SKF Energy Efficient Y-bearings

Reduced friction for reduced energy use

Contents

SKF – the knowledge engineering company

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

Research and development

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

Meeting the toughest challenges

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

Working for a sustainable future

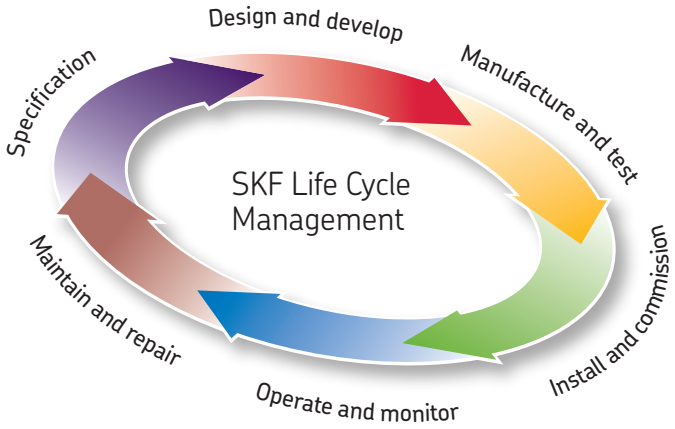
Since 2005, SKF has worked to reduce the negative environmental impact from our operations and those of our suppliers. Our continuing technology development resulted in the introduction of the SKF BeyondZero portfolio of products and services which improve efficiency and reduce energy losses, as well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

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

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

Our knowledge – your success

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



Working closely with you

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

Innovative solutions

Whether the application is linear or rotary or a combination, SKF engineers can work with you at each stage of the asset life cycle to improve machine performance by looking at the entire application. This approach doesn't just focus on individual components like bearings or seals. It looks at the whole application to see how each component interacts with each other.

Design optimization and verification

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

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

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

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

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

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

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

SKF Energy Efficient bearings

Engineered to promote sustainability

As the need to conserve energy becomes more important every day, any technology that enables even a small reduction in energy consumption is big news.

Drawing on over 100 years of engineering knowledge and unmatched expertise in the field of tribology and related sciences, SKF has created a new, low-friction performance class.

Reduce friction – reduce energy use

The SKF Energy Efficient (E2) performance class is characterized by a minimum 30% reduction in the bearing's frictional moment when compared to a same-size SKF basic design bearing. However, in laboratory tests, SKF E2 Y-bearings have been shown to reduce frictional losses by at least 50%. This significant reduction in frictional losses is due, in part, to a new contact seal and a new, low-friction grease.

Longer service life lowers cost of ownership

Optimized to reduce frictional losses, SKF Energy Efficient Y-bearings can last at least as long as the same-size SKF basic design bearings. Depending on the operating conditions, the bearings will run up to 30 °C (*55 °F*) cooler. This can extend the service life of the grease, offering the potential to prolong the service life of the bearing when grease life is limiting. SKF Energy Efficient bearings are dimensionally interchangeable with SKF basic design bearings enabling easy upgrades of existing applications as well as improving the energy efficiency of new applications. SKF E2 Y-bearings are available in the YAR 2, YET 2 and YSP 2 series in both metric and inch sizes.

Designations and package identification

The designations for SKF Energy Efficient Y-bearings follow the basic SKF designation system. However, the prefix "E2." has been added to avoid confusion. SKF E2 bearings are supplied in a new box marked SKF Energy Efficient bearing.

SKF Energy Efficient Y-bearings

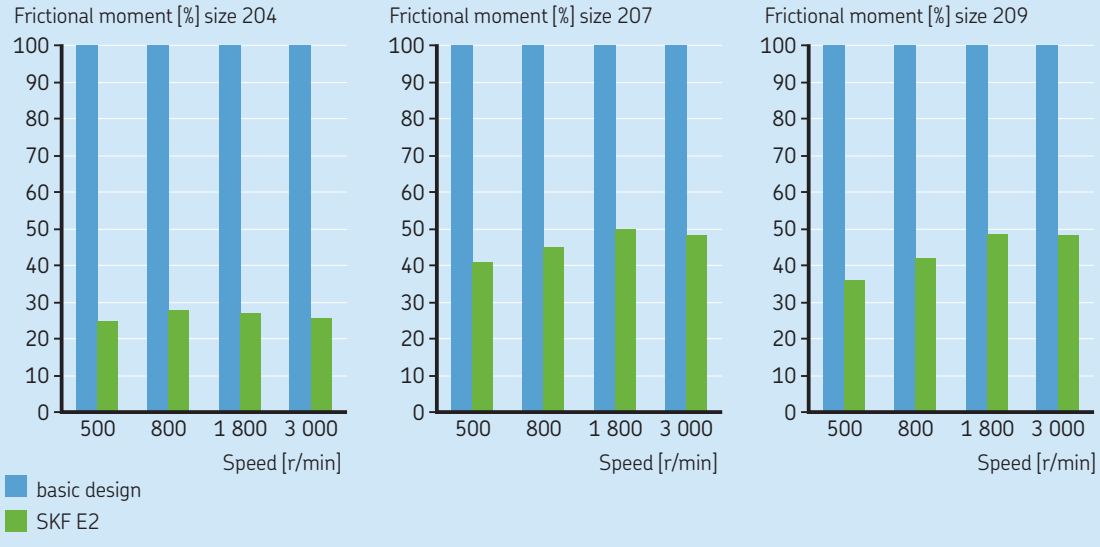
Test results

In tests conducted at SKF laboratories, the frictional moment and operating temperature of SKF Energy Efficient (E2) bearings were compared to same-size SKF basic design Y-bearings. The tests were designed to simulate common Y-bearing applications like industrial fans, conveyors and textile machines.

Frictional moment

The frictional moment of different size SKF E2 Y-bearings was measured at various speeds and compared to basic design SKF Y-bearings. The results (→ **diagram 1**) showed that for SKF E2 Y-bearings there was a reduction in the frictional moment of at least 50% and in some cases the reduction was as high as 75%.

Diagram 1



Operating temperature

In laboratory tests, the operating temperature of SKF E2 Y-bearings was compared to SKF basic design bearings under the same load and speed conditions.

The tests showed (→ **diagram 2**) that SKF E2 bearings, depending on their size, operate anywhere from 5 to 30 °C (*40 to 85 °F*) cooler than basic design bearings.

Grease service life

Reducing the operating temperature of a bearing has a significant impact on grease service life. As a rule of thumb, reducing the operating temperature by 15 °C *(59 °F)* doubles the service life of the grease. However, other factors that increase or decrease service life must be taken into consideration and include ambient and actual operating temperature, load, speed and misalignment. **Diagram 3** shows the influence of temperature on grease service life.

Diagram 2

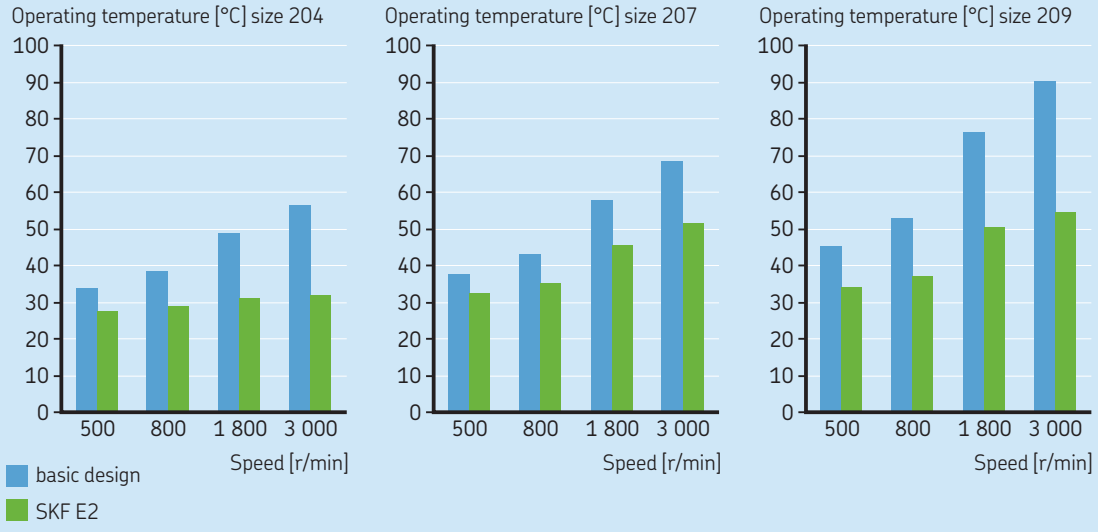
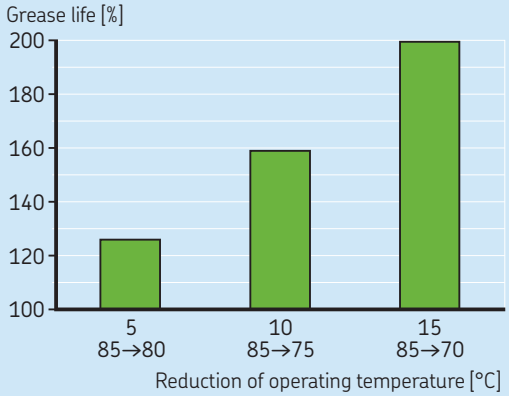


Diagram 3



Influence of operating temperature on grease service life

Technical recommendations

Main applications

SKF E2 Y-bearings are intended for those applications where reduced energy use is an important issue. Under normal operating conditions, these bearings have a considerably longer grease service life than an SKF standard design bearing. They can therefore also offer significantly reduced lubricant consumption where standard design bearings require relubrication. Typical applications include:

- industrial fans
- conveyors
- textile machinery

Calculating rated fatigue life for SKF bearings

The method used to calculate rated fatigue life is the same for both SKF E2 Y-bearings and basic design SKF Y-bearings. SKF recommends using the SKF rating life equations as described in the SKF Rolling bearings catalogue (Publication number 10 000) or online at www.skf.com.

Estimating grease service life

The service life of the grease in SKF Energy Efficient Y-bearings can be estimated using **diagram 4**. The estimate is based on an L_{10} grease life. This is defined as the period of time, at the end of which, 90% of a sufficiently large group of virtually identical bearings are still reliably lubricated.

The diagram provides grease life estimates based on operating temperature and speed and is valid under the following operating conditions:

- horizontal shaft
- very light to moderate loads (P ≤ 0,05 C)
- stationary machine
- low vibration levels

If operating conditions differ, the grease life obtained from the diagram has to be adjusted as follows:

- For vertical shafts, use 50% of the value from the diagram
- For heavier loads (P > 0,05 C), use the reduction factors listed in **table 1**

The values for adjusting grease life are guideline values only and should not be used as a substitute for testing the bearing and grease in its application.

For additional information, refer to the chapter *Lubrication* in the SKF rolling bearings catalogue (Publication number 10 000) or contact the SKF application engineering service.

Table 1

Reduction factor for the grease life, depending on the load

Load P	Reduction factor
≤ 0,05 C	1
0,1 C	0,7
0,125 C	0,5
0,25 C	0,2

Relubrication

Due to the effectiveness of the seal combined with lower operating temperatures, grease service life exceeds the SKF rating life of SKF E2 Y-bearings under normal operating conditions. They are therefore considered to be relubrication-free.

Relubrication can, however, extend bearing service life when grease service life would otherwise be limiting for example where:

- The bearings operate in a highly contaminated environment
- The bearings are under loads in excess of P = 0.05 C
- The bearings operate at high speeds and/or at temperatures above 75 °C *(170 °F)* for extended periods
- The bearings are subjected to high vibration levels

SKF Energy Efficient Y-bearings can be relubricated through the lubrication holes positioned 120° apart on the outer ring.

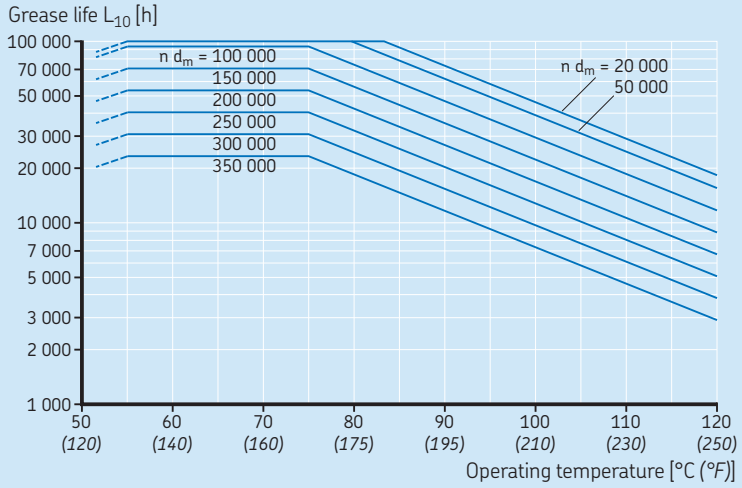
To maintain the benefits of the SKF Energy Efficient performance class, SKF E2 Y-bearings should be relubricated with SKF LEGE 2 low-friction grease.

When relubricating, the shaft should be turned and grease should be pumped slowly until fresh grease starts to escape from the seal(s).

NOTE: Pumping too quickly can build up excessive pressure and damage the seals.

Diagram 4

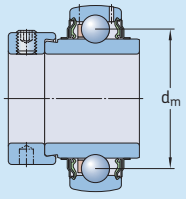
Grease life for SKF Energy Efficient Y-bearings
where load P = 0,05 C



n = rotational speed [r/min]
d_m = mean diameter [mm] → **table 2**

Table 2

Bearing mean diameter d_m



Bearing size[1]	Bearing mean diameter d_m
–	mm
03	28,5
04	33,5
05	39
06	46
07	53,5
08	60
09	65
10	70
11	77,5
12	85
13	92,5
14	97,5
15	102,5
16	110
17	117,5
18	126
20	141

[1] For example: bearing size 06 includes all bearings based on a Y 206 bearing, such as E2.YAR 206-2F, E2.YAR 206-101-2F, E2.YAR 206-102-2F, E2.YAR 206-103-2F, E2.YAR 206-104-2F

Product data

SKF Energy Efficient (E2) Y-bearings are available in three different series with different locking methods. E2.YAR 2 bearings, with the grub screw locking method, and E2.YET 2, with the eccentric collar locking method, are available for metric shafts from 20 to 45 mm and for inch shafts from 3/4 to 1 3/4 for inches. E2.YSP 2 bearings, with the SKF ConCentra locking method, are available for metric shafts from 25 to 45 mm and for inch shafts from 1 to 1 11/16 inches.

Additions to the assortment will be based on customer demand. For the most up-to-date information, contact your local SKF representative or visit www.skf.com/bearings.

Designs

Seals and grease fill

SKF Energy Efficient Y-bearings are supplied with a new low-friction contact seal.

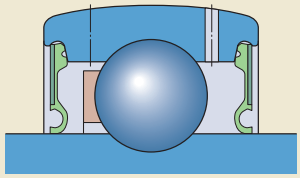
The seal is fitted in the recess on the bearing outer ring and seals against the inner ring shoulder. The new seal is made from acrylonitrile-butadiene rubber and reinforced with a sheet steel insert.

The seal lip, which has a thin and flexible design, minimizes the frictional moment, while effectively protecting the bearing from contaminants. The sheet steel insert protects against solid contaminants.

Bearings in the E2.YAR 2 and E2.YSP 2 series use the new low-friction contact seal design but also have a plain sheet steel flinger on the outboard side of the seal. The flinger, which has an interference fit on the inner ring, further protects the seal lip without increasing friction.

SKF Energy Efficient Y-bearings are supplied filled with a special low-noise, low-friction SKF grease (→ **table 3**).

Fig. 1

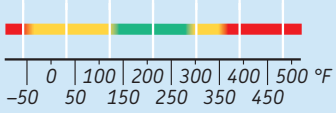


Cages

SKF Energy Efficient Y-bearings are fitted with a ball centred snap-type cage made of a glass fibre reinforced composite polymer.

Table 3

Technical specifications of SKF GE2 grease

Grease	Temperature range[1)]	Thickener	Base oil type	NLGI consistency class	Base oil viscosity [mm²/s] at 40 °C (105 °F)	at 100 °C (210 °F)
	–50 0 50 100 150 200 250 °C					
GE2		Lithium soap	Synthetic	2	25	4,9

[1)] Refer to the SKF traffic light concept → **www.skf.com/bearings**

Bearing data

Dimensions and tolerances

SKF Energy Efficient Y-bearings are dimensionally interchangeable with basic design SKF Y-bearings and are manufactured according to the precision class defined in ISO 9628.

Load carrying capacity

SKF Energy Efficient Y-bearings have the same basic dynamic and static load ratings as same-size SKF basic design Y-bearings.

Permissible speeds

SKF Energy Efficient Y-bearings should not operate above the limiting speeds listed in the product tables. For Y-bearings with grub screws or an eccentric locking collar, the permissible speed is influenced by the shaft tolerance. When using these bearings on shafts with wider tolerances than h6, compare the speed values listed in the product tables with those in **table 4**. The lower value is the permissible speed.

For applications operating at higher speeds or when low vibration levels or quiet running are required, SKF recommends using SKF E2 bearings with SKF ConCentra locking technology.

Internal clearance

SKF Energy Efficient Y-bearings in the YAR 2 and YET 2 series are manufactured with a radial internal clearance in accordance with ISO 9628: Group N. SKF Energy Efficient Y-bearings in the YSP 2 series are manufactured with a radial internal clearance in accordance with ISO 9628: Group 3 (→ **table 5**).

Table 4

Permissible speeds for E2 Y-bearings with grub screws or an eccentric locking collar

Bearing size[1]	**Permissible speed** for shafts machined to tolerance class			
	h7Ⓔ	h8Ⓔ	h9Ⓔ	h11Ⓔ
–	r/min			
04	5 300	3 800	1 300	850
05	4 500	3 200	1 000	700
06	4 000	2 800	900	630
07	3 400	2 200	750	530
08	3 000	1 900	670	480
09	2 600	1 700	600	430

[1] For example: bearing size 06 includes all bearings based on a Y 206 bearing, such as E2.YAR 206-2F, E2.YAR 206-101-2F, E2.YAR 206-102-2F, E2.YAR 206-103-2F, E2.YAR 206-104-2F

Table 5

Radial internal clearance for E2 Y-bearings

Bearing size[1]		**Radial internal clearance of Y-bearings in the series**			
		E2.YAR 2, E2.YET 2		**E2.YSP 2**	
from	to	min.	max.	min.	max.
–		µm			
04	**04**	12	28	–	–
05	**06**	12	28	23	41
07	**08**	13	33	28	46
09		14	36	30	51

Locking methods

The SKF Energy Efficient Y-bearings are available with three different locking methods.

Grub screw locking

This locking method is based on two grub (set) screws positioned 120° apart on the inner ring (→ **fig. 2**). The lock is achieved by tightening the two cup point hexagonal grub screws to the recommended torque value. This method enables very easy mounting and dismounting, even if space is limited. This locking method is typically used in applications where the direction of rotation alternates.

Eccentric locking collar

Y-bearings with an eccentric locking collar are intended primarily for use in applications where the direction of rotation is constant. On one side, the extended inner ring of the bearing has an eccentric step. The step accommodates the locking collar. Turning the locking collar in the direction of rotation locks the collar and bearing onto the shaft. A single grub screw further secures the collar to the shaft.

The SKF ConCentra locking method

SKF ConCentra Y-bearings have an inner ring symmetrically extended on both sides (→ **fig. 11**). The patented SKF ConCentra locking technology is based on the expansion and contraction of two mating surfaces: the bearing bore and the external surface of the stepped sleeve. Both surfaces have precision-engineered serrations.

When the grub screws in the mounting collar are tightened, the inner ring is displaced axially relative to the stepped sleeve (→ **fig. 12**). This forces the bearing inner ring to expand and the stepped sleeve to contract evenly, providing a true concentric fit on the shaft. SKF ConCentra Y-bearings provide an easy, quick and reliable way to lock a bearing onto a shaft.

The true concentric fit on the shaft reduces noise and vibration levels and virtually eliminates fretting corrosion. Even more important is that the fit on the shaft does not loosen, even in applications where there are heavy loads and/or high speeds. The shaft tolerance does not limit the permissible bearing speed and the full limiting speed can be achieved, even when using commercial grade shafts. The bearings can be used in applications for both constant and alternating direction of rotation.

Mounting and dismounting

When mounting Y-bearings on a shaft, suitable tools should be used. For SKF ConCentra Y-bearings, mounting kits are available from SKF (designation 626830), which include mounting instructions, hexagonal keys and torque indicators. SKF ConCentra mounting kits have to be ordered separately from the bearing or unit.

For additional information about mounting and dismounting SKF ConCentra Y-bearings, refer to the *mounting instructions* and also the *SKF ConCentra ball bearings and units brochure (PUB 12227 – 2012)*.

Fig. 2

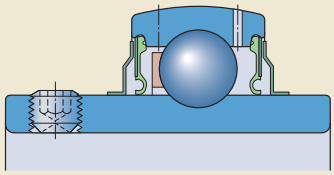


Fig. 3

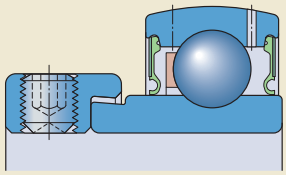
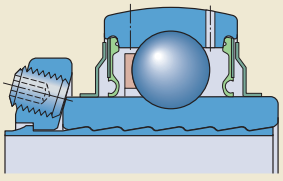
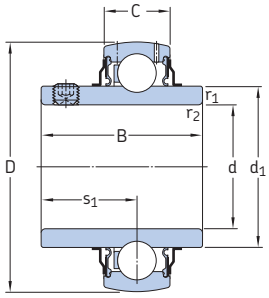


Fig. 4

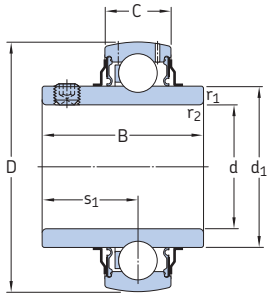


Y-bearings with grub screws, metric shafts
d 20 – 45 mm



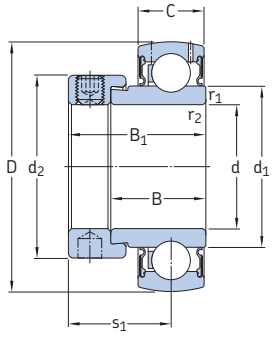
Dimensions							Basic load ratings		Fatigue load limit	Limiting speed	Mass	Designation
							dynamic	static		with shaft tolerance		
d	D	B	C	d_1	s_1	$r_{1,2}$	C	C_0	P_u	h6		
mm						min	kN		kN	r/min	kg	–
20	47	31	14	28,2	18,3	0,6	12,7	6,55	0,28	8 500	0,14	**E2.YAR 204-2F**
25	52	34,1	15	33,7	19,8	0,6	14	7,8	0,335	7 000	0,19	**E2.YAR 205-2F**
30	62	38,1	18	39,7	22,2	0,6	19,5	11,2	0,475	6 300	0,30	**E2.YAR 206-2F**
35	72	42,9	19	46,1	25,4	1	25,5	15,3	0,655	5 300	0,44	**E2.YAR 207-2F**
40	80	49,2	21	51,8	30,2	1	30,7	19	0,8	4 800	0,59	**E2.YAR 208-2F**
45	85	49,2	22	56,8	30,2	1	33,2	21,6	0,915	4 300	0,65	**E2.YAR 209-2F**

Y-bearings with grub screws, inch shafts
d 3/4 – 1.3/4 in.



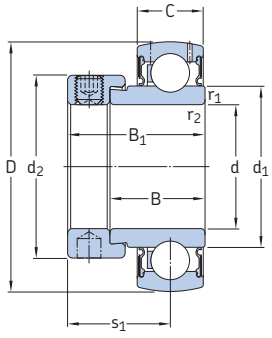
Dimensions							Basic load ratings		Fatigue load limit	Limiting speed	Mass	Designation
							dynamic	static		with shaft tolerance		
d	D	B	C	d_1	s_1	$r_{1,2}$	C	C_0	P_u	h6		
in./mm	mm					min	kN		kN	r/min	kg	–
3/4 19,05	47	31	14	28,2	18,3	0,6	12,7	6,55	0,28	8 500	0,14	**E2.YAR 204-012-2F**
7/8 22,225	52	34,1	15	33,7	19,8	0,6	14	7,8	0,335	7 000	0,21	**E2.YAR 205-014-2F**
15/16 23,813	52	34,1	15	33,7	19,8	0,6	14	7,8	0,335	7 000	0,2	**E2.YAR 205-015-2F**
1 25,4	52	34,1	15	33,7	19,8	0,6	14	7,8	0,335	7 000	0,18	**E2.YAR 205-100-2F**
1 1/16 26,988	62	38,1	18	39,7	22,2	0,6	19,5	11,2	0,475	6 300	0,34	**E2.YAR 206-101-2F**
1 1/8 28,575	62	38,1	18	39,7	22,2	0,6	19,5	11,2	0,475	6 300	0,32	**E2.YAR 206-102-2F**
1 3/16 30,163	62	38,1	18	39,7	22,2	0,6	19,5	11,2	0,475	6 300	0,29	**E2.YAR 206-103-2F**
1 1/4 31,75	62 72	38,1 42,9	18 19	39,7 46,1	22,2 25,4	0,6 1	19,5 25,5	11,2 15,3	0,475 0,655	6 300 5 300	0,27 0,5	**E2.YAR 206-104-2F** **E2.YAR 207-104-2F**
1 5/16 33,338	72	42,9	19	46,1	25,4	1	25,5	15,3	0,655	5 300	0,47	**E2.YAR 207-105-2F**
1 3/8 34,925	72	42,9	19	46,1	25,4	1	25,5	15,3	0,655	5 300	0,44	**E2.YAR 207-106-2F**
1 7/16 36,513	72 80	42,9 49,2	19 21	46,1 51,8	25,4 30,2	1 1	25,5 30,7	15,3 19	0,655 0,8	5 300 4 800	0,41 0,68	**E2.YAR 207-107-2F** **E2.YAR 208-107-2F**
1 1/2 38,1	80 85	49,2 49,2	21 22	51,8 56,8	30,2 30,2	1 1	30,7 33,2	19 21,6	0,8 0,915	4 800 4 300	0,64 0,82	**E2.YAR 208-108-2F** **E2.YAR 209-108-2F**
1 9/16 39,688	80	49,2	21	51,8	30,2	1	30,7	19	0,8	4 800	0,6	**E2.YAR 208-109-2F**
1 5/8 41,275	85	49,2	22	56,8	30,2	1	33,2	21,6	0,915	4 300	0,75	**E2.YAR 209-110-2F**
1 11/16 42,863	85	49,2	22	56,8	30,2	1	33,2	21,6	0,915	4 300	0,71	**E2.YAR 209-111-2F**
1 3/4 44,45	85	49,2	22	56,8	30,2	1	33,2	21,6	0,915	4 300	0,67	**E2.YAR 209-112-2F**

Y-bearings with an eccentric locking collar, metric shafts
d 20 – 45 mm



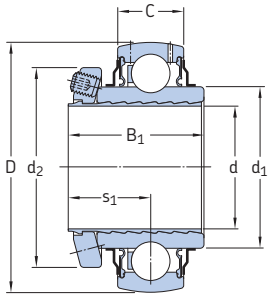
Dimensions									Basic load ratings		Fatigue load limit	Limiting speed	Mass	Designation
									dynamic	static		with shaft tolerance		
d	D	B	B_1	C	d_1	d_2	s_1	$r_{1,2}$	C	C_0	P_u	h6		
mm								min	kN		kN	r/min	kg	–
20	47	21,5	31	14	28,2	32,4	24,0	0,6	12,7	6,55	0,28	8 500	0,16	**E2.YET 204**
25	52	21,5	31	15	33,7	37,4	23,5	0,6	14	7,8	0,335	7 000	0,19	**E2.YET 205**
30	62	23,8	35,7	18	39,7	44,1	26,7	0,6	19,5	11,2	0,475	6 300	0,30	**E2.YET 206**
35	72	25,4	38,9	19	46,1	51,1	29,4	1	25,5	15,3	0,655	5 300	0,44	**E2.YET 207**
40	80	30,2	43,7	21	51,8	56,5	33,2	1	30,7	19	0,8	4 800	0,60	**E2.YET 208**
45	85	30,2	43,7	22	56,8	62	32,7	1	33,2	21,6	0,915	4 300	0,66	**E2.YET 209**

Y-bearings with an eccentric locking collar, inch shafts
d 3/4 – 1. 3/4 in.



Dimensions									Basic load ratings		Fatigue load limit	Limiting speed	Mass	Designation
									dynamic	static		with shaft tolerance		
d	D	B	B_1	C	d_1	d_2	s_1	$r_{1,2}$	C	C_0	P_u	h6		
in./mm	mm							min	kN		kN	r/min	kg	–
3/4 19,05	47	21,5	31	14	28,2	32,4	24	0,6	12,7	6,55	0,28	8 500	0,16	**E2.YET 204-012**
1 25,4	52	21,5	31	15	33,7	37,4	23,5	0,6	14	7,8	0,335	7 000	0,18	**E2.YET 205-100**
1 1/8 28,575	62	23,8	35,7	18	39,7	44,1	26,7	0,6	19,5	11,2	0,475	6 300	0,32	**E2.YET 206-102**
1 3/16 30,163	62	23,8	35,7	18	39,7	44,1	26,7	0,6	19,5	11,2	0,475	6 300	0,3	**E2.YET 206-103**
1 1/4 31,75	62 72	23,8 25,4	35,7 38,9	18 19	39,7 46,1	44,1 51,1	26,7 29,4	0,6 1	19,5 25,5	11,2 15,3	0,475 0,655	6 300 5 300	0,27 0,48	**E2.YET 206-104** **E2.YET 207-104**
1 3/8 34,925	72	25,4	38,9	19	46,1	51,1	29,4	1	25,5	15,3	0,655	5 300	0,43	**E2.YET 207-106**
1 7/16 36,513	72	25,4	38,9	19	46,1	51,1	29,4	1	25,5	15,3	0,655	5 300	0,4	**E2.YET 207-107**
1 1/2 38,1	80	30,2	43,7	21	51,8	56,5	33,2	1	30,7	19	0,8	4 800	0,62	**E2.YET 208-108**
1 11/16 42,863	85	30,2	43,7	22	56,8	62	32,7	1	33,2	21,6	0,915	4 300	0,69	**E2.YET 209-111**
1 3/4 44,45	85	30,2	43,7	22	56,8	62	32,7	1	33,2	21,6	0,915	4 300	0,65	**E2.YET 209-112**

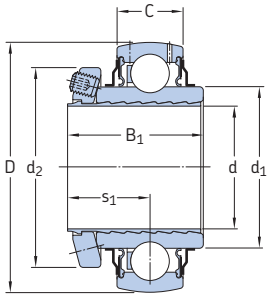
SKF ConCentra ball bearing, metric shafts
d 25 – 45 mm



Dimensions							Basic load ratings		Fatigue load limit	Limiting speed	Mass	Designation
							dynamic	static				
d	D	B_1[1)]	C	d_1	d_2	s_1[1)]	C	C_0	P_u			
mm		–		–			kN		kN	r/min	kg	–
25	52	33	15	33,7	41,7	21,0	14	7,8	0,335	7 000	0,18	**E2.YSP 205 SB-2F**
30	62	37	18	39,7	48	23,0	19,5	11,2	0,475	6 300	0,3	**E2.YSP 206 SB-2F**
35	72	39,5	19	46,1	57	24,3	25,5	15,3	0,655	5 300	0,44	**E2.YSP 207 SB-2F**
40	80	42,9	21	51,8	62	25,9	30,7	19	0,8	4 800	0,59	**E2.YSP 208 SB-2F**
45	85	44	22	56,8	67	26,5	33,2	21,6	0,915	4 300	0,64	**E2.YSP 209 SB-2F**

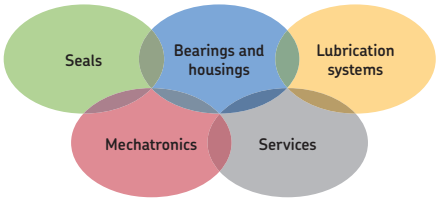
1) Width/distance before the grub screw is tightened (sleeve and inner ring bore at starting position).

SKF ConCentra ball bearing, inch shafts
d 1 – 1.1/16 in.



Dimensions							Basic load ratings		Fatigue load limit	Limiting speed	Mass	Designation
							dynamic	static				
d	D	B_1[1]	C	d_1	d_2	s_1[1]	C	C_0	P_u			
in./mm	mm						kN			r/min	kg	–
1 25,4	52	33	15	33,7	41,7	21	14	7,8	0,335	7 000	0,18	**E2.YSP 205-100 SB-2F**
1 3/16 30,163	62	37	18	39,7	48	23	19,5	11,2	0,475	6 300	0,29	**E2.YSP 206-103 SB-2F**
1 1/4 31,75	72	39,5	19	46,1	57	24,3	25,5	15,3	0,655	5 300	0,49	**E2.YSP 207-104 SB-2F**
1 3/8 34,925	72	39,5	19	46,1	57	24,3	25,5	15,3	0,655	5 300	0,44	**E2.YSP 207-106 SB-2F**
1 7/16 36,513	72	39,5	19	46,1	57	24,3	25,5	15,3	0,655	5 300	0,41	**E2.YSP 207-107 SB-2F**
1 1/2 38,1	80	42,9	21	51,8	62	25,9	30,7	19	0,8	4 800	0,58	**E2.YSP 208-108 SB-2F**
1 11/16 42,863	85	44	22	56,8	67	26,5	33,2	21,6	0,915	4 300	0,69	**E2.YSP 209-111 SB-2F**

[1] Width/distance before the grub screw is tightened (sleeve and inner ring bore at starting position).



The Power of Knowledge Engineering
Combining products, people, and application-specific knowledge, SKF delivers innovative solutions to equipment manufacturers and production facilities in every major industry worldwide. Having expertise in multiple competence areas supports SKF Life Cycle Management, a proven approach to improving equipment reliability, optimizing operational and energy efficiency and reducing total cost of ownership.

These competence areas include bearings and units, seals, lubrication systems, mechatronics, and a wide range of services, from 3-D computer modelling to cloud-based condition monitoring and asset management services.

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SKF BeyondZero is more than our climate strategy for a sustainable environment: it is our mantra; a way of thinking, innovating and acting.

For us, SKF BeyondZero means that we will reduce the negative environmental impact from our own operations and at the same time, increase the positive environmental contribution by offering our customers the SKF BeyondZero portfolio of products and services with enhanced environmental performance characteristics.

For inclusion in the SKF BeyondZero portfolio, a product, service or solution must deliver significant environmental benefits without serious environmental trade-offs.

The SKF Energy Efficient Y-bearings are included in the SKF Beyond Zero portfolio because their low friction significantly reduces energy use and thus CO_2 emission.

Find out more about SKF Energy Efficient (E2) Y-bearings.

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