# 2 Y-bearings (insert bearings)

# Designs and variants

Y-bearings (insert bearings) are based on sealed deep groove ball bearings in the 62 and 63 series. Y-bearings typically have a sphered (convex) outside surface and an extended inner ring (→ **fig. 1**) with different locking devices to enable quick and easy mounting onto the shaft. The various Y-bearing series differ in the way the bearing is locked onto the shaft:

- with grub (set) screws (→ **fig. 2**)
- with an eccentric locking collar (→ **fig. 3**)
- with SKF ConCentra locking technology (→ **fig. 4**)
- with an adapter sleeve (→ **fig. 5**)
- with an interference fit (→ **fig. 6**)

The standard SKF Y-bearing assortment includes application specific variants:

- bearings made of stainless steel or with zinc-coated rings for the food industry (→ **page 424**)
- bearings for agricultural applications (→ **page 435**)
- bearings for extreme temperatures (→ **page 1169**)
- bearings with Solid Oil (→ **page 1185**)
- SKF DryLube bearings (→ **page 1191**)

Other variants are available on request. These include Y-bearings with:

- a cylindrical outer ring
- a customized design or dimensions
- a hexagonal or square bore
- a special cage
- special grease and special grease quantity
- a special coating

For additional information about these variants, contact the SKF application engineering service.

#### Y-bearing units

SKF also supplies a wide variety of Y-bearing units, but are not listed in this rolling bearing catalogue. For information about Y-bearing units, refer to the SKF catalogue *Y-bearings and Y-bearing units* or the product information available online at skf.com/bearings.

**More information**



Fig. 1

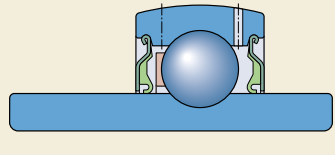


Fig. 4

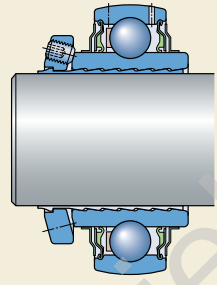


Fig. 2

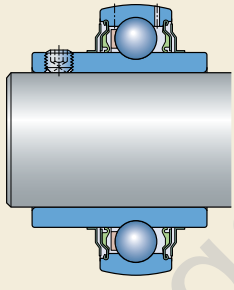


Fig. 5

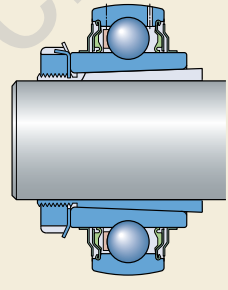


Fig. 3

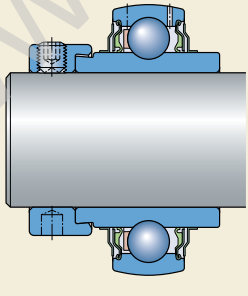
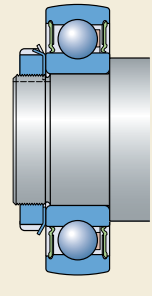


Fig. 6



## Y-bearings with grub screws

Y-bearings with grub (set) screws in the inner ring are locked onto the shaft by tightening the two cup point hexagonal grub screws, positioned 120° apart. These bearings are suitable for applications for both constant and alternating direction of rotation.

### Basic design bearings

Two different basic design Y-bearings with grub screws are available.

Y-bearings in the YAT 2 series (→ **fig. 7**) have an inner ring extended on one side.

Y-bearings in the YAR 2 series (→ **fig. 8**) have an inner ring extended on both sides. This reduces the extent to which the inner ring can tilt on the shaft, which enables the bearing to run more smoothly.

Bearings in both the YAT 2 and YAR 2 series are fitted with a rugged standard seal (→ *Standard seals*, **page 429**). Bearings in the YAR 2 series are fitted with an additional flinger on both sides. Flinger options are:

- a plain sheet steel flinger, designation suffix 2F
- a rubberized sheet steel flinger (multiple seal), designation suffix 2RF

Y-bearings in the YAT 2 and YAR 2 series have two lubrication holes in the outer ring as standard, one on each side, positioned 120° apart. Bearings without lubrication holes can be supplied on request (designation suffix W).

SKF YAT 2 and YAR 2 series bearings are available for metric shafts from 12 to 100 mm and for inch shafts from 1/2 to 3 inches.

### Bearings with zinc-coated rings

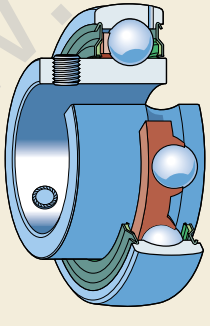
Y-bearings with an inner ring extended on both sides are also available with zinc-coated rings for use in corrosive environments. Bearings in the YAR 2..-2RF/VE495 series are fitted with a highly effective multiple seal (→ *Multiple seals*, **page 429**) made of food-compatible rubber with a stainless steel insert and a stainless steel flinger on both sides. The grub screws are made of stainless steel. The bearings are filled with a food-grade grease and can be relubricated through one of the two lubrication holes in the outer ring. The lubrication holes are positioned 120° apart, one on each side.

SKF Y-bearings with zinc-coated rings are available for metric shafts from 20 to 50 mm and for inch shafts from 3/4 to 1 15/16 inches.

### Stainless steel bearings

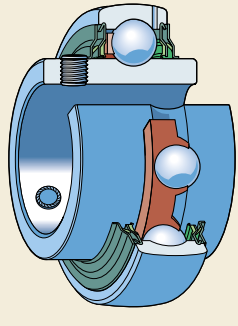
All steel components of these bearings are made of stainless steel, including rings, balls, sheet metal parts of both seals and flingers, and grub screws. The inner ring is extended on both sides. Bearings in the YAR 2..-2RF/HV series are fitted with a highly effective multiple seal (→ *Multiple seals*, **page 429**) made of food-compatible rubber with a stainless steel insert and a stainless steel flinger on both sides. They are filled with a food-grade grease and can be relubricated through the lubrication

Fig. 7



YAT 2

Fig. 8



YAR 2

hole in the outer ring groove. This lubrication groove is located on the side opposite the locking device.

The dynamic load carrying capacity of a stainless steel bearing is less than that of a same-sized bearing made of high grade carbon chromium steel.

SKF stainless steel Y-bearings are available for metric shafts from 20 to 50 mm and for inch shafts from 3/4 to 1 15/16 inches.

## Y-bearings with an 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 eccentric collar is zinc-coated for bearings with a metric bore and black oxidized for bearings with an inch bore. There are two standard series available from SKF.

Y-bearings in the YET 2 series have an inner ring extended on one side (→ **fig. 9**).

Y-bearings in the YEL 2 series have an inner ring extended on both sides (→ **fig. 10**). This reduces the extent to which the inner ring can tilt on the shaft, which enables the bearing to run more smoothly.

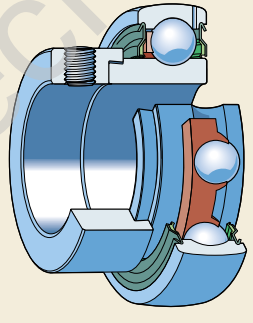
Bearings in both the YET2 and YEL 2 series are fitted with a rugged standard seal (→ *Standard seals*, **page 429**). Bearings in the YEL 2 series are fitted with an additional flinger on both sides. Flinger options are:

- a plain sheet steel flinger, designation suffix 2F
- a rubberized sheet steel flinger (multiple seal), designation suffix 2RF/VL065

Y-bearings in the YET 2 and YEL 2 series have two lubrication holes in the outer ring as standard, one on each side, positioned 120° apart. Bearings without lubrication holes can be supplied on request (designation suffix W).

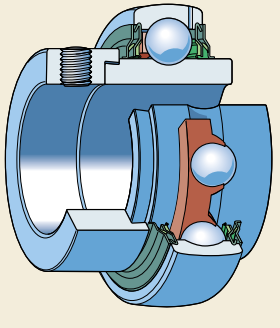
SKF Y-bearings with an eccentric locking collar are available for metric shafts from 15 to 60 mm and for inch shafts from 1/2 to 2 7/16 inches.

**Fig. 9**



YET 2

**Fig. 10**



YEL 2

## SKF ConCentra Y-bearings

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 provides low 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.

SKF ConCentra Y-bearings, series designation YSP 2, are equipped with a rugged standard seal on both sides, fitted with additional plain sheet steel flingers (→ *Standard seals with additional flingers*, **page 429**). The outer ring has two lubrication holes as standard, one on each side, positioned 120° apart. Bearings without lubrication holes can be supplied on request (designation suffix W).

SKF Y-bearings in the YSP 2 series are available for metric shafts from 25 to 60 mm and for inch shafts from 1 to 2 $^{11}/_{16}$ inches.

Fig. 11

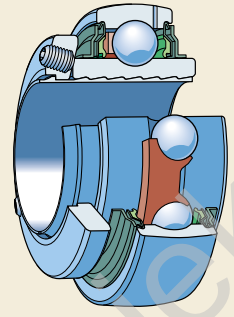
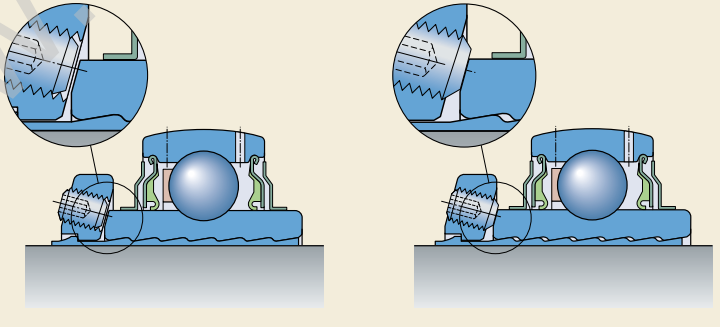


Fig. 12



Prior to installation

After installation

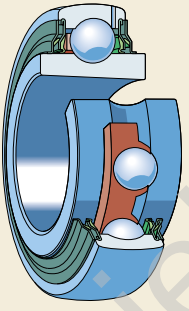
## Y-bearings with a tapered bore

Y-bearings with a tapered bore (→ **fig. 13**) have an inner ring symmetrically extended on both sides and a tapered bore (taper 1:12) enabling them to be mounted on a standard H 23 series adapter sleeve. Mounting onto an adapter sleeve enables the bearings to run smoothly 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. The appropriate adapter sleeve is not part of the bearing and must be ordered separately.

Y-bearings with a tapered bore, series designation YSA 2, are equipped with a rugged standard seal, fitted with an additional plain sheet steel flinger on both sides (→ *Standard seals with additional flingers*, **page 429**). The outer ring has two lubrication holes as standard, one on each side, positioned 120° apart. Bearings without lubrication holes can be supplied on request (designation suffix W).

SKF Y-bearings in the YSA 2 series are available with bore diameters ranging from 25 to 65 mm, which fit adapter sleeves in the H 23 series for metric shafts ranging from 20 to 60 mm. These bearings can also be used on adapter sleeves in the HA 23, HE 23 and HS 23 series for inch shafts ranging from 3/4 to 2 3/8 inches.

**Fig. 13**

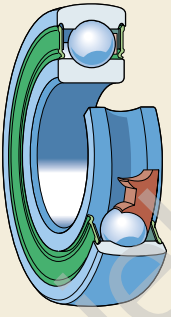


## Y-bearings with a standard inner ring

Y-bearings with a standard inner ring (→ **fig. 14**) have normal tolerances for the bearing bore diameter and are locked onto the shaft using an appropriate interference fit. These bearings in the 17262 and 17263 series have the same dimensions and features as deep groove ball bearings in the 62 and 63 series, but have a sphered (convex) outside surface. The bearings are suitable for applications where the direction of the load alternates and where smooth running is a key operational parameter. They can accommodate heavier axial loads than any other Y-bearings and can operate at the same speeds as a corresponding sealed deep groove ball bearing. They do not have any lubrication holes in the outer ring.

SKF Y-bearings with a standard inner ring are available for metric shafts from 17 to 60 mm.

Fig. 14

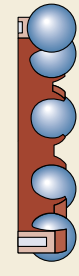


## Cages

Y-bearings are fitted as standard with a snap-type, glass fibre reinforced PA66 cage (→ **fig. 15**), no designation suffix.

The initial grease fill does not have a detrimental effect on cage properties. However, if other greases are used, note that some synthetic greases with a synthetic base oil and lubricants containing a high proportion of EP additives, when used at high temperatures, can have a detrimental effect on polyamide cages. For additional information about the suitability of cages, refer to *Cages* (→ **page 37**) and *Cage materials* (→ **page 152**).

Fig. 15



## Sealing solutions

SKF supplies all Y-bearings capped with a seal or shield on both sides. In typical Y-bearing applications, no additional external protection is necessary. Therefore, Y-bearings are available with several sealing arrangement designs to meet the demands of a wide range of operating conditions.

### Standard seals

The standard seals for Y-bearings (no designation suffix) consist of a stamped sheet steel washer with a seal lip made of NBR, vulcanized to its inner surface (→ **fig. 16**). The non-contact sheet steel washer forms a narrow gap with the cylindrical surface of the inner ring shoulder and protects the seal against coarse contaminants.

### Standard seals with additional flingers

For more contaminated environments, SKF recommends Y-bearings equipped with a standard seal and an additional plain flinger on both sides (→ **fig. 17**, designation suffix 2F). The flinger, made of sheet steel or stainless sheet steel, has an interference fit on the inner ring to considerably improve the effectiveness of the seal without increasing friction. These seals are only available for bearings with an inner ring extended on both sides.

### Multiple seals

For very contaminated environments, SKF recommends Y-bearings equipped with the highly effective multiple seal on both sides (→ **fig. 18**, designation suffix 2RF). This sealing arrangement consists of a standard seal and a flinger with a vulcanized NBR lip. The flinger lip seals axially against the standard seal. The space between the flinger lip and the shaft is filled with grease to provide additional protection. These seals are only available for bearings with an inner ring extended on both sides.

Fig. 16

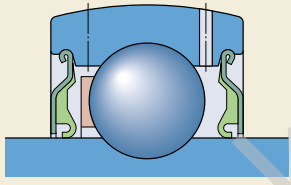


Fig. 17

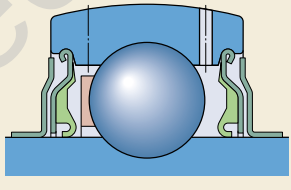
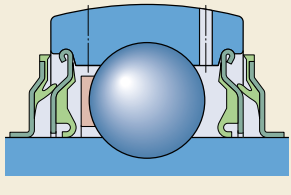


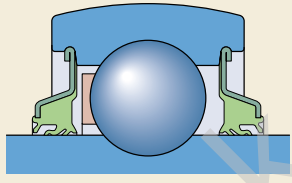
Fig. 18



### 5-lip seals

For extremely contaminated environments, such as agricultural applications, SKF recommends Y-bearings equipped with the patented 5-lip seal on both sides (→ **fig. 19**). The seal consists of a sheet steel insert with a vulcanized 5-lip contact seal made of a low-friction NBR compound. The steel insert, which protects the seal from solid contaminants, is held in place by a groove in the bearing outer ring. Each seal lip has a different design to provide superior sealing performance in response to different operating conditions, including dynamic misalignment. The outermost and innermost lips act as a labyrinth to prevent contaminant ingress and grease leakage respectively. The three inner lips make constant contact with the inner ring shoulder.

Fig. 19

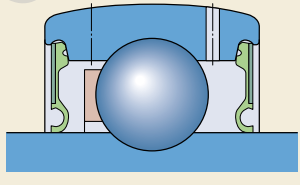


### Seals for SKF Energy Efficient Y-bearings

These seals minimize the frictional moment in SKF Energy Efficient Y-bearings while providing effective protection in less contaminated environments. The seals are made of NBR and are sheet steel reinforced. The lip has an innovative thin and flexible design (→ **fig. 20**). They are fitted in a recess on the outer ring and seal against the inner ring shoulder. The sheet steel insert protects against solid contaminants.

Depending on the bearing series, the sealing effect can be enhanced by adding plain sheet steel flingers (designation suffix 2F). The flingers have an interference fit on the inner ring and do not increase friction.

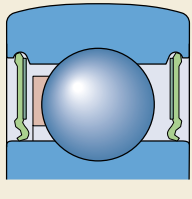
Fig. 20



### RS1 seals

Y-bearings with a standard inner ring are equipped with an RS1 seal on both sides. These NBR contact seals, developed for standard SKF deep groove ball bearings, are reinforced with a sheet steel insert (→ **fig. 21**, designation suffix 2RS1). They are fitted in a recess on the outer ring and ride against the inner ring shoulder.

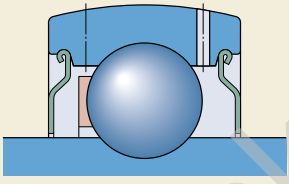
Fig. 21



### Shields

On request, Y-bearings can be supplied with a shield on both sides. The sheet steel shields are fitted in a recess on the outer ring and do not make contact with the inner ring, but form a narrow gap (→ **fig. 22**, designation suffix VP076). They are designed for applications where the contamination level is low and additional friction should be avoided. Bearings with shields should not be used if water, steam or moisture can enter the bearing.

**Fig. 22**



### Greases for capped bearings

Y-bearings are filled with one of the following greases:

- SKF Energy Efficient Y-bearings
  → low-friction grease GE2
- zinc-coated and stainless steel Y-bearings
  → food-grade grease GFJ
  This grease fulfils the requirements listed in the Guidelines of section 21 CFR 178.3570 of the FDA (US Food and Drug Administration) regulations. It is approved by the USDA (United States Department of Agriculture) for Category H1 use (occasional contact with food stuffs).
- all other Y-bearings
  → standard grease VT307

The technical specifications for the various greases are listed in **table 1**.

**Table 1**

**Technical specifications of SKF greases for Y-bearings**

| 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<br>–60 30 120 210 300 390 480 °F | | | | | |
| VT307 | | Lithium-calcium soap | Mineral | 2 | 190 | 15 |
| GFJ | | Aluminium-complex soap | Synthetic hydrocarbon | 2 | 100 | 14 |
| GE2 | | Lithium soap | Synthetic | 2 | 25 | 4,9 |

[1)] Refer to the SKF traffic light concept → **page 244**

## Grease life for Y-bearings

Grease life for Y-bearings should be estimated according to the procedure described in this section. The grease life for Y-bearings is presented as $L_{10}$, i.e. the time period at the end of which 90% of the bearings are still reliably lubricated. When relubrication is required, the method to estimate relubrication intervals is described on **page 252** under *Relubrication intervals*. For additional information see *Relubrication* (→ **page 434**).

The grease life for Y-bearings depends on the operating temperature and the speed factor. It can be obtained from the diagrams. **Diagram 1** is valid for Y-bearings filled with VT307 grease or GFJ food-grade grease. **Diagram 2** is valid for SKF Energy Efficient Y-bearings.

The grease life for each is valid under the following operating conditions:

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

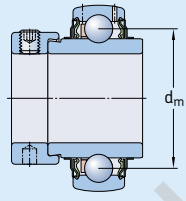
If operating conditions differ, the grease life obtained from the diagrams has to be adjusted:

- For vertical shafts, use 50% of the value from the diagram.
- For heavier loads (P > 0,05 C), use the reduction factor listed in **table 3**.

The values for adjusting the grease life are estimates. Vibration can have a negative influence on grease life. The extent cannot be quantified, and the influence increases with increasing operating temperature. For additional information, refer to *Lubrication* (→ **page 239**) or contact the SKF application engineering service.

**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 YAR 206-101-2F, YAR 206-102-2F, YAR 206-2F, YAR 206-103-2F, YAR 206-104-2F

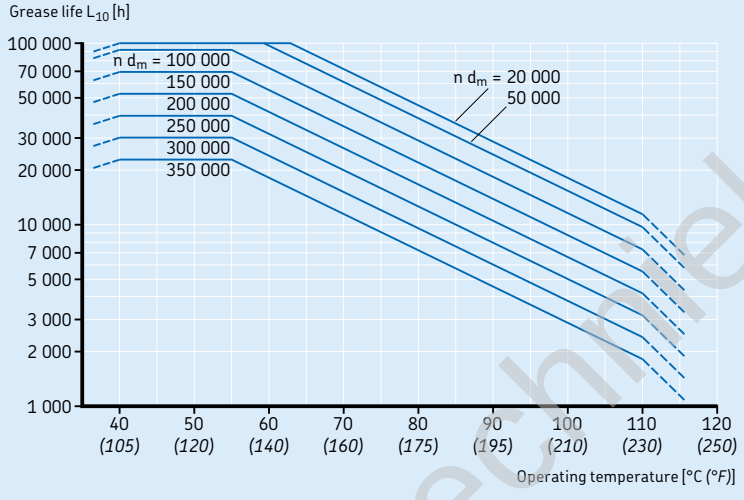
**Table 3**

**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 |

**Diagram 1**

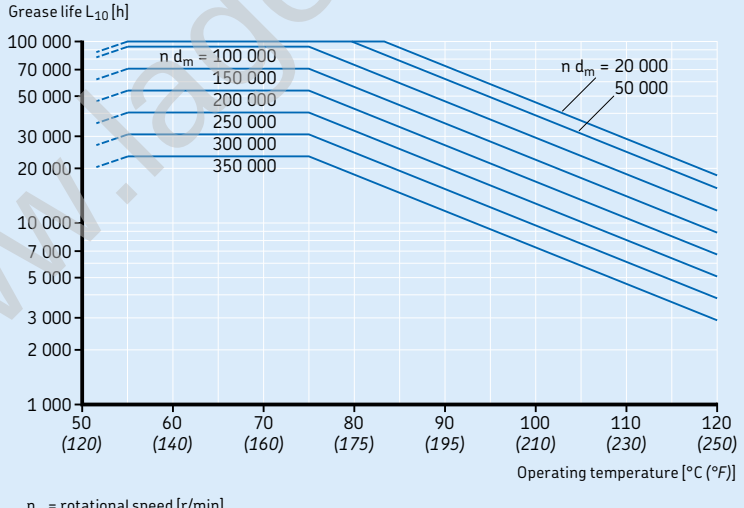
**Grease life for Y-bearings with VT307 or GFJ grease**
where load P = 0,05 C




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

**Diagram 2**

**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**

### Relubrication

Y-bearings do not need relubrication when the grease life (→ *Grease life for Y-bearings*, **page 432**) exceeds the SKF rating life of the bearing (→ *Selecting bearing size*, **page 61**).

Relubrication can extend bearing service life under any of the following conditions:

- The bearings are exposed to high humidity or severe contamination.
- The bearings accommodate normal or heavy loads.
- The bearings operate for extended periods at high speeds or at temperatures above 55 °C *(130 °F)*, above 75 °C *(170 °F)* for SKF Energy Efficient Y-bearings.
- The bearings are subjected to high vibration levels.

To relubricate Y-bearings, the following greases can be used:

- SKF Energy Efficient Y-bearings
  → exclusively low-friction grease SKF LEGE 2
- zinc-coated and stainless steel Y-bearings
  → food-grade grease SKF LGFP 2
- all other Y-bearings
  → SKF LGWA 2, LGMT 2 or LGMT 3 grease

If relubrication is needed, the relubrication intervals can be estimated following the method explained under *Relubrication intervals* (→ **page 252**).

When relubricating, the shaft should be turned and grease should be pumped slowly until fresh grease starts to escape from the seal(s). Excessive pressure from pumping too quickly can damage the seals. When machines and equipment are used for a limited period of time, SKF recommends relubricating each bearing at the end of the operational period, i.e. immediately before being laid up.

#### Relubrication features

SKF Y-bearings are designed to facilitate relubrication. They have two lubrication holes in the outer ring as standard, one on each side, positioned 120° apart. Bearings without lubrication holes can be supplied on request (designation suffix W).

The following bearings do not have the standard relubrication features:

- Stainless steel Y-bearings with grub screws have a lubrication groove in the outer ring located on the side opposite the locking device and one lubrication hole within this groove.
- Y-bearings with a standard inner ring and Y-bearings for agricultural applications are lubricated for life and cannot be relubricated. They do not have any lubrication holes.

## Y-bearings for agricultural applications

Y-bearings for agricultural applications are designed to withstand the demanding operating conditions that occur in machinery like combines and balers, harvesters and disk harrows. Extensive laboratory tests and field experience confirm that these bearings outlast conventional bearings, which typically have a one to three year life span.

Y-bearings for agricultural applications are equipped with a patented 5-lip seal on both sides (→ **page 430**). The bearings are lubricated for life with VT307 grease (→ **table 1**, **page 431**). The grease has a high resistance to water washout, enabling long bearing service life in wet environments. The bearings cannot be relubricated.

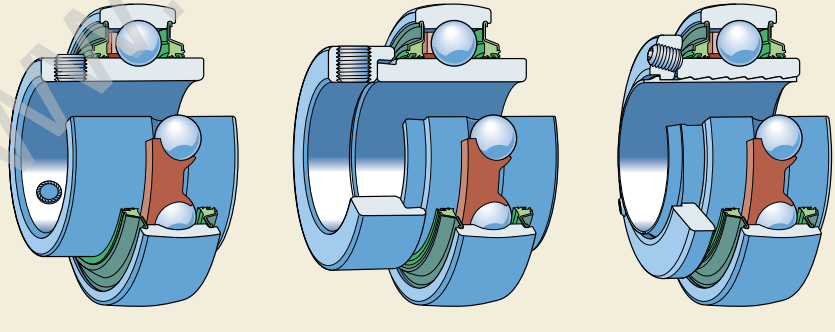
Y-bearings for agricultural applications are dimensionally interchangeable with standard Y-bearings, enabling easy upgrades of existing applications to reduce machine downtime and environmental impact. SKF Y-bearings for agricultural applications are available for metric shafts from 20 to 50 mm and for inch shafts from 1 to 1 15/16 inches. The bearings are available with three different locking methods (→ **fig. 23**):

- Y-bearings in the YARAG 2 series, which are interchangeable with bearings in the YAR 2 series, are locked onto the shaft with two grub screws. They are typically used for moderate loads.
- Y-bearings in the YELAG 2 series, which are interchangeable with bearings in the YEL 2 series, are locked onto the shaft by an eccentric locking collar. The eccentric collar is black oxidized. The bearings are typically used for moderate loads.
- Y-bearings in the YSPAG 2 series, which are interchangeable with bearings in the YSP 2 series, are locked onto the shaft by the patented SKF ConCentra locking technology. This locking technology enables the bearing to accommodate heavier loads than other locking methods.

Other Y-bearings for agricultural applications are available on request:

- bearings with zinc-coated rings
- bearings with a cylindrical outer ring
- bearings with other locking methods

**Fig. 23**



YARAG 2 YELAG 2 YSPAG 2

## Rubber seating rings

Rubber seating rings in the RIS 2 series (→ **fig. 24**) are primarily intended to "cushion" Y-bearings in stamped steel plummer block housings. Located on the bearing outer ring and in housing bore (→ **fig. 25**), they are intended to dampen vibration and noise and enable the bearings to be displaced slightly in their housings to accommodate minor shaft elongation or misalignment.

The seating rings in the RIS 2 series are made of NBR and have a sphered (convex) outside surface. The rings can withstand temperatures ranging from –30 to +100 °C *(–20 to +210 °F)*. The designations and dimensions for rubber seating rings are listed in **table 4**.

Rubber seating rings are available as an accessory and must be ordered separately. They can be fitted on all SKF Y-bearings, except for Y-bearings with a standard inner ring (17262 and 17263 series). However, Y-bearings in the YET 2 series can be supplied with the seating ring already fitted (→ **fig. 26**). These products are identified by the series prefix CYS, followed by the bearing bore diameter and the bearing identification suffix FM. E.g. CYS 20 FM is a YET 204 bearing with a 20 mm bore, fitted with an RIS 204 rubber seating ring.

Fig. 24

Fig. 25

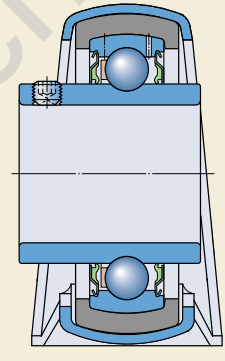


Fig. 26

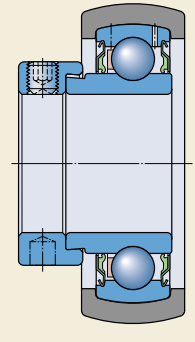
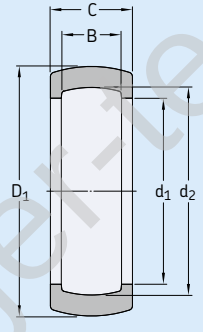


Table 4

**Rubber seating rings**




| Y-bearing Outside diameter D | Size | Rubber seating ring Designation | Dimensions $D_1$ | $d_1$ | $d_2$ | B | C | Mass |
|---|---|---|---|---|---|---|---|---|
| mm | – | – | mm | | | | | g |
| **40** | 03 | **RIS 203** | 47,3 | 35,5 | 39,8 | 12 | 18 | 12 |
| **47** | 04 | **RIS 204** | 52,3 | 41,2 | 46,8 | 14 | 19 | 11,5 |
| **52** | 05 | **RIS 205** | 62,3 | 46,4 | 51,8 | 15 | 20,5 | 26,5 |
| **62** | 06 | **RIS 206 A** | 72,3 | 54,6 | 61,8 | 18 | 21,5 | 31 |
| **72** | 07 | **RIS 207 A** | 80,3 | 63,7 | 71,8 | 19 | 23 | 32 |
| **80** | 08 | **RIS 208 A** | 85,3 | 70,7 | 79,7 | 21 | 24 | 26 |

# Performance classes

## SKF Energy Efficient (E2) bearings

To meet the ever-increasing demand to reduce friction and energy use, SKF has developed the SKF Energy Efficient (E2) performance class of rolling bearings. Y-bearings within this performance class are characterized by a frictional moment in the bearing that is at least 50% lower when compared to a same-sized standard Y-bearing.

This substantial reduction of the frictional moment was achieved by a new contact seal and applying a new, low-friction grease. Due to the reduction of the frictional moment, SKF E2 Y-bearings run up to 30 °C *(55 °F)* cooler than standard bearings. This extends grease life and potentially bearing service life.

SKF E2 Y-bearings are dimensionally interchangeable with standard bearings enabling both, easy upgrades of existing applications as well as improving the energy efficiency of new applications. Typical applications include conveyors, industrial fans and textile machinery.

SKF E2 Y-bearings are available in the YAR 2, YET 2 and SKF ConCentra YSP 2 series. Bearings in the YET 2 series are supplied with a contact seal on both sides (→ **page 430**). Bearings in the YAR 2 and YSP 2 series are equipped with a contact seal and a plain sheet steel flinger on both sides, improving the sealing effect without increasing friction. The good performance of the seal combined with the cooler running and the extended grease life enable SKF E2 Y-bearings to operate without relubrication under normal operating conditions. When necessary, they can be relubricated through the outer ring (→ *Relubrication*, **page 434**).

## Bearing data

| | Y-bearings | |
|---|---|---|
| | **with grub screws** (series YAT 2, YAR 2, YARAG 2) | **with an eccentric locking collar** (series YET 2, YEL 2, YELAG 2) |
| **Dimension standards** | Boundary dimensions: ISO 9628<br>Bearings in the YAT 2 series are not standardized. However, the bore and outside diameter and the outer ring width are in accordance with ISO 9628. | Boundary dimensions: ISO 9628 |
| **Tolerances**<br><br>For additional information (→ **page 132**) | Values for the bore and outside diameter: (→ **table 5**, **page 442**)<br>The values for bore and outside diameter tolerances are slightly tighter than those listed in ISO 9628. | |
| **Radial internal clearance**<br>For additional information (→ **page 149**) | ISO 9628 – Group N<br>Values: (→ **table 6**, **page 442**) | |
| | Values are valid for unmounted bearings under zero measuring load. | |
| **Misalignment** | **Static misalignment**<br>Y-bearings can accommodate initial misalignment by tilting in the housing (→ **fig. 27**, **page 443**), because of their sphered outside surface. The permissible values depend on the housing type:<br>• SKF cast iron and composite housings<br>– relubrication is not required → 5°<br>– relubrication is required → 2° | |
| **Friction, starting torque, power loss** | Frictional moment, starting torque and power loss can be calculated … | |
| **Defect frequencies** | Defect frequencies can be calculated using the tools available online … | |

| | **with SKF ConCentra locking technology** (series YSP 2, YSPAG 2) | **with a tapered bore** (series YSA 2) | **with a standard inner ring** (series 17262, 17263) |
|---|---|---|---|
| | Boundary dimensions: not standardized However, the outside diameter and the outer ring width are in accordance with ISO 9628. | Boundary dimensions: JIS B 1558 Adapter sleeves in the H 23 series: ISO 2982-1 | Boundary dimensions: ISO 15, except for the sphered outside surface |
| | Values for the outside diameter: (→ **table 5**, **page 442**) Before mounting, the sleeve bore is larger than the nominal value to ease sliding on the shaft. | Values for the outside diameter:(→ **table 5**, **page 442**) The tapered bore fits H23 series adapter sleeves, for metric and inch shafts. | Normal Values: ISO 492 (→ **table 3**, **page 137**), except for the sphered outside surface (→ **table 5**, **page 442**) |
| | ISO 9628 – Group 3 Values: (→ **table 6**, **page 442**) | | Normal Values: ISO 5753-1 (→ **table 6**, **page 314**) |

- SKF stamped steel housings
  Misalignment cannot be accommodated once the attachment bolts have been fully tightened, unless a rubber seating ring is used (→ **page 436**).

**Dynamic misalignment**
Y-bearings can accommodate a few minutes of arc (misalignment) between the inner and outer rings.

... using the tools available online at skf.com/bearingcalculator.

... at skf.com/bearingcalculator.

Table 5

**Tolerances for SKF Y-bearings**

| **Nominal diameter** | | **Inner ring** Bearing series YAT 2, YAR 2, YARAG 2, YET 2, YEL 2, YELAG 2 | | **Outer ring** All bearings | |
|---|---|---|---|---|---|
| **d, D** | | $\Delta_{dmp}$ | | $\Delta_{Dmp}$ | |
| over | incl. | high | low | high | low |
| mm | | µm | | µm | |
| **10** | **18** | +15 | +5 | – | – |
| **18** | **31,75** | +18 | +5 | – | – |
| **31,75** | **50,8** | +19 | +5 | 0 | –10 |
| **50,8** | **80,962** | +21 | +5 | 0 | –10 |
| **80,962** | **120** | +25 | +5 | 0 | –15 |
| **120** | **150** | – | – | 0 | –15 |
| **150** | **180** | – | – | 0 | –20 |

d = nominal bore diameter
$\Delta_{dmp}$ = deviation of the mean bore diameter from the nominal
D = nominal outside diameter
$\Delta_{Dmp}$ = deviation of the mean outside diameter from the nominal

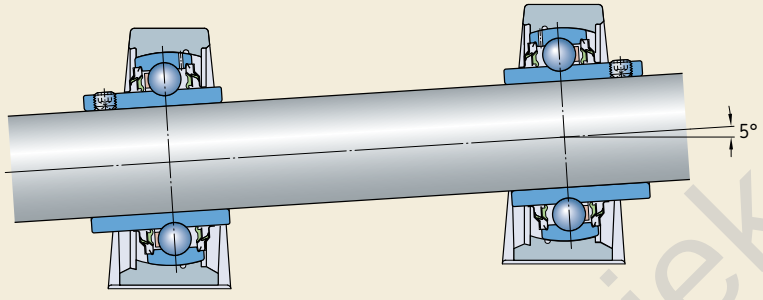
Table 6

**Radial internal clearance for Y-bearings**

| **Bearing size**[1] | | **Radial internal clearance of Y-bearings in the series** YAT 2, YAR 2, YARAG 2, YET 2, YEL 2, YELAG 2 | | YSP 2, YSPAG 2, YSA 2 | |
|---|---|---|---|---|---|
| from | to | min. | max. | min. | max. |
| – | | µm | | | |
| **03** | **03** | 10 | 25 | – | – |
| **04** | **04** | 12 | 28 | – | – |
| **05** | **06** | 12 | 28 | 23 | 41 |
| **07** | **08** | 13 | 33 | 28 | 46 |
| **09** | **10** | 14 | 36 | 30 | 51 |
| **11** | **13** | 18 | 43 | 38 | 61 |
| **14** | **16** | 20 | 51 | – | – |
| **17** | **20** | 24 | 58 | – | – |

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

Fig. 27



# Loads

| | | Symbols |
|---|---|---|
| **Minimum load**<br><br>For additional information (→ **page 86**) | $F_{rm} = 0,01\ C$<br><br>The importance of imposing a minimum load increases where accelerations in the bearing are high, and where speeds are in the region of 75% or more of the limiting speed quoted in the product tables. The weight of the components supported by the Y-bearing, together with external forces, generally exceed the requisite minimum load. | C = basic dynamic load rating (→ **product tables**)<br>$C_0$ = basic static load rating (→ **product tables**)<br>e = limiting value (→ **table 7**)<br>$f_0$ = calculation factor (→ **table 8**)<br>$F_a$ = axial load [kN]<br>$F_r$ = radial load [kN]<br>$F_{rm}$ = minimum radial load [kN]<br>P = equivalent dynamic bearing load [kN]<br>$P_0$ = equivalent static bearing load [kN]<br>X = radial load factor (→ **table 7**)<br>Y = axial load factor (→ **table 7**) |
| **Axial load carrying capacity** | $F_a \leq 0,25\ C_0$<br><br>The maximal permissible axial load of any locking mechnism is always $> 0,25\ C_0$. | |
| **Equivalent dynamic bearing load**<br><br>For additional information (→ **page 85**) | $F_a/F_r \leq e \rightarrow P = F_r$<br>$F_a/F_r > e \rightarrow P = X\,F_r + Y\,F_a$ | |
| **Equivalent static bearing load**<br><br>For additional information (→ **page 88**) | $P_0 = 0,6\,F_r + 0,5\,F_a$ | |

**Table 7**

**Calculation factors**

| | Bearing series YAT 2, YAR 2, YARAG 2, YET 2, YEL 2, YELAG 2, YSP 2, YSPAG 2, YSA 2 | | | 17262, 17263 | | |
|---|---|---|---|---|---|---|
| $f_0 F_a/C_0$ | e | X | Y | e | X | Y |
| **0,172** | 0,29 | 0,46 | 1,88 | 0,19 | 0,56 | 2,3 |
| **0,345** | 0,32 | 0,46 | 1,71 | 0,22 | 0,56 | 1,99 |
| **0,689** | 0,36 | 0,46 | 1,52 | 0,26 | 0,56 | 1,71 |
| **1,03** | 0,38 | 0,46 | 1,41 | 0,28 | 0,56 | 1,55 |
| **1,38** | 0,4 | 0,46 | 1,34 | 0,3 | 0,56 | 1,45 |
| **2,07** | 0,44 | 0,46 | 1,23 | 0,34 | 0,56 | 1,31 |
| **3,45** | 0,49 | 0,46 | 1,1 | 0,38 | 0,56 | 1,15 |
| **5,17** | 0,54 | 0,46 | 1,01 | 0,42 | 0,56 | 1,04 |
| **6,89** | 0,54 | 0,46 | 1 | 0,44 | 0,56 | 1 |

**Table 8**

**Calculation factor $f_0$**

| **Bearing series** sizes | **Factor $f_0$** |
|---|---|
| **YAT 2, YAR 2, YARAG 2, YET 2, YEL 2, YELAG 2, YSP 2, YSPAG 2, YSA 2** | |
| 03-04 | 13 |
| 05-12 | 14 |
| 13-18 | 15 |
| 20 | 14 |
| **17262** | |
| 03-04 | 13 |
| 05-12 | 14 |
| **17263** | |
| 05 | 12 |
| 06-10 | 13 |

## Temperature limits

The permissible operating temperature for Y-bearings can be limited by:

- the dimensional stability of the bearing rings and balls
- the cage
- the seals
- the lubricant

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

### Bearing rings and balls

Y-bearings undergo a special heat treatment. The bearing rings and balls are heat stabilized up to at least 150 °C *(300 °F)*.

### Cages

For temperature limits of PA66 cages, refer to *Cage materials* (→ **page 152**).

### Seals

The permissible operating temperature for NBR seals is –40 to +100 °C *(–40 to +210 °F)*. Temperatures up to 120 °C *(250 °F)* can be tolerated for brief periods.

### Lubricants

Temperature limits for the greases used in Y-bearings are provided in **table 1** (→ **page 431**). Temperature limits for other SKF greases are provided under *Lubrication* (→ **page 239**).

When using lubricants not supplied by SKF, the temperature limits should be evaluated according to the SKF traffic light concept (→ **page 244**).

## Permissible speed

Y-bearings should not operate at speeds above the limiting speed listed in the product tables. This speed limit is set by the seals. For Y-bearings with grub screws or an eccentric locking collar, the permissible speed is also 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 9**. The lower value is the permissible speed.

The permissible speed of Y-bearings for agricultural applications is valid under the following conditions:

**Table 9**

**Permissible speeds for 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 | | | |
| 03 | 6 000 | 4 300 | 1 500 | 950 |
| 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 |
| 10 | 2 400 | 1 600 | 560 | 400 |
| 11 | 2 000 | 1 400 | 500 | 360 |
| 12 | 1 900 | 1 300 | 480 | 340 |
| 13 | 1 700 | 1 100 | 430 | 300 |
| 14 | 1 600 | 1 000 | 400 | 280 |
| 15 | 1 500 | 950 | 380 | 260 |
| 16 | 1 400 | 900 | 360 | 240 |
| 17 | 1 300 | 850 | 340 | 220 |
| 18 | 1 200 | 800 | 320 | 200 |
| 20 | 1 100 | 750 | 300 | 190 |

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

- outer ring temperature ≤ 60 °C *(140 °F)*
- environment temperature ≤ 25 °C *(80 °F)*
- very light to moderate loads (P ≤ 0,05 C)
- cast iron housing

For other conditions, contact the SKF application engineering service.

For applications operating at elevated speeds or when low vibration levels or quiet running are required, use SKF ConCentra Y-bearings, Y-bearings on an adapter sleeve or Y-bearings with a standard inner ring.

# Design of bearing arrangements

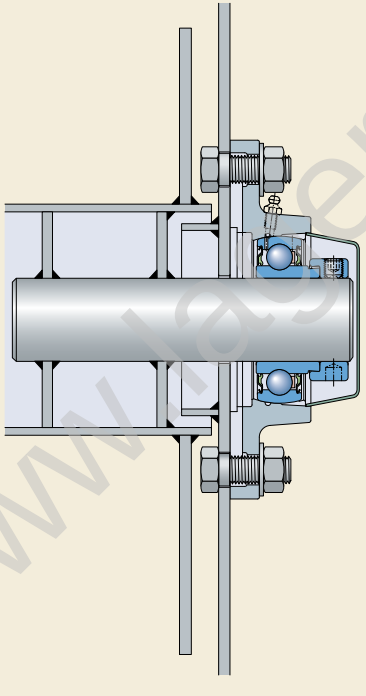
## Axial displacement

Y-bearings are not intended to accommodate axial displacement of the shaft relative to the housing. The distance between bearing positions should therefore be short to avoid excessive induced axial loads as a result of thermal elongation of the shaft.

### Design for small axial displacement

To accommodate small axial displacement, the bearings should be supported by resilient sheet metal support surfaces or walls (→ **fig. 28**).

**Fig. 28**



#### Design for larger axial displacement

In applications where there are slow speeds and light loads, a Y-bearing with grub screws can be used to accommodate axial displacement. The shaft at the non-locating bearing position should be provided with one or two grooves 120° apart, to engage a modified grub screw:

- Hexagon socket grub (set) screws with a dog point, in accordance with ISO 4028, but with a fine thread according to **table 10**. The grub screw should be secured by a nut and spring washer or star lock washer (→ **fig. 29**).
- Slotted pan head screws in accordance with ISO 1580, but with fine thread according to **table 10**, locked with a spring or star lock washer (→ **fig. 30**).

The screws and groove(s) accommodate changes in shaft length and prevent the shaft from turning independently of the bearing. The ends of the grub screws should be ground and the sliding surfaces in the shaft grooves coated with a lubricant paste.

Fig. 29

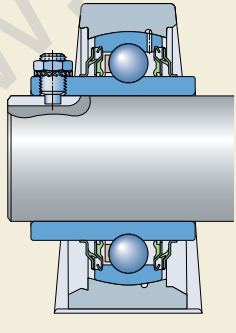


Fig. 30

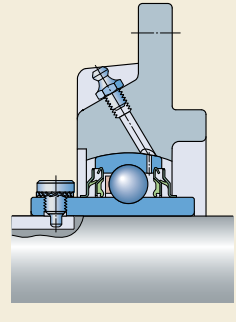
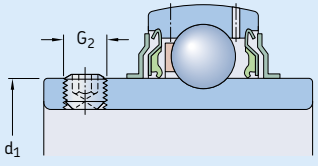


Table 10

**Threaded holes in the inner ring of bearings in the YAT 2, YAR 2 and YARAG 2 series**




| Bearing size[1] | Outside diameter of inner ring | Threaded holes YAR bearing with metric bore | YAR bearing with inch bore | YAT bearing with metric bore | YAT bearing with inch bore |
|---|---|---|---|---|---|
| | $d_1$ | $G_2$ | $G_2$ | $G_2$ | $G_2$ |
| – | mm | – | | | |
| **03** | 24,2 | M 6x0,75 | #10-32 UNF | M 6x0,75 | #10-32 UNF |
| **04** | 28,2 | M 6x0,75 | 1/4-28 UNF | M 6x0,75 | 1/4-28 UNF |
| **05** | 33,7 | M 6x0,75 | 1/4-28 UNF | M 6x0,75 | 1/4-28 UNF |
| **06** | 39,7 | M 6x0,75 | 1/4-28 UNF | M 6x0,75 | 5/16-24 UNF |
| **07** | 46,1 | M 6x0,75 | 5/16-24 UNF | M 6x0,75 | 5/16-24 UNF |
| **08** | 51,8 | M 8x1 | 5/16-24 UNF | M 6x0,75 | 5/16-24 UNF |
| **09** | 56,8 | M 8x1 | 5/16-24 UNF | M 6x0,75 | 5/16-24 UNF |
| **10** | 62,5 | M 10x1 | 3/8-24 UNF | M 8x1 | 3/8-24 UNF |
| **11** | 69,1 | M 10x1 | 3/8-24 UNF | – | 3/8-24 UNF |
| **12** | 75,6 | M 10x1 | 3/8-24 UNF | – | 3/8-24 UNF |
| **13** | 82,5 | M 10x1 | 3/8-24 UNF | – | – |
| **14** | 87 | M 10x1 | 7/16-20 UNF | – | – |
| **15** | 92 | M 10x1 | 7/16-20 UNF | – | 3/8-24 UNF |
| **16** | 97,4 | M 10x1 | 7/16-20 UNF | – | 3/8-24 UNF |
| **17** | 105 | M 12x1,5 | – | – | – |
| **18** | 112,5 | M 12x1,5 | – | – | – |
| **20** | 124,8 | M 12x1,5 | – | – | – |

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

## Shaft tolerances

Recommended fits for Y-bearings are listed in **table 11**. **Fig. 31** illustrates the relative position of the upper and lower limits of the most commonly used ISO shaft tolerance classes for Y-bearings with grub (set) screws or an eccentric locking collar. The values for these tolerance classes are listed in **table 12**.

For Y-bearings on an adapter sleeve or SKF ConCentra Y-bearings the total radial run-out of the shaft seat should be IT5/2 for tolerance class h9Ⓔ. The values for the ISO tolerance class h9 are listed in **table 12**.

For Y-bearings with a standard inner ring, the same recommendations apply as for standard deep groove ball bearings (→ **table 11**). The values for these ISO tolerance classes are listed in **table 7** (→ **page 178**).

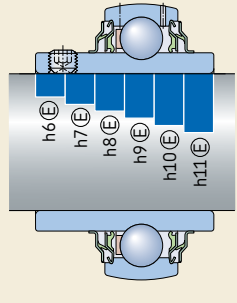
**Table 11**

**Recommended fits**

| Operating conditions | Tolerance class[1] |
|---|---|
| **Y-bearings with grub screws or an eccentric locking collar** | |
| P > 0,05 C and/or high speeds | h6 |
| 0,035 C < P ≤ 0,05 C | h7 |
| 0,02 C < P ≤ 0,035 C and/or slow speeds | h8 |
| Simple bearing arrangements or P ≤ 0,02 C | h9 – h11 |
| **Y-bearings with a tapered bore on an adapter sleeve or SKF ConCentra Y-bearings** | |
| All loads and speeds | h9/IT5 |
| **Y-bearings with a standard inner ring** | |
| P > 0,035 C | |
| Shaft diameter ≤ 17 mm | j5 |
| Shaft diameter ≥ 20 mm | k5 |
| P ≤ 0,035 C | |
| Shaft diameter ≥ 20 mm | j6 |

[1] All ISO tolerance classes are valid with the envelope requirement (such as h7Ⓔ) in accordance with ISO 14405-1.

**Fig. 31**



# Mounting and dismounting

When mounting Y-bearings on a shaft, suitable tools should be used and the locking components should be tightened to the torque values / tightening angles listed in **tables 13** to **15** (→ **pages 452** to **454**).

For SKF ConCentra Y-bearings, mounting kits are available from SKF (designation 626830), which include mounting instructions, hexagonal keys and torque indicators. The correct tightening torque is achieved when the long end of the hexagonal key comes in contact with the torque indicator (→ **fig. 32**).

For additional information about mounting and dismounting Y-bearings and assembling Y-bearing units, refer to the *SKF bearing maintenance handbook*.

**Fig. 32**

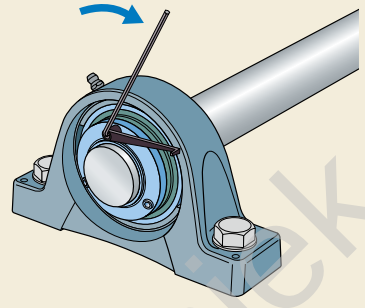


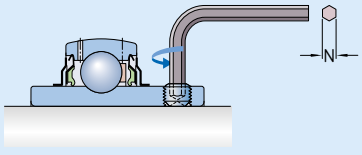
**Table 12**

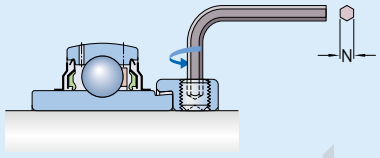
**ISO shaft deviations for Y-bearings, except for Y-bearings with a standard inner ring**

| **Shaft diameter** d | | **Shaft diameter deviations** Tolerance class h6Ⓔ | | h7Ⓔ | | h8Ⓔ | | h9Ⓔ | | h10Ⓔ | | h11Ⓔ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Deviation | | | | | | | | | | | | | |
| over | incl. | high | low | high | low | high | low | high | low | high | low | high | low |
| – | | µm | | | | | | | | | | | |
| **10** | **18** | 0 | –11 | 0 | –18 | 0 | –27 | 0 | –43 | 0 | –70 | 0 | –110 |
| **18** | **30** | 0 | –13 | 0 | –21 | 0 | –33 | 0 | –52 | 0 | –84 | 0 | –130 |
| **30** | **50** | 0 | –16 | 0 | –25 | 0 | –39 | 0 | –62 | 0 | –100 | 0 | –160 |
| **50** | **80** | 0 | –19 | 0 | –30 | 0 | –46 | 0 | –74 | 0 | –120 | 0 | –190 |
| **80** | **120** | 0 | –22 | 0 | –35 | 0 | –54 | 0 | –87 | 0 | –140 | 0 | –220 |

Table 13

**Grub screws in inner rings and eccentric locking collars – key sizes and recommended tightening torques**



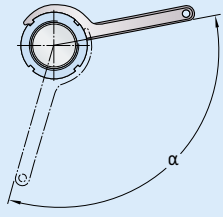




| Bearing size[1] | Bearing with metric bore | | Bearing with inch bore | | Bearing size[1] | Bearing with metric bore | | Bearing with inch bore | |
|---|---|---|---|---|---|---|---|---|---|
| | Hexagonal key size N | Tightening torque | Hexagonal key size N | Tightening torque | | Hexagonal key size N | Tightening torque | Hexagonal key size N | Tightening torque |
| – | mm | Nm | in. | Nm | – | mm | Nm | in. | Nm |
| **Bearings in the YAR 2 or YARAG 2 series** | | | | | **Bearings in the YAT 2 series** | | | | |
| **03** | 3 | 4 | 3/32 | 4 | **03** | 3 | 4 | 3/32 | 4 |
| **04** | 3 | 4 | 1/8 | 4 | **04** | 3 | 4 | 1/8 | 4 |
| **05** | 3 | 4 | 1/8 | 4 | **05** | 3 | 4 | 1/8 | 4 |
| **06** | 3 | 4 | 1/8 | 4 | **06** | 3 | 4 | 5/32 | 6,5 |
| **07** | 3 | 4 | 5/32 | 6,5 | **07** | 3 | 4 | 5/32 | 6,5 |
| **08** | 4 | 6,5 | 5/32 | 6,5 | **08** | 3 | 4 | 5/32 | 6,5 |
| **09** | 4 | 6,5 | 5/32 | 6,5 | **09** | 3 | 4 | 5/32 | 6,5 |
| **10** | 5 | 16,5 | 3/16 | 16,5 | **10** | 4 | 6,5 | 5/32 | 6,5 |
| **11** | 5 | 16,5 | 3/16 | 16,5 | **11** | – | – | 3/16 | 16,5 |
| **12** | 5 | 16,5 | 3/16 | 16,5 | **12** | – | – | 3/16 | 16,5 |
| **13** | 5 | 16,5 | 3/16 | 16,5 | **15** | – | – | 3/16 | 16,5 |
| **14** | 5 | 16,5 | 7/32 | 28,5 | **16** | – | – | 3/16 | 16,5 |
| **15** | 5 | 16,5 | 7/32 | 28,5 | **Bearings in the YET 2, YEL 2 or YELAG 2 series** | | | | |
| **16** | 5 | 16,5 | 7/32 | 28,5 | | | | | |
| **17** | 6 | 28,5 | – | – | **03** | 3 | 4 | 1/8 | 4 |
| | | | | | **04** | 3 | 4 | 1/8 | 4 |
| **18** | 6 | 28,5 | – | – | **05** | 3 | 4 | 1/8 | 4 |
| **20** | 6 | 28,5 | – | – | **06** | 4 | 6,5 | 5/32 | 6,5 |
| | | | | | **07** | 5 | 16,5 | 3/16 | 16,5 |
| | | | | | **08** | 5 | 16,5 | 3/16 | 16,5 |
| | | | | | **09** | 5 | 16,5 | 3/16 | 16,5 |
| | | | | | **10** | 5 | 16,5 | 3/16 | 16,5 |
| | | | | | **11** | 5 | 16,5 | 7/32 | 28,5 |
| | | | | | **12** | 5 | 16,5 | 7/32 | 28,5 |

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

**Table 14**

**Hook spanners for Y-bearings on an adapter sleeve – sizes and recommended tightening angles**

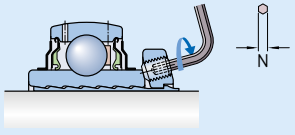



| **Designation**<br>Y-bearing + adapter sleeve | **Shaft diameter**<br>d | | **Hook spanner** | **Lock nut tightening angle**[1]<br>α |
|---|---|---|---|---|
| – | mm | in. | – | ° |
| YSA 205-2FK + HE 2305 | – | 3/4 | HN 5 | 90 |
| YSA 205-2FK + H 2305 | 20 | – | HN 5 | 90 |
| YSA 206-2FK + HA 2306 | – | 15/16 | HN 6 | 95 |
| YSA 206-2FK + H 2306 | 25 | – | HN 6 | 95 |
| YSA 206-2FK + HE 2306 | – | 1 | HN 6 | 95 |
| YSA 207-2FK + H 2307 | 30 | – | HN 7 | 100 |
| YSA 207-2FK + HA 2307 | – | 1 3/16 | HN 7 | 100 |
| YSA 208-2FK + HE 2308 | – | 1 1/4 | HN 8 | 105 |
| YSA 208-2FK + H 2308 | 35 | – | HN 8 | 105 |
| YSA 209-2FK + HA 2309 | – | 1 7/16 | HN 9 | 110 |
| YSA 209-2FK + HE 2309 | – | 1 1/2 | HN 9 | 110 |
| YSA 209-2FK + H 2309 | 40 | – | HN 9 | 110 |
| YSA 210-2FK + HS 2310 | – | 1 5/8 | HN 10 | 115 |
| YSA 210-2FK + HA 2310 | – | 1 11/16 | HN 10 | 115 |
| YSA 210-2FK + HE 2310 | – | 1 3/4 | HN 10 | 115 |
| YSA 210-2FK + H 2310 | 45 | – | HN 10 | 115 |
| YSA 211-2FK + HA 2311 B | – | 1 15/16 | HN 11 | 90 |
| YSA 211-2FK + H 2311 | 50 | – | HN 11 | 90 |
| YSA 211-2FK + HE 2311 | – | 2 | HN 11 | 90 |
| YSA 212-2FK + HS 2312 | – | 2 1/8 | HN 12 | 95 |
| YSA 212-2FK + H 2312 | 55 | – | HN 12 | 95 |
| YSA 213-2FK + HA 2313 | – | 2 3/16 | HN 13 | 100 |
| YSA 213-2FK + HE 2313 | – | 2 1/4 | HN 13 | 100 |
| YSA 213-2FK + H 2313 | 60 | – | HN 13 | 100 |
| YSA 213-2FK + HS 2313 | – | 2 3/8 | HN 13 | 100 |

[1] The listed values are to be used as guideline values only, as it is difficult to establish an exact starting position.

Table 15

**Grub screws in SKF ConCentra Y-bearings – key sizes and recommended tightening torques**




| Bearing size[1] | | Screw size | Hexagonal key size N | Tightening torque |
|---|---|---|---|---|
| from | to | | | |
| – | | – | mm | Nm |
| 05 | 06 | M5 | 2,5 | 4,2 |
| 07 | 13 | M6 | 3 | 7,4 |

[1] For example: bearing size 07 includes all bearings based on a Y 207 bearings such as YSP 207 SB-2F, YSP 207-104 SB-2F, YSP 207-106 SB-2F, YSP 207-107 SB-2F

## Assembling Y-bearings into housings with fitting slots

When installing a Y-bearing into a housing with fitting slots, the bearing should be inserted into the fitting slot in the housing bore (→ **fig. 33**) and then swivelled into position.

When installing Y-bearings with two lubrication holes in the outer ring and the bearing has to be relubricated, make sure that one of the relubrication holes in the bearing coincides with the relubrication facility in the housing (→ **fig 34**, right). Be sure that the other relubrication hole is not aligned with either of the fitting slots, otherwise grease leakage may result (→ **fig. 34**, left).

Fig. 33

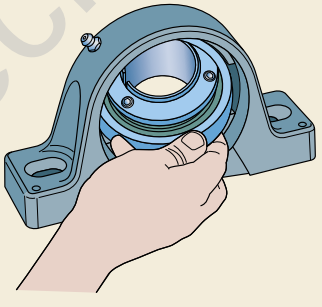
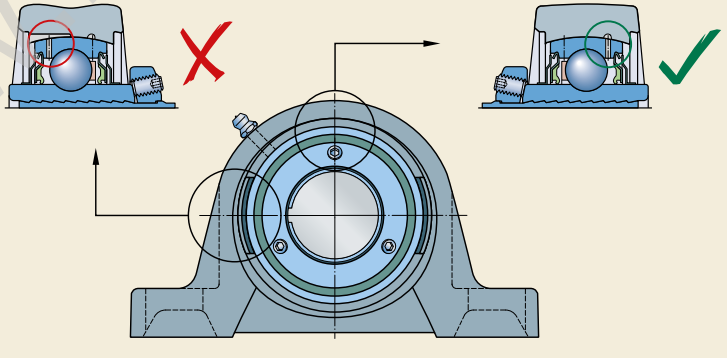


Fig. 34



Eccentric locking collars should be removed from the bearing prior to installation and reinstalled when the bearing is in position in the housing.

SKF recommends installing SKF Y-bearings only into SKF Y-housings to avoid a mismatch of components and to enable proper bearing relubrication.

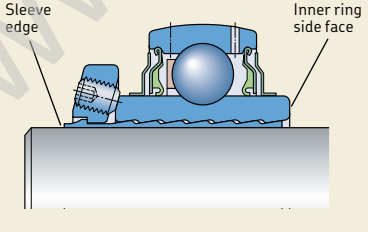
### SKF ConCentra Y-bearings

When mounting SKF ConCentra Y-bearings, position the collar so that one grub screw is directly opposite the slit in the sleeve.

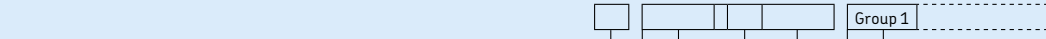
**CAUTION:** Do not tighten the grub (set) screws until the bearing is positioned on the shaft. If the screws are tightened prematurely, the stepped sleeve may deform. No attempt should be made to disassemble the sleeve and the mounting collar from the bearing prior to installation.

To dismount SKF ConCentra Y-bearings loosen the grub screws first. Then gently tap the edge of the sleeve on the collar side, or the inner ring side face on the opposite side to loosen the lock (→ **fig. 35**).

**Fig. 35**



# Designation system




**Prefixes**

| | |
|---|---|
| **E2.** | SKF Energy Efficient bearing |

**Basic designation**

**Bearing design**

| | |
|---|---|
| **YAR** | Bearing with grub screws, inner ring extended on both sides |
| **YARAG** | Bearing with grub screws, inner ring extended on both sides, for agricultural applications |
| **YAT** | Bearing with grub screws, inner ring extended on one side |
| **YEL** | Bearing with an eccentric locking collar, inner ring extended on both sides |
| **YELAG** | Bearing with an eccentric locking collar, inner ring extended on both sides, for agricultural applications |
| **YET** | Bearing with an eccentric locking collar, inner ring extended on one side |
| **YSA** | Bearing with a tapered bore, inner ring symmetrically extended on both sides |
| **YSP** | Bearing with SKF ConCentra locking technology, inner ring symmetrically extended on both sides |
| **YSPAG** | Bearing with SKF ConCentra locking technology, inner ring symmetrically extended on both sides, for agricultural applications |
| **172** | Bearing with a standard inner ring |
| **CYS** | Bearing in the YET 2 series fitted with a rubber seating ring |

**Dimension series**

| | |
|---|---|
| **2** | Outside diameter to ISO 15, diameter series 2 |
| **62** | Bearing in accordance with ISO 15, dimension series 02, sphered outside surface |
| **63** | Bearing in accordance with ISO 15, dimension series 03, sphered outside surface |

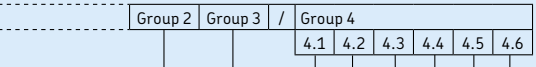
**Bore diameter d**

| | |
|---|---|
| | **Bearings for metric shafts** |
| **03/12** | d = 12 mm |
| **03/15** | d = 15 mm |
| **03** | d = 17 mm |
| **04** | d = 20 mm |
| to | to |
| **20** | d = 100 mm |
| | **Bearings for inch shafts** |
| | Three-digits combination that follows the designation of the basic metric bearing and is separated from this by a hyphen; the first digit is the number of whole inches and the second and third digits are the number of sixteenths of an inch, e.g. 204-012 |
| **-008** | d = 1/2 in. *(12,7 mm)* |
| to | to |
| **-300** | d = 3 in. *(76,2 mm)* |

**Suffixes**

**Group 1: Internal design**

| | |
|---|---|
| **SB** | SKF ConCentra ball bearing with shortened inner ring |




**Group 4.6: Other variants**

| | |
|---|---|
| **AH** | Bearing for air-handling applications |

**Group 4.5: Lubrication**

| | |
|---|---|
| **G** | Lubrication groove in the outside surface, located at the side opposite the locking device |
| **GR** | Lubrication groove in the outside surface, located at the side of the locking device |
| **W** | Bearing without lubrication hole(s) |

**Group 4.4: Stabilization**

**Group 4.3: Bearing sets, paired bearings**

**Group 4.2: Accuracy, clearance, preload, quiet running**

**Group 4.1: Materials, heat treatment**

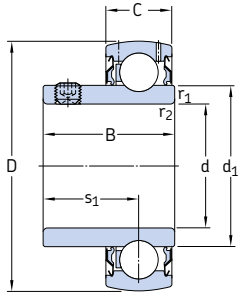
| | |
|---|---|
| **HV** | Bearing components of stainless steel; seals and flingers with food-compatible rubber; food-grade grease |
| **VE495** | Zinc-coated inner and outer rings; seals and flingers with stainless steel inserts and food-compatible rubber; food-grade grease |
| **VL065** | Zinc-coated inner ring bore and side faces |

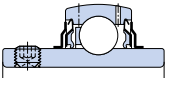
**Group 3: Cage design**

**Group 2: External design (seals, snap ring groove etc.)**

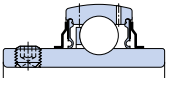
| | |
|---|---|
| **-2F** | Contact seal, NBR, additional plain flinger, on both sides |
| **-2RF** | Contact seal, NBR, additional rubberized flinger, on both sides |
| **-2RS1** | Contact seal, NBR, on both sides |
| **VP076** | Shield on both sides |
| **C** | Cylindrical outside surface |
| **K** | Tapered bore, taper 1:12 |
| **U** | Bearing without locking device |

## 2.1 Y-bearings with grub screws, metric shafts
d **12 – 100** mm

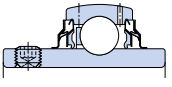


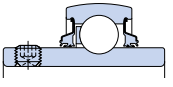
YAR .. -2F



E2.YAR .. -2F



YAR .. -2RF



YARAG

YAT

| Dimensions | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | C | $d_1$ ~ | $s_1$ | $r_{1,2}$ min. | dynamic C | static $C_0$ | $P_u$ | with shaft tolerance h6 | | |
| mm | | | | | | | kN | | kN | r/min | kg | – |
| **12** | 40 | 27,4 | 12 | 24,2 | 15,9 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,11 | **YAR 203/12-2F** |
| **15** | 40 | 27,4 | 12 | 24,2 | 15,9 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,1 | **YAR 203/15-2F** |
| **17** | 40 | 22,1 | 12 | 24,2 | 15,9 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,07 | **YAT 203** |
| | 40 | 27,4 | 12 | 24,2 | 15,9 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,09 | **YAR 203-2F** |
| **20** | 47 | 25,5 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,11 | **YAT 204** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,14 | **E2.YAR 204-2F** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,14 | **YAR 204-2F** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 5 000 | 0,14 | **YAR 204-2RF** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 10,8 | 6,55 | 0,28 | 5 000 | 0,14 | **YAR 204-2RF/HV** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 5 000 | 0,14 | **YAR 204-2RF/VE495** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 1 800 | 0,15 | **YARAG 204** |
| **25** | 52 | 27,2 | 15 | 33,7 | 19,5 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,14 | **YAT 205** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,19 | **E2.YAR 205-2F** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,17 | **YAR 205-2F** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 4 300 | 0,17 | **YAR 205-2RF** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 11,9 | 7,8 | 0,335 | 4 300 | 0,18 | **YAR 205-2RF/HV** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 4 300 | 0,18 | **YAR 205-2RF/VE495** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 1 500 | 0,19 | **YARAG 205** |
| **30** | 62 | 30,2 | 18 | 39,7 | 21 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,23 | **YAT 206** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,3 | **E2.YAR 206-2F** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,28 | **YAR 206-2F** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 3 800 | 0,28 | **YAR 206-2RF** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 16,3 | 11,2 | 0,475 | 3 800 | 0,29 | **YAR 206-2RF/HV** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 3 800 | 0,29 | **YAR 206-2RF/VE495** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 1 200 | 0,3 | **YARAG 206** |

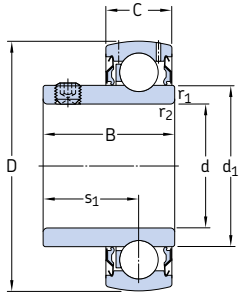
**E2** → **SKF Energy Efficient** bearing

| Dimensions | | | | | | | Basic load ratings dynamic | static | Fatigue load limit | Limiting speed with shaft tolerance | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | C | $d_1$ ~ | $s_1$ | $r_{1,2}$ min. | C | $C_0$ | $P_u$ | h6 | | |
| mm | | | | | | | kN | | kN | r/min | kg | – |
| **35** | 72 | 33 | 19 | 46,1 | 23,3 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,31 | **YAT 207** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,44 | **E2.YAR 207-2F** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,41 | **YAR 207-2F** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 3 200 | 0,41 | **YAR 207-2RF** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 21,6 | 15,3 | 0,655 | 3 200 | 0,42 | **YAR 207-2RF/HV** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 3 200 | 0,42 | **YAR 207-2RF/VE495** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,44 | **YARAG 207** |
| **40** | 80 | 36 | 21 | 51,8 | 25,3 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,43 | **YAT 208** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,59 | **E2.YAR 208-2F** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,55 | **YAR 208-2F** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 2 800 | 0,55 | **YAR 208-2RF** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 26 | 19 | 0,8 | 2 800 | 0,56 | **YAR 208-2RF/HV** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 2 800 | 0,56 | **YAR 208-2RF/VE495** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 950 | 0,59 | **YARAG 208** |
| **45** | 85 | 37 | 22 | 56,8 | 25,8 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,48 | **YAT 209** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,65 | **E2.YAR 209-2F** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,6 | **YAR 209-2F** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 2 400 | 0,6 | **YAR 209-2RF** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 850 | 0,66 | **YARAG 209** |
| **50** | 90 | 38,8 | 22 | 62,5 | 27,6 | 1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,54 | **YAT 210** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,69 | **YAR 210-2F** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 2 200 | 0,69 | **YAR 210-2RF** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 29,6 | 23,2 | 0,98 | 2 200 | 0,69 | **YAR 210-2RF/HV** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 2 200 | 0,69 | **YAR 210-2RF/VE495** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 800 | 0,74 | **YARAG 210** |
| **55** | 100 | 55,6 | 25 | 69 | 33,4 | 1 | 43,6 | 29 | 1,25 | 3 600 | 0,94 | **YAR 211-2F** |
| | 100 | 55,6 | 25 | 69 | 33,4 | 1 | 43,6 | 29 | 1,25 | 1 900 | 0,94 | **YAR 211-2RF** |
| **60** | 110 | 65,1 | 26 | 75,6 | 39,7 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,35 | **YAR 212-2F** |
| | 110 | 65,1 | 26 | 75,6 | 39,7 | 1,5 | 52,7 | 36 | 1,53 | 1 800 | 1,35 | **YAR 212-2RF** |
| **65** | 120 | 68,3 | 27 | 82,5 | 42,9 | 1,5 | 57,2 | 40 | 1,7 | 3 000 | 1,7 | **YAR 213-2F** |
| | 120 | 68,3 | 27 | 82,5 | 42,9 | 1,5 | 57,2 | 40 | 1,7 | 1 600 | 1,7 | **YAR 213-2RF** |
| **70** | 125 | 69,9 | 28 | 87 | 39,7 | 1,5 | 62,4 | 45 | 1,86 | 2 800 | 1,9 | **YAR 214-2F** |
| **75** | 130 | 73,3 | 29 | 92 | 46,3 | 1,5 | 66,3 | 49 | 2,04 | 2 600 | 2,1 | **YAR 215-2F** |
| **80** | 140 | 77,8 | 30 | 97,4 | 47,6 | 2 | 72,8 | 53 | 2,16 | 2 400 | 2,7 | **YAR 216-2F** |
| **85** | 150 | 81 | 34 | 105 | 50,8 | 2 | 83,2 | 62 | 2,4 | 2 200 | 3,35 | **YAR 217-2F** |
| **90** | 160 | 89 | 36 | 112 | 54 | 2 | 95,6 | 72 | 2,7 | 2 000 | 4,1 | **YAR 218-2F** |
| **100** | 180 | 98,4 | 40 | 124 | 63,4 | 2 | 124 | 93 | 3,35 | 1 900 | 5,35 | **YAR 220-2F** |

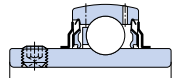
**E2** → **SKF Energy Efficient** bearing

## 2.2 Y-bearings with grub screws, inch shafts

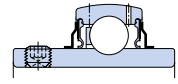
d **1/2 – 1 11/16** in.
*12,7 – 42,863 mm*



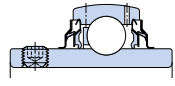

YAT



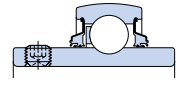
YAR .. -2F



E2.YAR .. -2F



YAR .. -2RF



YARAG

| Principal dimensions | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | C | $d_1$ ~ | $s_1$ | $r_{1,2}$ min. | dynamic C | static $C_0$ | $P_u$ | with shaft tolerance h6 | | |
| in./*mm* | mm | | | | | | kN | | kN | r/min | kg | – |
| **1/2** | 40 | 27,4 | 12 | 24,2 | 15,9 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,12 | **YAR 203-008-2F** |
| *12,7* | | | | | | | | | | | | |
| **5/8** | 40 | 22,5 | 12 | 24,2 | 16 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,1 | **YAT 203-010** |
| *15,875* | 40 | 27,4 | 12 | 24,2 | 15,9 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,11 | **YAR 203-010-2F** |
| **3/4** | 47 | 25,5 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,14 | **YAT 204-012** |
| *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** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,17 | **YAR 204-012-2F** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,16 | **YAR 204-012-2F/AH** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 5 000 | 0,16 | **YAR 204-012-2RF** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 10,8 | 6,55 | 0,28 | 5 000 | 0,16 | **YAR 204-012-2RF/HV** |
| | 47 | 31 | 14 | 28,2 | 18,3 | 0,6 | 12,7 | 6,55 | 0,28 | 5 000 | 0,16 | **YAR 204-012-2RF/VE495** |
| **7/8** | 52 | 27,2 | 15 | 33,7 | 19,5 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,17 | **YAT 205-014** |
| *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** | 52 | 27,2 | 15 | 33,7 | 19,5 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,18 | **YAT 205-015** |
| *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** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,21 | **YAR 205-015-2F** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 4 300 | 0,21 | **YAR 205-015-2RF/VE495** |
| **1** | 52 | 27,2 | 15 | 33,7 | 19,5 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,16 | **YAT 205-100** |
| *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** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,19 | **YAR 205-100-2F** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,19 | **YAR 205-100-2F/AH** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 4 300 | 0,19 | **YAR 205-100-2RF** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 11,9 | 7,8 | 0,335 | 4 300 | 0,19 | **YAR 205-100-2RF/HV** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 4 300 | 0,19 | **YAR 205-100-2RF/VE495** |
| | 52 | 34,1 | 15 | 33,7 | 19,8 | 0,6 | 14 | 7,8 | 0,335 | 1 500 | 0,18 | **YARAG 205-100** |
| **1 1/16** | 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** |
| *26,988* | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,34 | **YAR 206-101-2F** |
| **1 1/8** | 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** |
| *28,575* | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,34 | **YAR 206-102-2F** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 1 200 | 0,31 | **YARAG 206-102** |

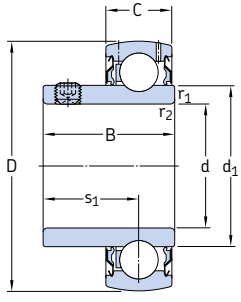
**E2 → SKF Energy Efficient** bearing

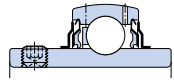
| Principal dimensions | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | C | $d_1$ ~ | $s_1$ | $r_{1,2}$ min. | dynamic C | static $C_0$ | $P_u$ | with shaft tolerance h6 | | |
| in./*mm* | mm | | | | | | kN | | kN | r/min | kg | – |
| **1 3/16** | 62 | 31 | 18 | 39,7 | 22 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,28 | **YAT 206-103** |
| *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** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,31 | **YAR 206-103-2F** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,31 | **YAR 206-103-2F/AH** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 16,3 | 11,2 | 0,475 | 3 800 | 0,29 | **YAR 206-103-2RF/HV** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 3 800 | 0,29 | **YAR 206-103-2RF/VE495** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 1 200 | 0,29 | **YARAG 206-103** |
| **1 1/4** | 62 | 31 | 18 | 39,7 | 22 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,28 | **YAT 206-104** |
| *31,75* | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,27 | **E2.YAR 206-104-2F** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,28 | **YAR 206-104-2F** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 3 800 | 0,29 | **YAR 206-104-2RF/VE495** |
| | 62 | 38,1 | 18 | 39,7 | 22,2 | 0,6 | 19,5 | 11,2 | 0,475 | 1 200 | 0,27 | **YARAG 206-104** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,5 | **E2.YAR 207-104-2F** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,52 | **YAR 207-104-2F** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 3 200 | 0,52 | **YAR 207-104-2RF** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 21,6 | 15,3 | 0,655 | 3 200 | 0,52 | **YAR 207-104-2RF/HV** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 3 200 | 0,52 | **YAR 207-104-2RF/VE495** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,5 | **YARAG 207-104** |
| **1 5/16** | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,47 | **E2.YAR 207-105-2F** |
| *33,338* | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,48 | **YAR 207-105-2F** |
| **1 3/8** | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,44 | **E2.YAR 207-106-2F** |
| *34,925* | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,46 | **YAR 207-106-2F** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 21,6 | 15,3 | 0,655 | 3 200 | 0,42 | **YAR 207-106-2RF/HV** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 3 200 | 0,42 | **YAR 207-106-2RF/VE495** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,44 | **YARAG 207-106** |
| **1 7/16** | 72 | 35 | 19 | 46,1 | 25,5 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,38 | **YAT 207-107** |
| *36,513* | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,41 | **E2.YAR 207-107-2F** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,42 | **YAR 207-107-2F** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 21,6 | 15,3 | 0,655 | 3 200 | 0,43 | **YAR 207-107-2RF/HV** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 3 200 | 0,43 | **YAR 207-107-2RF/VE495** |
| | 72 | 42,9 | 19 | 46,1 | 25,4 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,41 | **YARAG 207-107** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,68 | **E2.YAR 208-107-2F** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,7 | **YAR 208-107-2F** |
| **1 1/2** | 80 | 40 | 21 | 51,8 | 28,5 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,58 | **YAT 208-108** |
| *38,1* | | | | | | | | | | | | |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,64 | **E2.YAR 208-108-2F** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,59 | **YAR 208-108-2F** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 2 800 | 0,59 | **YAR 208-108-2RF** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 26 | 19 | 0,8 | 2 800 | 0,56 | **YAR 208-108-2RF/HV** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 2 800 | 0,59 | **YAR 208-108-2RF/VE495** |
| | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 950 | 0,64 | **YARAG 208-108** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,82 | **E2.YAR 209-108-2F** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,86 | **YAR 209-108-2F** |
| **1 9/16** | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,6 | **E2.YAR 208-109-2F** |
| *39,688* | 80 | 49,2 | 21 | 51,8 | 30,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,64 | **YAR 208-109-2F** |
| **1 5/8** | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,75 | **E2.YAR 209-110-2F** |
| *41,275* | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,79 | **YAR 209-110-2F** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 850 | 0,79 | **YARAG 209-110** |
| **1 11/16** | 85 | 41,5 | 22 | 56,8 | 30,5 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,65 | **YAT 209-111** |
| *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** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,75 | **YAR 209-111-2F** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 850 | 0,75 | **YARAG 209-111** |

**E2 → SKF Energy Efficient** bearing

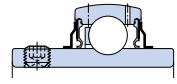
## 2.2 Y-bearings with grub screws, inch shafts

d **1 3/4 – 3** in.
*44,45 – 76,2 mm*

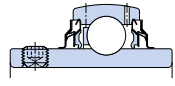


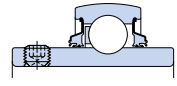
YAR .. -2F



E2.YAR .. -2F



YAR .. -2RF



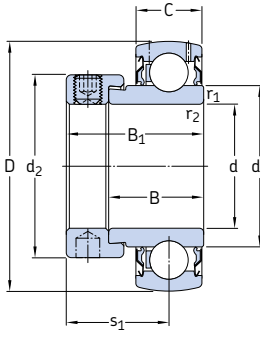
YARAG

YAT

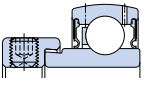
| Principal dimensions | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | C | $d_1$ ~ | $s_1$ | $r_{1,2}$ min. | dynamic C | static $C_0$ | $P_u$ | with shaft tolerance h6 | | |
| in./*mm* | mm | | | | | | kN | | kN | r/min | kg | – |
| **1 3/4** | 85 | 41,5 | 22 | 56,8 | 30,5 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,6 | **YAT 209-112** |
| *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** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,62 | **YAR 209-112-2F** |
| | 85 | 49,2 | 22 | 56,8 | 30,2 | 1 | 33,2 | 21,6 | 0,915 | 2 400 | 0,62 | **YAR 209-112-2RF** |
| **1 15/16** | 90 | 43 | 22 | 62,5 | 32 | 1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,67 | **YAT 210-115** |
| *49,213* | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,78 | **YAR 210-115-2F** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 2 200 | 0,78 | **YAR 210-115-2RF** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 29,6 | 23,2 | 0,98 | 2 200 | 0,78 | **YAR 210-115-2RF/HV** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 2 200 | 0,78 | **YAR 210-115-2RF/VE495** |
| | 90 | 51,6 | 22 | 62,5 | 32,6 | 1 | 35,1 | 23,2 | 0,98 | 800 | 0,77 | **YARAG 210-115** |
| **2** | 100 | 45 | 25 | 69 | 32,5 | 1 | 43,6 | 29 | 1,25 | 3 600 | 1,05 | **YAT 211-200** |
| *50,8* | 100 | 55,6 | 25 | 69 | 33,4 | 1 | 43,6 | 29 | 1,25 | 3 600 | 1,1 | **YAR 211-200-2F** |
| | 100 | 55,6 | 25 | 69 | 33,4 | 1 | 43,6 | 29 | 1,25 | 1 900 | 1,1 | **YAR 211-200-2RF** |
| **2 3/16** | 100 | 55,6 | 25 | 69 | 33,4 | 1 | 43,6 | 29 | 1,25 | 3 600 | 1,05 | **YAR 211-203-2F** |
| *55,563* | 100 | 55,6 | 25 | 69 | 33,4 | 1 | 43,6 | 29 | 1,25 | 3 600 | 1,05 | **YAR 211-203-2F/AH** |
| | 110 | 65,1 | 26 | 75,6 | 39,7 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,7 | **YAR 212-203-2F** |
| **2 1/4** | 110 | 48,5 | 26 | 75,6 | 35 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,25 | **YAT 212-204** |
| *57,15* | 110 | 65,1 | 26 | 75,6 | 39,7 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,6 | **YAR 212-204-2F** |
| **2 7/16** | 110 | 48,5 | 26 | 75,6 | 35 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,25 | **YAT 212-207** |
| *61,913* | 110 | 65,1 | 26 | 75,6 | 39,7 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,35 | **YAR 212-207-2F** |
| | 125 | 69,9 | 28 | 87 | 39,7 | 1,5 | 62,4 | 44 | 1,86 | 2 800 | 2,45 | **YAR 214-207-2F** |
| **2 1/2** | 120 | 68,3 | 27 | 82,5 | 42,9 | 1,5 | 57,2 | 40 | 1,7 | 3 000 | 1,9 | **YAR 213-208-2F** |
| *63,5* | 120 | 68,3 | 27 | 82,5 | 42,9 | 1,5 | 57,2 | 40 | 1,7 | 1 600 | 1,9 | **YAR 213-208-2RF** |
| | 125 | 69,9 | 28 | 87 | 39,7 | 1,5 | 62,4 | 44 | 1,86 | 2 800 | 2,4 | **YAR 214-208-2F** |
| **2 11/16** | 120 | 68,3 | 27 | 82,5 | 42,9 | 1,5 | 57,2 | 40 | 1,7 | 3 000 | 1,7 | **YAR 213-211-2F** |
| *68,263* | | | | | | | | | | | | |
| **2 15/16** | 130 | 53,5 | 29 | 92 | 39 | 1,5 | 66,3 | 49 | 2,04 | 2 600 | 2,1 | **YAT 215-215** |
| *74,613* | 130 | 73,3 | 29 | 92 | 46,1 | 1,5 | 66,3 | 49 | 2,04 | 2 600 | 2,2 | **YAR 215-215-2F** |
| **3** | 140 | 55,5 | 30 | 97,4 | 39 | 2 | 72,8 | 53 | 2,16 | 2 400 | 2,35 | **YAT 216-300** |
| *76,2* | 140 | 77,9 | 30 | 97,4 | 47,7 | 2 | 72,8 | 53 | 2,16 | 2 400 | 2,85 | **YAR 216-300-2F** |

**E2** → **SKF Energy Efficient** bearing

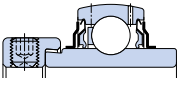
## 2.3 Y-bearings with an eccentric locking collar, metric shafts
d **15 – 60** mm



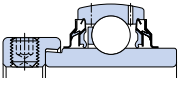

YET



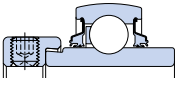
E2.YET



YEL .. -2F



YEL .. -2RF/VL06



YELAG

| Dimensions | | | | | | | | | Basic load ratings dynamic | static | Fatigue load limit | Limiting speed with shaft tolerance h6 | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | $B_1$ | C | $d_1$ ~ | $d_2$ | $s_1$ | $r_{1,2}$ min. | C | $C_0$ | $P_u$ | | | |
| mm | | | | | | | | | kN | | kN | r/min | kg | – |
| **15** | 40 | 19,1 | 28,6 | 12 | 24,2 | 27,2 | 22,6 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,12 | **YET 203/15** |
| **17** | 40 | 19,1 | 28,6 | 12 | 24,2 | 27,2 | 22,6 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,1 | **YET 203** |
| **20** | 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** |
| | 47 | 21,5 | 31 | 14 | 28,2 | 32,4 | 24 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,18 | **YET 204** |
| | 47 | 21,5 | 31 | 14 | 28,2 | 32,4 | 24 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,18 | **YET 204/VL065** |
| | 47 | 34,2 | 43,7 | 14 | 28,2 | 32,4 | 26,6 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,19 | **YEL 204-2F** |
| | 47 | 34,2 | 43,7 | 14 | 28,2 | 32,4 | 26,6 | 0,6 | 12,7 | 6,55 | 0,28 | 5 000 | 0,19 | **YEL 204-2RF/VL065** |
| | 47 | 34,2 | 43,7 | 14 | 28,2 | 32,4 | 26,6 | 0,6 | 12,7 | 6,55 | 0,28 | 1 800 | 0,19 | **YELAG 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** |
| | 52 | 21,5 | 31 | 15 | 33,7 | 37,4 | 23,5 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,18 | **YET 205** |
| | 52 | 21,5 | 31 | 15 | 33,7 | 37,4 | 23,5 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,18 | **YET 205/VL065** |
| | 52 | 34,9 | 44,4 | 15 | 33,7 | 37,4 | 26,9 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,24 | **YEL 205-2F** |
| | 52 | 34,9 | 44,4 | 15 | 33,7 | 37,4 | 26,9 | 0,6 | 14 | 7,8 | 0,335 | 4 300 | 0,24 | **YEL 205-2RF/VL065** |
| | 52 | 34,9 | 44,4 | 15 | 33,7 | 37,4 | 26,9 | 0,6 | 14 | 7,8 | 0,335 | 1 500 | 0,23 | **YELAG 205** |
| **30** | 62 | 23,8 | 35,7 | 18 | 39,7 | 44,1 | 26,7 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,3 | **E2.YET 206** |
| | 62 | 23,8 | 35,7 | 18 | 39,7 | 44,1 | 26,7 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,3 | **YET 206** |
| | 62 | 23,8 | 35,7 | 18 | 39,7 | 44,1 | 26,7 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,3 | **YET 206/VL065** |
| | 62 | 36,5 | 48,4 | 18 | 39,7 | 44,1 | 30,1 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,36 | **YEL 206-2F** |
| | 62 | 36,5 | 48,4 | 18 | 39,7 | 44,1 | 30,1 | 0,6 | 19,5 | 11,2 | 0,475 | 3 900 | 0,36 | **YEL 206-2RF/VL065** |
| | 62 | 36,5 | 48,4 | 18 | 39,7 | 44,1 | 30,1 | 0,6 | 19,5 | 11,2 | 0,475 | 1 200 | 0,36 | **YELAG 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** |
| | 72 | 25,4 | 38,9 | 19 | 46,1 | 51,1 | 29,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,44 | **YET 207** |
| | 72 | 25,4 | 38,9 | 19 | 46,1 | 51,1 | 29,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,44 | **YET 207/VL065** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,55 | **YEL 207-2F** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 3 200 | 0,55 | **YEL 207-2RF/VL065** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,52 | **YELAG 207** |

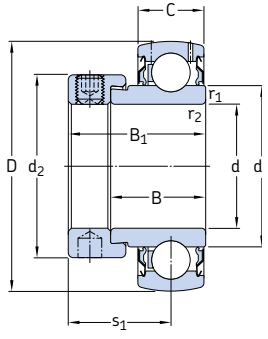
**E2 → SKF Energy Efficient** bearing

| Dimensions | | | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | $B_1$ | C | $d_1$ ~ | $d_2$ | $s_1$ | $r_{1,2}$ min. | dynamic C | static $C_0$ | $P_u$ | with shaft tolerance h6 | | |
| mm | | | | | | | | | kN | | kN | r/min | kg | – |
| **40** | 80 | 30,2 | 43,7 | 21 | 51,8 | 56,5 | 33,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,6 | **E2.YET 208** |
| | 80 | 30,2 | 43,7 | 21 | 51,8 | 56,5 | 33,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,59 | **YET 208** |
| | 80 | 30,2 | 43,7 | 21 | 51,8 | 56,5 | 33,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,59 | **YET 208/VL065** |
| | 80 | 42,8 | 56,3 | 21 | 51,8 | 56,5 | 34,9 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,67 | **YEL 208-2F** |
| | 80 | 42,8 | 56,3 | 21 | 51,8 | 56,5 | 34,9 | 1 | 30,7 | 19 | 0,8 | 2 800 | 0,67 | **YEL 208-2RF/VL065** |
| | 80 | 42,8 | 56,3 | 21 | 51,8 | 56,5 | 34,9 | 1 | 30,7 | 19 | 0,8 | 950 | 0,7 | **YELAG 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** |
| | 85 | 30,2 | 43,7 | 22 | 56,8 | 62 | 32,7 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,65 | **YET 209** |
| | 85 | 42,8 | 56,3 | 22 | 56,8 | 62 | 34,9 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,74 | **YEL 209-2F** |
| | 85 | 42,8 | 56,3 | 22 | 56,8 | 62 | 34,9 | 1 | 33,2 | 21,6 | 0,915 | 850 | 0,78 | **YELAG 209** |
| **50** | 90 | 30,2 | 43,7 | 22 | 62,5 | 67,2 | 32,7 | 1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,7 | **YET 210** |
| | 90 | 49,2 | 62,7 | 22 | 62,5 | 67,2 | 38,1 | 1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,89 | **YEL 210-2F** |
| | 90 | 49,2 | 62,7 | 22 | 62,5 | 67,2 | 38,1 | 1 | 35,1 | 23,2 | 0,98 | 800 | 0,87 | **YELAG 210** |
| **55** | 100 | 32,6 | 48,4 | 25 | 69 | 74,5 | 35,9 | 1 | 43,6 | 29 | 1,25 | 3 600 | 0,9 | **YET 211** |
| | 100 | 55,6 | 71,4 | 25 | 69 | 74,5 | 43,6 | 1 | 43,6 | 29 | 1,25 | 3 600 | 1,2 | **YEL 211-2F** |
| **60** | 110 | 37,2 | 53,1 | 26 | 75,6 | 82 | 40,1 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,3 | **YET 212** |
| | 110 | 61,9 | 77,8 | 26 | 75,6 | 82 | 46,8 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,6 | **YEL 212-2F** |

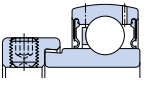
**E2** → **SKF Energy Efficient** bearing

## 2.4 Y-bearings with an eccentric locking collar, inch shafts

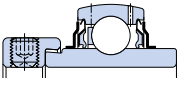
d **1/2 – 2 7/16** in.
*12,7 – 61,913 mm*



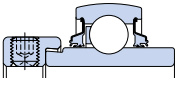

YET



E2.YET



YEL .. -2F



YELAG

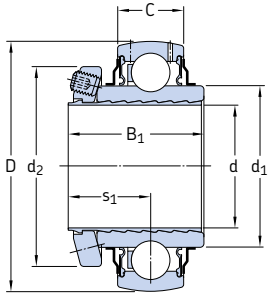
| Dimensions | | | | | | | | | Basic load ratings dynamic | static | Fatigue load limit | Limiting speed with shaft tolerance h6 | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | $B_1$ | C | $d_1$ ~ | $d_2$ | $s_1$ | $r_{1,2}$ min. | C | $C_0$ | $P_u$ | | | |
| in./*mm* | mm | | | | | | | | kN | | kN | r/min | kg | – |
| **1/2** | 40 | 19,1 | 28,6 | 12 | 24,2 | 27,2 | 22,6 | 0,3 | 9,56 | 4,75 | 0,2 | 9 500 | 0,13 | **YET 203-008** |
| *12,7* | | | | | | | | | | | | | | |
| **3/4** | 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** |
| *19,05* | 47 | 21,5 | 31 | 14 | 28,2 | 32,4 | 24 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,17 | **YET 204-012** |
| | 47 | 34,2 | 43,7 | 14 | 28,2 | 32,4 | 26,6 | 0,6 | 12,7 | 6,55 | 0,28 | 8 500 | 0,2 | **YEL 204-012-2F** |
| **1** | 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** |
| *25,4* | 52 | 21,5 | 31 | 15 | 33,7 | 37,4 | 23,5 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,18 | **YET 205-100** |
| | 52 | 34,9 | 44,4 | 15 | 33,7 | 37,4 | 26,9 | 0,6 | 14 | 7,8 | 0,335 | 7 000 | 0,22 | **YEL 205-100-2F** |
| | 52 | 34,9 | 44,4 | 15 | 33,7 | 37,4 | 26,9 | 0,6 | 14 | 7,8 | 0,335 | 1 500 | 0,23 | **YELAG 205-100** |
| **1 1/8** | 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** |
| *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 | **YET 206-102** |
| | 62 | 36,5 | 48,4 | 18 | 39,7 | 44,1 | 30,1 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,39 | **YEL 206-102-2F** |
| | 62 | 36,5 | 48,4 | 18 | 39,7 | 44,1 | 30,1 | 0,6 | 19,5 | 11,2 | 0,475 | 1 200 | 0,39 | **YELAG 206-102** |
| **1 3/16** | 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** |
| *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 | **YET 206-103** |
| | 62 | 36,5 | 48,4 | 18 | 39,7 | 44,1 | 30,1 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,35 | **YEL 206-103-2F** |
| | 62 | 36,5 | 48,4 | 18 | 39,7 | 44,1 | 30,1 | 0,6 | 19,5 | 11,2 | 0,475 | 1 200 | 0,36 | **YELAG 206-103** |
| **1 1/4** | 62 | 23,8 | 35,7 | 18 | 39,7 | 44,1 | 26,7 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,27 | **E2.YET 206-104** |
| *31,75* | 62 | 23,8 | 35,7 | 18 | 39,7 | 44,1 | 26,7 | 0,6 | 19,5 | 11,2 | 0,475 | 6 300 | 0,28 | **YET 206-104** |
| | 72 | 25,4 | 38,9 | 19 | 46,1 | 51,1 | 29,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,48 | **E2.YET 207-104** |
| | 72 | 25,4 | 38,9 | 19 | 46,1 | 51,1 | 29,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,49 | **YET 207-104** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,57 | **YEL 207-104-2F** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,59 | **YELAG 207-104** |
| **1 5/16** | 72 | 25,4 | 38,9 | 19 | 46,1 | 51,1 | 29,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,46 | **YET 207-105** |
| *33,338* | | | | | | | | | | | | | | |
| **1 3/8** | 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** |
| *34,925* | 72 | 25,4 | 38,9 | 19 | 46,1 | 51,1 | 29,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,44 | **YET 207-106** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,5 | **YEL 207-106-2F** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,52 | **YELAG 207-106** |

**E2 → SKF Energy Efficient** bearing

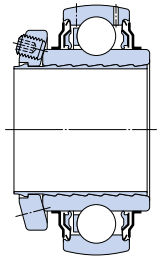
| Dimensions | | | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | $B_1$ | C | $d_1$ ~ | $d_2$ | $s_1$ | $r_{1,2}$ min. | dynamic C | static $C_0$ | $P_u$ | with shaft tolerance h6 | | |
| in./*mm* | mm | | | | | | | | kN | | kN | r/min | kg | – |
| **1 7/16** | 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** |
| *36,513* | 72 | 25,4 | 38,9 | 19 | 46,1 | 51,1 | 29,4 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,44 | **YET 207-107** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 5 300 | 0,53 | **YEL 207-107-2F** |
| | 72 | 37,6 | 51,1 | 19 | 46,1 | 51,1 | 32,3 | 1 | 25,5 | 15,3 | 0,655 | 1 100 | 0,44 | **YELAG 207-107** |
| **1 1/2** | 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** |
| *38,1* | 80 | 30,2 | 43,7 | 21 | 51,8 | 56,5 | 33,2 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,63 | **YET 208-108** |
| | 80 | 42,8 | 56,3 | 21 | 51,8 | 56,5 | 34,9 | 1 | 30,7 | 19 | 0,8 | 4 800 | 0,77 | **YEL 208-108-2F** |
| | 80 | 42,8 | 56,3 | 21 | 51,8 | 56,5 | 34,9 | 1 | 30,7 | 19 | 0,8 | 950 | 0,77 | **YELAG 208-108** |
| **1 11/16** | 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** |
| *42,863* | 85 | 30,2 | 43,7 | 22 | 56,8 | 62 | 32,7 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,74 | **YET 209-111** |
| | 85 | 42,8 | 56,3 | 22 | 56,8 | 62 | 34,9 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,88 | **YEL 209-111-2F** |
| | 85 | 42,8 | 56,3 | 22 | 56,8 | 62 | 34,9 | 1 | 33,2 | 21,6 | 0,915 | 850 | 0,84 | **YELAG 209-111** |
| **1 3/4** | 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** |
| *44,45* | 85 | 30,2 | 43,7 | 22 | 56,8 | 62 | 32,7 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,7 | **YET 209-112** |
| | 85 | 42,8 | 56,3 | 22 | 56,8 | 62 | 34,9 | 1 | 33,2 | 21,6 | 0,915 | 4 300 | 0,8 | **YEL 209-112-2F** |
| | 85 | 42,8 | 56,3 | 22 | 56,8 | 62 | 34,9 | 1 | 33,2 | 21,6 | 0,915 | 850 | 0,79 | **YELAG 209-112** |
| **1 15/16** | 90 | 49,2 | 62,7 | 22 | 62,5 | 67,2 | 38,1 | 1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,94 | **YEL 210-115-2F** |
| *49,213* | 90 | 49,2 | 62,7 | 22 | 62,5 | 67,2 | 38,1 | 1 | 35,1 | 23,2 | 0,98 | 800 | 0,92 | **YELAG 210-115** |
| **2** | 100 | 55,6 | 71,4 | 25 | 69 | 74,5 | 43,6 | 1 | 43,6 | 29 | 1,25 | 3 600 | 1,5 | **YEL 211-200-2F** |
| *50,8* | | | | | | | | | | | | | | |
| **2 3/16** | 100 | 55,6 | 71,4 | 25 | 69 | 74,5 | 43,6 | 1 | 43,6 | 29 | 1,25 | 3 600 | 1,3 | **YEL 211-203-2F** |
| *55,563* | | | | | | | | | | | | | | |
| **2 7/16** | 110 | 37,2 | 53,1 | 26 | 75,6 | 82 | 40,1 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,2 | **YET 212-207** |
| *61,913* | 110 | 61,9 | 77,8 | 26 | 75,6 | 82 | 46,8 | 1,5 | 52,7 | 36 | 1,53 | 3 400 | 1,7 | **YEL 212-207-2F** |

**E2** → **SKF Energy Efficient** bearing

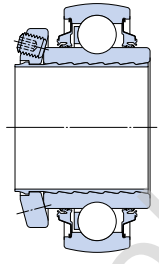
## 2.5 SKF ConCentra Y-bearings, metric shafts
d **25 – 60** mm




E2.YSP .. SB-2F



YSP .. SB-2F



YSPAG

| Dimensions | | | | | | | Basic load ratings dynamic | static | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 14 | 7,8 | 0,335 | 7 000 | 0,18 | **E2.YSP 205 SB-2F** |
| | 52 | 33 | 15 | 33,7 | 41,7 | 21 | 14 | 7,8 | 0,335 | 7 000 | 0,19 | **YSP 205 SB-2F** |
| | 52 | 33 | 15 | 33,7 | 41,7 | 21 | 14 | 7,8 | 0,335 | 1 500 | 0,19 | **YSPAG 205** |
| **30** | 62 | 37 | 18 | 39,7 | 48 | 23 | 19,5 | 11,2 | 0,475 | 6 300 | 0,3 | **E2.YSP 206 SB-2F** |
| | 62 | 37 | 18 | 39,7 | 48 | 23 | 19,5 | 11,2 | 0,475 | 6 300 | 0,3 | **YSP 206 SB-2F** |
| | 62 | 37 | 18 | 39,7 | 48 | 23 | 19,5 | 11,2 | 0,475 | 1 200 | 0,3 | **YSPAG 206** |
| **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** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 5 300 | 0,45 | **YSP 207 SB-2F** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 1 100 | 0,44 | **YSPAG 207** |
| **40** | 80 | 42,9 | 21 | 51,8 | 62 | 25,9 | 30,7 | 19 | 0,8 | 4 800 | 0,59 | **E2.YSP 208 SB-2F** |
| | 80 | 42,9 | 21 | 51,8 | 62 | 25,9 | 30,7 | 19 | 0,8 | 4 800 | 0,6 | **YSP 208 SB-2F** |
| | 80 | 42,9 | 21 | 51,8 | 62 | 25,9 | 30,7 | 19 | 0,8 | 950 | 0,59 | **YSPAG 208** |
| **45** | 85 | 44 | 22 | 56,8 | 67 | 26,5 | 33,2 | 21,6 | 0,915 | 4 300 | 0,64 | **E2.YSP 209 SB-2F** |
| | 85 | 44 | 22 | 56,8 | 67 | 26,5 | 33,2 | 21,6 | 0,915 | 4 300 | 0,65 | **YSP 209 SB-2F** |
| | 85 | 44 | 22 | 56,8 | 67 | 26,5 | 33,2 | 21,6 | 0,915 | 850 | 0,64 | **YSPAG 209** |
| **50** | 90 | 46 | 22 | 62,5 | 72 | 27,5 | 35,1 | 23,2 | 0,98 | 4 000 | 0,75 | **YSP 210 SB-2F** |
| | 90 | 46 | 22 | 62,5 | 72 | 27,5 | 35,1 | 23,2 | 0,98 | 800 | 0,74 | **YSPAG 210** |
| **55** | 100 | 49 | 25 | 69 | 77,6 | 29 | 43,6 | 29 | 1,25 | 3 600 | 0,98 | **YSP 211 SB-2F** |
| **60** | 110 | 51,5 | 26 | 75,6 | 83 | 30,3 | 52,7 | 36 | 1,53 | 3 400 | 1,25 | **YSP 212 SB-2F** |

[1] Width/distance before the grub screw is tightened (sleeve and inner ring bore at starting position).
**E2** → **SKF Energy Efficient** bearing

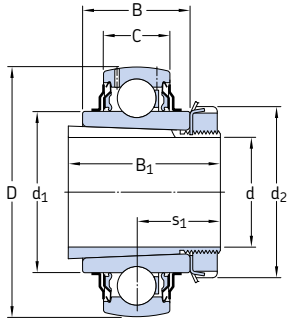
## 2.6 SKF ConCentra Y-bearings, inch shafts

d **1 – 2 11/16** in.
*25,4 – 68,263 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 | $C_0$ | $P_u$ | | | |
| in./*mm* | mm | | | | | | kN | | kN | r/min | kg | – |
| **1**<br>*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** |
| | 52 | 33 | 15 | 33,7 | 41,7 | 21 | 14 | 7,8 | 0,335 | 7 000 | 0,18 | **YSP 205-100 SB-2F** |
| | 52 | 33 | 15 | 33,7 | 41,7 | 21 | 14 | 7,8 | 0,335 | 1 500 | 0,18 | **YSPAG 205-100** |
| **1 3/16**<br>*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** |
| | 62 | 37 | 18 | 39,7 | 48 | 23 | 19,5 | 11,2 | 0,475 | 6 300 | 0,3 | **YSP 206-103 SB-2F** |
| | 62 | 37 | 18 | 39,7 | 48 | 23 | 19,5 | 11,2 | 0,475 | 1 200 | 0,29 | **YSPAG 206-103** |
| **1 1/4**<br>*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** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 5 300 | 0,52 | **YSP 207-104 SB-2F** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 1 100 | 0,49 | **YSPAG 207-104** |
| **1 3/8**<br>*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** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 5 300 | 0,44 | **YSP 207-106 SB-2F** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 1 100 | 0,44 | **YSPAG 207-106** |
| **1 7/16**<br>*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** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 5 300 | 0,42 | **YSP 207-107 SB-2F** |
| | 72 | 39,5 | 19 | 46,1 | 57 | 24,3 | 25,5 | 15,3 | 0,655 | 1 100 | 0,41 | **YSPAG 207-107** |
| **1 1/2**<br>*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** |
| | 80 | 42,9 | 21 | 51,8 | 62 | 25,9 | 30,7 | 19 | 0,8 | 4 800 | 0,59 | **YSP 208-108 SB-2F** |
| | 80 | 42,9 | 21 | 51,8 | 62 | 25,9 | 30,7 | 19 | 0,8 | 950 | 0,58 | **YSPAG 208-108** |
| **1 11/16**<br>*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** |
| | 85 | 44 | 22 | 56,8 | 67 | 26,5 | 33,2 | 21,6 | 0,915 | 4 300 | 0,7 | **YSP 209-111 SB-2F** |
| | 85 | 44 | 22 | 56,8 | 67 | 26,5 | 33,2 | 21,6 | 0,915 | 850 | 0,69 | **YSPAG 209-111** |
| **1 15/16**<br>*49,213* | 90 | 46 | 22 | 62,5 | 72 | 27,5 | 35,1 | 23,2 | 0,98 | 4 000 | 0,75 | **YSP 210-115 SB-2F** |
| | 90 | 46 | 22 | 62,5 | 72 | 27,5 | 35,1 | 23,2 | 0,98 | 800 | 0,74 | **YSPAG 210-115** |
| **2**<br>*50,8* | 100 | 49 | 25 | 69 | 77,6 | 29 | 43,6 | 29 | 1,25 | 3 600 | 1,1 | **YSP 211-200 SB-2F** |
| **2 3/16**<br>*55,563* | 100 | 49 | 25 | 69 | 77,6 | 29 | 43,6 | 29 | 1,25 | 3 600 | 0,97 | **YSP 211-203 SB-2F** |
| **2 1/4**<br>*57,15* | 110 | 51,5 | 26 | 75,6 | 83 | 30,3 | 52,7 | 36 | 1,53 | 3 400 | 1,35 | **YSP 212-204 SB-2F** |
| **2 7/16**<br>*61,913* | 110 | 51,5 | 26 | 75,6 | 87,3 | 30,3 | 52,7 | 36 | 1,53 | 3 400 | 1,2 | **YSP 212-207 SB-2F** |
| **2 11/16**<br>*68,263* | 120 | 52,5 | 27 | 82,5 | 89,4 | 30,8 | 57,2 | 40 | 1,7 | 3 000 | 1,45 | **YSP 213-211 SB-2F** |

[1] Width/distance before the grub screw is tightened (sleeve and inner ring bore at starting position).
**E2** → **SKF Energy Efficient** bearing

## 2.7 Y-bearings with a tapered bore on an adapter sleeve, metric shafts
d **20 – 60** mm




| Dimensions | | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designations | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | $B_1$ | C | $d_1$ ~ | $d_2$ | $s_1$ [1] ~ | dynamic C | static $C_0$ | $P_u$ | | Bearing incl. sleeve | Bearing | Adapter sleeve |
| mm | | | | | | | | kN | | kN | r/min | kg | – | |
| **20** | 52 | 24 | 35 | 15 | 33,7 | 38 | 20,5 | 14 | 7,8 | 0,335 | 7 000 | 0,22 | **YSA 205-2FK** | **H 2305** |
| **25** | 62 | 28 | 38 | 18 | 39,7 | 45 | 22,5 | 19,5 | 11,2 | 0,475 | 6 300 | 0,33 | **YSA 206-2FK** | **H 2306** |
| **30** | 72 | 30,5 | 43 | 19 | 46,1 | 52 | 24,8 | 25,5 | 15,3 | 0,655 | 5 300 | 0,47 | **YSA 207-2FK** | **H 2307** |
| **35** | 80 | 33,9 | 46 | 21 | 51,8 | 58 | 27,5 | 30,7 | 19 | 0,8 | 4 800 | 0,69 | **YSA 208-2FK** | **H 2308** |
| **40** | 85 | 35 | 50 | 22 | 56,8 | 65 | 29 | 33,2 | 21,6 | 0,915 | 4 300 | 0,77 | **YSA 209-2FK** | **H 2309** |
| **45** | 90 | 37 | 55 | 22 | 62,5 | 70 | 31,1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,88 | **YSA 210-2FK** | **H 2310** |
| **50** | 100 | 40 | 59 | 25 | 69 | 75 | 32,5 | 43,6 | 29 | 1,25 | 3 600 | 1,1 | **YSA 211-2FK** | **H 2311** |
| **55** | 110 | 42,5 | 62 | 26 | 75,6 | 80 | 33,8 | 52,7 | 36 | 1,53 | 3 400 | 1,4 | **YSA 212-2FK** | **H 2312** |
| **60** | 120 | 43,5 | 65 | 27 | 82,5 | 85 | 35,4 | 57,2 | 40 | 1,7 | 3 000 | 1,7 | **YSA 213-2FK** | **H 2313** |

[1] Distance before the sleeve is driven into the bearing bore (sleeve and inner ring bore at starting position).

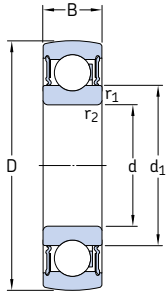
## 2.8 Y-bearings with a tapered bore on an adapter sleeve, inch shafts

d **3/4 – 2 3/8** in.
*19,05 – 60,325 mm*

| Dimensions | | | | | | | | Basic load ratings | | Fatigue load limit | Limiting speed | Mass | Designations | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | $B_1$ | C | $d_1$ ~ | $d_2$ | $s_1$[1] ~ | dynamic C | static $C_0$ | $P_u$ | | Bearing incl. sleeve | Bearing | Adapter sleeve |
| in./*mm* | mm | | | | | | | kN | | kN | r/min | kg | – | |
| **3/4**<br>*19,05* | 52 | 24 | 35 | 15 | 33,7 | 38 | 20,5 | 14 | 7,8 | 0,335 | 7 000 | 0,22 | **YSA 205-2FK** | **HE 2305** |
| **15/16**<br>*23,813* | 62 | 28 | 38 | 18 | 39,7 | 45 | 22,5 | 19,5 | 11,2 | 0,475 | 6 300 | 0,35 | **YSA 206-2FK** | **HA 2306** |
| **1**<br>*25,4* | 62 | 28 | 38 | 18 | 39,7 | 45 | 22,5 | 19,5 | 11,2 | 0,475 | 6 300 | 0,33 | **YSA 206-2FK** | **HE 2306** |
| **1 3/16**<br>*30,163* | 72 | 30,5 | 43 | 19 | 46,1 | 52 | 24,8 | 25,5 | 15,3 | 0,655 | 5 300 | 0,47 | **YSA 207-2FK** | **HA 2307** |
| **1 1/4**<br>*31,75* | 80 | 33,9 | 46 | 21 | 51,8 | 58 | 27,5 | 30,7 | 19 | 0,8 | 4 800 | 0,69 | **YSA 208-2FK** | **HE 2308** |
| **1 7/16**<br>*36,513* | 85 | 35 | 50 | 22 | 56,8 | 65 | 29 | 33,2 | 21,6 | 0,915 | 4 300 | 0,81 | **YSA 209-2FK** | **HA 2309** |
| **1 1/2**<br>*38,1* | 85 | 35 | 50 | 22 | 56,8 | 65 | 29 | 33,2 | 21,6 | 0,915 | 4 300 | 0,77 | **YSA 209-2FK** | **HE 2309** |
| **1 5/8**<br>*41,275* | 90 | 37 | 55 | 22 | 62,5 | 70 | 31,1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,94 | **YSA 210-2FK** | **HS 2310** |
| **1 11/16**<br>*42,863* | 90 | 37 | 55 | 22 | 62,5 | 70 | 31,1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,91 | **YSA 210-2FK** | **HA 2310** |
| **1 3/4**<br>*44,45* | 90 | 37 | 55 | 22 | 62,5 | 70 | 31,1 | 35,1 | 23,2 | 0,98 | 4 000 | 0,88 | **YSA 210-2FK** | **HE 2310** |
| **1 15/16**<br>*49,213* | 100 | 40 | 59 | 25 | 69 | 75 | 32,5 | 43,6 | 29 | 1,25 | 3 600 | 1,1 | **YSA 211-2FK** | **HA 2311** |
| **2**<br>*50,8* | 100 | 40 | 59 | 25 | 69 | 75 | 32,5 | 43,6 | 29 | 1,25 | 3 600 | 1,1 | **YSA 211-2FK** | **HE 2311** |
| **2 1/8**<br>*53,975* | 110 | 42,5 | 62 | 26 | 75,6 | 80 | 33,8 | 52,7 | 36 | 1,53 | 3 400 | 1,4 | **YSA 212-2FK** | **HS 2312** |
| **2 3/16**<br>*55,563* | 120 | 43,5 | 65 | 27 | 82,5 | 85 | 35,4 | 57,2 | 40 | 1,7 | 3 000 | 1,9 | **YSA 213-2FK** | **HA 2313** |
| **2 1/4**<br>*57,15* | 120 | 43,5 | 65 | 27 | 82,5 | 85 | 35,4 | 57,2 | 40 | 1,7 | 3 000 | 1,8 | **YSA 213-2FK** | **HE 2313** |
| **2 3/8**<br>*60,325* | 120 | 43,5 | 65 | 27 | 82,5 | 85 | 35,4 | 57,2 | 40 | 1,7 | 3 000 | 1,7 | **YSA 213-2FK** | **HS 2313** |

[1] Distance before the sleeve is driven into the bearing bore (sleeve and inner ring bore at starting position).

## 2.9 Y-bearings with a standard inner ring, metric shafts
d **17 – 60** mm




| Dimensions | | | | | Basic load ratings dynamic | static | Fatigue load limit | Limiting speed | Mass | Designation |
|---|---|---|---|---|---|---|---|---|---|---|
| d | D | B | $d_1$ ~ | $r_{1,2}$ min. | C | $C_0$ | $P_u$ | | | |
| mm | | | | | kN | | kN | r/min | kg | – |
| **17** | 40 | 12 | 24,5 | 0,6 | 9,56 | 4,75 | 0,2 | 12 000 | 0,06 | **1726203-2RS1** |
| **20** | 47 | 14 | 28,8 | 1 | 12,7 | 6,55 | 0,28 | 10 000 | 0,1 | **1726204-2RS1** |
| **25** | 52 | 15 | 34,3 | 1 | 14 | 7,8 | 0,335 | 8 500 | 0,11 | **1726205-2RS1** |
| | 62 | 17 | 36,6 | 1,1 | 22,5 | 11,6 | 0,49 | 7 500 | 0,2 | **1726305-2RS1** |
| **30** | 62 | 16 | 40,3 | 1 | 19,5 | 11,2 | 0,475 | 7 500 | 0,18 | **1726206-2RS1** |
| | 72 | 19 | 44,6 | 1,1 | 28,1 | 16 | 0,67 | 6 300 | 0,3 | **1726306-2RS1** |
| **35** | 72 | 17 | 46,9 | 1,1 | 25,5 | 15,3 | 0,655 | 6 300 | 0,25 | **1726207-2RS1** |
| | 80 | 21 | 49,5 | 1,5 | 33,2 | 19 | 0,815 | 6 000 | 0,4 | **1726307-2RS1** |
| **40** | 80 | 18 | 52,6 | 1,1 | 30,7 | 19 | 0,8 | 5 600 | 0,32 | **1726208-2RS1** |
| | 90 | 23 | 56,1 | 1,5 | 41 | 24 | 1 | 5 000 | 0,55 | **1726308-2RS1** |
| **45** | 85 | 19 | 57,6 | 1,1 | 33,2 | 21,6 | 0,915 | 5 000 | 0,37 | **1726209-2RS1** |
| | 100 | 25 | 62,1 | 1,5 | 52,7 | 31,5 | 1,34 | 4 500 | 0,73 | **1726309-2RS1** |
| **50** | 90 | 20 | 62,5 | 1,1 | 35,1 | 23,2 | 0,98 | 4 800 | 0,41 | **1726210-2RS1** |
| | 110 | 27 | 68,7 | 2 | 61,8 | 38 | 1,6 | 4 300 | 0,95 | **1726310-2RS1** |
| **55** | 100 | 21 | 69 | 1,5 | 43,6 | 29 | 1,25 | 4 300 | 0,54 | **1726211-2RS1** |
| **60** | 110 | 22 | 75,5 | 1,5 | 52,7 | 36 | 1,53 | 4 000 | 0,75 | **1726212-2RS1** |