3210 ATN9

Double row angular contact ball bearing

Double row angular contact ball bearings correspond, in their design and operation, to a pair of single row angular contact ball bearings in a back-to-back arrangement, while requiring less axial space. They can operate at high speeds and are more suitable than deep groove ball bearings for supporting large axial forces in both directions.

- High-speed capability
- Accommodate relatively high radial loads, high axial loads in both directions and tilting moments
- Suitable where a stiff bearing arrangement is required
- Require less axial space than equivalent pair of single row angular contact ball bearings

Overview

Dimensions

Bore diameter	50 mm
Contact angle	30 °
Outside diameter	90 mm
Width	30.2 mm

Performance

Basic dynamic load rating	51 kN
Basic static load rating	42.5 kN
Limiting speed	7 000 r/min
Reference speed	8 000 r/min
SKF performance class	SKF Explorer

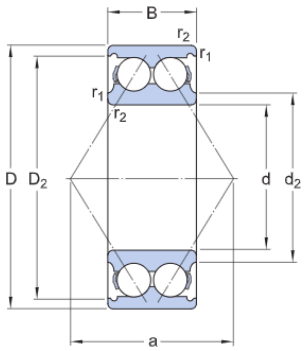
Properties

Arrangement of contact angle (double-row bearing)	Back-to-back (O)
Axial internal clearance	CN
Cage	Non-metallic
Coating	Without
Contact type	Normal contact (two-point contact)
Locating feature, bearing outer ring	None
Lubricant	None
Matched arrangement	No
Material, bearing	Bearing steel
Number of rows	2

Relubrication feature	Without
Ring type	One-piece inner and outer rings
Sealing	Without
Universal matching bearing	No

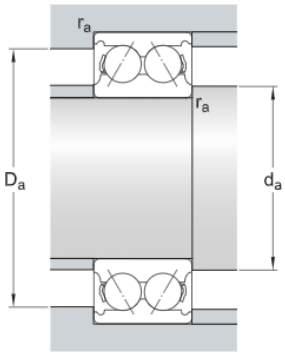
Technical Specification

SKF performance class	SKF Explorer



Dimensions

d	50 mm	Bore diameter
D	90 mm	Outside diameter
B	30.2 mm	Width
d_2	≈ 57.8 mm	Recess diameter inner ring shoulder
D_2	≈ 82.1 mm	Recess diameter outer ring shoulder
$r_{1,2}$	min. 1.1 mm	Chamfer dimension inner ring
a	52 mm	Distance pressure point(s)



Abutment dimensions

d_a	min. 57 mm	Abutment diameter shaft
D_a	max. 83 mm	Abutment diameter housing
r_a	max. 1 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	51 kN
Basic static load rating	C_0	42.5 kN
Fatigue load limit	P_u	1.8 kN
Reference speed		8 000 r/min

Limiting speed		7 000 r/min
Calculation factor	k_r	0.06
Limiting value	e	0.8
Calculation factor	X	0.63
Calculation factor	Y_0	0.66
Calculation factor	Y_1	0.78
Calculation factor	Y_2	1.24

Mass

Mass bearing	0.65 kg

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