

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

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Spherical roller bearing for vibratory applications, 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. This bearing design offers excellent performance in many types of vibrating machinery. The design includes features to facilitate relubrication. The bearings can be used in a modular system, including housings, sleeves and nuts. Also available on request with special sized bore and/or outside diameters, suitable for reworked shafts and housings.

- Accommodate misalignment
- High load carrying capacity
- Accommodate very high vibration levels
- Low friction and long service life
- Increased wear resistance

Overview

Dimensions

Bore diameter	200 mm
Outside diameter	420 mm
Width	138 mm

Performance

Basic dynamic load rating	2 439 kN
Basic static load rating	2 900 kN
Reference speed	1 200 r/min
Limiting speed	1 500 r/min
SKF performance class	SKF Explorer

Properties

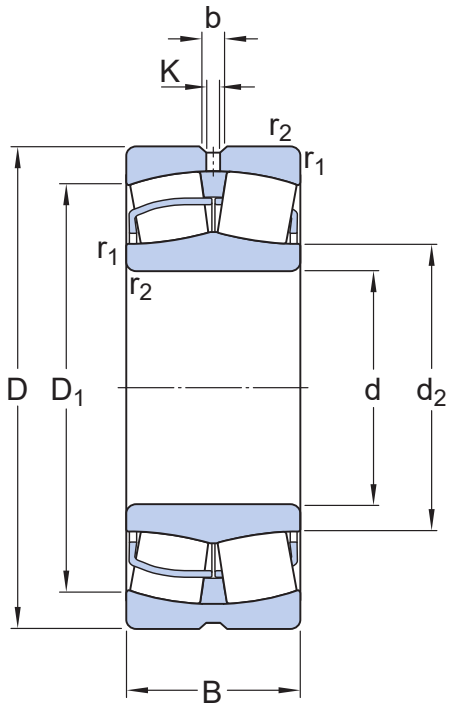
Number of rows	2
Locating feature, bearing outer ring	Without
Bore type	Cylindrical
Cage	Surface-hardened sheet metal
Radial internal clearance	C4
Tolerance class for dimensions	Normal, bore to P5 and outside diameter P6
Tolerance class for run-out	P5
Sealing	Without
Lubricant	None
Relubrication feature	With
Candidate for remanufacturing	Yes
Indicative carbon footprint for new product	334 kg CO_2e
Indicative carbon footprint for remanufactured product	111 kg CO_2e

Logistics

Product net weight	90.4 kg
eClass code	23-05-09-11
UNSPSC code	31171510

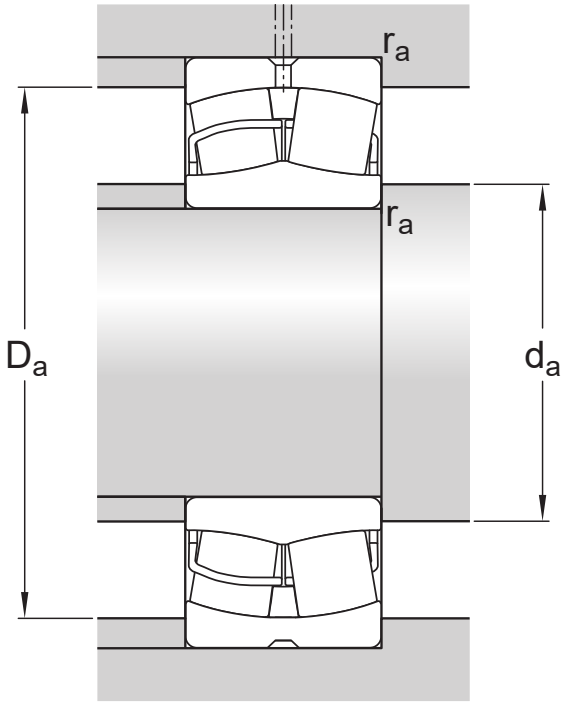
Technical specification

Bore type	Cylindrical



Dimensions

d	200 mm	Bore diameter
$t_{\Delta dmp}$	-0.015 – 0 mm	Deviation limits of mid-range bore diameter
D	420 mm	Outside diameter
$t_{\Delta Dmp}$	-0.033 – 0 mm	Deviation limits of mid-range outside diameter
B	138 mm	Width
$t_{\Delta Bs}$	-0.08 – 0 mm	Deviation limits of ring width
d_2	≈ 249 mm	Shoulder diameter of inner ring
D_1	≈ 351 mm	Shoulder/recess diameter of outer ring
b	22.3 mm	Width of lubrication groove
K	12 mm	Diameter of lubrication hole
$r_{1,2}$	min. 5 mm	Chamfer dimension
	Normal, bore to P5 and outside diameter P6	ISO tolerance class for dimensions



Abutment dimensions

d_a	min. 220 mm	Diameter of shaft abutment
D_a	max. 400 mm	Diameter of housing abutment
r_a	max. 4 mm	Radius of fillet

Calculation data

SKF performance class		SKF Explorer
Basic dynamic load rating	C	2 439 kN
Basic static load rating	C_0	2 900 kN
Fatigue load limit	P_u	224 kN
Reference speed		1 200 r/min
Limiting speed		1 500 r/min
Limiting value	e	0.33
Calculation factor	Y_1	2
Calculation factor	Y_2	3
Calculation factor	Y_0	2
Permissible rotational acceleration for oil lubrication		540 m/s^2
Permissible linear acceleration for oil lubrication		167 m/s^2

Tolerances of run-out

Range of section height at inner ring of assembled bearing	t_{Kia}	10 µm
Maximum run-out of inner ring side face to the bore	t_{Sd}	11 µm
Range of section height at outer ring of assembled bearing	t_{Kea}	23 µm
Perpendicularity of outer ring outside surface	t_{SD}	7.5 µm
ISO tolerance class for geometrical tolerances		P5

Radial internal clearance

Minimum initial clearance	260 µm
Maximum initial clearance	340 µm

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

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