

2318 KMSelf-aligning ball bearing with tapered bore

Self-aligning ball bearing with tapered bore

Self-aligning ball bearings, with a tapered bore, have two rows of balls, a common sphered raceway in the outer ring and two deep uninterrupted raceway grooves in the inner ring. They are insensitive to angular misalignment of the shaft relative to the housing, which can be caused, for example, by shaft deflection. The tapered bore facilitates ease of mounting via adapter sleeves or withdrawal sleeves.

- Ease of mounting via adapter sleeves or withdrawal sleeves
- Accommodate static and dynamic misalignment
- Excellent high-speed performance
- Excellent light load performance
- Low friction

Overview

Dimensions

Bore diameter	90 mm
Outside diameter	190 mm
Width	64 mm

Performance

Basic dynamic load rating	151 kN
Basic static load rating	57 kN
Reference speed	6 300 r/min
Limiting speed	4 500 r/min

Properties

Retaining feature, inner ring	None
Locating feature, bearing outer ring	None
Number of rows	2
Bore type	Tapered 1:12
Cage	Machined metal
Radial internal clearance	CN
Tolerance class	Normal
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without

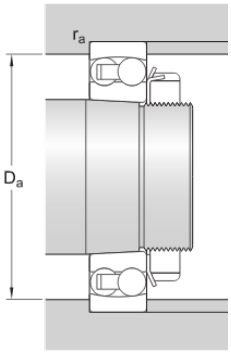
Technical Specification

Bore type	Tapered 1:12

NOT FOUND

Dimensions

d	90 mm	Bore diameter
D	190 mm	Outside diameter
B	64 mm	Width
d_1	≈ 121 mm	Shoulder diameter inner ring
D_1	≈ 162.2 mm	Shoulder diameter outer ring
$r_{1,2}$	min. 3 mm	Chamfer dimension



Abutment dimensions

D_a	max. 176 mm	Abutment diameter housing
r_a	max. 3 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	151 kN
Basic static load rating	C_0	57 kN
Fatigue load limit	P_u	2.5 kN
Reference speed		6 300 r/min

Limiting speed		4 500 r/min
Permissible angular misalignment	α	3 °
Calculation factor	k_r	0.05
Limiting value	e	0.37
Calculation factor	Y_0	1.8
Calculation factor	Y_1	1.7
Calculation factor	Y_2	2.6

Mass

Mass bearing	8.2 kg

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