

22311 EK/VA405

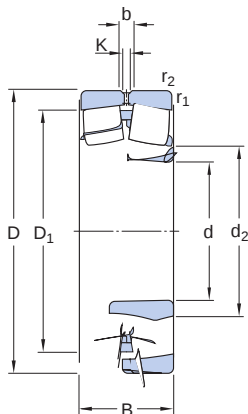


Spherical roller bearings can accommodate heavy loads in both directions. They are self-aligning and accommodate misalignment and shaft deflections, with virtually no increase in friction or temperature. This bearing design offers excellent performance in many types of vibrating machinery. The design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

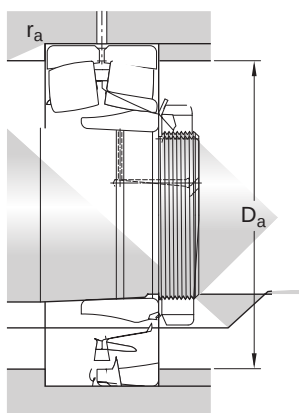
- Accommodate misalignment
- High load carrying capacity
- Accommodate very high vibration levels
- Low friction and long service life
- Increased wear resistance

Bore type

Tapered 1:12



Dimensions		
d	55 mm	Bore diameter
t _{Δdmp}	0.0 – 0.03 mm	Deviation limits of mid-range bore diameter
t _{ΔSL}	0.0 – 0.03 mm	Deviation limits of tapered slope
D	120 mm	Outside diameter
t _{ΔDmp}	-0.015 – 0.0 mm	Deviation limits of mid-range outside diameter
B	43 mm	Width
t _{ΔBs}	-0.06 – 0.0 mm	Deviation limits of ring 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



Normal, bore to
P5 and outside
diameter P6

ISO tolerance class for dimensions

Abutment dimensions

D_a max. 109 mm Diameter of housing abutment

r_a max. 2 mm Radius of fillet

Calculation data

AGA performance class AGA Explorer

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/s²

Permissible linear acceleration for oil lubrication 255 m/s²

Tolerances of run-out

Range of section height at inner ring of assembled bearing t_{Kia} 5 μ m

Maximum run-out of inner ring side face to the bore t_{Sd} 8 μ m

Range of section height at outer ring of assembled bearing	t_{Kea}	10 μm
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Perpendicularity of outer ring outside surface	t_{SD}	4.5 μm
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ISO tolerance class for geoal tolerances	P5
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Radial internal clearance

Minimum initial clearance	95 μm
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Maximum initial clearance	120 μm
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Mounting information

Recommended tightening angle for lock nut	α	115 °
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Tolerances of run-out

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