

 SYF 20 FM - Ball bearing units

Image may differ from product. See technical specification for details.

## SYF 20 FM

**Short base pillow block ball bearing unit with narrow inner ring and eccentric locking collar, cast iron**

Short base pillow (plummer) block ball bearing units consist of an insert bearing mounted in a cast iron housing that can be bolted to a support surface. This variant is intended for use in applications where the direction of rotation is constant. It has a narrow inner ring and is locked onto the shaft by an eccentric locking collar, making it easy to mount.

- Strong
- Narrow design
- Ready to mount
- Lubricated and sealed bearing
- Designed for rotation in one direction
- Accommodate static initial misalignment

Overview

Dimensions

|                                    |         |
|------------------------------------|---------|
| Shaft diameter                     | 20 mm   |
| Centre height (pillow block)       | 33.3 mm |
| Housing overall width              | 32 mm   |
| Centre distance between bolt holes | 50.8 mm |
| Bearing width, total               | 30.5 mm |

Performance

|                           |                                        |
|---------------------------|----------------------------------------|
| Basic dynamic load rating | 12.7 kN                                |
| Basic static load rating  | 6.55 kN                                |
| Limiting speed            | 8 500 r/min                            |
| Note                      | Limiting speed with shaft tolerance h6 |

Properties

|                                    |                    |
|------------------------------------|--------------------|
| Housing type                       | Pillow block       |
| Number of bolt holes for fasteners | 2                  |
| Fastening bolt hole type           | Threaded           |
| Retaining feature, inner ring      | Eccentric collar   |
| Bore type                          | Cylindrical        |
| Rubber seating ring                | Without            |
| Material, housing                  | Cast iron          |
| Material, bearing                  | Bearing steel      |
| Coating                            | Without            |
| Sealing, bearing                   | Seal on both sides |
| Sealing type                       | Contact, standard  |
| Sealing, unit                      | Without            |
| Lubricant                          | Grease             |
| Relubrication hole                 | With               |
| Grease fitting                     | With               |

Logistics

|                    |          |
|--------------------|----------|
| Product net weight | 0.451 kg |
|--------------------|----------|

|             |             |
|-------------|-------------|
| eClass code | 23-05-08-02 |
| UNSPSC code | 31171536    |

Technical specification

|                          |                                    |
|--------------------------|------------------------------------|
| Compliance with standard | Not standardized                   |
| Purpose specific         | For material handling applications |
| Material, housing        | Cast iron                          |
| Sealing, bearing         | Seal on both sides                 |
| Sealing type, bearing    | Contact, standard                  |
| Sealing, unit            | Without                            |
| Coating                  | Without                            |

Dimensions - SYF 20 FM

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Dimensions

|                |           |                                                          |
|----------------|-----------|----------------------------------------------------------|
| d              | 20 mm     | Bore diameter                                            |
| d <sub>1</sub> | ≈ 28.2 mm | Shoulder diameter of inner ring                          |
| d <sub>2</sub> | 32.4 mm   | Outside diameter of locking ring                         |
| A              | 32 mm     | Base width                                               |
| A <sub>1</sub> | 21 mm     | Top width                                                |
| B <sub>1</sub> | 30.5 mm   | Overall bearing width                                    |
| B <sub>4</sub> | 4.75 mm   | Distance from locking device side face to thread centre  |
| H              | 33.3 mm   | Height of spherical seat centre                          |
| H <sub>2</sub> | 64.5 mm   | Overall height                                           |
| J              | 50.8 mm   | Centre distance between bolt holes                       |
| L              | 65 mm     | Overall length                                           |
| s <sub>1</sub> | 23.5 mm   | Distance from locking device side face to raceway centre |

GREASE FITTING

|                |        |                                           |
|----------------|--------|-------------------------------------------|
| D <sub>N</sub> | 6.5 mm | Diameter of head sphere of grease fitting |
|----------------|--------|-------------------------------------------|

|                 |               |                                           |
|-----------------|---------------|-------------------------------------------|
| SW <sub>N</sub> | 7 mm          | Hexagonal key size for the grease fitting |
| G <sub>N</sub>  | 1/4-28 SAE-LT | Thread of grease fitting                  |

## THREADED HOLE

|                |            |                                        |
|----------------|------------|----------------------------------------|
| R <sub>G</sub> | 1/4-28 UNF | Housing thread for the grease fitting  |
| R <sub>1</sub> | 2 mm       | Axial position of the housing thread   |
| R <sub>a</sub> | 45 °       | Angular position of the housing thread |

## Calculation data

|                           |                |                                        |
|---------------------------|----------------|----------------------------------------|
| Basic dynamic load rating | C              | 12.7 kN                                |
| Basic static load rating  | C <sub>0</sub> | 6.55 kN                                |
| Fatigue load limit        | P <sub>u</sub> | 0.28 kN                                |
| Limiting speed            |                | 8 500 r/min                            |
|                           |                | Limiting speed with shaft tolerance h6 |

## Mounting information

|                                             |                |         |
|---------------------------------------------|----------------|---------|
| Thread for attachment bolts                 | G              | M8      |
| Thread length                               | G <sub>1</sub> | 14 mm   |
| Set screw                                   | G <sub>2</sub> | M6x0.75 |
| Hexagonal key size for set screw            |                | 3 mm    |
| Recommended tightening torque for set screw |                | 4 N·m   |

## Tolerances and clearances

The values depend on the included bearing:

- Bore diameter tolerance → [table 1](#)
- Radial internal clearance → [table 2](#)
- Recommended fit → [table 3](#)
- Shaft tolerance → [table 4](#)

# Compatible products

## Component

|                                                                       |                         |
|-----------------------------------------------------------------------|-------------------------|
| Insert bearing with an eccentric locking collar and narrow inner ring | <a href="#">YET 204</a> |
| Short base pillow block housing for insert bearings, cast iron        | <a href="#">SYF 504</a> |

More Information

|  Product details |  Engineering information                                                                                  |  Tools |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <a href="#">Pillow block units to ISO standards</a>                                               | <a href="#"> Principles of ball bearing units selection and application - Download catalogue (4.9 MB)</a> | <a href="#">SKF Product select</a>                                                        |
| <a href="#">Pillow block units to North American standards</a>                                    | <a href="#">Principles of selecting mounted bearing solutions</a>                                                                                                                          | <a href="#">Bearing Frequency Calculator</a>                                              |
| <a href="#">Pillow block units to Japanese Industrial Standards (JIS)</a>                         | <a href="#">Bearing failure and how to prevent it</a>                                                                                                                                      |                                                                                           |
| <a href="#">Pillow block units, not standardized (incl. SKF Food Line)</a>                        |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Permissible misalignment</a>                                                          |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Locating/non-locating support</a>                                                     |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Loads</a>                                                                             |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Temperature limits</a>                                                                |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Permissible speed</a>                                                                 |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Lubrication</a>                                                                       |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Mounting and dismounting</a>                                                          |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Ordering information</a>                                                              |                                                                                                                                                                                            |                                                                                           |
| <a href="#">Designation system</a>                                                                |                                                                                                                                                                                            |                                                                                           |



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