

Image may differ from product. See specification for details.

231/500 CA/W33

Spherical roller bearing with relubrication features

Spherical roller bearings can accommodate heavy loads in both directions. They are self-aligning and accommodate misalignment and shaft deflections, with virtually no increase in friction or temperature. The design includes features to facilitate relubrication. The bearings can be used in a modular system, including housings, sleeves and nuts.

- Accommodate misalignment
- High load carrying capacity
- Relubrication features
- Low friction and long service life
- Increased wear resistance

Overview

Dimensions

Bore diameter	19.685 in
Outside diameter	32.6772 in
Width	10.3937 in

Performance

Basic dynamic load rating	1 806 789 lbf
Basic static load rating	2 900 035 lbf
Reference speed	380 r/min
Limiting speed	700 r/min
SKF performance class	SKF Explorer

Properties

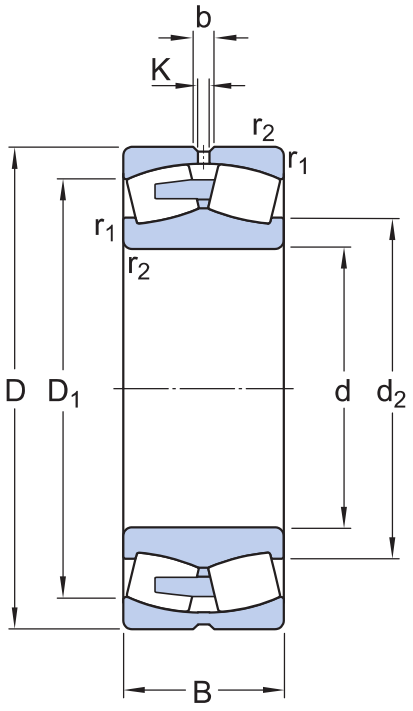
Number of rows	2
Locating feature, bearing outer ring	Without
Bore type	Cylindrical
Cage	Machined brass
Radial internal clearance	CN
Tolerance class for dimensions	Normal
Tolerance class for run-out	Normal
Sealing	Without
Lubricant	None
Relubrication feature	With
Candidate for remanufacturing	Yes
Indicative carbon footprint for new product	4 603 lb CO_2e
Indicative carbon footprint for remanufactured product	1 611 lb CO_2e

Logistics

Product net weight	1 279 lb
eClass code	23-05-09-11
UNSPSC code	31171510

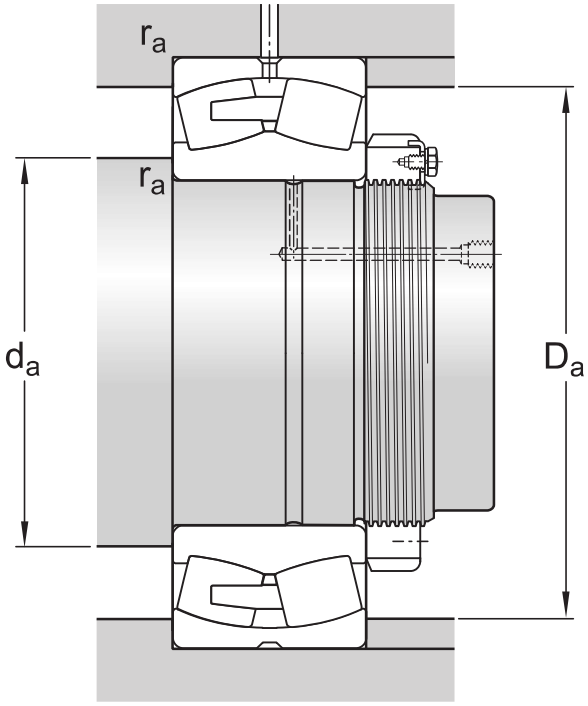
Technical specification

Bore type	Cylindrical



Dimensions

d	19.685 in	Bore diameter
$t_{\Delta dmp}$	-45 – 0 µm	Deviation limits of mid-range bore diameter
D	32.6772 in	Outside diameter
$t_{\Delta Dmp}$	-100 – 0 µm	Deviation limits of mid-range outside diameter
B	10.3937 in	Width
$t_{\Delta Bs}$	-450 – 0 µm	Deviation limits of ring width
d_2	≈ 23.8189 in	Shoulder diameter of inner ring
D_1	≈ 28.5827 in	Shoulder/recess diameter of outer ring
b	0.878 in	Width of lubrication groove
K	0.4724 in	Diameter of lubrication hole
$r_{1,2}$	min. 0.2953 in	Chamfer dimension
	Normal	ISO tolerance class for dimensions



Abutment dimensions

d_a	min. 20.9449 in	Diameter of shaft abutment
D_a	max. 31.4173 in	Diameter of housing abutment
r_a	max. 0.2362 in	Radius of fillet

Calculation data

SKF performance class		SKF Explorer
Basic dynamic load rating	C	1 806 789 lbf
Basic static load rating	C_0	2 900 035 lbf
Fatigue load limit	P_u	186 591 lbf
Reference speed		380 r/min
Limiting speed		700 r/min
Limiting value	e	0.3
Calculation factor	Y_1	2.3
Calculation factor	Y_2	3.4
Calculation factor	Y_0	2.2

Tolerances of run-out

Range of section height at inner ring of assembled bearing	t_{Kia}	65 µm
Range of section height at outer ring of assembled bearing	t_{Kea}	140 µm
ISO tolerance class for geometrical tolerances		Normal

Radial internal clearance

Minimum initial clearance	0.0102 in
Maximum initial clearance	0.0161 in

Tolerances and clearances

GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal, P6, P5, tapered bore 1:12, tapered bore 1:30
- Radial internal clearance: cylindrical bore, tapered bore

BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fit

More Information

Product details

- Designs and variants
- General bearing specifications
- Loads
- Temperature limits
- Permissible speed
- Design considerations
- Mounting
- Designation system

Engineering information

- Principles of rolling bearing selection
- General bearing knowledge
- Bearing selection process
- Bearing failure and how to prevent it

Tools

- SimPro Quick
- SKF Product select - Select and evaluate bearing
- SKF Product select - Combine housing with bearing
- LubeSelect for SKF greases
- Drive-up Method Program
- Heater selection tool
- Oil Injection Method Program
- Tool and Accessory Selector for sleeves and shafts

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