

3219 A Double row angular contact ball bearing



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	95 mm
Outside diameter	170 mm
Width	55.6 mm
Contact angle	30 °

Performance

Basic dynamic load rating	159 kN
Basic static load rating	146 kN
Reference speed	4 000 r/min
Limiting speed	3 400 r/min

Properties

Contact type	Normal contact (two-point contact)
Number of rows	2
Locating feature, bearing outer ring	None
Ring type	One-piece inner and outer rings
Cage	Sheet metal
Arrangement of contact angle (double-row bearing)	Back-to-back (O)
Matched arrangement	No
Universal	No

matching bearing

Axial internal clearance	CN
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without

Technical Specification

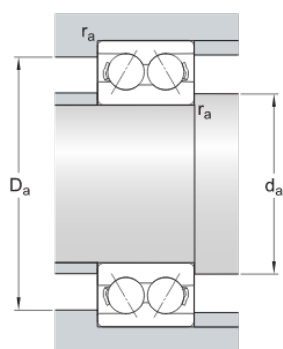


Dimensions

d	95 mm	Bore diameter
D	170 mm	Outside diameter
B	55.6 mm	Width
d_1	≈ 119.9 mm	Shoulder diameter inner ring
D_1	≈ 146 mm	Shoulder diameter outer ring
$r_{1,2}$	min. 2.1 mm	Chamfer dimension inner ring
a	101 mm	Distance pressure point(s)

Abutment dimensions

d_a	min. 107 mm	Abutment diameter shaft
D_a	max. 158 mm	Abutment diameter housing
r_a	max. 2 mm	Fillet radius



Calculation data

Basic dynamic load rating	C	159 kN
Basic static load rating	C_0	146 kN
Fatigue load limit	P_u	5.4 kN
Reference speed		4 000 r/min
Limiting speed		3 400 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		5 kg
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