

## SY 20 FM

Pillow block ball bearing unit with narrow inner ring and eccentric locking collar, cast iron, ISO standards

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

## Overview

### Dimensions

|                                    |          |
|------------------------------------|----------|
| Bearing width, total               | 1.201 in |
| Centre distance between bolt holes | 3.819 in |
| Centre height (pillow block)       | 1.311 in |
| Housing overall width              | 1.26 in  |
| Shaft diameter                     | 0.787 in |

### Performance

|                           |  |
|---------------------------|--|
| Basic dynamic load rating | 2 855 lbf                              |
| Basic static load rating  | 1 472 lbf                              |
| Limiting speed            | 8 500 r/min                            |
| Note                      | Limiting speed with shaft tolerance h6 |

### Properties

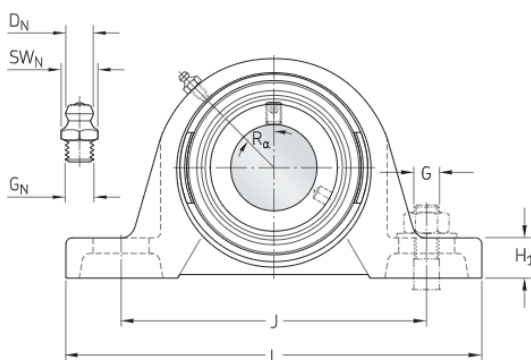
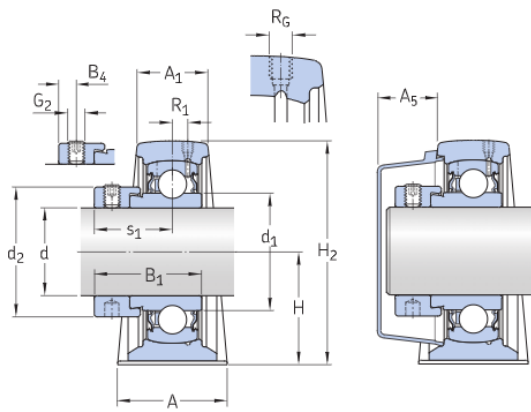
|                                    |                  |
|------------------------------------|------------------|
| Bore type                          | Cylindrical      |
| Coating                            | Without          |
| Fastening bolt hole type           | Plain            |
| Grease fitting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

|                  |                    |
|------------------|--------------------|
| Sealing type     | Contact, standard  |
| Sealing, bearing | Seal on both sides |
| Sealing, unit    | Optional end cover |

# Technical Specification

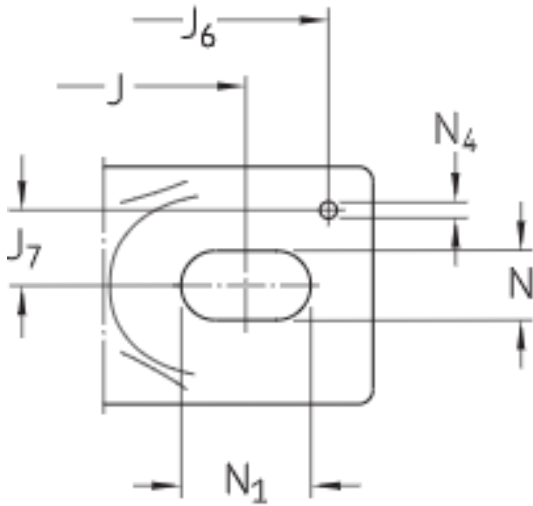
|                          |                                    |
|--------------------------|------------------------------------|
| Compliance with standard | ISO                                |
| Purpose specific         | For material handling applications |
| Material, housing        | Cast iron                          |
| Sealing, bearing         | Seal on both sides                 |
| Sealing type, bearing    | Contact, standard                  |
| Sealing, unit            | Optional end cover                 |
| Coating                  | Without                            |

## Dimensions



|                |               |   |
|----------------|---------------|---|
| d              | 0.787 in      | Bore diameter   |
| d <sub>1</sub> | ≈ 1.11 in     | Shoulder diameter of inner ring                         |
| d <sub>2</sub> | 1.276 in      | Outside diameter of locking ring                        |
| A              | 1.26 in       | Base width  |
| A <sub>1</sub> | 0.827 in      | Top width   |
| A <sub>5</sub> | 0.807 in      | Standout of end cover                                   |
| B <sub>1</sub> | 1.201 in      | Overall bearing width                                   |
| B <sub>4</sub> | 0.187 in      | Distance from locking device side face to thread centre |
| H              | 1.311 in      | Height of spherical seat centre                         |
| H <sub>1</sub> | 0.551 in      | Foot height   |
| H <sub>2</sub> | 2.539 in      | Overall height  |
| J              | 3.819 in      | Distance between attachment bolts                       |
| J              | max. 4.173 in | Distance between attachment bolts                       |
| J              | min. 3.465 in | Distance between attachment bolts                       |
| L              | 5 in          | Overall length  |
| N              | 0.453 in      | Diameter of attachment bolt hole                        |
| N <sub>1</sub> | 0.807 in      | Length of attachment bolt hole                          |
| s <sub>1</sub> | 0.925 in      | Distance from locking device side face to               |

raceway centre



#### Threaded hole

|                  |  |
|------------------|--|
| $R_c$ 1/4-28 UNF | Housing thread for the grease fitting  |
| $R_1$ 0.079 in   | Axial position of the housing thread   |
| $R_0$ 45 °       | Angular position of the housing thread |

#### Grease fitting

|                     |   |
|---------------------|---|
| $D_f$ 0.256 in      | Diameter of head sphere of grease fitting |
| $S_f$ 0.276 in      | Hexagonal key size for the grease fitting |
| $G_f$ 1/4-28 SAE-LT | Thread of grease fitting                  |

#### Dowel pins

|                |                                     |
|----------------|-------------------------------------|
| $J_6$ 4.646 in | Distance of dowel pins              |
| $J_7$ 0.453 in | Axial offset of dowel pins          |
| $N_4$ 0.079 in | Recommended diameter for dowel pins |

### Calculation data

|                           |       |  |
|---------------------------|-------|--|
| Basic dynamic load rating | C     | 2 855 lbf                              |
| Basic static load rating  | $C_0$ | 1 472 lbf                              |
| Fatigue load limit        | $P_u$ | 63 lbf                                 |
| Limiting speed            |       | 8 500 r/min                            |
|                           |       | Limiting speed with shaft tolerance h6 |

### Mass

|                   |          |
|-------------------|----------|
| Mass bearing unit | 1.257 lb |
|-------------------|----------|

### Mounting information

|   |                |               |
|---|----------------|---------------|
| Set screw                                       | G <sub>2</sub> | M6x0.75       |
| Hexagonal key size for set screw                |                | 0.118 in      |
| Recommended tightening torque for set screw     |                | 35.403 lbf-in |
| Recommended diameter for attachment bolts, mm   | G              | 10.008 mm     |
| Recommended diameter for attachment bolts, inch | G              | 0.375 in      |

### Included products

|         |  |          |
|---------|--|----------|
| Housing |  | SY 504 M |
| Bearing |  | YET 204  |

### Associated products

|           |  |         |
|-----------|--|---------|
| End cover |  | ECY 204 |
|-----------|--|---------|

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