

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

SYJ 20 TF

Pillow block ball bearing unit with extended inner ring and set screw locking, cast iron, Japanese 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 suitable for applications

with both constant and alternating directions of rotation. It has an inner ring extended on both sides and is locked onto the shaft by tightening a set screw on the inner ring, making it easy to mount.

- Strong
- Ready to mount
- Designed for a constant and alternating rotation
- Lubricated and sealed bearing
- Quick locking onto the shaft
- Cost-effective

Overview

Dimensions

Attachment bolt diameter	10 mm
Shaft diameter	20 mm
Centre height (pillow block)	33.3 mm
Housing overall width	34 mm
Centre distance between bolt holes	97 mm
Bearing width, total	31 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

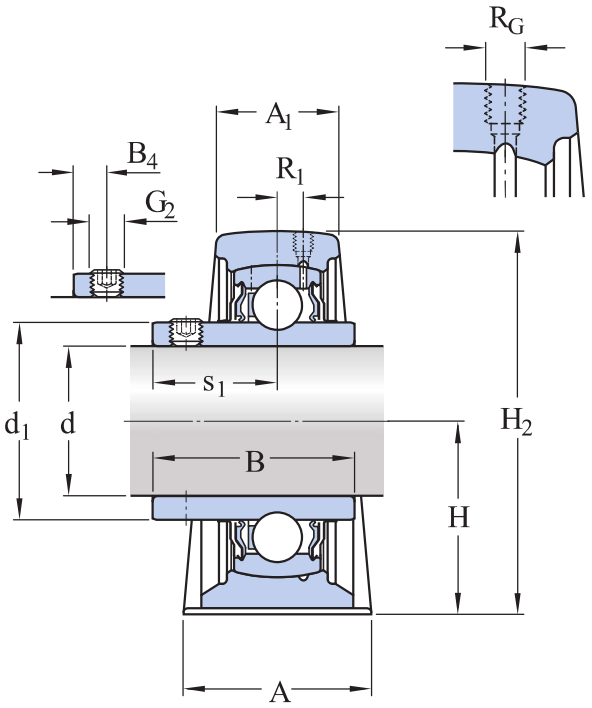
Housing type	Pillow block
Number of bolt holes for fasteners	2
Fastening bolt hole type	Plain
Retaining feature, inner ring	Set screws
Bore type	Cylindrical
Rubber seating ring	Without
Material, housing	Cast iron
Material, bearing	Bearing steel
Coating	Without
Sealing, bearing	Seal and flinger on both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

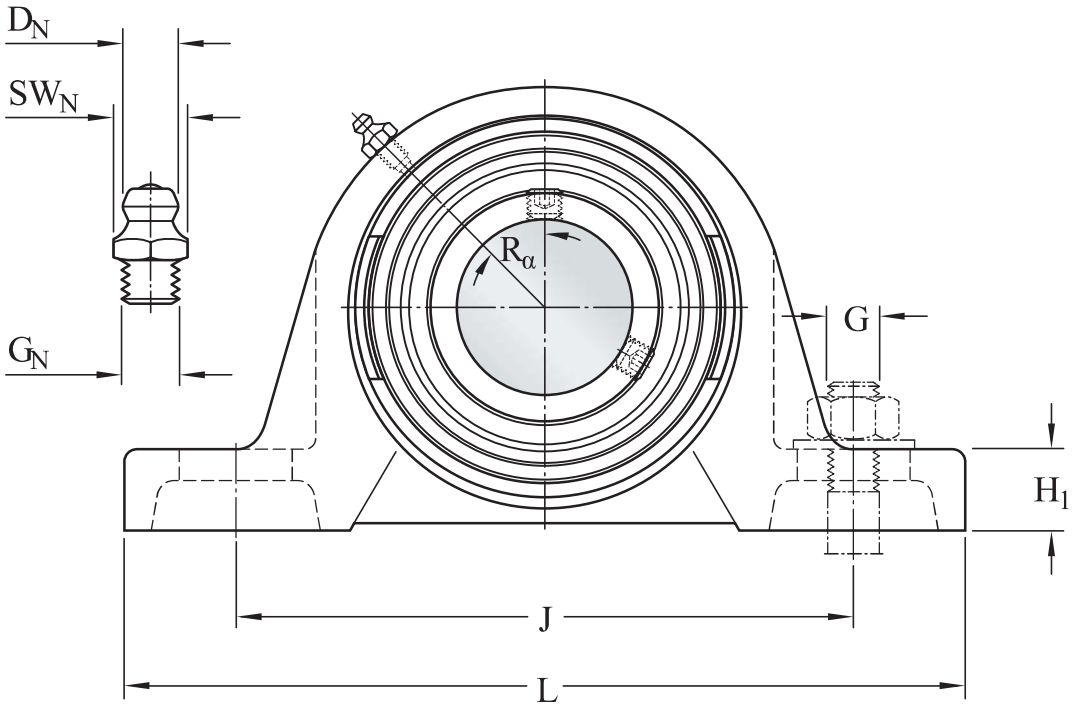
Logistics

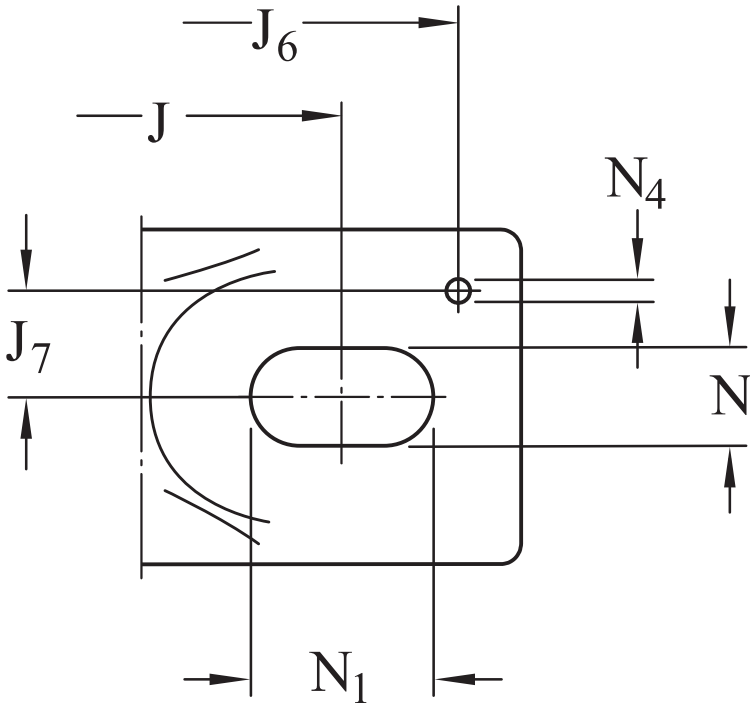
Product net weight	0.591 kg
eClass code	23-05-16-02
UNSPSC code	31171536

Technical specification

Compliance with standard	JIS
Purpose specific	For material handling applications
Material, housing	Cast iron
Sealing, bearing	Seal and flinger on both sides
Sealing type, bearing	Contact, standard
Sealing, unit	Without
Coating	Without







Dimensions

d	20 mm	Bore diameter
d_1	≈ 28.2 mm	Shoulder diameter of inner ring
A	34 mm	Base width
A_1	23 mm	Top width

B	31 mm	Width of inner ring
B_4	4.5 mm	Distance from locking device side face to thread centre
H	33.3 mm	Height of spherical seat centre
H_1	14 mm	Foot height
H_2	64.5 mm	Overall height
J	97 mm	Distance between attachment bolts
J	max. 105 mm	Maximum distance between attachment bolts
J	min. 89 mm	Minimum distance between attachment bolts
L	127 mm	Overall length
N	13 mm	Diameter of attachment bolt hole
N_1	21 mm	Length of attachment bolt hole
s_1	18.3 mm	Distance from locking device side face to raceway centre

GREASE FITTING

D_N	6.5 mm	Diameter of head sphere of grease fitting
SW_N	7 mm	Hexagonal key size for the grease fitting
G_N	1/4-28 SAE-LT	Thread of grease fitting

DOWEL PINS

J_6	118 mm	Distance of dowel pins
J_7	12.5 mm	Axial offset of dowel pins
N_4	2 mm	Recommended diameter for dowel pins

THREADED HOLE

R_G	1/4-28 UNF	Housing thread for the grease fitting
R_1	2 mm	Axial position of the housing thread
R_α	45 °	Angular position of the housing thread

Calculation data

Basic dynamic load rating	C	12.7 kN
Basic static load rating	C_0	6.55 kN
Fatigue load limit	P_u	0.28 kN
Limiting speed		8 500 r/min
		Limiting speed with shaft tolerance h6

Mounting information

Set screw	G_2	M6x0.75
Hexagonal key size for set screw		3 mm
Recommended tightening torque for set screw		4 N·m
Recommended diameter for attachment bolts, mm	G	10 mm
Recommended diameter for attachment bolts, inch	G	0.375 in

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

Pillow block housing for insert bearings, cast iron, Japanese standards	SYJ 504
Insert bearing with set screw locking and extended inner ring	YAR 204-2F

More Information

Product details

- Pillow block units to ISO standards
- Pillow block units to North American standards
- Pillow block units to Japanese Industrial Standards (JIS)
- Pillow block units, not standardized (incl. SKF Food Line)
- Permissible misalignment
- Locating/non-locating support
- Loads
- Temperature limits
- Permissible speed
- Lubrication
- Mounting and dismounting
- Ordering information
- Designation system

Engineering information

- Principles of ball bearing units selection and application - Download catalogue (4.9 MB)
- Principles of selecting mounted bearing solutions
- Bearing failure and how to prevent it

Tools

- SKF Product select
- Bearing Frequency Calculator

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