



2209 E-2RS1KTN9 Self-aligning ball bearing with tapered bore and seals on both sides

Self-aligning ball bearing with tapered bore and seals on both sides

Self-aligning ball bearings, with a tapered bore and seals on both sides, 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. The tapered bore facilitates ease of mounting via adapter/withdrawal sleeves. The integral sealing can prolong bearing service life by keeping lubricant in the bearings and contaminants out.

- Ease of mounting via adapter/withdrawal sleeves
- Accommodate static and dynamic misalignment
- Excellent high-speed and light load performance
- Low friction
- Integral sealing results in reduced maintenance requirements and prolonged bearing service life

Overview

Dimensions

Bore diameter	45 mm
Outside diameter	85 mm
Width	23 mm

Performance

Basic dynamic load rating	22.9 kN
Basic static load rating	7.8 kN
Reference speed	15 000 r/min
Limiting speed	5 300 r/min

Properties

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

Sealing	Seal on both sides
Sealing type	Contact
Lubricant	Grease
Relubrication feature	Without

Technical Specification

Bore type

Tapered 1:12

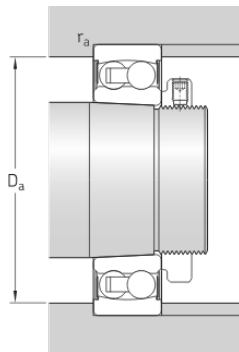


Dimensions

d	45 mm	Bore diameter
D	85 mm	Outside diameter
B	23 mm	Width
d_2	≈ 52.9 mm	Recess diameter inner ring
D_2	≈ 75.25 mm	Recess diameter outer ring
$r_{1,2}$	min. 1.1 mm	Chamfer dimension

Abutment dimensions

D_a	max. 78 mm	Abutment diameter housing
r_a	max. 1.1 mm	Fillet radius



Calculation data

Basic dynamic load rating	C	22.9 kN
Basic static load rating	C_0	7.8 kN
Fatigue load limit	P_u	0.4 kN
Reference speed		15 000 r/min

Limiting speed		5 300 r/min
Permissible angular misalignment	α	1.5 °
Calculation factor	k_r	0.045
Limiting value	e	0.21
Calculation factor	Y_0	3.2
Calculation factor	Y_1	3
Calculation factor	Y_2	4.6

Mass

Mass bearing		0.53 kg
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