3214 A

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	70 mm
Contact angle	30 °
Outside diameter	125 mm
Width	39.7 mm

Performance

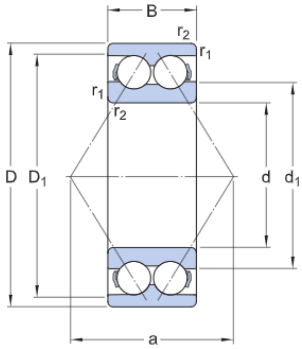
Basic dynamic load rating	88.4 kN
Basic static load rating	80 kN
Limiting speed	4 500 r/min
Reference speed	5 600 r/min

Properties

Arrangement of contact angle (double-row bearing)	Back-to-back (O)
Axial internal clearance	CN
Cage	Sheet metal
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

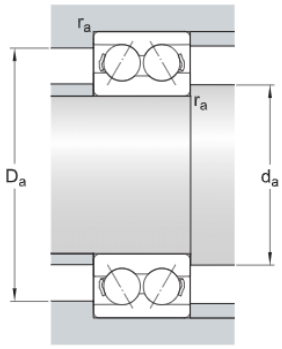
Ring type	One-piece inner and outer rings
Sealing	Without
Universal matching bearing	No

Technical Specification



Dimensions

d	70 mm	Bore diameter
D	125 mm	Outside diameter
B	39.7 mm	Width
d_1	≈ 88.5 mm	Shoulder diameter inner ring
D_1	≈ 107.03 mm	Shoulder diameter outer ring
$r_{1,2}$	min. 1.5 mm	Chamfer dimension inner ring
a	74 mm	Distance pressure point(s)



Abutment dimensions

d_a	min. 79 mm	Abutment diameter shaft
D_a	max. 116 mm	Abutment diameter housing
r_a	max. 1.5 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	88.4 kN
Basic static load rating	C_0	80 kN
Fatigue load limit	P_u	3.4 kN
Reference speed		5 600 r/min
Limiting speed		4 500 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	1.9 kg

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