

21311 EK



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

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	29 mm	Width
t _{ΔBs}	-0.06 – 0.0 mm	Deviation limits of ring width
d ₂	≈ 72.7 mm	Shoulder diameter of inner ring
D ₁	≈ 96.2 mm	Shoulder/recess diameter of outer ring
b	6 mm	Width of lubrication groove
K	3 mm	Diameter of lubrication hole
r _{1,2}	min. 2 mm	Chamfer dimension
Normal		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	159 kN
Basic static load rating	C_0	166 kN
Fatigue load limit	P_u	18.6 kN
Reference speed		5 600 r/min
Limiting speed		7 500 r/min
Limiting value	e	0.24
Calculation factor	Y_1	2.8
Calculation factor	Y_2	4.2
Calculation factor	Y_0	2.8

Tolerances of run-out

Range of section height at inner ring of assembled bearing	t_{Kia}	5 μm
Maximum run-out of inner ring side face to the bore	t_{Sd}	8 μm
Range of section height at outer ring of assembled bearing	t_{Kea}	10 μm
Perpendicularity of outer ring outside surface	t_{SD}	4.5 μm
ISO tolerance class for geol tolerances		P5

Radial internal clearance

Minimum initial clearance	55 µm
Maximum initial clearance	75 µm

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