

22311 EK/VA405 Spherical roller bearing for vibratory applications, with tapered bore and relubrication

features

Spherical roller bearing for vibratory applications, with tapered bore and 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.

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

Overview

Dimensions

Bore diameter	55 mm
Outside diameter	120 mm
Width	43 mm

Performance

Basic dynamic load rating	280 kN
Basic static load rating	280 kN
Reference speed	4 300 r/min
Limiting speed	5 600 r/min
SKF performance class	SKF Explorer

Properties

Number of rows	2
Locating feature, bearing outer ring	Without
Bore type	Tapered 1:12
Cage	Surface-hardened sheet metal
Radial internal clearance	C4
Tolerance class	Normal

Tolerance class for dimensions	Normal, bore to P5 and outside diameter P6
Tolerance class for run-out	Normal
Sealing	Without
Lubricant	None
Relubrication feature	With

Technical Specification

SKF performance class

SKF Explorer

Bore type

Tapered 1:12

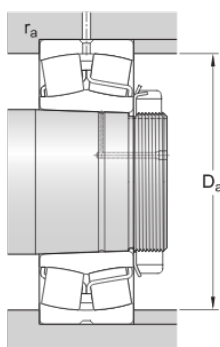


Dimensions

d	55 mm	Bore diameter
D	120 mm	Outside diameter
B	43 mm	Width
d_2	≈ 70.1 mm	Shoulder diameter of inner ring
D_1	≈ 102 mm	Shoulder/recess diameter of outer ring
b	5.5 mm	Width of lubrication groove
K	3 mm	Diameter of lubrication hole
$r_{1,2}$	min. 2 mm	Chamfer dimension

Abutment dimensions

D_a	max. 109 mm	Diameter of housing abutment
r_a	max. 2 mm	Radius of fillet



Calculation data

Basic dynamic load rating	C	280 kN
Basic static load rating	C_0	280 kN

Fatigue load limit	P_u	30 kN
Reference speed		4 300 r/min
Limiting speed		5 600 r/min
Limiting value	e	0.35
Calculation factor	Y_1	1.9
Calculation factor	Y_2	2.9
Calculation factor	Y_0	1.8
Permissible rotational acceleration for oil lubrication		765 m/s ²
Permissible linear acceleration for oil lubrication		255 m/s ²

Mass

Mass		2.4 kg
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Mounting information

Recommended tightening angle for lock nut	α	115 °
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Tolerance class

Dimensional tolerances	Normal, bore to P5 and outside diameter P6	
Radial run-out		Normal

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