

SNL 30, SNL 31 and SNL 32 plummer block housings



solves the housing problems



Contents

The SKF® brand now stands for more than ever before, and means more to you as a valued customer.

While SKF maintains its leadership as the hallmark of quality bearings throughout the world, new dimensions in technical advances, product support and services have evolved SKF into a truly solutions-oriented supplier, creating greater value for customers.

These solutions encompass ways to bring greater productivity to customers, not only with breakthrough application-specific products, but also through leading-edge design simulation tools and consultancy services, plant asset efficiency maintenance programmes, and the industry's most advanced supply management techniques.

The SKF brand still stands for the very best in rolling bearings, but it now stands for much more.

SKF – the knowledge engineering company

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Fewer bearing replacements and less maintenance

A

Plummer block housings have much to offer

The main benefit of split plummer block housings is their easy installation; pre-assembled shafts can be mounted in them. When the housing bases are attached to the base plate it is then only necessary to place the housing caps in position and to tighten the attachment bolts to complete the installation.

Split plummer block housings available on the market are mainly intended for self-aligning ball bearings, spherical roller bearings and CARB® toroidal roller bearings of ISO Dimension Series 02, 03, 22, 23, 30, 31, 32, 39, 40 and 41. They can often be fitted with various different seals. Many designs and variants of split plummer block housings are available making the use of tailored housings unnecessary and thus enabling cost effective bearing arrangements to be made.

For many years SKF has been one of the leading suppliers of various designs of split plummer block housings – synonymous with operational reliability and quality.

SNL 30, SNL 31 and SNL 32 plummer block housings have more to offer

The plummer block housings of series SNL 30, SNL 31 and SNL 32 are also referred to as "Large SNL plummer block housings".

The SNL plummer block housings enable the full service life potential of the incorporated bearings to be exploited with less need of maintenance. This supports user efforts to further reduce maintenance costs. Among other enhancements the SNL housings have an external design for easier alignment and handling when mounting.

Another benefit is the choice of oil or grease lubrication for the bearings housed in SNL plummer blocks. A range of seals for oil lubrication and rough environments make for trouble-free operation.



One basic design – many variants

Large SNL plummer block housings are primarily intended for spherical roller bearings and CARB toroidal roller bearings. The housings are designed on a “building block” principle. This enables a more generous choice of bearing, shaft mounting, seals and type of lubrication.

A building block system

The basis of the original SNL plummer block housing system consists of a number of housings of the same design but in different sizes. By combining the housings with the different standard seals a wide variety of housing variants, all belonging to the standard range, can be supplied to cover the majority of demands for plummer blocks.

When complete, the range of series SNL 30, SNL 31 and SNL 32 will be available for shafts having diameters of 150 to 530 mm, inclusive.

The standard range will also cover housings with drilled and tapped holes for lubrication nipples. There are variants to be drilled upon request for condition monitoring.

Series SNL 30, SNL 31 and SNL 32 plummer block housings are made of grey cast iron and demonstrate the same high strength as the earlier SD housings. Should, however, this strength be inadequate, dimensionally equivalent SNLD plummer block housings of spheroidal graphite cast iron are available.

The large SNL and SNLD plummer block housings of series 31 are fully interchangeable with the earlier SD and SDD housings. For large SNL and SNLD plummer block housings of series 30 you have to check the bearing axial position, the “s” measurement. Their dimensions conform to ISO 113:1999.

Several sealing options

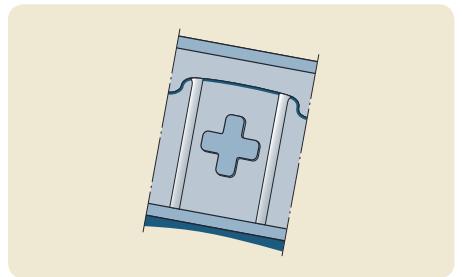
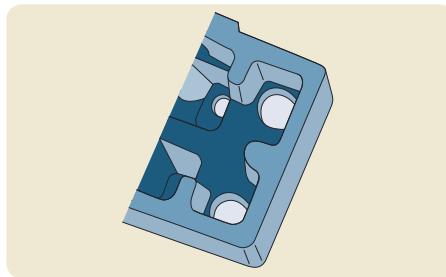
An important advantage of the SNL plummer block housings is that they can be fitted with different seals. The standard seals supplied by SKF for the large SNL 30, SNL 31 and SNL 32 series housings comprise labyrinth seals and heavy-duty “taconite” seals as well as end covers. There is also an oil seal available but this sealing arrangement is supplied together with the housing as the housing has to be modified to take it.

Large SNL plummer block housing with sealing options



Costs and risks – at a low level

These large SNL housings have several special features as well as sealing alternatives.

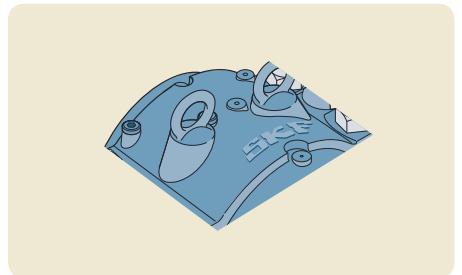
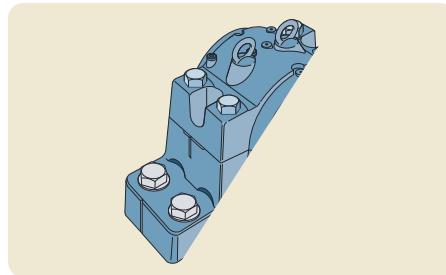
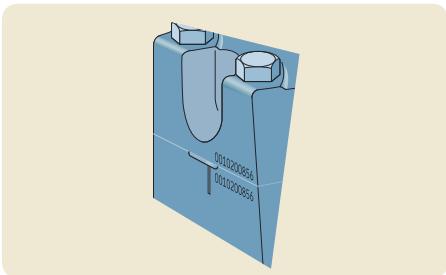


Stiff design

The housing base is reinforced with ribs and extra material surrounding the holes for the attachment bolts in order to provide improved seating on the base plate. The attachment bolts can be preloaded to give correct location and prevent deformation of the housing base and bore.

Large contact area

The centre cross reinforcement of the housing base enlarges the contact area between base and base plate and allows for an improved heat flow from the bearing outer ring to the base plate.



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 prevent mixing caps and bases when mounting several housings, the same consecutive number is marked on the cap and base of each individual housing.

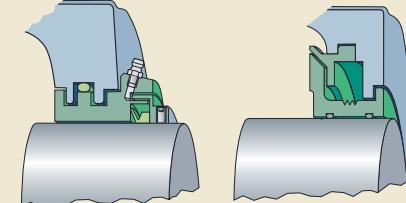
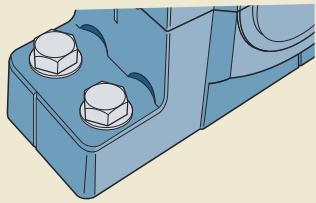
Indications for holes to take other components

SNL housings can be fitted with sensors serving permanently installed condition monitoring equipment based on vibration measurements. The positions where holes can be drilled to take these sensors are indicated on the housing.

Drilled and tapped holes

Housings have drilled and tapped holes as standard in the cap. The holes are protected by metallic plugs. Two nipples are supplied, together with nipple protector and adapter, with the housing (packed inside). If the application is such that relubrication is required it is only necessary to screw the nipples into the holes and lubricant can be supplied to one side of the bearing or in the W33 groove. There are also indications on the housing where holes can be drilled for lubrication of the seals.

- | | |
|--|---|
| • Reinforced square base | High stiffness |
| • Large contact area | Reinforced housing base and good heat flow |
| • Drilled and tapped holes with nipples | Relubrication facility as standard |
| • Caps and bases individually marked | Avoids mixing of caps and bases, permits traceability |
| • Indications for holes to take other components | Simple and easy adaptation of standard housing to individual application, easy attachment of condition monitoring equipment |
| • Simple and reliable | Simple and reliable mounting and maintenance |
| • Additional seals | Seals available for difficult conditions and oil lubrication for long bearing service lives |

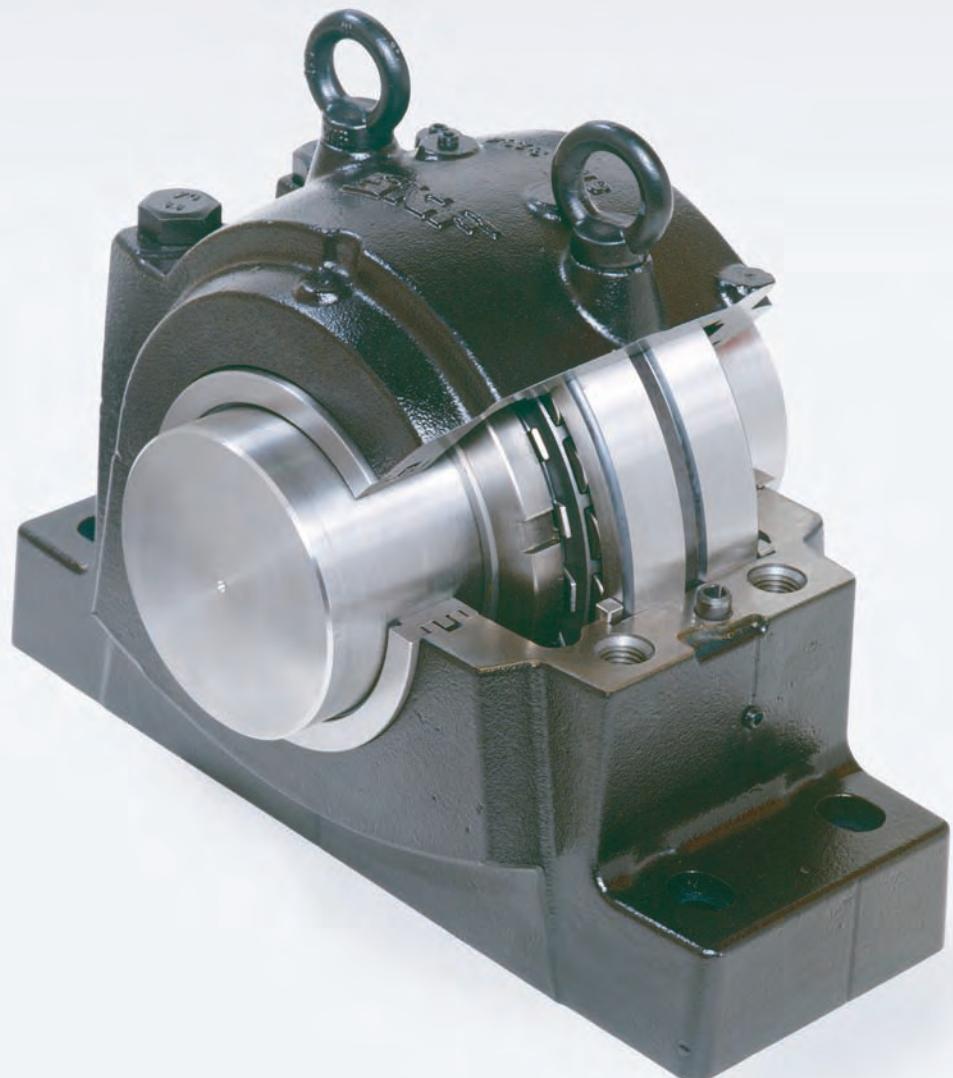


Simple and safe

In order to simplify mounting and make alignment more accurate, cast indications, which are vertical to the centre of the bore of the housing, are provided on the side faces of the housing base. Cast indications on the end faces of the base show the centre of the bearing.

Additional seals

Two seal designs have been developed specifically for SNL housings. One is intended for difficult conditions that call for a robust seal which can be relubricated and the other is for high speeds and oil lubrication.



High performance for all sectors

High load carrying capacity and reliability, easy maintenance, the variety of applications and robust designs have made SKF housings a must. The most important sectors of industry and their demands are listed below.

One important reason for the popularity of SKF housings is the increased awareness of the impact of enhanced quality on the cost of a machine and its total life.

Applications

- Materials handling
- Handling systems
- Mining and construction
- Fluid machinery
- Metallurgical
- Pulp and paper

Demands

- Long service life
- Robust design
- Long relubrication intervals
- Ready for relubrication
- Condition monitoring facilities
- Avoid risk of mixed caps
- Fast and easy mounting and dismounting

Solution





Bearing arrangement design

Large SNL plummer block housings of series SNL 30, SNL 31 and SNL 32 can be used with spherical roller bearings or CARB toroidal roller bearings fitted on smooth (plain) or stepped shafts; the bearings can be mounted on adapter sleeves or directly on cylindrical shaft seatings.

Note

The SNL large housings can be used for spherical roller bearings, series 222, 223, 240 and CARB toroidal roller bearings, accordingly.

1. Bearings on adapter sleeves on smooth shafts

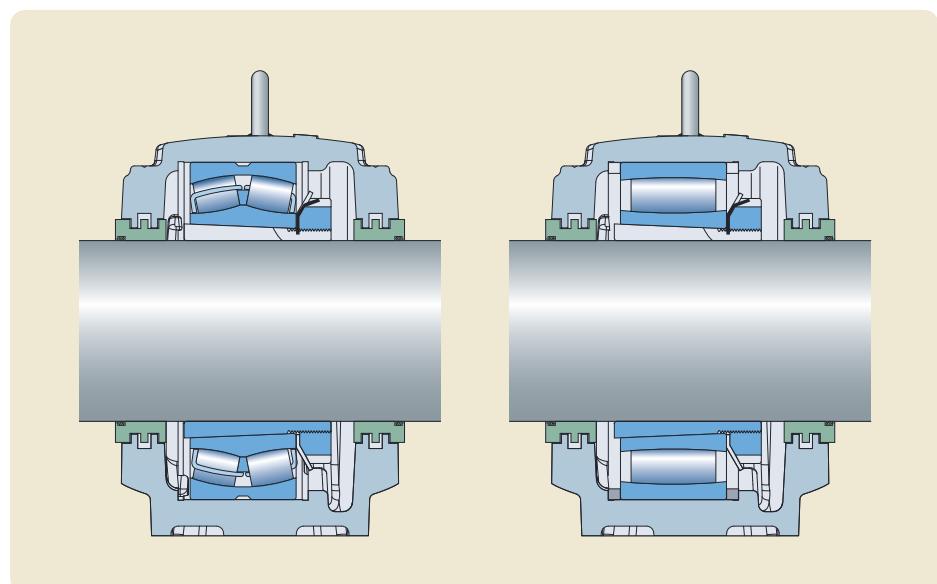
Advantages

- Shafts with diameter tolerance h9 can be used without machining.
- Maximum shaft strength as there is no weakening by shoulders or reliefs.
- Bearings can be mounted at any position on the shaft.
- Mounting force, i.e. the force required to drive up the bearing on to the sleeve, is some 40 % smaller than with other bearing arrangements on sleeves because friction occurs only in one contact.
- Bearing radial clearance can be adjusted within certain limits during mounting to meet application demands.

Applications

- Bearing arrangements for relatively long shafts where more than two bearings are required for support.
- Bearing arrangements where machine components are mounted using wedging or tensioning components which do not require the shaft to be machined.
- Bearing arrangements where the final position of the bearing cannot be accurately determined.

Bearings on adapter sleeves on smooth shafts



SNL 30	SNL 31	SNL 32
230 CCK	C 30 K	231 CCK
		C 31 K
		232 CCK

2. Bearings on cylindrical seatings on stepped shafts

Advantages

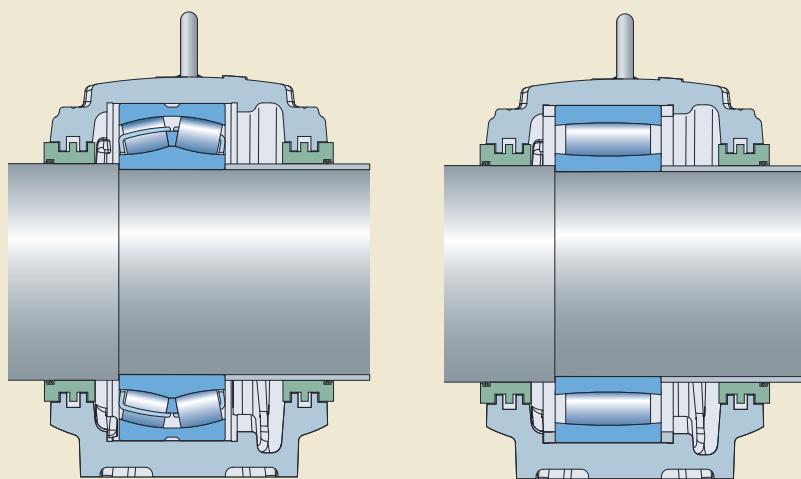
- The axial load carrying capacity of the bearings (in both directions) is not limited by a sleeve.
- The residual bearing internal clearance is determined by the tolerance of the shaft seating so there is no danger of radially preloading the bearing during mounting.
- The bearing position on the shaft is accurately determined by the shaft shoulder.
- The bearing can be supported by other components via spacer sleeves.
- The shaft diameter at the bearing position is maximized.

Applications

- Bearing arrangements where large numbers of bearings have to be mounted.
- Bearing arrangements where heavy shock loads can occur.

B

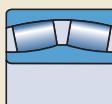
*Bearings on cylindrical
seatings on stepped
shafts*



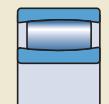
SNL 30 G



230 CC

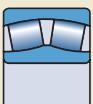


240 CC



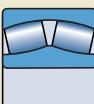
C 30

SNL 31 G



231 CC

SNL 32 G



232 CC

Standard seals

The standard seals available from SKF for large SNL housings (series SNL 30, SNL 31 and SNL 32) are one-piece labyrinth seals and the heavy-duty "taconite" seals. The seals are easy to install and are supplied separately.

The standard seals as well as the seals for use with oil lubrication are presented in **table 1**, which gives a comprehensive overview of the seal types, their design features and their suitability for various operating conditions. Detailed information on the various standard and special seals including properties and availability will be found on **pages 13 to 15**.

Table 1

Seal selection			
	TS ..	TNF ..	TSD .. U ¹⁾
Properties			
Temperature, °C	-50 to +200	-40 to +100	-50 to +200
Peripheral speed, m/s	++	≤ 12	++
Misalignment, degrees	≤ 0,3	≤ 0,3	≤ 0,3
Grease relubrication	+	+	-
Oil lubrication	--	-	++
Low friction	++	+	++
Axial shaft displacement	+	+	-
Vertical arrangement	--	-	--
Sealing ability against			
Dust	+	++	+
Fine particulate contaminants	+	++	+
Coarse particulate contaminants	+	++	+
Abrasive contaminants	++	++	++
Liquids when sprayed	--	++	-
Direct sunlight	++	++	++
Symbols:	++ very suitable + suitable - limited suitability -- unsuitable		
¹⁾ The oil seals are supplied together with housings prepared for oil lubrication. Oil seals can be ordered separately as spares only			

Labyrinth seals

The labyrinth rings (**→ fig. 1**) are made of cast iron and have three radially arranged labyrinth steps which form a narrow sealing gap with the housing grooves.

Hollow O-ring cords of silicone rubber (supplied with the seals) ensure that the labyrinth rings, which are mounted with a loose fit, rotate with the shaft. Angular misalignments of the shaft up to approximately $0,3^\circ$ are permissible. The operating temperature range for the labyrinth seals is -50 to $+200$ °C.

When labyrinth seals are used, axial movement of the shaft relative to the housing is not limited.

The labyrinth seals are supplied singly. For bearing arrangements for through shafts it is therefore necessary to order two rings. The labyrinth seal is identified by the prefix TS followed by the size identification, e.g. TS 34.

Taconite heavy-duty seals

Taconite is a very fine-grained mineral which is extremely difficult to seal against. For bearing arrangements which must operate under very arduous conditions such as those encountered in mining, labyrinth seals which can be relubricated are recommended, as grease enhances the sealing effect and extends the serviceability of the seals. SKF has developed a heavy-duty seal (which can seal against taconite, hence the name) which can be supplied for use with SNL housings.

The taconite seal design (**→ fig. 2**) is based on a labyrinth seal with the labyrinth stages arranged axially and fits the standard housings. A V-ring seal mounted on the shaft seals against the non-rotating part of the seal, which is inserted in the seal groove and prevents contaminants from penetrating to the bearing when the seal is relubricated. This grease is supplied via a grease nipple on the non-rotating part of the seal. Angular misalignments of the shaft of up to approximately $0,3^\circ$ are possible.

The permissible operating temperature range for the seal is between -40 and $+100$ °C. Please contact SKF for applications above 100 °C. The rubber O-ring and V-ring limit the operating temperature to 100 °C. However, SKF can supply high temperature O-rings and V-rings made of fluoro rubber for operation at higher temperatures.

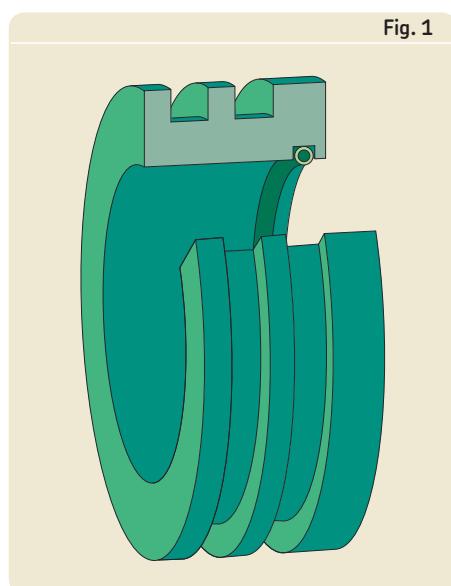
The axial movement of the shaft relative to the housing is limited for this type of taconite seal to approximately ± 2 mm for sizes from 150 up to 200 mm and ± 4 mm for larger shaft diameters.

These seals are supplied singly so that for housings used on through shafts, it is necessary to order two seals. The seal is identified by the prefix TNF followed by the size identification, e.g. TNF 34.

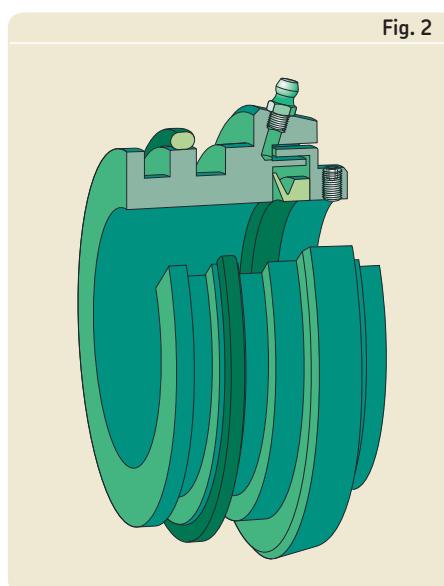
lubrication is applied. For SNL housings, SKF has developed the non-rubbing seal of the U design (**→ fig. 3**). These U seals require modified housings and comprise two parts: one which is stationary and fitted in the modified seal groove and the other which is mounted on the shaft and rotates. The hollow O-ring cords of silicone rubber inserted between the labyrinth ring and the shaft ensure that the ring, which is mounted with a loose fit, rotates with the shaft, and oil cannot escape along the shaft. These oil seals do not limit axial movement of the shaft relative to the housing.

The modified SNL housing is supplied together with the seals as a unit. The housings with seals are identified by the suffix TURT (TURA for CARB toroidal roller bearings) e.g. SNL 3134 TURT. The seal itself is designated TSD .. U.

Labyrinth seal



Taconite heavy-duty seal



Oil seal

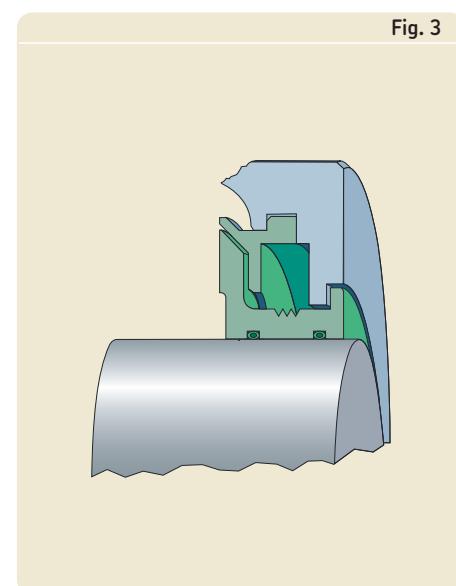
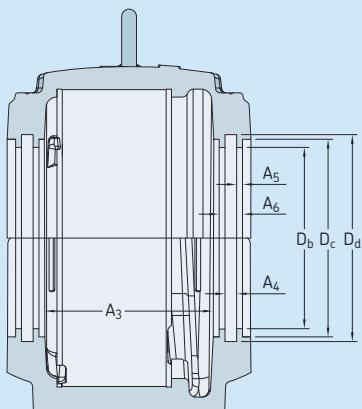


Table 2

Sealing groove dimensions for SNL housings

Housing Size	Dimensions						
	A ₃	A ₄	A ₅	A ₆	D _b	D _c	D _d
—	mm						
SNL 3036	158	11	5,5	22	181,2	196,4	205,2
SNL 3038	168	11	5,5	22	191,4	206,4	215,4
SNL 3040	186	11	5,5	22	201,4	216,4	225,4
SNL 3044	206	11	5,5	22	221,4	236,4	245,4
SNL 3048	214	11	5,5	22	241,4	256,4	265,4
SNL 3052	231	11	5,5	22	261,6	276,6	285,6
SNL 3056	249	11	5,5	22	281,6	296,6	305,6
SNL 3060	249	11	5,5	22	301,6	316,6	325,6
SNL 3064	279	11	5,5	22	321,8	336,8	345,8
SNL 3068	299	11	5,5	22	342,4	357,4	366,4
SNL 3072	297	11	5,5	22	362,4	377,4	386,4
SNL 3076	328	11	5,5	22	382,4	397,4	406,4
SNL 3080	328	11	5,5	22	402,8	417,8	426,8
SNL 3084	328	11	5,5	22	422,8	437,8	446,8
SNL 3088	358	11	5,5	22	442,8	457,8	466,8
SNL 3092	388	11	5,5	22	463	478	487
SNL 3096	388	11	5,5	22	483	498	507
SNL 30/500	388	11	5,5	22	503	518	527
SNL 30/530	398	11	5,5	22	533	548	557
SNL 3134	159	11	5,5	22	171,2	186,4	195,2
SNL 3136	169	11	5,5	22	181,2	196,4	205,2
SNL 3138	187	11	5,5	22	191,4	206,4	215,4
SNL 3140	207	11	5,5	22	201,4	216,4	225,4
SNL 3144	215	11	5,5	22	221,4	236,4	245,4
SNL 3148	231	11	5,5	22	241,4	256,4	265,4
SNL 3152	249	11	5,5	22	261,6	276,6	285,6
SNL 3156	249	11	5,5	22	281,6	296,6	305,6
SNL 3160	280	11	5,5	22	301,6	316,8	325,6
SNL 3164	300	11	5,5	22	321,8	336,8	345,8
SNL 3168	328	11	5,5	22	342,4	357,4	366,4
SNL 3172	328	11	5,5	22	362,4	377,4	386,4
SNL 3176	328	11	5,5	22	382,4	397,4	406,4
SNL 3180	358	11	5,5	22	402,8	417,8	426,8
SNL 3184	388	11	5,5	22	422,8	437,8	446,8
SNL 3188	388	11	5,5	22	442,8	457,8	466,8
SNL 3192	398	11	5,5	22	463	478	487
SNL 3196	398	11	5,5	22	483	498	507
SNL 3234	186	11	5,5	22	201,4	216,4	225,4
SNL 3236	187	11	5,5	22	191,4	206,4	215,4
SNL 3238	207	11	5,5	22	201,4	216,4	225,4
SNL 3240	214	11	5,5	22	241,4	256,4	265,4
SNL 3244	231	11	5,5	22	241,4	256,4	265,4
SNL 3248	249	11	5,5	22	261,6	276,6	285,6
SNL 3252	279	11	5,5	22	321,8	336,8	345,8
SNL 3256	280	11	5,5	22	301,6	316,8	325,6
SNL 3260	300	11	5,5	22	321,8	336,8	345,8
SNL 3264	328	11	5,5	22	342,4	357,4	366,4
SNL 3268	328	11	5,5	22	382,4	397,4	406,4
SNL 3272	358	11	5,5	22	402,8	417,8	426,8
SNL 3276	388	11	5,5	22	463	478	487
SNL 3280	388	11	5,5	22	422,8	437,8	446,8
SNL 3284	398	11	5,5	22	463	478	487
SNL 3288	398	11	5,5	22	483	498	507



Special seals

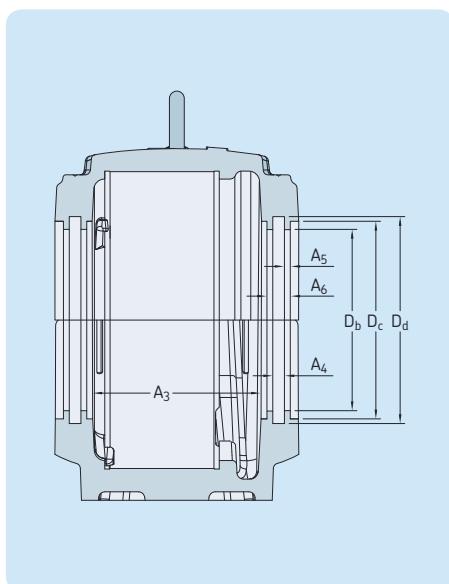
In applications where, for some reason or other, the standard seals cannot be used, special seals must be fitted. The SNL housings can be supplied without seals for such applications and are relatively easy to equip with special seals. It is recommended that housings of series SNL .. G are used rather than those of series SNL as they have a comparatively larger bore at the shaft entrance. There is therefore more room to accommodate a seal, so that there is more choice as regards seal design.

Special seals are not normally supplied by SKF. Therefore, the relevant housing dimensions are given in tables 2 and 3.

Table 3

Sealing groove dimensions for SNL .. G housings

Housing Size	Dimensions						
	A ₃	A ₄	A ₅	A ₆	D _b	D _c	D _d
-	mm						
SNL 3036 G	156	11	5,5	22	221,4	236,4	245,4
SNL 3038 G	166	11	5,5	22	221,4	236,4	245,4
SNL 3040 G	184	11	5,5	22	241,4	256,4	265,4
SNL 3044 G	203	11	5,5	22	261,6	276,6	285,6
SNL 3048 G	211	11	5,5	22	281,6	296,6	305,6
SNL 3052 G	228	11	5,5	22	301,6	316,8	325,6
SNL 3056 G	247	11	5,5	22	321,8	336,8	345,8
SNL 3060 G	247	11	5,5	22	342,4	357,4	366,4
SNL 3064 G	277	11	5,5	22	362,4	377,4	386,4
SNL 3068 G	295	11	5,5	22	382,4	397,4	406,4
SNL 3072 G	293	11	5,5	22	402,8	417,8	426,8
SNL 3076 G	325	11	5,5	22	422,8	437,8	446,8
SNL 3080 G	325	11	5,5	22	463	478	487
SNL 3084 G	325	11	5,5	22	483	498	507
SNL 3088 G	354	11	5,5	22	503	518	527
SNL 3092 G	384	11	5,5	22	553	548	557
SNL 3096 G	384	11	5,5	22	533	548	557
SNL 30/500 G	384	11	5,5	22	563	578	587
SNL 30/530 G	392	11	5,5	22	603	618	627
SNL 3134 G	157	11	5,5	22	201,4	216,4	225,4
SNL 3136 G	166	11	5,5	22	221,4	236,4	245,4
SNL 3138 G	185	11	5,5	22	221,4	236,4	245,4
SNL 3140 G	204	11	5,5	22	241,4	256,4	265,4
SNL 3144 G	213	11	5,5	22	261,6	276,6	285,6
SNL 3148 G	230	11	5,5	22	281,6	296,6	305,6
SNL 3152 G	248	11	5,5	22	301,6	316,8	325,6
SNL 3156 G	248	11	5,5	22	321,8	336,8	345,8
SNL 3160 G	278	11	5,5	22	342,4	357,4	366,4
SNL 3164 G	297	11	5,5	22	362,4	377,4	386,4
SNL 3168 G	325	11	5,5	22	382,4	497,4	406,4
SNL 3172 G	325	11	5,5	22	402,8	417,8	426,8
SNL 3176 G	325	11	5,5	22	422,8	437,8	446,8
SNL 3180 G	354	11	5,5	22	463	478	487
SNL 3184 G	384	11	5,5	22	483	498	507
SNL 3188 G	384	11	5,5	22	503	518	527
SNL 3192 G	395	11	5,5	22	533	548	557
SNL 3196 G	394	11	5,5	22	563	578	587
SNL 3234 G	186	11	5,5	22	201,4	216,4	225,4
SNL 3236 G	185	11	5,5	22	221,4	236,4	245,4
SNL 3238 G	204	11	5,5	22	241,4	256,4	265,4
SNL 3240 G	214	11	5,5	22	241,4	256,4	265,4
SNL 3244 G	230	11	5,5	22	281,6	296,6	305,6
SNL 3248 G	248	11	5,5	22	301,6	316,8	325,6
SNL 3252 G	279	11	5,5	22	321,8	336,8	345,8
SNL 3256 G	278	11	5,5	22	341,8	356,8	365,8
SNL 3260 G	297	11	5,5	22	361,8	376,8	385,8
SNL 3264 G	325	11	5,5	22	382,4	397,4	406,4
SNL 3268 G	328	11	5,5	22	382,4	397,4	406,4
SNL 3272 G	358	11	5,5	22	402,8	417,8	426,8
SNL 3276 G	388	11	5,5	22	463	478	487
SNL 3280 G	388	11	5,5	22	442,8	457,8	466,8
SNL 3284 G	393	11	5,5	22	533	548	557
SNL 3288 G	392	11	5,5	22	563	578	587



B

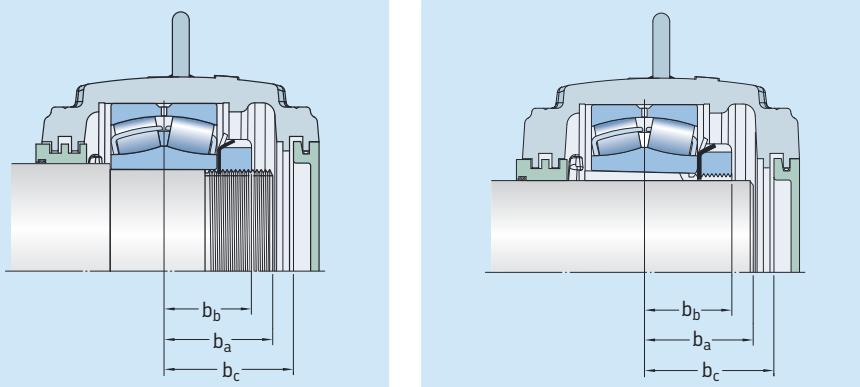


Table 4

Permissible length of shaft end

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

¹⁾ For non-locating arrangements which are not mounted centrally in the bearing seating, the value of b_a max must be correspondingly reduced

End covers

For housings mounted at the ends of shafts, the one opening should be fitted with an end cover which fits into the seal groove (→ **fig. 4**). Details of the permissible length of the shaft end can be found in **table 4**. The end covers are of cast iron and are inserted with a hollow O-ring cord of silicone rubber in the seal groove in the housing. The end covers are suitable for operating temperatures in the range –50 to +200 °C.

The standard end cover is designated by the prefix ETS followed by the housing size identification, e.g. ETS 34. End covers for oil lubricated SNL housings are identified by suffix R, e.g. ETS 34 R.

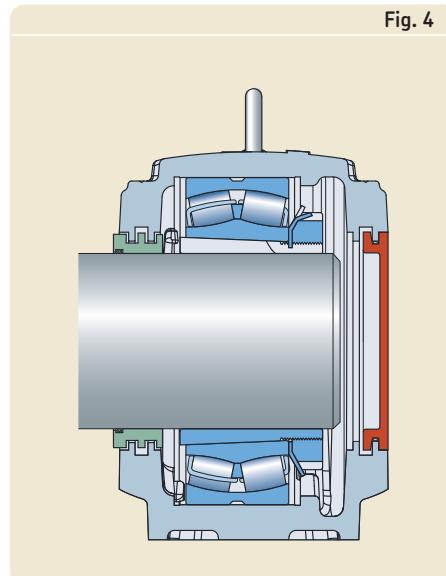
Locating rings

The bearing seating in the housing is sufficiently wide to enable the bearing to be displaced axially. Bearings which are to locate a shaft axially in both directions (locating bearings) must always be fixed axially in position in the housing bore by locating rings at both sides (→ **fig. 5**) except from size SNL 3264, SNL 3168 and 3076 where the housings have F (locating) or L (non-locating) design and no locating rings are needed.

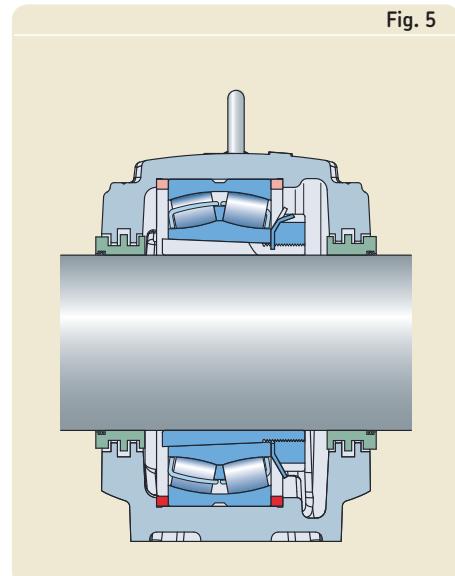
CARB toroidal roller bearings are non-locating bearings and cannot take axial loads. Since axial displacement is accommodated within a CARB bearing (together with any misalignment) it is necessary up to size SNL 3260, SNL 3164 and 3068 to locate the outer ring axially in its seating by inserting locating rings at each side of the bearing. From size SNL 3168 and 3076 the housings have F or L design and no locating rings are needed.

The locating rings are identified by the prefix FRB followed by figures giving the width/outside diameter in millimetres, e.g. FRB 10/280.

Housing with end cover



Housing with locating rings at both sides of bearing



Application advice for trouble-free operation

Condition monitoring is recommended for SNL plummer blocks particularly if they are used on machines where failures would cause production stoppages. The early recognition and trending of the degradation of the machine and machine parts make it possible to analyse the cause and to be able to plan for corrective maintenance actions in good time.

Extensive monitoring experience and a knowledge of the dynamic behaviour of machines, machine components and bearings where there is incipient damage allows SKF to recommend two powerful signal processing techniques which can be used for condition monitoring.

Vibration velocity

The RMS (root mean square) of the velocity of vibrations in the frequency range 10 Hz to 1 kHz has been used with great success to measure phenomena such as imbalance, misalignment, resonance etc. High levels of velocity vibration can be generated by poor machine conditions such as improper clearances, imbalance, misalignment, weak foundations, bent rotors, out-of-round, belt problems or damaged fan blades. The ISO Standard 10816-1:1995 contains recommendations for reference values for the RMS velocity values measured on different classes of machines and machine parts. These recommendations give a clear and quantifiable measure for the changes in machine condition. Vibration velocity expressed as an overall RMS value in the 10 Hz to 1 kHz frequency range provides minimal information on defects in rolling element bearings or gear mesh problems. These types of defect can now be easily detected by enveloped acceleration in the higher frequency ranges.

Enveloped acceleration

Bearing defects can be easily recognised by measurement and analysis of an enveloped acceleration signal of the higher frequencies

generated by the impact signals typical of rolling bearing defects and gear teeth problems. This technique has proved to be extremely reliable in the detection of incipient bearing



SKF Multilog Condition Monitoring Unit (CMU)



SKF Machine Condition Transmitters (MCT)



SKF Microlog Series Data Collectors/Analysers

defects. The low frequencies generated by imbalance, misalignment etc. are not measured and diagnosed within the enveloped acceleration process.

- **Condition monitoring and diagnosis with permanently installed monitoring systems**

The SKF Multilog Condition Monitoring Unit (CMU) enables round-the-clock data acquisition from plant machinery in any industrial or process environment. The Multilog CMU collects and evaluates vibration and process machinery data from permanently installed sensors, then automatically captures alarms as they occur.

SKF's Machine Condition Transmitters (MCT) deliver added value to essential production equipment by providing vital information on bearing performance that helps maximize potential machine utilization. Highly cost-effective, using MCTs mean potential problems can be spotted before they deteriorate so maintenance and repair

schedules can be forecast and production arrangements can continue as planned.

Each stand-alone monitoring device may be permanently mounted onto a machine providing low-cost continuous monitoring of specific machine, gear and bearing performance parameters in pumps, fans, motors and other general-purpose machinery.

- **Condition monitoring and diagnosis with a portable data collector and analyser**

SKF offers a range of portable condition monitoring hardware designed for the user who wishes to assess and report on temperature, oil condition, speed, bearing condition, shaft alignment, noise, vibration and more. Where a measurement point is difficult to access, permanently installed sensors can be used. These can be connected by cable to a connection box accessible to the data collector.

Condition monitoring of large SNL housings

SNL housings have appropriate points for sensors (→ fig. 1). Measurement points 1 and 2 are perpendicular to the shaft and correspond best to ISO 10816-1:1995.

Measurement point 2 should be used on SNL housings where the load acts towards the base plate. Measurement point 1 is intended for when the housing is hung from its support or when the load acts away from the base plate.

For additional information about condition monitoring and the measurement tools and systems available from SKF please contact the SKF application engineering service.

Measurement points for condition monitoring

Fig. 1



Lubrication

SNL plummer block housings are so designed that the bearings in them can be lubricated with grease or oil, although grease lubrication is generally preferable. The lubricant should be selected with reference to the operating conditions. Relevant information will be found in the SKF General Catalogue and other SKF publications.

Grease lubrication

In the majority of applications, the amount of grease applied to the SNL housings when mounting (first fill) or after an inspection is adequate until the next planned inspection.

Certain operating conditions, e.g. high speeds, high temperatures or heavy loads, may mean that more frequent relubrication is necessary. Relubrication quantities can be calculated (→ SKF General Catalogue).

Table 1 gives guideline values for the grease quantities to be applied for the first fill. Markings in each corner inside the base give an indication of the grease level for the first fill (→ **fig. 2**).

There are three drilled and tapped holes for a grease nipple AH 1/8-27 PTF in the housing: two in the cap and one in the base. These holes are closed by threaded plugs. The two markings at the outer sides of the central ridge indicate the position for lubrication holes for the seals.

A grease nipple AH 1/8-27 PTF is supplied with the housing. The grease nipple kit (→ **fig. 2a**) also contains a plastic grease nipple protector, a grease nipple M1 G 1/8 and an adapter LAPN 1/8. This adapter transforms the standard drilled 1/8-27 NPSF thread to a G 1/4 which enables the use of grease lubricators such as SYSTEM 24®. In the standard thread also nipples having threads R 1/8, KR 1/8, M 10x1 can be used.

It is recommended that spherical roller bearings having a lubrication groove and three holes in the outer ring (designation suffix W33) be lubricated via this feature (→ **fig. 3**). In this case the relubrication hole in the base or in the centre of the cap should be used.

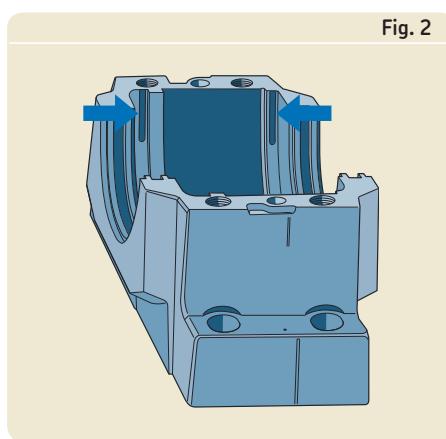
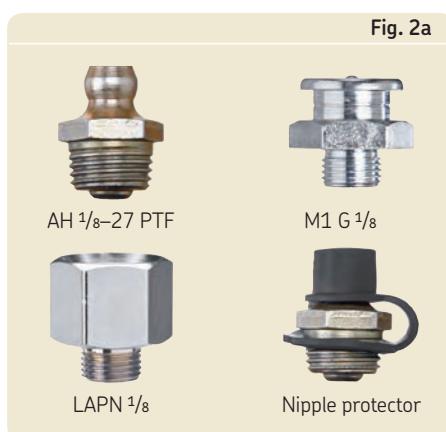
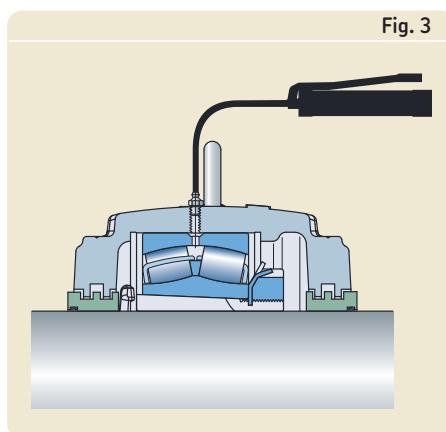


Fig. 2



Grease nipple kit



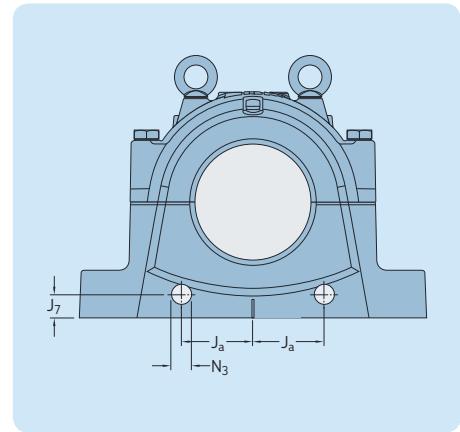
Lubricating the bearing via the outer ring

Table 1

Grease quantities	
Housing Size	Grease quantity First fill ¹⁾
–	kg
SNL 3036	1,2
SNL 3038	1,5
SNL 3040	2,0
SNL 3044	2,7
SNL 3048	3,0
SNL 3052	3,9
SNL 3056	4,9
SNL 3060	5,2
SNL 3064	7,0
SNL 3068	8,7
SNL 3072	10,9
SNL 3076	10,9
SNL 3080	11,7
SNL 3084	11,8
SNL 3088	14,4
SNL 3092	18,8
SNL 3096	18,5
SNL 30/500	20,0
SNL 30/530	21,5
SNL 3134	1,1
SNL 3136	1,4
SNL 3138	1,8
SNL 3140	2,3
SNL 3144	2,7
SNL 3148	3,4
SNL 3152	4,3
SNL 3156	4,4
SNL 3160	6,2
SNL 3164	7,7
SNL 3168	9,4
SNL 3172	9,7
SNL 3176	9,6
SNL 3180	12,2
SNL 3184	14,9
SNL 3188	16,2
SNL 3192	17,4
SNL 3196	17,2
SNL 3234	1,9
SNL 3236	1,9
SNL 3238	2,2
SNL 3240	2,5
SNL 3244	3,0
SNL 3248	3,8
SNL 3252	5,6
SNL 3256	5,6
SNL 3260	6,9
SNL 3264	8,6
SNL 3268	8,4
SNL 3272	10,7
SNL 3276	12,3
SNL 3280	14,6
SNL 3284	15,2
SNL 3288	15,1

It should be noted that when spherical roller bearings are to be relubricated via the outer ring, they should be rotated. If outer ring relubrication is not possible or if CARB toroidal roller bearings are used the standard grease nipple supplied with the housing should be inserted in the hole on the side of the cap and used for this purpose (→ fig. 4). If it is desired to use a grease nipple other than that supplied with the housing, adapters are available which make a reworking of the available drilled and tapped hole unnecessary.

Where the bearings are mounted on adapter sleeves, the grease should be introduced at the side opposite to the lock nut of the sleeve. If frequent relubrication is required, it is advisable to provide the housing with grease escape holes (→ fig. 5) through which excess grease can escape. Recommended dimensions will be found in **table 2**. SNL housings with grease escape holes in the base can be supplied. This housing design is identified by the suffix V, e.g. SNL 3134 V. SNL housings can also be equipped with grease lubricators.



Lubricating the bearing from the side

Housing with grease escape holes

Fig. 4

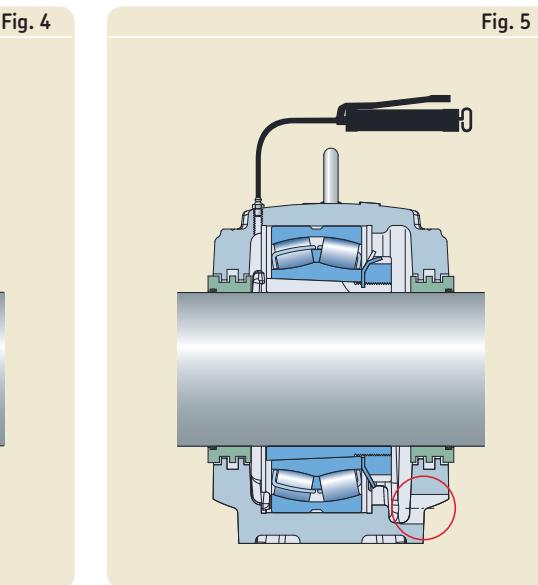


Fig. 5

Table 2				
Recommended dimensions for grease escape holes				
Housing Size	Dimensions	J _a	J ₇	N ₃
kg				
SNL 3036	105	34	30	
SNL 3038	110	38	30	
SNL 3040	120	36	30	
SNL 3044	120	36	30	
SNL 3048	130	42	40	
SNL 3052	145	43	40	
SNL 3056	150	44	40	
SNL 3060	165	51	40	
SNL 3064	180	53	40	
SNL 3068	180	53	40	
SNL 3072	180	53	40	
SNL 3076	185	51	40	
SNL 3080	220	51	40	
SNL 3084	220	53	40	
SNL 3088	230	58	40	
SNL 3092	260	58	40	
SNL 3096	260	58	40	
SNL 30/500	260	58	40	
SNL 30/530	280	58	40	
SNL 3134	105	34	30	
SNL 3136	110	38	30	
SNL 3138	120	36	30	
SNL 3140	120	36	30	
SNL 3144	130	42	40	
SNL 3148	145	43	40	
SNL 3152	150	44	40	
SNL 3156	165	51	40	
SNL 3160	180	53	40	
SNL 3164	180	53	40	
SNL 3168	185	51	40	
SNL 3172	220	51	40	
SNL 3176	220	53	40	
SNL 3180	230	58	40	
SNL 3184	260	58	40	
SNL 3188	260	58	40	
SNL 3192	280	58	40	
SNL 3196	280	58	40	
SNL 3234	120	36	30	
SNL 3236	120	36	30	
SNL 3238	120	36	30	
SNL 3240	130	42	40	
SNL 3244	145	43	40	
SNL 3248	150	44	40	
SNL 3252	180	53	40	
SNL 3256	180	53	40	
SNL 3260	180	53	40	
SNL 3264	185	51	40	
SNL 3268	220	53	40	
SNL 3272	230	58	40	
SNL 3276	260	58	40	
SNL 3280	260	58	40	
SNL 3284	280	58	40	
SNL 3288	280	58	40	

Table 3

Recommended oil levels												
Housing Size	TURT Oil level for bearing series 230		TURA bearing series C 30		Housing Size	TURT Oil level for bearing series 231		TURA bearing series C 31		Housing Size	TURT Oil level for bearing series 232	
-	min	max	min	max	-	min	max	min	max	-	min	max
SNL 3036	48	54	47	55	SNL 3134	50	57	48	58	SNL 3234	61	69
SNL 3038	52	59	49	57	SNL 3136	52	59	50	61	SNL 3236	56	64
SNL 3040	53	62	50	60	SNL 3138	54	62	48	61	SNL 3238	68	77
SNL 3044	59	69	57	68	SNL 3140	65	74	60	73	SNL 3240	70	79
SNL 3048	59	69	58	69	SNL 3144	62	71	56	70	SNL 3244	72	83
SNL 3052	62	74	59	72	SNL 3148	68	79	64	81	SNL 3248	74	87
SNL 3056	72	84	68	81	SNL 3152	72	84	65	83	SNL 3252	97	111
SNL 3060	75	89	74	88	SNL 3156	82	94	74	92	SNL 3256	87	101
SNL 3064	85	99	82	96	SNL 3160	85	99	78	97	SNL 3260	91	106
SNL 3068	88	104	81	99	SNL 3164	89	104	84	108	SNL 3264	94	116
SNL 3072	81	94	74	92	SNL 3168	93	108	84	110	SNL 3268	98	118
SNL 3076	88	104	87	105	SNL 3172	90	108	84	110	SNL 3272	105	124
SNL 3080	81	98	76	97	SNL 3176	91	108	87	110	SNL 3276	131	151
SNL 3084	81	98	77	99	SNL 3180	99	116	88	111	SNL 3280	115	135
SNL 3088	87	106	89	110	SNL 3184	108	128	103	129	SNL 3284	117	139
SNL 3092	104	124	100	119	SNL 3188	106	128	105	133	SNL 3288	123	147
SNL 3096	96	114	92	111	SNL 3192	109	133	103	131			
SNL 30/500	94	114	94	113	SNL 3196	116	141	112	139			
SNL 30/530	108	131	110	134								

The oil level is measured from the base of the housing. Mark the min and max level on the sight glass

Oil lubrication

The SNL 30, SNL 31 and SNL 32 housings can be used for oil lubrication at relatively high speeds. When using oil, however, the specially developed U-design seals should be incorporated to avoid oil loss from the housing (→ fig. 6). These seals are described on page 14. In order for these seals to be used, the housing must be modified so that SNL housings for oil lubrication are only supplied complete with seals. Recommended oil levels can be found in table 3.

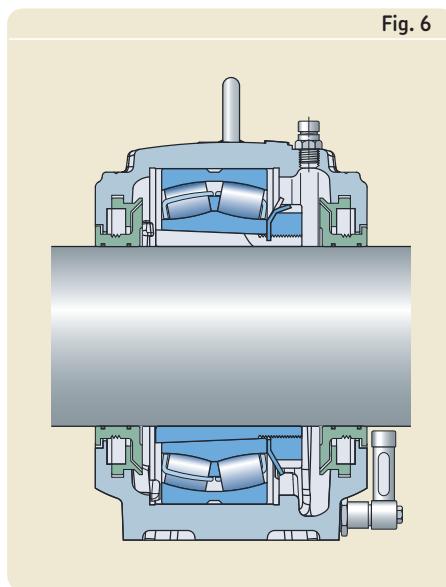
Oil lubricated SNL housings can also be equipped with oil levellers, LAHD series, which are designed for automatic adjustment of the optimal oil lubrication level within the bearing housing.

Variant for circulating oil lubrication

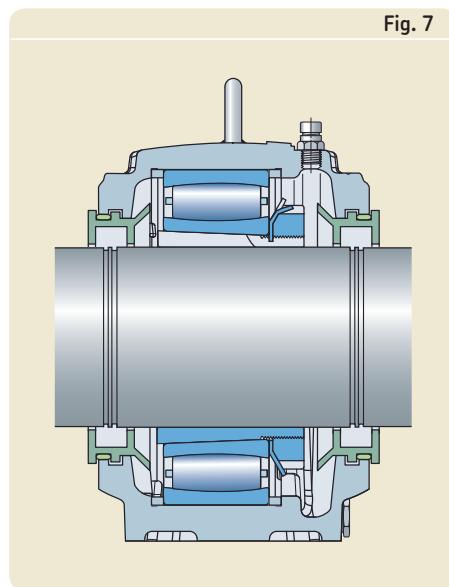
SNL housings with a special seal, designated SNL .. TURP (fig. 7), for spherical roller bearing series 230 & 231 and CARB toroidal roller bearing series C30 & C31. SNL .. TURP is a standard SNL housing fitted with special seals for circulating oil lubrication. This variant can be used when it is a need for large axial movements.

SNL .. TURP is available upon request in sizes 3036-30/530 and 3134-3196 for spherical roller bearing series 230 & 231 and CARB toroidal roller bearing series C30 & C31.

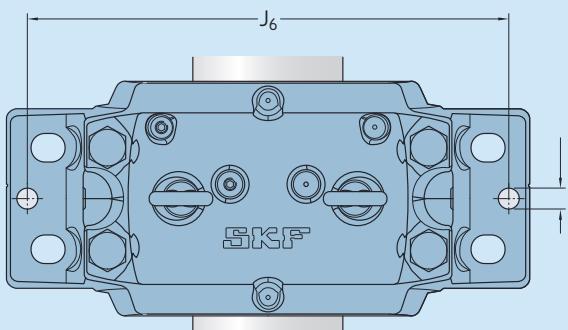
Housing for oil lubrication



Housing for oil lubrication



Position and size of dowel pin holes



Housing Size	Dimensions J ₆	Dimensions N ₄ max	Housing Size	Dimensions J ₆	Dimensions N ₄ max	Housing Size	Dimensions J ₆	Dimensions N ₄ max
–	mm	–	–	mm	–	–	mm	–
SNL 3036	470	20	SNL 3134	470	20	SNL 3234	520	20
SNL 3038	490	20	SNL 3136	490	20	SNL 3236	520	20
SNL 3040	520	20	SNL 3138	520	20	SNL 3238	560	20
SNL 3044	560	20	SNL 3140	560	20	SNL 3240	590	20
SNL 3048	590	20	SNL 3144	590	20	SNL 3244	650	20
SNL 3052	650	20	SNL 3148	650	20	SNL 3248	720	20
SNL 3056	720	20	SNL 3152	720	20	SNL 3252	770	25
SNL 3060	740	20	SNL 3156	740	20	SNL 3256	770	25
SNL 3064	770	25	SNL 3160	770	25	SNL 3260	820	25
SNL 3068	820	25	SNL 3164	820	25	SNL 3264	880	25
SNL 3072	820	25	SNL 3168	880	25	SNL 3268	960	30
SNL 3076	880	25	SNL 3172	920	30	SNL 3272	1 020	35
SNL 3080	920	30	SNL 3176	960	30	SNL 3276	1 070	35
SNL 3084	960	30	SNL 3180	1 020	35	SNL 3280	1 120	35
SNL 3088	1 020	35	SNL 3184	1 070	35	SNL 3284	1 160	40
SNL 3092	1 070	35	SNL 3188	1 120	35	SNL 3288	1 210	40
SNL 3096	1 070	35	SNL 3192	1 160	40			
SNL 30/500	1 120	35	SNL 3196	1 210	40			
SNL 30/530	1 210	40						

Mounting

SNL housings together with SKF bearings are robust and operationally reliable bearing arrangements which have long lives. However, if they are to achieve their full potential and not fail prematurely, they must be properly mounted. Incorrect procedures or unsuitable tools can influence life negatively.

When mounting the housings it should be remembered that the housings are asymmetrical internally and therefore the bearings are not always mounted in the centre of the housing.

Vertical markings on the housing base end faces indicates the location of the centre of the bearing seating.

Mounting the bearing

The bearings can be mounted either on a tapered seating – normally for SNL housings in the form of an adapter sleeve – or on a cylindrical seating. When a bearing is correctly mounted on a sleeve there will be interference fits between the inner ring, sleeve and shaft. The degree of interference is determined by how far the bearing is driven up on the sleeve and either the internal clearance reduction or the axial drive-up distance can be used as a measure. The clearance reduction in spherical roller bearings can be measured using a feeler gauge, or the SKF drive-up method can be used. Information will be sent on request.

For CARB toroidal roller bearings either the clearance reduction or the axial drive-up distance should be measured. When using

a feeler gauge to measure clearance reduction it is important that the inner and outer rings of the bearing are not displaced with respect to each other. The SKF drive-up method can also be applied.

Adapter sleeves with the designation OH .. H in the product tables indicate that the sleeves are provided with the necessary ducts to enable the bearings to be mounted using the oil injection method. Oil is supplied to the nut side of the sleeve.

Bearings with cylindrical bore are normally mounted with an interference fit on the shaft. Appropriate shaft tolerances should be selected (→ SKF General Catalogue). The recommendations applying to spherical roller bearings also apply to CARB toroidal roller bearings.

Details of mounting tools as well as the SKF drive-up method can be found on the SKF

CD-ROM MP282 which will be sent on request.

Support surface for housing base

To guarantee long bearing service life it is recommended that the support surface for the housing is finished to $R_a \leq 12,5 \mu\text{m}$. The flatness (planicity) tolerance should be to IT7. For moderate demands IT8 may be satisfactory.

Dowel pins

SNL housings are designed for loads acting vertically to the housing base support. If they are to be subjected to moderate or heavy loads acting parallel to the base support, a stop should be provided, or the housing should be pinned to its support. Recommendations for the position and size of holes to take dowel pins are given in **table 4** on **page 23**.

Attachment bolts

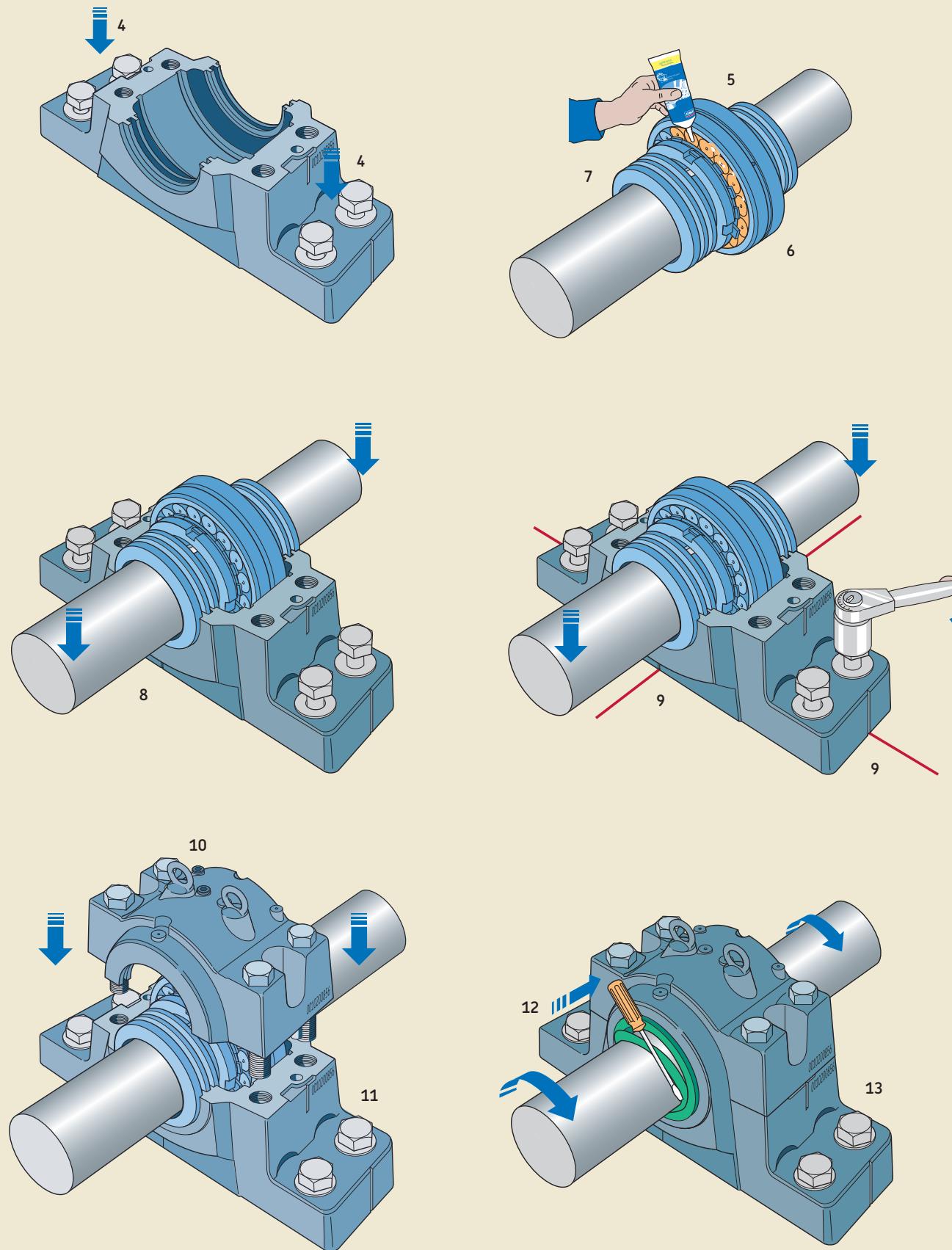
It is recommended that hexagon headed bolts to strength class 8.8 according to the ISO 4014:1999 should be used. If the load does not act vertically to the base, it may be necessary to use stronger, class 10.9 bolts. Details of the appropriate tightening torques for the bolts to class 8.8 are given in **table 2** on **page 32**.

Mounting SNL 30, SNL 31 and SNL 32 housings with labyrinth seals

Before starting installation work, the following instructions should be carefully read.

1. Check that the surface roughness of the support surface $R_a \leq 12,5 \mu\text{m}$. The flatness (planicity) tolerance should be to IT7. Check that the mounting surface is clean. If shims are used, the whole surface must be covered by the shims. The mounting surface (frame) must be designed in a proper way considering actual load, vibrations and settings.
2. Ensure that the environment is clean. Check the dimensional and form accuracy of the shaft seating. The shaft is preferably machined to tolerance h9/IT5.
3. If the bearing is mounted on an adapter sleeve, determine the position of the housing. The grease nipple arranged at one side of the housing cap (for improved lubrication) should always be at the side opposite to the sleeve nut. It is necessary to consider the complete housing as the base and cap will only fit together as supplied.
4. Position the housing on the support surface. Fit the attachment bolts but do not tighten them.
5. Mount the first labyrinth seal on the shaft in the correct position.
6. Mount the bearing on the shaft – either directly on a stepped shaft or using an adapter sleeve. Completely fill the bearing with grease. The housing base should be filled with grease up to the markings in each corner inside the base (**→ table 1, page 20**).
7. Mount the second labyrinth ring on the shaft in the correct position. If the housing is to be used at a shaft end, the second labyrinth ring is omitted and an end cover inserted in the housing base instead.
8. Lay the shaft with bearing and labyrinth ring(s) in the housing base.
9. Carefully align the housing base. Vertical markings on the housing base ends and side faces showing the bearing seating centre can facilitate this. Then lightly tighten the attachment bolts.
10. The housing cap should be placed over the base and the cap bolts (to join cap and base) tightened to the torque specified in **table 2 on page 32**. The cap and base of one housing are not interchangeable with those of other housings. The cap and base should be checked to see that they bear the same consecutive number.
11. Check the alignment to minimize misalignment and fully tighten the attachment bolts in the housing base with help of a torque wrench. Recommended tightening torques are given in **table 2 on page 32**.
12. Finally insert the hollow O-ring cords of synthetic rubber in the grooves in the labyrinth rings. This can be done using a screwdriver while turning the shaft.
13. After one day the tightening torque of the cap bolts and the attachment bolts shall be checked.

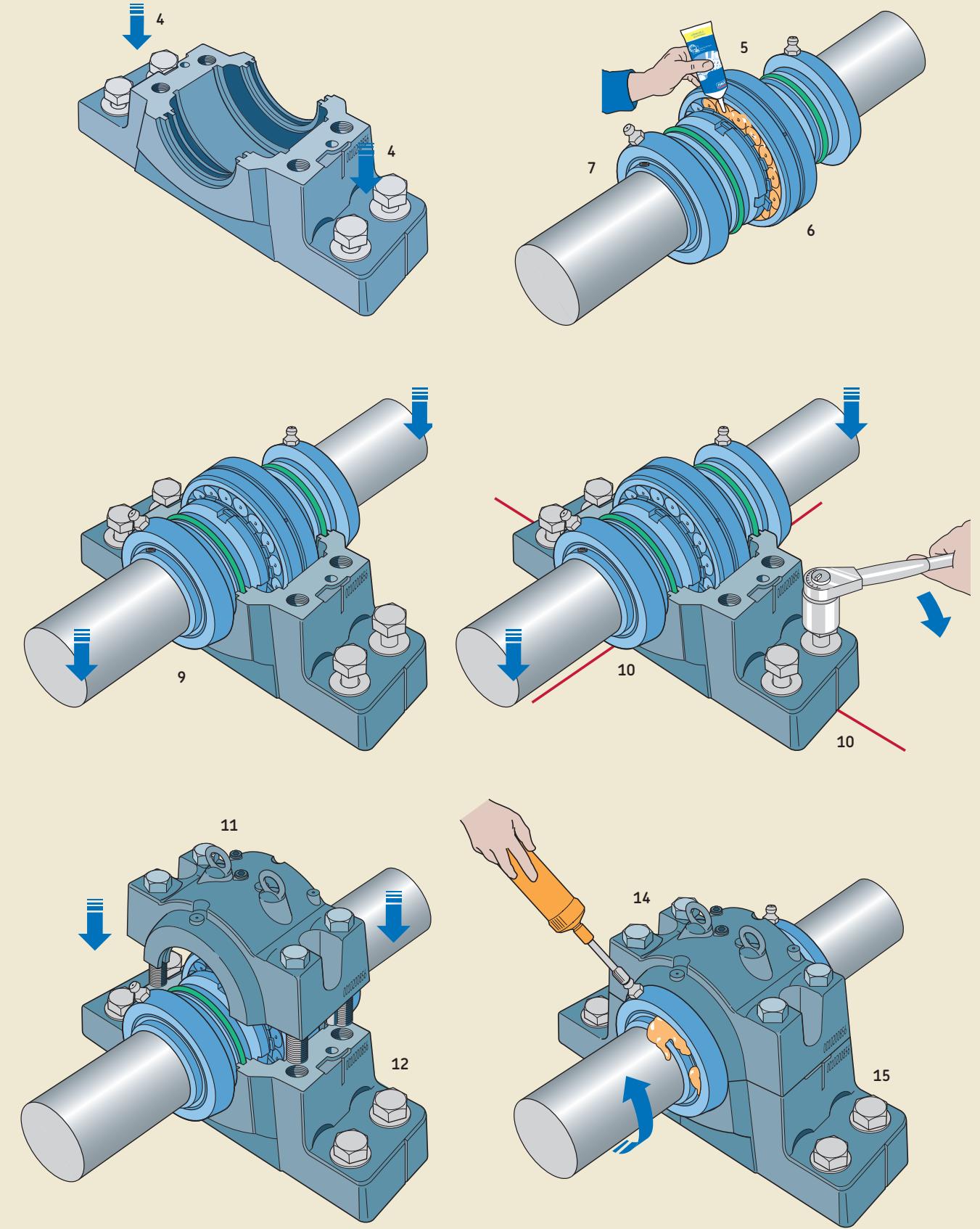
For locating bearing arrangements and arrangements with CARB toroidal roller bearings, put the appropriate number of locating rings at each side of the bearing (**→ product tables**). Please note that the product table indicates the total number of locating rings needed. From size SNL 3264, SNL 3168 and SNL 3076 the housings have F or L design and no locating rings are needed.



Mounting SNL 30, SNL 31 and SNL 32 housings with taconite seals

Before starting installation work, the following instructions should be carefully read.

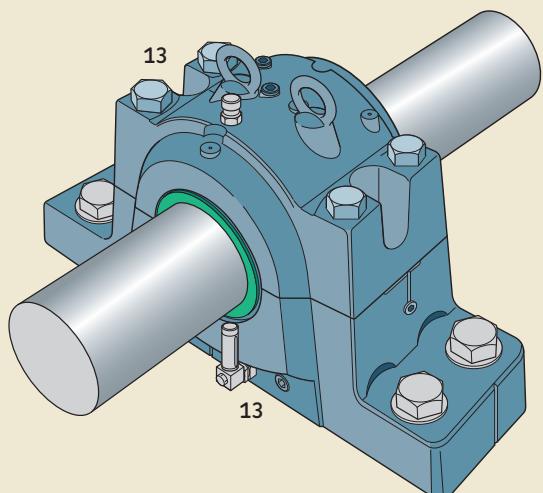
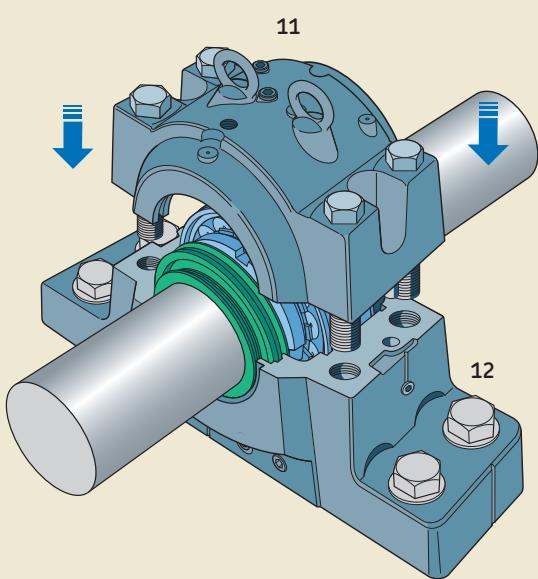
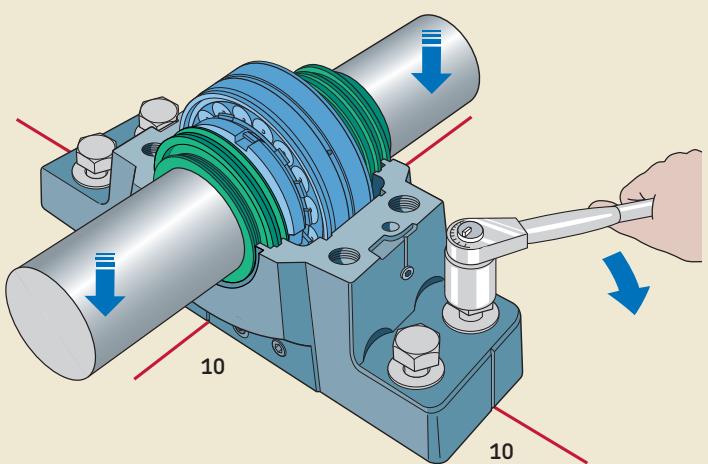
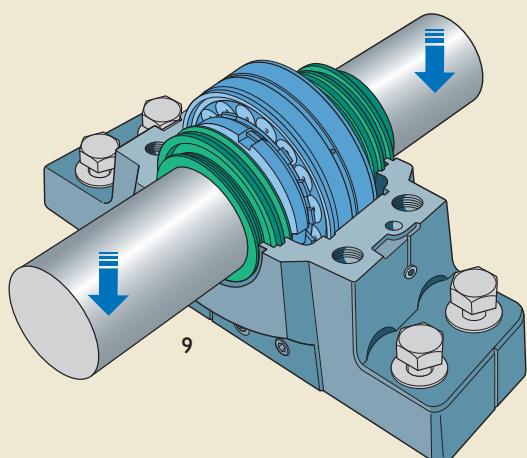
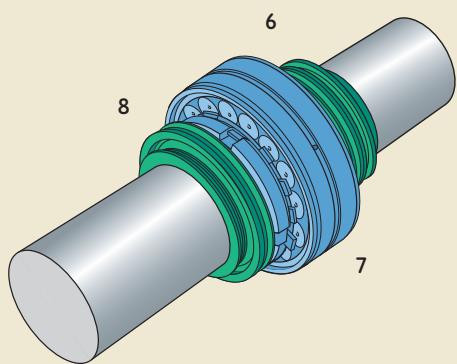
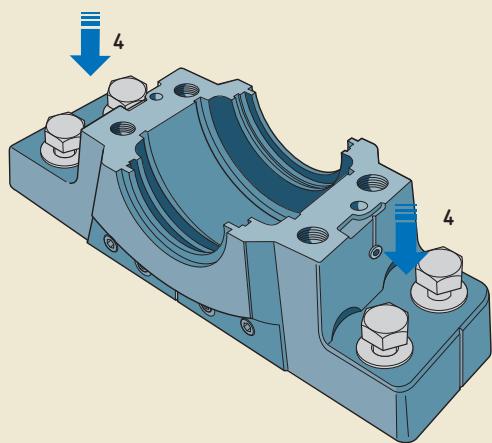
1. Check that the surface roughness of the support surface $R_a \leq 12,5 \mu\text{m}$. The flatness (planicity) tolerance should be to IT7. Check that the mounting surface is clean. If shims are used, the whole surface must be covered by the shims. The mounting surface (frame) must be designed in a proper way considering actual load, vibrations and settings.
 2. Ensure that the environment is clean. Check the dimensional and form accuracy of the shaft seating. The shaft is preferably machined to tolerance h9/IT5.
 3. If the bearing is mounted on an adapter sleeve, determine the position of the housing. The grease nipple arranged at one side of the housing cap (for improved lubrication) should always be at the side opposite to the sleeve nut. It is necessary to consider the complete housing as the base and cap will only fit together as supplied.
 4. Position the housing on the support surface. Fit the attachment bolts but do not tighten them.
 5. Slide the parts for the first seal to the correct position on the shaft. The lip of the V-ring should point towards the bearing. Do not tighten the grub screws.
 6. Mount the bearing on the shaft – either directly on a stepped shaft or using an adapter sleeve. Completely fill the bearing with grease. The housing base should be filled with grease up to the markings in each corner inside the base (→ **table 1, page 20**).
 7. Mount the second seal according to point 5. If the housing is to be used at a shaft end, the second seal is omitted and an end cover inserted in the housing base instead.
 8. Check that the O-ring is in the correct position on the seal outside diameter.
 9. Lay the shaft with bearing and seals in the housing base taking care that the O-rings are not damaged.
- For locating bearing arrangements and arrangements with CARB toroidal roller bearings, put the appropriate number of locating rings at each side of the bearing (→ product tables). Please note that the product table indicates the total number of locating rings needed. From size SNL 3264, SNL 3168 and SNL 3076 the housings have F or L design and no locating rings are needed.
10. Carefully align the housing base. Vertical markings on the housing base ends and side faces showing the bearing seating centre can facilitate this. Then lightly tighten the attachment bolts.
 11. The housing cap should be placed over the base, taking care that the O-rings are not damaged, and tighten the cap bolts (to join cap and base) with help of a torque wrench, to the torque specified in **table 2 on page 32**. The cap and base of one housing are not interchangeable with those of other housings. The cap and base should be checked to see that they bear the same consecutive number.
 12. Check the alignment to minimize misalignment and fully tighten the attachment bolts in the housing base. Recommended tightening torques are given in **table 2 on page 32**.
 13. Adjust the flingers to the correct position and tighten the grub screws. The clearance in the seal must exceed the axial movement of the bearing.
 14. Finally, before the first test run, rotate the shaft and supply grease via the nipple until it exudes from the labyrinth rings. The same grease as that used for the bearing should also be used to lubricate the labyrinth rings.
 15. After one day the tightening torque of the cap bolts and the attachment bolts shall be checked.



Mounting SNL 30 and SNL 31 housings with oil seals

Before starting installation work, the following instructions should be carefully read.

1. Ensure that the surface roughness of the support surface $R_a \leq 12,5 \mu\text{m}$. The flatness (planicity) tolerance should be to IT7. Check that the mounting surface is clean. If the mounting surface is painted, the paint has to be removed. If shims are used, the whole surface must be covered by the shims. The mounting surface (frame) must be designed in a proper way considering actual load, vibrations and settings.
2. Ensure that the environment is clean. Check the dimensional and form accuracy of the shaft seating. The shaft is preferably machined to tolerance g7, and performed with a lead-in chamfer of about $3 \text{ mm} \times 15^\circ$.
3. If the bearing is mounted on an adapter sleeve, determine the position of the housing.
4. Make sure the attachment surface of the housing is cleaned from paint and contamination. Position the housing on the support surface. Fit the attachment bolts but do not tighten them.
5. Check if the silicon tubes are at their right position in the grooves (**fig. 1**). The dimension of the silicon tubes are $1 \times 3 \text{ mm}$.
6. Cover the shaft with a thin layer of oil. Slide the parts for the first seal to the correct position on the shaft.
7. Mount the bearing on the shaft – either directly on a stepped shaft or using an adapter sleeve.
8. Slide the parts for the second seal to the correct position on the shaft. Keep the locating pin in the outer seal parts in a horizontal position. If the housing is to be used at a shaft end, the second seal is omitted and the inner part of the end cover is inserted in the housing base seal groove.
9. Lay the shaft with bearing and seal parts in the housing base.
10. Carefully align the housing base. Vertical markings on the housing base ends and side faces, showing the bearing seating centre, can facilitate this. Then lightly tighten the attachment bolts.
11. Apply a string of oil-resistant sealant, of type Blue Silicon or equal, along the outer contourline and around the holes on the housing split surfaces. Then place the housing cap over the base and tighten the cap bolts (to join cap and base) with help of a torque wrench, to the torque specified in the **table 1**. The cap and base of one housing are not interchangeable with those of another housing. The cap and base should be checked to see that they bear the same identification.
12. Check the alignment, to minimise misalignment and fully tighten the attachment bolts in the housing base with help of a torque wrench. Recommended tightening torques are given in **table 1**.
13. Mount the supplied ventilating plug on the top of the housing and when oil bath shall be used, mount the oil level sight glass. When circulating oil lubrication shall be used connect the oil inlet and outlet pipes to the housing.
- NB. It is important that sealant, of type Loctite or equal, are applied on all threads on the supplied accessories.
14. When oil bath is used, the max and min level should be indicated on the sight glass. Recommended oil level to be used for the mounted bearing can be found in **table 2**. The oil level must be read off in application standstill.
- NB. For oil bath it is important not to overfill the max level as this can cause oil leakage from the housing. For circulating oil it is important that the outlet pipe/pipes can drain the housing in a proper way to avoid overfill of oil inside the housing.
15. Protect the housing assembly from negative pressure from surrounding equipment.
16. After one day the tightening torque of the cap bolts and the attachment bolts shall be checked.



Designations and housing data

Designations

The designations used for SNL housings consist of a basic designation which identifies the design, material and size followed by any supplementary designations needed to identify features which differ from the standard design. A dash (–) in the chart indicates that the feature belongs to the standard design.

Load carrying ability

SNL plummer block housings are intended for loads acting vertically towards the base plate (support). If loads acting in other directions occur, checks should be made to ensure that the magnitude of the load is permissible for

the housing, the bolts joining the housing cap and base, and for the attachment bolts.

Load carrying ability of the housing

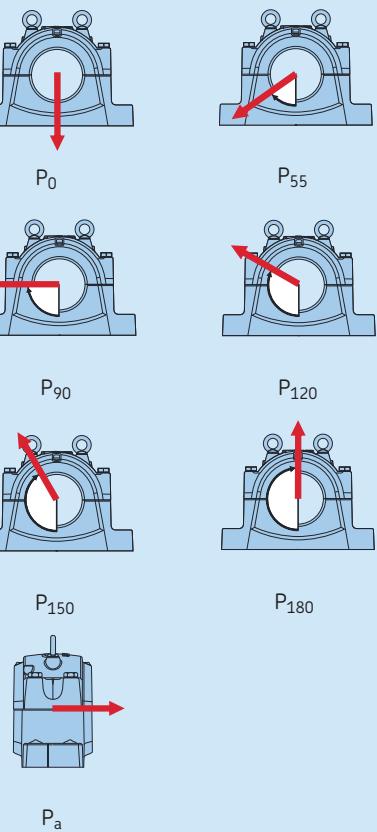
Guideline values for the breaking load P of the housing for various load directions are given in **table 1**. Using these values and a safety factor selected with respect to the operating conditions, the permissible load for the housing can be calculated. In general engineering a safety factor of 6 is often used. Note that P_{0° values are valid when the housing is not supported in the middle of the base plate, i.e. the space between the reinforcement ribs in the base plate. It is important for the load carrying ability of the housing that the bolts joining cap and base are properly tightened in accordance

with the values given in **table 2** on **page 32**. The axial load carrying capacity of the housing is approximately 65 % of P_{180° . For load angles between 55° and 120° as well as for axial loads, or if the load acting parallel to the base plate (support surface) exceeds 5 % of P_{180° , the housing should be pinned to the support or a stop should be provided in the direction of the load.

Designation chart

Basic design	SNL	D
Material	3134	SN
–	Housing of grey cast iron	
D	Housing of spheroidal graphite cast iron	
Size		
e.g. 3134		
Suffixes		
–	Housing for bearing with adapter sleeve and through shaft	
G	Housing for bearing with cylindrical bore and for stepped shaft	
L	Housing for non-locating bearing arrangement	
F	Housing for locating bearing arrangement	
V	Housing with grease escape holes in base	
T	Drilled and tapped hole 1/8-27 NPSF at one side of cap (opposite to lock nut) to take grease nipple AH 1/8-27 PTF for relubrication of seals; nipple supplied with housing	
TD	Drilled and tapped hole 1/8-27 NPSF at both sides of cap to take grease nipple AH 1/8-27 PTF for relubrication of seals; two nipples supplied with housing	
SN	Housing with drilled and tapped hole for sensor	
TURT	Housing prepared for oil lubrication (spherical roller bearing) with seals	
TURA	Housing prepared for oil lubrication (CARB toroidal roller bearing) with seals	
TURP	Housing with special seal for large axial movement and circulating oil lubrication	

Table 1



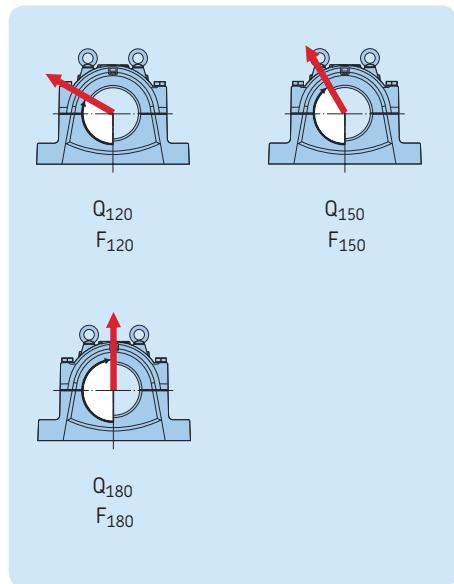
Breaking loads for SNL plummer block housings

Housing Size	Breaking loads for SNL housing						
–	P _{0°}	P _{55°}	P _{90°}	P _{120°}	P _{150°}	P _{180°}	P _a
kN							
SNL 3036	1 700	2 100	1 000	760	680	850	550
SNL 3038	1 900	2 400	1 150	850	760	950	620
SNL 3040	2 200	2 700	1 300	1 000	880	1 100	710
SNL 3044	2 600	3 200	1 600	1 100	1 000	1 300	840
SNL 3048	3 100	4 000	1 900	1 400	1 300	1 600	1 000
SNL 3052	3 400	4 200	2 000	1 500	1 400	1 700	1 100
SNL 3056	3 800	4 700	2 300	1 700	1 500	1 900	1 200
SNL 3060	4 000	5 000	2 400	1 800	1 600	2 000	1 300
SNL 3064	4 800	6 000	2 900	2 200	1 900	2 400	1 500
SNL 3068	5 400	7 000	3 400	2 500	2 200	2 800	1 800
SNL 3072	5 400	7 000	3 400	2 500	2 200	2 800	1 800
SNL 3076	6 000	7 500	3 600	2 600	2 300	3 000	1 900
SNL 3080	6 000	7 700	3 600	2 700	2 400	3 000	2 000
SNL 3084	6 100	8 000	3 900	2 900	2 500	3 200	2 100
SNL 3088	7 000	8 700	4 200	3 100	2 700	3 500	2 200
SNL 3092	7 600	9 600	4 600	3 400	3 000	3 800	2 400
SNL 3096	7 600	9 600	4 600	3 400	3 000	3 800	2 400
SNL 30/500	8 000	10 000	4 800	3 600	3 100	4 000	2 500
SNL 30/530	8 000	11 200	5 400	4 000	3 500	4 400	2 800
SNL 3134	1 700	2 100	1 000	760	680	850	550
SNL 3136	1 900	2 400	1 150	850	760	950	620
SNL 3138	2 200	2 700	1 300	1 000	880	1 100	710
SNL 3140	2 600	3 200	1 600	1 100	1 000	1 300	840
SNL 3144	3 100	4 000	1 900	1 400	1 300	1 600	1 000
SNL 3148	3 400	4 200	2 000	1 500	1 400	1 700	1 100
SNL 3152	3 800	4 700	2 300	1 700	1 500	1 900	1 200
SNL 3156	4 000	5 000	2 400	1 800	1 600	2 000	1 300
SNL 3160	4 800	6 000	2 900	2 200	1 900	2 400	1 500
SNL 3164	5 400	7 000	3 400	2 500	2 200	2 800	1 800
SNL 3168	6 000	7 500	3 600	2 600	2 300	3 000	1 900
SNL 3172	6 000	7 700	3 600	2 700	2 400	3 000	2 000
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 2

Load carrying ability and tightening torques for cap bolts and attachment bolts

Housing Size	Cap bolts						Tightening torque	Designation to ISO 4014	Attachment bolts	
	Yield point for four bolts			Maximum load for four bolts	F _{120°}	F _{150°}	F _{180°}		Size	Tightening torque
–	kN	Q _{120°}	Q _{150°}	Q _{180°}					–	–
SNL 3036	1 800	1 040	900	760	440	380	350	M 24x140	M 24	665
SNL 3038	1 800	1 040	900	760	440	380	350	M 24x140	M 24	665
SNL 3040	1 800	1 040	900	760	440	380	350	M 24x150	M 24	665
SNL 3044	1 800	1 040	900	760	440	380	350	M 24x160	M 30	1 310
SNL 3048	1 800	1 040	900	760	440	380	350	M 24x160	M 30	1 310
SNL 3052	2 860	1 650	1 430	1 240	720	620	400	M 30x180	M 30	1 310
SNL 3056	2 860	1 650	1 430	1 240	720	620	400	M 30x200	M 36	2 280
SNL 3060	2 860	1 650	1 430	1 240	720	620	400	M 30x200	M 36	2 280
SNL 3064	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3068	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3072	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3076	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3080	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3084	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3088	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 42	3 640
SNL 3092	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 42	3 640
SNL 3096	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 42	3 640
SNL 30/500	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 42	3 640
SNL 30/530	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 48	5 450
SNL 3134	1 800	1 040	900	760	440	380	350	M 24x140	M 24	665
SNL 3136	1 800	1 040	900	760	440	380	350	M 24x140	M 24	665
SNL 3138	1 800	1 040	900	760	440	380	350	M 24x150	M 24	665
SNL 3140	1 800	1 040	900	760	440	380	350	M 24x160	M 30	1 310
SNL 3144	1 800	1 040	900	760	440	380	350	M 24x160	M 30	1 310
SNL 3148	2 860	1 650	1 430	1 240	720	620	400	M 30x180	M 30	1 310
SNL 3152	2 860	1 650	1 430	1 240	720	620	400	M 30x200	M 36	2 280
SNL 3156	2 860	1 650	1 430	1 240	720	620	400	M 30x200	M 36	2 280
SNL 3160	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3164	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3168	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3172	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3176	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3180	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 42	3 640
SNL 3184	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 42	3 640
SNL 3188	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 42	3 640
SNL 3192	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x300	M 42	3 640
SNL 3196	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x320	M 48	5 450
SNL 3234	1 800	1 040	900	760	440	380	350	M 24x150	M 24	665
SNL 3236	1 800	1 040	900	760	440	380	350	M 24x150	M 24	665
SNL 3238	1 800	1 040	900	760	440	380	350	M 24x160	M 30	1 310
SNL 3240	1 800	1 040	900	760	440	380	350	M 24x160	M 30	1 310
SNL 3244	2 860	1 650	1 430	1 240	720	620	400	M 30x180	M 30	1 310
SNL 3248	2 860	1 650	1 430	1 240	720	620	400	M 30x200	M 36	2 280
SNL 3252	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3256	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3260	2 860	1 650	1 430	1 240	720	620	400	M 30x220	M 36	2 280
SNL 3264	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3268	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 36	2 280
SNL 3272	4 200	2 400	2 100	1 600	920	800	600	M 36x240	M 42	3 640
SNL 3276	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 42	3 640
SNL 3280	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x280	M 42	3 640
SNL 3284	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x300	M 42	3 640
SNL 3288	5 800	3 350	2 900	2 200	1 260	1 100	850	M 42x320	M 48	5 450



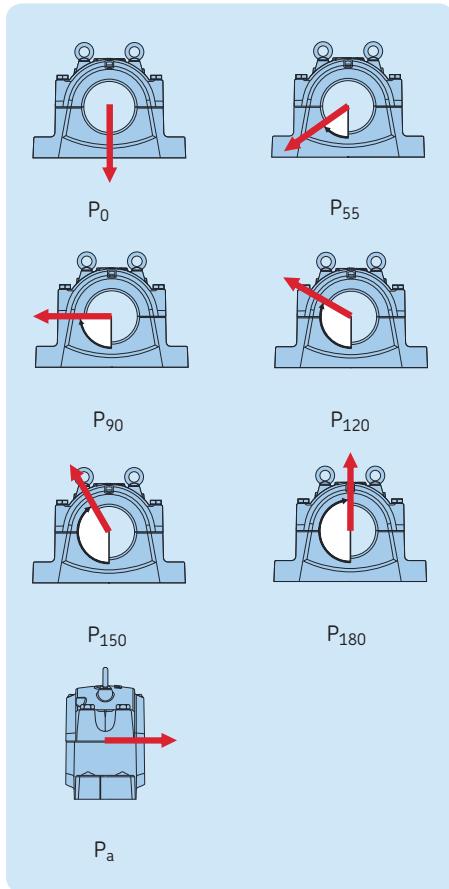
Load carrying ability of bolts

SNL plummer block housings are supplied with cap bolts (to join cap and base) to strength class 8.8 as standard. The guideline values for the yield point Q for the cap bolts are given in **table 2** for various load directions as well as the corresponding maximum radial loads F.

Materials

SKF large SNL plummer block housings are as standard made of grey cast iron EN-GJL-250 to EN 1561:1992 or where extra strength is needed housings made of spheroidal graphite cast iron EN-GJS-400 to EN 1563:1997 can be supplied. These housings are identified by the prefix D, i.e. SNLD.

Table 3



Safe loads

For the American and Canadian markets the norm is to use safe loads instead of breaking loads. The approximate safe loading for different directions of load are given in **table 3**. These guideline limits have been established using accepted engineering practices with consideration given to safety ultimate tensile strength of the materials used and working stresses to reflect a safety factor of 5 against base fracture, and a minimum factor of 2 against cap bolt yield. When the loading acts at an angle between 55° and 120°, or in the axial direction exceeds 25 % of the P_{180°} value shown in **table 3**, it is recommended that the housing should be pinned to the support. Alternatively, the support may be provided with stops to locate the housing in the direction of load. The maximum permissible axial loading that can be safely carried by the housing assembly depends on various considerations in addition to the operational performance abilities of the bearing. For a purely axial force under static or dynamic conditions, the permissible load on the housing casting should not exceed 65 % of P_{180°}.

Housing Size	Safe loads for SNL plummer block housings						
	P _{0°}	P _{55°}	P _{90°}	P _{120°}	P _{150°}	P _{180°}	P _a
-	kN/lbf						
SNL 3036	340 76 500	420 94 500	200 45 000	152 34 200	136 30 600	170 38 250	110 24 750
SNL 3038	380 85 500	480 108 000	230 51 750	170 38 250	152 34 200	190 42 750	124 27 900
SNL 3040	440 99 000	540 121 500	260 58 500	200 45 000	176 39 600	220 49 500	142 31 950
SNL 3044	520 117 000	640 144 000	320 72 000	220 49 500	200 45 000	260 58 500	168 37 800
SNL 3048	620 139 500	800 180 000	380 85 500	280 63 000	260 58 500	320 72 000	200 45 000
SNL 3052	680 153 000	840 189 000	400 90 000	300 67 500	280 63 000	340 76 500	220 49 500
SNL 3056	760 171 000	940 211 500	460 103 500	340 76 500	300 67 500	380 85 500	240 54 000
SNL 3060	800 180 000	1 000 225 000	480 108 000	360 81 000	320 72 000	400 90 000	260 58 500
SNL 3064	960 216 000	1 200 270 000	580 130 500	440 99 000	380 85 500	480 108 000	300 67 500
SNL 3068	1 080 243 000	1 400 315 000	680 153 000	500 112 500	440 99 000	560 126 000	360 81 000
SNL 3072	1 080 243 000	1 400 315 000	680 153 000	500 112 500	440 99 000	560 126 000	360 81 000
SNL 3076	1 200 270 000	1 500 337 500	720 162 000	520 117 000	460 103 500	600 135 000	380 85 500
SNL 3080	1 200 270 000	1 540 346 500	720 162 000	540 121 500	480 108 000	600 135 000	400 90 000
SNL 3084	1 220 274 500	1 600 360 000	780 175 500	580 130 500	500 112 500	640 144 000	420 94 500
SNL 3088	1 400 315 000	1 740 391 500	840 189 000	620 139 500	540 121 500	700 157 500	440 99 000
SNL 3092	1 520 342 000	1 920 432 000	920 207 000	680 153 000	600 135 000	760 171 000	480 108 000
SNL 3096	1 520 342 000	1 920 432 000	920 207 000	680 153 000	600 135 000	760 171 000	480 108 000
SNL 30/500	1 600 360 000	2 000 450 000	960 216 000	720 162 000	620 139 500	800 180 000	500 112 500
SNL 30/530	1 600 360 000	2 240 504 000	1 080 243 000	800 180 000	700 157 500	880 198 000	560 126 000
SNL 3134	340 76 500	420 94 500	200 45 000	152 34 200	136 30 600	170 38 250	110 24 750
SNL 3136	380 85 500	480 108 000	230 51 750	170 38 250	152 34 200	190 42 750	124 27 900
SNL 3138	440 99 000	540 121 500	260 58 500	200 45 000	176 39 600	220 49 500	142 31 950
SNL 3140	520 117 000	640 144 000	320 72 000	220 49 500	200 45 000	260 58 500	168 37 800
SNL 3144	620 139 500	800 180 000	380 85 500	280 63 000	260 58 500	320 72 000	200 45 000
SNL 3148	680 153 000	840 189 000	400 90 000	300 67 500	280 63 000	340 76 500	220 49 500
SNL 3152	760 171 000	940 211 500	460 103 500	340 76 500	300 67 500	380 85 500	240 54 000
SNL 3156	800 180 000	1 000 225 000	480 108 000	360 81 000	320 72 000	400 90 000	260 58 500
SNL 3160	960 216 000	1 200 270 000	580 130 500	440 99 000	380 85 500	480 108 000	300 67 500

cont. table 3

Safe loads for SNL plummer block housings

Housing Size	Safe loads for SNL plummer block housings						
	P _{0°}	P _{55°}	P _{90°}	P _{120°}	P _{150°}	P _{180°}	P _a
-	kN/lbf						
SNL 3164	1 080	1 400	680	500	440	560	360
	243 000	315 000	153 000	112 500	99 000	126 000	81 000
SNL 3168	1 200	1 500	720	520	460	600	380
	270 000	337 500	162 000	117 000	103 500	135 000	85 500
SNL 3172	1 200	1 540	720	540	480	600	400
	270 000	346 500	162 000	121 500	108 000	135 000	90 000
SNL 3176	1 220	1 600	780	580	500	640	420
	274 500	360 000	175 500	130 500	112 500	144 000	94 500
SNL 3180	1 400	1 740	840	620	540	700	440
	315 000	391 500	189 000	139 500	121 500	157 500	99 000
SNL 3184	1 520	1 920	920	680	600	760	480
	342 000	432 000	207 000	153 000	135 000	171 000	108 000
SNL 3188	1 600	2 000	960	720	620	800	500
	360 000	450 000	216 000	162 000	139 500	180 000	112 500
SNL 3192	1 680	2 140	1 040	760	660	840	540
	378 000	481 500	234 000	171 000	148 500	189 000	121 500
SNL 3196	1 760	2 240	1 080	800	700	880	560
	396 000	504 000	243 00	180 000	157 500	198 000	126 000
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
	139 500	180 000	85 500	63 000	58 500	72 000	45 000
SNL 3244	680	840	400	300	280	340	130
	153 000	189 000	90 000	67 500	63 000	76 500	29 250
SNL 3248	760	940	460	340	300	380	134
	171 000	211 500	103 500	76 500	67 500	85 500	30 150
SNL 3252	960	1 200	580	440	380	480	230
	216 000	270 000	130 500	99 000	85 500	108 000	51 750
SNL 3256	960	1 200	580	440	380	480	240
	216 000	270 000	130 500	99 000	85 500	108 000	54 000
SNL 3260	1 080	1 400	680	500	440	560	320
	243 000	315 000	153 000	112 500	99 000	126 000	72 000
SNL 3264	1 200	1 500	720	520	460	600	290
	270 000	337 500	162 000	117 000	103 500	135 000	65 250
SNL 3268	1 220	1 600	780	580	500	640	370
	274 500	360 000	175 500	130 500	112 500	144 000	83 250
SNL 3272	1 400	1 740	840	620	540	700	320
	315 000	391 500	189 000	139 500	121 500	157 500	72 000
SNL 3276	1 520	1 920	920	680	600	760	420
	342 000	432 000	207 000	153 000	135 000	171 000	94 500
SNL 3280	1 600	2 000	960	720	620	800	480
	360 000	450 000	216 000	162 000	139 500	180 000	108 000
SNL 3284	1 680	2 140	1 040	760	660	840	520
	378 000	481 500	234 000	171 000	148 500	189 000	117 000
SNL 3288	1 760	2 240	1 080	800	700	880	540
	396 000	504 000	243 00	180 000	157 500	198 000	121 500

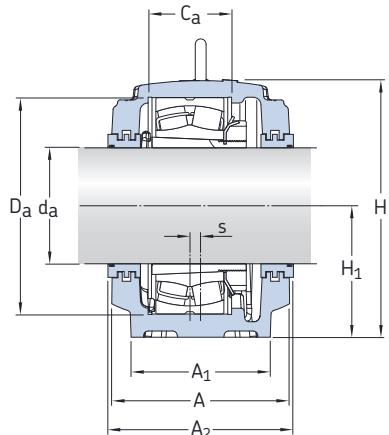
Spheroidal graphite cast iron

For special purposes where extra strength and resistance to shock loads are required, SKF supplies as standard a range of spheroidal graphite cast iron housings. For housings made of spheroidal graphite cast iron the values for P obtained from **table 1** and **table 3** on **page 31** should be multiplied by 1,8.

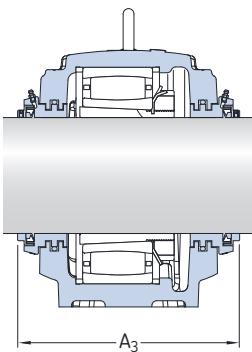
Spheroidal graphite cast iron housings are designated SNLD followed by the size identification, e.g. SNLD 3134.

Large SNL plummer block housings for bearings on adapter sleeves

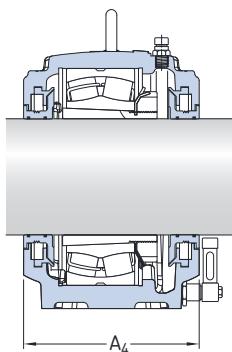
d_a 115 – 160 mm



Labyrinth seals – TS design

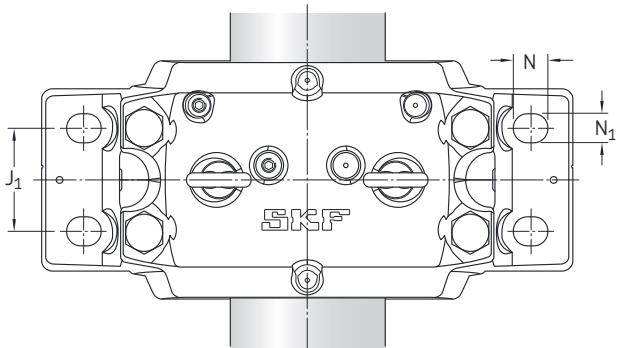
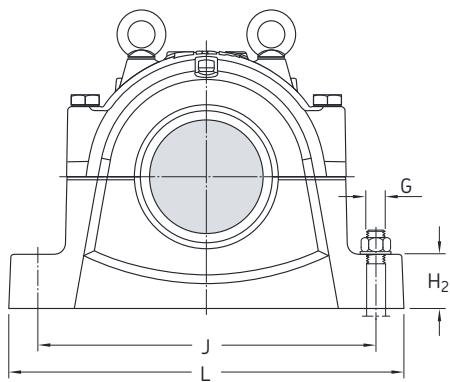


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d _a	Housing Dimensions													Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	–				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
115	230	180	333	170	70	430	100	510	34	28	14	24	69,5	SNL 3134 SNL 3134	TS 34/115 TNF 34/115	ETS 34 ETS 34	
125	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3136 SNL 3136	TS 36/125 TNF 36/125	ETS 36 ETS 36	
135	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3138 SNL 3138	TS 38/135 TNF 38/135	ETS 38 ETS 38	
140	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3038 SNL 3038	TS 38/140 TNF 38/140	ETS 38 ETS 38	
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3140 SNL 3140	TS 40/140 TNF 40/140	ETS 40 ETS 40	
150	230	180	333	170	70	430	100	510	34	28	14	24	69,5	SNL 3134 SNL 3134 SNL 3134 TURT SNL 3134 TURA	TS 34 TNF 34 included included	ETS 34 ETS 34 ETS 34 R ETS 34 R	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3234 SNL 3234	TS 40/150 TNF 40/150	ETS 40 ETS 40	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3040 SNL 3040	TS 40/150 TNF 40/150	ETS 40 ETS 40	
	290	240	434	220	90	540	140	640	42	35	12	30	139	SNL 3048 SNL 3048	TS 48/150 TNF 48/150	ETS 48 ETS 48	
160	230	180	333	170	70	430	100	510	34	28	14	24	69,5	SNL 3036 SNL 3036 SNL 3036 TURT SNL 3036 TURA	TS 36 TNF 36 included included	ETS 36 ETS 36 ETS 36 R ETS 36 R	
	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3136 SNL 3136 SNL 3136 TURT SNL 3136 TURA	TS 36 TNF 36 included included	ETS 36 ETS 36 ETS 36 R ETS 36 R	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3236 SNL 3236	TS 38/160 TNF 38/160	ETS 38 ETS 38	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3138 SNL 3138	TS 38/160 TNF 38/160	ETS 38 ETS 38	



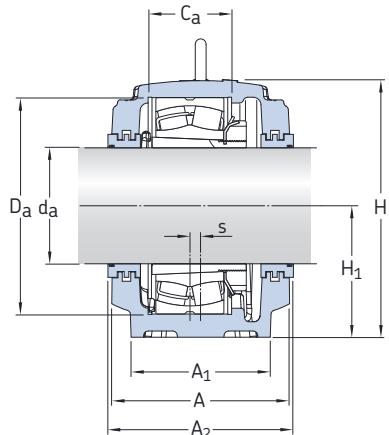
C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve	Locating rings
mm	mm	mm	mm	mm	mm	–	–	–	–	–
115	108	280	240	302	–	M 16	22326 CCK/W33	H 2326	2 FRB 7,5/280	
125	116	300	250	317	–	M 16	22328 CCK/W33	H 2328	2 FRB 7/300	
135	124	320	270	334	–	M 20	22330 CCK/W33	H 2330	2 FRB 8/320	
140	115	290	250	318	–	M 16	22232 CCK/W33 C3232 K	H 3132 H 2332 L	2 FRB 17,5/290 2 FRB 5,5/290	
	132	340	290	351	–	M 20	22332 CCK/W33	H 2332	2 FRB 9/340	
150	108	280	240	302	225	M 16	23134 CCK/W33 C 3134 K ¹⁾	H 3134 H 3134 L	2 FRB 10/280 2 FRB 10/280	
	122	310	270	331	–	M 20	23234 CCK/W33	H 2334	2 FRB 6/310	
	122	310	270	331	–	M 20	22234 CCK/W33 C 2234 K	H 3134 H 3134 L	2 FRB 18/310 2 FRB 18/310	
	140	360	300	387	–	M 20	22334 CCK/W33	H 2334	2 FRB 10/360	
160	108	280	240	304	225	M 16	23036 CCK/W33 C 3036 K	H 3036 H 3036	2 FRB 17/280 2 FRB 17/280	
	116	300	250	317	235	M 16	23136 CCK/W33 C 3136 K	H 3136 H 3136 L	2 FRB 10/300 2 FRB 10/300	
	124	320	270	334	–	M 20	23236 CCK/W33 C 3236 K	H 2336 H 2336	2 FRB 6/320 2 FRB 6/320	
	124	320	270	334	–	M 20	22236 CCK/W33	H 3136	2 FRB 19/320	

¹⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

d_a 170 – 180 mm

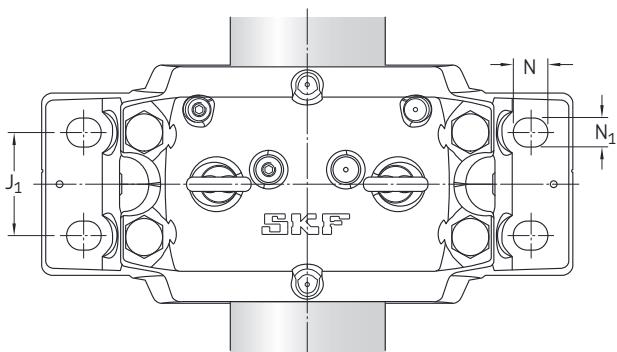
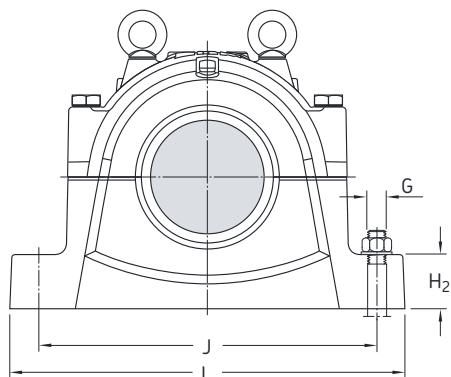


Labyrinth seals – TS design

Taconite seals – TNF design

Oil seals – TURT/TURA design

Shaft Housing Dimensions	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	Mass	Designations Components to buy Housing only		Seal	End cover
															kg	–		
	mm	mm																
170	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3038 SNL 3038 SNL 3038 TURT SNL 3038 TURA	TS 38 TNF 38 included included	ETS 38 ETS 38 ETS 38 R ETS 38 R		
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3138 SNL 3138 SNL 3138 TURT SNL 3138 TURA	TS 38 TNF 38 included included	ETS 38 ETS 38 ETS 38 R ETS 38 R		
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3238 SNL 3238	TS 40/170 TNF 40/170	ETS 40 ETS 40		
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3140 SNL 3140	TS 40/170 TNF 40/170	ETS 40 ETS 40		
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3148 SNL 3148	TS 48/170 TNF 48/170	ETS 48 ETS 48		
180	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3040 SNL 3040 SNL 3040 TURT SNL 3040 TURA	TS 40 TNF 40 included included	ETS 40 ETS 40 ETS 40 R ETS 40 R		
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3140 SNL 3140 SNL 3140 TURT SNL 3140 TURA	TS 40 TNF 40 included included	ETS 40 ETS 40 ETS 40 R ETS 40 R		
	290	240	434	220	90	540	140	640	42	35	12	30	139	SNL 3240 SNL 3240	TS 48/180 TNF 48/180	ETS 48 ETS 48		
	290	240	434	220	90	540	140	640	42	35	12	30	139	SNL 3048 SNL 3048	TS 48/180 TNF 48/180	ETS 48 ETS 48		
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3056 SNL 3056	TS 56/180 TNF 56/180	ETS 56 ETS 56		



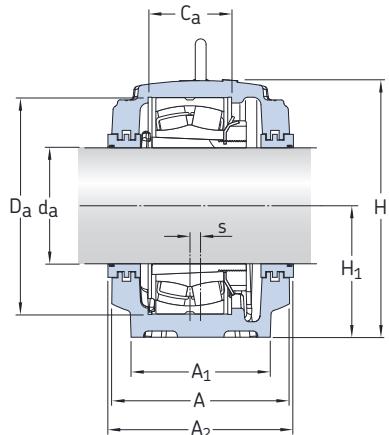
C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve	Locating rings
mm	mm	mm	mm	mm	mm	–	–	–	–	–
170	115	290	250	318	235	M 16	23038 CCK/W33 C 3038 K	H 3038 H 3038	4 FRB 10/290 4 FRB 10/290	
	124	320	270	334	255	M 20	23138 CCK/W33 C 3138 ¹⁾	H 3138 H 3138 L	2 FRB 10/320 2 FRB 10/320	
	132	340	290	351	–	M 20	23238 CCK/W33	H 2338	2 FRB 6/340	
	132	340	290	351	–	M 20	22238 CCK/W33 C 2238 K	H 3138 H 3138	4 FRB 10/340 4 FRB 10/340	
	148	400	315	404	–	M 24	22338 CCK/W33	H 2338	2 FRB 8/400	
180	122	310	270	331	255	M 20	23040 CCK/W33 C 3040 K	H 3040 H 3040	4 FRB 10/310 4 FRB 10/310	
	132	340	290	351	275	M 20	23140 CCK/W33 C 3140 K	H 3140 H 3140	2 FRB 10/340 2 FRB 10/340	
	140	360	300	383	–	M 20	23240 CCK/W33	H 2340	2 FRB 6/360	
	140	360	300	387	–	M 20	22240 CCK/W33	H 3140	2 FRB 21/360	
	166	420	330	413	–	M 24	22340 CCK/W33	H 2340	2 FRB 14/420	

¹⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

d_a 200 – 220 mm

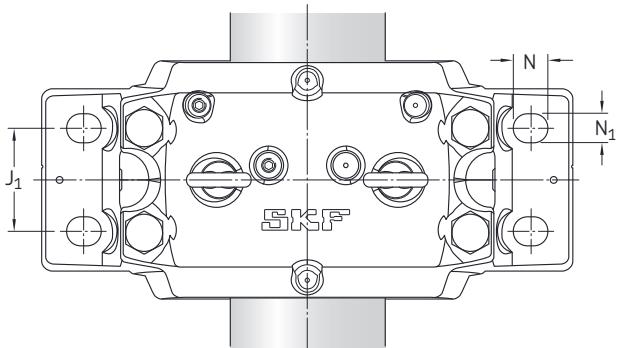
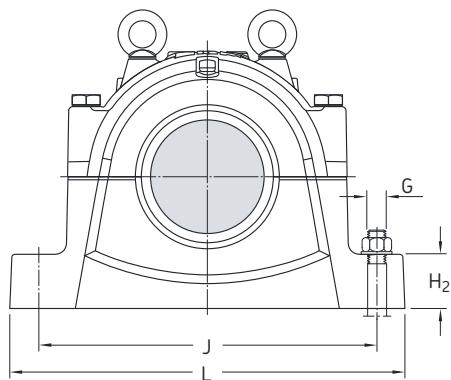


Labyrinth seals – TS design

Taconite seals – TNF design

Oil seals – TURT/TURA design

Shaft Dimensions	d_a	Mass													Designations Components to buy		Seal	End cover
		A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G		Housing only			
mm	mm	kg													–			
200	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3044 SNL 3044 SNL 3044 TURT SNL 3044 TURA	TS 44 TNF 44 included included	ETS 44 ETS 44 ETS 44 R ETS 44 R		
	290	240	434	220	90	540	140	640	42	35	12	30	138	SNL 3144 SNL 3144 SNL 3144 TURT SNL 3144 TURA	TS 44 TNF 44 included included	ETS 44 ETS 44 ETS 44 R ETS 44 R		
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3244 SNL 3244	TS 48/200 TNF 48/200	ETS 48 ETS 48		
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3148 SNL 3148	TS 48/200 TNF 48/200	ETS 48 ETS 48		
	320	280	516	260	100	650	160	770	50	42	16	36	252	SNL 3156 SNL 3156	TS 56/200 TNF 56/200	ETS 56 ETS 56		
220	290	240	434	220	90	540	140	640	42	35	12	30	138	SNL 3048 SNL 3048 SNL 3048 TURT SNL 3048 TURA	TS 48 TNF 48 included included	ETS 48 ETS 48 ETS 48 R ETS 48 R		
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3148 SNL 3148 SNL 3148 TURT SNL 3148 TURA	TS 48 TNF 48 included included	ETS 48 ETS 48 ETS 48 R ETS 48 R		
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3248 SNL 3248	TS 52/220 TNF 52/220	ETS 52 ETS 52		
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3152 SNL 3152	TS 52/220 TNF 52/220	ETS 52 ETS 52		
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3160 SNL 3160	TS 60/220 TNF 60/220	ETS 60 ETS 60		

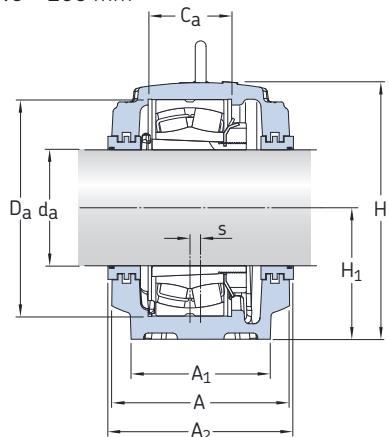


C

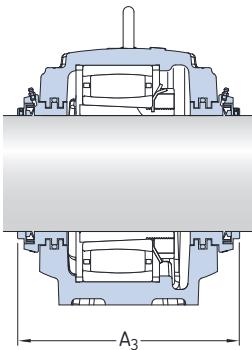
Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve	Locating rings
mm	mm	mm	mm	mm	mm	–	–	–	–	–
200	130	340	290	353	275	M 20	23044 CCK/W33 C 3044 K	OH 3044 H OH 3044 H	4 FRB 10/340 4 FRB 10/340	
	140	370	300	361	285	M 20	23144 CCK/W33 C 3144 K	OH 3144 H OH 3144 HTL	2 FRB 10/370 2 FRB 10/370	
	164	400	315	404	–	M 24	23244 CCK/W33	OH 2344 H	2 FRB 10/400	
	148	400	315	404	–	M 24	22244 CCK/W33 C 2244 K	OH 3144 H OH 3144 H	4 FRB 10/400 4 FRB 10/400	
	166	460	330	412	–	M 24	22344 CCK/W33	OH 2344 H	2 FRB 10,5/460	
220	140	360	300	387	285	M 20	23048 CCK/W33 C 3048 K	OH 3048 H OH 3048 H	4 FRB 12/360 4 FRB 12/360	
	148	400	315	404	305	M 24	23148 CCK/W33 C 3148 K	OH 3148 H OH 3148 HTL	2 FRB 10/400 2 FRB 10/400	
	180	440	330	414	–	M 24	23248 CCK/W33	OH 2348 H	2 FRB 10/440	
	164	440	330	414	–	M 24	22248 CCK/W33	OH 3148 H	2 FRB 22/440	
	180	500	360	442	–	M 30	22348 CCK/W33	OH 2348 H	2 FRB 12,5/500	

Large SNL plummer block housings for bearings on adapter sleeves

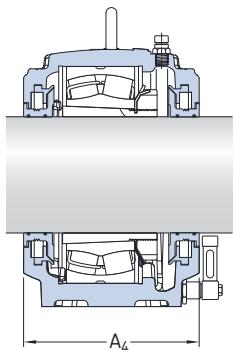
d_a 240 – 260 mm



Labyrinth seals – TS design

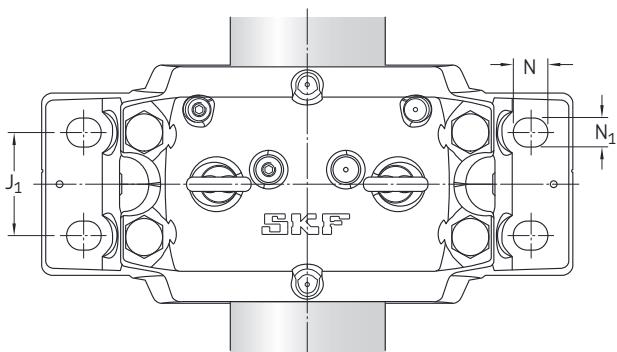
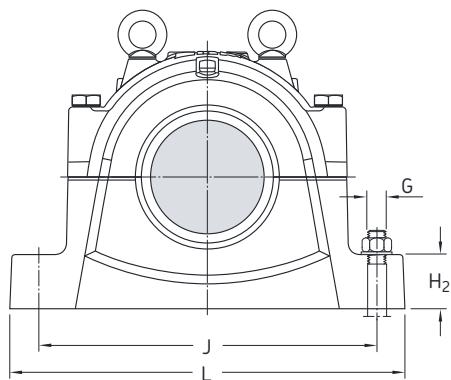


Taconite seals – TNF design



Oil seals – TURT/TURA design

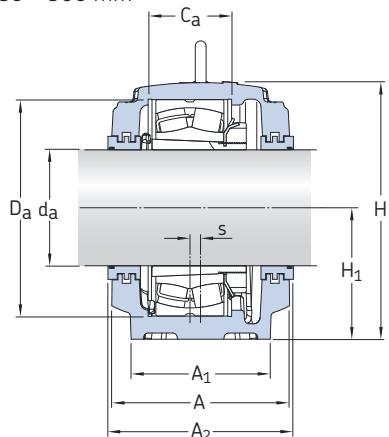
Shaft d _a	Housing Dimensions												Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
240	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3052 SNL 3052 SNL 3052 TURT SNL 3052 TURA	TS 52 TNF 52 included included	ETS 52 ETS 52 ETS 52 R ETS 52 R
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3152 SNL 3152 SNL 3152 TURT SNL 3152 TURA	TS 52 TNF 52 included included	ETS 52 ETS 52 ETS 52 R ETS 52 R
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3252 SNL 3252	TS 64/240 TNF 64/240	ETS 64 ETS 64
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3064 SNL 3064	TS 64/240 TNF 64/240	ETS 64 ETS 64
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3164 SNL 3164	TS 64/240 TNF 64/240	ETS 64 ETS 64
260	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3056 SNL 3056 SNL 3056 TURT SNL 3056 TURA	TS 56 TNF 56 included included	ETS 56 ETS 56 ETS 56 R ETS 56 R
	320	280	551	280	105	670	160	790	50	42	16	36	252	SNL 3156 SNL 3156 SNL 3156 TURT SNL 3156 TURA	TS 56 TNF 56 included included	ETS 56 ETS 56 ETS 56 R ETS 56 R
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3256 SNL 3256	TS 60/260 TNF 60/260	ETS 60 ETS 60
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3160 SNL 3160	TS 60/260 TNF 60/260	ETS 60 ETS 60
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3168 L SNL 3168 L	TS 68/260 TNF 68/260	ETS 68 ETS 68



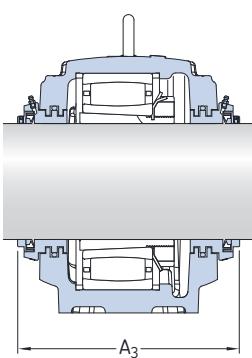
Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve	Locating rings
mm	mm	mm	mm	mm	mm	–	–	–	–	–
240	148	400	315	397	305	M 24	23052 CCK/W33 C 3052 K	OH 3052 H OH 3052 H	2 FRB 22/400 2 FRB 22/400	
	164	440	330	414	315	M 24	23152 CCK/W33 C 3152 K	OH 3152 H OH 3152 HTL	2 FRB 10/440 2 FRB 10/440	
	194	480	360	443	–	M 30	23252 CCK/W33	OH 2352 H	2 FRB 10/480	
	181	480	360	443	–	M 30	22252 CCK/W33	OH 3152 H	2 FRB 25,5/480	
	196	540	380	462	–	M 30	22352 CCK/W33	OH 2352 H	2 FRB 15,5/540	
260	166	420	330	413	315	M 24	23056 CCK/W33 C 3056 K	OH 3056 H OH 3056 H	6 FRB 10/420 6 FRB 10/420	
	166	460	330	412	315	M 24	23156 CCK/W33 C 3156 K	OH 3156 H OH 3156 HTL	2 FRB 10/460 2 FRB 10/460	
	196	500	360	442	–	M 30	23256 CCK/W33	OH 2356 H	2 FRB 10/500	
	180	500	360	442	–	M 30	22256 CCK/W33	OH 3156 H	2 FRB 25/500	
	210	580	410	491	–	M 30	22356 CCK/W33	OH 2356 H	2 FRB 17,5/580	

Large SNL plummer block housings for bearings on adapter sleeves

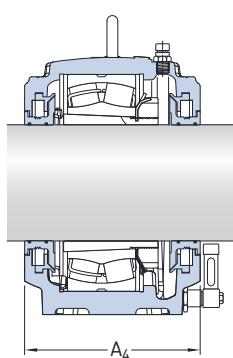
d_a 280 – 300 mm



Labyrinth seals – TS design

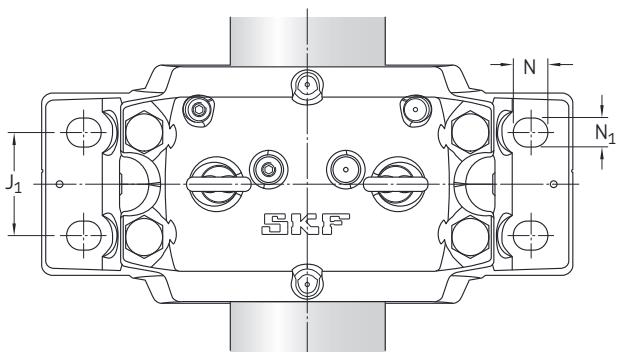
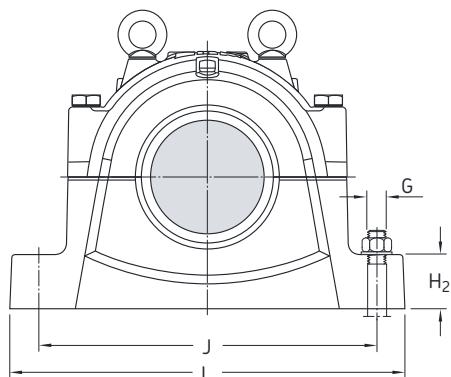


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft Dimensions	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	Mass	Designations		Seal	End cover
															Components to buy	Housing only		
	mm	mm													kg	–		
280	320	280	551	280	105	670	160	790	50	42	16	36	252	SNL 3060 SNL 3060 SNL 3060 TURT SNL 3060 TURA	TS 60 TNF 60 included included	ETS 60 ETS 60 ETS 60 R ETS 60 R		
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3160 SNL 3160 SNL 3160 TURT SNL 3160 TURA	TS 60 TNF 60 included included	ETS 60 ETS 60 ETS 60 R ETS 60 R		
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3260 SNL 3260	TS 64/280 TNF 64/280	ETS 64 ETS 64		
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3164 SNL 3164	TS 64/280 TNF 64/280	ETS 64 ETS 64		
300	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3064 SNL 3064 SNL 3064 TURT SNL 3064 TURA	TS 64 TNF 64 included included	ETS 64 ETS 64 ETS 64 R ETS 64 R		
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3164 SNL 3164 SNL 3164 TURT SNL 3164 TURA	TS 64 TNF 64 included included	ETS 64 ETS 64 ETS 64 R ETS 64 R		
	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3264 F SNL 3264 F	TS 68/300 TNF 68/300	ETS 68 ETS 68		
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3264 L SNL 3264 L	TS 68/300 TNF 68/300	ETS 68 ETS 68		
	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3168 F SNL 3168 F	TS 68/300 TNF 68/300	ETS 68 ETS 68		

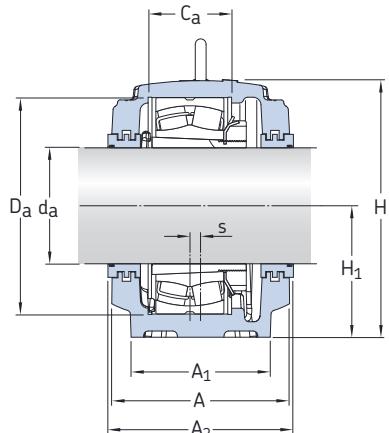


C

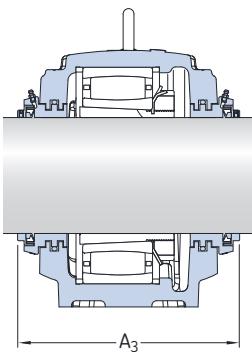
Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve	Locating rings
mm	mm	mm	mm	mm	mm	–	–	–	–	–
280	168	460	330	412	315	M 24	23060 CCK/W33 C 3060 KM	OH 3060 H OH 3060 H	2 FRB 25/460 2 FRB 25/460	
	180	500	360	442	345	M 30	23160 CCK/W33 C 3160 K	OH 3160 H OH 3160 H	2 FRB 10/500 2 FRB 10/500	
	212	540	380	462	–	M 30	23260 CCK/W33	OH 3260 H	2 FRB 10/540	
	196	540	380	462	–	M 30	22260 CCK/W33	OH 3160 H	2 FRB 28/540	
300	181	480	360	443	345	M 30	23064 CCK/W33 C 3064 KM	OH 3064 H OH 3064 H	6 FRB 10/480 6 FRB 10/480	
	196	540	380	462	365	M 30	23164 CCK/W33 C 3164 KM	OH 3164 H OH 3164 H	2 FRB 10/540 2 FRB 10/540	
	208	580	410	491	–	M 30	23264 CCK/W33	OH 3264 H	–	
	228	580	410	491	–	M 30	23264 CCK/W33	OH 3264 H	–	
	190	580	410	491	–	M 30	22264 CCK/W33	OH 3164 H	2 FRB 20/580	

Large SNL plummer block housings for bearings on adapter sleeves

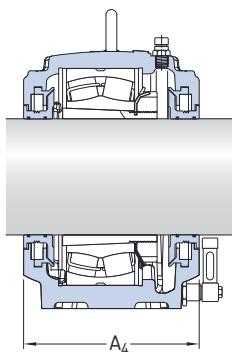
d_a 320 – 340 mm



Labyrinth seals – TS design

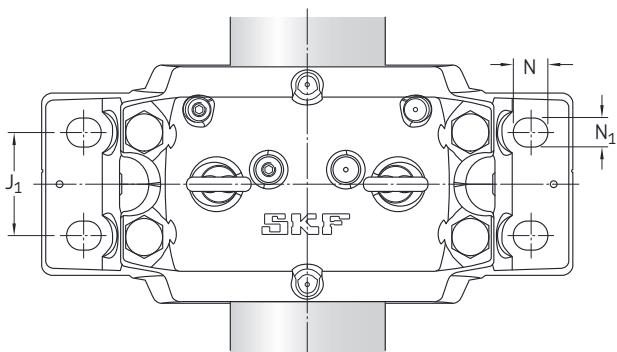
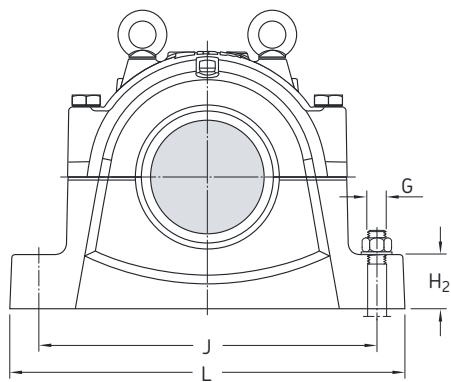


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d _a	Housing Dimensions												Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G				
mm	mm												–			
320	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3068 SNL 3068 SNL 3068 TURT SNL 3068 TURA	TS 68 TNF 68 included included	ETS 68 ETS 68 ETS 68 R ETS 68 R
	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3168 F SNL 3168 F SNL 3168 FTURT SNL 3168 FTURA	TS 68 TNF 68 included included	ETS 68 ETS 68 ETS 68 R ETS 68 R
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3168 L SNL 3168 L SNL 3168 LTURT	TS 68 TNF 68 included	ETS 68 ETS 68 ETS 68 R
	400	360	715	360	120	870	220	1040	50	42	30	36	473	SNL 3268 F SNL 3268 F	TS 76/320 TNF 76/320	ETS 76 ETS 76
	400	360	715	360	120	870	220	1040	50	42	30	36	470	SNL 3268 L SNL 3268 L	TS 76/320 TNF 76/320	ETS 76 ETS 76
340	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3072 SNL 3072 SNL 3072 TURT SNL 3072 TURA	TS 72 TNF 72 included included	ETS 72 ETS 72 ETS 72 R ETS 72 R
	400	360	695	350	120	840	220	1000	50	42	30	36	458	SNL 3172 F SNL 3172 F SNL 3172 FTURT SNL 3172 FTURA	TS 72 TNF 72 included included	ETS 72 ETS 72 ETS 72 R ETS 72 R
	400	360	695	350	120	840	220	1000	50	42	30	36	454	SNL 3172 L SNL 3172 L SNL 3172 LTURT	TS 72 TNF 72 included	ETS 72 ETS 72 ETS 72 R
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 3272 F SNL 3272 F	TS 80/340 TNF 80/340	ETS 80 ETS 80
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 3272 L SNL 3272 L	TS 80/340 TNF 80/340	ETS 80 ETS 80
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 3180 F SNL 3180 F	TS 80/340 TNF 80/340	ETS 80 ETS 80

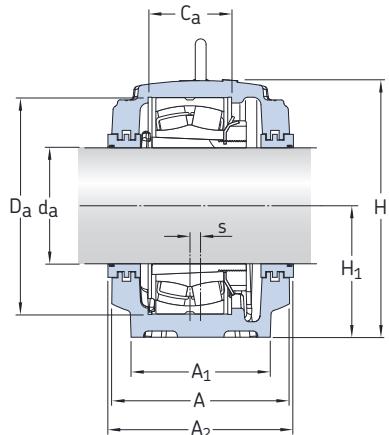


C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a		A ₂	A ₃	A ₄		Spherical roller bearing	Adapter sleeve	Locating rings
mm	mm	mm	mm	mm	mm	mm	–	–	–	–
320	197	520		380	461	365	M 30	23068 CCK/W33 C 3068 KM	OH 3068 H OH 3068 H	4 FRB 16/520 4 FRB 16/520
	190	580		410	491	395	M 30	23168 CCK/W33 C 3168 KM	OH 3168 H OH 3168 H	– –
	210	580		410	491	395	M 30	23168 CCK/W33	OH 3168 H	–
	224	620		410	491	–	M 36	23268 CAK/W33	OH 3268 H	–
	244	620		410	491	–	M 36	23268 CAK/W33	OH 3268 H	–
340	198	540		380	461	365	M 30	23072 CCK/W33 C 3072 KM	OH 3072 H OH 3072 H	4 FRB 16/540 4 FRB 16/540
	192	600		410	491	395	M 36	23172 CCK/W33 C 3172 KM	OH 3172 H OH 3172 H	– –
	212	600		410	491	395	M 36	23172 CCK/W33	OH 3172 H	–
	232	650		440	521	–	M 42	23272 CAK/W33	OH 3272 H	–
	252	650		440	521	–	M 42	23272 CAK/W33	OH 3272 H	–
	220	650		440	521	–	M 42	22272 CCK/W33	OH 3172 H	2 FRB 25/650

Large SNL plummer block housings for bearings on adapter sleeves

d_a 360 – 380 mm

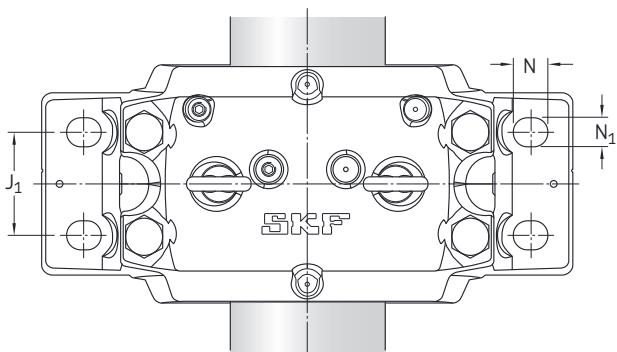
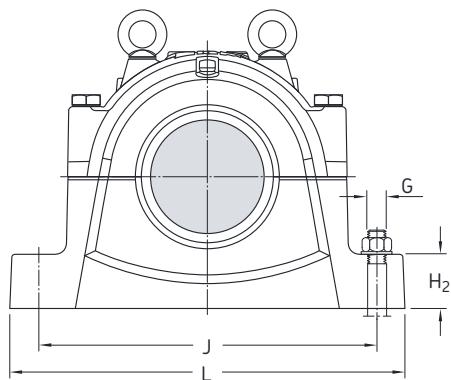


Labyrinth seals – TS design

Taconite seals – TNF design

Oil seals – TURT/TURA design

Shaft Dimensions														Mass	Designations Components to buy Housing only	Seal	End cover
	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	–			
360	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3076 F SNL 3076 F SNL 3076 FTURT SNL 3076 FTURA	TS 76 TNF 76 included included	ETS 76 ETS 76 ETS 76 R ETS 76 R	
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3076 L SNL 3076 L SNL 3076 LTURT	TS 76 TNF 76 included	ETS 76 ETS 76 ETS 76 R	
	400	360	715	360	120	870	220	1 040	50	42	30	36	473	SNL 3176 F SNL 3176 F SNL 3176 FTURT SNL 3176 FTURA	TS 76 TNF 76 included included	ETS 76 ETS 76 ETS 76 R ETS 76 R	
	400	360	715	360	120	870	220	1 040	50	42	30	36	470	SNL 3176 L SNL 3176 L SNL 3176 LTURT	TS 76 TNF 76 included	ETS 76 ETS 76 ETS 76 R	
	460	420	810	410	130	1 000	260	1 170	60	48	35	42	716	SNL 3276 F SNL 3276 F	TS 92/360 TNF 92/360	ETS 92 ETS 92	
	460	420	810	410	130	1 000	260	1 170	60	48	35	42	709	SNL 3276 L SNL 3276 L	TS 92/360 TNF 92/360	ETS 92 ETS 92	
380	400	360	695	350	120	840	220	1 000	50	42	30	36	458	SNL 3080 F SNL 3080 F SNL 3080 FTURT SNL 3080 FTURA	TS 80 TNF 80 included included	ETS 80 ETS 80 ETS 80 R ETS 80 R	
	400	360	695	350	120	840	220	1 000	50	42	30	36	454	SNL 3080 L SNL 3080 L SNL 3080 LTURT	TS 80 TNF 80 included	ETS 80 ETS 80 ETS 80 R	
	430	390	775	380	125	950	240	1 120	60	48	30	42	595	SNL 3180 F SNL 3180 F SNL 3180 FTURT SNL 3180 FTURA	TS 80 TNF 80 included included	ETS 80 ETS 80 ETS 80 R ETS 80 R	
	430	390	775	380	125	950	240	1 120	60	48	30	42	595	SNL 3180 L SNL 3180 L SNL 3180 LTURT	TS 80 TNF 80 included	ETS 80 ETS 80 ETS 80 R	
	460	430	835	420	135	1 030	260	1 220	60	48	35	42	755	SNL 3280 F SNL 3280 F	TS 88/380 TNF 88/380	ETS 88 ETS 88	
	460	430	835	420	135	1 030	260	1 220	60	48	35	42	751	SNL 3280 L SNL 3280 L	TS 88/380 TNF 88/380	ETS 88 ETS 88	



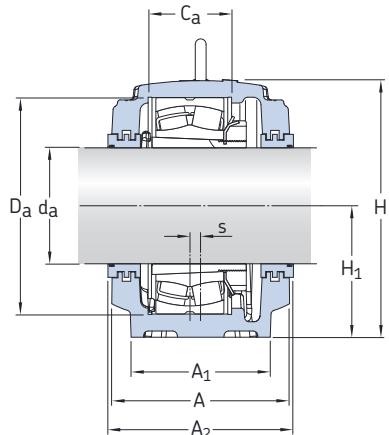
C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve
mm	mm	mm	mm	mm	mm	–	–	–	–
360	135	560	410	492	395	M 30	23076 CCK/W33 C 3076 KM	OH 3076 H OH 3076 H	
	180	560	410	492	395	M 30	23076 CCK/W33	OH 3076 H	
	194	620	410	491	395	M 36	23176 CAK/W33 C 3176 KMB ¹⁾	OH 3176 H OH 3176 HE	
	214	620	410	491	395	M 36	23176 CAK/W33	OH 3176 H	
	240	680	470	552	–	M 42	23276 CAK/W33	OH 3276 H	
	260	680	470	552	–	M 42	23276 CAK/W33	OH 3276 H	
380	148	600	410	492	395	M 36	23080 CCK/W33 C 3080 KM	OH 3080 H OH 3080 H	
	192	600	410	492	395	M 36	23080 CCK/W33	OH 3080 H	
	200	650	440	521	425	M 42	23180 CAK/W33 C 3180 KMB	OH 3180 H OH 3180 HE	
	220	650	440	521	425	M 42	23180 CAK/W33	OH 3180 H	
	256	720	470	552	–	M 42	23280 CAK/W33	OH 3280 H	
	276	720	470	552	–	M 42	23280 CAK/W33	OH 3280 H	

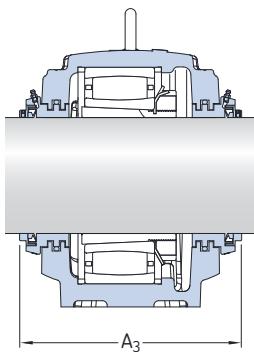
¹⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

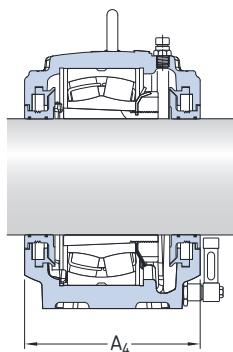
d_a 400 – 410 mm



Labyrinth seals – TS design

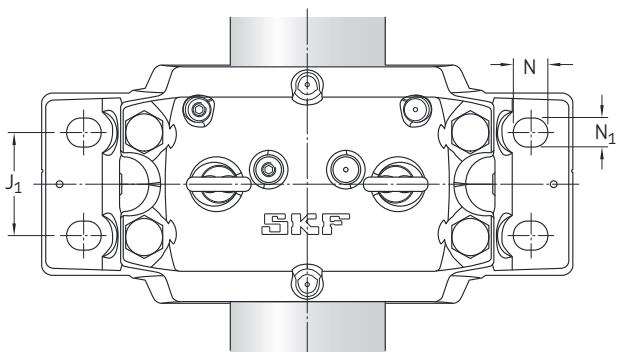
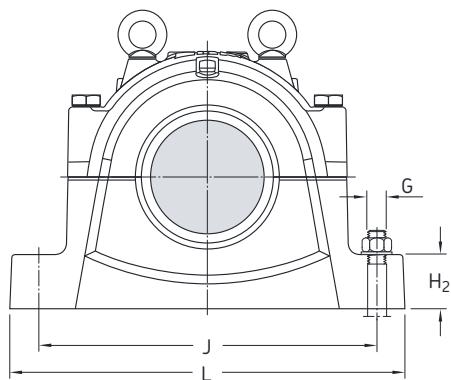


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft Dimensions	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	Mass kg	Designations Components to buy Housing only		Seal	End cover
	mm	mm														–		
400	400	360	715	360	120	870	220	1 040	50	42	30	36	473	SNL 3084 F SNL 3084 F SNL 3084 FTURT SNL 3084 FTURA	TS 84 TNF 84 included included	ETS 84 ETS 84 ETS 84 R ETS 84 R		
	400	360	715	360	120	870	220	1 040	50	42	30	36	470	SNL 3084 L SNL 3084 L SNL 3084 LTURT	TS 84 TNF 84 included	ETS 84 ETS 84 ETS 84 R		
	460	420	810	410	130	1 000	260	1 170	60	48	35	42	716	SNL 3184 F SNL 3184 F SNL 3184 FTURT SNL 3184 FTURA	TS 84 TNF 84 included included	ETS 84 ETS 84 ETS 84 R ETS 84 R		
	460	420	810	410	130	1 000	260	1 170	60	48	35	42	709	SNL 3184 L SNL 3184 L SNL 3184 LTURT	TS 84 TNF 84 included	ETS 84 ETS 84 ETS 84 R		
	470	440	880	440	145	1 070	260	1 280	60	48	35	42	865	SNL 3284 F SNL 3284 F	TS 92/400 TNF 92/400	ETS 92 ETS 92		
	470	440	880	440	145	1 070	260	1 280	60	48	35	42	859	SNL 3284 L SNL 3284 L	TS 92/400 TNF 92/400	ETS 92 ETS 92		
410	430	390	775	380	125	950	240	1 120	60	48	30	42	595	SNL 3088 F SNL 3088 F SNL 3088 FTURT SNL 3088 FTURA	TS 88 TNF 88 included included	ETS 88 ETS 88 ETS 88 R ETS 88 R		
	430	390	775	380	125	950	240	1 120	60	48	30	42	595	SNL 3088 L SNL 3088 L SNL 3088 LTURT	TS 88 TNF 88 included	ETS 88 ETS 88 ETS 88 R		
	460	430	835	420	135	1 030	260	1 220	60	48	35	42	755	SNL 3188 F SNL 3188 F SNL 3188 FTURT SNL 3188 FTURA	TS 88 TNF 88 included included	ETS 88 ETS 88 ETS 88 R ETS 88 R		
	460	430	835	420	135	1 030	260	1 220	60	48	35	42	751	SNL 3188 L SNL 3188 L SNL 3188 LTURT	TS 88 TNF 88 included	ETS 88 ETS 88 ETS 88 R		
	470	440	920	460	155	1 110	260	1 330	70	56	35	48	947	SNL 3288 F SNL 3288 F	TS 96/410 TNF 96/410	ETS 96 ETS 96		
	470	440	920	460	155	1 110	260	1 330	70	56	35	48	941	SNL 3288 L SNL 3288 L	TS 96/410 TNF 96/410	ETS 96 ETS 96		



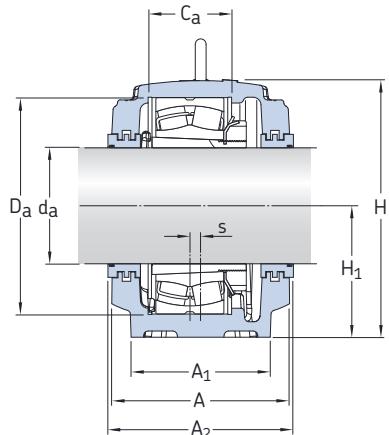
C

Shaft	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	d _a	C _a	D _a	A ₂	A ₃	A ₄		Spherical roller bearing CARB bearing	Adapter sleeve
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
400	150	620	410	492	395	M 36	23084 CAK/W33 C 3084 KM	OH 3084 H OH 3084 H	
	194	620	410	492	395	M 36	23084 CAK/W33	OH 3084 H	
	224	700	470	551	455	M 42	23184 CKJ/W33 C 3184 KM	OH 3184 H OH 3184 H	
	244	700	470	551	455	M 42	23184 CKJ/W33	OH 3184 H	
	272	760	480	562	—	M 48	23284 CAK/W33	OH 3284 H	
	292	760	480	562	—	M 48	23284 CAK/W33	OH 3284 H	
410	157	650	440	522	425	M 42	23088 CAK/W33 C 3088 KMB	OH 3088 H OH 3088 HE	
	200	650	440	522	425	M 42	23088 CAK/W33	OH 3088 H	
	226	720	470	552	455	M 42	23188 CAK/W33 C 3188 KMB ¹⁾	OH 3188 H OH 3188 HE	
	246	720	470	552	455	M 42	23188 CAK/W33	OH 3188 H	
	280	790	480	561	—	M 48	23288 CAK/W33	OH 3288 H	
	300	790	480	561	—	M 48	23288 CAK/W33	OH 3288 H	

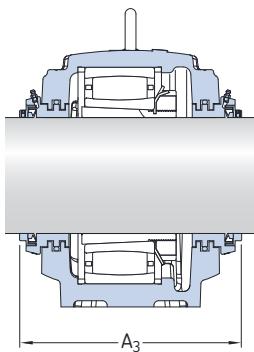
¹⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

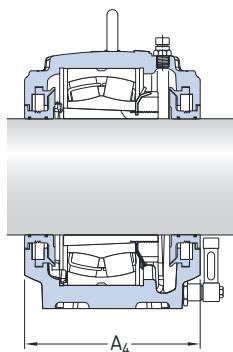
d_a 430 – 470 mm



Labyrinth seals – TS design

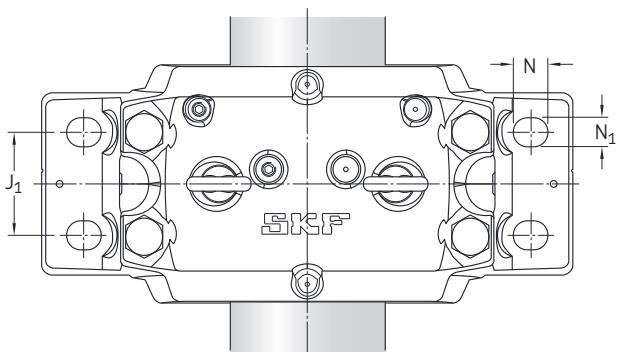
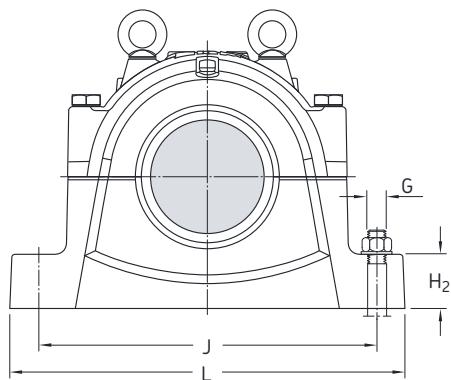


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft Dimensions	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	Mass	Designations		Seal	End cover
															Components to buy	Housing only		
	mm	mm													kg	–		
430	460	420	810	410	130	1 000	260	1 170	60	48	35	42	716	SNL 3092 F SNL 3092 F SNL 3092 FTURT SNL 3092 FTURA	TS 92 TNF 92 included included	ETS 92 ETS 92 ETS 92 R ETS 92 R		
	460	420	810	410	130	1 000	260	1 170	60	48	35	42	709	SNL 3092 L SNL 3092 L SNL 3092 LTURT	TS 92 TNF 92 included	ETS 92 ETS 92 ETS 92 R		
	470	440	880	440	145	1 070	260	1 280	60	48	35	42	865	SNL 3192 F SNL 3192 F SNL 3192 FTURT SNL 3192 FTURA	TS 92 TNF 92 included included	ETS 92 ETS 92 ETS 92 R ETS 92 R		
	470	440	880	440	145	1 070	260	1 280	60	48	35	42	859	SNL 3192 L SNL 3192 L SNL 3192 LTURT	TS 92 TNF 92 included	ETS 92 ETS 92 ETS 92 R		
450	460	420	810	410	130	1 000	260	1 170	60	48	35	42	716	SNL 3096 F SNL 3096 F SNL 3096 FTURT SNL 3096 FTURA	TS 96 TNF 96 included included	ETS 96 ETS 96 ETS 96 R ETS 96 R		
	460	420	810	410	130	1 000	260	1 170	60	48	35	42	709	SNL 3096 L SNL 3096 L SNL 3096 LTURT	TS 96 TNF 96 included	ETS 96 ETS 96 ETS 96 R		
	470	440	920	460	155	1 110	260	1 330	70	56	35	48	947	SNL 3196 F SNL 3196 F SNL 3196 FTURT SNL 3196 FTURA	TS 96 TNF 96 included included	ETS 96 ETS 96 ETS 96 R ETS 96 R		
	470	440	920	460	155	1 110	260	1 330	70	56	35	48	941	SNL 3196 L SNL 3196 L SNL 3196 LTURT	TS 96 TNF 96 included	ETS 96 ETS 96 ETS 96 R		
470	460	430	835	420	135	1 030	260	1 220	60	48	35	42	755	SNL 30/500 F SNL 30/500 F SNL 30/500 FTURT SNL 30/500 FTURA	TS 500 TNF 500 included included	ETS 500 ETS 500 ETS 500 R ETS 500 R		
	460	430	835	420	135	1 030	260	1 220	60	48	35	42	751	SNL 30/500 L SNL 30/500 L SNL 30/500 LTURT	TS 500 TNF 500 included	ETS 500 ETS 500 ETS 500 R		



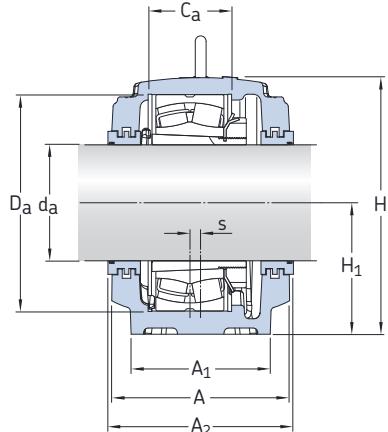
C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve
mm	mm	mm	mm	mm	mm	–	–	–	–
430	163	680	470	552	455	M 42	23092 CAK/W33 C 3092 KM	OH 3092 H OH 3092 H	
	224	680	470	552	455	M 42	23092 CAK/W33	OH 3092 H	
	240	760	480	562	465	M 48	23192 CAK/W33 C 3192 KM	OH 3192 H OH 3192 H	
	260	760	480	562	465	M 48	23192 CAK/W33	OH 3192 H	
450	165	700	470	561	455	M 42	23096 CAK/W33 C 3096 KM	OH 3096 H OH 3096 H	
	224	700	470	561	455	M 42	23096 CAK/W33	OH 3096 H	
	248	790	480	561	465	M 48	23196 CAK/W33 C 3196 KMB ¹⁾	OH 3196 H OH 3196 HE	
	268	790	480	561	465	M 48	23196 CAK/W33	OH 3196 H	
470	167	720	470	551	455	M 42	230/500 CAK/W33 C 30/500 KM	OH 30/500 H OH 30/500 H	
	226	720	470	551	455	M 42	230/500 CAK/W33	OH 30/500 H	

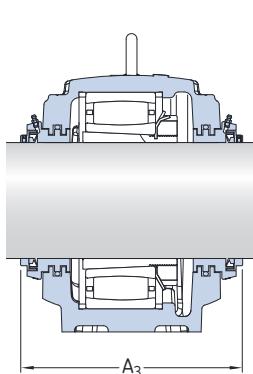
¹⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

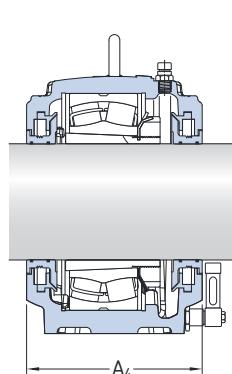
d_a 500 mm



Labyrinth seals – TS design

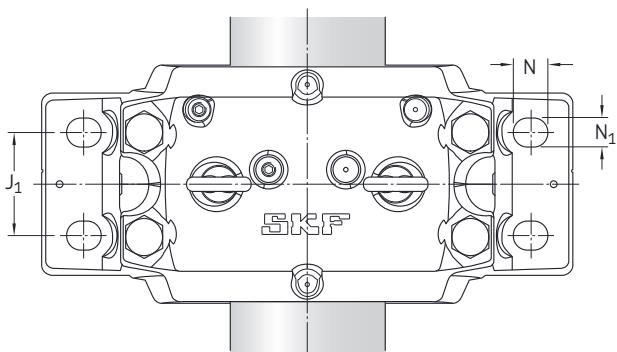
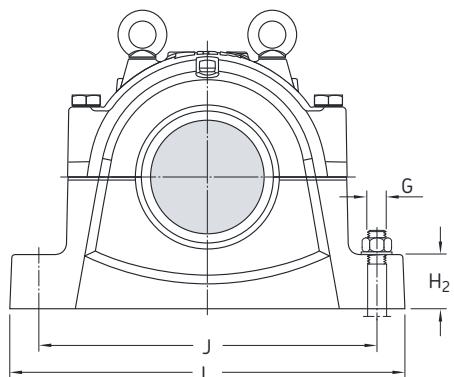


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft Dimensions	d_a	A	A_1	H	H_1	H_2	J	J_1	L	N	N_1	s	G	Mass kg	Designations Components to buy		Seal	End cover
															Housing only	Housing only		
	mm	mm													–			
500	470	440	920	460	155	1	110	260	1330	70	56	35	48	947	SNL 30/530 F SNL 30/530 F SNL 30/530 FTURT SNL 30/530 FTURA	TS 530 TNF 530 included included	ETS 530 ETS 530 ETS 530 R ETS 530 R	
	470	440	920	460	155	1	110	260	1330	70	56	35	48	941	SNL 30/530 L SNL 30/530 L SNL 30/530 LTURT	TS 530 TNF 530 included	ETS 530 ETS 530 ETS 530 R	

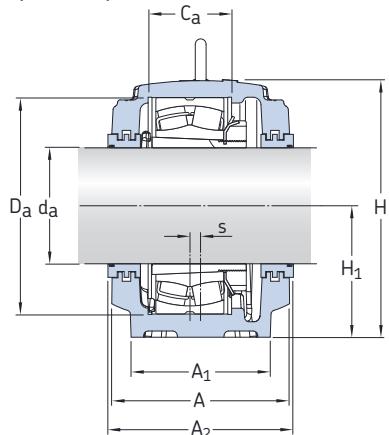


C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve
mm	mm	mm	mm	mm	mm	–	–	OH 30/530 H OH 30/530 H	
500	185	780	480	551	465	M 48	230/530 CAK/W33 C 30/530 KM	OH 30/530 H OH 30/530 H	
	248	780	480	551	465	M 48	230/530 CAK/W33	OH 30/530 H	

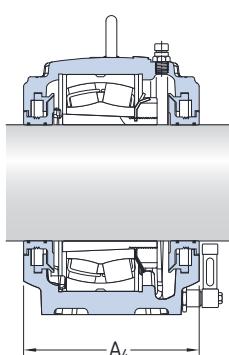
Large SNL plummer block housings for bearings on adapter sleeves

d_a 5 $\frac{15}{16}$ – 6 $\frac{15}{16}$ in



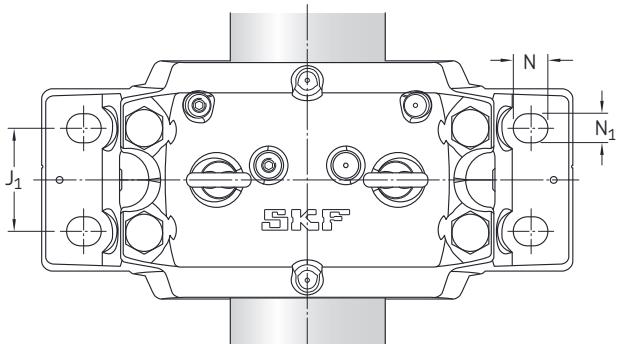
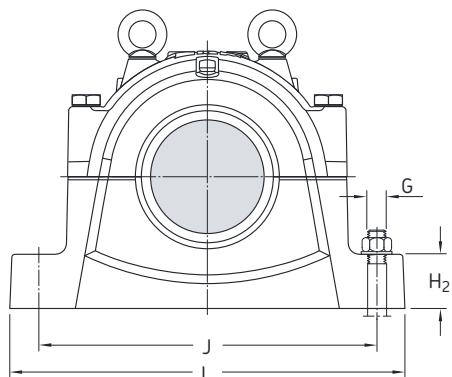
Labyrinth seals – TS design

Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions												Mass	Designations Components to buy Housings	Seal	End cover	
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G					
5 $\frac{15}{16}$ 150,813	230	180	33	170	70	430	100	510	34	28	14	24	1	69,5	SNL 3134 SNL 3134 SNL 3134 TURT/5.15/16 SNL 3134 TURA/5.15/16	TS 34/5.15/16 TNF 34/5.15/16 included included	ETS 34 ETS 34 ETS 34 R ETS 34 R
	260	210	375	190	80	480	120	560	34	28	10	24	1	69,5	SNL 3234 SNL 3234	TS 40/5.15/16 TNF 40/5.15/16	ETS 40 ETS 40
	290	240	434	220	90	540	140	640	42	35	12	30	1 $\frac{1}{4}$	138	SNL 3048 SNL 3048	TS 48/5.15/16 TNF 48/5.15/16	ETS 48 ETS 48
6 $\frac{7}{16}$ 163,513	230	180	333	170	70	430	100	510	34	28	14	24	1	69,5	SNL 3036 SNL 3036 SNL 3036 TURT/6.7/16 SNL 3036 TURA/6.7/16	TS 36/6.7/16 TNF 36/6.7/16 included included	ETS 36 ETS 36 ETS 36 R ETS 36 R
	240	190	353	180	75	450	110	530	34	28	15	24	1	77,5	SNL 3136 SNL 3136 SNL 3136 TURT/6.7/16 SNL 3136 TURA/6.7/16	TS 36/6.7/16 TNF 36/6.7/16 included included	ETS 36 ETS 36 ETS 36 R ETS 36 R
	260	210	375	190	80	480	120	560	34	28	10	24	1	97,5	SNL 3236 SNL 3236	TS 38/6.7/16 TNF 38/6.7/16	ETS 38 ETS 38
	260	210	375	190	80	480	120	560	34	28	10	24	1	97,5	SNL 3138 SNL 3138	TS 38/6.7/16 TNF 38/6.7/16	ETS 38 ETS 38
6 $\frac{15}{16}$ 176,213	240	190	353	180	75	450	110	530	34	28	15	24	1	77,5	SNL 3038 SNL 3038 SNL 3038 TURT/6.15/16 SNL 3038 TURA/6.15/16	TS 38/6.15/16 TNF 38/6.15/16 included included	ETS 38 ETS 38 ETS 38 R ETS 38 R
	260	210	375	190	80	480	120	560	34	28	10	24	1	97,5	SNL 3138 SNL 3138 SNL 3138 TURT/6.15/16 SNL 3138 TURA/6.15/16	TS 38/6.15/16 TNF 38/6.15/16 included included	ETS 38 ETS 38 ETS 38 R ETS 38 R
	280	230	411	210	85	510	130	610	42	35	10	30	1 $\frac{1}{4}$	123	SNL 3238 SNL 3238	TS 40/6.15/16 TNF 40/6.15/16	ETS 40 ETS 40
	280	230	411	210	85	510	130	610	42	35	10	30	1 $\frac{1}{4}$	123	SNL 3140 SNL 3140	TS 40/6.15/16 TNF 40/6.15/16	ETS 40 ETS 40
	310	260	474	240	95	600	150	700	42	35	12	30	1 $\frac{1}{4}$	187	SNL 3148 SNL 3148	TS 48/6.15/16 TNF 48/6.15/16	ETS 48 ETS 48



C

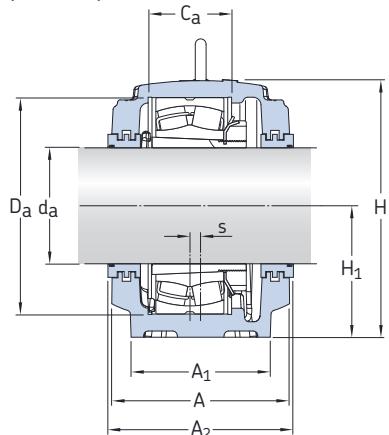
Shaft d _a	Bearing seating		Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄		Spherical roller bearing CARB bearing	Adapter sleeve ¹⁾	Locating rings
in/mm	mm	mm	mm	mm	mm	–	–	–	–
5 15/16 150,813	108	280	240	302	225	M 16	23134 CCK/W33 C 3134 K ²⁾	HA 3134 HA 3134 L	2 FRB 10/280 2 FRB 10/280
	122	310	270	331	–	M 20	23234 CCK/W33	HA 2334	2 FRB 6/310
	140	360	300	387	285	M 20	22334 CCK/W33	HA 2334	2 FRB 10/360
6 7/16 163,513	108	280	240	304	225	M 16	23036 CCK/W33 C 3036 K	HA 3036 HA 3036	2 FRB 17/280 2 FRB 17/280
	116	300	250	317	235	M 16	23136 CCK/W33 C 3136 K	HA 3136 HA 3136 L	2 FRB 10/300 2 FRB 10/300
	124	320	270	334	–	M 20	23236 CCK/W33 C 3236 K	HA 2336 HA 2336	2 FRB 6/320 2 FRB 6/320
6 15/16 176,213	124	320	270	334	–	M 20	22236 CCK/W33	HA 3136	2 FRB 19/320
	115	290	250	318	235	M 16	23038 CCK/W33 C 3038 K	HA 3038 HA 3038	4 FRB 10/290 4 FRB 10/290
	124	320	270	334	255	M 20	23138 CCK/W33 C 3138 K ²⁾	HA 3138 HA 3138 L	2 FRB 10/320 2 FRB 10/320
	132	340	290	351	–	M 20	23238 CCK/W33	HA 2338	2 FRB 6/340
	132	340	290	351	–	M 20	22238 CCK/W33	HA 3138	4 FRB 10/340
	148	400	315	404	300	M 24	22338 CCK/W33	HA 2338	2 FRB 8/400

¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

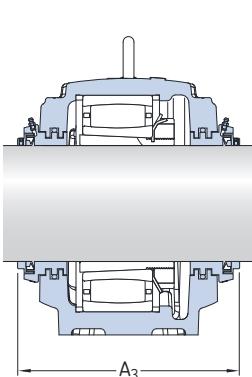
²⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

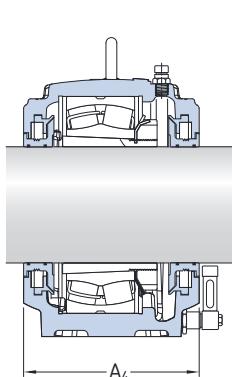
d_a 7 $\frac{3}{16}$ – 7 $\frac{15}{16}$ in



Labyrinth seals – TS design

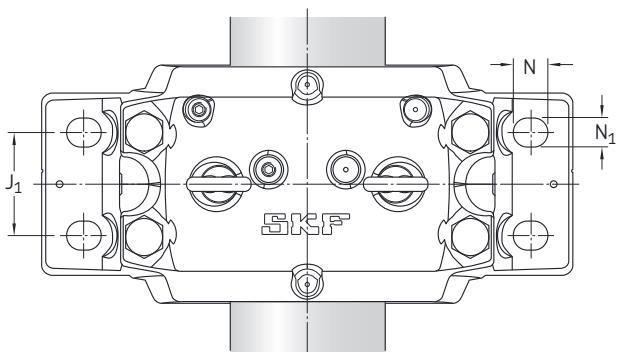
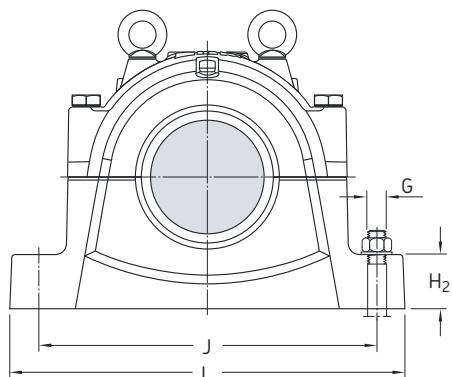


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions												Mass	Designations Components to buy Housings	Seal	End cover	
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	G				
in/mm	mm												in	kg	–		
7 $\frac{3}{16}$ 182,563	260	210	375	190	80	480	120	560	34	28	10	24	1	97,5	SNL 3040 SNL 3040 SNL 3040 TURT/7.3/16 SNL 3040 TURA/7.3/16	TS 40/7.3/16 TNF 40/7.3/16 included included	ETS 40 ETS 40 ETS 40 R ETS 40 R
	280	230	411	210	85	510	130	610	42	35	10	30	1 $\frac{1}{4}$	123	SNL 3140 SNL 3140 SNL 3140 TURT/7.3/16 SNL 3140 TURA/7.3/16	TS 40/7.3/16 TNF 40/7.3/16 included included	ETS 40 ETS 40 ETS 40 R ETS 40 R
	290	240	434	220	90	540	140	640	42	35	12	30	1 $\frac{1}{4}$	139	SNL 3240 SNL 3240	TS 48/7.3/16 TNF 48/7.3/16	ETS 48 ETS 48
	290	240	434	220	90	540	140	640	42	35	12	30	1 $\frac{1}{4}$	138	SNL 3048 SNL 3048	TS 48/7.3/16 TNF 48/7.3/16	ETS 48 ETS 48
	320	280	516	260	100	650	160	770	50	42	13	36	1 $\frac{1}{2}$	221	SNL 3056 SNL 3056	TS 56/7.3/16 TNF 56/7.3/16	ETS 56 ETS 56
7 $\frac{15}{16}$ 201,613	280	230	411	210	85	510	130	610	42	35	10	30	1 $\frac{1}{4}$	123	SNL 3044 SNL 3044 SNL 3044 TURT/7.15/16 SNL 3044 TURA/7.15/16	TS 44/7.15/16 TNF 44/7.15/16 included included	ETS 44 ETS 44 ETS 44 R ETS 44 R
	290	240	434	220	90	540	140	640	42	35	12	30	1 $\frac{1}{4}$	138	SNL 3144 SNL 3144 SNL 3144 TURT SNL 3144 TURA	TS 44/7.15/16 TNF 44/7.15/16 included included	ETS 44 ETS 44 ETS 44 R ETS 44 R
	310	260	474	240	95	600	150	700	42	35	12	30	1 $\frac{1}{4}$	187	SNL 3244 SNL 3244	TS 48/7.15/16 TNF 48/7.15/16	ETS 48 ETS 48
	310	260	474	240	95	600	150	700	42	35	12	30	1 $\frac{1}{4}$	187	SNL 3148 SNL 3148	TS 48/7.15/16 TNF 48/7.15/16	ETS 48 ETS 48
	320	280	516	260	100	650	160	770	50	42	16	36	1 $\frac{1}{2}$	252	SNL 3156 SNL 3156	TS 56/7.15/16 TNF 56/7.15/16	ETS 56 ETS 56



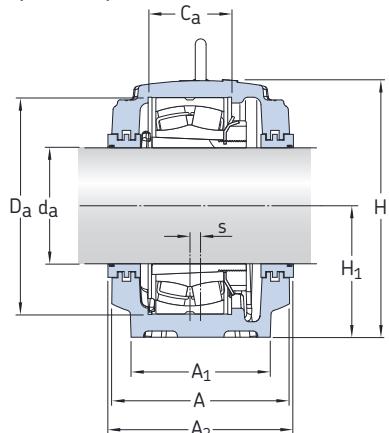
C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve ¹⁾	Locating rings
in/mm	mm	mm	mm	mm	mm	–	–	–	–	–
7 3/16 182,563	122	310	270	331	255	M 20	23040 CCK/W33 C 3040 K	HA 3040 HA 3040	4 FRB 10/310 4 FRB 10/310	
	132	340	290	351	274	M 20	23140 CCK/W33 C 3140 K	HA 3140 HA 3140	2 FRB 10/340 2 FRB 10/340	
	140	360	300	383	–	M 20	23240 CCK/W33	HA 2340	2 FRB 6/360	
	140	360	300	387	–	M 20	22240 CCK/W33	HA 3140	2 FRB 21/360	
	166	420	330	413	–	M 24	22340 CCK/W33	HA 2340	2 FRB 14/420	
7 15/16 201,613	130	340	290	353	275	M 20	23044 CCK/W33 C 3044 K	H 3044/7.15/16 H 3044/7.15/16	4 FRB 10/340 4 FRB 10/340	
	140	370	300	361	285	M 20	23144 CCK/W33 C 3144 K	H 3144/7.15/16 H H 3144/7.15/16 HTL	2 FRB 10/370 2 FRB 10/370	
	164	400	315	404	–	M 24	23244 CCK/W33	H 2344/7.15/16 H	2 FRB 10/400	
	148	400	315	404	–	M 24	22244 CCK/W33 C 2244 K	H 3144/7.15/16 H 3144/7.15/16 TL	4 FRB 10/400 4 FRB 10/400	
	166	460	330	412	–	M 24	22344 CCK/W33	H 2344/7.15/16 H	2 FRB 10,5/460	

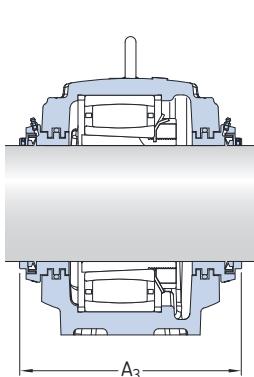
¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

Large SNL plummer block housings for bearings on adapter sleeves

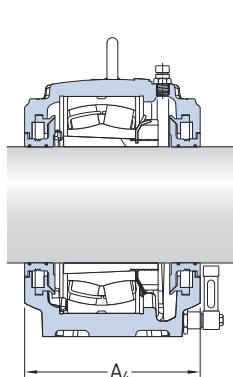
d_a 8 $\frac{15}{16}$ – 9 $\frac{15}{16}$ in



Labyrinth seals – TS design

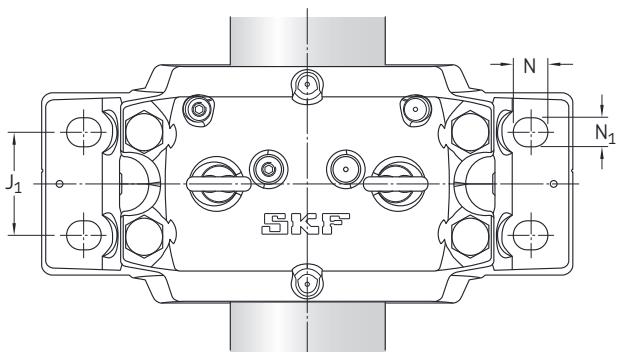
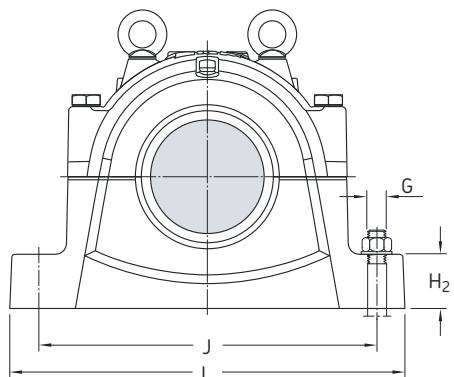


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions												Mass	Designations Components to buy Housings	Seal	End cover	
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G					
in/mm	mm													in	kg	–	
8 $\frac{15}{16}$ 227,013	290	240	434	220	90	540	140	640	42	35	12	30	1 $\frac{1}{4}$	138	SNL 3048 SNL 3048 SNL 3048 TURT/8.15/16 SNL 3048 TURA/8.15/16	TS 48/8.15/16 TNF 48/8.15/16 included included	ETS 48 ETS 48 ETS 48 R ETS 48 R
	310	260	474	240	95	600	150	700	42	35	12	30	1 $\frac{1}{4}$	187	SNL 3148 SNL 3148 SNL 3148 TURT SNL 3148 TURA	TS 48/8.15/16 TNF 48/8.15/16 included included	ETS 48 ETS 48 ETS 48 R ETS 48 R
	320	280	516	260	100	650	160	770	50	42	13	36	1 $\frac{1}{2}$	221	SNL 3248 SNL 3248	TS 52/8.15/16 TNF 52/8.15/16	ETS 52 ETS 52
	320	280	516	260	100	650	160	770	50	42	13	36	1 $\frac{1}{2}$	221	SNL 3152 SNL 3152	TS 52/8.15/16 TNF 52/8.15/16	ETS 52 ETS 52
	350	310	591	300	110	710	190	830	50	42	22	36	1 $\frac{1}{2}$	301	SNL 3160 SNL 3160	TS 60/8.15/16 TNF 60/8.15/16	ETS 60 ETS 60
9 $\frac{7}{16}$ 239,713	310	260	474	240	95	600	150	700	42	35	12	30	1 $\frac{1}{4}$	187	SNL 3052 SNL 3052 SNL 3052 TURT/9.7/16 SNL 3052 TURA/9.7/16	TS 52/9.7/16 TNF 52/9.7/16 included included	ETS 52 ETS 52 ETS 52 R ETS 52 R
	320	280	516	260	100	650	160	770	50	42	13	36	1 $\frac{1}{2}$	221	SNL 3152 SNL 3152 SNL 3152 TURT/9.7/16 SNL 3152 TURA/9.7/16	TS 52/9.7/16 TNF 52/9.7/16 included included	ETS 52 ETS 52 ETS 52 R ETS 52 R
	350	310	591	300	110	710	190	830	50	42	22	36	1 $\frac{1}{2}$	301	SNL 3252 SNL 3252	TS 64/9.7/16 TNF 64/9.7/16	ETS 64 ETS 64
9 $\frac{15}{16}$ 252,413	320	280	516	260	100	650	160	770	50	42	13	36	1 $\frac{1}{2}$	221	SNL 3056 SNL 3056 SNL 3056 TURT/9.15/16 SNL 3056 TURA/9.15/16	TS 56/9.15/16 TNF 56/9.15/16 included included	ETS 56 ETS 56 ETS 56 R ETS 56 R



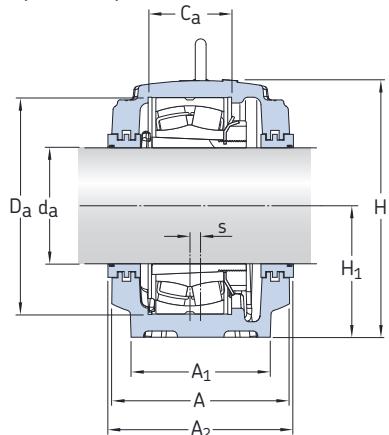
C

Shaft d _a	Bearing seating		Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄		Spherical roller bearing CARB bearing	Adapter sleeve ¹⁾	Locating rings
in/mm	mm	mm	mm	mm	mm	–	–	–	–
8 15/16 227,013	140	360	300	387	285	M 20	23048 CCK/W33 C 3048 K	H 3048/8.15/16 H 3048/8.15/16	4 FRB 12/360 4 FRB 12/360
	148	400	315	404	305	M 24	23148 CCK/W33 C 3148 K	H 3148/8.15/16 H H 3148/8.15/16 HTL	2 FRB 10/400 2 FRB 10/400
	180	440	330	414	–	M 24	23248 CCK/W33	H 2348/8.15/16	2 FRB 10/440
	164	440	330	414	–	M 24	22248 CCK/W33	H 3148/8.15/16 H	2 FRB 22/440
	180	500	360	442	–	M 30	22348 CCK/W33	H 2348/8.15/16 H	2 FRB 12,5/500
9 7/16 239,713	148	400	315	397	305	M 24	23052 CCK/W33 C 3052 K	H 3052/9.7/16 H 3052/9.7/16	2 FRB 22/400 2 FRB 22/400
	164	440	330	414	315	M 24	23152 CCK/W33 C 3152 K	H 3152/9.7/16 H 3152/9.7/16 TL	2 FRB 10/440 2 FRB 10/440
	194	480	360	443	–	M 30	23252 CCK/W33	H 2352/9.7/16	2 FRB 10/480
9 15/16 252,413	166	420	330	413	315	M 24	23056 CCK/W33 C 3056 K	H 3056/9.15/16 H 3056/9.15/16	6 FRB 10/420 6 FRB 10/420

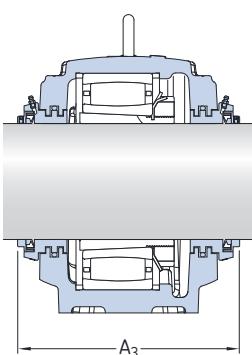
¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

Large SNL plummer block housings for bearings on adapter sleeves

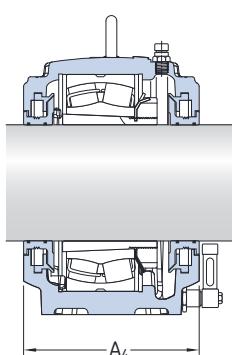
d_a 10 $\frac{7}{16}$ – 11 $\frac{7}{16}$ in



Labyrinth seals – TS design

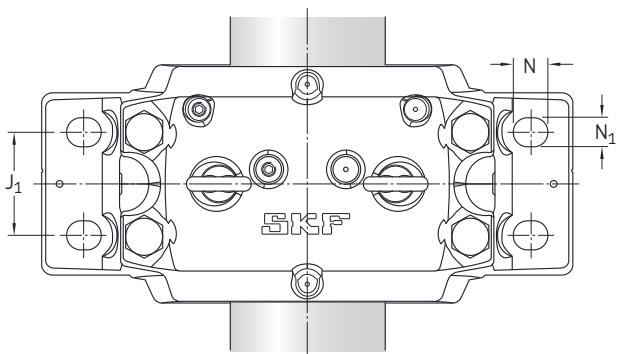
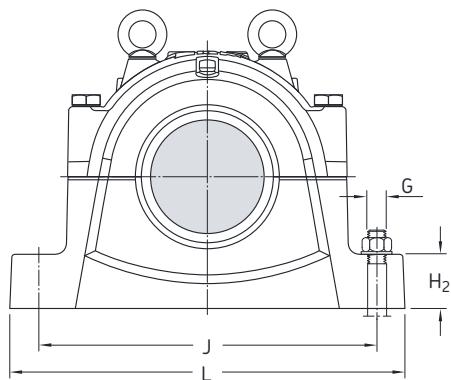


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions												Mass	Designations Components to buy Housings	Seal	End cover	
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	G				
in/mm	mm													in	kg	–	
10 $\frac{7}{16}$ 265,113	320	280	516	260	100	650	160	770	50	42	13	36	1 $\frac{1}{2}$	221	SNL 3056 SNL 3056 SNL 3056 TURT/10.7/16 SNL 3056 TURA/10.7/16	TS 56/10.7/16 TNF 56/10.7/16 included included	ETS 56 ETS 56 ETS 56 R ETS 56 R
	320	280	551	280	105	670	160	790	50	42	16	36	1 $\frac{1}{2}$	252	SNL 3156 SNL 3156 SNL 3156 TURT/10.7/16 SNL 3156 TURA/10.7/16	TS 56/10.7/16 TNF 56/10.7/16 included included	ETS 56 ETS 56 ETS 56 R ETS 56 R
	350	310	591	300	110	710	190	830	50	42	22	36	1 $\frac{1}{2}$	301	SNL 3256 SNL 3256	TS 60/10.7/16 TNF 60/10.7/16	ETS 60 ETS 60
	350	310	591	300	110	710	190	830	50	42	22	36	1 $\frac{1}{2}$	301	SNL 3160 SNL 3160	TS 60/10.7/16 TNF 60/10.7/16	ETS 60 ETS 60
	400	360	675	340	120	810	220	950	50	42	24	36	1 $\frac{1}{2}$	427	SNL 3168 L SNL 3168 L	TS 68/10.7/16 TNF 68/10.7/16	ETS 68 ETS 68
10 $\frac{15}{16}$ 277,813	320	280	551	280	105	670	160	790	50	42	16	36	1 $\frac{1}{2}$	252	SNL 3060 SNL 3060 SNL 3060 TURT/10.15/16 SNL 3060 TURA/10.15/16	TS 60/10.15/16 TNF 60/10.15/16 included included	ETS 60 ETS 60 ETS 60 R ETS 60 R
	350	310	591	300	110	710	190	830	50	42	22	36	1 $\frac{1}{2}$	301	SNL 3160 SNL 3160 SNL 3160 TURT/10.15/16 SNL 3160 TURA/10.15/16	TS 60/10.15/16 TNF 60/10.15/16 included included	ETS 60 ETS 60 ETS 60 R ETS 60 R
	370	330	631	320	115	750	200	880	50	42	23	36	1 $\frac{1}{2}$	339	SNL 3260 SNL 3260	TS 64/10.15/16 TNF 64/10.15/16	ETS 64 ETS 64
	370	330	631	320	115	750	200	880	50	42	23	36	1 $\frac{1}{2}$	339	SNL 3164 SNL 3164	TS 64/10.7/16 TNF 64/10.7/16	ETS 64 ETS 64
11 $\frac{7}{16}$ 290,513	350	310	591	300	110	710	190	830	50	42	22	36	1 $\frac{1}{2}$	301	SNL 3064 SNL 3064 SNL 3064 TURT/11.7/16 SNL 3064 TURA/11.7/16	TS 64/11.7/16 TNF 64/11.7/16 included included	ETS 64 ETS 64 ETS 64 R ETS 64 R



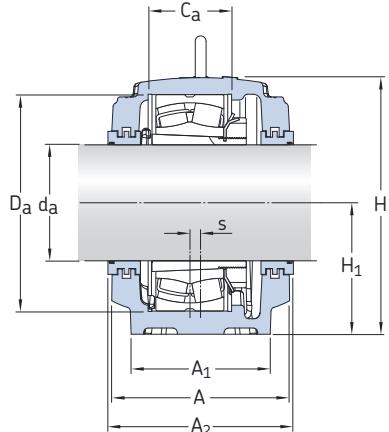
C

Shaft d _a	Bearing seating			Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄	–		Spherical roller bearing CARB bearing	Adapter sleeve ¹⁾	Locating rings
in/mm	mm	mm	mm	mm	mm	–	–	–	–	–
10 7/16 265,113	166	420	330	413	315	M 24	23056 CCK/W33 C 3056 K	H 3056/10.7/16 H 3056/10.7/16	6 FRB 10/420 6 FRB 10/420	
	166	460	330	412	315	M 24	23156 CCK/W33 C 3156 K	H 3156/10.7/16 H 3156/10.7/16 TL	2 FRB 10/460 2 FRB 10/460	
	196	500	360	442	–	M 30	23256 CCK7W33	H 2356/10.7/16	2 FRB 10/500	
	180	500	360	442	–	M 30	22256 CCK/W33	H 3156/10.7/16 H	2 FRB 25/500	
	210	580	410	491	–	M 30	22356 CCK/W33	H 2356/10.7/16 H	2 FRB 17,5/580	
10 15/16 277,813	168	460	330	412	315	M 24	23060 CCK/W33 C 3060 KM	H 3060/10.15/16 H 3060/10.15/16	2 FRB 25/460 2 FRB 25/460	
	180	500	360	442	345	M 30	23160 CCK/W33 C 3160 K	H 3160/10.15/16 H 3160/10.15/16	2 FRB 10/500 2 FRB 10/500	
	212	540	380	462	–	M 30	23260 CCK/W33	H 3260/10.15/16	2 FRB 10/540	
	196	540	380	462	–	M 30	22260 CCK/W33	H 3160/10.7/16 H	2 FRB 28/540	
11 7/16 290,513	181	480	360	443	345	M 30	23064 CCK/W33 C 3064 KM	H 3064/11.7/16 H 3064/11.7/16	6 FRB 10/480 6 FRB 10/480	

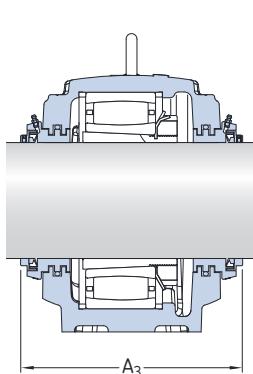
¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

Large SNL plummer block housings for bearings on adapter sleeves

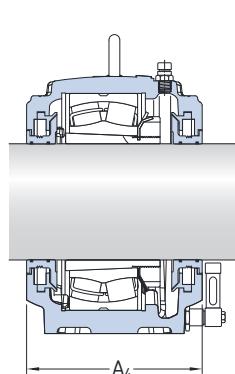
$d_a = 11 \frac{15}{16} - 12 \frac{15}{16}$ in



Labyrinth seals – TS design

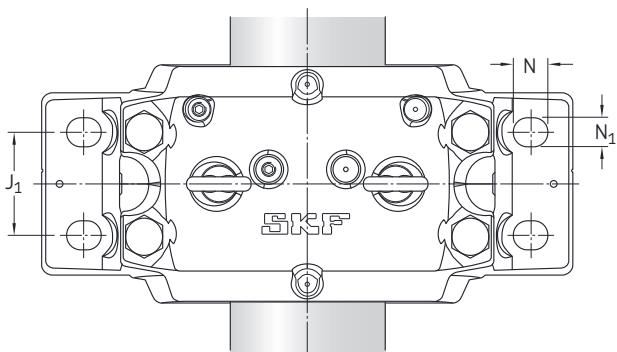
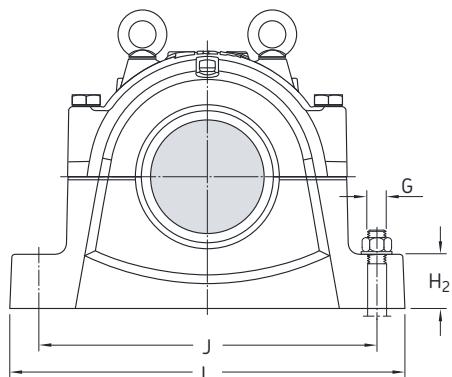


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions											Mass	Designations Components to buy Housings	Seal	End cover		
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s						
in/mm	mm												in	kg	–		
11 $\frac{15}{16}$ 303,213	350	310	591	300	110	710	190	830	50	42	22	36	1 $\frac{1}{2}$	301	SNL 3064 SNL 3064 SNL 3064 TURT/11.15/16 SNL 3064 TURA/11.15/16	TS 64/11.15/16 TNF 64/11.15/16 included included	ETS 64 ETS 64 ETS 64 R ETS 64 R
	370	330	631	320	115	750	200	880	50	42	23	36	1 $\frac{1}{2}$	339	SNL 3164 SNL 3164 SNL 3164 TURT/11.15/16 SNL 3164 TURA/11.15/16	TS 64/11.15/16 TNF 64/11.15/16 included included	ETS 64 ETS 64 ETS 64 R ETS 64 R
	400	360	675	340	120	810	220	950	50	42	24	36	1 $\frac{1}{2}$	430	SNL 3264 F SNL 3264 F	TS 68/11.15/16 TNF 68/11.15/16	ETS 68 ETS 68
	400	360	675	340	120	810	220	950	50	42	24	36	1 $\frac{1}{2}$	427	SNL 3264 L SNL 3264 L	TS 68/11.15/16 TNF 68/11.15/16	ETS 68 ETS 68
12 $\frac{7}{16}$ 315,913	370	330	631	320	115	750	200	880	50	42	23	36	1 $\frac{1}{2}$	339	SNL 3068 SNL 3068 SNL 3068 TURT/12.7/16 SNL 3068 TURA/12.7/16	TS 68/12.7/16 TNF 68/12.7/16 included included	ETS 68 ETS 68 ETS 68 R ETS 68 R
	400	360	675	340	120	810	220	950	50	42	24	36	1 $\frac{1}{2}$	430	SNL 3168 F SNL 3168 F SNL 3168 FTURT/12.7/16 SNL 3168 FTURA/12.7/16	TS 68/12.7/16 TNF 68/12.7/16 included included	ETS 68 ETS 68 ETS 68 R ETS 68 R
	400	360	675	340	120	810	220	950	50	42	24	36	1 $\frac{1}{2}$	427	SNL 3168 L SNL 3168 L SNL 3168 LTURT/12.7/16	TS 68/12.7/16 TNF 68/12.7/16 included	ETS 68 ETS 68 ETS 68 R
	400	360	715	360	120	870	220	1040	50	42	30	36	1 $\frac{1}{2}$	473	SNL 3268 F SNL 3268 F	TS 76/12.7/16 TNF 76/12.7/16	ETS 76 ETS 76
	400	360	715	360	120	870	220	1040	50	42	30	36	1 $\frac{1}{2}$	470	SNL 3268 L SNL 3268 L	TS 76/12.7/16 TNF 76/12.7/16	ETS 76 ETS 76
12 $\frac{15}{16}$ 328,613	370	330	631	320	115	750	200	880	50	42	23	36	1 $\frac{1}{2}$	339	SNL 3072 SNL 3072 SNL 3072 TURT/12.15/16 SNL 3072 TURA/12.15/16	TS 72/12.15/16 TNF 72/12.15/16 included included	ETS 72 ETS 72 ETS 72 R ETS 72 R



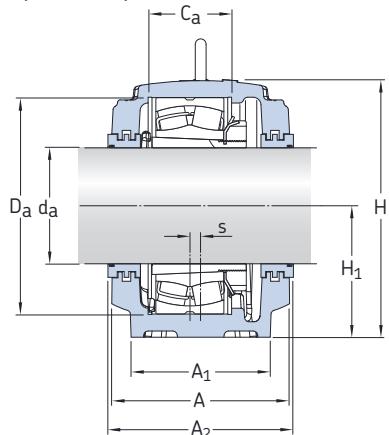
C

Shaft d _a	Bearing seating		Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	C _a	D _a	A ₂	A ₃	A ₄		Spherical roller bearing CARB bearing	Adapter sleeve ¹⁾
in/mm	mm	mm	mm	mm	mm	–	–	–
11 ^{15/16} 303,213	181	480	360	443	345	M 30	23064 CCK/W33 C 3064 KM	H 3064/11.15/16 H 3064/11.15/16 6 FRB 10/480 6 FRB 10/480
	196	540	380	462	365	M 30	23164 CCK/W33 C 3164 KM	H 3164/11.15/16 H 3164/11.15/16 2 FRB 10/540 2 FRB 10/540
	208	580	410	491	–	M 30	23264 CCK/W33	H 3264/11.15/16 –
	228	580	410	491	–	M 30	23264 CCK/W33	H 3264/11.15/16 –
12 ^{7/16} 315,913	197	520	380	461	365	M 30	23068 CCK/W33 C 3068 KM	H 3068/12.7/16 H 3068/12.7/16 4 FRB 16/520 4 FRB 16/520
	190	580	410	491	395	M 30	23168 CCK/W33 C 3168 KM	H 3168/12.7/16 H 3168/12.7/16 – –
	210	580	410	491	395	M 30	23168 CCK/W33	H 3168/12.7/16 –
	224	620	410	491	–	M 36	23268 CAK/W33	H 3268/12.7/16 –
	244	620	410	491	–	M 36	23268 CAK/W33	H 3268/12.7/16 –
12 ^{15/16} 328,613	198	540	380	461	365	M 30	23072 CCK/W33 C 3072 KM	H 3072/12.15/16 H 3072/12.15/16 4 FRB 16/540 4 FRB 16/540

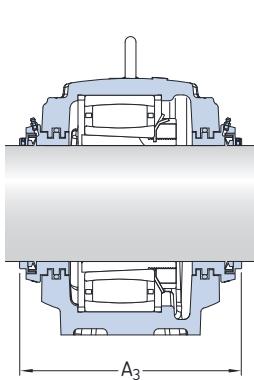
¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

Large SNL plummer block housings for bearings on adapter sleeves

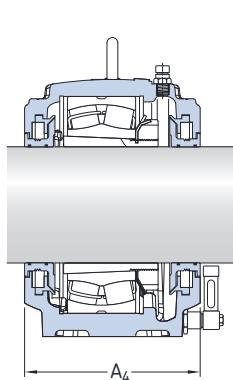
d_a 13 $\frac{7}{16}$ – 13 $\frac{15}{16}$ in



Labyrinth seals – TS design

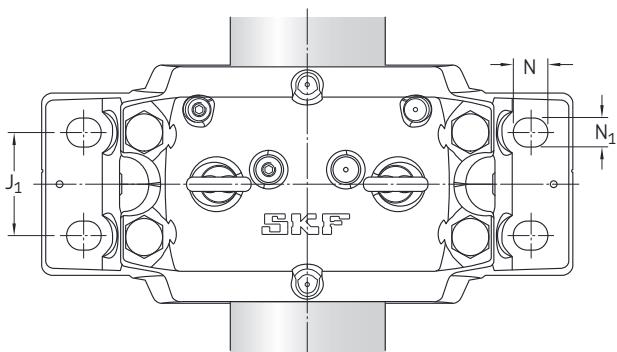
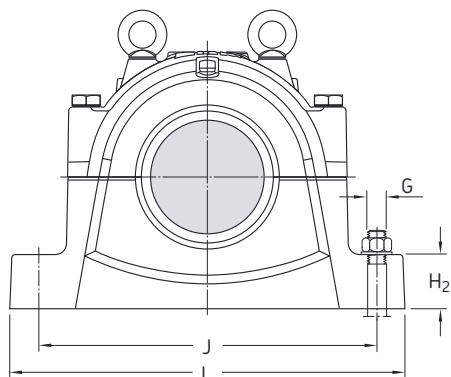


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions												Mass	Designations Components to buy Housings	Seal	End cover	
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G					
in/mm	mm													in	kg	–	
13 $\frac{7}{16}$ 341,313	370	330	631	320	115	750	200	880	50	42	23	36	1 $\frac{1}{2}$	339	SNL 3072 SNL 3072 SNL 3072 TURT/13.7/16 SNL 3072 FTURA/13.7/16	TS 72/13.7/16 TNF 72/13.7/16 included included	ETS 72 ETS 72 ETS 72 R ETS 72 R
	400	360	695	350	120	840	220	1000	50	42	30	36	1 $\frac{1}{2}$	458	SNL 3172 F SNL 3172 F SNL 3172 FTURT/13.7/16 SNL 3172 FTURA/13.7/16	TS 72/13.7/16 TNF 72/13.7/16 included included	ETS 72 ETS 72 ETS 72 R ETS 72 R
	400	360	695	350	120	840	220	1000	50	42	30	36	1 $\frac{1}{2}$	454	SNL 3172 L SNL 3172 L SNL 3172 LTURT/13.7/16	TS 72/13.7/16 TNF 72/13.7/16 included	ETS 72 ETS 72 ETS 72 R
	430	390	775	380	125	950	240	1120	60	48	30	42	1 $\frac{3}{4}$	595	SNL 3272 F SNL 3272 F	TS 80/13.7/16 TNF 80/13.7/16	ETS 80 ETS 80
	430	390	775	380	125	950	240	1120	60	48	30	42	1 $\frac{3}{4}$	595	SNL 3272 L SNL 3272 L	TS 80/13.7/16 TNF 80/13.7/16	ETS 80 ETS 80
13 $\frac{15}{16}$ 354,013	400	360	675	340	120	810	220	950	50	42	24	36	1 $\frac{1}{2}$	430	SNL 3076 F SNL 3076 F SNL 3076 FTURT/13.15/16 SNL 3076 FTURA/13.15/16	TS 76/13.15/16 TNF 76/13.15/16 included included	ETS 76 ETS 76 ETS 76 R ETS 76 R
	400	360	675	340	120	810	220	950	50	42	24	36	1 $\frac{1}{2}$	427	SNL 3076 L SNL 3076 L SNL 3076 LTURT/13.15/16	TS 76/13.15/16 TNF 76/13.15/16 included	ETS 76 ETS 76 ETS 76 R
	400	360	715	360	120	870	220	1040	50	42	30	36	1 $\frac{1}{2}$	473	SNL 3176 F SNL 3176 F SNL 3176 FTURT/13.15/16 SNL 3176 FTURA/13.15/16	TS 76/13.15/16 TNF 76/13.15/16 included included	ETS 76 ETS 76 ETS 76 R ETS 76 R
	400	360	715	360	120	870	220	1040	50	42	30	36	1 $\frac{1}{2}$	470	SNL 3176 L SNL 3176 L SNL 3176 LTURT/13.15/16	TS 76/13.15/16 TNF 76/13.15/16 included	ETS 76 ETS 76 ETS 76 R
	460	420	810	410	130	1000	260	1170	60	48	35	42	1 $\frac{3}{4}$	716	SNL 3276 F SNL 3276 F	TS 92/13.15/16 TNF 92/13.15/16	ETS 92 ETS 92
	460	420	810	410	130	1000	260	1170	60	48	35	42	1 $\frac{3}{4}$	709	SNL 3276 L SNL 3276 L	TS 92/13.15/16 TNF 92/13.15/16	ETS 92 ETS 92



C

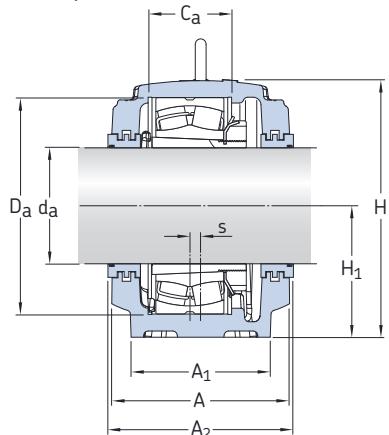
Shaft d _a	Bearing seating		Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components		
	C _a	D _a	A ₂	A ₃	A ₄		Spherical roller bearing CARB bearing	Adapter sleeve ¹⁾	Locating rings
in/mm	mm	mm	mm	mm	mm	–	–	–	–
13 7/16 341,313	198	540	380	461	365	M 30	23072 CCK/W33 C 3072 KM	H 3072/13.7/16 H 3072/13.7/16	4 FRB 16/540 4 FRB 16/540
	192	600	410	491	395	M 36	23172 CCK/W33 C 3172 KM	H 3172/13.7/16 H 3172/13.7/16	– –
	212	600	410	491	395	M 36	23172 CCK/W33	H 3172/13.7/16	–
	232	650	440	521	–	M 42	23272 CAK/W33	H 3272/13.7/16	–
	252	650	440	521	–	M 42	23272 CAK/W33	H 3272/13.7/16	–
13 15/16 354,013	135	560	410	492	395	M 30	23076 CCK/W33 C 3076 KM ²⁾	H 3076/13.15/16 H 3076/13.15/16	– –
	180	560	410	492	395	M 30	23076 CCK/W33	H 3076/13.15/16	–
	194	620	410	491	395	M 36	23176 CAK/W33 C 3176 KMB ²⁾	H 3176/13.15/16 H 3176/13.15/16 E	– –
	214	620	410	491	395	M 36	23176 CAK/W33	H 3176/13.15/16	–
	240	680	470	552	–	M 42	23276 CAK/W33	H 3276/13.15/16	–
	260	680	470	552	–	M 42	23276 CAK/W33	H 3276/13.15/16	–

¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

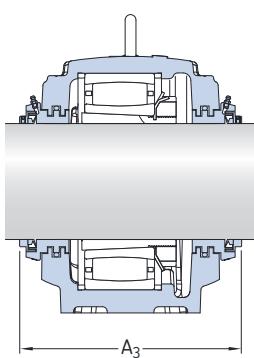
²⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

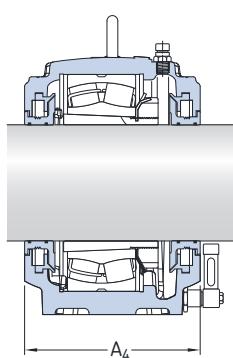
d_a 15 – 15 3/4 in



Labyrinth seals – TS design

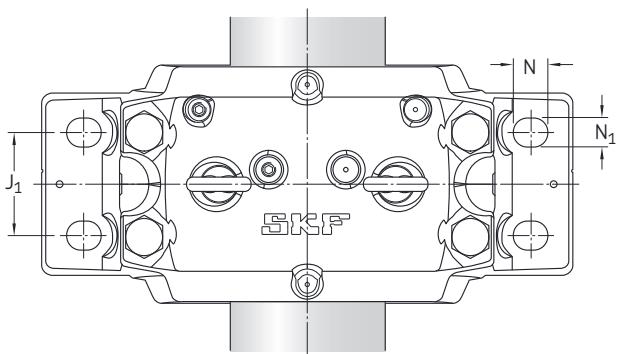
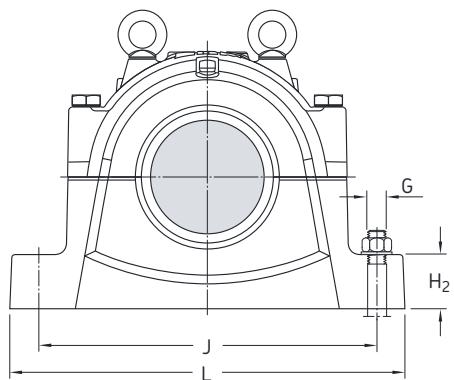


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions											Mass	Designations Components to buy Housings	Seal	End cover		
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s						
in/mm	mm												in	kg	–		
15 381,000	400	360	695	350	120	840	220	1000	50	42	30	36	1 1/2	458	SNL 3080 F SNL 3080 F SNL 3080 FTURT/15 SNL 3080 FTURA/15	TS 80/15 TNF 80/15 included included	ETS 80 ETS 80 ETS 80 R ETS 80 R
	400	360	695	350	120	840	220	1000	50	42	30	36	1 1/2	454	SNL 3080 L SNL 3080 L SNL 3080 LTURT/15	TS 80/15 TNF 80/15 included	ETS 80 ETS 80 ETS 80 R
	430	390	775	380	125	950	240	1120	60	48	30	42	1 3/4	595	SNL 3180 F SNL 3180 F SNL 3180 FTURT/15 SNL 3180 FTURA/15	TS 80/15 TNF 80/15 included included	ETS 80 ETS 80 ETS 80 R ETS 80 R
	430	390	775	380	125	950	240	1120	60	48	30	42	1 3/4	595	SNL 3180 L SNL 3180 L SNL 3180 LTURT/15	TS 80/15 TNF 80/15 included	ETS 80 ETS 80 ETS 80 R
	460	420	810	410	130	1000	260	1170	60	48	35	42	1 3/4	716	SNL 3280 F SNL 3280 F	TS 88/15 TNF 88/15	ETS 88 ETS 88
	460	420	810	410	130	1000	260	1170	60	48	35	42	1 3/4	709	SNL 3280 L SNL 3280 L	TS 88/15 TNF 88/15	ETS 88 ETS 88
15 3/4 400,050	400	360	695	350	120	840	220	1000	50	42	30	36	1 1/2	458	SNL 3084 F SNL 3084 F SNL 3084 FTURT/15.3/4 SNL 3084 FTURA/15.3/4	TS 84/15.3/4 TNF 84/15.3/4 included included	ETS 84 ETS 84 ETS 84 R ETS 84 R
	400	360	695	350	120	840	220	1000	50	42	30	36	1 1/2	458	SNL 3084 L SNL 3084 L SNL 3084 LTURT/15.3/4	TS 84/15.3/4 TNF 84/15.3/4 included	ETS 84 ETS 84 ETS 84 R
	460	420	810	410	130	1000	260	1170	60	48	35	42	1 3/4	709	SNL 3184 F SNL 3184 F SNL 3184 FTURT/15.3/4 SNL 3184 FTURA/15.3/4	TS 84/15.3/4 TNF 84/15.3/4 included included	ETS 84 ETS 84 ETS 84 R ETS 84 R
	460	420	810	410	130	1000	260	1170	60	48	35	42	1 3/4	709	SNL 3184 L SNL 3184 L SNL 3184 LTURT/15.3/4	TS 84/15.3/4 TNF 84/15.3/4 included	ETS 84 ETS 84 ETS 84 R
	470	440	880	440	145	1070	260	1280	60	48	35	42	1 3/4	865	SNL 3284 F SNL 3284 F	TS 92/15.3/4 TNF 92/15.3/4	ETS 92 ETS 92
	470	440	880	440	145	1070	260	1280	60	48	35	42	1 3/4	859	SNL 3284 L SNL 3284 L	TS 92/15.3/4 TNF 92/15.3/4	ETS 92 ETS 92



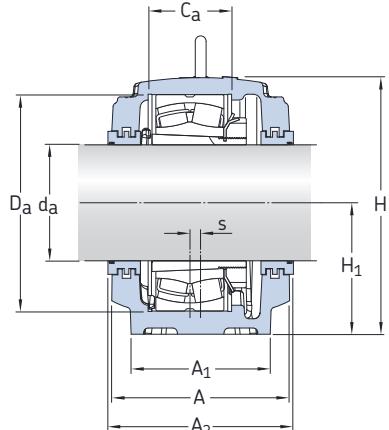
C

Shaft	Bearing seating		Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	d _a	C _a	D _a	A ₂	A ₃	A ₄	Spherical roller bearing	Adapter sleeve ¹⁾
in/mm	mm	mm				–	–	–
15 381,000	148	600	410	492	395	M 36	23080 CCK/W33 C 3080 KM	H 3080/15 H 3080/15
	192	600	410	492	395	M 36	23080 CCK/W33	H 3080/15
	200	650	440	521	425	M 42	23180 CAK/W33 C 3180 KMB	H 3180/15 H 3180/15 E
	220	650	440	521	425	M 42	23180 CAK/W33	H 3180/15
	256	720	470	552	–	M 42	23280 CAK/W33	H 3280/15
	276	720	470	552	–	M 42	23280 CAK/W33	H 3280/15
15 3/4 400,050	148	600	410	492	395	M 36	23084 CAK/W33 C 3084 KM	H 3084/15.3/4 H 3084/15.3/4
	148	600	410	492	395	M 36	23084 CAK/W33	H 3084/15.3/4
	244	700	470	551	455	M 42	23184 CKJ/W33 C 3184 KM	H 3184/15.3/4 H 3184/15.3/4
	244	700	470	551	455	M 42	23184 CKJ/W33	H 3184/15.3/4
	272	760	480	562	–	M 48	23284 CAK/W33	H 3284/15.3/4
	292	760	480	562	–	M 48	23284 CAK/W33	H 3284/15.3/4

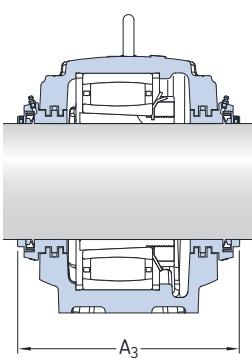
¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

Large SNL plummer block housings for bearings on adapter sleeves

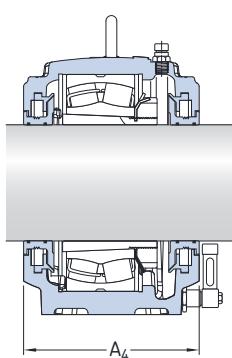
d_a 18 1/2 – 17 in



Labyrinth seals – TS design

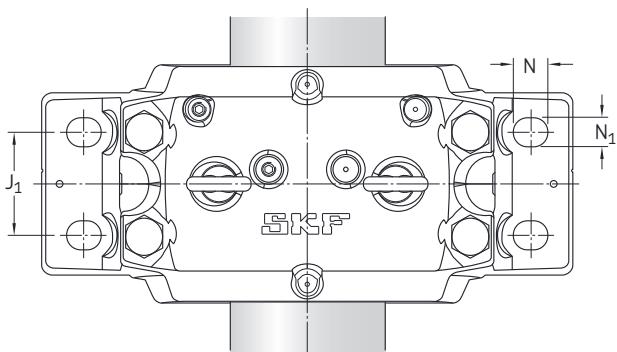
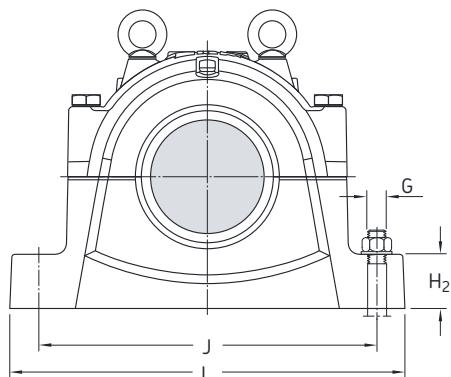


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft d_a	Housing Dimensions											Mass	Designations Components to buy Housings	Seal	End cover		
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s						
in/mm	mm												in	kg	–		
16 1/2 419,100	430	390	775	380	125	950	240	1120	60	48	30	42	1 3/4	595	SNL 3088 F SNL 3088 F SNL 3088 FTURT/16.1/2 SNL 3088 FTURA/16.1/2	TS 88/16.1/2 TNF 88/16.1/2 included included	ETS 88 ETS 88 ETS 88 R ETS 88 R
	430	390	775	380	125	950	240	1120	60	48	30	42	1 3/4	595	SNL 3088 L SNL 3088 L SNL 3088 LTURT/16.1/2	TS 88/16.1/2 TNF 88/16.1/2 included	ETS 88 ETS 88 ETS 88 R
	460	430	835	420	135	1030	260	1220	60	48	35	42	1 3/4	755	SNL 3188 F SNL 3188 F SNL 3188 FTURT/16.1/2 SNL 3188 FTURA/16.1/2	TS 88/16.1/2 TNF 88/16.1/2 included included	ETS 88 ETS 88 ETS 88 R ETS 88 R
	460	430	835	420	135	1030	260	1220	60	48	35	42	1 3/4	751	SNL 3188 L SNL 3188 L SNL 3188 LTURT/16.1/2	TS 88/16.1/2 TNF 88/16.1/2 included	ETS 88 ETS 88 ETS 88 R
	470	440	920	460	155	1110	260	1330	70	56	35	48	2	947	SNL 3288 F SNL 3288 F	TS 96/16.1/2 TNF 96/16.1/2	ETS 96 ETS 96
	470	440	920	460	155	1110	260	1330	70	56	35	48	2	941	SNL 3288 L SNL 3288 L	TS 96/16.1/2 TNF 96/16.1/2	ETS 96 ETS 96
17 431,800	460	420	810	410	130	1000	260	1170	60	48	35	42	1 3/4	716	SNL 3092 F SNL 3092 F SNL 3092 FTURT/17 SNL 3092 FTURA/17	TS 92/17 TNF 92/17 included included	ETS 92 ETS 92 ETS 92 R ETS 92 R
	460	420	810	410	130	1000	260	1170	60	48	35	42	1 3/4	709	SNL 3092 L SNL 3092 L SNL 3092 LTURT/17	TS 92/17 TNF 92/17 included	ETS 92 ETS 92 ETS 92 R
	470	440	880	440	145	1070	260	1280	60	48	35	42	1 3/4	865	SNL 3192 F SNL 3192 F SNL 3192 FTURT/17 SNL 3192 FTURA/17	TS 92/17 TNF 92/17 included included	ETS 92 ETS 92 ETS 92 R ETS 92 R
	470	440	880	440	145	1070	260	1280	60	48	35	42	1 3/4	859	SNL 3192 L SNL 3192 L SNL 3192 LTURT/17	TS 92/17 TNF 92/17 included	ETS 92 ETS 92 ETS 92 R



C

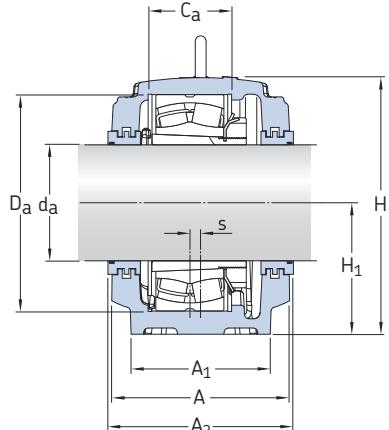
Shaft	Bearing seating		Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	d _a	C _a	D _a	A ₂	A ₃	A ₄	Spherical roller bearing	Adapter sleeve ¹⁾
in/mm	mm	mm				–	–	–
16 1/2 419,100	157	650	440	522	425	M 42	23088 CAK/W33 C 3088 KMB	H 3088/16.1/2 H 3088/16.1/2 E
	200	650	440	522	425	M 42	23088 CAK/W33	H 3088/16.1/2
	226	720	470	552	455	M 42	23188 CAK/W33 C 3188 KMB ²⁾	H 3188/16.1/2 H 3188/16.1/2 E
	246	720	470	552	455	M 42	23188 CAK/W33	H 3188/16.1/2
	280	790	480	561	–	M 48	23288 CAK/W33	H 3288/16.1/2
	300	790	480	561	–	M 48	23288 CAK/W33	H 3288/16.1/2
17 431,800	163	680	470	552	455	M 42	23092 CAK/W33 C 3092 KM	H 3092/17 H 3092/17
	224	680	470	555	455	M 42	23092 CAK/W33	H 3092/17
	240	760	480	562	465	M 48	23192 CAK/W33 C 3192 KM	H 3192/17 H 3192/17
	260	760	480	562	465	M 48	23192 CAK/W33	H 3192/17

¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

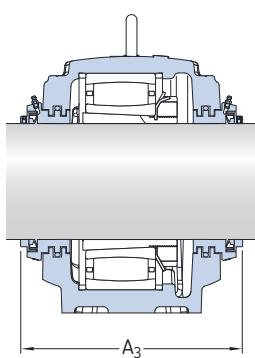
²⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings on adapter sleeves

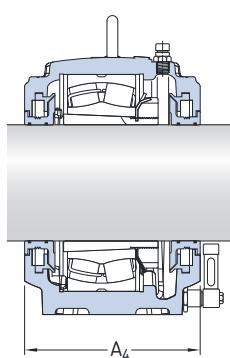
d_a 18 – 19 1/2 in



Labyrinth seals – TS design

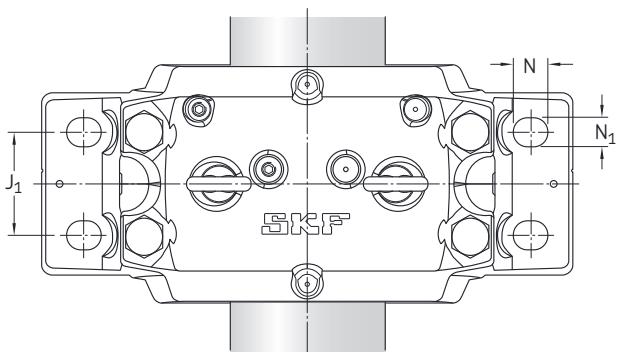
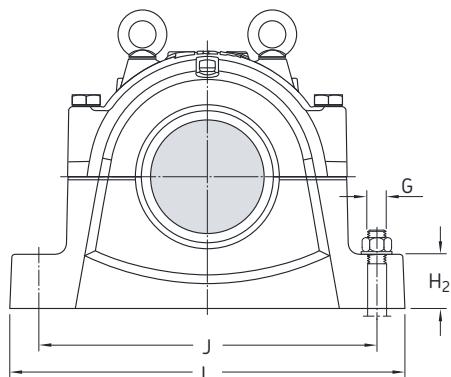


Taconite seals – TNF design



Oil seals – TURT/TURA design

Shaft	Housing Dimensions											Mass	Designations Components to buy		Seal	End cover	
	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G	G	Housings		
in/mm	mm												in	kg	–		
18 457,200	460	420	810	410	130	1 000	260	1 170	60	48	35	42	1 3/4	716	SNL 3096 F SNL 3096 F SNL 3096 FTURT/18 SNL 3096 FTURT/18	TS 96/18 TNF 96/18 included included	ETS 96 ETS 96 ETS 96 R ETS 96 R
	460	420	810	410	130	1 000	260	1 170	60	48	35	42	1 3/4	709	SNL 3096 L SNL 3096 L SNL 3096 LTURT/18	TS 96/18 TNF 96/18 included	ETS 96 ETS 96 ETS 96 R
	470	440	920	460	155	1 110	260	1 330	70	56	35	48	2	947	SNL 3196 F SNL 3196 F SNL 3196 FTURT/18 SNL 3196 FTURA/18	TS 96/18 TNF 96/18 included included	ETS 96 ETS 96 ETS 96 R ETS 96 R
	470	440	920	460	155	1 110	260	1 330	70	56	35	48	2	941	SNL 3196 L SNL 3196 L SNL 3196 LTURT/18	TS 96/18 TNF 96/18 included	ETS 96 ETS 96 ETS 96 R
18 1/2 469,900	460	430	835	420	135	1 030	260	1 220	60	48	35	42	1 3/4	755	SNL 30/500 F SNL 30/500 F SNL 30/500 FTURT/18.1/2 SNL 30/500 FTURA/18.1/2	TS 500/18.1/2 TNF 500/18.1/2 included included	ETS 500 ETS 500 ETS 500 R ETS 500 R
	460	430	835	420	135	1 030	260	1 220	60	48	35	42	1 3/4	751	SNL 30/500 L SNL 30/500 L SNL 30/500 LTURT/18.1/2	TS 500/18.1/2 TNF 500/18.1/2 included	ETS 500 ETS 500 ETS 500 R
19 1/2 495,300	470	440	920	460	155	1 110	260	1 330	70	56	35	48	2	947	SNL 30/530 F SNL 30/530 F SNL 30/530 FTURT/19.1/2 SNL 30/530 FTURA/19.1/2	TS 530/19.1/2 TNF 530/19.1/2 included included	ETS 530 ETS 530 ETS 530 R ETS 530 R
	470	440	920	460	155	1 110	260	1 330	70	56	35	48	2	941	SNL 30/530 L SNL 30/530 L SNL 30/530 LTURT/19.1/2	TS 530/19.1/2 TNF 530/19.1/2 included	ETS 530 ETS 530 ETS 530 R



C

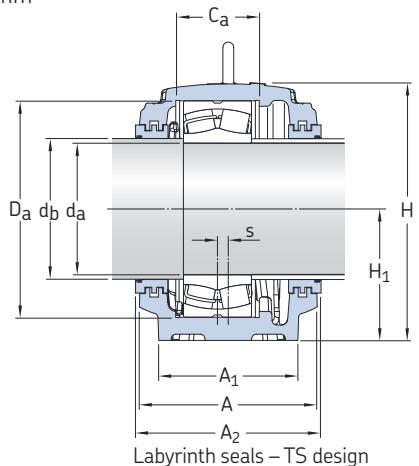
Shaft	Bearing seating		Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
	d _a	C _a	D _a	A ₂	A ₃	A ₄	Spherical roller bearing	Adapter sleeve ¹⁾
in/mm	mm	mm				–	–	–
18 457,200	165	700	470	561	455	M 42	23096 CAK/W33 C 3096 KM	H 3096/18 H 3096/18
	224	700	470	561	455	M 42	23096 CAK/W33	H 3096/18
	248	790	480	561	465	M 48	23196 CAK/W33 C 3196 KMB ²⁾	H 3196/18 H 3196/18 E
	268	790	480	561	465	M 48	23196 CAK/W33	H 3196/18
18 1/2 469,900	167	720	470	551	455	M 42	230/500 CAK/W33 C 30/500 KM	H 30/500/18.1/2 H 30/500/18.1/2
	226	720	470	551	455	M 42	230/500 CAK/W33	H 30/500/18.1/2
19 1/2 495,300	185	780	480	551	465	M 48	230/530 CAK/W33	H 30/530/19.1/2
	248	780	480	551	465	M 48	230/530 CAK/W33	H 30/530/19.1/2

¹⁾ If an oil lubricated adapter sleeve is required, please contact SKF for availability

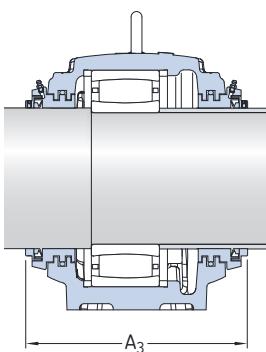
²⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings with cylindrical bore

d_a 130 – 180 mm

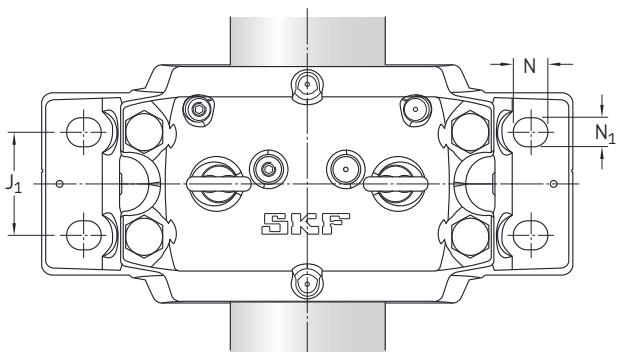
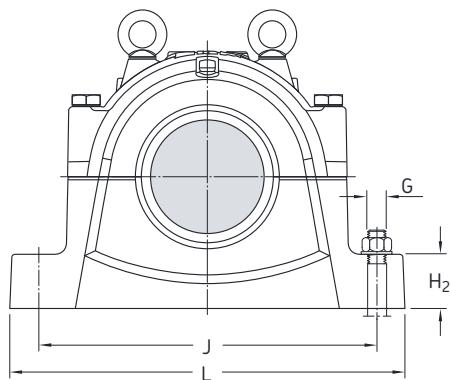


Labyrinth seals – TS design



Taconite seals – TNF design

Shaft Housing Dimensions															Designations Components to buy Housing only	Seal	End cover
	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	–			
130	230	180	333	170	70	430	100	510	34	28	14	24	69,5	SNL 3134 SNL 3134	TS 34 TNF 34	ETS 34 ETS 34	
140	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3136 SNL 3136	TS 36 TNF 36	ETS 36 ETS 36	
150	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3138 SNL 3138	TS 38 TNF 38	ETS 38 ETS 38	
160	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3038 SNL 3038	TS 38/180 TNF 38/180	ETS 38 ETS 38	
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3140 SNL 3140	TS 40 TNF 40	ETS 40 ETS 40	
170	230	180	333	170	70	430	100	510	34	28	14	24	69,5	SNL 3134 G SNL 3134 G	TS 40 TNF 40	ETS 40 ETS 40	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3234 G SNL 3234 G	TS 40/190 TNF 40/190	ETS 40 ETS 40	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3040 SNL 3040	TS 40/190 TNF 40/190	ETS 40 ETS 40	
	290	240	434	220	90	540	140	640	42	35	12	30	139	SNL 3048 SNL 3048	TS 48/190 TNF 48/190	ETS 48 ETS 48	
180	230	180	333	170	70	430	100	510	34	28	14	24	69,5	SNL 3036 G SNL 3036 G	TS 44 TNF 44	ETS 44 ETS 44	
	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3136 G SNL 3136 G	TS 44 TNF 44	ETS 44 ETS 44	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3138 G SNL 3138 G	TS 44 TNF 44	ETS 44 ETS 44	
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3236 G SNL 3236 G	TS 44 TNF 44	ETS 44 ETS 44	

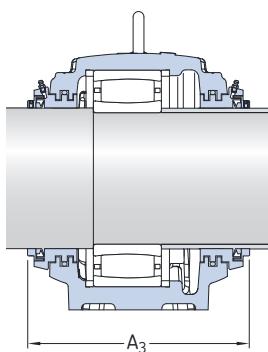
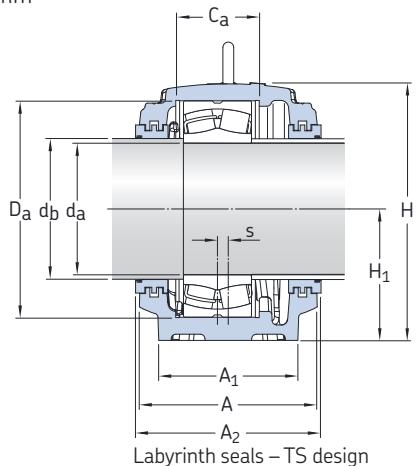


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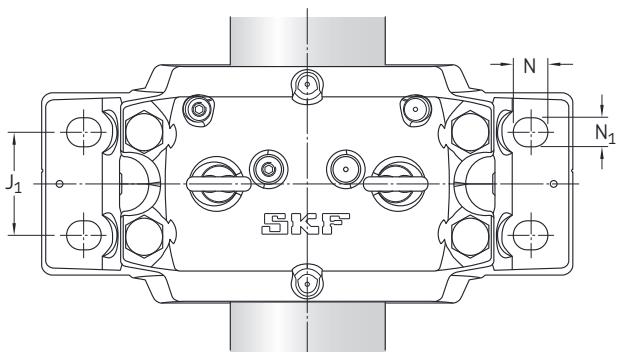
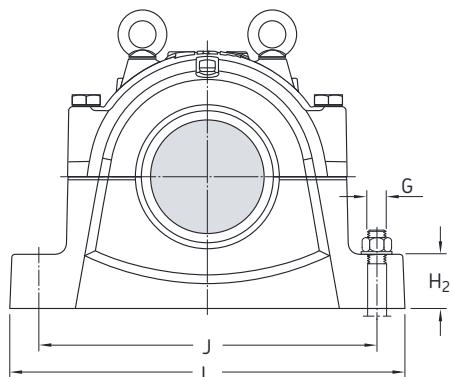
Shaft d _a	Bearing seating d _b	Width across seals			Eye bolts according to DIN 580	Appropriate bearings and associated components	
		C _a	D _a	A ₂		Spherical roller bearing CARB bearing	Locating rings
mm	mm	mm	mm	mm	mm	mm	mm
130	150	108	280	240	302	M 16	22326 CC/W33 2 FRB 7,5/280
140	160	116	300	250	317	M 16	22328 CC/W33 2 FRB 7/300
150	170	124	320	270	334	M 20	22330 CC/W33 2 FRB 8/320
160	180	115	290	250	318	M 16	22232 CC/W33 C 3232 2 FRB 17,5/290 2 FRB 5,5/290
	180	132	340	290	351	M 20	22332 CC/W33 2 FRB 9/340
170	180	108	280	240	302	M 16	23134 CC/W33 2 FRB 10/280
	190	122	310	270	331	M 20	23234 CC/W33 2 FRB 6/310
	190	122	310	270	331	M 20	22234 CC/W33 C 2234 2 FRB 18/310 2 FRB 18/310
	190	140	360	300	387	M 20	22334 CC/W33 2 FRB 10/360
180	200	108	280	240	304	M 16	23036 CC/W33 24036 CC/W33 C 3036 C 4036 V 2 FRB 17/280 2 FRB 4/280 2 FRB 17/280 2 FRB 4/280
	200	116	300	250	317	M 16	23136 CC/W33 C 3136 2 FRB 10/300 2 FRB 10/300
	200	124	320	270	334	M 20	22236 CC/W33 2 FRB 19/320
	200	124	320	270	334	M 20	23236 CC/W33 C 3236 2 FRB 6/320 2 FRB 6/320

Large SNL plummer block housings for bearings with cylindrical bore

d_a 190 – 200 mm



Shaft d_a	Housing Dimensions												Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A_1	H	H_1	H_2	J	J_1	L	N	N_1	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	–	–	–	–
190	240	190	353	180	75	450	110	530	34	28	15	24	77,5	SNL 3038 G SNL 3038 G	TS 44 TNF 44	ETS 44 ETS 44
	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3138 G SNL 3138 G	TS 44 TNF 44	ETS 44 ETS 44
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3238 G SNL 3238 G	TS 48/210 TNF 48/210	ETS 48 ETS 48
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3140 G SNL 3140 G	TS 48/210 TNF 48/210	ETS 48 ETS 48
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3148 SNL 3148	TS 48/210 TNF 48/210	ETS 48 ETS 48
200	260	210	375	190	80	480	120	560	34	28	10	24	97,5	SNL 3040 G SNL 3040 G	TS 48 TNF 48	ETS 48 ETS 48
	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3140 G SNL 3140 G	TS 48 TNF 48	ETS 48 ETS 48
	290	240	434	220	90	540	140	640	42	35	12	30	139	SNL 3240 G SNL 3240 G	TS 48 TNF 48	ETS 48 ETS 48
	290	240	434	220	90	540	140	640	42	35	12	30	139	SNL 3048 SNL 3048	TS 48 TNF 48	ETS 48 ETS 48
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3056 SNL 3056	TS 56/220 TNF 56/220	ETS 56 ETS 56



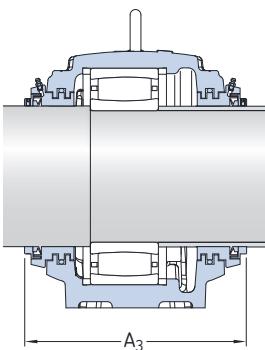
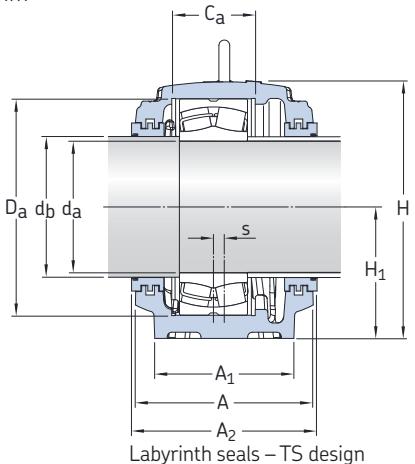
C

Shaft		Bearing seating		Width across seals		Eye bolts according to DIN 580	Appropriate bearings and associated components	
d _a	d _b	C _a	D _a	A ₂	A ₃		Spherical roller bearing	Locating rings
mm		mm		mm		–	–	–
190	200	115	290	250	318	M 16	23038 CC/W33 24038 CC/W33 C 3038 C 4038 V ¹⁾	4 FRB 10/290 2 FRB 7,5/290 4 FRB 10/290 2 FRB 7,5/290
	200	124	320	270	334	M 20	23138 CC/W33	2 FRB 10/320
	210	132	340	290	351	M 20	23238 CC/W33	2 FRB 6/340
	210	132	340	290	351	M 20	22238 CC/W33 C 2238	4 FRB 10/340 4 FRB 10/340
	210	148	400	315	404	M 24	22338 CC/W33	2 FRB 8/400
200	220	122	310	270	331	M 20	23040 CC/W33 24040 CC/W33 C 3040 C 4040 V ¹⁾	4 FRB 10/310 2 FRB 6,5/310 4 FRB 10/310 2 FRB 6,5/310
	220	132	340	290	351	M 20	23140 CC/W33 C 3140	2 FRB 10/340 2 FRB 10/340
	220	140	360	300	383	M 20	23240 CC/W33	2 FRB 6/360
	220	140	360	300	387	M 20	22240 CC/W33	2 FRB 21/360
	220	166	420	330	413	M 24	22340 CC/W33	2 FRB 14/420

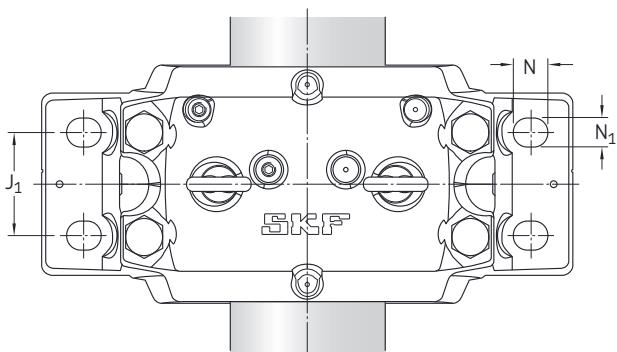
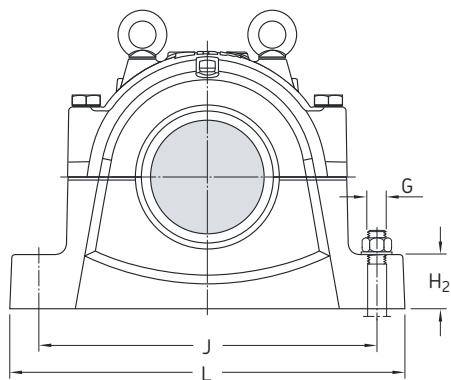
¹⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings with cylindrical bore

d_a 220 – 260 mm



Shaft Dimensions														Mass	Designations Components to buy Housing only	Seal	End cover
	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	–		
220	280	230	411	210	85	510	130	610	42	35	10	30	123	SNL 3044 G SNL 3044 G	TS 52 TNF 52	ETS 52 ETS 52	
	290	240	434	220	90	540	140	640	42	35	12	30	138	SNL 3144 G SNL 3144 G	TS 52 TNF 52	ETS 52 ETS 52	
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3244 G SNL 3244 G	TS 56/240 TNF 56/240	ETS 56 ETS 56	
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3148 G SNL 3148 G	TS 56/240 TNF 56/240	ETS 56 ETS 56	
	320	280	551	280	105	670	160	790	50	42	16	36	252	SNL 3156 SNL 3156	TS 56/240 TNF 56/240	ETS 56 ETS 56	
240	290	240	434	220	90	540	140	640	42	35	12	30	139	SNL 3048 G SNL 3048 G	TS 56 TNF 56	ETS 56 ETS 56	
	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3148 G SNL 3148 G	TS 56 TNF 56	ETS 56 ETS 56	
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3248 G SNL 3248 G	TS 60/260 TNF 60/260	ETS 60 ETS 60	
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3152 G SNL 3152 G	TS 60/260 TNF 60/260	ETS 60 ETS 60	
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3160 SNL 3160	TS 60/260 TNF 60/260	ETS 60 ETS 60	
260	310	260	474	240	95	600	150	700	42	35	12	30	187	SNL 3052 G SNL 3052 G	TS 60 TNF 60	ETS 60 ETS 60	
	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3152 G SNL 3152 G	TS 60 TNF 60	ETS 60 ETS 60	
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3252 G SNL 3252 G	TS 64/280 TNF 64/280	ETS 64 ETS 64	
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3064 SNL 3064	TS 64/280 TNF 64/280	ETS 64 ETS 64	
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3164 SNL 3164	TS 64/290 TNF 64/290	ETS 64 ETS 64	



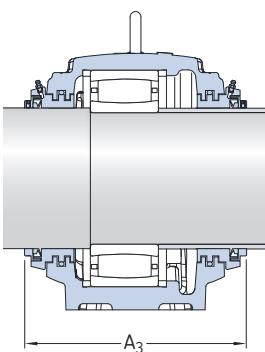
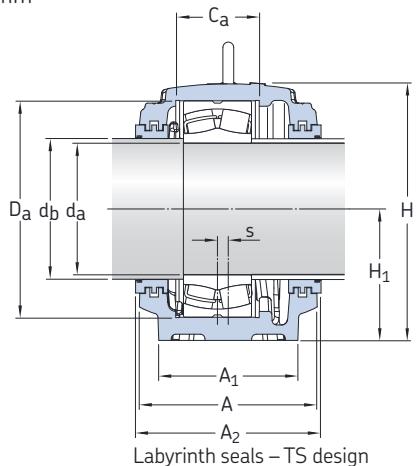
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Shaft		Bearing seating		Width across seals		Eye bolts according to DIN 580	Appropriate bearings and associated components	
d _a	d _b	C _a	D _a	A ₂	A ₃		Spherical roller bearing	CARB bearing
mm		mm		mm		–	–	–
220	240	130	340	290	353	M 20	23044 CC/W33 24044 CC/W33 C 3044 C 4044 V ¹⁾	4 FRB 10/340 2 FRB 6/340 4 FRB 10/340 2 FRB 6/340
	240	140	370	300	361	M 20	23144 CC/W33 C 3144	2 FRB 10/370 2 FRB 10/370
	240	164	400	315	404	M 24	23244 CC/W33	2 FRB 10/400
	240	148	400	315	404	M 24	22244 CC/W33 C 2244	4 FRB 10/400 4 FRB 10/400
	240	166	460	330	412	M 24	22344 CC/W33	2 FRB 10,5/460
240	260	140	360	300	387	M 20	23048 CC/W33 24048 CC/W33 C 3048	4 FRB 12/360 2 FRB 11/360 4 FRB 12/360
	260	148	400	315	404	M 24	23148 CC/W33 C 3138	2 FRB 10/400 2 FRB 10/400
	260	180	440	330	414	M 24	23248 CC/W33	2 FRB 10/440
	260	164	440	330	414	M 24	22248 CC/W33	2 FRB 22/440
	260	180	500	360	442	M 30	22348 CC/W33	2 FRB 12,5/500
260	280	148	400	315	397	M 24	23052 CC/W33 24052 CC/W33 C 3052	2 FRB 22/400 2 FRB 4/400 2 FRB 22/400
	280	164	440	330	414	M 24	23152 CC/W33 C 3152	2 FRB 10/440 2 FRB 10/440
	280	194	480	360	443	M 30	23252 CC/W33	2 FRB 10/480
	280	181	480	360	443	M 30	22252 CC/W33	2 FRB 25,5/480
	290	196	540	380	462	M 30	22352 CC/W33	2 FRB 15,5/540

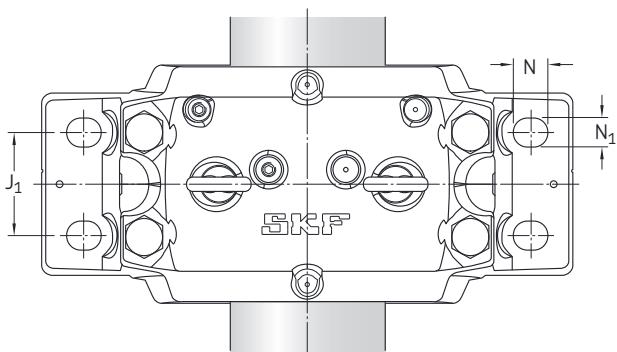
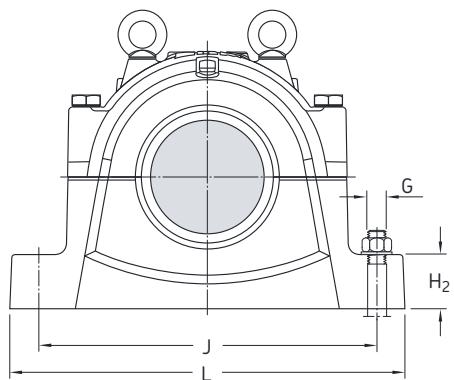
¹⁾ Please check availability of the bearing before incorporating it in a bearing arrangement design

Large SNL plummer block housings for bearings with cylindrical bore

d_a 280 – 320 mm



Shaft Housing Dimensions														Mass	Designations Components to buy Housing only	Seal	End cover
	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	–			
280	320	280	516	260	100	650	160	770	50	42	13	36	221	SNL 3056 G SNL 3056 G	TS 64 TNF 64	ETS 64 ETS 64	
	320	280	551	280	105	670	160	790	50	42	16	36	252	SNL 3156 G SNL 3156 G	TS 64 TNF 64	ETS 64 ETS 64	
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3256 G SNL 3256 G	TS 68/300 TNF 68/300	ETS 68 ETS 68	
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3160 G SNL 3160 G	TS 68/300 TNF 68/300	ETS 68 ETS 68	
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3168 L SNL 3168 L	TS 68/310 TNF 68/310	ETS 68 ETS 68	
300	320	280	551	280	105	670	160	790	50	42	16	36	252	SNL 3060 G SNL 3060 G	TS 68 TNF 68	ETS 68 ETS 68	
	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3160 G SNL 3160 G	TS 68 TNF 68	ETS 68 ETS 68	
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3260 G SNL 3260 G	TS 72/320 TNF 72/320	ETS 72 ETS 72	
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3164 G SNL 3164 G	TS 72/320 TNF 72/320	ETS 72 ETS 72	
320	350	310	591	300	110	710	190	830	50	42	22	36	301	SNL 3064 G SNL 3064 G	TS 72 TNF 72	ETS 72 ETS 72	
	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3164 G SNL 3164 G	TS 72 TNF 72	ETS 72 ETS 72	
	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3264 GF SNL 3264 GF	TS 76/340 TNF 76/340	ETS 76 ETS 76	
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3264 GL SNL 3264 GL	TS 76/340 TNF 76/340	ETS 76 ETS 76	
	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3168 GF SNL 3168 GF	TS 76/340 TNF 76/340	ETS 76 ETS 76	

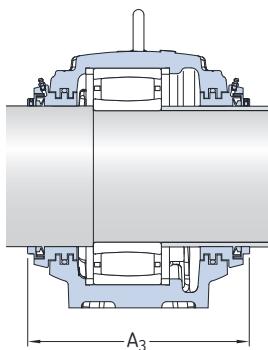
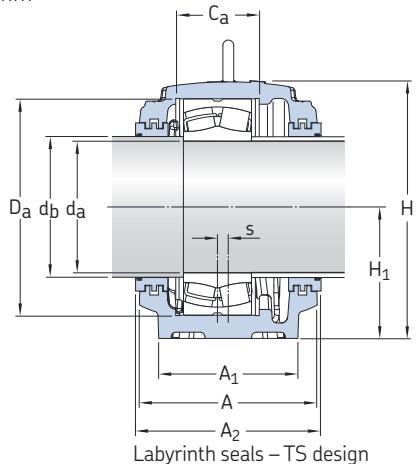


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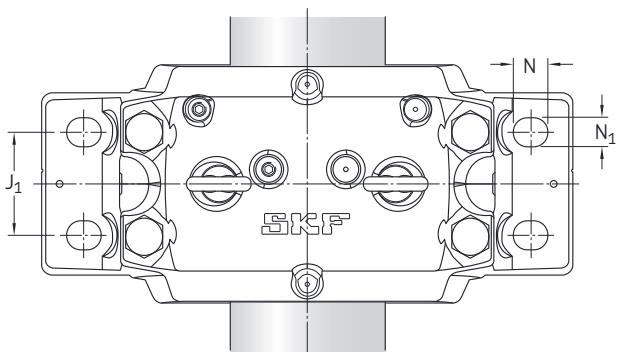
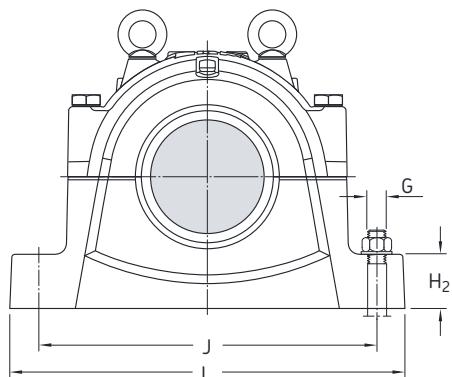
Shaft	Bearing seating			Width across seals		Eye bolts according to DIN 580	Appropriate bearings and associated components	
	d _a	d _b	C _a	D _a	A ₂	A ₃	Spherical roller bearing	Locating rings
mm	mm	mm	mm	mm	mm	mm	–	–
280	300	166	420	330	413	M 24	23056 CC/W33 24056 CC/W33 C 3056	6 FRB 10/420 2 FRB 13/420 6 FRB 10/420
	300	166	460	330	412	M 24	23156 CC/W33 C 3156	2 FRB 10/460 2 FRB 10/460
	300	196	500	360	442	M 30	23256 CC/W33	2 FRB 10/500
	300	180	500	360	442	M 30	22256 CC/W33	2 FRB 25/500
	310	210	580	410	491	M 30	22356 CC/W33	2 FRB 17,5/580
300	320	168	460	330	412	M 24	23060 CC/W33 24060 CC/W33 C 3060 M C 4060 M	2 FRB 25/460 2 FRB 4/460 2 FRB 25/460 2 FRB 4/460
	320	180	500	360	442	M 30	23160 CC/W33 C 3160	2 FRB 10/500 2 FRB 10/500
	320	212	540	380	462	M 30	23260 CC/W33	2 FRB 10/540
	320	196	540	380	462	M 30	22260 CC/W33	2 FRB 28/540
	340	181	480	360	443	M 30	23064 CC/W33 24064 CC/W33 C 3064 M	6 FRB 10/480 2 FRB 10,5/480 6 FRB 10/480
320	340	196	540	380	462	M 30	23164 CC/W33 C 3164 M	2 FRB 10/540 2 FRB 10/540
	340	208	580	410	491	M 30	23264 CC/W33	–
	340	228	580	410	491	M 30	23264 CC/W33	–
	340	190	580	410	491	M 30	22264 CC/W33	2 FRB 20/580

Large SNL plummer block housings for bearings with cylindrical bore

d_a 340 – 360 mm



Shaft d_a	Housing Dimensions													Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A_1	H	H_1	H_2	J	J_1	L	N	N_1	s	G					
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	–	–	–	
340	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3068 G SNL 3068 G	TS 76 TNF 76	ETS 76 ETS 76	
	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3168 GF SNL 3168 GF	TS 76 TNF 76	ETS 76 ETS 76	
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3168 GL SNL 3168 GL	TS 76 TNF 76	ETS 76 ETS 76	
	400	360	715	360	120	870	220	1 040	50	42	30	36	473	SNL 3268 GF SNL 3268 GF	TS 76/370 TNF 76/370	ETS 76 ETS 76	
	400	360	715	360	120	870	220	1 040	50	42	30	36	470	SNL 3268 GL SNL 3268 GL	TS 76/370 TNF 76/370	ETS 76 ETS 76	
360	370	330	631	320	115	750	200	880	50	42	23	36	339	SNL 3072 G SNL 3072 G	TS 80 TNF 80	ETS 80 ETS 80	
	400	360	695	350	120	840	220	1 000	50	42	30	36	458	SNL 3172 GF SNL 3172 GF	TS 80 TNF 80	ETS 80 ETS 80	
	400	360	695	350	120	840	220	1 000	50	42	30	36	454	SNL 3172 GL SNL 3172 GL	TS 80 TNF 80	ETS 80 ETS 80	
	430	390	775	380	125	950	240	1 120	60	48	30	42	595	SNL 3272 GF SNL 3272 GF	TS 80/390 TNF 80/390	ETS 80 ETS 80	
	430	390	775	380	125	950	240	1 120	60	48	30	42	595	SNL 3272 GL SNL 3272 GL	TS 80/390 TNF 80/390	ETS 80 ETS 80	
	430	390	775	380	125	950	240	1 120	60	48	30	42	595	SNL 3180 F SNL 3180 F	TS 80/390 TNF 80/390	ETS 80 ETS 80	

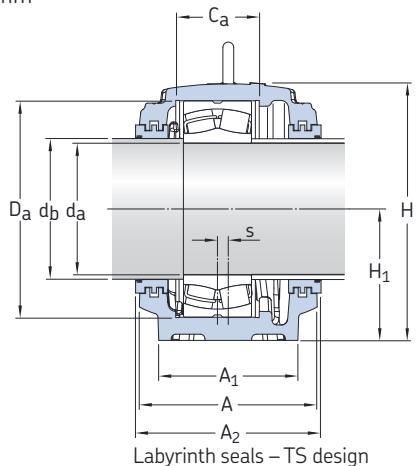


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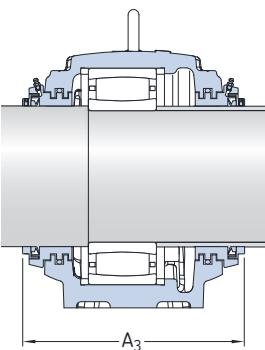
Shaft	Bearing seating			Width across seals		Eye bolts according to DIN 580	Appropriate bearings and associated components	
	d _a	d _b	C _a	D _a	A ₂	A ₃	Spherical roller bearing	Locating rings
	mm	mm	mm	mm	mm	mm	–	–
340	360	197	520	380	461		M 30	23068 CC/W33 24068 CC/W33 C 3068 M
	360	190	580	410	491		M 30	23168 CC/W33 C 3168 M
	360	210	580	410	491		M 30	23168 CC/W33
	370	224	620	410	491		M 36	23268 CA/W33
	370	244	620	410	491		M 36	23268 CA/W33
360	380	198	540	380	461		M 30	23072 CC/W33 24072 CC/W33 C 3072 M
	380	192	600	410	491		M 36	23172 CC/W33 C 3172 M
	380	212	600	410	491		M 36	23172 CC/W33
	390	232	650	440	521		M 42	23272 CA/W33
	390	252	650	440	521		M 42	23272 CA/W33
	390	220	650	440	521		M 42	22272 CC/W33 2 FRB 25/650

Large SNL plummer block housings for bearings with cylindrical bore

d_a 380 – 400 mm

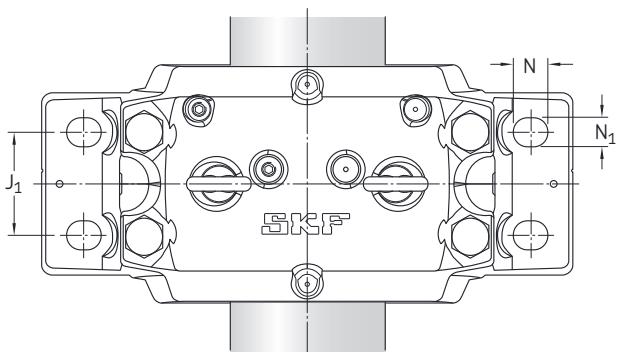
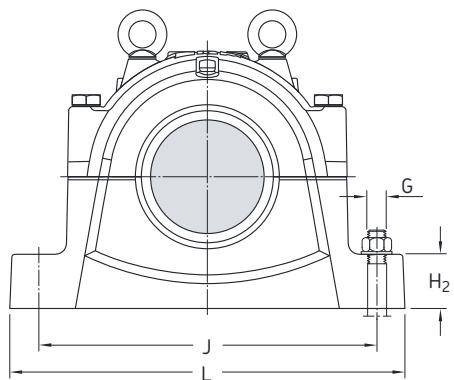


Labyrinth seals – TS design



Taconite seals – TNF design

Shaft d_a	Housing Dimensions													Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A_1	H	H_1	H_2	J	J_1	L	N	N_1	s	G					
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	–	–	–
380	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 3076 GF SNL 3076 GF	TS 84 TNF 84	ETS 84 ETS 84	
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 3076 GL SNL 3076 GL	TS 84 TNF 84	ETS 84 ETS 84	
	400	360	715	360	120	870	220	1040	50	42	30	36	473	SNL 3176 GF SNL 3176 GF	TS 84 TNF 84	ETS 84 ETS 84	
	400	360	715	360	120	870	220	1040	50	42	30	36	470	SNL 3176 GL SNL 3176 GL	TS 84 TNF 84	ETS 84 ETS 84	
	460	420	810	410	130	1000	260	1170	60	48	35	42	716	SNL 3276 GF SNL 3276 GF	TS 92/410 TNF 92/410	ETS 92 ETS 92	
	460	420	810	410	130	1000	260	1170	60	48	35	42	709	SNL 3276 GL SNL 3276 GL	TS 92/410 TNF 92/410	ETS 92 ETS 92	
	400	360	675	340	120	810	220	950	50	42	24	36	430	SNL 4076 GF SNL 4076 GF	TS 84 TNF 84	ETS 84 ETS 84	
	400	360	675	340	120	810	220	950	50	42	24	36	427	SNL 4076 GL SNL 4076 GL	TS 84 TNF 84	ETS 84 ETS 84	
400	400	360	695	350	120	840	220	1000	50	42	30	36	458	SNL 3080 GF SNL 3080 GF	TS 92 TNF 92	ETS 92 ETS 92	
	400	360	695	350	120	840	220	1000	50	42	30	36	454	SNL 3080 GL SNL 3080 GL	TS 92 TNF 92	ETS 92 ETS 92	
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 3180 GF SNL 3180 GF	TS 92 TNF 92	ETS 92 ETS 92	
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 3180 GL SNL 3180 GL	TS 92 TNF 92	ETS 92 ETS 92	
	460	430	835	420	135	1030	260	1220	60	48	35	42	745	SNL 3280 GF SNL 3280 GF	TS 500/430 TNF 500/430	ETS 500 ETS 500	
	460	430	835	420	135	1030	260	1220	60	48	35	42	740	SNL 3280 GL SNL 3280 GL	TS 500/430 TNF 500/430	ETS 500 ETS 500	
	400	360	695	350	120	840	220	1000	50	42	30	36	458	SNL 4080 GF SNL 4080 GF	TS 92 TNF 92	ETS 92 ETS 92	
	400	360	695	350	120	840	220	1000	50	42	30	36	454	SNL 4080 GL SNL 4080 GL	TS 92 TNF 92	ETS 92 ETS 92	



C

Shaft**Bearing seating****Width across seals**Eye bolts
according to
DIN 580**Appropriate bearings**
Spherical roller bearing
CARB bearing d_a d_b C_a D_a A_2 A_3

mm

mm

mm

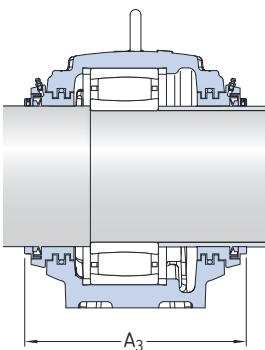
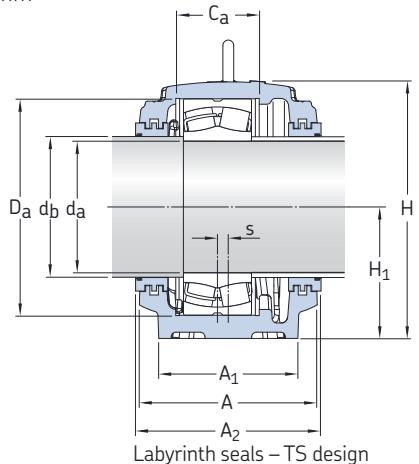
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380	400	135	560	410	492	M 30	23076 CC/W33 C 3076 M
	400	180	560	410	492	M 30	23076 CC/W33
	400	194	620	410	491	M 36	23176 CA/W33
	400	214	620	410	491	M 36	23176 CA/W33
	410	240	680	470	552	M 42	23276 CA/W33
	410	260	680	470	552	M 42	23276 CA/W33
	400	180	560	410	491	M 30	24076 CC/W33
	400	200	560	410	491	M 30	24076 CC/W33
400	430	148	600	410	492	M 36	23080 CC/W33 C 3080 M
	430	192	600	410	492	M 36	23080 CC/W33
	430	200	650	440	521	M 42	23180 CA/W33 C 3180 MB
	430	220	650	440	521	M 42	23180 CA/W33
	430	256	720	470	552	M 42	23280 CA/W33
	430	276	720	470	552	M 42	23280 CA/W33
	430	200	600	410	491	M 36	24080 ECCJ/W33
	430	220	600	410	491	M 36	24080 ECCJ/W33

Large SNL plummer block housings for bearings with cylindrical bore

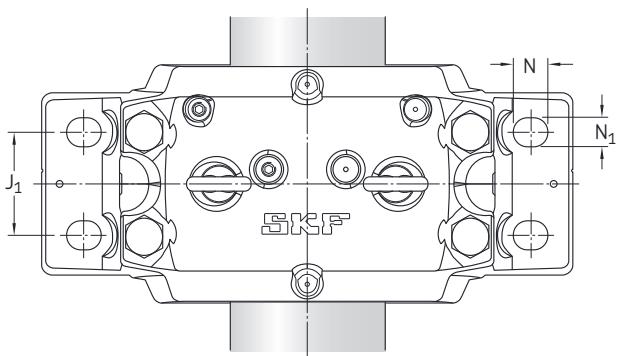
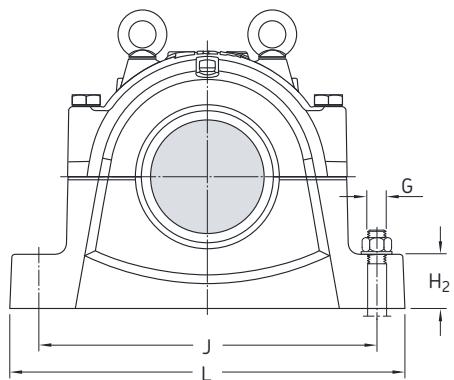
d_a 420 – 440 mm



Labyrinth seals – TS design

Taconite seals – TNF design

Shaft d_a	Housing Dimensions													Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G					
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	–	–	–
420	400	360	715	360	120	870	220	1040	50	42	30	36	473	SNL 3084 GF SNL 3084 GF	TS 96 TNF 96	ETS 96 ETS 96	
	400	360	715	360	120	870	220	1040	50	42	30	36	470	SNL 3084 GL SNL 3084 GL	TS 96 TNF 96	ETS 96 ETS 96	
	460	420	810	410	130	1000	260	1170	60	48	35	42	716	SNL 3184 GF SNL 3184 GF	TS 96 TNF 96	ETS 96 ETS 96	
	460	420	810	410	130	1000	260	1170	60	48	35	42	709	SNL 3184 GL SNL 3184 GL	TS 96 TNF 96	ETS 96 ETS 96	
	470	440	880	440	145	1070	260	1280	60	48	35	42	865	SNL 3284 GF SNL 3284 GF	TS 530/460 TNF 530/460	ETS 530 ETS 530	
	470	440	880	440	145	1070	260	1280	60	48	35	42	859	SNL 3284 GL SNL 3284 GL	TS 530/460 TNF 530/460	ETS 530 ETS 530	
	400	360	715	360	120	870	220	1040	50	42	30	36	473	SNL 4084 GF SNL 4084 GF	TS 96 TNF 96	ETS 96 ETS 96	
	400	360	715	360	120	870	220	1040	50	42	30	36	470	SNL 4084 GL SNL 4084 GL	TS 96 TNF 96	ETS 96 ETS 96	
440	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 3088 GF SNL 3088 GF	TS 500 TNF 500	ETS 500 ETS 500	
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 3088 GL SNL 3088 GL	TS 500 TNF 500	ETS 500 ETS 500	
	460	430	835	420	135	1030	260	1220	60	48	35	42	755	SNL 3188 GF SNL 3188 GF	TS 500 TNF 500	ETS 500 ETS 500	
	460	430	835	420	135	1030	260	1220	60	48	35	42	751	SNL 3188 GL SNL 3188 GL	TS 500 TNF 500	ETS 500 ETS 500	
	470	440	920	460	155	1110	260	1330	70	56	35	48	947	SNL 3288 GF SNL 3288 GF	TS 560/480 TNF 560/480	ETS 560 ETS 560	
	470	440	920	460	155	1110	260	1330	70	56	35	48	941	SNL 3288 GL SNL 3288 GL	TS 560/480 TNF 560/480	ETS 560 ETS 560	
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 4088 GF SNL 4088 GF	TS 500 TNF 500	ETS 500 ETS 500	
	430	390	775	380	125	950	240	1120	60	48	30	42	595	SNL 4088 GL SNL 4088 GL	TS 500 TNF 500	ETS 500 ETS 500	

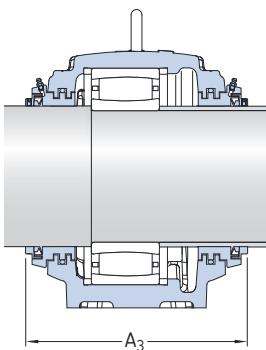
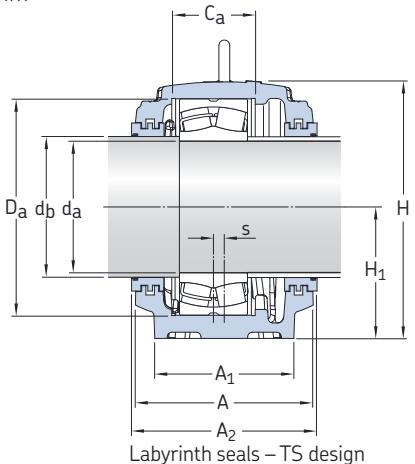


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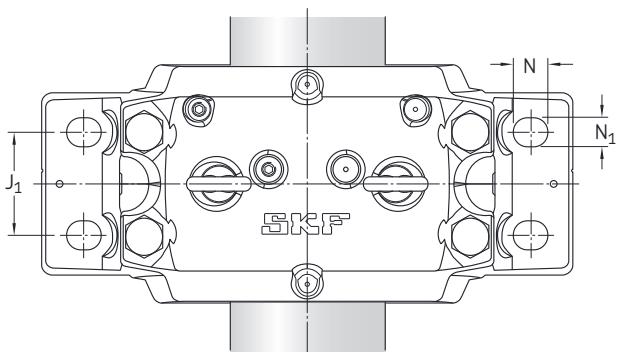
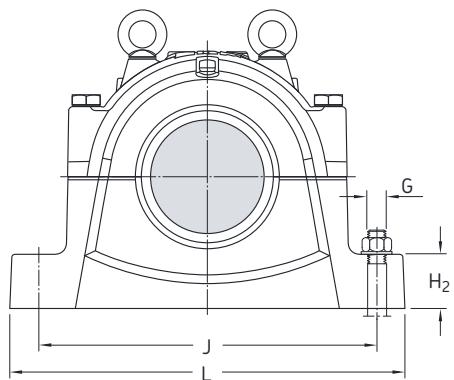
Shaft		Bearing seating		Width across seals		Eye bolts according to DIN 580	Appropriate bearings	
d _a	d _b	C _a	D _a	A ₂	A ₃		Spherical roller bearing CARB bearing	
mm		mm		mm		–	–	
420	450	150	620	410	492	M 36	23084 CA/W33 C 3084 M	
	450	194	620	410	492	M 36	23084 CA/W33	
	450	224	700	470	551	M 42	23184 CJ/W33 C 3184 M	
	450	244	700	470	551	M 42	23184 CJ/W33	
	460	272	760	480	562	M 48	23284 CA/W33	
	460	292	760	480	562	M 48	23284 CA/W33	
	450	200	620	410	492	M 36	24084 ECA/W33	
	450	220	620	410	492	M 36	24084 ECA/W33	
440	470	157	650	440	522	M 42	23088 CA/W33 C 3088 MB	
	470	200	650	440	522	M 42	23088 CA/W33	
	470	226	720	470	552	M 42	23188 CA/W33	
	470	246	720	470	552	M 42	23188 CA/W33	
	480	280	790	480	561	M 48	23288 CA/W33	
	480	300	790	480	561	M 48	23288 CA/W33	
	470	212	650	440	522	M 42	24088 ECA/W33	
	470	232	650	440	522	M 42	24088 ECA/W33	

Large SNL plummer block housings for bearings with cylindrical bore

d_a 460 – 500 mm



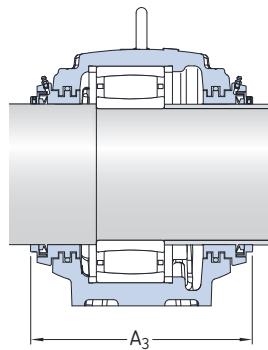
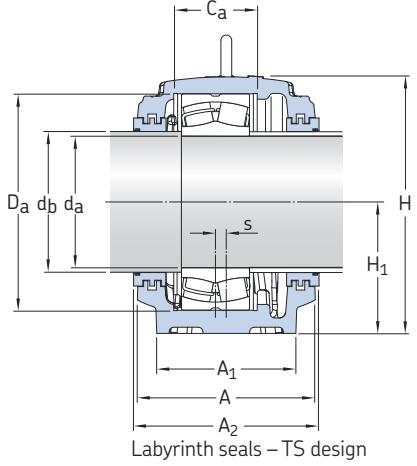
Shaft d_a	Housing Dimensions												Mass kg	Designations Components to buy Housing only	Seal	End cover
	A	A_1	H	H_1	H_2	J	J_1	L	N	N_1	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	–	–	–	–
460	460	420	810	410	130	1000	260	1170	60	48	35	42	716	SNL 3092 GF SNL 3092 GF	TS 530 TNF 530	ETS 530 ETS 530
	460	420	810	410	130	1000	260	1170	60	48	35	42	709	SNL 3092 GL SNL 3092 GL	TS 530 TNF 530	ETS 530 ETS 530
	470	440	880	440	145	1070	260	1280	60	48	35	42	865	SNL 3192 GF SNL 3192 GF	TS 530 TNF 530	ETS 530 ETS 530
	470	440	880	440	145	1070	260	1280	60	48	35	42	859	SNL 3192 GL SNL 3192 GL	TS 530 TNF 530	ETS 530 ETS 530
	460	420	810	410	130	1000	260	1170	60	48	35	42	716	SNL 4092 GF SNL 4092 GF	TS 530 TNF 530	ETS 530 ETS 530
	460	420	810	410	130	1000	260	1170	60	48	35	42	709	SNL 4092 GL SNL 4092 GL	TS 530 TNF 530	ETS 530 ETS 530
480	460	420	810	410	130	1000	260	1170	60	48	35	42	716	SNL 3096 GF SNL 3096 GF	TS 530/510 TNF 530/510	ETS 530 ETS 530
	460	420	810	410	130	1000	260	1170	60	48	35	42	709	SNL 3096 GL SNL 3096 GL	TS 530/510 TNF 530/510	ETS 530 ETS 530
	470	440	920	460	155	1110	260	1330	70	56	35	48	947	SNL 3196 GF SNL 3196 GF	TS 560/520 TNF 560/520	ETS 560 ETS 560
	470	440	920	460	155	1110	260	1330	70	56	35	48	941	SNL 3196 GL SNL 3196 GL	TS 560/520 TNF 560/520	ETS 560 ETS 560
	460	420	810	410	130	1000	260	1170	60	48	35	42	716	SNL 4096 GF SNL 4096 GF	TS 530/510 TNF 530/510	ETS 530 ETS 530
	460	420	810	410	130	1000	260	1170	60	48	35	42	709	SNL 4096 GL SNL 4096 GL	TS 530/510 TNF 530/510	ETS 530 ETS 530
500	460	430	835	420	135	1030	260	1220	60	48	35	42	755	SNL 30/500 GF SNL 30/500 GF	TS 560 TNF 560	ETS 560 ETS 560
	460	430	835	420	135	1030	260	1220	60	48	35	42	751	SNL 30/500 GL SNL 30/500 GL	TS 560 TNF 560	ETS 560 ETS 560
	460	430	835	420	135	1030	260	1220	60	48	35	42	755	SNL 40/500 GF SNL 40/500 GF	TS 560 TNF 560	ETS 560 ETS 560
	460	430	835	420	135	1030	260	1220	60	48	35	42	751	SNL 40/500 GL SNL 40/500 GL	TS 560 TNF 560	ETS 560 ETS 560



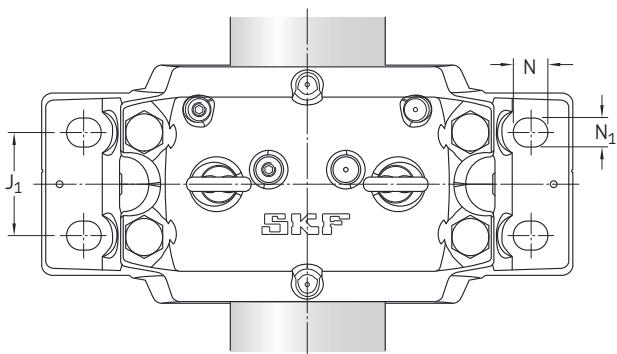
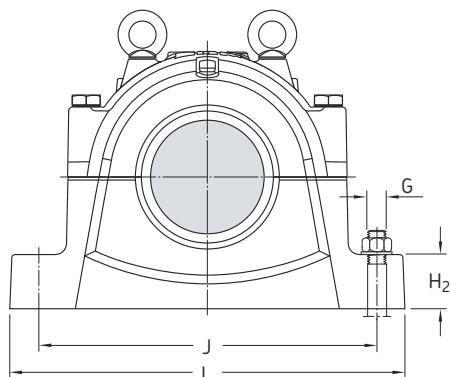
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Shaft	Bearing seating			Width across seals		Eye bolts according to DIN 580	Appropriate bearings Spherical roller bearing CARB bearing
	d _a	d _b	C _a	D _a	A ₂		
mm	mm	mm	mm	mm	mm	–	–
460	500	163	680	470	552	M 42	23092 CA/W33 C 3092 M
	500	224	680	470	552	M 42	23092 CA/W33
	500	240	760	480	562	M 48	23192 CA/W33 C 3192 M
	500	260	760	480	562	M 48	23192 CA/W33
	500	218	680	470	552	M 42	24092 ECA/W33
	500	238	680	470	552	M 42	24092 ECA/W33
480	510	165	700	470	561	M 42	23096 CA/W33 C 3096 M
	510	224	700	470	561	M 42	23096 CA/W33
	520	248	790	480	561	M 48	23196 CA/W33
	520	268	790	480	561	M 48	23196 CA/W33
	510	218	700	470	551	M 42	24096 ECA/W33
	510	238	700	470	551	M 42	24096 ECA/W33
500	530	167	720	470	551	M 42	230/500 CA/W33 C 30/500 M
	530	226	720	470	551	M 42	230/500 CA/W33
	530	218	720	470	551	M 42	240/500 ECA/W33
	530	238	720	470	551	M 42	240/500 ECA/W33

Large SNL plummer block housings for bearings with cylindrical bore
 d_a 530 mm



Shaft Housing Dimensions														Mass	Designations Components to buy Housing only	Seal	End cover
	d_a	A	A ₁	H	H ₁	H ₂	J	J ₁	L	N	N ₁	s	G				
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	–			
530	470	440	920	460	155	1110	260	1330	70	56	35	48	947	SNL 30/530 GF SNL 30/530 GF	TS 600 TNF 600	ETS 600 ETS 600	
	470	440	920	460	155	1110	260	1330	70	56	35	48	941	SNL 30/530 GL SNL 30/530 GL	TS 600 TNF 600	ETS 600 ETS 600	
	470	440	920	460	155	1110	260	1330	70	56	35	48	947	SNL 40/530 GF SNL 40/530 GF	TS 600 TNF 600	ETS 600 ETS 600	
	470	440	920	460	155	1110	260	1330	70	56	35	48	941	SNL 40/530 GL SNL 40/530 GL	TS 600 TNF 600	ETS 600 ETS 600	



C

Shaft**Bearing seating****Width across seals**Eye bolts
according to
DIN 580**Appropriate bearings**
Spherical roller bearing
CARB bearingd_ad_bC_a D_aA₂A₃

mm

mm

mm

-

-

530	560	185	780	480	551	M 48	230/530 CA/W33
	560	248	780	480	551	M 48	230/530 CA/W33
	560	250	780	480	551	M 48	240/530 ECA/W33
	560	270	780	480	551	M 48	240/530 ECA/W33

Other products for trouble-free operation

Robust, high-performance standard bearings

SKF produces the spherical roller bearings and CARB toroidal roller bearings normally incorporated in large SNL plummer block housings in many sizes and several designs. Both bearing types are self-aligning. The degree of misalignment which can be accommodated depends on the bearing series and also on the seals used in the SNL housings.

The spherical roller bearings can be used for both locating and non-locating bearing arrangements. At non-locating positions, the bearing outer ring is free to move axially in its seating in the housing bore. CARB toroidal

roller bearings, on the other hand, accommodate axial displacements within the bearing and are always non-locating. It is usual to combine a CARB bearing at the non-locating side with a spherical roller bearing arranged as a locating bearing at the other side.

Spherical roller bearings

The spherical roller bearings which can be used in large SNL plummer block housings are those of series 230, 231 and 240. The bearings are available with tapered bore for mounting on adapter or withdrawal sleeves, or with cylindrical bore.

CARB toroidal roller bearings

These bearings are a recent addition to the range of ball and roller bearings offered by SKF and are an SKF invention. CARB toroidal roller bearings of series C 30 and C 31 can be incorporated in large SNL plummer block housings.

Although available in a caged as well as a full complement version, it is normally recommended that caged bearings are used in SNL housings. CARB bearings are available with a tapered bore for mounting on an adapter sleeve or a withdrawal sleeve, as well as with a cylindrical bore.



For easy mounting – adapter and withdrawal sleeves

Generally the bearings with a tapered bore incorporated in SNL plummer block housings are mounted on smooth or stepped shafts with the aid of an adapter sleeve or, on stepped shafts only, a withdrawal sleeve. These sleeves are produced by SKF in appropriate sizes for the range of bearings which can be used in SNL housings. The adapter sleeves are the more popular as they are more versatile and are easier to mount.

Adapter sleeves

These are slotted sleeves with a tapered outside diameter. The sizes used with bearings for SNL housings have an external taper of 1:12 and are supplied complete with lock nut

and locking washer. Their dimensions are in accordance with ISO 2982-1:1995.

When using adapter sleeves on smooth shafts it is possible to locate the bearing at any position on the shaft and no additional axial location is required.

Withdrawal sleeves

These are also slotted sleeves with a tapered outside diameter. The sizes used with bearings for SNL housings have an external taper of 1:12. Their dimensions are in accordance with ISO 2982-1:1995.

Bearings on withdrawal sleeves must be mounted against a fixed abutment, e.g. a shaft shoulder. The withdrawal sleeve must be secured in position after it has been pressed into the bearing bore by a lock nut or end plate on the shaft. The nuts are not supplied with the sleeves.

More information about

- *spherical roller bearings*
(→ brochure 6100)
- *CARB toroidal roller bearings*
(→ brochure 6102)
- *bearing sleeves*
(→ catalogue 6005)



Other products

Lock nuts

SKF lock nuts, also referred to as shaft nuts, are available in several designs to axially locate bearings on shaft ends. The most popular are those of series KM, KML and HM. These nuts have four or eight equally spaced slots in the outside diameter and are locked in position with locking washers or locking clips engaging a groove in the shaft. The nut dimensions are in accordance with ISO 2982-2:1995 as are the dimensions of the series MB and MBL locking washers.

Other lock nuts produced by SKF include those of series KMT, KMTA, KMK and KMFE, that do not require a groove in the shaft.



Lubricating greases for bearings

Lubrication is a necessity for proper bearing performance. Grease is normally used for applications involving SNL plummer blocks. SKF has put considerable effort into establishing a range of high-quality greases for ball and roller bearing lubrication.

The SYSTEM 24® automatic lubricator can also be used with SNL plummer block housings. An adapter can be fitted to the standard drilled and tapped hole in the housing cap. It should be remembered that surplus grease should be able to leave the housing.

SKF ConCentra roller bearing units

These units are plummer blocks with ready-lubricated bearings for easy installation. They comprise

- a one-piece plummer block housing of grey cast iron
- a spherical roller bearing of series 222 with special inner ring
- a special adapter sleeve
- two seals of nitril rubber double lip type or two labyrinth seals.

The units are available in a locating and a non-locating version.



Other bearing housings

To meet a wide variety of application demands, SKF produces a comprehensive range of bearing housings. The majority of these are of the split plummer block type but the SKF range also includes

- one-piece plummer block housings
- flanged housings
- take-up housings
- two-bearing housings.

Most of these housings are designed to take self-aligning bearings, and the range extends

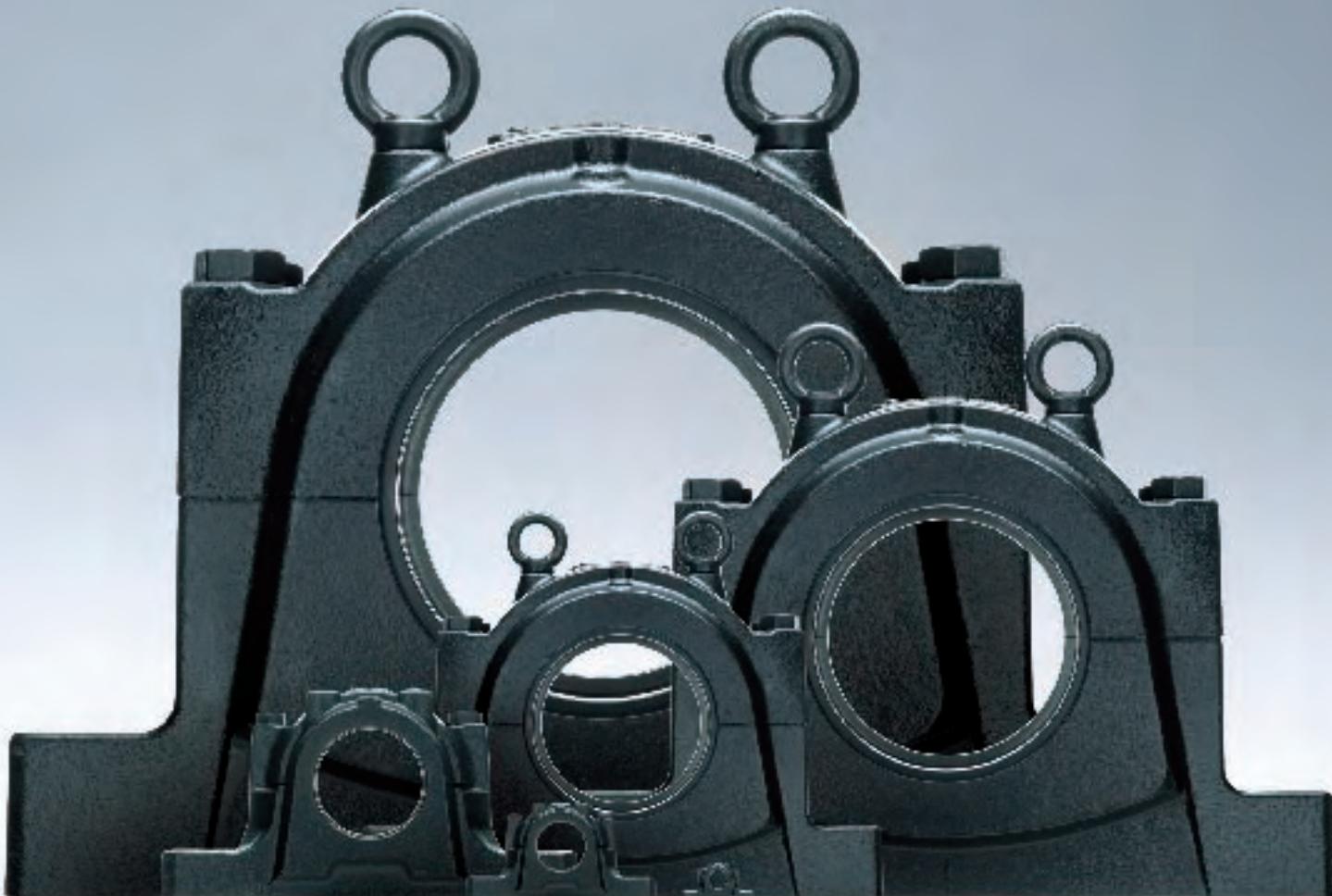
to shaft diameters up to and including 1 800 mm. Housings are available for oil lubrication as well as grease lubrication and also for bearings with cylindrical bore or for tapered bore, mounted on adapter or withdrawal sleeves. Smooth or stepped shafts can be used.

Various different types of seal are used. Most housings are made of grey cast iron but spheroidal graphite cast iron or cast steel housings are included in the range.

For further information, please contact SKF.

More information about

- lock nuts (\rightarrow brochure 4412 and catalogue 6006)
- greases (\rightarrow catalogue MP3000)
- SKF ConCentra roller bearing units (\rightarrow brochure 6103)
- housings (\rightarrow catalogue 6004)



Condition monitoring equipment

The goals of condition monitoring are to maximize the time that the machine is functioning well and to minimise the number of breakdowns, thereby significantly reducing operating downtime and maintenance cost.

To achieve this, it is recommended that the bearing and machine condition be monitored either periodically or continuously. Condition monitoring enables incipient bearing damage to be detected and evaluated, so that bearing replacement can be scheduled for a time when the machine is not in operation, to avoid unplanned stoppages. Applied to all machinery (not just sensitive or problematic machines) condition monitoring improves machinery operation to an optimum level, often exceeding the original equipment specifications.

SKF provides a comprehensive range of condition monitoring equipment to measure all important parameters. These include

- temperature
- speed
- noise
- oil condition
- shaft alignment
- vibration
- bearing condition.

The range includes lightweight, handheld devices for manual use as well as complex continuous monitoring systems for fixed installations in connection with preventive maintenance.

One example is the MARLIN® I-Pro data manager, which is a rugged, high performance data collector that enables plant operations personnel to quickly and easily collect, store and analyze overall machine vibration, process and inspection data. The unit enables trending, comparison with previous readings, alarm alerts and more. A "user notes" feature allows an operator to immediately record detailed observations of troublesome machine conditions or questionable measurements.



Recording vibration values using an SKF Microlog Series Data Collector

SKF Vibration Pen^{plus}



Noise testing



MARLIN I-Pro data manager



SKF – the knowledge engineering company

From the company that invented the self-aligning ball bearing 100 years ago, SKF has evolved into a knowledge engineering company that is able to draw on five platforms to create unique solutions for its customers. These platforms include bearings, bearing units and seals, of course, but extend to other areas including: lubricants and lubrication systems, critical for long bearing life in many applications; mechatronics that combine mechanical and electronics knowledge into systems for more effective linear motion and sensorized solutions; and a full range of services, from design and logistics support to conditioning monitoring and reliability systems.

Though the scope has broadened, SKF continues to maintain the world's leadership in the design, manufacture and marketing of rolling bearings, as well as complementary products such as radial seals. SKF also holds an increasingly important position in the market for linear motion products, high-precision aerospace bearings, machine tool spindles and plant maintenance services.

The SKF Group is globally certified to ISO 14001, the international standard for environmental management, as well as OHSAS 18001, the health and safety management standard. Individual divisions have been approved for quality certification in accordance with either ISO 9000 or QS 9000.

With some 100 manufacturing sites worldwide and sales companies in 70 countries, SKF is a truly international corporation. In addition, our distributors and dealers in some 15 000 locations around the world, an e-business marketplace and a global distribution system put SKF close to customers for the supply of both products and services. In essence, SKF solutions are available wherever and whenever customers need them. Overall, the SKF brand and the corporation are stronger than ever. As the knowledge engineering company, we stand ready to serve you with world-class product competencies, intellectual resources, and the vision to help you succeed.

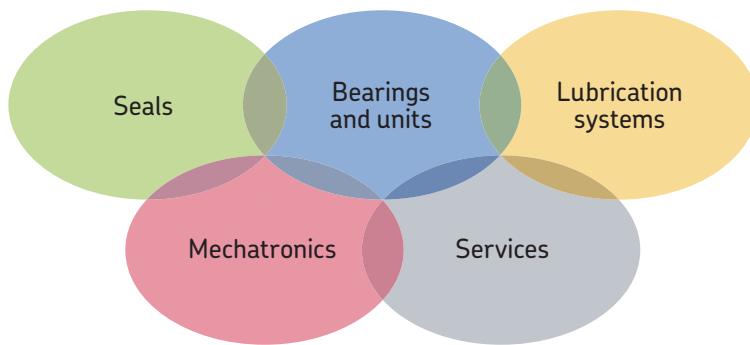


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Evolving by-wire technology

SKF has a unique expertise in fast-growing by-wire technology, from fly-by-wire, to drive-by-wire, to work-by-wire. SKF pioneered practical fly-by-wire technology and is a close working partner with all aerospace industry leaders. As an example, virtually all aircraft of the Airbus design use SKF by-wire systems for cockpit flight control.

SKF is also a leader in automotive by-wire technology, and has partnered with automotive engineers to develop two concept cars, which employ SKF mechatronics for steering and braking. Further by-wire development has led SKF to produce an all-electric forklift truck, which uses mechatronics rather than hydraulics for all controls.





Harnessing wind power

The growing industry of wind-generated electric power provides a source of clean, green electricity. SKF is working closely with global industry leaders to develop efficient and trouble-free turbines, providing a wide range of large, highly specialized bearings and condition monitoring systems to extend equipment life of wind farms located in even the most remote and inhospitable environments.



Working in extreme environments

In frigid winters, especially in northern countries, extreme sub-zero temperatures can cause bearings in railway axleboxes to seize due to lubrication starvation. SKF created a new family of synthetic lubricants formulated to retain their lubrication viscosity even at these extreme temperatures. SKF knowledge enables manufacturers and end user customers to overcome the performance issues resulting from extreme temperatures, whether hot or cold. For example, SKF products are at work in diverse environments such as baking ovens and instant freezing in food processing plants.



Developing a cleaner cleaner

The electric motor and its bearings are the heart of many household appliances. SKF works closely with appliance manufacturers to improve their products' performance, cut costs, reduce weight, and reduce energy consumption. A recent example of this cooperation is a new generation of vacuum cleaners with substantially more suction. SKF knowledge in the area of small bearing technology is also applied to manufacturers of power tools and office equipment.



Maintaining a 350 km/h R&D lab

In addition to SKF's renowned research and development facilities in Europe and the United States, Formula One car racing provides a unique environment for SKF to push the limits of bearing technology. For over 50 years, SKF products, engineering and knowledge have helped make Scuderia Ferrari a formidable force in F1 racing. (The average racing Ferrari utilizes more than 150 SKF components.) Lessons learned here are applied to the products we provide to auto-makers and the aftermarket worldwide.



Delivering Asset Efficiency Optimization

Through SKF Reliability Systems, SKF provides a comprehensive range of asset efficiency products and services, from condition monitoring hardware and software to maintenance strategies, engineering assistance and machine reliability programs. To optimize efficiency and boost productivity, some industrial facilities opt for an Integrated Maintenance Solution, in which SKF delivers all services under one fixed-fee, performance-based contract.



Planning for sustainable growth

By their very nature, bearings make a positive contribution to the natural environment, enabling machinery to operate more efficiently, consume less power, and require less lubrication. By raising the performance bar for our own products, SKF is enabling a new generation of high-efficiency products and equipment. With an eye to the future and the world we will leave to our children, the SKF Group policy on environment, health and safety, as well as the manufacturing techniques, are planned and implemented to help protect and preserve the earth's limited natural resources. We remain committed to sustainable, environmentally responsible growth.



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