SKF ConCentra roller bearing units

The fast, easy, error-free way to install and remove plummer blocks



Combine industrial strength with the simplicity of “plug and play”

The current situation

To properly mount a bearing on a sleeve in a split housing is time consuming – requiring experience and a clean work environment. Still, there is a constant threat that clearance inside the bearing may be compromised and that contaminants will significantly reduce the service life of the bearing and/or the lubricant. The final challenge is to make sure that the appropriate lubricant is used and that the proper amount is applied, as too much or too little can have negative consequences.

The solution

With SKF ConCentra roller bearing units, none of these issues apply. These robust, ready-to-mount bearing units are assembled, lubricated and sealed at the factory for maximum service life.

Just position the SKF ConCentra unit on the shaft, tighten the grub screws on the mounting collar and the patented concentric locking mechanism will maintain its near 360° hold on the shaft without the threat of shaft damage or fretting corrosion.

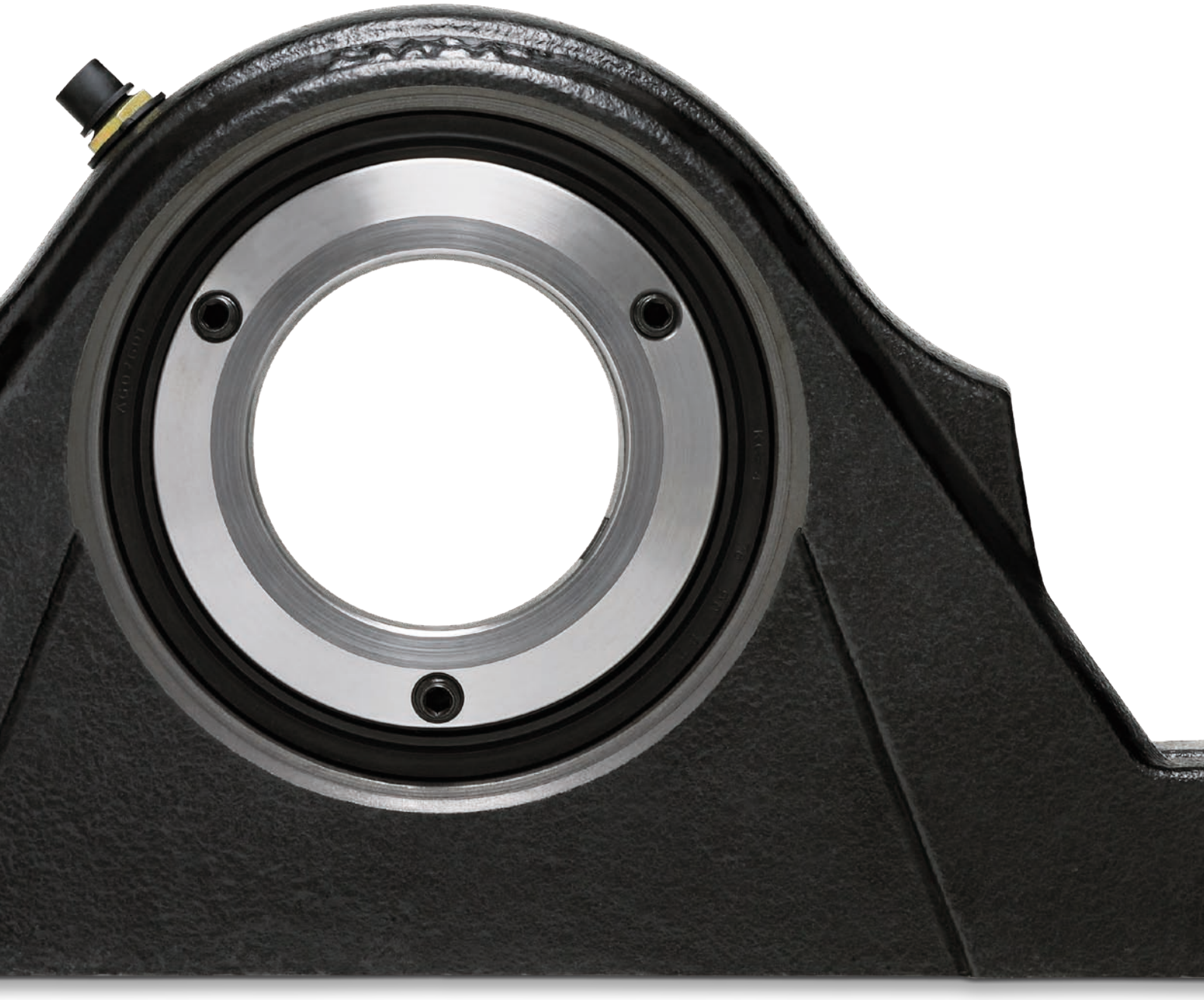
The benefits

SKF ConCentra roller bearing units can provide a number of benefits for OEMs and end users. With an SKF ConCentra roller bearing unit, there are no additional parts to order, inventory, or assembly.



Reduce installation time by 20 minutes per bearing arrangement

It takes time to locate the sleeve on the shaft, mount and adjust clearance in the bearing, tighten the sleeve nut, secure the locking washer, apply grease, install the seals and tighten the cap bolts. It is much easier and faster – about 20 minutes faster – to just unwrap an SKF ConCentra roller bearing unit, slide it on the shaft and tighten the grub screws on the mounting collar.



Improve reliability and extend bearing service life
With nothing to assemble, and no adjustments to make to the bearing, there are fewer things to go wrong once the unit is put into operation. These roller bearing units combine industrial strength and reliability with the convenience of "plug and play".

Reduce costs and contribute toward sustainability
SKF ConCentra roller bearing units do not need a separate sleeve. As a result, when compared to a sleeve mounted bearing in a split housing, a smaller bearing can be used. Using a smaller bearing has benefits that include, but are not limited to:

- Higher shaft speeds
- Lower lubricant consumption
- Extended maintenance intervals
- Reduced energy consumption

Designed for long service life and trouble-free operation

Robust components, robust design

SKF ConCentra roller bearing units are easy to install and remove because they combine SKF knowledge in the areas of bearings, seals, lubrication and housing design.

The bearing contained within each roller bearing unit is the same SKF Explorer spherical roller bearing that you currently use. The casting that houses the bearing has sweeping lines, nicely rounded corners and a smooth finish for easy cleaning. The design is modern, but the casting is far from delicate. These castings are as robust as comparably sized SKF split housings.

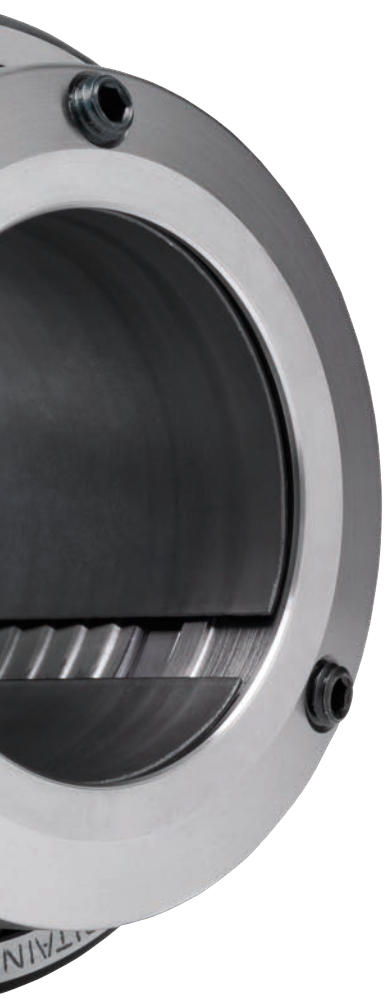
The locking technology virtually eliminates fretting corrosion

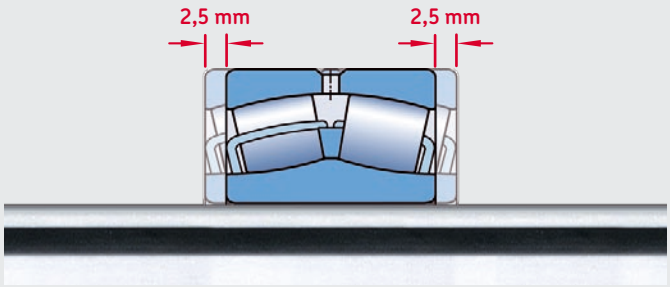
The patented SKF ConCentra stepped sleeve, a masterpiece of locking technology, is the real innovation behind the SKF ConCentra roller bearing unit. The locking concept is based on two mating surfaces, each containing precision-engineered inclined serrations. One set of serrations is machined into the bearing bore; the other set is machined into the shaft sleeve.

When the grub screws on the mounting collar are tightened, the bearing moves axially, forcing the shaft sleeve to contract evenly around the entire circumference of the shaft for a near perfect 360° grip.

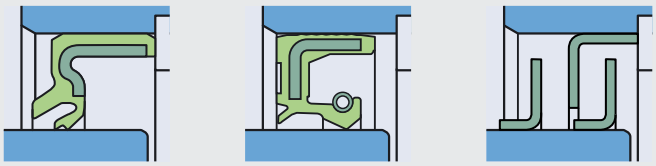
The near perfect 360° grip on the shaft virtually eliminates shaft damage and the possibility of fretting corrosion.







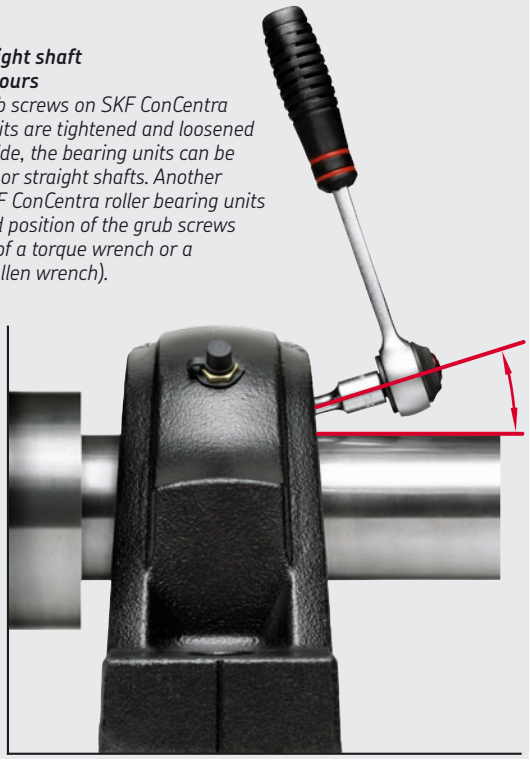
Locating and non-locating units available
Some applications, due to thermal expansion of the shaft, need to have a locating and non-locating bearing arrangement. Non-locating bearing units have enough axial space to accommodate up to 2,5 mm of movement in either direction.



General | Rugged | High-speed

Match the seals and variant to your application
With three seals to choose from, you can match the seals to the operating environment of your application to significantly increase the service life of the roller bearing unit. SKF also provides a relubrication-free variant, designed for relatively clean environments and light loads (P ≤ 0,05 C).

Stepped or straight shaft – the choice is yours
Because the grub screws on SKF ConCentra roller bearing units are tightened and loosened from the same side, the bearing units can be used on stepped or straight shafts. Another advantage of SKF ConCentra roller bearing units is that the angled position of the grub screws enables the use of a torque wrench or a hexagonal key (Allen wrench).



Housings designed for strength and accurate installation

Experience in the field has shown that if the attachment bolts are over-tightened or the support surface is not flat, the bore of a housing becomes distorted. To minimize the chance of distortion, which typically results in premature bearing failure, SKF designers reinforced the SKF ConCentra housing in all directions. In addition, they reinforced the area around the attachment bolts to minimize the risk of cracking caused by over-tightening.

Ribs in the base help strengthen the housing, but also enable better heat dissipation, while providing a solid flat surface for shims.

Marks reduce installation errors

To reduce alignment errors, centre lines cast into both ends of the housing indicate the centre of the bearing. Dimples cast into the housing also locate the position for dowel pin holes.









A wide assortment, a wide product range
The SKF ConCentra roller bearing unit assortment consists of locating and non-locating units – each with three seal options. Sizes can accommodate shaft diameters ranging from 35 to 100 mm. Every size is available in four variants; each is optimized for different operating conditions.

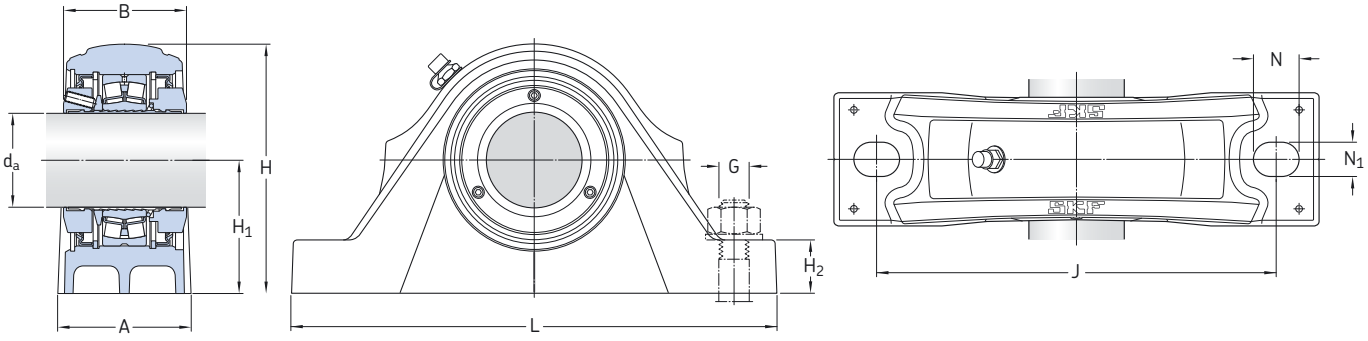


Everything you need in one box
Each SKF ConCentra roller bearing unit is completely assembled and ready to install. Each box also contains installation instructions and a hexagonal key to tighten the grub screws in the mounting collar.



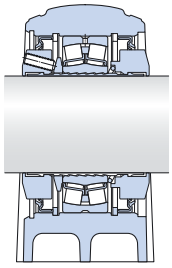
Flanged units open design options
SKF ConCentra triangular flanged roller bearing units are available for the locating and non-locating positions of your application. These units can accommodate shaft diameters ranging from 35 to 60 mm. Locating and non-locating rectangular flanged units can accommodate shaft diameters ranging from 65 to 100 mm.

SKF ConCentra roller bearing units in plummer block housings, series SYNT
d_a **35 – 100** mm



Shaft diam.	Bearing unit dimensions										Mass	Designations			
												General		High-speed	
d_a	A	B	H	H_1	H_2	J	L	N	N_1	G		Locating	Non-locating	Locating	Non-locating
mm	mm										kg	–			
35	60	65	111	60	25	170	205	20	15	12	3,8	**SYNT 35 F**	**SYNT 35 L**	**SYNT 35 FTS**	**SYNT 35 LTS**
40	60	65	115	60	25	170	205	20	15	12	3,9	**SYNT 40 F**	**SYNT 40 L**	**SYNT 40 FTS**	**SYNT 40 LTS**
45	60	65	120	60	25	170	205	20	15	12	4,5	**SYNT 45 F**	**SYNT 45 L**	**SYNT 45 FTS**	**SYNT 45 LTS**
50	70	65	131	70	28	210	255	24	18	16	5,7	**SYNT 50 F**	**SYNT 50 L**	**SYNT 50 FTS**	**SYNT 50 LTS**
55	70	65	135	70	30	210	255	24	18	16	6,3	**SYNT 55 F**	**SYNT 55 L**	**SYNT 55 FTS**	**SYNT 55 LTS**
60	80	71	150	80	30	230	275	24	18	16	7,5	**SYNT 60 F**	**SYNT 60 L**	**SYNT 60 FTS**	**SYNT 60 LTS**
65	80	71	160	80	30	230	280	24	18	16	8,5	**SYNT 65 F**	**SYNT 65 L**	**SYNT 65 FTS**	**SYNT 65 LTS**
70	90	71	180	95	32	260	315	28	22	20	11	**SYNT 70 F**	**SYNT 70 L**	**SYNT 70 FTS**	**SYNT 70 LTS**
75	90	71	180	95	32	260	320	28	22	20	11,6	**SYNT 75 F**	**SYNT 75 L**	**SYNT 75 FTS**	**SYNT 75 LTS**
80	100	86	200	100	35	290	345	28	22	20	15	**SYNT 80 F**	**SYNT 80 L**	**SYNT 80 FTS**	**SYNT 80 LTS**
90	110	86	230	112	40	320	380	32	26	24	20	**SYNT 90 F**	**SYNT 90 L**	**SYNT 90 FTS**	**SYNT 90 LTS**
100	120	86	255	125	45	350	410	32	26	24	25	**SYNT 100 F**	**SYNT 100 L**	**SYNT 100 FTS**	**SYNT 100 LTS**

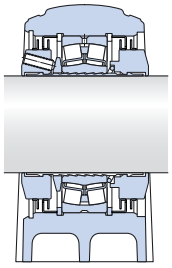
[1] Limiting speed for Relubrication-free unit please contact SKF for more information.



General

Locating bearing unit SYNT .. F

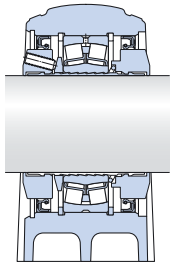
Non-locating bearing unit SYNT .. L



High-speed

Locating bearing unit SYNT .. FTS

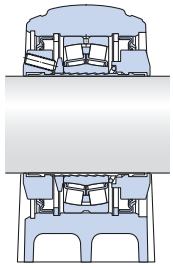
Non-locating bearing unit SYNT .. LTS



Rugged

Locating bearing unit SYNT .. FTF

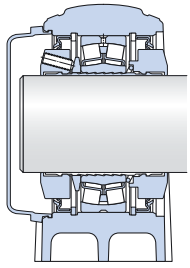
Non-locating bearing unit SYNT .. LTF



Relubrication-free

Locating bearing unit SYNT .. FW

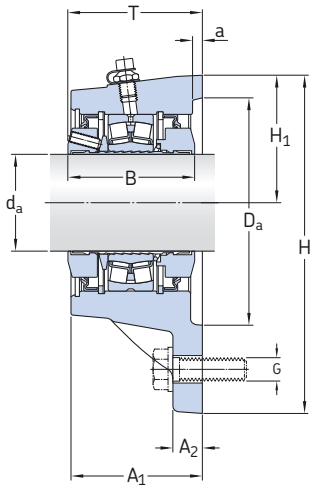
Non-locating bearing unit SYNT .. LW



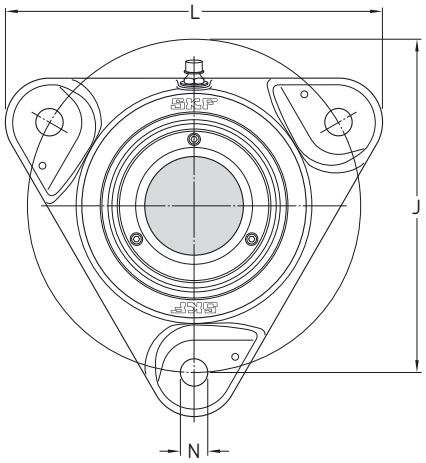
End cover

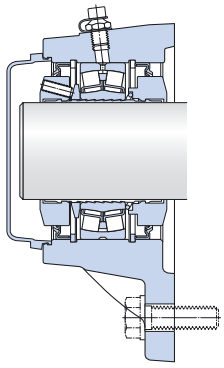
Rugged		**Relubrication free**		**Basic bearing designation**	**Basic load ratings** dynamic	static	**Limiting speeds**[1]			**End cover** Designation
Locating	Non-locating	Locating	Non-locating		C	C_0	General	High-speed	Rugged	
				–	kN		r/min			–
SYNT 35 FTF	**SYNT 35 LTF**	**SYNT 35 FW**	**SYNT 35 LW**	22207 E	86,5	85	4 100	6 500	2 050	ECY 207
SYNT 40 FTF	**SYNT 40 LTF**	**SYNT 40 FW**	**SYNT 40 LW**	22208 E	96,5	90	3 800	5 900	1 900	ECY 208
SYNT 45 FTF	**SYNT 45 LTF**	**SYNT 45 FW**	**SYNT 45 LW**	22209 E	102	98	3 500	5 400	1 750	ECY 209
SYNT 50 FTF	**SYNT 50 LTF**	**SYNT 50 FW**	**SYNT 50 LW**	22210 E	104	108	3 300	4 900	1 650	ECY 210
SYNT 55 FTF	**SYNT 55 LTF**	**SYNT 55 FW**	**SYNT 55 LW**	22211 E	125	137	3 100	4 500	1 550	ECY 211
SYNT 60 FTF	**SYNT 60 LTF**	**SYNT 60 FW**	**SYNT 60 LW**	22212 E	156	166	2 900	4 100	1 450	ECY 212
SYNT 65 FTF	**SYNT 65 LTF**	**SYNT 65 FW**	**SYNT 65 LW**	22213 E	193	216	2 700	3 800	1 350	ECY 213
SYNT 70 FTF	**SYNT 70 LTF**	**SYNT 70 FW**	**SYNT 70 LW**	22214 E	208	228	2 600	3 600	1 300	ECY 214
SYNT 75 FTF	**SYNT 75 LTF**	**SYNT 75 FW**	**SYNT 75 LW**	22215 E	212	240	2 500	3 300	1 250	ECY 215
SYNT 80 FTF	**SYNT 80 LTF**	**SYNT 80 FW**	**SYNT 80 LW**	22216 E	236	270	2 300	3 100	1 150	ECY 216
SYNT 90 FTF	**SYNT 90 LTF**	**SYNT 90 FW**	**SYNT 90 LW**	22218 E	325	375	2 100	2 800	1 050	ECY 218
SYNT 100 FTF	**SYNT 100 LTF**	**SYNT 100 FW**	**SYNT 100 LW**	22220 E	425	490	2 000	2 500	1 000	ECY 220

SKF ConCentra roller bearing units in flanged housings, series FYNT
d_a **35 – 100** mm



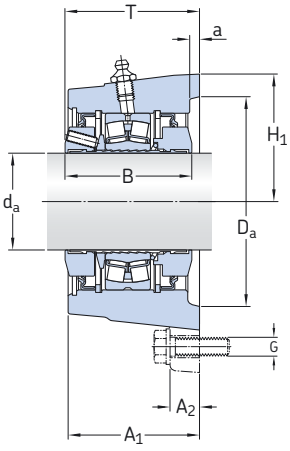
Housing design for shaft diameter 35–60 mm

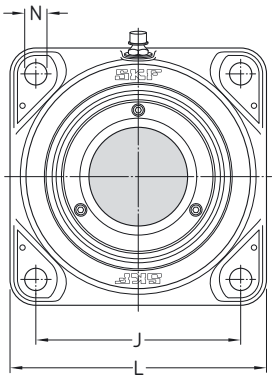


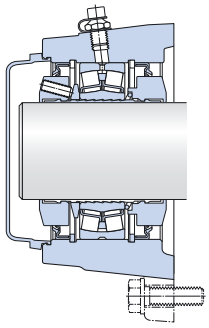


End cover

Shaft diam.	Bearing unit dimensions											Mass	Designations General	
d_a	A_1	A_2	T_{max}	B	H	H_1	J	L	G	D_a	a		Locating	Non-locating
mm	mm											kg	–	
35	67	12	72	65	143	54	140	160	12	90	4	2,6	**FYNT 35 F**	**FYNT 35 L**
40	67	12	72	65	160	60	160	179	12	100	4	3,3	**FYNT 40 F**	**FYNT 40 L**
45	67	15	72	65	160	60	160	179	12	100	5	3,7	**FYNT 45 F**	**FYNT 45 L**
50	67	15	72	65	172,5	65	170	192	12	105	5	4,6	**FYNT 50 F**	**FYNT 50 L**
55	67	15	72	65	189	72	180	210	12	120	5	6	**FYNT 55 F**	**FYNT 55 L**
60	73	15	78	71	203	78	190	225	12	130	5	6,9	**FYNT 60 F**	**FYNT 55 L**
65	73	25	78	71	–	95	152	190	16	150	6	10,3	**FYNT 65 F**	**FYNT 65 L**
70	73	25	78	71	–	98	152	196	16	150	6	10,6	**FYNT 70 F**	**FYNT 70 L**
75	73	25	78	71	–	105	170	210	16	170	6	12,2	**FYNT 75 F**	**FYNT 75 L**
80	88	25	93	86	–	105	170	210	16	170	7	15	**FYNT 80 F**	**FYNT 80 L**
90	88	30	93	86	–	125	198	250	20	200	6	18,2	**FYNT 90 F**	**FYNT 90 L**
100	88	30	93	86	–	135	219	270	20	220	6	23,9	**FYNT 100 F**	**FYNT 100 L**



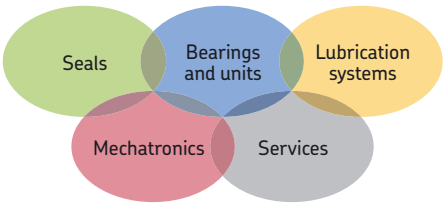




Housing design for shaft diameter 65–100 mm

End cover

Basic bearing designation	**Basic load ratings** dynamic C	static C_0	**Limiting speed** General	**End cover** Designation
–	kN		r/min	–
22207 E	86,5	85	4 100	ECY 207
22208 E	96,5	90	3 800	ECY 208
22209 E	102	98	3 500	ECY 209
22210 E	104	108	3 300	ECY 210
22211 E	125	137	3 100	ECY 211
22212 E	156	166	2 900	ECY 212
22213 E	193	216	2 700	ECY 213
22214 E	208	228	2 600	ECY 214
22215 E	212	240	2 500	ECY 215
22216 E	236	270	2 300	ECY 216
22218 E	325	375	2 100	ECY 218
22220 E	425	490	2 000	ECY 220



The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide.

These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems.

A global presence provides SKF customers uniform quality standards and universal product availability.

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