1210 EKTN9

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	50 mm
Outside diameter	90 mm
Width	20 mm

Performance

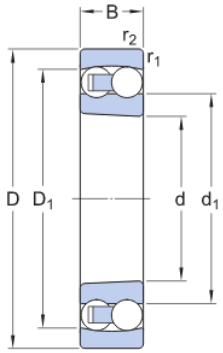
Basic dynamic load rating	26.5 kN
Basic static load rating	9.15 kN
Reference speed	16 000 r/min
Limiting speed	10 000 r/min

Properties

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

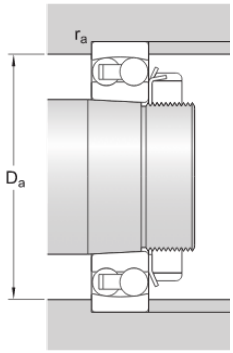
Technical Specification

Bore type	Tapered 1:12



Dimensions

d	50 mm	Bore diameter
D	90 mm	Outside diameter
B	20 mm	Width
d_1	≈ 61.7 mm	Shoulder diameter inner ring
D_1	≈ 78.1 mm	Shoulder diameter outer ring
$r_{1,2}$	min. 1.1 mm	Chamfer dimension



Abutment dimensions

D_a	max. 83 mm	Abutment diameter housing
r_a	max. 1.1 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	26.5 kN
Basic static load rating	C_0	9.15 kN
Fatigue load limit	P_u	0.475 kN
Reference speed		16 000 r/min

Limiting speed		10 000 r/min
Permissible angular misalignment	α	2.5 °
Calculation factor	k_r	0.04
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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