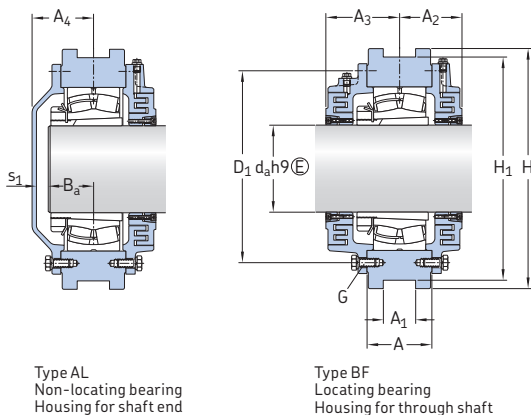




Shaft diam.	Dimensions Housing				Eye bolt acc. to DIN 580	Dimensions Shaft abutment and fillet							End plate					Mass Housing type			
	$d_a$	$N_1$	s	G		$G_1$	$G_2$	$B_b$	$B_c$	$d_b$	$d_c$ min	$d_f$	$r_a$	$G_a$	$G_h$	$d_d$	$d_e$	$d_{gmax}$	$s_a$	attachment bolts (for end plate)	A
mm	mm				mm	mm						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	M30	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	

## 10.5 THD take-up housings for spherical roller bearings on an adapter sleeve and a plain shaft

$d_a$  50 – 170 mm



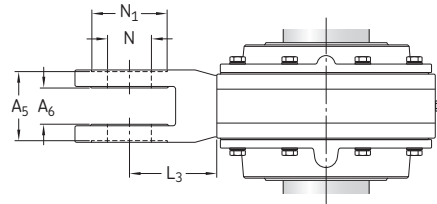
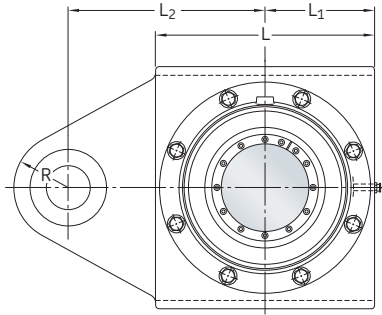
Type AL  
Non-locating bearing  
Housing for shaft end

Type BF  
Locating bearing  
Housing for through shaft

Shaft diam. $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Adapter ring (incl.) Designation	Dimensions Housing						
					A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	A <sub>6</sub>
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

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

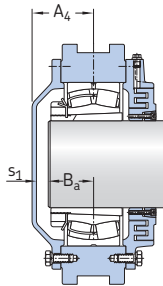
<sup>2)</sup> Only typical adapter sleeves are listed. Other variants can also fit the housing.



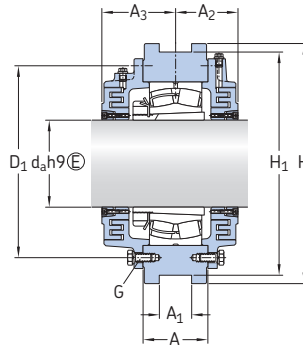
Shaft diam. $d_a$	Dimensions Housing											Shaft abutment		Mass Housing type	
	$D_1$	H	$H_1$	L	$L_1$	$L_2$	$L_3$	N	$N_1$	R	G	$B_a$	$s_1$	A	B
mm	mm											mm		kg	
50	115	150	135	150	75	105	30	20	40	30	M 8	27	5	10	10
55	130	165	150	165	82,5	120	37,5	25	50	35	M 8	30	5	12	12
60	140	180	155	160	80	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 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

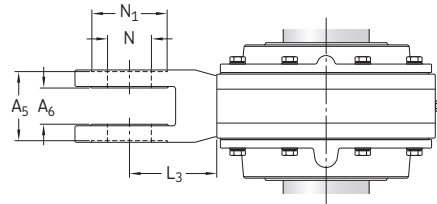
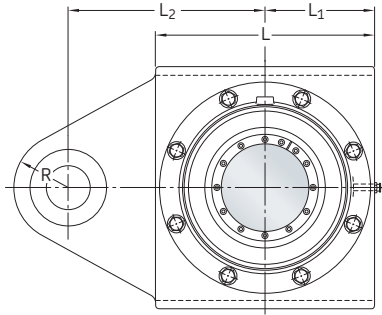


Type BF  
Locating bearing  
Housing for through shaft

Shaft diam. $d_a$	Housing	Appropriate parts Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Adapter ring (incl.) Designation	Dimensions Housing						
					A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	A <sub>6</sub>
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

<sup>1)</sup> Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> 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



**SKF**  
FNL 511 A

80

# 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

<b>Designations</b> .....	<b>533</b>	<b>Product tables</b>	
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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]

### Suffixes<sup>1)</sup>

**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

<sup>1)</sup> 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.

FNL housing with triangular flange

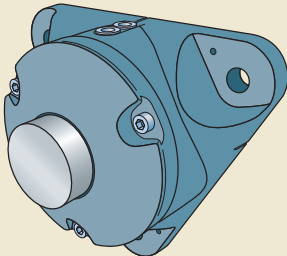


Fig. 1

FNL housing with square flange

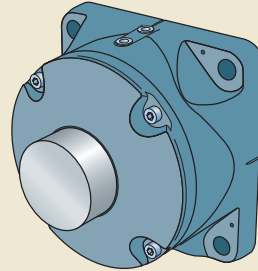
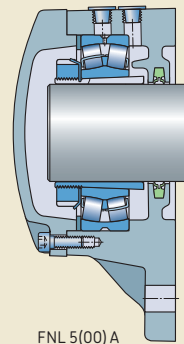
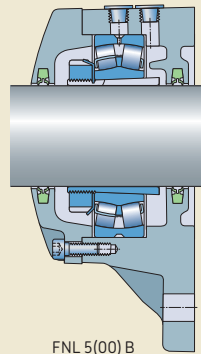


Fig. 2

FNL housings for shaft end or through shaft



FNL 5(00) A



FNL 5(00) B

Fig. 3

## 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

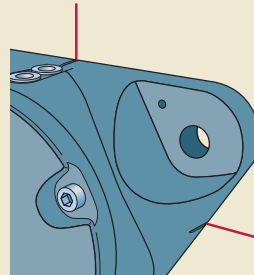


Fig. 5

Grease guiding system

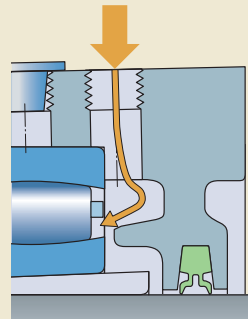
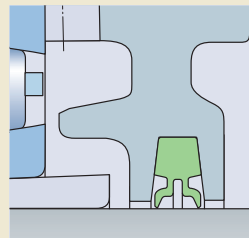


Fig. 6

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.

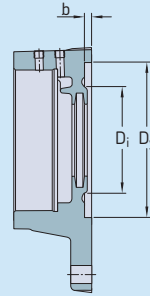
FNL housings with a machined recess can be supplied on request and are identified by the designation suffix P, e.g. FNL 511 BP. Dimensions for the recess and the shoulder or guide ring are listed in **table 1**.

### 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

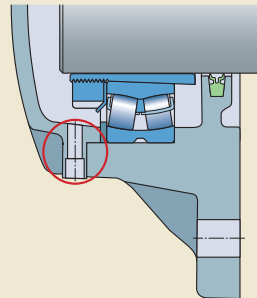
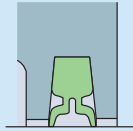


Table 2

### 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 <sup>1)</sup> [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

<sup>1)</sup> To convert circumferential speeds to rotational speeds → table 7 on page 37

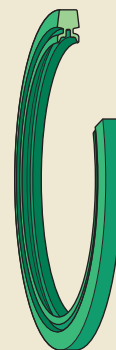
## Sealing solutions

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](http://skf.com/bearings).

### Typical shaft-bearing combinations

FNL flanged housings can accommodate bearings on an adapter sleeve on plain shafts.

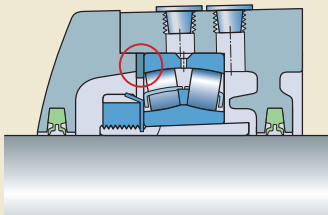
### Locating and non-locating bearing positions

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.

Fig. 9

Spherical roller bearing in the locating position



**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](http://skf.com/bearings).

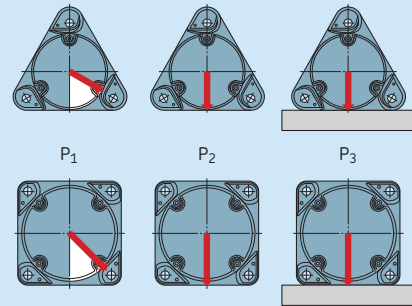
The housing material does not set any additional temperature limits, except for very low temperature applications where impact strength could be a factor.

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

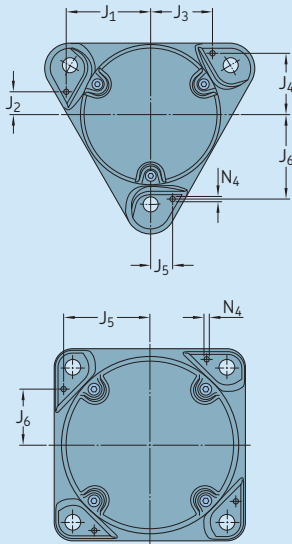


Housing Size	Breaking loads		
	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>
–	kN		
FNL 505	50	40	80
FNL 506	60	45	85
FNL 507	70	50	90
FNL 508	80	55	95
FNL 509	90	60	100
FNL 510	100	65	105
FNL 511	110	80	110
FNL 512	120	95	115
FNL 513	130	110	190
FNL 515	140	125	265
FNL 516	150	140	340
FNL 517	160	155	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 <sub>1</sub>	J <sub>2</sub>	J <sub>3</sub>	J <sub>4</sub>	J <sub>5</sub>	J <sub>6</sub>	N <sub>4</sub> 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](http://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](http://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/cm<sup>3</sup>). 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

Relubrication holes

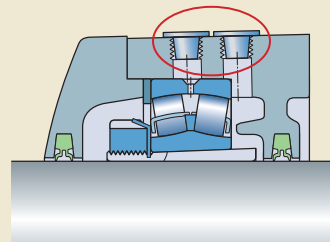


Fig. 11

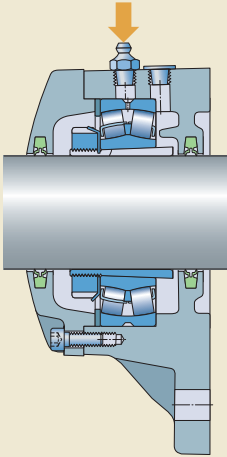
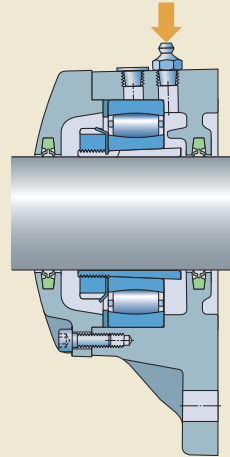
**Relubrication via the outer ring**

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**

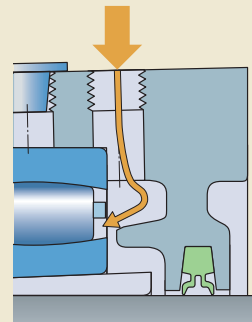
The hole closest to the cover should be used to relubricate spherical roller bearings with a relubrication feature (a lubrication groove and holes in the outer ring) (→ **fig. 11**). When applying grease via the relubrication feature the shaft should be rotating.

**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](http://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 <sup>1)</sup>
–	–	Nm	–	Nm
<b>FNL 505</b>	M 5 × 16	6	M 10	50
<b>FNL 506</b>	M 5 × 16	6	M 10	50
<b>FNL 507</b>	M 5 × 16	6	M 12	80
<b>FNL 508</b>	M 5 × 16	6	M 12	80
<b>FNL 509</b>	M 6 × 20	10	M 12	80
<b>FNL 510</b>	M 6 × 20	10	M 12	80
<b>FNL 511</b>	M 6 × 20	10	M 12	80
<b>FNL 512</b>	M 6 × 20	10	M 12	80
<b>FNL 513</b>	M 6 × 20	10	M 12	80
<b>FNL 515</b>	M 8 × 25	24	M 16	200
<b>FNL 516</b>	M 8 × 25	24	M 16	200
<b>FNL 517</b>	M 8 × 25	24	M 16	200
<b>FNL 518</b>	M 8 × 25	24	M 16	200
<b>FNL 520</b>	M 10 × 30	47	M 20	385
<b>FNL 522</b>	M 10 × 30	47	M 20	385

<sup>1)</sup> 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

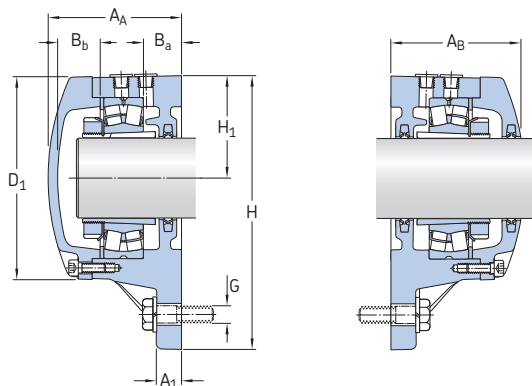
Two FNL flanged housings are required for two 22212 EK spherical roller bearings on H 312 adapter sleeves. One housing will accommodate the non-locating bearing at the end of the shaft. The other housing will accommodate the locating bearing and a through shaft.

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



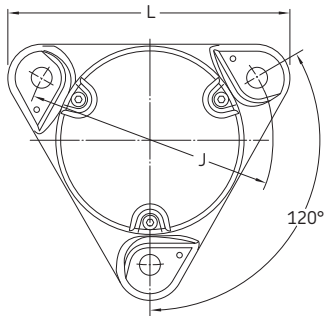
Shaft diameter $d_a$	Housing for shaft end	for through shaft	Appropriate parts			
			Bearing <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring or spacing washer <sup>3)</sup>	Contact seal
mm	–		–			
20	FNL 505 A	FNL 505 B	1205 EKTN9 2205 EKTN9 22205 EK C 2205 KTN9	H 205 H 305 H 305 H 305 E	1 FRB 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

<sup>1)</sup> 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

<sup>2)</sup> The adapter sleeve fits the bearing in the same row only.

<sup>3)</sup> The locating ring or spacing washer fits the bearing in the same row only.

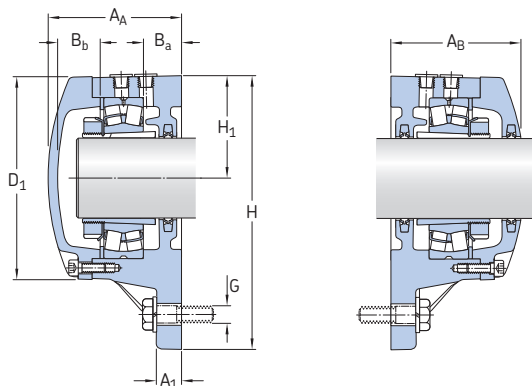


Shaft diameter	Dimensions Housing											Mass Housing
	$d_a$	$A_A$	$A_B$	$A_1$	$B_a$	$B_b$	$D_1$	H	$H_1$	J	L	
mm	mm											kg
20	57	56,5	10	15	15	74	100	38	96	110	10	1,10
25	60,5	60	12	16	15	86	117	44	116	130	10	1,60
30	64,5	64	12	16	17	95	130	48,5	130	145	12	2,00
35	67	66	12	17	18	105	143	54	140	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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring or spacing washer <sup>3)</sup>	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	

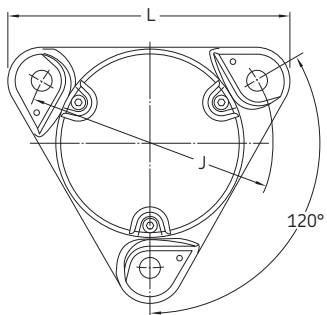
<sup>1)</sup> Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

12(00), 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

<sup>2)</sup> The adapter sleeve fits the bearing in the same row only.

<sup>3)</sup> The locating ring or spacing washer fits the bearing in the same row only.



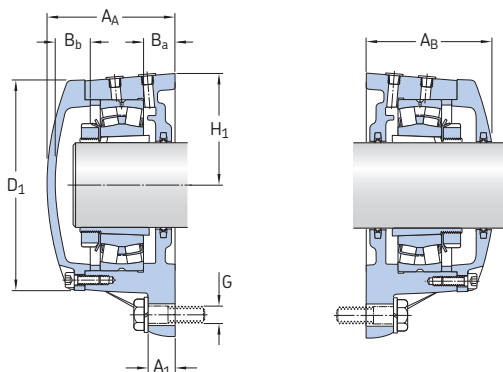


Shaft diameter	Dimensions Housing											Mass Housing
	$d_a$	$A_A$	$A_B$	$A_1$	$B_a$	$B_b$	$D_1$	H	$H_1$	J	L	
mm	mm											kg
45	77	75	15	22	21	118	160	60	160	179	12	3,50
50	84	82	15	24	23	127	172,5	65	170	192	12	4,30
55	85	83	15	23	22	142	189	72	180	210	12	5,20
60	88	86	15	22	24	152	203	78	190	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 <sup>1)</sup>	Adapter sleeve <sup>2)</sup>	Locating ring or spacing washer <sup>3)</sup>	
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 <sup>4)</sup>	TFL 520
					1 FRB 12/180 <sup>4)</sup>	
			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	

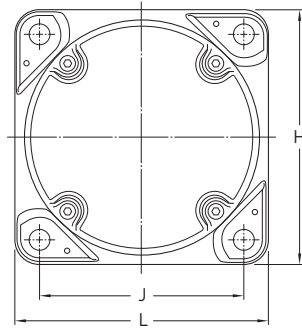
<sup>1)</sup> Only the basic bearing designation is listed. Other bearing variants can also fit the housing.

12(00), 22(00) – self-aligning ball bearing, 222(00) – spherical roller bearing, C... – CARB toroidal roller bearing

<sup>2)</sup> The adapter sleeve fits the bearing in the same row only.

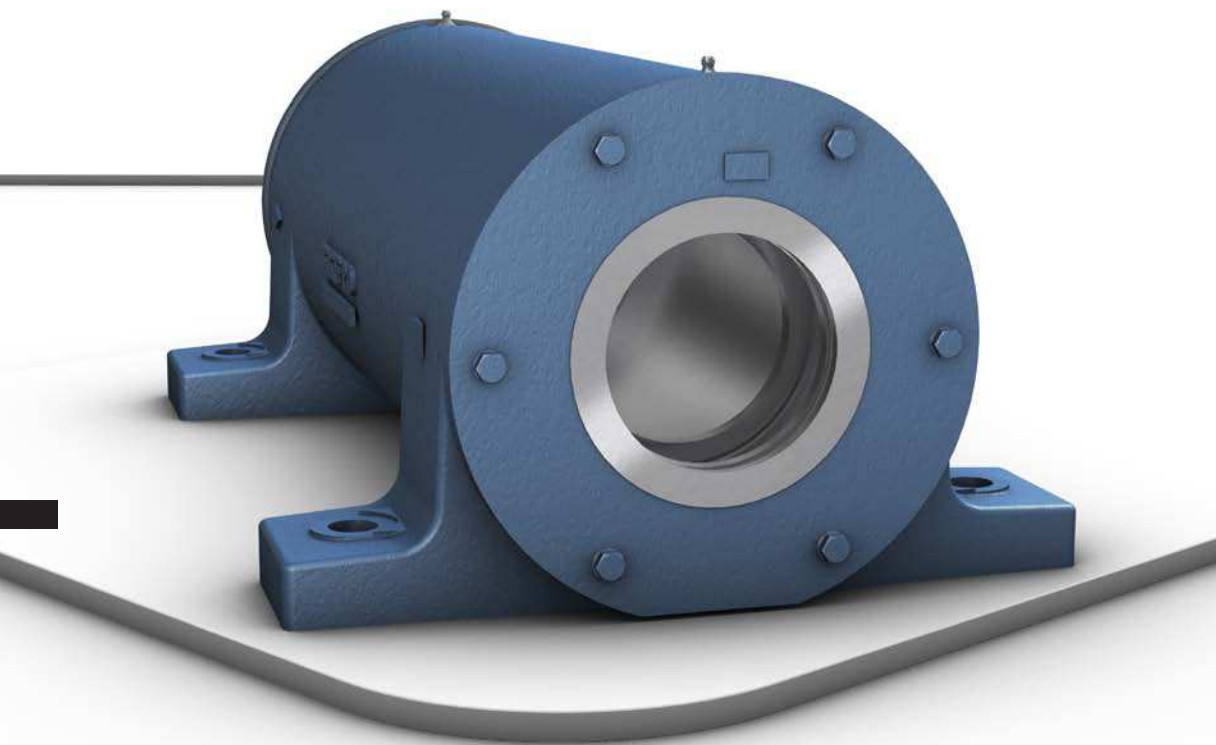
<sup>3)</sup> The locating ring or spacing washer fits the bearing in the same row only.

<sup>4)</sup> 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

<b>PDN</b>	Housing for normal radial and axial loads
<b>PDP</b>	Housing for predominant or alternating axial loads
<b>PDR</b>	Housing for heavy radial loads

### Size identification

<b>2(00)</b>	Housing for bearings in the 62, 72, NU 2, NJ 2, NJ 22, NJ 23, 222 and 223 series
<b>3(00)</b>	Housing for bearings in the 63, 73, NU 3 and NJ 3 series
<b>..(00)</b>	Size code of the bearings, (00) × 5 = bearing bore diameter [mm]

## Designation system for shafts

**VJ-PDPF 218**

### Prefix

<b>VJ-</b>	Shaft for two-bearing housings
------------	--------------------------------

### Series

<b>PDNB</b>	For housings in the PDN series
<b>PDPF</b>	For housings in the PDP series
<b>PDRJ</b>	For housings in the PDR series

### Size identification

<b>...</b>	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
<b>A</b>	Deep groove ball bearing	Two angular contact ball bearings	PDN
<b>B<sup>1)</sup></b>	Deep groove ball bearing	Deep groove ball bearing	PDN
<b>D</b>	Cylindrical roller bearing	Cylindrical roller bearing	PDN
<b>E</b>	Cylindrical roller bearing	Deep groove ball bearing	PDN
<b>F<sup>1)</sup></b>	Cylindrical roller bearing	Two angular contact ball bearings	PDN, PDP
<b>J<sup>1)</sup></b>	Cylindrical roller bearing	Cylindrical roller bearing + Deep groove ball bearing	PDR
<b>L</b>	Spherical roller bearing	Spherical roller bearing	PDN

#### Size identification

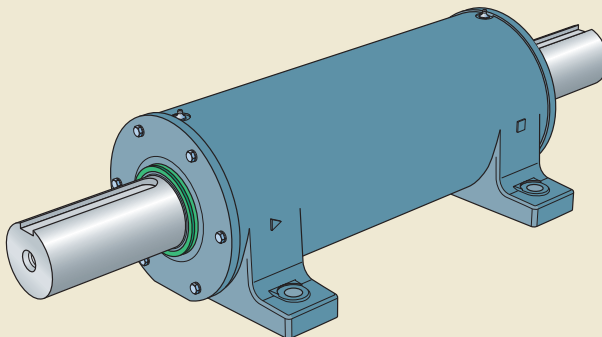
<b>2(00)</b>	Housing for bearings in the 62, 72, NU 2, NJ 2, NJ 22, NJ 23, 222 and 223 series
<b>3(00)</b>	Housing for bearings in the 63, 73, NU 3 and NJ 3 series
<b>..(00)</b>	Size code of the bearings, (00) x 5 = bearing bore diameter [mm]

#### Suffixes

<b>DD</b>	Unit supplied with shaft spacers and a large bore in the covers at both sides
<b>U</b>	Unit supplied without shaft spacers (PDP and PDR units only)

<sup>1)</sup> 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

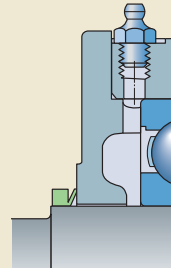


Fig. 3

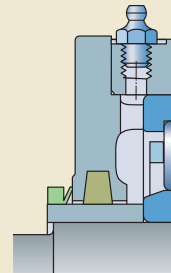
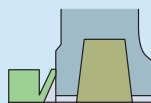


Table 1

## 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 <sup>1)</sup> [m/s]	7 <sup>2)</sup>	4 <sup>3)</sup>
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

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

<sup>2)</sup> If located axially, higher speeds are possible.

<sup>3)</sup> 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](http://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](http://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.

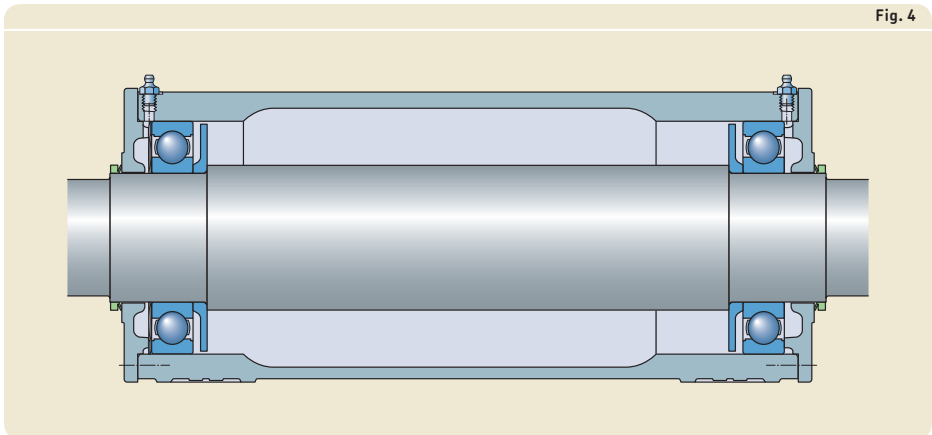


Fig. 5

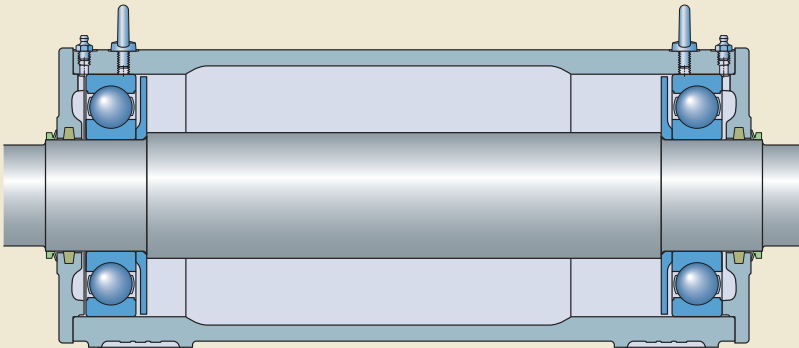


Fig. 6



## 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**)

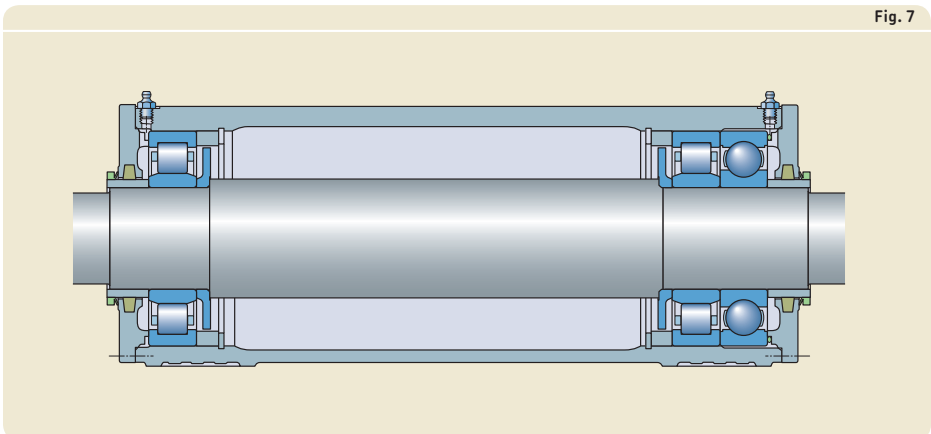
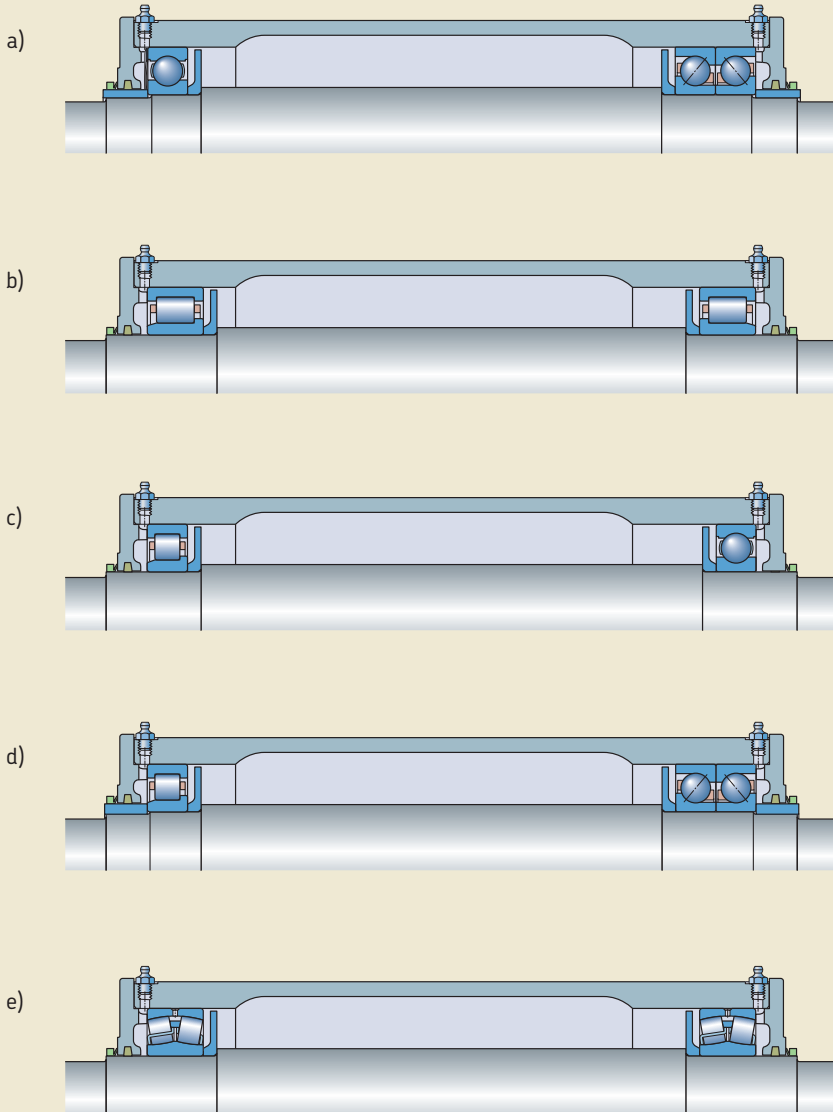


Fig. 7

Fig. 8



## Two-bearing housings PD series

### 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](http://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 <sup>1)</sup> 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

<sup>1)</sup> The recommended tolerance classes are intended for light loaded bearings only ( $P < 0,05 C$ , see also [skf.com/bearings](http://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 <sup>1)</sup>
–				–	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

<sup>1)</sup> 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](http://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).

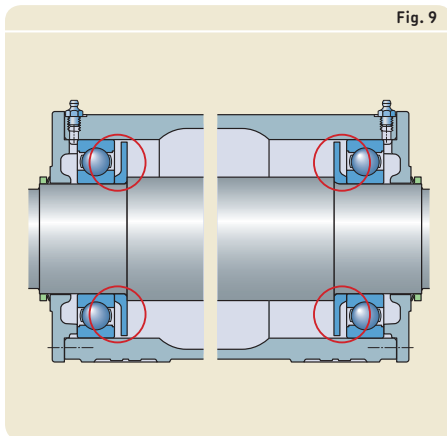


Fig. 9

## 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](http://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.

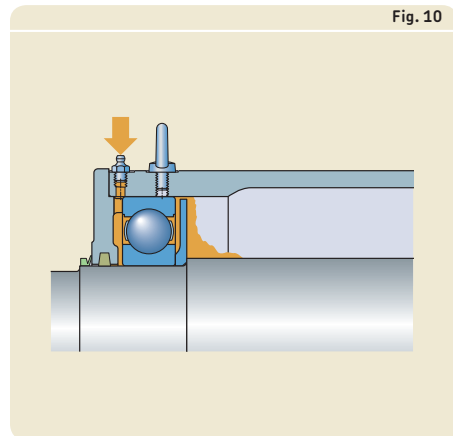


Fig. 10

## 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](http://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**.

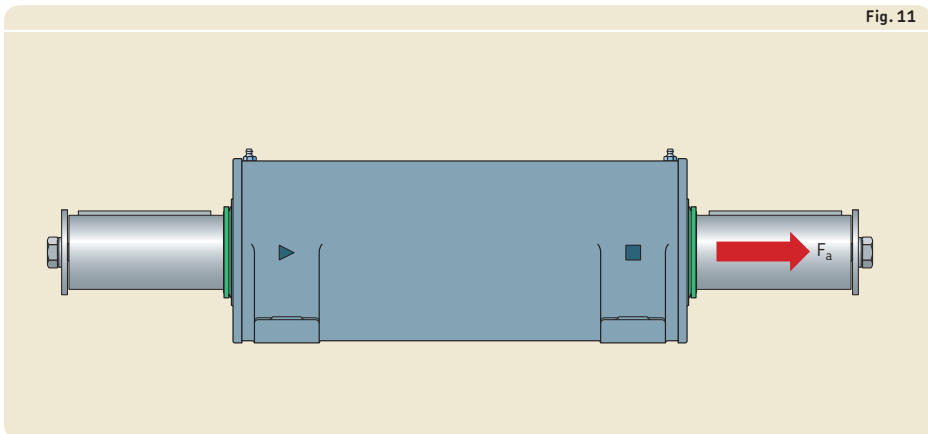


Fig. 11

## 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

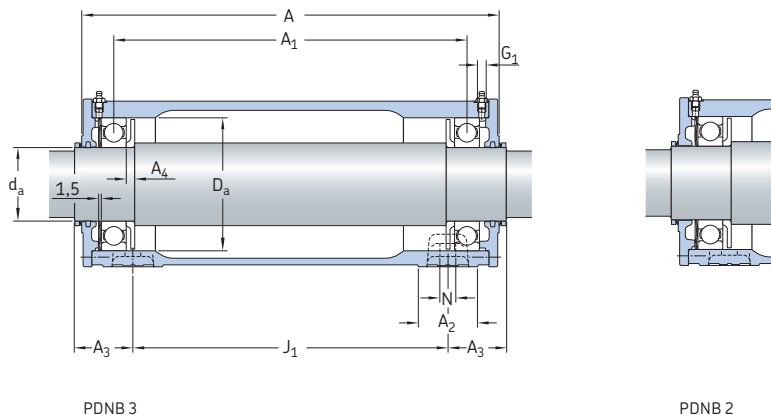
One PD housing is required for two 6309 bearings. The following items should be ordered:

- 1 unit PDNB 309



## 12.1 Two-bearing housings in the PDN series

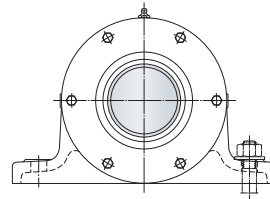
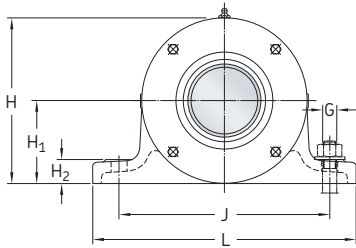
$d_a$  25 – 80 mm



Shaft diameter	Housing Designation <sup>1)</sup>	Appropriate parts		Wave spring washer	Spare parts		Unit Designation <sup>1)</sup>
		Bearings	Shaft		V-ring	Felt strip	
$d_a$							
mm	-	-			-		-
25	<b>PDN 305</b>	2 x 6305	VJ-PDNB 305	WF-62	25 VAR	FS 190	<b>PDNB 305</b>
30	<b>PDN 206</b>	2 x 6206	VJ-PDNB 206	WF-62	30 VAR	-	<b>PDNB 206</b>
	<b>PDN 306</b>	2 x 6306	VJ-PDNB 306	WF-72	30 VAR	FS 190	<b>PDNB 306</b>
35	<b>PDN 207</b>	2 x 6207	VJ-PDNB 207	WF-72	35 VAR	-	<b>PDNB 207</b>
	<b>PDN 307</b>	2 x 6307	VJ-PDNB 307	WF-80	35 VAR	FS 190	<b>PDNB 307</b>
40	<b>PDN 208</b>	2 x 6208	VJ-PDNB 208	WF-80	40 VAR	-	<b>PDNB 208</b>
	<b>PDN 308</b>	2 x 6308	VJ-PDNB 308	WF-90	40 VAR	FS 190	<b>PDNB 308</b>
45	<b>PDN 309</b>	2 x 6309	VJ-PDNB 309	WF-100	45 VAR	FS 190	<b>PDNB 309</b>
50	<b>PDN 210</b>	2 x 6210	VJ-PDNB 210	WF-90	50 VAR	-	<b>PDNB 210</b>
	<b>PDN 310</b>	2 x 6310	VJ-PDNB 310	WF-110	50 VAR	FS 260	<b>PDNB 310</b>
55	<b>PDN 211</b>	2 x 6211	VJ-PDNB 211	WF-100	55 VAR	-	<b>PDNB 211</b>
	<b>PDN 311</b>	2 x 6311	VJ-PDNB 311	WF-120	55 VAR	FS 260	<b>PDNB 311</b>
60	<b>PDN 212</b>	2 x 6212	VJ-PDNB 212	WF-110	60 VAR	-	<b>PDNB 212</b>
	<b>PDN 312</b>	2 x 6312	VJ-PDNB 312	WF-130	60 VAR	FS 260	<b>PDNB 312</b>
65	<b>PDN 313</b>	2 x 6313	VJ-PDNB 313	WF-140	65 VAR	FS 260	<b>PDNB 313</b>
70	<b>PDN 214</b>	2 x 6214	VJ-PDNB 214	WF-125	70 VAR	-	<b>PDNB 214</b>
	<b>PDN 314</b>	2 x 6314	VJ-PDNB 314	WF-150	70 VAR	FS 330	<b>PDNB 314</b>
75	<b>PDN 215</b>	2 x 6215	VJ-PDNB 215	WF-130	75 VAR	-	<b>PDNB 215</b>
	<b>PDN 315</b>	2 x 6315	VJ-PDNB 315	WF-160	75 VAR	FS 330	<b>PDNB 315</b>
80	<b>PDN 216</b>	2 x 6216	VJ-PDNB 216	WF-140	80 VAR	-	<b>PDNB 216</b>
	<b>PDN 316</b>	2 x 6316	VJ-PDNB 316	WF-170	80 VAR	FS 330	<b>PDNB 316</b>

<sup>1)</sup> For details about the components supplied, refer to the section *Ordering information* on page 570.





Sizes up to and including 211 and 309

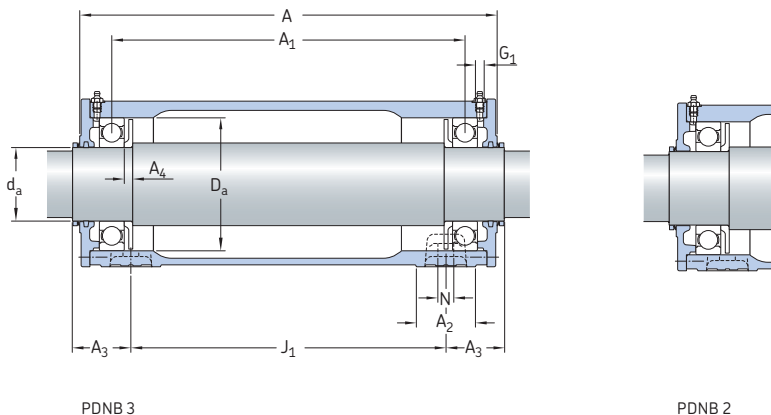
Sizes from 212 and 310

Shaft diameter $d_a$	Dimensions Housing																Mass Housing	Unit	
	A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	G	G	G <sub>1</sub>			
mm	mm																in.	–	kg
25	202	146,5	35	40,5	7	62	95	50	16	120	135	155	12	10	3/8	G <sup>1</sup> / <sub>8</sub>	5,1	7	
30	197	147,5	35	37,5	7	62	95	50	16	120	135	155	12	10	3/8	G <sup>1</sup> / <sub>8</sub>	5,1	7,4	
	226	171,5	40	45	7	72	100	50	18	130	150	160	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	6,5	9,6	
35	227	173,5	40	45	7	72	100	50	18	130	150	160	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	6,5	10	
	260	195,5	45	49,5	8	80	116	60	18	150	175	190	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	9,1	13,5	
40	259	198,5	45	49,5	8	80	116	60	18	150	175	190	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	9,3	14,5	
	315	255,5	52	53	10	90	121	60	20	150	225	190	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	12,5	19,5	
45	360	279,5	52	63	10	100	137	70	22	170	250	210	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	15	24,5	
50	314	258,5	52	52	10	90	121	60	20	150	225	190	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	12,5	22,5	
	377	311,5	60	59	10	110	142	70	25	170	275	210	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	18	29,5	
55	356	283,5	52	60,5	10	100	137	70	22	170	250	210	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	15	27,5	
	422	335,5	60	69	10	120	158	80	25	210	300	260	19	16	5/8	G <sup>1</sup> / <sub>8</sub>	23	39,5	
60	376	316,5	60	58	10	110	142	70	25	170	275	210	15	12	1/2	G <sup>1</sup> / <sub>8</sub>	18	33	
	460	383,5	70	68	10	130	165	80	25	210	340	260	19	16	5/8	G <sup>1</sup> / <sub>8</sub>	32,5	52,5	
65	492	402,5	70	74	11	140	185	95	25	230	360	280	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	32	57	
70	459	390,5	70	69	10	125	165	80	25	210	340	260	19	16	5/8	G <sup>1</sup> / <sub>8</sub>	34,5	60,5	
	512	420,5	70	76	11	150	190	95	25	230	380	290	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	38	68,5	
75	459	389,5	70	69	10	130	165	80	25	210	340	260	19	16	5/8	G <sup>1</sup> / <sub>8</sub>	32	62	
	547	448,5	80	83,5	12	160	200	100	30	260	400	320	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	43,5	80,5	
80	493	409,5	70	76	11	140	185	95	25	230	360	280	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	31	67	
	556	466,5	80	78	12	170	220	112	30	260	420	320	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	49,5	92	

12.1

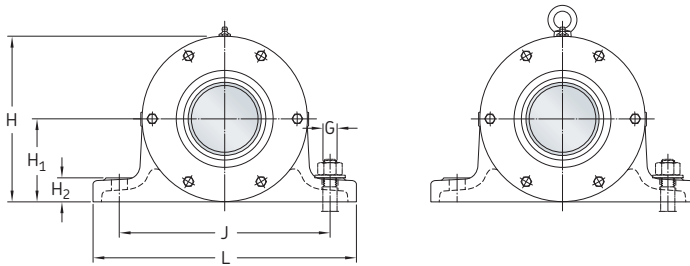
## 12.1 Two-bearing housings in the PDN series

$d_a$  85 – 120 mm



Shaft diameter	Housing Designation <sup>1)</sup>	Appropriate parts		Wave spring washer	Spare parts		Unit Designation <sup>1)</sup>
		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

<sup>1)</sup> For details about the components supplied, refer to the section *Ordering information* on page 570.



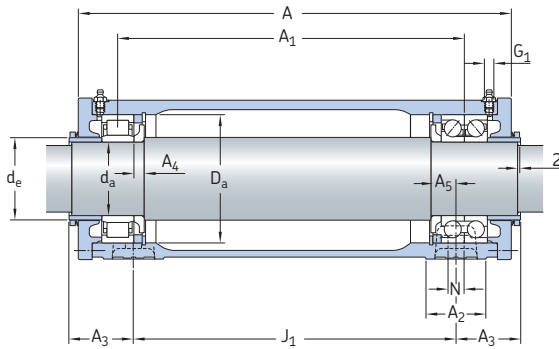
Sizes 224, and 320 and above (with M10 eye bolt)

Shaft diameter $d_a$	Dimensions Housing																Mass Housing	Unit
	A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	G	G	G <sub>1</sub>		
mm	mm															in.	-	kg
<b>85</b>	590	486	80	85	12	180	225	112	30	290	440	350	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	61	114
<b>90</b>	543	455,5	80	81	12	160	200	100	30	260	400	320	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	42,5	96,5
	605	510	85	82,5	11	190	230	112	30	290	460	350	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	71	134
<b>95</b>	648	540	90	94	13	200	253	125	36	320	480	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	82,5	156
<b>100</b>	588	493	80	83,5	12	180	225	112	30	290	440	350	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	60	130
	673	570	95	96,5	11,5	215	264	130	40	320	500	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	92,5	177
<b>110</b>	634	547	90	88	13	200	253	125	36	320	480	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	81	176
	686	580	95	94,5	10	240	296	150	40	380	520	450	28	24	1	G <sup>1</sup> / <sub>4</sub>	115	226
<b>120</b>	672	577	95	97	11,5	215	264	130	40	320	500	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	90	207
	707	600	100	96	11,5	260	322	160	40	410	538	500	35	30	1 1/4	G <sup>1</sup> / <sub>4</sub>	135	276

12.1

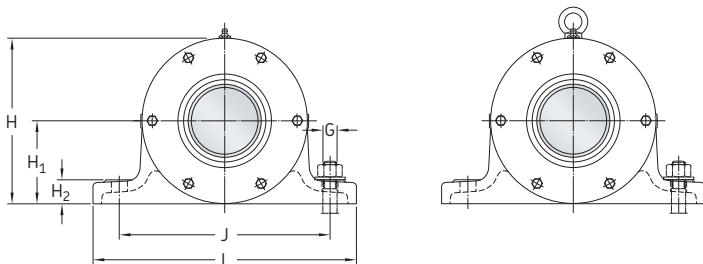
## 12.2 Two-bearing housings in the PDP series

$d_a$  70 – 120 mm



Shaft diameter $d_a$	Housing Designation <sup>1)</sup>	Appropriate parts		Shaft	V-ring	Unit Designation <sup>1)</sup>	Dimensions Housing	
		Bearings in the locating position	Bearing in the non-locating position				A	A <sub>1</sub>
mm	-	-	-	-	-	-	mm	
70	<b>PDP 214</b>	2 x 7214 BECBP	NU 2214 ECP	VJ-PDPF 2214	80 VAR	<b>PDPF 2214</b>	459	376,5
80	<b>PDP 216</b>	2 x 7216 BECBP	NU 2216 ECP	VJ-PDPF 2216	90 VAR	<b>PDPF 2216</b>	493	394,5
90	<b>PDP 218</b>	2 x 7218 BECBP	NU 2218 ECP	VJ-PDPF 2218	100 VAR	<b>PDPF 2218</b>	543	437
100	<b>PDP 220</b>	2 x 7220 BECBP	NU 2220 ECP	VJ-PDPF 2220	110 VAR	<b>PDPF 2220</b>	585	470
110	<b>PDP 222</b>	2 x 7222 BECBP	NU 2222 ECP	VJ-PDPF 2222	120 VAR	<b>PDPF 2222</b>	634	520,5
120	<b>PDP 224</b>	2 x 7224 BCBM	NU 2224 ECP	VJ-PDPF 2224	130 VAR	<b>PDPF 2224</b>	672	548

<sup>1)</sup> For details about the components supplied, refer to the section *Ordering information* on page 570.

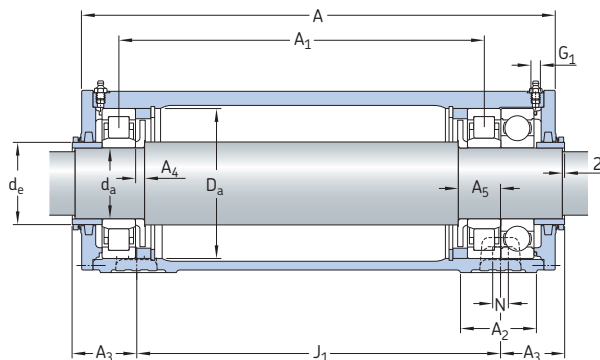


Size 224 (with M10 eye bolt)

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 <sup>1</sup> / <sub>8</sub>	35	63	
80	70	76	11	24,5	90	140	185	95	25	230	360	280	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	32	70,5	
90	80	81	12	28,5	100	160	200	100	30	260	400	320	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	43,5	100	
100	80	83,5	12	36,5	112	180	225	112	30	290	440	350	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	61,5	137	
110	90	88	13	36,5	122	200	253	125	36	320	480	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	82,5	185	
120	95	97	11,5	33	132	215	264	130	40	320	500	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	92	219	

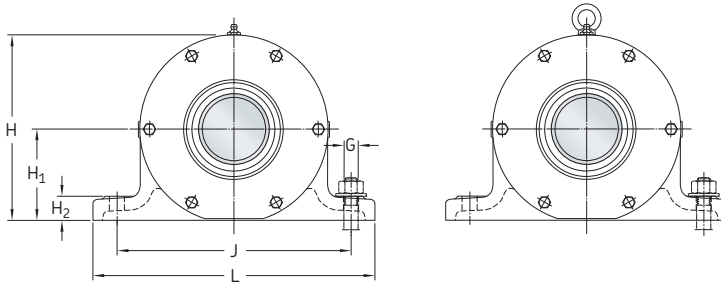
## 12.3 Two-bearing housings in the PDR series

$d_a$  75 – 120 mm



Shaft diameter $d_a$	Housing Designation <sup>1)</sup>	Appropriate parts		Shaft	Spare parts		Unit Designation <sup>1)</sup>
		Bearings in the locating position	Bearing in the non-locating position		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

<sup>1)</sup> For details about the components supplied, refer to the section *Ordering information* on page 570.



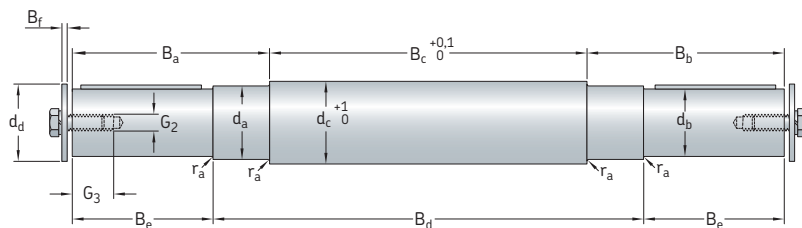
Size 320 and above (with M10 eye bolt)

Shaft diameter $d_a$	Dimensions Housing																Mass Housing Unit				
	A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	d <sub>e</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L	N	G	G	G <sub>1</sub>	in.	-	kg
75	531	414	80	75,5	12	42	90	160	200	100	30	260	400	320	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	45	-	85,5
80	552	430	80	76	12	46	95	170	220	112	30	260	420	320	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	51	-	98,5
85	585	446	80	82,5	12	50	100	180	225	112	30	290	440	350	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	62,5	-	120
90	603	468	85	81,5	11	50	105	190	230	112	30	290	460	350	19	16	5/8	G <sup>1</sup> / <sub>4</sub>	72	-	142
95	632	496	90	87,5	13	50	110	200	253	125	36	320	480	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	84	-	164
100	671	524	95	97	11,5	46,5	120	215	264	130	40	320	500	400	24	20	3/4	G <sup>1</sup> / <sub>4</sub>	94	-	187
110	684	531	95	93,5	10	54,5	130	240	296	150	40	380	520	450	28	24	1	G <sup>1</sup> / <sub>4</sub>	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 <sup>1</sup> / <sub>4</sub>	137	-	289

12.3

## 12.4 Shafts for two-bearing housings in the PDN 2 series

$d_a$  30 – 120 mm



### Dimensions Shaft

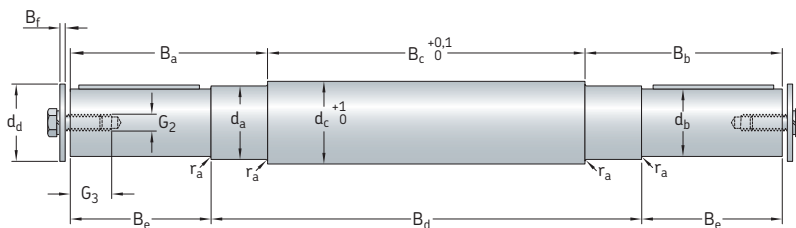
$d_a$	$d_b$	$d_c$	$d_d$	$B_a$	$B_b$	$B_c$	$B_d$	$B_e$	$B_f$	$r_a$	$G_2$	$G_3$
mm												
30	24	39	32	97	95,5	117,5	210	50	4	0,8	10	27
35	28	44	36	109,5	108	142,5	240	60	4	1,2	10	27
40	32	49	40	135,5	134	164,5	274	80	5	1,2	12	30
50	42	59	50	166	164,5	218,5	329	110	6	1,6	16	36
55	48	64	63	175	173,5	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	<b>VJ-PDNB 206</b>	8x7x40	1,8
35	PDN 207	2 x 6207	<b>VJ-PDNB 207</b>	8x7x40	2,85
40	PDN 208	2 x 6208	<b>VJ-PDNB 208</b>	10x8x63	4,25
50	PDN 210	2 x 6210	<b>VJ-PDNB 210</b>	12x8x80	7,65
55	PDN 211	2 x 6211	<b>VJ-PDNB 211</b>	14x9x80	10,5
60	PDN 212	2 x 6212	<b>VJ-PDNB 212</b>	14x9x80	13
70	PDN 214	2 x 6214	<b>VJ-PDNB 214</b>	18x11x100	23
75	PDN 215	2 x 6215	<b>VJ-PDNB 215</b>	18x11x100	26,5
80	PDN 216	2 x 6216	<b>VJ-PDNB 216</b>	20x12x100	31,5
90	PDN 218	2 x 6218	<b>VJ-PDNB 218</b>	22x14x140	47,5
100	PDN 220	2 x 6220	<b>VJ-PDNB 220</b>	25x14x140	61
110	PDN 222	2 x 6222	<b>VJ-PDNB 222</b>	28x16x180	83
120	PDN 224	2 x 6224	<b>VJ-PDNB 224</b>	28x16x180	102

## 12.5 Shafts for two-bearing housings in the PDN 3 series

$d_a$  25 – 120 mm



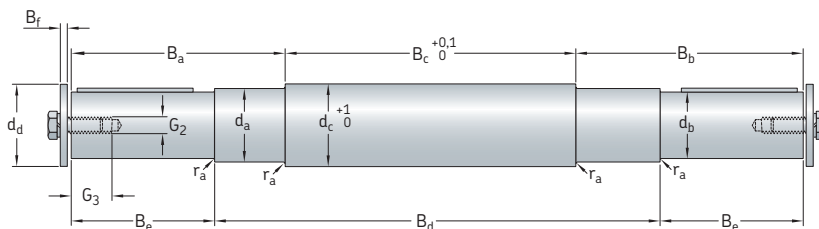
### Dimensions Shaft

$d_a$	$d_b$	$d_c$	$d_d$	$B_a$	$B_b$	$B_c$	$B_d$	$B_e$	$B_f$	$r_a$	$G_2$	$G_3$
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	<b>VJ-PDNB 305</b>	6x6x32	1,4
30	PDN 306	2 x 6306	<b>VJ-PDNB 306</b>	8x7x40	2,2
35	PDN 307	2 x 6307	<b>VJ-PDNB 307</b>	8x7x40	3,35
40	PDN 308	2 x 6308	<b>VJ-PDNB 308</b>	10x8x63	5,25
45	PDN 309	2 x 6309	<b>VJ-PDNB 309</b>	10x8x63	7,3
50	PDN 310	2 x 6310	<b>VJ-PDNB 310</b>	12x8x80	9,85
55	PDN 311	2 x 6311	<b>VJ-PDNB 311</b>	14x9x80	13
60	PDN 312	2 x 6312	<b>VJ-PDNB 312</b>	14x9x80	15,5
65	PDN 313	2 x 6313	<b>VJ-PDNB 313</b>	16x10x80	19,5
70	PDN 314	2 x 6314	<b>VJ-PDNB 314</b>	18x11x100	25
75	PDN 315	2 x 6315	<b>VJ-PDNB 315</b>	18x11x100	30
80	PDN 316	2 x 6316	<b>VJ-PDNB 316</b>	20x12x100	34,5
85	PDN 317	2 x 6317	<b>VJ-PDNB 317</b>	20x12x100	43
90	PDN 318	2 x 6318	<b>VJ-PDNB 318</b>	22x14x140	51
95	PDN 319	2 x 6319	<b>VJ-PDNB 319</b>	22x14x140	59,5
100	PDN 320	2 x 6320	<b>VJ-PDNB 320</b>	25x14x140	67,5
110	PDN 322	2 x 6322	<b>VJ-PDNB 322</b>	28x16x180	87,5
120	PDN 324	2 x 6324	<b>VJ-PDNB 324</b>	28x16x180	106

## 12.6 Shafts for two-bearing housings in the PDP series

$d_a$  70 – 120 mm



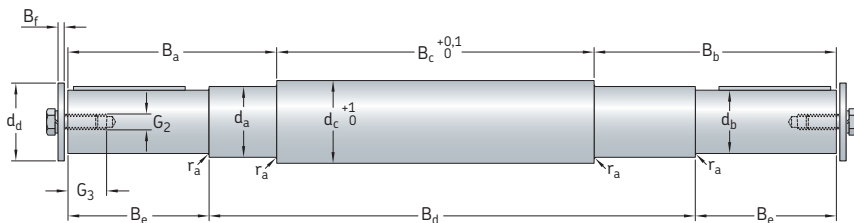
### Dimensions Shaft

$d_a$	$d_b$	$d_c$	$d_d$	$B_a$	$B_b$	$B_c$	$B_d$	$B_e$	$B_f$	$r_a$	$G_2$	$G_3$
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
<b>70</b>	PDP 214	2 x 7214 BECBP	NU 2214 ECP	<b>VJ-PDPF 2214</b>	18x11x100	23
<b>80</b>	PDP 216	2 x 7216 BECBP	NU 2216 ECP	<b>VJ-PDPF 2216</b>	20x12x100	32,5
<b>90</b>	PDP 218	2 x 7218 BECBP	NU 2218 ECP	<b>VJ-PDPF 2218</b>	22x14x140	46,5
<b>100</b>	PDP 220	2 x 7220 BECBP	NU 2220 ECP	<b>VJ-PDPF 2220</b>	25x14x140	60,5
<b>110</b>	PDP 222	2 x 7222 BECBP	NU 2222 ECP	<b>VJ-PDPF 2222</b>	28x16x180	82
<b>120</b>	PDP 224	2 x 7224 BCBM	NU 2224 ECP	<b>VJ-PDPF 2224</b>	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	<b>VJ-PDRJ 315</b>	18x11x100	29
80	PDR 316	NU 316 ECP + 6316/C3	NU 316 ECP	<b>VJ-PDRJ 316</b>	20x12x100	34
85	PDR 317	NU 317 ECP + 6317/C3	NU 317 ECP	<b>VJ-PDRJ 317</b>	20x12x100	42
90	PDR 318	NU 318 ECP + 6318/C3	NU 318 ECP	<b>VJ-PDRJ 318</b>	22x14x140	50,5
95	PDR 319	NU 319 ECP + 6319/C3	NU 319 ECP	<b>VJ-PDRJ 319</b>	22x14x140	58
100	PDR 320	NU 320 ECP + 6320/C3	NU 320 ECP	<b>VJ-PDRJ 320</b>	25x14x140	67
110	PDR 322	NU 322 ECP + 6322/C3	NU 322 ECP	<b>VJ-PDRJ 322</b>	28x16x180	86,5
120	PDR 324	NU 324 ECP + 6324/C3	NU 324 ECP	<b>VJ-PDRJ 324</b>	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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# Designations

## Designation system for SKF housings for paper machines<sup>1)</sup>

**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

### Suffixes<sup>2)</sup>

– 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)

<sup>1)</sup> SNL ... TURP housings are included in the Designation system on **page 191**.

<sup>2)</sup> 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

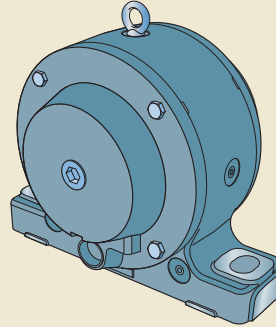


Fig. 2

SBPN drying cylinder housings

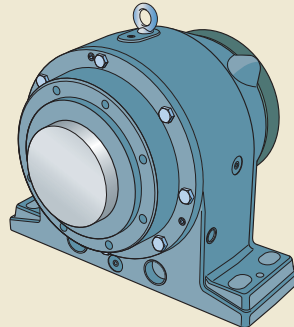


Fig. 3

SDM yankee cylinder housings

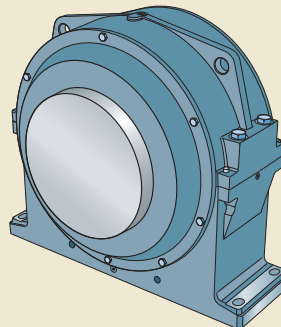
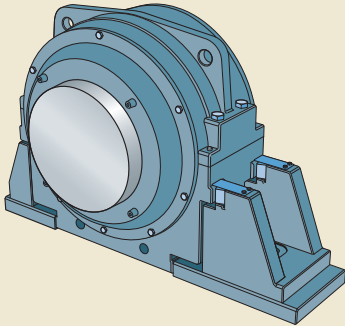


Fig. 4

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.

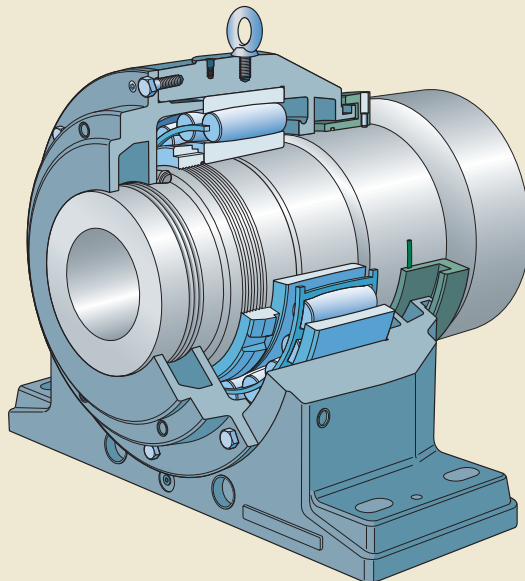
This housing variant is identified by the designation suffix B, followed by a number (from 1 to 99) indicating the cover design, e.g. SDM 30/670 B2RA.

### 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.

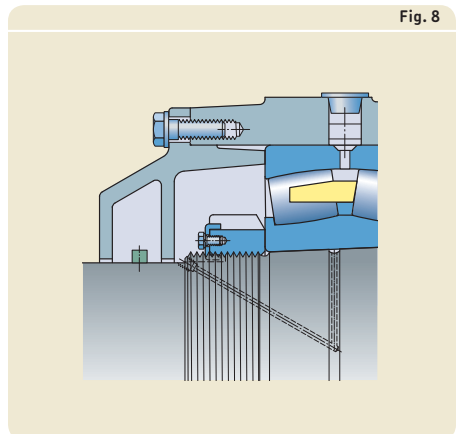
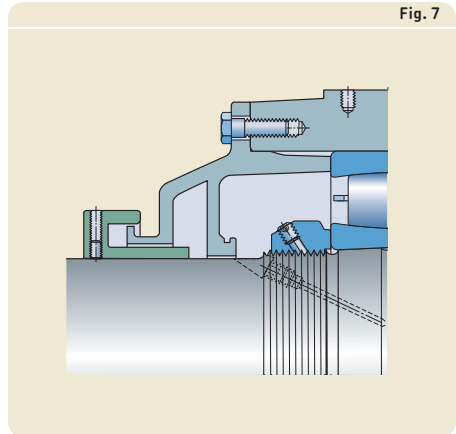
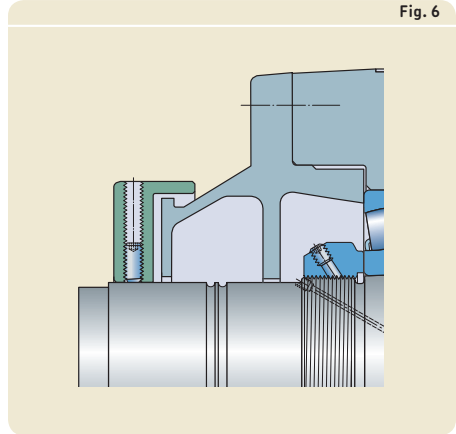
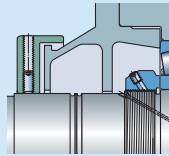


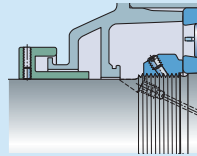


Table 1

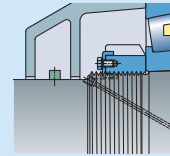
Seals for SKF housings for paper machines



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 $R_a$ [ $\mu$ 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](http://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

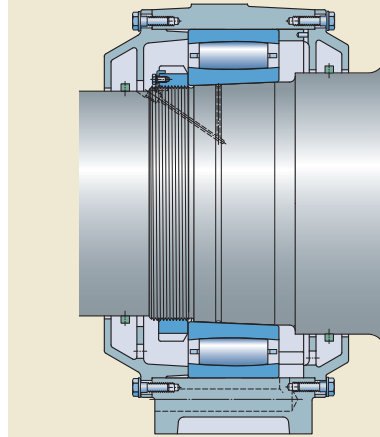
Housings for paper machines are available for both the locating and non-locating bearing positions:

- 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

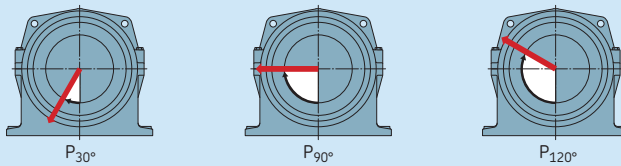
Housing series	Locating bearing position (Drive side)	Non-locating bearing position (Front side)		
	spherical roller bearing with located outer ring	CARB bearing with located outer ring	spherical roller bearing with non-located outer ring	spherical roller bearing with located outer ring in housing on rockers
<b>Felt roll housings</b>				
- SBFN	✓	✓	- <sup>1)</sup>	-
- SBF	✓	-	✓ <sup>1)</sup>	-
<b>Drying cylinder housings</b>				
- SBPN	✓	✓	- <sup>1)</sup>	-
- SBP	✓	✓	✓ <sup>1)</sup>	✓ <sup>1)</sup>
<b>Yankee cylinder housings</b>				
- SDM	✓	✓	✓ <sup>1)</sup>	✓ <sup>1)2)</sup>

<sup>1)</sup> 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).

<sup>2)</sup> Also available additionally with two support rockers.

Table 3

Permissible loads for SDM housings



Housing Size	Permissible loads		
	P <sub>30°</sub>	P <sub>90°</sub>	P <sub>120°</sub>
-	kN		
<b>3068</b>	490	325	275
<b>3168</b>	590	295	245
<b>3076</b>	560	310	260
<b>3084</b>	650	305	255
<b>3184</b>	- <sup>1)</sup>	- <sup>1)</sup>	- <sup>1)</sup>
<b>3092</b>	770	320	270
<b>30/530</b>	900	500	425
<b>31/530</b>	1 000	525	450
<b>30/600</b>	1 000	525	450
<b>31/600</b>	- <sup>1)</sup>	- <sup>1)</sup>	- <sup>1)</sup>
<b>30/670</b>	1 090	475	400

<sup>1)</sup> 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**).

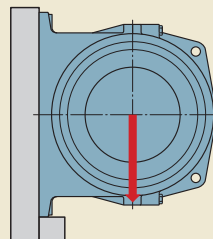
### Operating speed

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
<b>3068</b>	M 24 or 1 UNC	350	M 24 or 1 UNC	665
<b>3168</b>	M 24 or 1 UNC	350	M 24 or 1 UNC	665
<b>3076</b>	M 24 or 1 UNC	350	M 24 or 1 UNC	665
<b>3084</b>	M 30 or 1.1/4 UNC	400	M 24 or 1 UNC	665
<b>3184</b>	M 30 or 1.1/4 UNC	400	M 24 or 1 UNC	665
<b>3092</b>	M 30 or 1.1/4 UNC	400	M 24 or 1 UNC	665
<b>30/530</b>	M 30 or 1.1/4 UNC	400	M 30 or 1.1/4 UNC	1 310
<b>31/530</b>	M 30 or 1.1/4 UNC	400	M 30 or 1.1/4 UNC	1 310
<b>30/600</b>	M 30 or 1.1/4 UNC	400	M 30 or 1.1/4 UNC	1 310
<b>31/630</b>	M 36 or 1.1/2 UNC	600	M 30 or 1.1/4 UNC	1 310
<b>30/670</b>	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](http://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

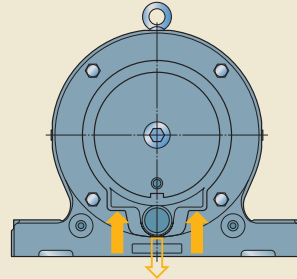


Fig. 12

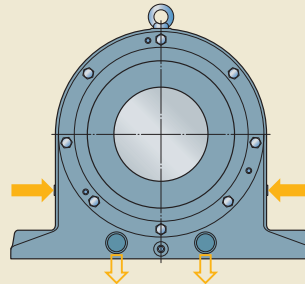
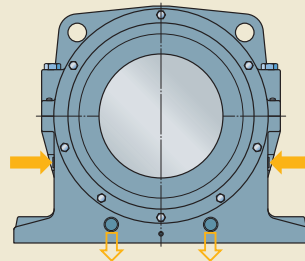


Fig. 13



## 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

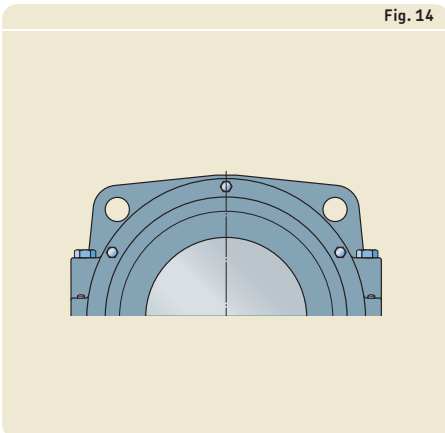
### Eye bolts and lifting holes

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

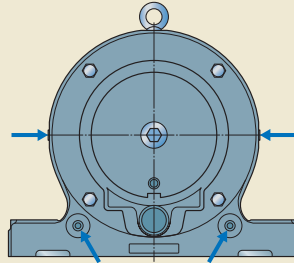


Fig. 16

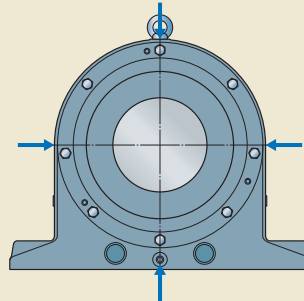
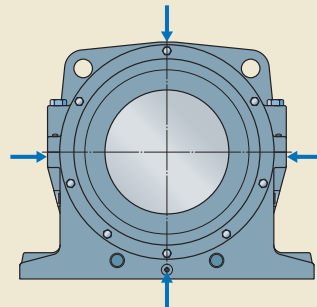


Fig. 17





## 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):

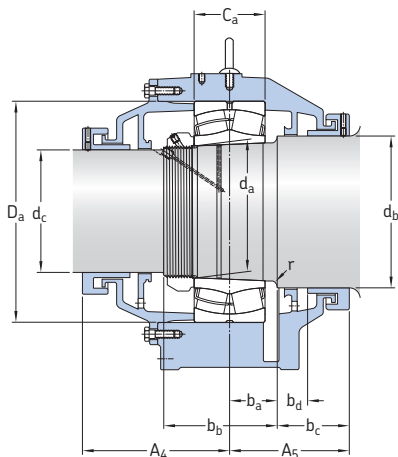
- 1 SBPN 3144 BF/P..
- 1 SBPN 3144 ARA/P..

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):

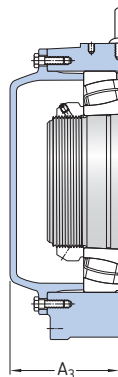
- 1 SDM 30/670 F
- 1 SDM 30/670 RA

## 13.1 SBPN drying cylinder housings

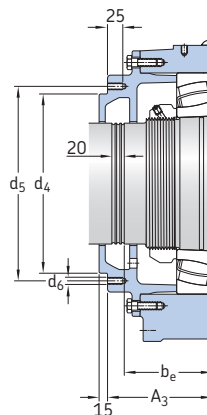
$d_a$  180 – 320 mm



Housing for through shaft  
(designation suffix B)



Housing for shaft end  
(designation suffix A)

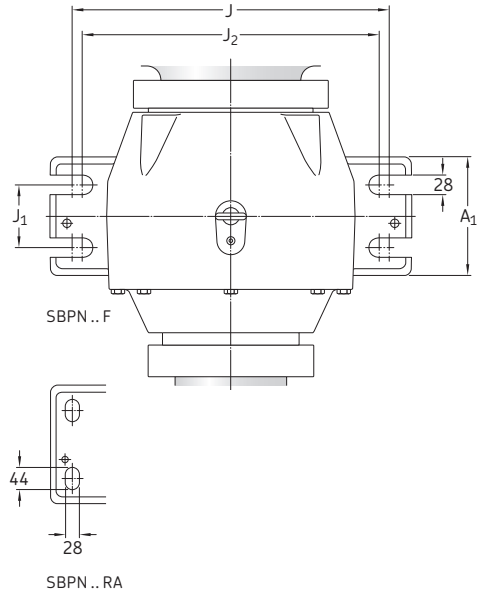
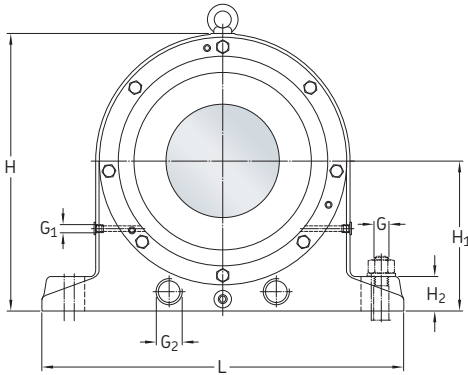


Housing for steam joint  
connection  
(designation suffix B42)

Shaft diameter $d_a$	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Lock nut <sup>2)</sup>	Dimensions													
				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	

<sup>1)</sup> 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

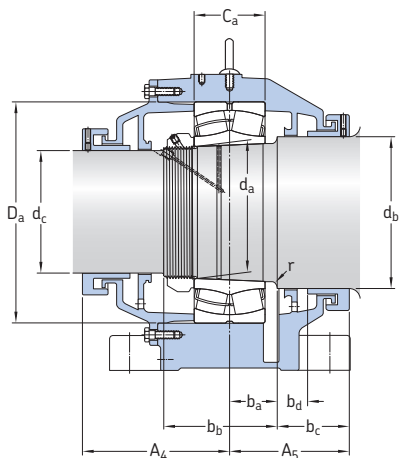
<sup>2)</sup> As an alternative to KMT lock nuts, it is also possible to use KML or M lock nuts with a locking device.



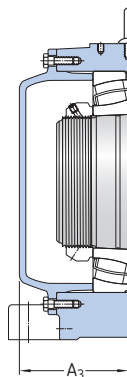
Shaft diameter $d_a$	Dimensions Housing			Shaft								Mass Housing					
	G	$G_1$	$G_2$	$b_a$	$b_b$	$b_c$ min.	$b_d$	$b_e$	$d_b$	$d_c$	$d_d$	$d_4$	$d_5$	$d_6$	r	A	B
mm	-			mm								-				kg	
180	M 24	G 1/2	G 1.1/4	65	150	130	55	128	200	160	M 180x3	225	250	M 12	5	118	115
200	M 24	G 1/2	G 1.1/4	75	170	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

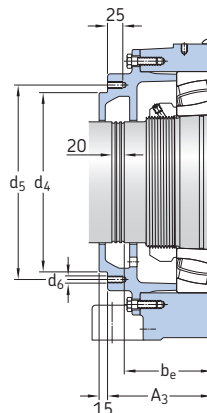
$d_a$  180 – 320 mm



Housing for through shaft  
(designation suffix B)



Housing for shaft end  
(designation suffix A)

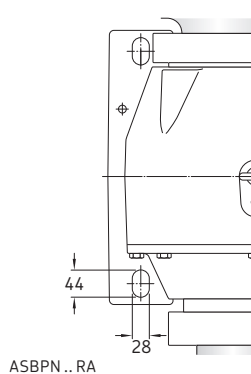
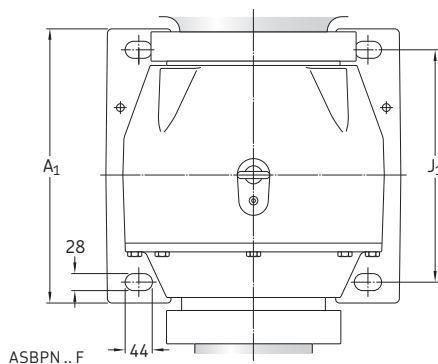
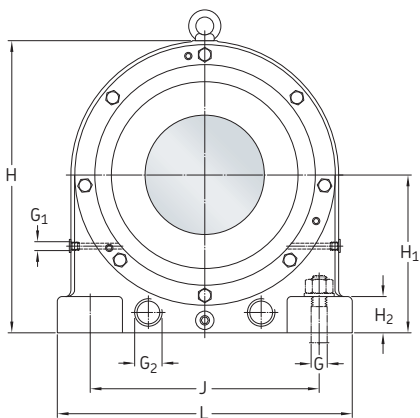


Housing for steam joint  
connection  
(designation suffix B42)

Shaft diameter $d_a$	Housing Designation	Appropriate parts		Dimensions Housing												
		Bearing <sup>1)</sup>	Lock nut <sup>2)</sup>	$A_1$	$A_3$	$A_4$	$A_5$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	L		
mm	–	–	–	mm												
180	<b>ASBPN 3136 F</b> <b>ASBPN 3136 RA</b>	23136 CCK/W33 C 3136 K	KMT 36	350	155	230	195	96	300	400	220	50	320	400		
220	<b>ASBPN 3144 F</b> <b>ASBPN 3144 RA</b>	23144 CCK/W33 C 3144 K	KMT 44	410	175	255	200	120	370	490	265	60	380	490		
260	<b>ASBPN 3152 F</b> <b>ASBPN 3152 RA</b>	23152 CCK/W33 C 3152 K	KMT 52	445	200	280	225	144	440	570	310	75	470	580		
300	<b>ASBPN 3160 F</b> <b>ASBPN 3160 RA</b>	23160 CCK/W33 C 3160 K	KMT 60	480	215	290	235	160	500	630	335	85	560	670		
320	<b>ASBPN 3164 F</b> <b>ASBPN 3164 RA</b>	23164 CCK/W33 C 3164 KM	KMT 64	500	225	300	255	176	540	680	360	85	580	710		

<sup>1)</sup> 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> As an alternative to KMT lock nuts, it is also possible to use KML or M lock nuts with a locking device.

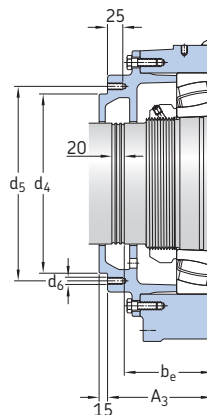
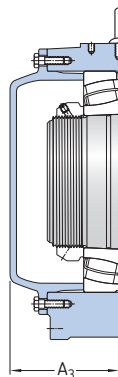
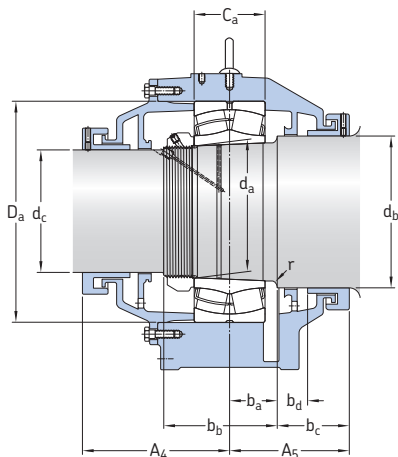


Shaft diameter $d_a$	Dimensions Housing			Shaft											Mass Housing		
	G	G <sub>1</sub>	G <sub>2</sub>	b <sub>a</sub>	b <sub>b</sub>	b <sub>c</sub> min.	b <sub>d</sub>	b <sub>e</sub>	d <sub>b</sub>	d <sub>c</sub>	d <sub>d</sub>	d <sub>4</sub>	d <sub>5</sub>	d <sub>6</sub>	r	kg	
mm	-			mm											-	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	<sup>1)</sup>	
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	<sup>1)</sup>	
300	M 24	G 1/2	G 1.1/2	105	250	130	55	188	340	280	Tr 300x4	435	460	M 12	8	<sup>1)</sup>	
320	M 24	G 1/2	G 1.1/2	115	270	140	65	198	360	300	Tr 320x5	455	480	M 12	8	<sup>1)</sup>	

<sup>1)</sup> 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.



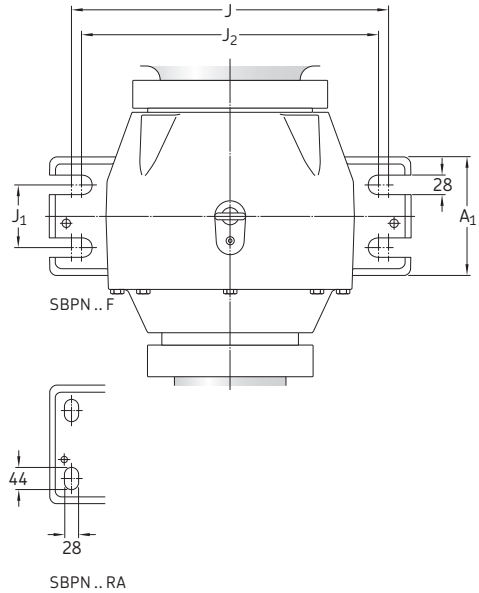
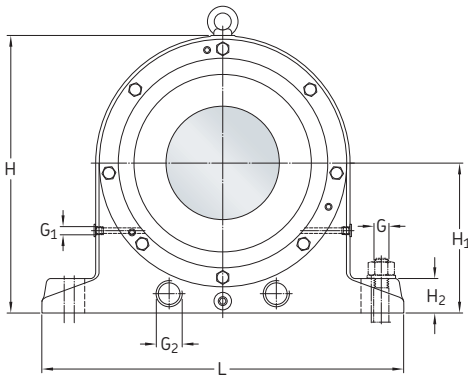
Housing for through shaft  
(designation suffix B)

Housing for shaft end  
(designation suffix A)

Housing for steam joint  
connection  
(designation suffix B42)

Shaft diameter $d_a$	Housing Designation	Appropriate parts			Locking clip	Dimensions												
		Bearing <sup>1)</sup>	Lock nut			Housing												
						A <sub>1</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	J <sub>2</sub>	L
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

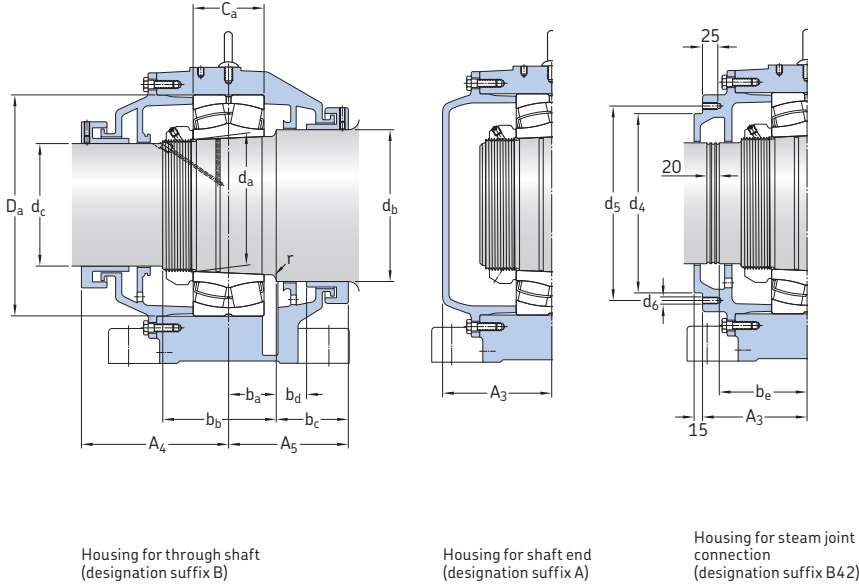
<sup>1)</sup> 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.



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	-	mm	kg
<b>180</b> 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	
<b>200</b> 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	
<b>220</b> 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	
<b>240</b> 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	
<b>260</b> 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	
<b>300</b> 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	
<b>320</b> 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	

### 13.4 SBPN drying cylinder housings, with inch connection threads – short, wide base

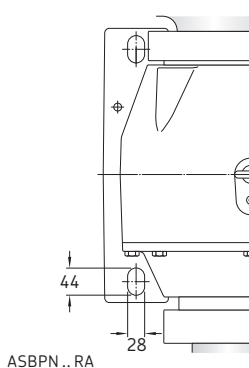
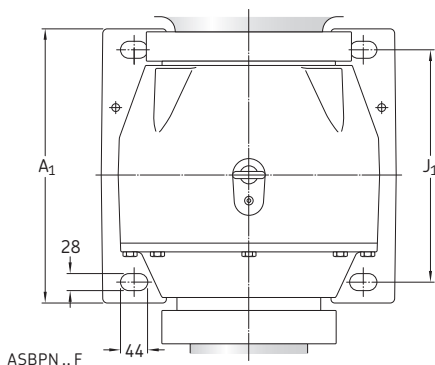
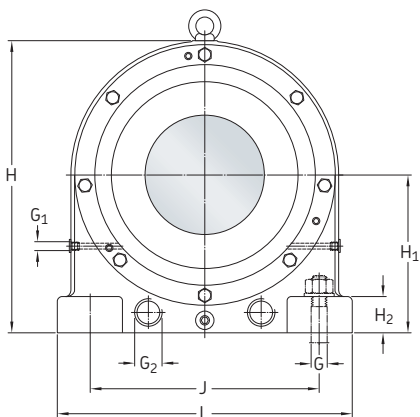
d 180 – 320 mm  
7.087 – 12.598 in.



Shaft diameter $d_a$	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	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	<b>ASBPN 3136 FN9</b> <b>ASBPN 3136 RAN9</b>	23136 CCK/W33 N 036 C 3136 K	N 036	W 036	350	155	230	195	96	300	400	220	50	320	280	400	
220 8.661	<b>ASBPN 3144 FN9</b> <b>ASBPN 3144 RAN9</b>	23144 CCK/W33 N 044 C 3144 K	N 044	W 044	410	175	255	200	120	370	490	265	60	380	340	490	
260 10.236	<b>ASBPN 3152 FN9</b> <b>ASBPN 3152 RAN9</b>	23152 CCK/W33 N 052 C 3152 K	N 052	PL 52	445	200	280	225	144	440	570	310	75	470	375	580	
300 11.811	<b>ASBPN 3160 FN9</b> <b>ASBPN 3160 RAN9</b>	23160 CCK/W33 N 060 C 3160 K	N 060	PL 60	480	215	290	235	160	500	630	335	85	560	410	670	
320 12.598	<b>ASBPN 3164 FN9</b> <b>ASBPN 3164 RAN9</b>	23164 CCK/W33 N 064 C 3164 KM	N 064	PL 64	500	225	300	255	176	540	680	360	85	580	430	710	

<sup>1)</sup> 231(00) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

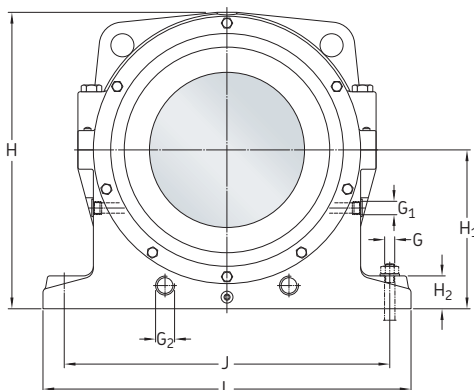
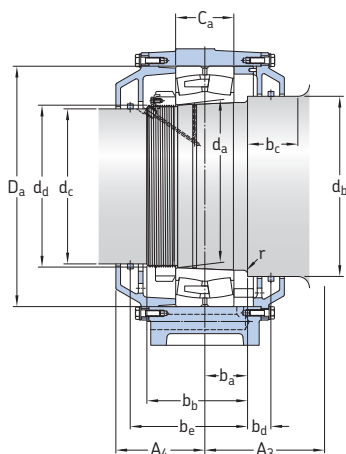




Shaft diameter $d_a$	Dimensions Housing			Shaft											Threads/ inch	Mass Housing			
	G	$G_1$	$G_2$	$b_a$	$b_b$	$b_c$ min.	$b_d$	$b_e$	$d_b$	$d_c$	$d_d$	$d_4$	$d_5$	$d_6$		r	kg		
mm/in.	-			mm											in.	mm			kg
180 7.087	1 UNC	NPTF 1/2	NPTF 1.1/4	65	150	130	55	128	200	160	7.063	8	225	250	M12	5	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)		

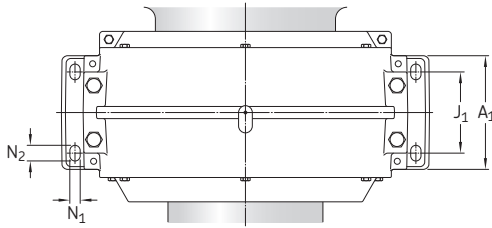
1) Contact SKF for missing values.

## 13.5 SDM Yankee cylinder housings d 340 – 600 mm

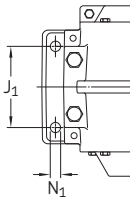


Shaft diam- eter $d_a$	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Lock nut	Locking clip	Dimensions Housing										
					$A_1$	$A_3$	$A_4$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L
mm	–	–			mm										
340	<b>SDM 3068 F</b> <b>SDM 3068 RA</b>	23068 CCK/W33 C 3068 K	HM 3068	MS 3068-64	260	195	210	133	520	650	345	75	760	170	860
	<b>SDM 3168 F</b> <b>SDM 3168 RA</b>	23168 CCK/W33 C 3168 KM	HM 3068	MS 3068-64	320	210	255	190	580	740	400	80	800	180	900
380	<b>SDM 3076 F</b> <b>SDM 3076 RA</b>	23076 CCK/W33 C 3076 K	HM 3076	MS 3080-76	260	200	220	135	560	710	380	80	790	170	890
420	<b>SDM 3084 F</b> <b>SDM 3084 RA</b>	23084 CAK/W33 C 3084 KM	HM 3084	MS 3084	280	205	230	150	620	765	410	85	840	180	950
	<b>SDM 3184 F</b> <b>SDM 3184 RA</b>	23184 CKJ/W33 C 3184 KM	HM 3084	MS 3084	400	290	310	224	700	910	480	85	1045	280	1165
460	<b>SDM 3092 F</b> <b>SDM 3092 RA</b>	23092 CAK/W33 C 3092 KM/C3	HM 3092	MS 3092-88	310	220	250	163	680	850	450	85	970	200	1090
530	<b>SDM 30/530 F</b> <b>SDM 30/530 RA</b>	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
	<b>SDM 31/530 F</b> <b>SDM 31/530 RA</b>	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	<b>SDM 30/600 F</b> <b>SDM 30/600 RA</b>	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

<sup>1)</sup> 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.



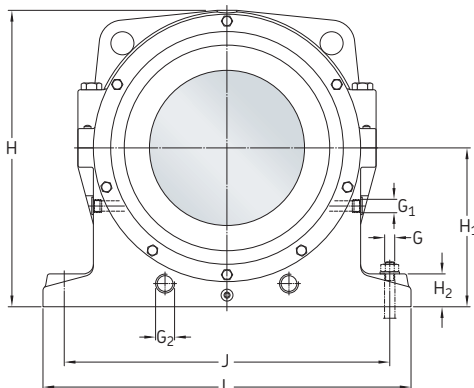
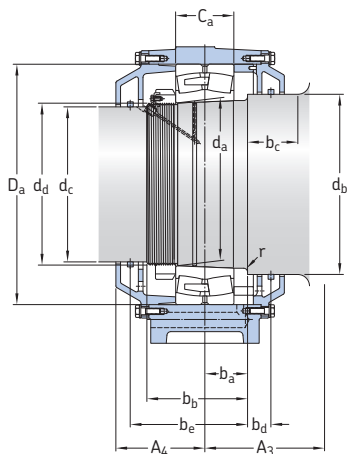
SDM..RA



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	

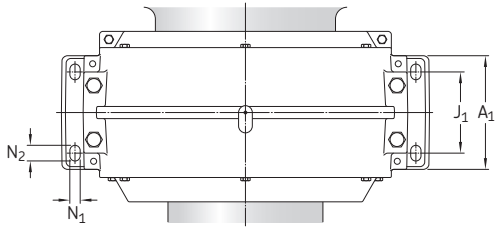
## 13.5 SDM Yankee cylinder housings d 630 – 670 mm



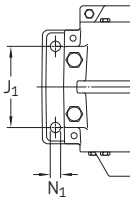
Shaft diam- eter $d_a$	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Lock nut	Locking clip	Dimensions										
					Housing					Housing					
					$A_1$	$A_3$	$A_4$	$C_a$	$D_a$	H	$H_1$	$H_2$	J	$J_1$	L
mm	–	–			mm										
630	<b>SDM 31/630 F</b> <b>SDM 31/630 RA</b>	231/630 CAK/C3W33 C 31/630 KMB/HA3C4	HM 31/630	MS 31/630	510	<sup>2)</sup>	<sup>2)</sup>	315	1 030	<sup>2)</sup>	700	<sup>2)</sup>	1330	350	1500
670	<b>SDM 30/670 F</b> <b>SDM 30/670 RA</b>	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

<sup>1)</sup> 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.

<sup>2)</sup> Contact SKF for missing values.



SDM..RA



SDM..F

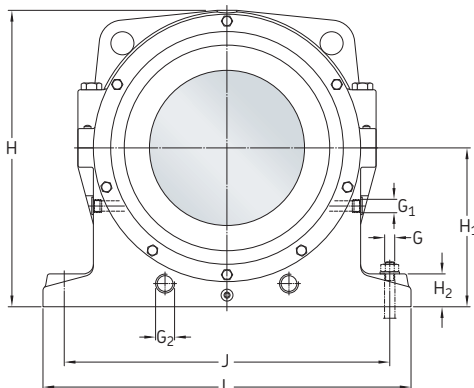
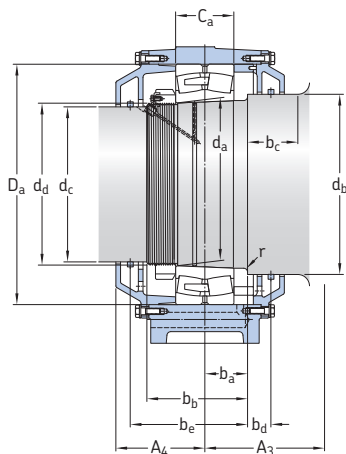
Shaft diameter	Dimensions Housing					Shaft								Mass Housing	
	$N_1$	$N_2$	G	$G_1$	$G_2$	$b_a$	$b_b$	$b_c$ min.	$b_d$	$b_e$	$d_b$	$d_c$	$d_d$	r	mm
630	38	58	M30	G1	G2	1)	1)	1)	1)	1)	710	590	Tr630x6	1)	2 420
670	38	58	M30	G1	G2	190	395	150	65	475	750	630	Tr670x6	15	1 420

<sup>1)</sup> Contact SKF for missing values.

## 13.6 SDM Yankee cylinder housings, with inch connection threads

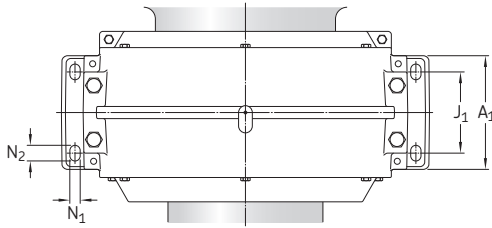
d 340 – 600 mm

13.368 – 23.622 in.

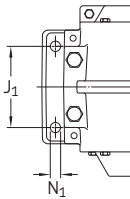


Shaft diameter $d_a$	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Lock nut	Locking clip	Dimensions										
					Housing										
					A <sub>1</sub>	A <sub>3</sub>	A <sub>4</sub>	C <sub>a</sub>	D <sub>a</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J	J <sub>1</sub>	L
mm/in.	–	–			mm										
340 13.368	<b>SDM 3068 FN9</b> <b>SDM 3068 RAN9</b>	23068 CCK/W33 C 3068 K	N 068	PL 68	260	195	210	133	520	650	345	75	760	170	860
	<b>SDM 3168 FN9</b> <b>SDM 3168 RAN9</b>	23168 CCK/W33 C 3168 KM	N 068	PL 68	320	210	255	190	580	740	400	80	800	180	900
380 14.961	<b>SDM 3076 FN9</b> <b>SDM 3076 RAN9</b>	23076 CCK/W33 C 3076 K	N 076	PL 76	260	200	220	135	560	710	380	80	790	170	890
420 16.535	<b>SDM 3084 FN9</b> <b>SDM 3084 RAN9</b>	23084 CAK/W33 C 3084 KM	N 084	PL 84	280	205	230	150	620	765	410	85	840	180	950
	<b>SDM 3184 FN9</b> <b>SDM 3184 RAN9</b>	23184 CKJ/W33 C 3184 KM	N 084	PL 84	400	290	310	224	700	910	480	85	1045	280	1165
460 18.110	<b>SDM 3092 FN9</b> <b>SDM 3092 RAN9</b>	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	<b>SDM 30/530 FN9</b> <b>SDM 30/530 RAN9</b>	230/530 CAK/W33 C 30/530 KM	N 530	PL 530	360	240	270	185	780	960	510	85	1090	240	1200
	<b>SDM 31/530 FN9</b> <b>SDM 31/530 RAN9</b>	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	<b>SDM 30/600 FN9</b> <b>SDM 30/600 RAN9</b>	230/600 CAK/W33 C 30/600 KM/C3	N 600	PL 600	410	325	355	200	870	1065	550	85	1220	240	1360

<sup>1)</sup> 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



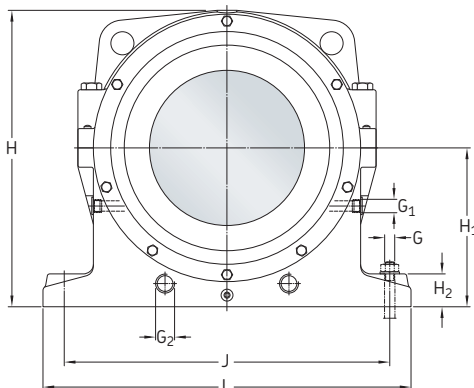
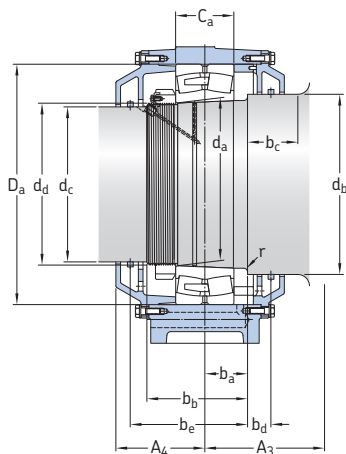
SDM..F

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	mm	in.			mm	mm	mm	mm	mm	mm	mm	in.	-	mm	kg
<b>340</b> 13.368	30	50	1 UNC	NPTF1	NPTF 1.1/4	95	225	130	65	270	380	320	13.303	5	10	386
	30	50	1 UNC	NPTF1	NPTF 2	130	295	110	48	353	390	320	13.303	5	10	572
<b>380</b> 14.961	30	50	1 UNC	NPTF1	NPTF 1.1/4	95	230	135	70	280	420	360	14.921	5	10	475
<b>420</b> 16.535	30	50	1 UNC	NPTF1	NPTF 1.1/2	110	260	130	60	305	465	400	16.496	5	10	494
	30	50	1 UNC	NPTF1	NPTF 1.1/2	180	375	150	70	450	465	400	16.496	5	10	882
<b>460</b> 18.110	30	50	1 UNC	NPTF1	NPTF 1.1/2	110	270	140	70	320	510	430	18.071	5	10	750
<b>530</b> 20.866	38	58	1.1/4 UNC	NPTF1	NPTF 2	135	300	140	65	365	580	500	20.827	4	10	914
	38	58	1.1/4 UNC	NPTF1	NPTF 2	195	425	160	85	505	590	500	20.827	4	10	1530
<b>600</b> 23.622	38	58	1.1/4 UNC	NPTF1	NPTF 2	160	345	195	120	470	660	560	23.583	4	15	1550

### 13.6 SDM Yankee cylinder housings, with inch connection threads

d 630–670 mm

24.803 – 26.378 in.

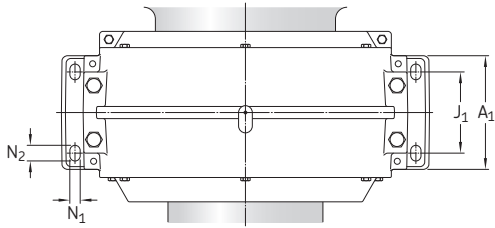


Shaft diameter $d_a$	Housing Designation	Appropriate parts Bearing <sup>1)</sup>	Lock nut	Locking clip	Dimensions										
					Housing		$A_1$	$A_3$	$A_4$	$C_a$	$D_a$	H	$H_1$	$H_2$	J
mm/in.	–	–			mm										
630 24.803	<b>SDM 31/630 FN9</b> <b>SDM 31/630 RAN9</b>	231/630 CAK/C3W33 C 31/630 KMB/HA3C4	N 630	PL 630	510	<sup>2)</sup>	<sup>2)</sup>	315	1030	<sup>2)</sup>	700	<sup>2)</sup>	1330	350	1500
670 26.378	<b>SDM 30/670 FN9</b> <b>SDM 30/670 RAN9</b>	230/670 CAK/W33 C 30/670 KM/HA3C4	N 670	PL 670	420	300	330	230	980	1180	620	85	1260	300	1380

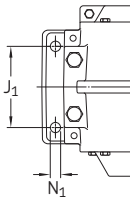
<sup>1)</sup> 23(000) and 23(0)/(000) – spherical roller bearing, C... – CARB toroidal roller bearing. Only typical bearings are listed. Other bearing variants can also fit the housing.

<sup>2)</sup> Contact SKF for missing values.





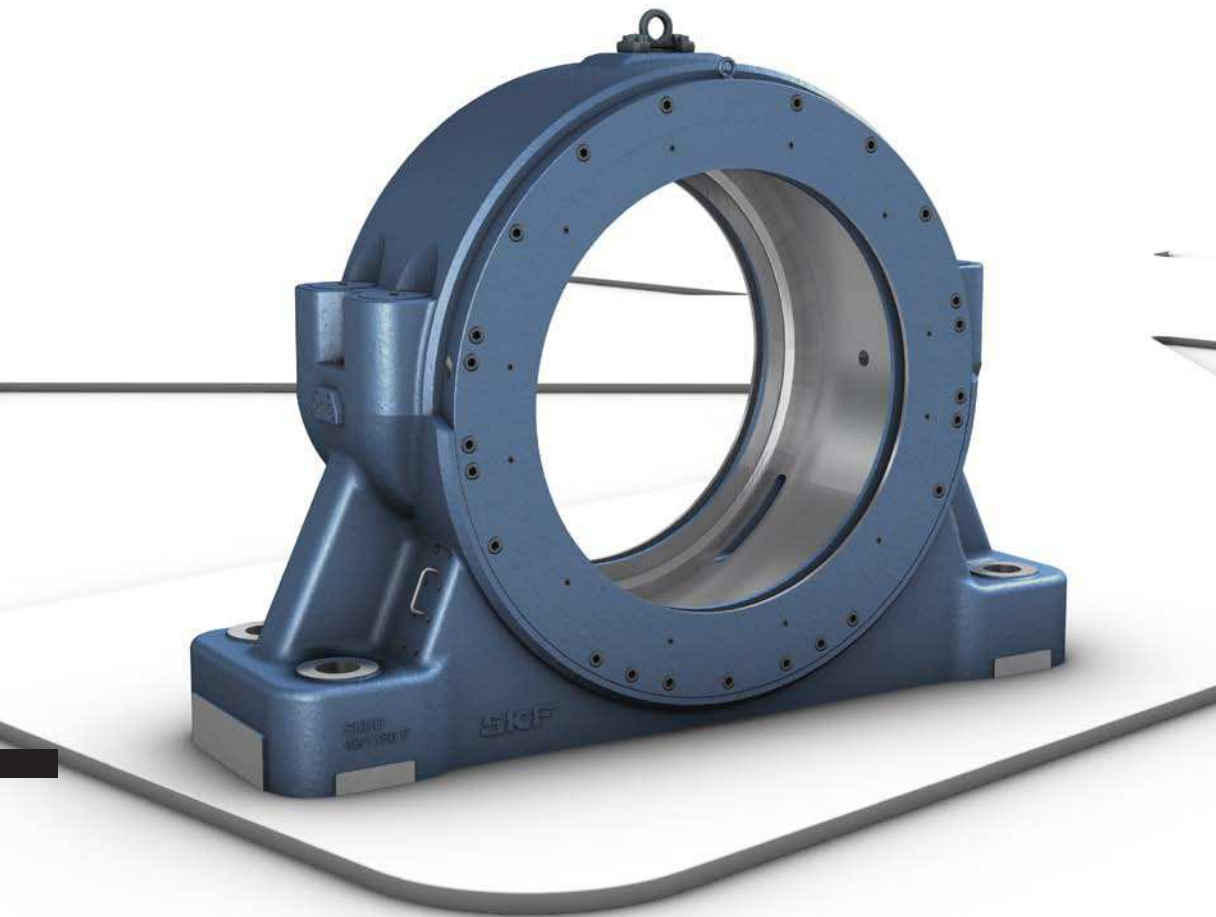
SDM..RA



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	mm	in.			mm					in.					
<b>630</b> 24.803	38	58	1.1/4 UNC	NPTF 1	NPTF 2	1)	1)	1)	1)	1)	710	590	24.760	4	1)	1)
<b>670</b> 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

<sup>1)</sup> 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<sub>b</sub>") [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.

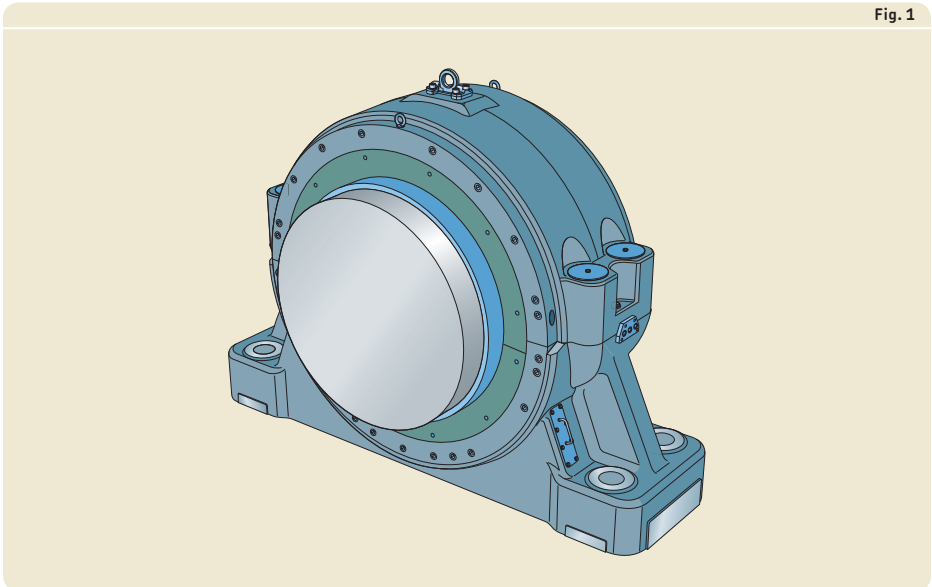
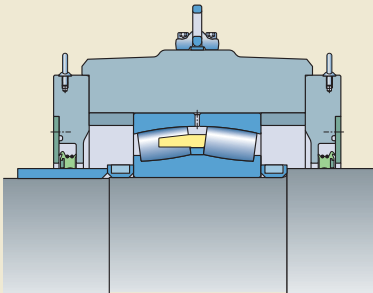
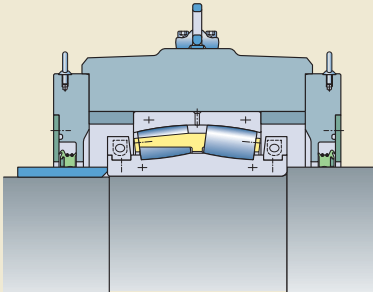


Fig. 1

Fig. 2

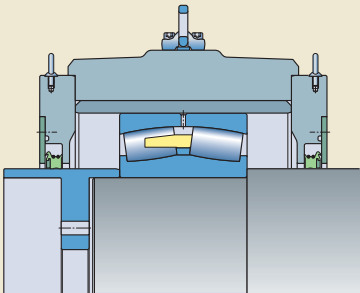


Spherical roller bearing in the locating bearing position

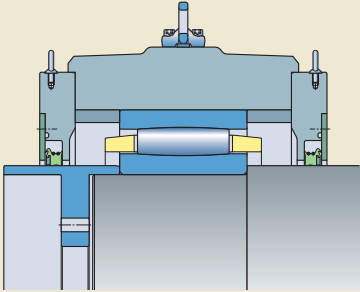


Split spherical roller bearing in the locating bearing position

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

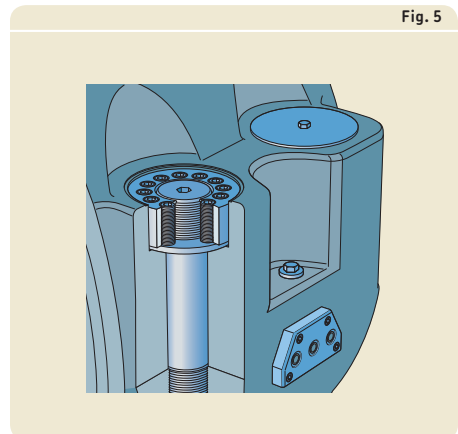
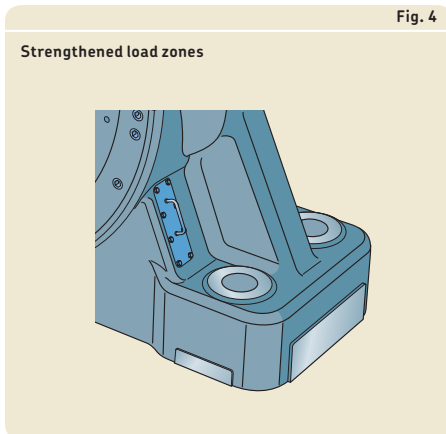
Superbolt® multi-jack tensioners provide a simple, safe and accurate way to tighten cap bolts (→ fig. 5). The tensioner consists of a nut with jackbolts and a separate hardened steel washer. Once the bolt, washer and Superbolt have been assembled manually, the jackbolts can be tightened with a torque 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

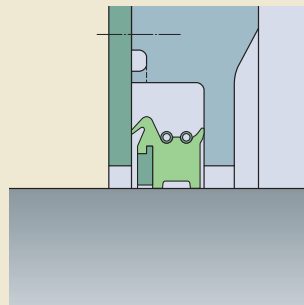
SKND housings are equipped with a heavy-duty NBR double-lip contact seal. The seal incorporates a separate metal ring to protect against hot dust and slag (→ fig. 6).

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).

Fig. 6



## 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](http://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.

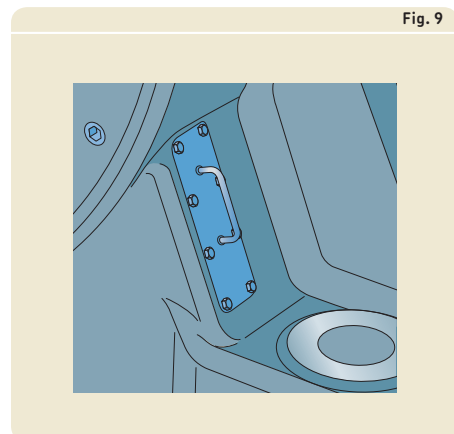
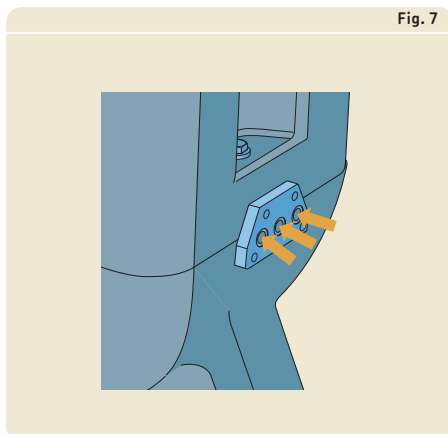
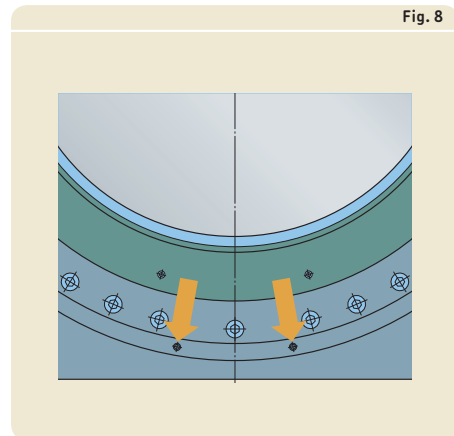
### Relubrication

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.

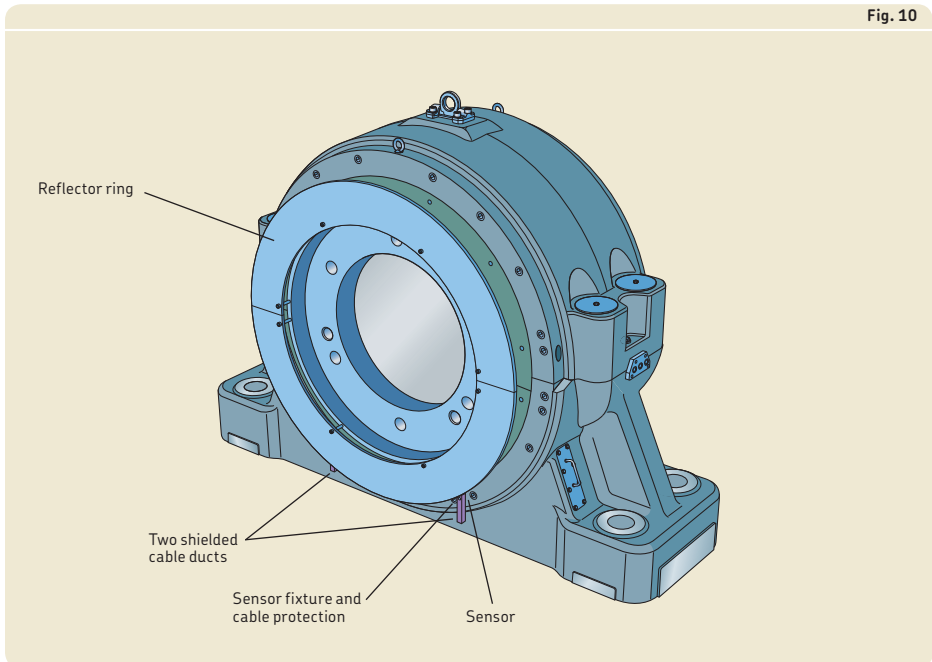
### Axial support for the housing

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**

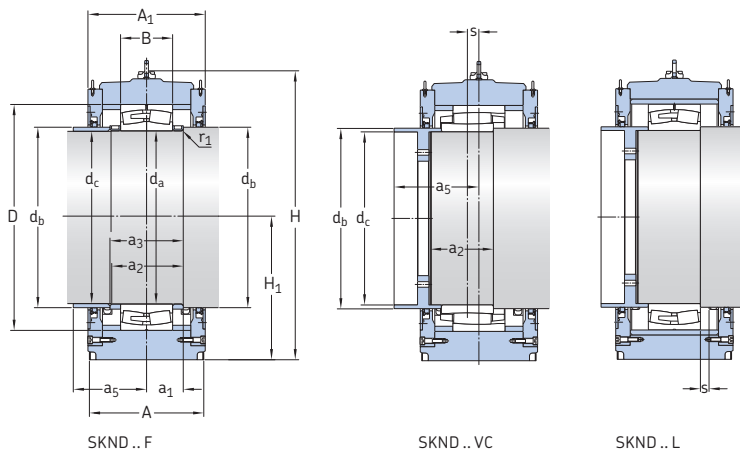
Grease pumps and automatic lubrication systems for SKND housings are available from SKF. For additional information contact the SKF application engineering service or visit [skf.com/lubrication](http://skf.com/lubrication).

## **Ordering information**

For detailed information about ordering contact the SKF application engineering service.

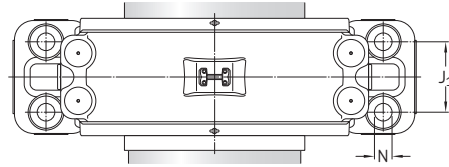
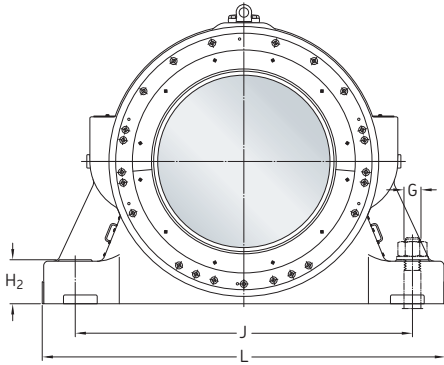
## 14.1 SKND plummer block housings for converters

$d_a$  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	185	780	475	935	450	140	140
600	SKND 30/600 F SKND 30/600 VC	230/600 CA/C3W33 C 30/600 M/VB569	BSR-8025 -	440	200	870	500	1030	500	155	155
670	SKND 30/670 F SKND 30/670 VC	230/670 CA/C3W33 C 30/670 M/VB569	BSR-8035 -	500	230	980	540	1170	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	243	950	640	1250	600	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	250	1000	640	1295	630	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	258	1060	640	1) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>	670	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	272	1120	640	1430	700	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) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>	280	1180	1) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>	1) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>	740	1) <sup>1)</sup> 741 742	1) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>
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	300	1250	710	1630	780	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) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>	315	1320	1) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>	1) <sup>1)</sup> 1) <sup>1)</sup> 1) <sup>1)</sup>	830	255	255

<sup>1)</sup> Contact SKF for missing values.

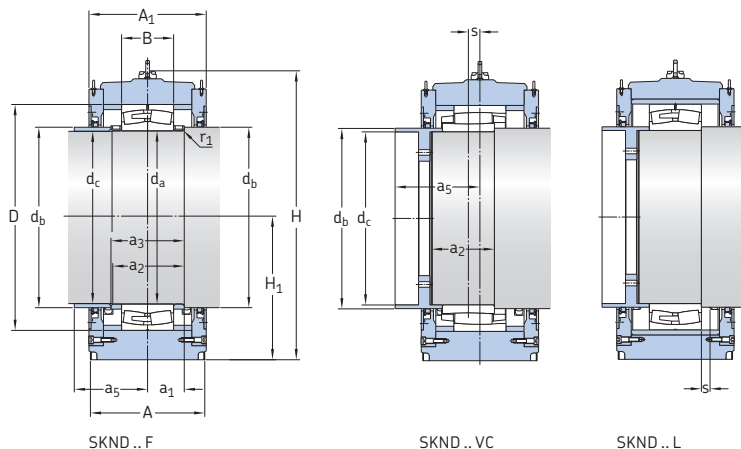


Shaft diameter	Dimensions Housing					Axial displacement	Dimensions Shaft abutment and fillet						Mass Housing	
	$d_a$	J	$J_1$	L	G		N	$d_b$	$d_c$	$a_1$	$a_2$	$a_3$		$a_5$
mm	mm					mm	mm						kg	
530	1050	240	1280	M 42	48	–	570	525	142,5	280	285	340	10	1)
	1050	240	1280	M 42	48	±35	570	530	92,5	225	–	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

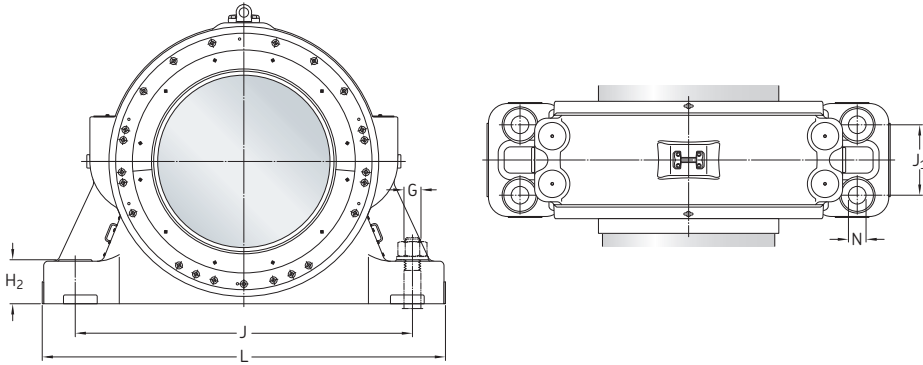
$d_a$  1 060 – 1 180 mm



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	<sup>1)</sup>	<sup>1)</sup>	880	275	
	SKND 49/1060 VC	C 49/1060 MB1/VB569	-	740	335	1 400	<sup>1)</sup>	<sup>1)</sup>	880	275	
	SKND 49/1060 L	249/1060 CAF/C3W33VL017	-	740	335	1 400	<sup>1)</sup>	<sup>1)</sup>	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	

<sup>1)</sup> 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	
<b>1060</b>	2000	460	2450	M100	110	–	1110	1055	237,5	470	475	<sup>1)</sup>	15	<sup>1)</sup>
	2000	460	2450	M100	110	±75	1110	1060	167,5	420	–	<sup>1)</sup>	6	<sup>1)</sup>
	2000	460	2450	M100	110	±75	1110	1060	167,5	420	–	<sup>1)</sup>	6	<sup>1)</sup>
<b>1120</b>	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
<b>1180</b>	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

<sup>1)</sup> 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]

### Suffixes<sup>1)</sup>

– 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)

<sup>1)</sup> 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**).

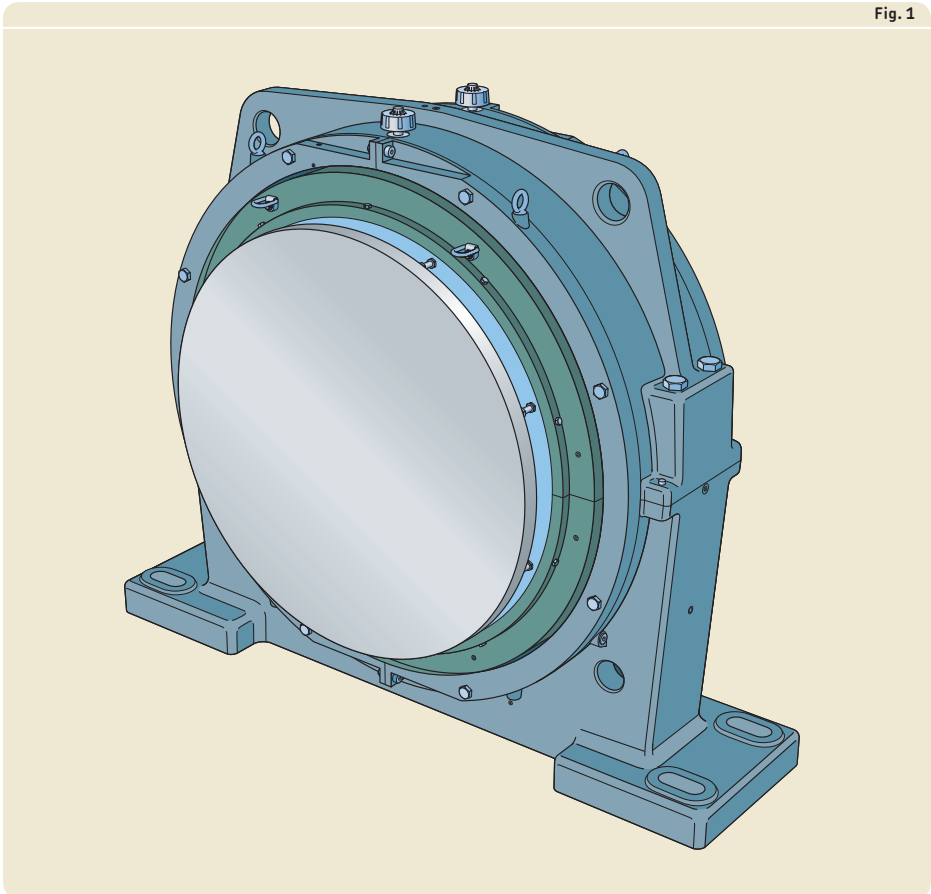


Fig. 1

**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

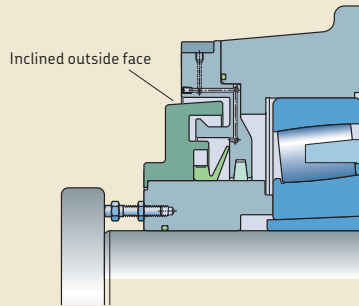


Fig. 3

Machined base ends

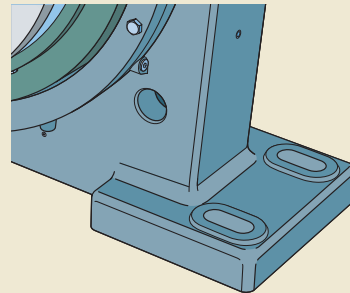
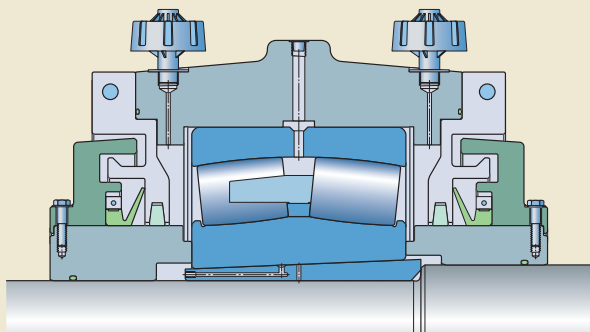


Fig. 4



### 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**.

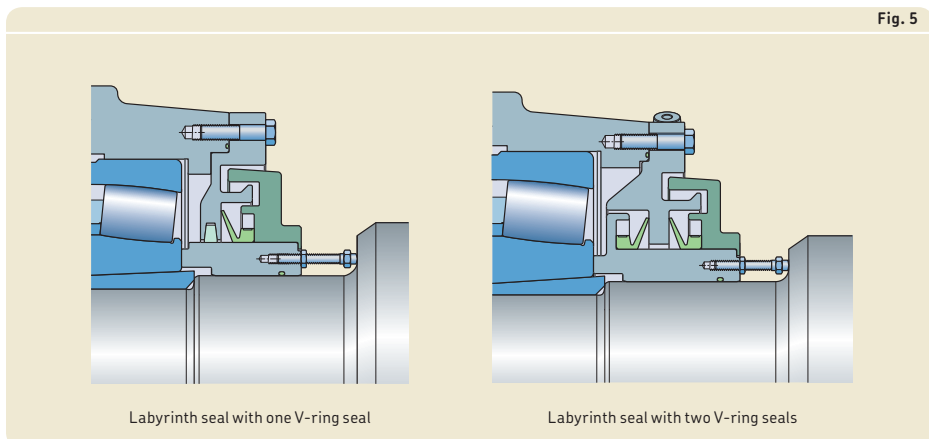
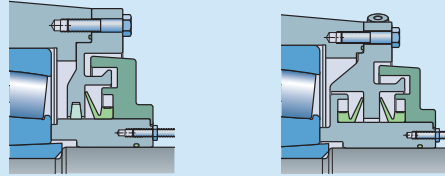


Table 1

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 <sup>Ⓔ</sup>	h9 <sup>Ⓔ</sup>
Shaft roughness R <sub>a</sub> [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](http://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

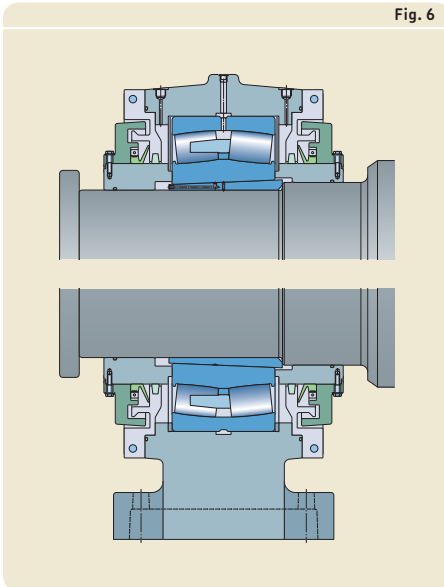
FSDR .. K housings are intended for loads acting perpendicularly toward the support surface as well as the forces created in the process. In cases like this, the housing can withstand the same loads as the bearing. If loads acting in other directions occur, contact the SKF application engineering service.

#### 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.

Fig. 6



## 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](http://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 <sup>1)</sup>
–	–	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

<sup>1)</sup> 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](http://skf.com/bearings).

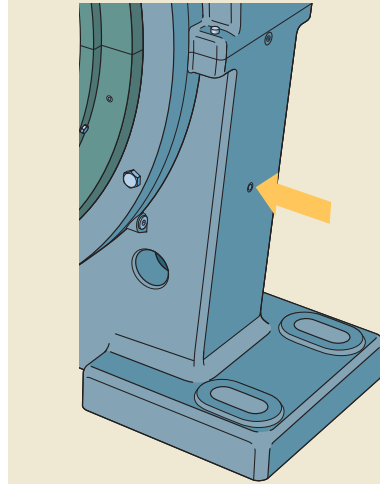
### Initial grease fill

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)

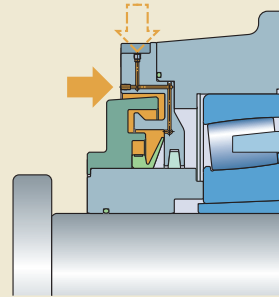


Fig. 9

Relubricating the space between two V-rings

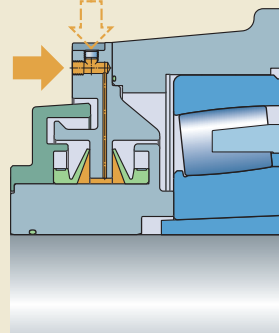
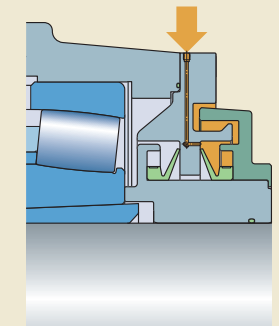


Fig. 10

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

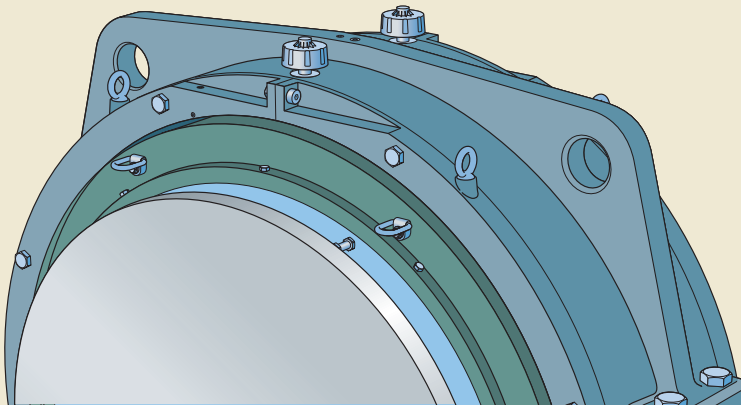
FSDR .. K housings have a cast hole in each integral flange on the cap and one M 16 eye bolt in each cover half (→ **fig. 11**) for safe, easy handling. The labyrinth rings are equipped with adjustable eye bolts (VLBG 0.63t M 10 with bolt, except for size 49/1320, which has M 10 eye bolts) that can be 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

Eye bolts





## 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.

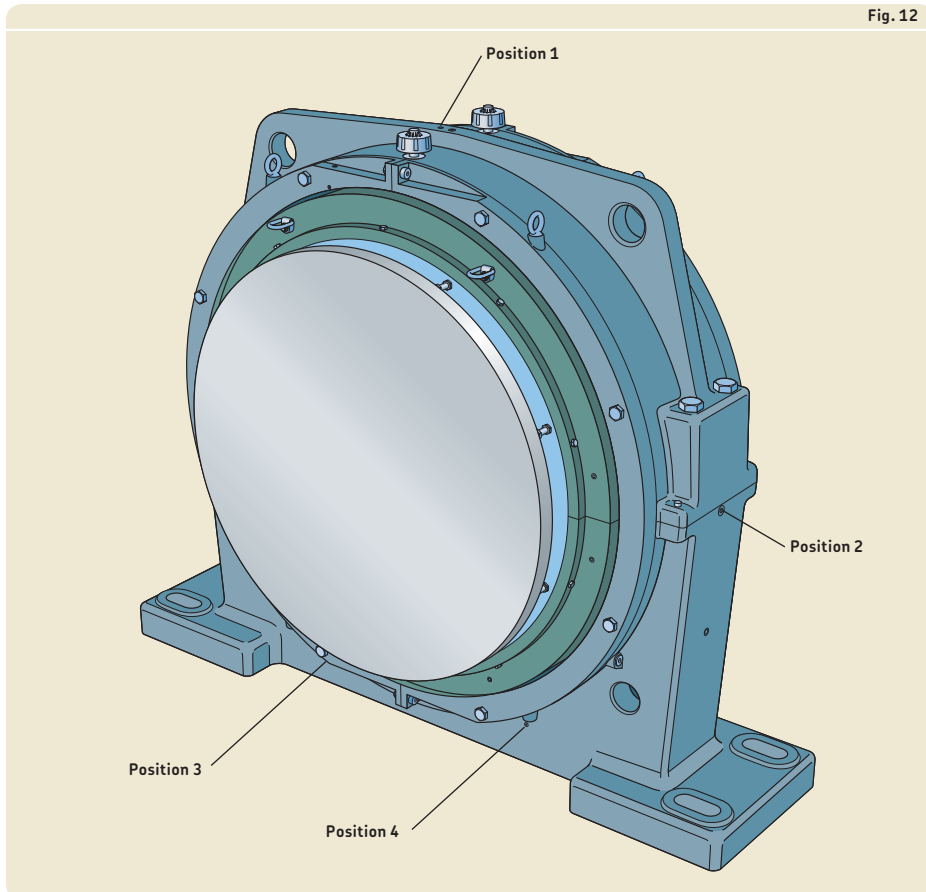
All positions are in accordance with ISO 10816-1.

## 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

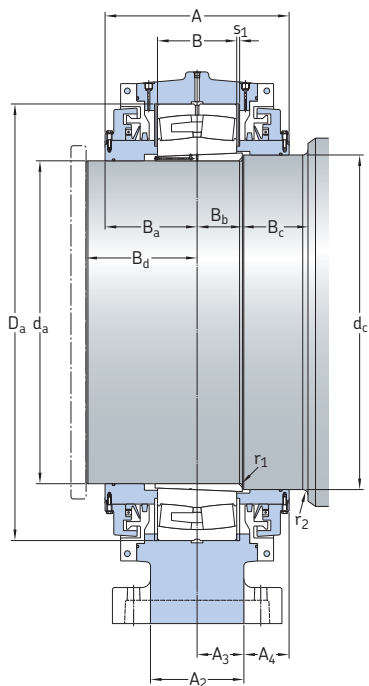
A trunnion bearing housing (with metric thread connections) is required for a 239/1060 CAK/W33 spherical roller bearing. The following items should be ordered:

- 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

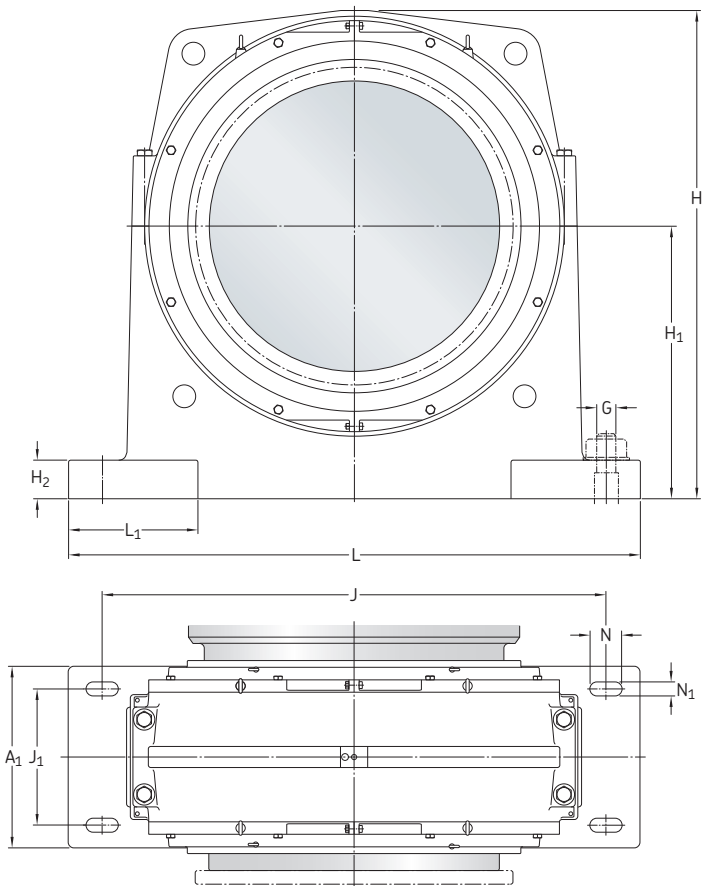
$d_a$  825 – 1 460 mm



Shaft diameter $d_a$	Housing Designation	Appropriate parts Bearing	Unthreaded sleeve	V-ring seal	Dimensions Housing				
					A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>
mm	–	–			mm				
825	FSDR 39/850 K	239/850 CAK/W33	KOH 9/850	960 VRME R <sup>1)</sup>	510	450	235	117,5	137,5
1 030	FSDR 39/1060 K	239/1060 CAKF/W33	KOH 9/1060	1180 VRME R <sup>1)</sup>	545	560	265	132,5	140
1 150	FSDR 39/1180 K	239/1180 CAKF/W33	KOH 39/1180	1280 VRME R <sup>1)</sup>	632	560	285	142,5	173,5
1 280	FSDR 49/1320 K	249/1320 CAK30F/W33	236696-1	1425 VRME R <sup>2)</sup>	810	800	440	220	185
1 460	FSDR 48/1500 K	248/1500 CAK30FA/W20	236558	1575 VRME R <sup>1)</sup>	585	800	360	180	112,5

<sup>1)</sup> Two seals are required for each housing.

<sup>2)</sup> 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

<sup>1)</sup> 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 <sup>1)</sup>

### 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)

<sup>1)</sup> 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

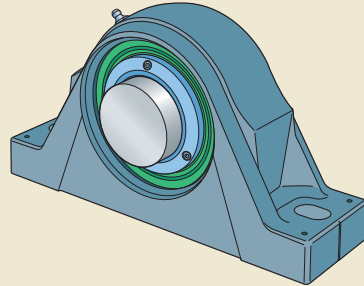
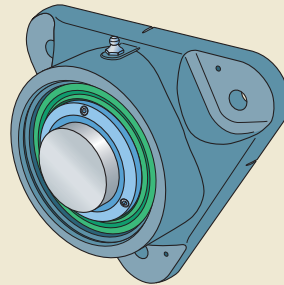
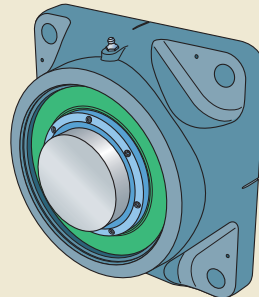


Fig. 2

FYNT series



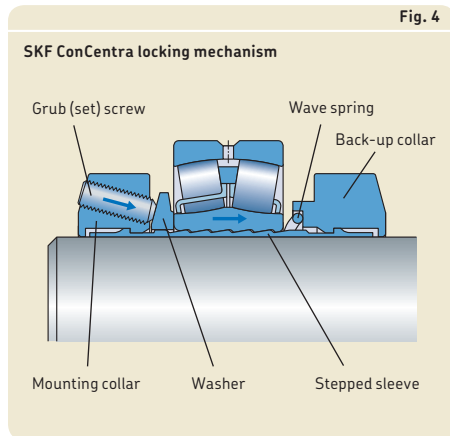
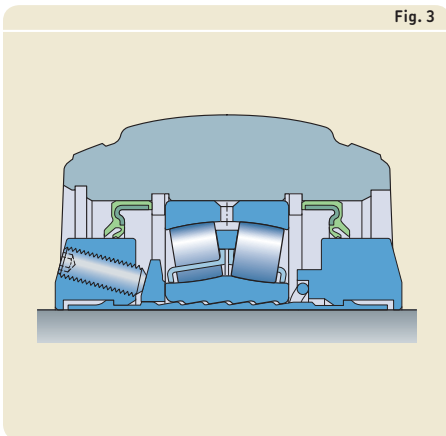
Shaft diameters from 35 to 60 mm



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.



## 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

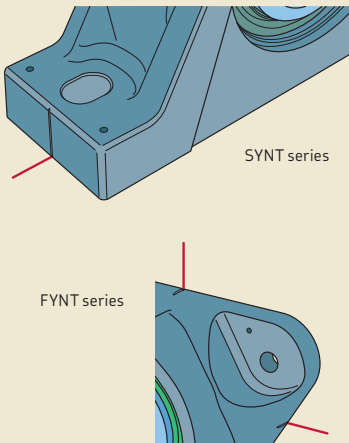
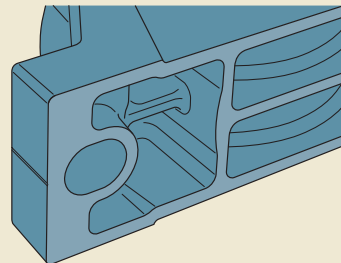


Fig. 6

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.

<sup>1)</sup> 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.

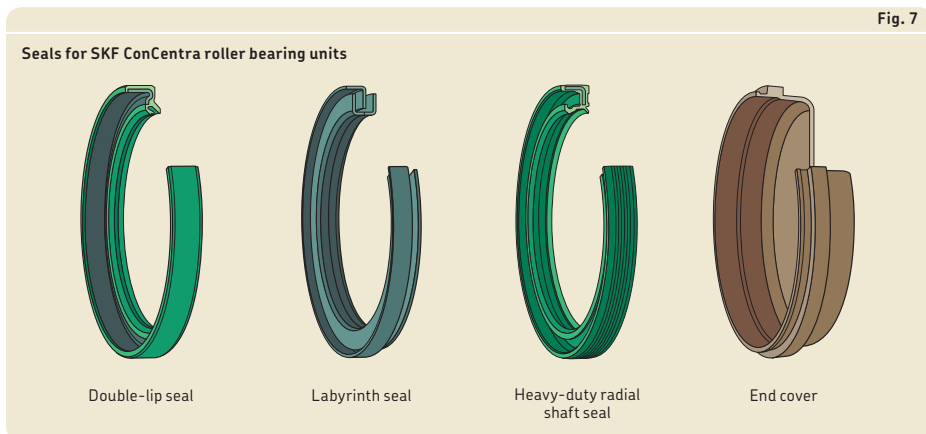
### Heavy-duty radial shaft seals

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.




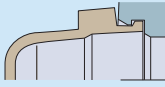
Details of the permissible length of the shaft end are provided in **table 2** on **page 669**.



## 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
<b>Application conditions and requirements</b>				
Temperature [°C]	-20 to 110 <sup>1)</sup>	-20 to 110 <sup>1)</sup>	-20 to 110 <sup>1)</sup>	-20 to 110 <sup>1)</sup>
Temperature [°F]	-5 to 230 <sup>1)</sup>	-5 to 230 <sup>1)</sup>	-5 to 230 <sup>1)</sup>	-5 to 230 <sup>1)</sup>
Max. circumferential speed <sup>2)</sup> [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	+	+	+	+
<b>Sealing suitability</b>				
Dust	++	-	++	++
Fine particles	++	-	++	++
Coarse particles	++	+	++	++
Chips	+	++	++	++
Liquids when sprayed	+	--	++	++
Direct sunlight	+	++	+	++
Symbol:	n/a not applicable ++ very suitable + suitable - limited suitability -- unsuitable			

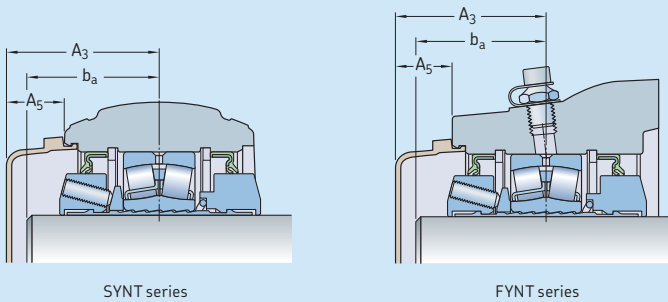
<sup>1)</sup> Imposed by the grease.

<sup>2)</sup> 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 <sub>3</sub>	A <sub>5</sub>
		b <sub>a</sub> 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](http://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*).

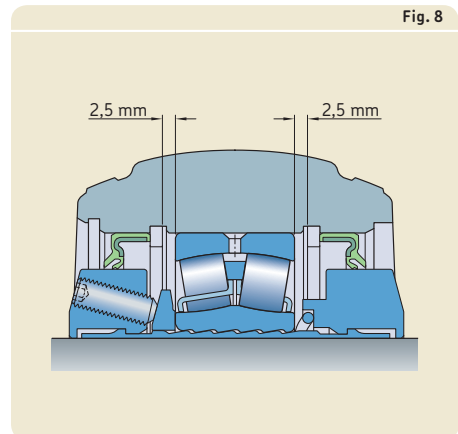
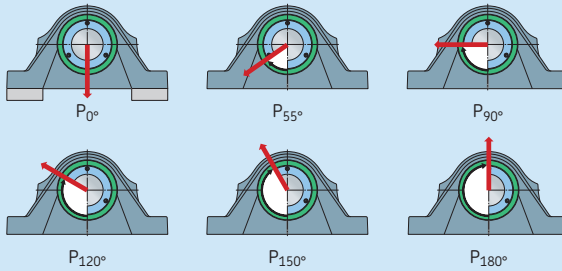


Table 3

Breaking loads for housings of SKF ConCentra roller bearing units in the SYNT series



Bearing unit Size	Breaking load in the direction of $P_{0^\circ}$ <sup>1)</sup>					
	$P_{55^\circ}$	$P_{90^\circ}$	$P_{120^\circ}$	$P_{150^\circ}$	$P_{180^\circ}$	
–	kN					
<b>SYNT 35</b>	150	250	150	95	85	105
<b>SYNT 40</b>	160	265	160	100	90	110
<b>SYNT 45</b>	170	280	170	110	100	115
<b>SYNT 50</b>	190	330	200	130	115	140
<b>SYNT 55</b>	210	350	210	140	120	150
<b>SYNT 60</b>	270	365	220	150	130	170
<b>SYNT 65</b>	290	380	230	155	140	210
<b>SYNT 70</b>	350	400	240	160	145	215
<b>SYNT 75</b>	370	415	250	165	150	220
<b>SYNT 80</b>	430	480	290	205	190	240
<b>SYNT 90</b>	470	620	370	280	250	310
<b>SYNT 100</b>	600	680	410	310	275	340

<sup>1)</sup> The values for  $P_{0^\circ}$  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).

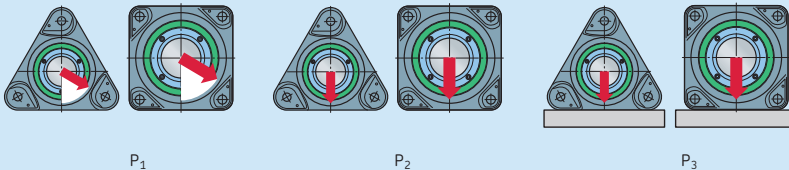
Table 5

Axial holding power of SKF ConCentra roller bearing units			
Bearing unit Size		No. of grub (set) screws	Axial holding power <sup>1)</sup>
–		–	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

<sup>1)</sup> 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 <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>
–	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  $P_{180^\circ}$  (→ **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 $\text{Ⓢ}$  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 <sup>1)</sup>
–	–	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

<sup>1)</sup> 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](http://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 <sup>2</sup> /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 1

Relubrication interval  $t_f$  for roller bearing units, for  $P \leq 0,05 C$

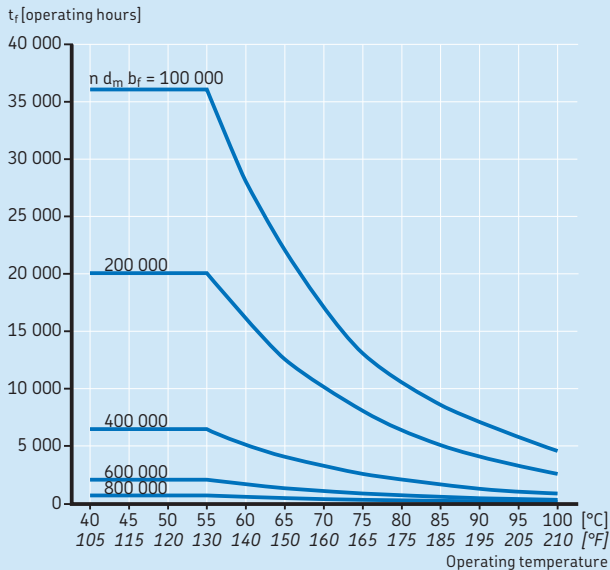




Diagram 2

Relubrication interval  $t_r$  for roller bearing units, for  $P = 0,1 C$

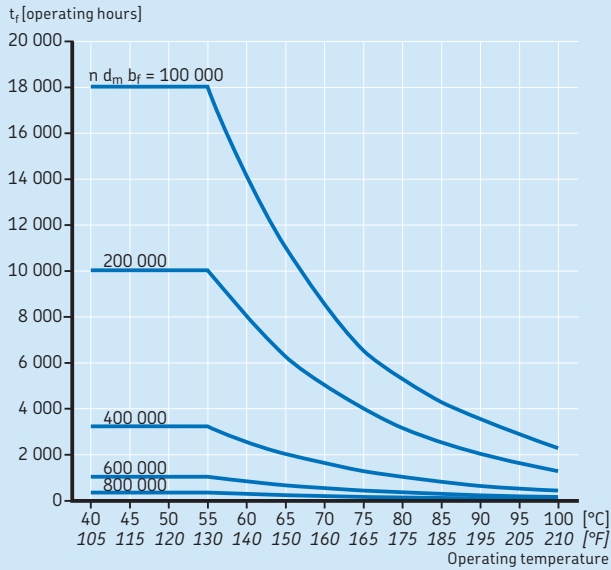
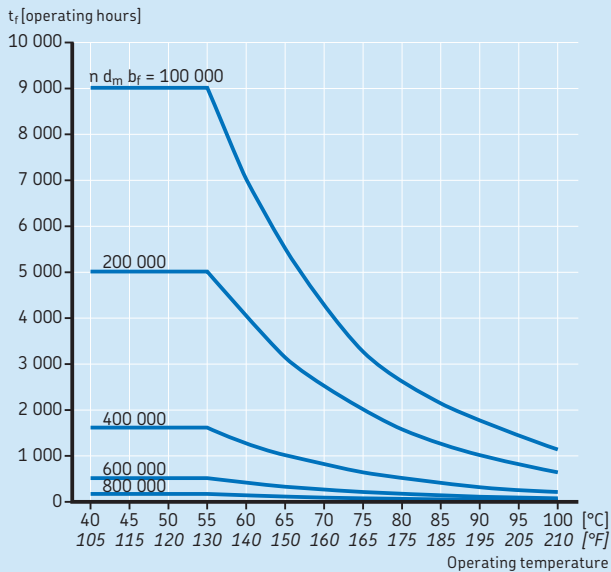


Diagram 3

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

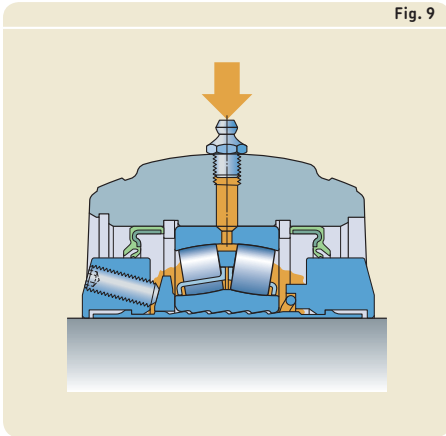
### Relubrication procedure

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 $d_m$	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:  $55\text{ }^{\circ}\text{C}$

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

when  $C/P = 156/7 = 22,3$

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**)

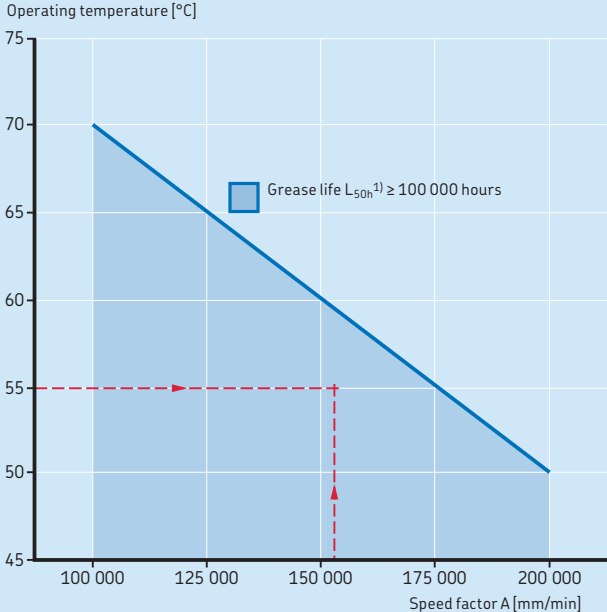
$A = n d_m = 1\,800 \times 85 = 153\,000$  mm/min

Using **diagram 4**, the intersection point of the calculated speed factor and expected operating temperature of  $55\text{ }^{\circ}\text{C}$  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



<sup>1)</sup> Grease life at 50% reliability

## Mounting

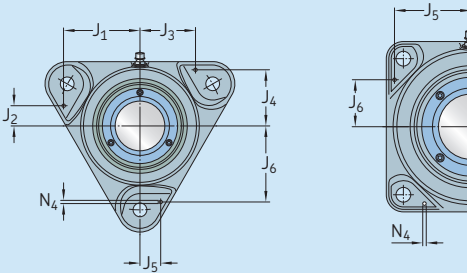
SKF ConCentra roller bearing units must be mounted properly using the appropriate tools and state of the art mechanical mounting methods. All the associated components must also meet certain basic requirements (→ *Specifications for shafts and housing support surfaces on page 45*).

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 <sub>1</sub>	J <sub>2</sub>	J <sub>3</sub>	J <sub>4</sub>	J <sub>5</sub>	J <sub>6</sub>	N <sub>4</sub> 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**.

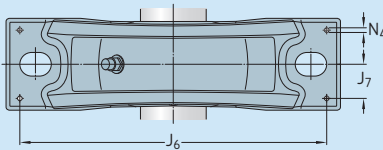
Dowel pins can also be used where necessary. Recommendations for the position and size of the holes to accommodate dowel pins are provided in **table 11**.

### 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.

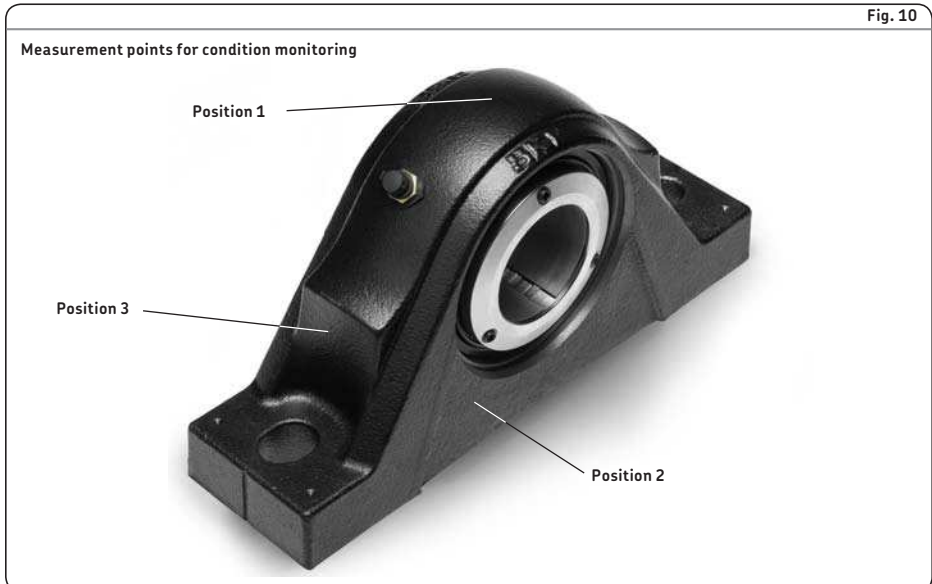
**Position 2** (360° surface area) is parallel to the shaft and should be used when axial loads occur.

## 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.

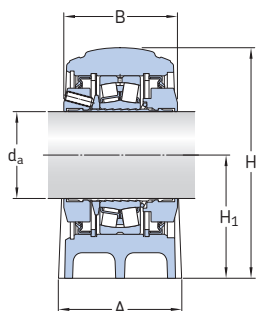
The following items should be ordered:

- 1 bearing unit SYNT 50 FW
- 1 bearing unit SYNT 50 LW
- 1 end cover ECY 210

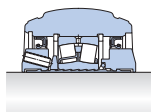


## 16.1 SKF ConCentra roller bearing units with a plummer block housing, metric shafts

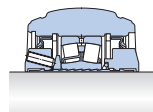
$d_a$  35 – 100 mm



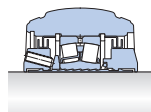
General variant



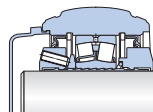
Extreme environment variant  
Designation suffix TF



Relubrication-free variant  
Designation suffix W



High-speed variant  
Designation suffix TS

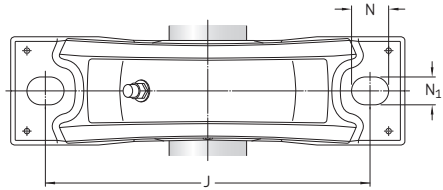
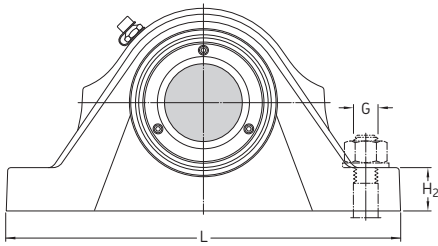


End cover

Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup> Locating	Non-locating	Bearing Designation	Basic load ratings		Fatigue load limit	End cover Designation
				dynamic	static		
mm	–	–	–	C	$C_0$	$P_u$	–
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	–

<sup>1)</sup> General variant. (For other variants, the appropriate designation suffix should be added.)

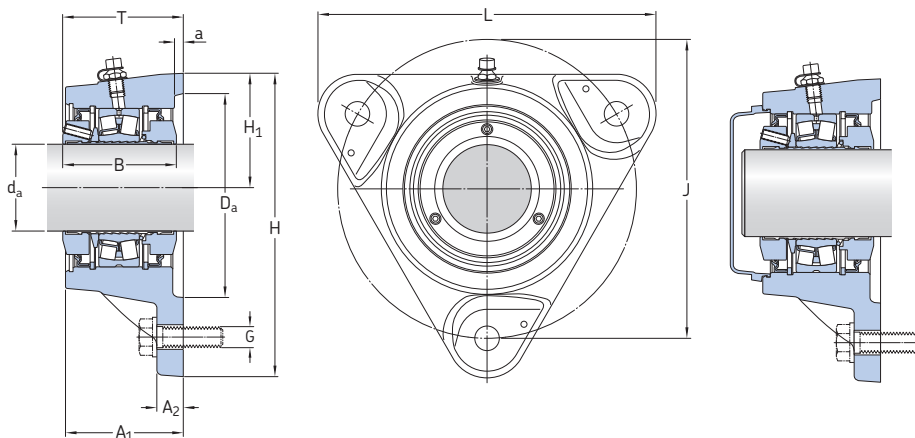
<sup>2)</sup> Also refer to **diagram 4** on **page 681**.



Shaft diameter d <sub>a</sub>	Limiting speeds of unit variants				Dimensions Bearing unit										Mass Unit
	General	High-speed	Extreme environment	Relubrication-free <sup>2)</sup>	A	B	H	H <sub>1</sub>	H <sub>2</sub>	J	L	N	N <sub>1</sub>	G	
mm	r/min				mm										kg
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

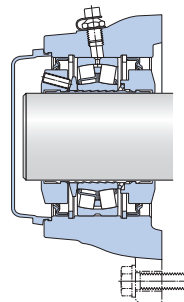
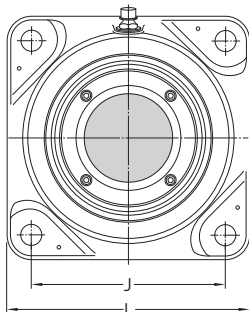
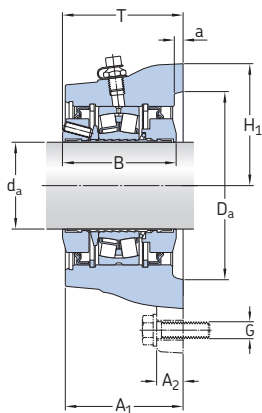
$d_a$  35 – 100 mm



Housing design for shaft diameters 35 to 60 mm

End cover

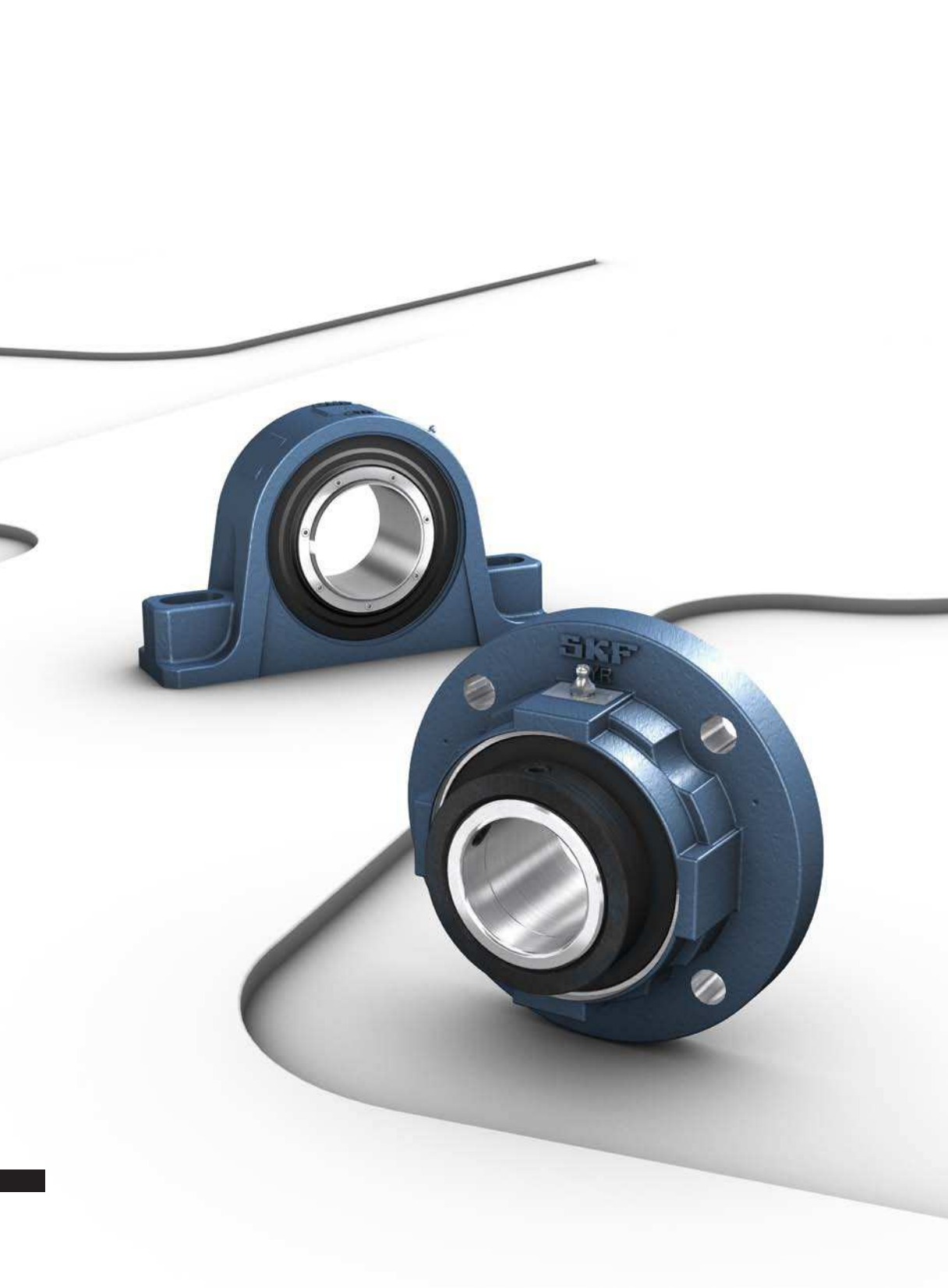
Shaft diameter $d_a$	Bearing unit		Bearing Designation	Basic load ratings		Fatigue load limit $P_u$	Limiting speed	End cover Designation
	Designation	Locating		dynamic	static			
mm	–	Non-locating	–	C	$C_0$	kN	r/min	–
35	FYNT 35 F	FYNT 35 L	22207 E	86,5	85	9,3	4 100	ECY 207
40	FYNT 40 F	FYNT 40 L	22208 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	1	J	L	G	Da	a	Mass Unit	
	A <sub>1</sub>	A <sub>2</sub>	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

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Housing material .....	697	<b>17.3</b> SKF inch roller bearing units with a square flanged housing ..	716
<b>Sealing solutions</b> .....	<b>697</b>	<b>17.4</b> SKF inch roller bearing units with a round or piloted flanged housing .....	718
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# 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.]

### Suffixes<sup>1)</sup>

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)

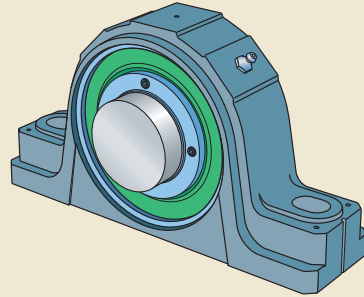
<sup>1)</sup> When multiple suffixes are used, they are listed in the same order as shown here.

## Standard bearing unit design

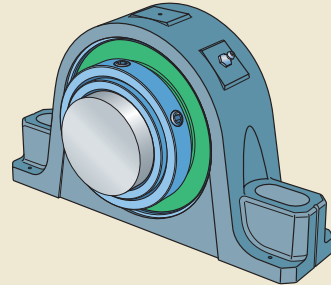
SKF inch roller bearing units consist of a non-split housing, an SKF spherical roller bearing in the 222 series, seals and grease. The bearings are fixed to the shaft using either the locking collar method or the SKF ConCentra locking method (designation suffix N). Inch roller bearing units are available 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  $1 \frac{7}{16}$  to  $3 \frac{1}{2}$  inches (→ **fig. 1**). Bearing units in the SYR and SYR .. N series are available for shafts ranging from  $1 \frac{7}{16}$  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  $2 \frac{7}{16}$  to  $4 \frac{15}{16}$  inches (→ **fig. 1**).
- Square flange units (FYE series) are available for shafts ranging from  $1 \frac{7}{16}$  to 4 inches (→ **fig. 2**).
- Round flange units (FYR series) are available for shafts ranging from  $1 \frac{7}{16}$  to 4 inches (→ **fig. 2**).
- Piloted flange units (FYRP series) are available for shafts ranging from  $1 \frac{7}{16}$  to 4 inches (→ **fig. 2**).

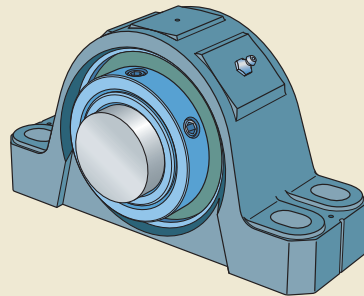
Fig. 1



SYE .. N series

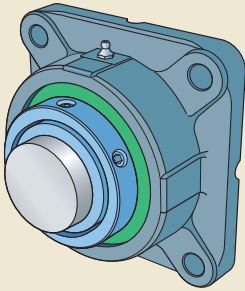


SYR series

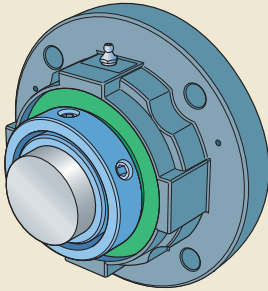


FSYE series

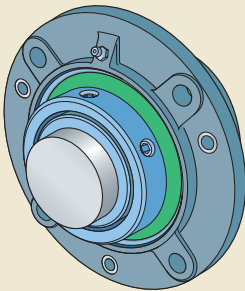
Fig. 2



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**).

Fig. 3

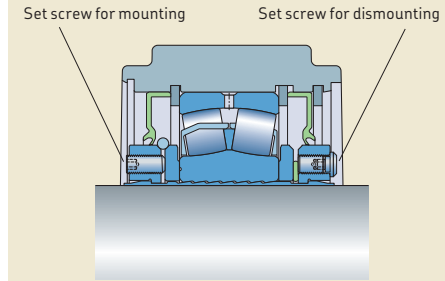


Fig. 4

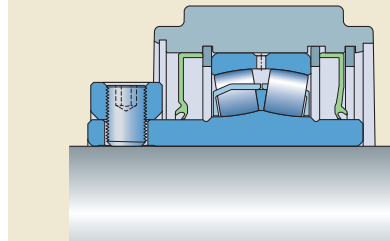
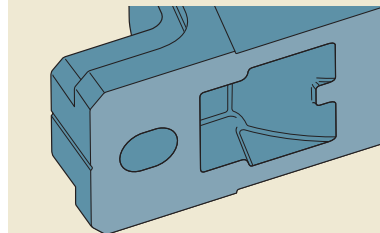


Fig. 5



### 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

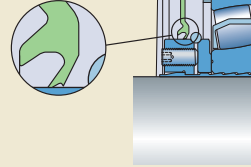
SKF roller bearing units are available with different sealing solutions (→ **fig. 6**):

- triple-lip seals (TriGard)
- labyrinth seals
- radial shaft seals (garter spring seals)
- end plugs

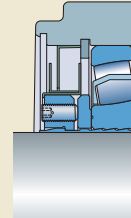
Fig. 6

### Sealing solutions for inch roller bearing units

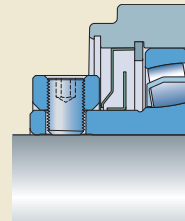
Triple-lip seal  
(TriGard)



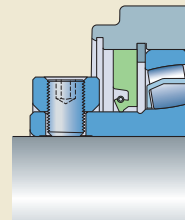
Labyrinth seal  
(for SKF ConCentra)



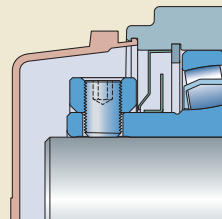
Labyrinth seal  
(for collar-mount)



Radial shaft seal



End plug



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

**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)

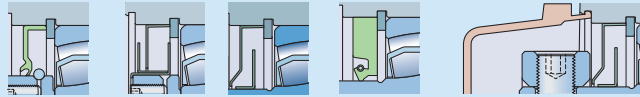
Collar-mount units can be supplied with radial shaft seals on both sides, on request. The seals are made of acrylonitrile-butadiene rubber (NBR) and have no metal reinforcement. They sit firmly in the housing bore providing a static seal. The spring-loaded seal lip provides a dynamic seal against the 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 2<sup>15</sup>/<sub>16</sub> 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 <sup>1)</sup>	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 <sup>2)</sup>	-5 to 230 <sup>2)</sup>	-5 to 230 <sup>2)</sup>	$d_a < 3$ in.: -5 to 230 <sup>2)</sup> $d_a \geq 3$ in.: -5 to 230 <sup>2)</sup>
Max. circumferential speed <sup>3)</sup> [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

<sup>1)</sup> Option only for collar-mount units.

<sup>2)</sup> Imposed by the grease.

<sup>3)</sup> 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](http://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 **L**. Units for the non-locating bearing position have no suffix.

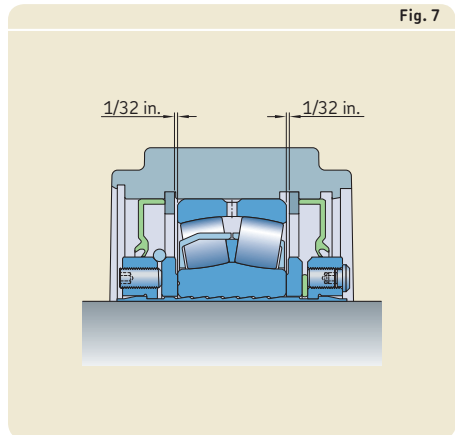




Table 2

## 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 <sub>0</sub>	P <sub>u</sub>	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>	d <sub>m</sub>
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		28 100	28 600	3 080	0.24	2.8	4.2	2.8	3.05
2 7/16	2 1/2	43 400	41 100	5 400	0.24	2.8	4.2	2.8	3.64
2 11/16	3	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	4	95 700	110 000	11 020	0.24	2.8	4.2	2.8	5.51

Table 3

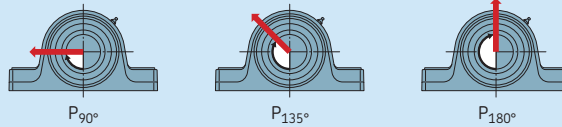
## Bearing data for collar-mount roller bearing units

Shaft diameter		Load ratings		Fatigue load limit	Calculation factors				Bearing mean diameter
from	to	dynamic C	static C <sub>0</sub>	P <sub>u</sub>	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>	d <sub>m</sub>
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		22 400	26 500	2 900	0.24	2.8	4.2	2.8	3.05
2 7/16	2 1/2	33 300	41 100	4 770	0.24	2.8	4.2	2.8	3.64
2 11/16	3	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	4	69 900	93 300	11 900	0.24	2.8	4.2	2.8	5.51
4 7/16	4 1/2	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

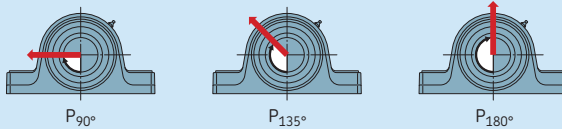
### Safe loads for SYE series roller bearing units



Shaft diameter		Safe loads		
from	to	in the direction of		
		$P_{90^\circ}$	$P_{135^\circ}$	$P_{180^\circ}$
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		
		$P_{90^\circ}$	$P_{135^\circ}$	$P_{180^\circ}$
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
$1\frac{5}{16}$	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  $P_{180^\circ}$ .

### 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.

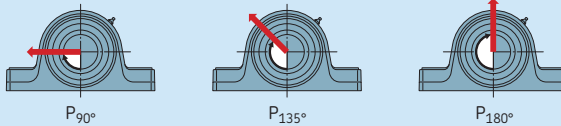
When loads act at angles between  $55^\circ$  and  $120^\circ$ , or when the axial loads are greater than 5% of  $P_{180^\circ}$  (→ **tables 4 to 6**), the bearing unit should be pinned to the support surface. The dowel pins should be sufficiently strong to accommodate the loads acting parallel to the 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.		$P_{90^\circ}$	$P_{135^\circ}$	$P_{180^\circ}$
		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 <sup>1)</sup>
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

<sup>1)</sup> 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 <sup>1)</sup>
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 11/16	4	2	5/8" - 18	1 325	1 200
4 7/16	4 15/16	4	5/8" - 18	1 325	2 400

<sup>1)</sup> 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](http://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.

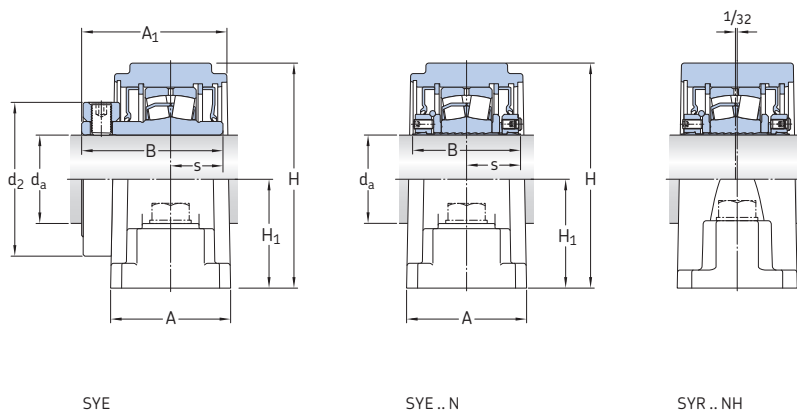
The following items should be ordered:

- 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

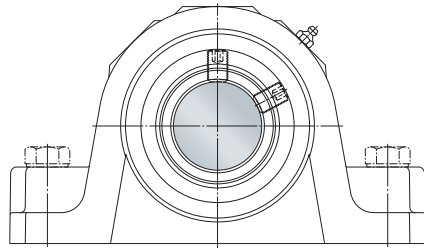
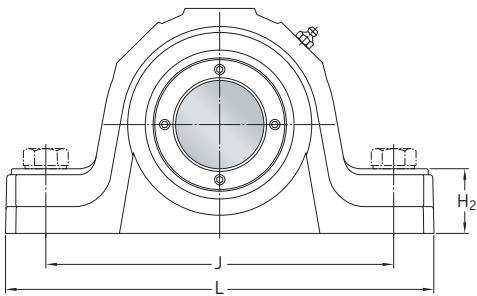
$d_a$  1 7/16 – 2 7/16 in.



Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	Basic load rating dynamic C	Limiting speeds		Radial shaft seal	Mass lb.	Appropriate attachment bolt size
			TriGard seal	Labyrinth seal			
in.		lbf.	r/min			lb.	–
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

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).





SYE ..N

SYR

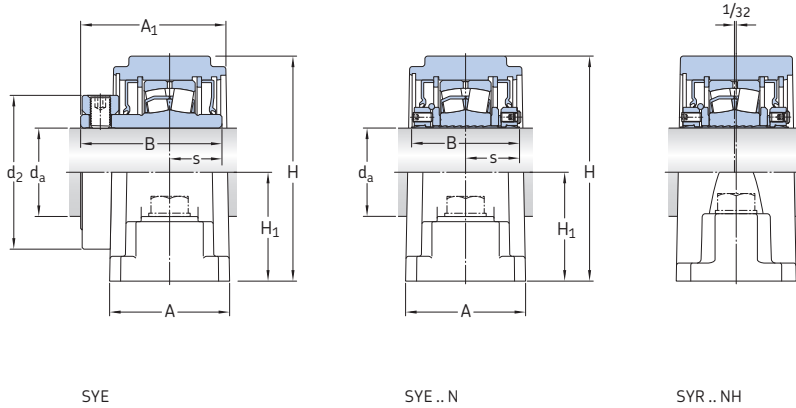
Shaft diameter d <sub>s</sub>	Bearing unit Designation <sup>1)</sup>	Dimensions										
		A	A <sub>1</sub>	B	d <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J max.	J min.	L	s
in.	-	in.										
1 7/16	SYE 17/16	2 1/8	2 27/32	2 3/4	2 3/8	3 7/8	1 7/8	1 1/8	6	5 1/2	7 3/8	1
	SYE 17/16 N	2 1/8	-	2 11/32	-	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

<sup>1)</sup> 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

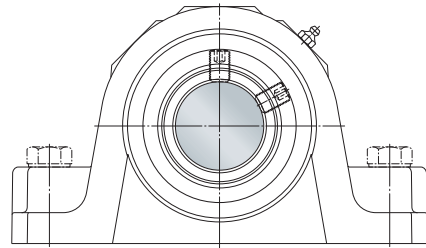
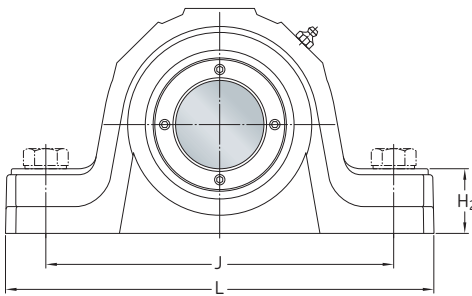
### SYE, SYE .. N, SYR and SYR .. N series

$d_a$  2 1/2 – 3 11/16 in.



Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	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 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

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



SYE ..N

SYR

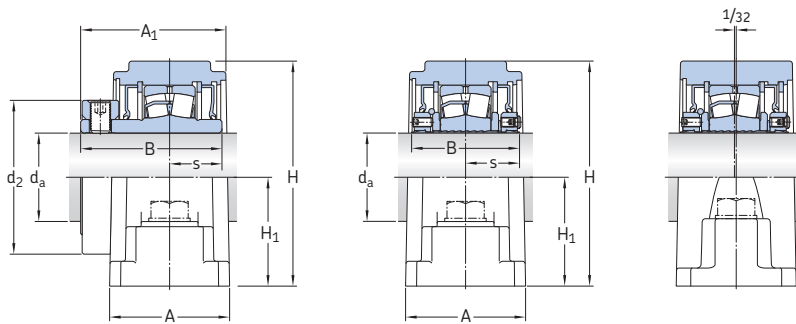
Shaft diameter d <sub>s</sub>	Bearing unit Designation <sup>1)</sup>	Dimensions										
		A	A <sub>1</sub>	B	d <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J max.	J min.	L	s
in.	-	in.										
2 1/2	SYE 21/2	2 7/8	3 19/32	3 3/8	4	5 11/16	2 3/4	1 5/8	8 3/4	8 1/4	10 1/2	1 1/4
	SYE 211/2 N	2 7/8	-	2 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

<sup>1)</sup> 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 <sup>15</sup>/<sub>16</sub> – 4 in.



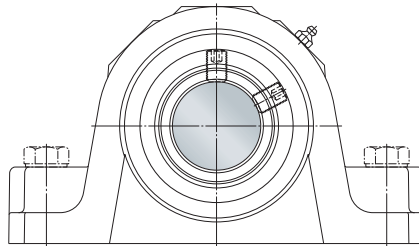
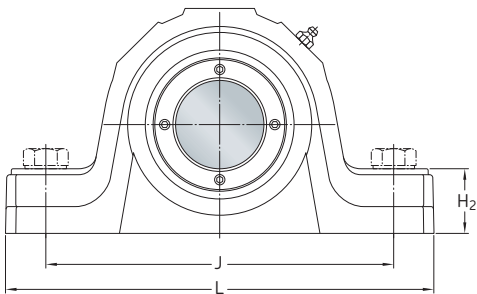
SYE

SYE .. N

SYR .. NH

Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	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 <sup>15</sup> / <sub>16</sub>	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

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



SYE..N

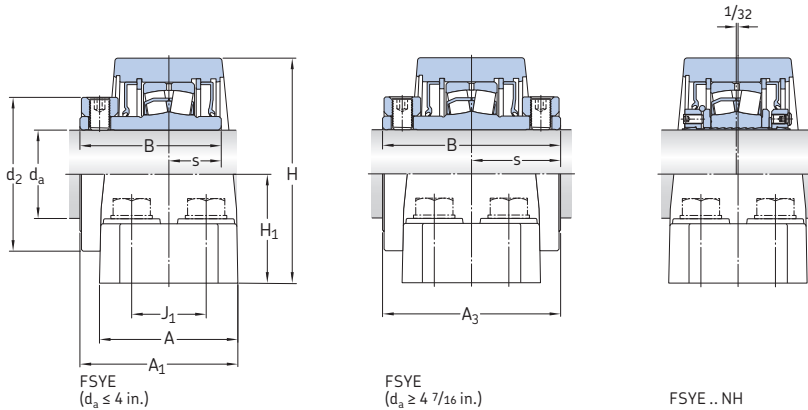
SYR

Shaft diameter	Bearing unit Designation <sup>1)</sup>	Dimensions										
		A	A <sub>1</sub>	B	d <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J max.	J min.	L	s
in.	-	in.										
3 <sup>15</sup> / <sub>16</sub>	SYR 3 15/16 SYR 3 15/16 N	3 <sup>17</sup> / <sub>32</sub>	4 <sup>21</sup> / <sub>32</sub>	4 <sup>19</sup> / <sub>32</sub>	6	8 <sup>7</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	10	14 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>
		3 <sup>17</sup> / <sub>32</sub>	-	3 <sup>3</sup> / <sub>8</sub>	-	8 <sup>7</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	10	14 <sup>1</sup> / <sub>4</sub>	1.61
4	SYR 4 SYR 4 N	3 <sup>17</sup> / <sub>32</sub>	4 <sup>21</sup> / <sub>32</sub>	4 <sup>19</sup> / <sub>32</sub>	6	8 <sup>7</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	10	14 <sup>1</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>8</sub>
		3 <sup>17</sup> / <sub>32</sub>	-	3 <sup>3</sup> / <sub>8</sub>	-	8 <sup>7</sup> / <sub>16</sub>	4 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	10	14 <sup>1</sup> / <sub>4</sub>	1.61

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

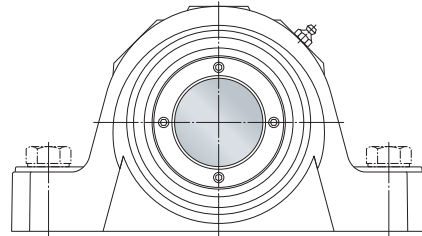
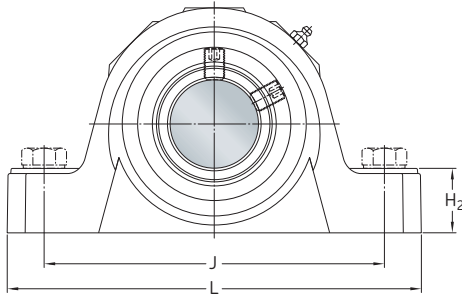
## 17.2 SKF inch roller bearing units with a four-bolt pillow (plummer) block housing FSYE and FSYE .. N series

$d_a$  2 <sup>7</sup>/<sub>16</sub> – 4 <sup>15</sup>/<sub>16</sub> in.



Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	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 <sup>7</sup> / <sub>16</sub>	FSYE 2 <sup>7</sup> / <sub>16</sub>	33 300	3 100	3 250	1 100	19	<sup>5</sup> / <sub>8</sub>
	FSYE 2 <sup>7</sup> / <sub>16</sub> N	43 400	2 900	3 800	–	19	<sup>5</sup> / <sub>8</sub>
2 <sup>1</sup> / <sub>2</sub>	FSYE 2 <sup>1</sup> / <sub>2</sub>	33 300	3 100	3 250	1 100	18.5	<sup>5</sup> / <sub>8</sub>
	FSYE 2 <sup>1</sup> / <sub>2</sub> N	43 400	2 900	3 800	–	18.5	<sup>5</sup> / <sub>8</sub>
2 <sup>11</sup> / <sub>16</sub>	FSYE 2 <sup>11</sup> / <sub>16</sub>	35 500	2 800	2 800	950	25.5	<sup>5</sup> / <sub>8</sub>
	FSYE 2 <sup>11</sup> / <sub>16</sub> N	47 700	2 600	3 400	–	25.5	<sup>5</sup> / <sub>8</sub>
2 <sup>3</sup> / <sub>4</sub>	FSYE 2 <sup>3</sup> / <sub>4</sub>	35 500	2 800	2 800	950	25.5	<sup>5</sup> / <sub>8</sub>
	FSYE 2 <sup>3</sup> / <sub>4</sub> N	47 700	2 600	3 400	–	25.5	<sup>5</sup> / <sub>8</sub>
2 <sup>15</sup> / <sub>16</sub>	FSYE 2 <sup>15</sup> / <sub>16</sub>	35 500	2 800	2 800	950	24	<sup>5</sup> / <sub>8</sub>
	FSYE 2 <sup>15</sup> / <sub>16</sub> N	47 700	2 600	3 400	–	24	<sup>5</sup> / <sub>8</sub>
3	FSYE 3	35 500	2 800	2 800	950	24	<sup>5</sup> / <sub>8</sub>
	FSYE 3 N	47 700	2 600	3 400	–	24	<sup>5</sup> / <sub>8</sub>
3 <sup>7</sup> / <sub>16</sub>	FSYE 3 <sup>7</sup> / <sub>16</sub>	56 900	2 300	2 200	800	36.5	<sup>3</sup> / <sub>4</sub>
	FSYE 3 <sup>7</sup> / <sub>16</sub> N	73 100	2 200	2 600	–	36.5	<sup>3</sup> / <sub>4</sub>
3 <sup>1</sup> / <sub>2</sub>	FSYE 3 <sup>1</sup> / <sub>2</sub>	56 900	2 300	2 200	800	36.5	<sup>3</sup> / <sub>4</sub>
	FSYE 3 <sup>1</sup> / <sub>2</sub> N	73 100	2 200	2 600	–	36.5	<sup>3</sup> / <sub>4</sub>
3 <sup>11</sup> / <sub>16</sub>	FSYE 3 <sup>11</sup> / <sub>16</sub>	69 900	2 100	2 000	700	50.5	<sup>3</sup> / <sub>4</sub>
	FSYE 3 <sup>11</sup> / <sub>16</sub> N	95 700	2 000	2 200	–	50.5	<sup>3</sup> / <sub>4</sub>
3 <sup>15</sup> / <sub>16</sub>	FSYE 3 <sup>15</sup> / <sub>16</sub>	69 900	2 100	2 000	700	49.5	<sup>3</sup> / <sub>4</sub>
	FSYE 3 <sup>15</sup> / <sub>16</sub> N	95 700	2 000	2 200	–	49.5	<sup>3</sup> / <sub>4</sub>
4	FSYE 4	69 900	2 100	2 000	700	49.5	<sup>3</sup> / <sub>4</sub>
	FSYE 4 N	95 700	2 000	2 200	–	49.5	<sup>3</sup> / <sub>4</sub>
4 <sup>7</sup> / <sub>16</sub>	FSYE 4 <sup>7</sup> / <sub>16</sub>	91 700	1 900	–	–	71	<sup>3</sup> / <sub>4</sub>
4 <sup>1</sup> / <sub>2</sub>	FSYE 4 <sup>1</sup> / <sub>2</sub>	91 700	1 900	–	–	71	<sup>3</sup> / <sub>4</sub>
4 <sup>15</sup> / <sub>16</sub>	FSYE 4 <sup>15</sup> / <sub>16</sub>	123 000	1 650	–	–	100	<sup>7</sup> / <sub>8</sub>

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



FSYE

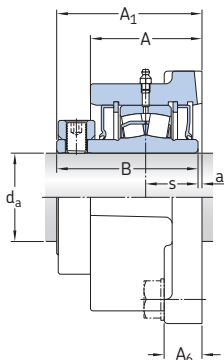
FSYE..N

Shaft diameter $d_3$	Bearing unit Designation <sup>1)</sup>	Dimensions												
		A	A <sub>1</sub>	B	d <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	J max.	J min.	J <sub>1</sub>	L	s	
in.	–	in.												
27/16	FSYE 2 7/16 FSYE 2 7/16 N	3 1/2	3 <sup>19</sup> / <sub>32</sub>	3 3/8	4	5 <sup>11</sup> / <sub>16</sub>	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 <sup>37</sup> / <sub>64</sub>	–	5 <sup>11</sup> / <sub>16</sub>	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 <sup>19</sup> / <sub>32</sub>	3 3/8	4	5 <sup>11</sup> / <sub>16</sub>	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 <sup>37</sup> / <sub>64</sub>	–	5 <sup>11</sup> / <sub>16</sub>	2 3/4	1 5/8	8 3/4	8 1/4	1 7/8	10 1/2	1.29	
2 <sup>11</sup> / <sub>16</sub>	FSYE 2 11/16 FSYE 2 11/16 N	4	3 <sup>29</sup> / <sub>32</sub>	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 <sup>37</sup> / <sub>64</sub>	–	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 <sup>29</sup> / <sub>32</sub>	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 <sup>37</sup> / <sub>64</sub>	–	6 5/16	3 1/8	1 7/8	9 7/8	9 1/8	2 1/8	12	1.29	
2 <sup>15</sup> / <sub>16</sub>	FSYE 2 15/16 FSYE 2 15/16 N	4	3 <sup>29</sup> / <sub>32</sub>	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 <sup>37</sup> / <sub>64</sub>	–	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 <sup>29</sup> / <sub>32</sub>	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 <sup>37</sup> / <sub>64</sub>	–	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 <sup>9</sup> / <sub>64</sub>	–	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 <sup>9</sup> / <sub>64</sub>	–	7 1/2	3 3/4	2 1/4	11 7/16	10 9/16	2 3/8	14	1.57	
3 <sup>11</sup> / <sub>16</sub>	FSYE 3 11/16 FSYE 3 11/16 N	4 1/2	4 7/8	4 <sup>19</sup> / <sub>32</sub>	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 <sup>25</sup> / <sub>34</sub>	–	8 9/16	4 1/4	2 7/16	13	12	2 1/4	15 1/4	1.61	
3 <sup>15</sup> / <sub>16</sub>	FSYE 3 15/16 FSYE 3 15/16 N	4 1/2	4 7/8	4 <sup>19</sup> / <sub>32</sub>	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 <sup>25</sup> / <sub>34</sub>	–	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 <sup>19</sup> / <sub>32</sub>	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 <sup>25</sup> / <sub>34</sub>	–	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 <sup>15</sup> / <sub>16</sub>	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	

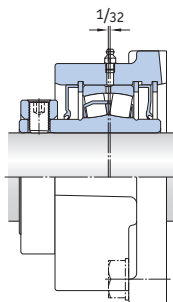
<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

## 17.3 20.3 SKF inch roller bearing units with a square flanged housing FYE series

$d_a$  1 7/16 – 4 in.



FYE

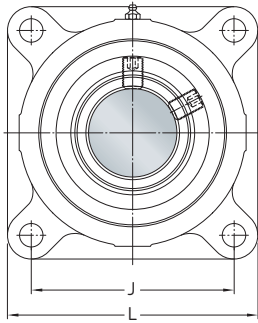


FYE..H

Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	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

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).



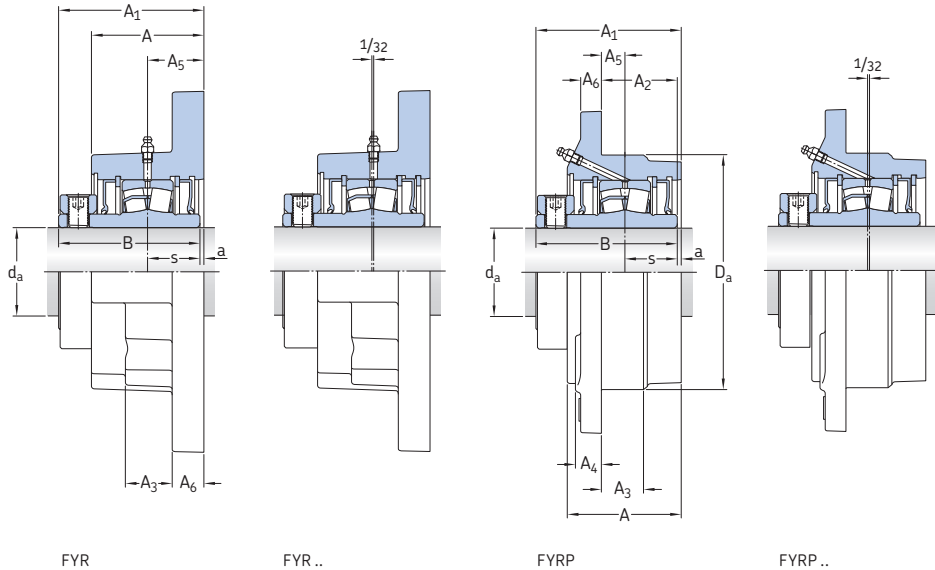


Shaft diameter	Bearing unit Designation <sup>1)</sup>	Dimensions							
		A <sub>1</sub>	A <sub>6</sub>	T	B	J	L	a	s
d <sub>a</sub>		in.							
17/16	FYE 17/16	2 1/4	3/4	2 27/32	2 3/4	3 1/2	4 5/8	3/32	1
1 1/2	FYE 11/2	2 5/16	3/4	2 9/32	3 3/4	4 1/8	5 3/8	5/32	1
1 11/16	FYE 111/16	2 5/16	3/4	3 1/32	2 7/8	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 2 11/16	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 3 7/16	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 3 11/16	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 3 15/16	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

<sup>1)</sup> 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

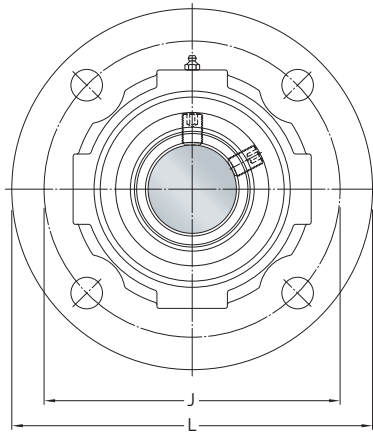
$d_a$  1 7/16 – 2 11/16 in.



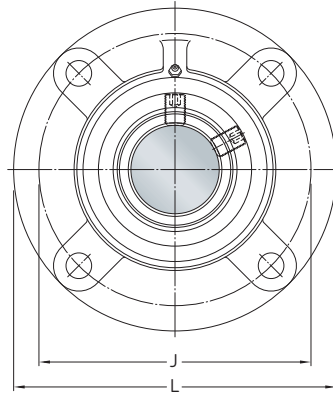
Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	Basic load rating dynamic C	Limiting speeds		Radial shaft seal	Mass	Appropriate attachment bolt size
			TriGard seal	Labyrinth seal			
in.		lbf.	r/min			lb.	–
1 7/16	FYR 1 7/16	16 600	5 100	5 300	1 700	8.5	1/2 <sup>2)</sup>
	FYRP 1 7/16	16 600	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 <sup>2)</sup>
	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

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

<sup>2)</sup> The units are supplied with three attachment bolt holes, which are placed in an angle of 120°.



FYR



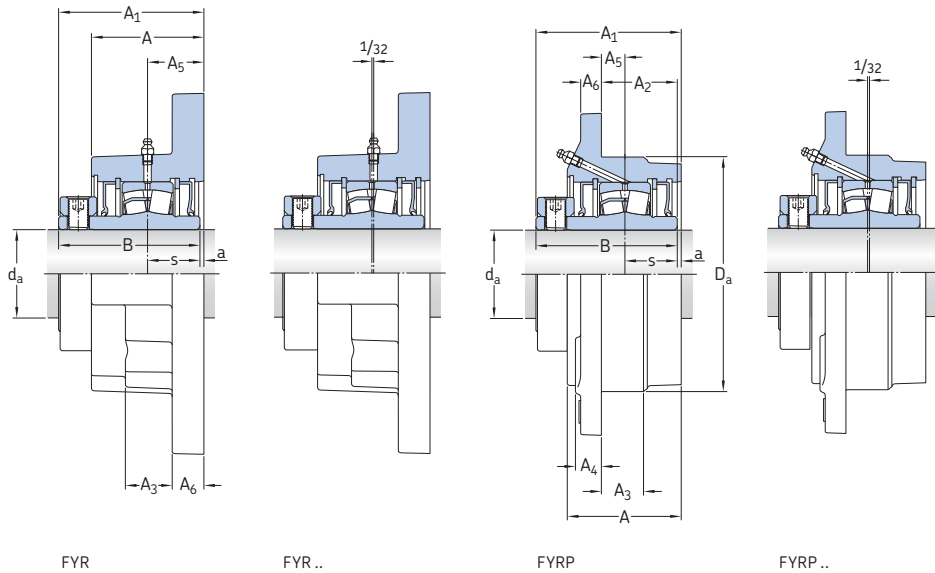
FYRP

Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	Dimensions													
		A	A <sub>6</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>1</sub>	B	A <sub>5</sub>	a	D <sub>a</sub>	J	L	s	A <sub>2</sub>	
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	

<sup>1)</sup> The listed designation is for a non-locating unit with TriGard seals. Other variants must be specified by suffixes (→ page 693).

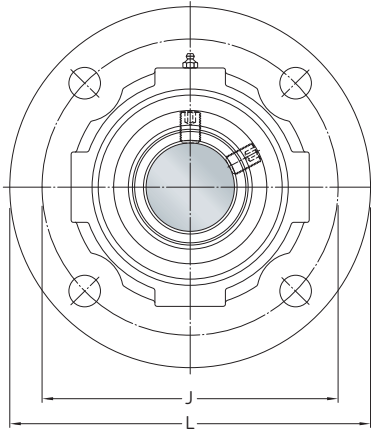
## 17.4 SKF inch roller bearing units with a round or piloted flanged housing FYR and FYRP series

$d_a$  2 3/4 – 4 in.

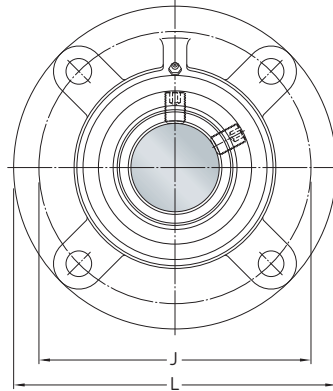


Shaft diameter $d_a$	Bearing unit Designation <sup>1)</sup>	Basic load rating dynamic C	Limiting speeds		Radial shaft seal	Mass	Appropriate attachment bolt size
			TriGard seal	Labyrinth seal			
in.		lbf.	r/min			lb.	–
2 3/4	FYR 2 3/4	35 500	2 800	2 800	950	27	3/4
	FYRP 2 3/4	35 500	2 800	2 800	950	20.5	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

<sup>1)</sup> 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 <sup>1)</sup>	Dimensions													
		A	A <sub>6</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>1</sub>	B	A <sub>5</sub>	a	D <sub>a</sub>	J	L	s	A <sub>2</sub>	
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	– 1 3/16	3 7/8 3 29/32	3 5/8 3 5/8	1 15/32 1 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	
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	– 1 3/16	3 7/8 3 29/32	3 5/8 3 5/8	1 15/32 1 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	
3	FYR 3 FYRP 3	2 7/8 3 1/8	1 5/16 1 1/16	1 3/16 1 1/4	– 1 3/16	3 7/8 3 29/32	3 5/8 3 5/8	1 15/32 1 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	
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 1 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 1 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 1 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 1 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 1 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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	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	
		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	
		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

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
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

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		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

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
<b>Spherical roller bearings</b>			
21305 CC	SNL 206-305	2.3	120
21306 CC	SE 507-606	2.3	120
21306 CCK + H 306	SE 507-606	2.1	86
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
21312 E	SE 515-612	2.3	126
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
	SNL 505	2.3	120
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
22207 E	SE 207	2.3	122
	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

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
22208 E	SE 208-307	2.3	122
	SE 508-607	2.3	122
	SYNT 40	16.1	686
	FYNT 40	16.2	688
22208 EK + H 308	SE 508-607	2.1	88
	FNL 508	11.1	546
22208 EK + HE 308	SE 508-607	2.2	102
22209 E	SE 209	2.3	124
	SE 509	2.3	124
	SYNT 45	16.1	686
	FYNT 45	16.2	688
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
22209 EK + SNW 9x1.7/16	SAF 22509	8.2	422
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
	SE 510-608	2.2	104
22210 EK + HA 310	SE 510-608	2.2	104
22210 EK + HE 310	SE 510-608	2.2	104
22210 EK + SNW 10x1.11/16	SAF 22510	8.2	422
22211 E	SE 211	2.3	126
	SE 511-609	2.3	126
	SYNT 55	16.1	686
	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
	SE 511-609	2.2	106
22211 EK + HA 311	SE 511-609	2.2	106
22211 EK + HE 311 B	SE 511-609	2.2	106
22211 EK + SNW 11x1.15/16	SAF 22511	8.2	422
22212 E	SE 212	2.3	126
	SE 512-610	2.3	126
	SYNT 60	16.1	686
	FYNT 60	16.2	688
22212 EK + H 312	SE 512-610	2.1	90
	THDD 2212	10.5	526
	FNL 512	11.1	548
	SE 213	2.3	128
22213 E	SE 513-611	2.3	128
	SAF 22213	8.5	436
	SYNT 65	16.1	686
	FYNT 65	16.2	688
22213 EK + H 313	SE 513-611	2.1	90
	SBDD 2213	10.1	502
	THDD 2213	10.5	526
	FNL 513	11.1	548
22213 EK + HA 313	SE 513-611	2.2	106
22213 EK + HE 313	SE 513-611	2.2	108
22213 EK + SNW 13x2.3/16	SAF 22513	8.2	422
22214 E	SYNT 70	16.1	686
	FYNT 70	16.2	688
22215 E	SE 215	2.3	130
	SE 515-612	2.3	130
	SAF 22215	8.5	436
	SYNT 75	16.1	686
	FYNT 75	16.2	688
	SE 515-612	2.1	92
22215 EK + H 315	FNL 515	11.1	550
	SE 515-612	2.2	108
22215 EK + HA 315	SE 515-612	2.2	108
22215 EK + HE 315	SE 515-612	2.2	108
22215 EK + SNW 15x2.7/16	SAF 22515	8.2	422
22216 E	SNL 216	2.3	130
	SNL 516-613	2.3	130
	SAF 22216	8.5	438
	SYNT 80	16.1	686
	FYNT 80	16.2	688



Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
22216 EK + H 316	SNL 516-613	2.1	92
	THDD 2216	10.5	526
	FNL 516	11.1	550
22216 EK + HA 316	SNL 516-613	2.2	110
	SNL 516-613	2.2	110
22216 EK + HE 316	SNL 516-613	2.2	110
22216 EK + SNW 16x2.11/16	SAF 22516	8.2	422
22217 E	SNL 217	2.3	132
	SNL 517	2.3	132
22217 EK + H 317	SONL 217-517	7.3	378
	SAF 22217	8.5	438
	SNL 517	2.1	92
22217 EK + HA 317	SONL 217-517	7.1	370
	FNL 517	11.1	550
	SNL 517	2.2	110
22217 EK + HE 317	SONL 217-517	7.2	374
	SNL 517	2.2	112
22217 EK + SNW 17x2.15/16	SAF 22517	8.2	424
22218 E	SNL 218	2.3	132
	SNL 518-615	2.3	132
22218 EK + H 318	SONL 218-518	7.3	378
	SAF 22218	8.5	438
	SYNT 90	16.1	686
22218 EK + HA 318	FYNT 90	16.2	688
	SNL 518-615	2.1	94
	SONL 218-518	7.1	370
22218 EK + HE 318	SBDD 2218	10.1	502
	THDD 2218	10.5	526
	FNL 518	11.1	550
22218 EK + SNW 18x3.3/16	SNL 518-615	2.2	112
	SONL 218-518	7.2	374
22219 EK + H 319	SNL 518-615	2.2	112
	SAF 22518	8.2	424
22220 E	SNL 519-616	2.1	94
	SNL 520-617	2.3	134
22220 EK + H 320	SONL 220-520	7.3	378
	SAF 22220	8.5	438
	SDAF 22220	9.2	474
22220 EK + HA 320	SBDD 2220	10.3	514
	SBDD 2220	10.4	520
	SYNT 100	16.1	686
22220 EK + HE 320	FYNT 100	16.2	688
	SNL 520-617	2.1	94
	SONL 220-520	7.1	370
22220 EK + SNW 20	SBDD 2220	10.1	502
	SBDD 2220	10.2	508
22220 EK + SNW 20x3.7/16	THDD 2220	10.5	526
	FNL 520	11.1	550
22222 E	SNL 520-617	2.2	114
	SONL 220-520	7.2	374
22222 EK + H 322	SNL 520-617	2.2	114
	SDAF 22520	9.1	472
22222 EK + HE 322	SAF 22520	8.2	424
	SNL 522-619	2.3	134
22222 EK + SNW 22	SONL 222-522	7.3	378
	SAF 22222	8.5	438
22222 EK + SNW 22x3.15/16	SDAF5 22222	9.2	474
	SBDD 2222	10.3	514
22222 EK + SNW 22x3.15/16	SBDD 2222	10.4	520
	SBDD 2222	10.5	526
22222 EK + HE 322	SNL 522-619	2.1	96
	SNL 522-619	2.2	114
22222 EK + SNW 22	SONL 222-522	7.1	370
	SONL 222-522	7.2	374
22222 EK + SNW 22x3.15/16	SBDD 2222	10.1	502
	SBDD 2222	10.2	508
22222 EK + HE 322	THDD 2222	10.5	526
	FNL 522	11.1	550
22222 EK + SNW 22	SNL 522-619	2.2	116
	SDAF5 22522	9.1	472
22222 EK + SNW 22x3.15/16	SAF 22522	8.2	424



Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
22232 CC/W33	SNL 532	2.3	136
	SNL 3038	5.3	302
	SAF 22232	8.5	440
	SDAF 22232	9.2	474
	SBDD 2232	10.3	514
	SBDD 2232	10.4	520
	SONL 232-532	7.1	370
22232 CCK/W33 + H 3132	SNL 532	2.1	98
	SNL 3038	5.1	222
	SONL 232-532	7.1	370
	SBDD 2232	10.1	502
22232 CCK/W33 + HA 3132	SBDD 2232	10.2	508
	SNL 532	2.2	118
	SNL 3038	5.2	260
22232 CCK/W33 + HE 3132	SONL 232-532	7.2	376
	SNL 532	2.2	118
22232 CCK/W33 + SNW 32	SNL 3038	5.2	260
22232 CCK/W33 + SNW 32x5.7/16	SONL 232-532	7.2	376
22232-2CS5	SNL 532	2.2	118
22232-2CS5K + H 3132	SNL 3038	5.2	260
	SNL 3038	5.3	302
22232-2CS5K + HA 3132	SNL 532	2.1	98
	SNL 3038	5.1	222
22232-2CS5K + HE 3132	SNL 532	2.1	98
	SNL 3038	5.2	260
22234 CC/W33	SNL 532	2.2	118
	SNL 3038	5.2	260
22234 CCK/W33 + H 3134	SNL 3040	5.3	302
	SONL 234-534	7.3	380
	SAF 22234	8.5	440
	SBDD 2234	10.3	514
	SBDD 2234	10.4	520
	SNL 3040	5.1	222
	SONL 234-534	7.1	370
22234 CCK/W33 + H 3134/5.13/16	SBDD 2234	10.1	504
	SBDD 2234	10.2	508
	SNL 3040	5.2	262
22234 CCK/W33 + H 3134/5.7/8	SNL 3040	5.2	262
22234 CCK/W33 + HA 3134	SNL 3040	5.2	262
22234 CCK/W33 + HE 3134	SONL 234-534	7.2	376
	SNL 3040	5.2	264
22234 CCK/W33 + SNW 34x5.15/16	SNL 3040	5.2	264
22234-2CS5	SAF 22534	8.2	426
22234-2CS5K + H 3134	SNL 3040	5.3	302
22234-2CS5K + H 3134/5.13/16	SNL 3040	5.1	222
22234-2CS5K + H 3134/5.7/8	SNL 3040	5.2	262
22234-2CS5K + H 3134/5.7/8	SNL 3040	5.2	262
22234-2CS5K + HA 3134	SNL 3040	5.2	262
22234-2CS5K + HA 3134	SNL 3040	5.2	264
22234-2CS5K + HE 3134	SNL 3040	5.2	264
22236 CC/W33	SNL 3138	5.3	304
22236 CCK/W33 + H 3136	SONL 236-536	7.3	380
	SAF 22236	8.5	440
	SAF 22236	9.2	474
	SDBD 2236	10.3	516
	SBDD 2236	10.4	522
	SNL 3138	5.1	224
	SONL 236-536	7.1	372
22236 CCK/W33 + H 3136/6.3/8	SBDD 2236	10.1	504
	SBDD 2236	10.2	510
	SNL 3138	5.2	264
22236 CCK/W33 + H 3136/6.5/16	SNL 3138	5.2	264
22236 CCK/W33 + HA 3136	SNL 3138	5.2	266
22236 CCK/W33 + HE 3136	SONL 236-536	7.2	376
	SNL 3138	5.2	266
22236 CCK/W33 + SNW 36	SDBD 2236	10.1	504
22236 CCK/W33 + SNW 36x6.7/16	SAF 22536	9.1	472
22236-2CS5	SAF 22536	8.2	428
22236-2CS5K + H 3136	SNL 3138	5.3	304
22236-2CS5K + H 3136/6.3/8	SNL 3138	5.1	224
22236-2CS5K + H 3136/6.5/16	SNL 3138	5.2	264
22236-2CS5K + H 3136/6.5/16	SNL 3138	5.2	264
22236-2CS5K + HA 3136	SNL 3138	5.2	266
22236-2CS5K + HE 3136	SNL 3138	5.2	266

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
22238 CC/W33	SNL 3140	5.3	304
	SONL 238-538	7.3	380
	SAF 22238	8.5	442
	SDAF 22238	9.2	474
	SBDD 2238	10.3	516
	SBDD 2238	10.4	522
22238 CCK/W33 + H 3138	SNL 3140	5.1	226
	SONL 238-538	7.1	372
	SBDD 2238	10.1	504
	SBDD 2238	10.2	510
22238 CCK/W33 + H 3138/6.13/16	SNL 3140	5.2	268
22238 CCK/W33 + H 3138/6.7/8	SNL 3140	5.2	270
22238 CCK/W33 + H 3138/7	SNL 3140	5.2	272
22238 CCK/W33 + HA 3138	SNL 3140	5.2	270
	SONL 238-538	7.2	376
22238 CCK/W33 + HE 3138	SNL 3140	5.2	268
22238 CCK/W33 + SNW 38	SDAF 22538	9.1	472
22238 CCK/W33 + SNW 38x6.15/16	SAF 22538	8.2	428
22238-2CS5	SNL 3140	5.3	304
22238-2CS5K + H 3138	SNL 3140	5.1	226
22238-2CS5K + H 3138/6.13/16	SNL 3140	5.2	268
22238-2CS5K + H 3138/6.7/8	SNL 3140	5.2	270
22238-2CS5K + H 3138/7	SNL 3140	5.2	272
22238-2CS5K + HA 3138	SNL 3140	5.2	270
22238-2CS5K + HE 3138	SNL 3140	5.2	268
22240 CC/W33	SNL 3048	5.3	306
	SONL 240-540	7.3	380
	SAF 22240	8.5	442
	SDAF 22240	9.2	474
	SBDD 2240	10.3	516
	SBDD 2240	10.4	522
22240 CCK/W33 + H 3140	SNL 3048	5.1	228
	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
	SONL 240-540	7.2	376
22240 CCK/W33 + HE 3140	SNL 3048	5.2	272
22240 CCK/W33 + SNW 40	SDAF 22540	9.1	472
22240 CCK/W33 + SNW 40x7.3/16	SAF 22540	8.2	428
22240-2CS5	SNL 3048	5.3	306
22240-2CS5K + H 3140	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

Spherical roller bearings  
22238 to 22313

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
22248 CCK/W33 + H 3148/8.15/16	SNL 3152	5.2	280
	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
	SBDD 2264	10.4	524
22264 CCK/W33 + H 3164/12	SNL 3168	5.2	288
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
22272 CA/W33	SNL 3180	5.3	316
22272 CAK/W33 + H 3172/13.1/2	SNL 3180	5.2	294
22272 CAK/W33 + OH 3172 H	SNL 3180	5.1	244
22272 CAK/W33 + OH 3172/13 H	SNL 3180	5.2	292
22308 E	SE 510-608	2.3	122
	SAF 22308	8.5	436
22308 EK + H 2308	SE 510-608	2.1	88
22308 EK + HE 2308	SE 510-608	2.2	102
22309 E	SE 511-609	2.3	124
	SAF 22309	8.5	436
22309 EK + H 2309	SE 511-609	2.1	88
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
22310 E	SE 512-610	2.3	124
	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
22312 E	SE 515-612	2.3	126
	SAF 22312	8.5	436
22312 EK + H 2312	SE 515-612	2.1	90
22313 E	SNL 516-613	2.3	128
	SAF 22313	8.5	436
22313 EK + H 2313	SNL 516-613	2.1	90
22313 EK + HA 2313	SNL 516-613	2.2	106

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
22313 EK + HE 2313	SNL 516-613	2.2	108
22313 EK + SNW 113x2.3/16	SAF 22613	8.2	422
22314 CC/W33	SAF 22314	8.5	436
22314 E	SNL 517	2.3	128
22315 CC/W33	SAF 22315	8.5	436
22315 CCK/W33 + SNW 115x2.7/16	SAF 22615	8.2	422
22315 E	SNL 518-615	2.3	130
22315 EK + H 2315	SNL 518-615	2.1	92
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
	SDAF 22317	9.2	474
22317 EK + H 2317	SNL 520-617	2.1	92
22317 EK + HA 2317	SNL 520-617	2.2	110
22317 EK + HE 2317	SNL 520-617	2.2	112
22317 EK + SNW 117	SDAF 22617	9.1	472
22318 CC/W33	SAF 22318	8.5	438
22318 CCK/W33 + SNW 118x3.3/36	SAF 22618	8.2	424
22319 E	SNL 522-619	2.3	134
22319 EK + H 2319	SNL 522-619	2.1	94
22319 EK + HE 2319	SNL 522-619	2.2	112
22320 CC/W33	SAF 22320	8.5	438
22320 CCK/W33 + SNW 120x3.7/16	SAF 22620	8.2	424
22320 E	SDAF 22320	9.2	474
22320 EK + H 2320	SNL 524-620	2.1	94
22320 EK + HA 2320	SNL 524-620	2.2	114
22320 EK + HE 2320	SNL 524-620	2.2	114
22320 EK + SNW 120	SDAF 22620	9.1	472
22322 CC/W33	SAF 22322	8.5	438
22322 CCK/W33 + SNW 122x3.15/16	SAF 22622	8.2	424
22322 E	SDAF 22322	9.2	474
22322 EK + SNW 122	SDAF 22622	9.1	472
22324 CC/W33	SAF 22324	8.5	440
	SDAF 22324	9.2	474
22324 CCK/W33 + SNW 124	SDAF 22624	9.1	472
22324 CCK/W33 + SNW 124x4.3/16	SAF 22624	8.2	424
22326 CC/W33	SNL 3134	5.3	302
	SAF 22326	8.5	440
	SDAF 22326	9.2	474
22326 CCK/W33 + H 2326	SNL 3134	5.1	222
22326 CCK/W33 + HA 2326	SNL 3134	5.2	260
22326 CCK/W33 + HE 2326	SNL 3134	5.2	260
22326 CCK/W33 + SNW 126	SDAF 22626	9.1	472
22326 CCK/W33 + SNW 126x4.7/16	SAF 22626	8.2	426
22326-2CS5	SNL 3134	5.3	302
22326-2CS5K + H 2326	SNL 3134	5.1	222
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
	SAF 22328	8.5	440
	SDAF 22328	9.2	474
22328 CCK/W33 + H 2328	SNL 3136	5.1	222
22328 CCK/W33 + HA 2328	SNL 3136	5.2	260
22328 CCK/W33 + HE 2328	SNL 3136	5.2	260
22328 CCK/W33 + SNW 128x4.15/16	SAF 22628	8.2	426
22328-2CS5	SNL 3136	5.3	302
22328-2CS5K + H 2328	SNL 3136	5.1	222
22328-2CS5K + HA 2328	SNL 3136	5.2	260
22328-2CS5K + HE 2328	SNL 3136	5.2	260
22330 CC/W33	SNL 3138	5.3	302
	SAF 22330	8.5	440
	SDAF 22330	9.2	474
22330 CCK/W33 + H 2330	SNL 3138	5.1	222
22330 CCK/W33 + HA 2330	SNL 3138	5.2	260
22330 CCK/W33 + HE 2330	SNL 3138	5.2	260

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
22330 CCK/W33 + SNW 130x5.3/16	SAF 22630	8.2	426
22330-2CS5	SNL 3138	5.3	302
22330-2CS5K + H 2330	SNL 3138	5.1	222
22330-2CS5K + HA 2330	SNL 3138	5.2	260
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
22334 CCK/W33 + H 2334/5.13/16	SNL 3048	5.2	262
22334 CCK/W33 + H 2334/5.7/8	SNL 3048	5.2	262
22334 CCK/W33 + HA 2334	SNL 3048	5.2	262
22334 CCK/W33 + HE 2334	SNL 3048	5.2	264
22334 CCK/W33 + SNW 134	SDAF 22634	9.1	472
22334 CCK/W33 + SNW 134x5.15/16	SAF 22634	8.2	426
22336 CC/W33	SDAF 22336	9.2	474
22336 CCK/W33 + SNW 136	SDAF 22636	9.1	472
22338 CC/W33	SNL 3148	5.3	304
	SAF 22338	8.5	442
	SDAF 22338	9.2	474
22338 CCK/W33 + H 2338	SNL 3148	5.1	226
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
230/500 CA/W33	SNL 30/500	5.3	328
	SDAF 230/500	9.4	482
230/500 CAK/W33 + OH 30/500 H	SNL 30/500	5.1	258
230/500 CAK/W33 + OH 30/500/18.1/2 H	SNL 30/500	5.2	300
230/500 CAK/W33 + SNP 30/500 x 181/2	SDAF 230/500 KA x 181/2	9.3	478
230/530 CA/W33	SNL 30/530	5.3	328
	SDAF 230/530	9.4	482
	SKND 30/530	14.1	634
230/530 CAK/W33	SDM 30/530	13.5	614
	SDM 30/530	13.6	618
230/530 CAK/W33 + OH 30/530 H	SNL 30/530	5.1	258
230/530 CAK/W33 + OH 30/530/19.1/2 H	SNL 30/530	5.2	300

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
230/530 CAK/W33 + SNP 30/530 x191/2	SDAF 230/530 KA x191/2	9.3	478
230/560 CAK/W33 + OH 30/560 H	SED 30/560	6.1	332
230/600 CA/W33	SKND 30/600	14.1	634
230/600 CAK/W33	SDM 30/600	13.5	614
	SDM 30/600	13.6	618
230/600 CAK/W33 + OH 30/600 H	SED 30/600	6.1	332
230/630 CAK/W33 + OH 30/630 H	SED 30/630	6.1	332
230/670 CA/W33	SKND 30/670	14.1	634
230/670 CAK/W33	SDM 30/670	13.5	616
	SDM 30/670	13.6	620
230/670 CAK/W33 + OH 30/670 H	SED 30/670	6.1	332
230/710 CAK/W33 + OH 30/710 H	SED 30/710	6.1	332
230/750 CAK/W33 + OH 30/750 H	SED 30/750	6.1	332
230/800 CAK/W33 + OH 30/800 H	SED 30/800	6.1	332
230/850 CAK/W33 + OH 30/850 H	SED 30/850	6.1	334
230/900 CAK/W33 + OH 30/900 H	SED 30/900	6.1	334
230/950 CAK/W33 + OH 30/950 H	SED 30/950	6.1	334
23024 CC/W33	SNLN 3024	4.2	180
	SBDD 3024	10.3	514
	SBDD 3024	10.4	520
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
	SBDD 3026	10.1	502
	SBDD 3026	10.2	508
23026 CCK/W33 + SNW 3026x4.7/16	SAF 23026 KA x 4.7/16	8.2	426
23026-2CS5	SNLN 3026	4.2	180
23026-2CS5K + H 3026 E	SNLN 3026	4.1	176
23028 CC/W33	SNLN 3028	4.2	180
	SBDD 3028	10.3	514
	SBDD 3028	10.4	520
23028 CCK/W33 + H 3028	SNLN 3028	4.1	176
	SBDD 3028	10.1	502
	SBDD 3028	10.2	508
23028 CCK/W33 + SNW 3028x4.15/16	SAF 23028 KA x 4.15/16	8.2	426
23028-2CS5	SNLN 3028	4.2	180
23028-2CS5K + H 3028 E	SNLN 3028	4.1	176
23030 CC/W33	SNLN 3030	4.2	180
	SBDD 3030	10.3	514
	SBDD 3030	10.4	520
23030 CCK/W33 + H 3030	SNLN 3030	4.1	176
	SBDD 3030	10.1	502
	SBDD 3030	10.2	508
	THDD 3030	10.5	526
23030 CCK/W33 + SNW 3030x5.3/16	SAF 23030 KA x 5.3/16	8.2	426
23030-2CS5	SNLN 3030	4.2	180
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
23032-2CS5	SNLN 3032	4.2	182
23032-2CS5K + H 3032 E	SNLN 3032	4.1	176
23034 CC/W33	SNLN 3034	4.2	182
	SBDD 3034	10.3	514
	SBDD 3034	10.4	520
23034 CCK/W33 + H 3034	SNLN 3034	4.1	178
	SBDD 3034	10.1	504
	SBDD 3034	10.2	508
	THDD 3034	10.5	526
23034 CCK/W33 + SNW 3034x5.15/16	SAF 23034 KA x 5.15/16	8.2	426
23034-2CS5	SNLN 3034	4.2	182
23034-2CS5K + H 3034 E	SNLN 3034	4.1	178



Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
23036 CC/W33	SNLN 3036	4.2	182
	SNL 3036	5.3	304
	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
23036-2CS5K + H 3036 E	SNL 3036	5.3	304
	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
23038 CCK/W33 + H 3038/6.13/16	THDD 3038	10.5	526
	SNL 3038	5.2	268
	SNL 3038	5.2	270
	SNL 3038	5.2	272
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
23040 CCK/W33 + H 3040/7.1/4	THDD 3040	10.5	528
	SNL 3040	5.2	276
	SNL 3040	5.2	274
	SNL 3040	5.2	274
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
23040-2CS5K + H 3040	SNL 3040	5.3	306
	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	274
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
23044 CCK/W33 + OH 3044 HB	SNL 3044	5.1	230
	SBDD 3044	10.1	504
	THDD 3044	10.5	528
	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

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
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

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
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

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
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

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
23136 CCK/W33 + HA 3136	SNL 3136	5.2	266
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

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
23152 CCK/W33 + OH 3152 H	SNL 3152	5.1	234
	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

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
23168 CCK/W33 + OH 3168 HB	SBDD 3168	10.2	512
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
	SDF 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	SDF 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
	SDF 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	SDF 23176 KA x 1315/16	9.3	476
23180 CA/W33	SNL 3180	5.3	320
	SDF 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	SDF 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	SDF 23184	9.4	480
23184 CAK/W33 + SNP 3184 x 153/4	SDF 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
	SDF 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	SDF 23188 KA x 161/2	9.3	478
23192 CA/W33	SNL 3192	5.3	326
	SDF 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	SDF 23192 KA x 17	9.3	478
23196 CA/W33	SNL 3196	5.3	326
	SDF 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	SDF 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
232/560 CAK/W33 + OH 32/560 H	SED 32/560	6.1	332
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

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
232/750 CAK/W33 + OH 32/750 H	SED 32/750	6.1	332
23218 CC/W33	SNL 218	2.3	132
	SNL 518-615	2.3	132
	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
	SNL 524-620	2.3	134
	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
23220-2CS	SNL 520-617	2.3	134
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
	SBDD 3224	10.4	520
23224 CCK/W33 + H 2324	SNL 524-620	2.1	96
	SBDD 3224	10.2	508
	THDD 3224	10.5	526
23224 CCK/W33 + H 2334	SBDD 3224	10.1	502
23224 CCK/W33 + HA 2324	SNL 524-620	2.2	116
23224 CCK/W33 + HE 2324	SNL 524-620	2.2	116
23224 CCK/W33 + SNW 124x4.3/16	SAW 22524	8.2	424
23226 CC/W33	SNL 526	2.3	136
	SAW 23226	8.5	440
	SBDD 3226	10.3	514
	SBDD 3226	10.4	520
23226 CCK/W33 + H 2326	SNL 526	2.1	96
	SBDD 3226	10.2	508
	THDD 3226	10.5	526
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
23226 CCK/W33 + SNW 126x4.7/16	SAW 23526	8.2	426
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
	SAW 23230	8.5	440
	SBDD 3230	10.3	514
	SBDD 3230	10.4	520



Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
23230 CCK/W33 + H 2330	SNL 530	2.1	96
	SBDD 3230	10.1	502
	SBDD 3230	10.2	508
23230 CCK/W33 + HA 2330	SNL 530	2.2	118
23230 CCK/W33 + HE 2330	SNL 530	2.2	118
23230 CCK/W33 + SNW 130x5.3/16	SAW 23530	8.2	426
23230-2CS5	SNL 530	2.3	136
23230-2CS5K + HA 2330	SNL 530	2.2	118
23230-2CS5K + HE 2330	SNL 530	2.2	118
23232 CC/W33	SNL 532	2.3	136
	SNL 3038	5.3	302
	SAW 23232	8.5	440
	SBDD 3232	10.3	514
	SBDD 3232	10.4	520
	THDD 3230	10.5	526
23232 CCK/W33 + H 2330	SNL 532	2.1	98
23232 CCK/W33 + H 2332	SNL 3038	5.1	222
	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
23232 CCK/W33 + SNW 132x5.7/16	SAW 23532	8.2	426
23234 CC/W33	SNL 3234	5.3	302
	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
	SBDD 3234	10.1	504
	SBDD 3234	10.2	508
23234 CCK/W33 + H 2334/5.13/16	SNL 3234	5.2	262
23234 CCK/W33 + H 2334/5.7/8	SNL 3234	5.2	262
23234 CCK/W33 + HA 2334	SNL 3234	5.2	262
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
23240 CCK/W33 + HE 2340	SNL 3240	5.2	272
23240 CCK/W33 + SNW 140x7.3/16	SAW 23540	8.2	428
23240-2CS5	SNL 3240	5.3	306

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
23244 CC/W33	SNL 3244	5.3	308
	SAW 23244	8.5	442
	SBDD 3244	10.3	516
	SBDD 3244	10.4	522
23244 CCK/W33 + H 2344/7.15/16	SNL 3244	5.2	278
	SNL 3244	5.1	230
23244 CCK/W33 + OH 2344 H	SBDD 3244	10.1	504
	THDD 3244	10.5	528
	SBDD 3244	10.2	510
	SAW 23544	8.2	428
23244 CCK/W33 + SNW 144x7.15/16	SDAF 23248	9.4	480
23248 CAC/W33	SDAF 23248 KA x 815/16	9.3	476
23248 CACK/W33 + SNP 148 x 815/16	SNL 3248	5.3	310
23248 CC/W33	SBDD 3248	10.3	516
	SBDD 3248	10.4	522
	SNL 3248	5.2	280
	SNL 3248	5.1	232
23248 CCK/W33 + H 2348/8.15/16	SBDD 3248	10.1	504
	THDD 3248	10.5	528
	SBDD 3248	10.2	510
	SDAF 23252	9.4	480
23248 CCK/W33 + OH 2348 HB	SDAF 23252 KA x 97/16	9.3	476
	SNL 3252	5.3	310
23252 CAC/W33	SBDD 3252	10.3	516
23252 CCK/W33 + SNP 152 x 97/16	SBDD 3252	10.4	522
	SNL 3252	5.2	282
	SNL 3252	5.1	234
	SBDD 3252	10.1	504
23252 CC/W33	THDD 3252	10.5	528
	SBDD 3252	10.2	510
	SNL 3252	5.2	280
	SDAF 23256	9.4	480
23252 CCK/W33 + OH 2352 HB	SDAF 23256 KA x 107/16	9.3	476
23252 CCK/W33 + OH 2352/9.7/16 H	SNL 3256	5.3	312
23256 CAC/W33	SBDD 3256	10.3	516
23256 CACK/W33 + SNP 3256 x 107/16	SBDD 3256	10.4	522
	SNL 3256	5.2	284
	SNL 3256	5.2	284
	SNL 3256	5.1	236
23256 CCK/W33 + H 2356/10.1/2	SBDD 3256	10.1	506
23256 CCK/W33 + H 2356/10.7/16	THDD 3256	10.5	528
	SBDD 3256	10.2	510
	SDAF 23260	9.4	480
	SDAF 23260 KA x 1015/16	9.3	476
23256 CCK/W33 + OH 2356 HB	SNL 3260	5.3	312
23260 CAC/W33	SBDD 3260	10.3	518
23260 CACK/W33 + SNP 3260 x 1015/16	SBDD 3260	10.4	524
	SBDD 3260	10.2	512
	SNL 3260	5.1	238
	SBDD 3260	10.1	506
23260 CC/W33	THDD 3260	10.5	528
23260 CCK/W33 + OH 2360 HB	SNL 3260	5.2	286
	SNL 3260	5.2	286
	SDAF 23264	9.4	480
	SDAF 23264 KA x 1115/16	9.3	476
23260 CCK/W33 + OH 2360/10.15/16 H	SNL 3264	5.3	314
23260 CCK/W33 + OH 2360/11 H	SBDD 3264	10.3	518
	SBDD 3264	10.4	524
	SNL 3264	5.2	288
	SNL 3264	5.2	288
23264 CAC/W33	SBDD 3264	10.2	512
23264 CACK/W33 + SNP 3264 x 1115/16	SNL 3264	5.1	240
23264 CC/W33	SBDD 3264	10.1	506
	THDD 3264	10.5	528
	SNL 3268	5.3	314
	SDAF 23268	9.4	480
23264 CCK/W33 + H 3264/11.15/16	SBDD 3268	10.3	518
	SBDD 3268	10.4	524
	SNL 3268	5.1	242
	SBDD 3268	10.1	506
23264 CCK/W33 + H 3264/12	THDD 3268	10.5	528
23264 CCK/W33 + OH 2364 HB	SNL 3268	5.2	290
23264 CCK/W33 + OH 2364 H	SNL 3268	5.2	290
	SBDD 3268	10.2	512
	THDD 3268	10.5	528
	SNL 3268	5.2	290
23268 CA/W33	SBDD 3268	10.3	518
23268 CA/W33 + OH 3268 H	SBDD 3268	10.4	524
	SNL 3268	5.1	242
	SBDD 3268	10.1	506
	THDD 3268	10.5	528
23268 CCK/W33 + OH 3268 HB	SNL 3268	5.2	290
23268 CCK/W33 + OH 3268/12.1/2 H	SNL 3268	5.2	290

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
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23268 CAK/W33 + OH 3268/12.7/16 H	SNL 3268	5.2	290
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	SNL 3276	5.2	296
23276 CAK/W33 + SNP 3276 x 1315/16	SDAF 23276 KA x 1315/16	9.3	476
23280 CA/W33	SNL 3280	5.3	320
	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
23292 CAK/W33 + OH 3292 H	SED 3292	6.1	332
23296 CAK/W33 + OH 3296 H	SED 3296	6.1	332
239/1060 CAKF/W33 + KOH 39/1060	FSDR 39/1060 K	15.1	656
239/1180 CAKF/W33 + KOH 39/1180	FSDR 39/1180 K	15.1	656
239/600 CAK/W33 + OH 39/600 H	SED 39/600	6.1	332
239/630 CAK/W33 + OH 39/630 H	SED 39/630	6.1	332
239/670 CAK/W33 + OH 39/670 H	SED 39/670	6.1	332
239/710 CAK/W33 + OH 39/710 H	SED 39/710	6.1	332
239/750 CAK/W33 + OH 39/750 H	SED 39/750	6.1	332
239/800 CAK/W33 + OH 39/800 H	SED 39/800	6.1	332
239/850 CAK/W33 + KOH 39/850	FSDR 39/850 K	15.1	656
239/850 CAK/W33 + OH 39/850 H	SED 39/850	6.1	334
239/900 CAK/W33 + OH 39/900 H	SED 39/900	6.1	334
239/950 CAK/W33 + OH 39/950 H	SED 39/950	6.1	334
240/500 ECA/W33	SNL 40/500	5.3	328
240/530 ECA/W33	SNL 40/530	5.3	328
24024 CC/W33	SNLN 3024	4.2	180
24024-2CS5	SNLN 3024	4.2	180
24026 CC/W33	SNLN 3026	4.2	180
24026-2CS5	SNLN 3026	4.2	180
24028 CC/W33	SNLN 3028	4.2	180
24028-2CS5	SNLN 3028	4.2	180
24030 CC/W33	SNLN 3030	4.2	180
24030-2CS5	SNLN 3030	4.2	180

## 18.3 Bearing index

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24032 CC/W33	SNLN 3032	4.2	182
24032-2CS5	SNLN 3032	4.2	182
24036 CC/W33	SNL 3036	5.3	304
24036-2CS5	SNL 3036	5.3	304
24038 CC/W33	SNL 3038	5.3	304
24040 CC/W33	SNL 3040	5.3	306
24044 CC/W33	SNL 3044	5.3	308
24048 CC/W33	SNL 3048	5.3	310
24052 CC/W33	SNL 3052	5.3	310
24056 CC/W33	SNL 3056	5.3	312
24060 CC/W33	SNL 3060	5.3	312
24064 CC/W33	SNL 3064	5.3	314
24068 CC/W33	SNL 3068	5.3	314
24072 CC/W33	SNL 3072	5.3	316
24076 CC/W33	SNL 4076	5.3	318
24080 ECCJ/W33	SNL 4080	5.3	320
24084 ECA/W33	SNL 4084	5.3	322
24088 ECA/W33	SNL 4088	5.3	324
24092 ECA/W33	SNL 4092	5.3	326
24096 ECA/W33	SNL 4096	5.3	326
248/1500 CAK30FA/W20 + 236558	FSDR 48/1500 K	15.1	656
249/1000 CAF/W33	SKND 49/1000	14.1	634
249/1060 CAF/W33	SKND 49/1060	14.1	636
249/1120 CAF/W33	SKND 49/1120	14.1	636
249/1180 CAF/W33	SKND 49/1180	14.1	636
249/1320 CAK30F/W33 + 236696-1	FSDR 49/1320 K	15.1	656
249/710 CA/W33	SKND 49/710	14.1	634
249/750 CA/W33	SKND 49/750	14.1	634
249/800 CA/W33	SKND 49/800	14.1	634
249/850 CA/W33	SKND 49/850	14.1	634
249/900 CA/W33	SKND 49/900	14.1	634
249/950 CA/W33	SKND 49/950	14.1	634
BS2-2205-2CS	SNL 205	2.3	120
BS2-2206-2CS	SNL 505	2.3	120
BS2-2207-2CS	SNL 206-305	2.3	120
BS2-2208-2CS	SNL 506-605	2.3	120
BS2-2208-2CSK + H 2308 E	SE 207	2.3	122
BS2-2209-2CS	SE 507-606	2.3	122
BS2-2209-2CSK + H 309 E	SE 208-307	2.3	122
BS2-2210-2CS	SE 508-607	2.3	122
BS2-2210-2CSK + H 310 E	SE 508-607	2.1	88
BS2-2211-2CS	SE 209	2.3	124
BS2-2211-2CSK + H 311 E	SE 509	2.3	124
BS2-2211-2CSK + HA 309 E	SE 509	2.1	88
BS2-2211-2CSK + HE 309 E	SE 509	2.2	102
BS2-2211-2CSK + HE 311 BE	SE 509	2.2	104
BS2-2212-2CS	SE 210	2.3	124
BS2-2212-2CSK + H 312 E	SE 510-608	2.3	124
BS2-2212-2CSK + HA 310 E	SE 510-608	2.1	88
BS2-2212-2CSK + HE 310 E	SE 510-608	2.2	104
BS2-2212-2CSK + HE 312 E	SE 510-608	2.2	104
BS2-2213-2CS	SE 211	2.3	126
BS2-2213-2CSK + H 2313 E	SE 511-609	2.3	126
BS2-2213-2CSK + HA 2313 E	SE 511-609	2.1	90
BS2-2213-2CSK + HE 2313 E	SE 511-609	2.2	106
BS2-2215-2CS	SE 212	2.3	126
BS2-2215-2CSK + H 315 E	SE 512-610	2.3	126
BS2-2215-2CSK + HA 315 E	SE 512-610	2.1	90
BS2-2215-2CSK + HE 315 E	SE 213	2.3	128
BS2-2216-2CS	SE 513-611	2.3	128
BS2-2216-2CSK + H 316 E	SE 513-611	2.1	90
BS2-2216-2CSK + HA 316 E	SE 513-611	2.2	106
BS2-2216-2CSK + HE 316 E	SE 513-611	2.2	108
BS2-2216-2CSK + HA 316 E	SE 215	2.3	130
BS2-2216-2CSK + HE 316 E	SE 515-612	2.3	130
BS2-2216-2CSK + HA 316 E	SE 515-612	2.1	92
BS2-2216-2CSK + HE 316 E	SE 515-612	2.2	108
BS2-2216-2CSK + HA 316 E	SE 515-612	2.2	108
BS2-2216-2CSK + HE 316 E	SNL 216	2.3	130
BS2-2216-2CSK + HA 316 E	SNL 516-613	2.3	130
BS2-2216-2CSK + HE 316 E	SNL 516-613	2.1	92
BS2-2216-2CSK + HA 316 E	SNL 516-613	2.2	110

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BS2-2216-2CSK + HE 316 E .....	SNL 516-613 .....	2.2	110
BS2-2217-2CS .....	SNL 217 .....	2.3	132
	SNL 517 .....	2.3	132
BS2-2217-2CSK + H 317 E .....	SNL 517 .....	2.1	92
BS2-2217-2CSK + HA 317 E .....	SNL 517 .....	2.2	110
BS2-2217-2CSK + HE 317 E .....	SNL 517 .....	2.2	112
BS2-2218-2CS .....	SNL 218 .....	2.3	132
	SNL 518-615 .....	2.3	132
BS2-2218-2CSK + H 2318 E/L73 .....	SNL 518-615 .....	2.1	94
BS2-2218-2CSK + HA 2318 E/L73 .....	SNL 518-615 .....	2.2	112
BS2-2218-2CSK + HE 2318 E/L73 .....	SNL 518-615 .....	2.2	112
BS2-2220-2CS5 .....	SNL 520-617 .....	2.3	134
BS2-2220-2CS5K + H 2320 E .....	SNL 520-617 .....	2.1	94
BS2-2220-2CS5K + HA 2320 E .....	SNL 520-617 .....	2.2	114
BS2-2220-2CS5K + HE 2320 E .....	SNL 520-617 .....	2.2	114
BS2-2222-2CS5 .....	SNL 522-619 .....	2.3	134
BS2-2222-2CS5K + H 2322 E .....	SNL 522-619 .....	2.1	96
	SNL 522-619 .....	2.2	114
BS2-2222-2CS5K + HE 2322 E .....	SNL 522-619 .....	2.2	116
BS2-2224-2CS5 .....	SNL 524-620 .....	2.3	134
BS2-2224-2CS5K + H 2324 EH .....	SNL 524-620 .....	2.1	96
BS2-2224-2CS5K + HA 2324 EH .....	SNL 524-620 .....	2.2	116
BS2-2224-2CS5K + HE 2324 EH .....	SNL 524-620 .....	2.2	116
BS2-2226-2CS5 .....	SNL 526 .....	2.3	136
BS2-2226-2CS5K + H 2326 L .....	SNL 526 .....	2.1	96
BS2-2226-2CS5K + HA 2326 L .....	SNL 526 .....	2.2	116
BS2-2226-2CS5K + HE 2326 L .....	SNL 526 .....	2.2	116
BS2-2308-2CS .....	SE 510-608 .....	2.3	122
BS2-2311-2CS .....	SE 513-611 .....	2.3	126

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
<b>CARB toroidal roller bearings</b>			
C 2205 TN9	SNL 205	2.3	120
	SNL 505	2.3	120
C 2205 KTN9 + H 305 E	SNL 505	2.1	86
	FNL 505	11.1	546
C 2205 KTN9 + HE 305 E	SNL 505	2.2	100
C 2206 TN9	SNL 206-305	2.3	120
	SNL 506-605	2.3	120
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
	SE 507-606	2.3	122
C 2207 KTN9 + H 307 E	SE 507-606	2.1	86
	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
	SE 508-607	2.3	122
C 2208 KTN9 + H 308 E	SE 508-607	2.1	88
	FNL 508	11.1	546
C 2208 KTN9 + HE 308 E	SE 508-607	2.2	102
C 2209 TN9	SE 209	2.3	124
	SE 509	2.3	124
C 2209 KTN9 + H 309 E	SE 509	2.1	88
	FNL 509	11.1	546
C 2209 KTN9 + HA 309 E	SE 509	2.2	102
	SAF C2509	8.3	430
C 2209 KTN9 + HE 309 E	SE 509	2.2	104
C 2210 TN9	SE 210	2.3	124
	SE 510-608	2.3	124
C 2210 KTN9 + H 310 E	SE 510-608	2.1	88
	FNL 510	11.1	548
C 2210 KTN9 + HA 310 E	SE 510-608	2.2	104
	SAF C2510	8.3	430
C 2210 KTN9 + HE 310 E	SE 510-608	2.2	104
C 2211 TN9	SE 211	2.3	126
	SE 511-609	2.3	126
C 2211 KTN9 + H 311 E	SE 511-609	2.1	90
	FNL 511	11.1	548
C 2211 KTN9 + HA 311 E	SE 511-609	2.2	106
	SAF C2511	8.3	430
C 2211 KTN9 + HE 311 BE	SE 511-609	2.2	106
C 2212 TN9	SE 212	2.3	126
	SE 512-610	2.3	126
C 2212 KTN9 + H 312 E	SE 512-610	2.1	90
	FNL 512	11.1	548
C 2213 TN9	SE 213	2.3	128
	SE 513-611	2.3	128
	SAF C2213	8.6	444
C 2213 KTN9 + H 313 E	SE 513-611	2.1	90
	FNL 513	11.1	548
C 2213 KTN9 + HA 313 E	SE 513-611	2.2	106
	SAF C2513	8.3	430
C 2213 KTN9 + HE 313 E	SE 513-611	2.2	108
C 2215	SE 215	2.3	130
	SE 515-612	2.3	130
	SAF C2215	8.6	444
C 2215 K + H 315 E	SE 515-612	2.1	92
	FNL 515	11.1	550
C 2215 K + HA 315 E	SE 515-612	2.2	108
	SAF C2515	8.3	430
C 2215 K + HE 315 E	SE 515-612	2.2	108
C 2216	SNL 216	2.3	130
	SNL 516-613	2.3	130
	SAF C2216	8.6	444
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
	SAF C2516	8.3	430
C 2216 K + HE 316 E	SNL 516-613	2.2	110

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
C 2217	SNL 217	2.3	132
	SNL 517	2.3	132
	SONL 217-517	7.3	378
C 2217 K + H 317 E	SAF C2217	8.6	444
	SNL 517	2.1	92
	SONL 217-517	7.1	370
C 2217 K + HA 317 E	FNL 517	11.1	550
	SNL 517	2.2	110
	SONL 217-517	7.2	374
C 2217 K + HE 317 E	SAF C2517	8.3	430
	SNL 517	2.2	112
	SNL 218	2.3	132
C 2218	SNL 518-615	2.3	132
	SONL 218-518	7.3	378
	SAF C2218	8.6	444
C 2218 K + H 318 E	SNL 518-615	2.1	94
	SONL 218-518	7.1	370
	FNL 518	11.1	550
C 2218 K + HA 318 E	SNL 518-615	2.2	112
	SONL 218-518	7.2	374
	SAF C2518	8.3	430
C 2218 K + HE 318 E	SNL 518-615	2.2	112
	SNL 519-616	2.1	94
	SNL 520-617	2.3	134
C 2219 K + H 319 E	SONL 220-520	7.3	378
	SAF C2220	8.6	446
	SNL 520-617	2.1	94
C 2220	SONL 220-520	7.1	370
	FNL 520	11.1	550
	SNL 520-617	2.2	114
C 2220 K + H 320 E	SONL 220-520	7.2	374
	SAF C2520	8.3	432
	SNL 520-617	2.2	114
C 2220 K + HA 320 E	SNL 522-619	2.3	134
	SONL 222-522	7.3	378
	SAF C2222	8.6	446
C 2220 K + HE 320 E	SNL 522-619	2.1	96
	SNL 522-619	2.2	114
	SONL 222-522	7.1	370
C 2222	SONL 222-522	7.2	374
	SAF C2522	8.3	432
	FNL 522	11.1	550
C 2222 K + H 322 E	SNL 522-619	2.2	116
	SONL 224-524	7.3	378
	SNL 524-620	2.1	96
C 2224	SONL 224-524	7.1	370
	SONL 224-524	7.2	374
	SNL 524-620	2.2	116
C 2224 K + H 3124 L	SNL 526	2.3	136
	SONL 226-526	7.3	378
	SAF C2226	8.6	446
C 2224 K + HA 3124 L	SNL 526	2.1	96
	SONL 226-526	7.1	370
	SAF C2526	8.3	432
C 2224 K + HE 3124 L	SNL 526	2.2	116
	SONL 226-526	7.2	374
	SNL 526	2.2	116
C 2226	SNL 528	2.3	136
	SONL 228-528	7.3	378
	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 L	SNL 528	2.2	118
	SONL 228-528	7.2	374
	SNL 528	2.2	118
C 2226 K + HE 3126 L	SNL 528	2.3	136
	SONL 228-528	7.3	378
	SAF C2228	8.6	446
C 2228	SNL 528	2.1	96
	SONL 228-528	7.1	370
	SAF C2528	8.3	432
C 2228 K + H 3128 L	SNL 528	2.2	118
	SONL 228-528	7.2	374
	SNL 528	2.2	118
C 2228 K + HA 3128 E	SNL 530	2.3	136
	SONL 230-530	7.3	378
	SAF C2230	8.6	446
C 2228 K + HE 3128 L	SNL 530	2.1	96
	SONL 230-530	7.1	370
	SNL 530	2.3	136
C 2230	SONL 230-530	7.3	378
	SAF C2230	8.6	446
	SNL 530	2.1	96
C 2230 K + H 3130 L	SONL 230-530	7.1	370
	SNL 530	2.3	136
	SONL 230-530	7.3	378

## 18.3 Bearing index

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
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	SNL 3140	5.2	270
	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	SAF C2618	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



Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
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	
		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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		No.	Page
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

Bearing designation	Housing / Pillow block / Bearing unit	Product table	
		No.	Page
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
<b>Angular contact ball bearings</b>			
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