

7200 BECBPSingle row angular contact ball bearing

Single row angular contact ball bearing

These single row angular contact ball bearings can accommodate radial and axial loads acting simultaneously, where the axial load acts in one direction only. They can operate at high speeds and, depending on the variant, even very high speeds. They are more suitable than deep groove ball bearings for supporting large axial forces acting in one direction.

- High-speed capability
- Accommodate relatively high radial loads and large unilateral axial loads

Overview

Dimensions

Bore diameter	10 mm
Outside diameter	30 mm
Width	9 mm
Contact angle	40 °

Performance

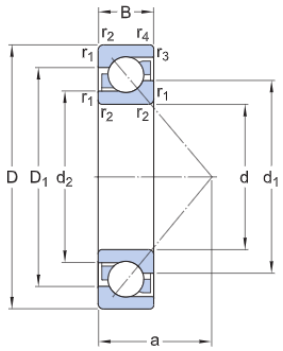
Basic dynamic load rating	7.02 kN
Basic static load rating	3.35 kN
Reference speed	30 000 r/min
Limiting speed	30 000 r/min

Properties

Contact type	Normal contact (two-point contact)
Number of rows	1
Locating feature, bearing outer ring	None
Ring type	One-piece inner and outer rings
Cage	Non-metallic
Matched arrangement	No
Universal matching bearing	Yes
Axial internal clearance	Not applicable
Matched condition (axial clearance/ preload)	Axial clearance CB
Tolerance class	Class P6 (P6)
Material, bearing	Bearing steel

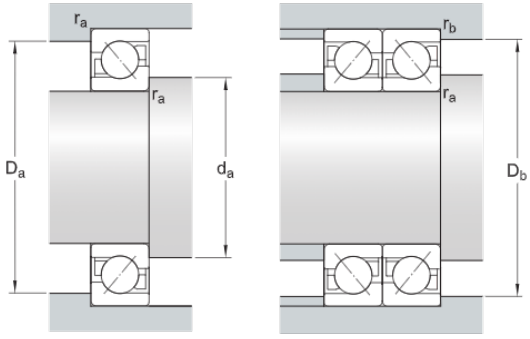
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without

Technical Specification



Dimensions

d	10 mm	Bore diameter
D	30 mm	Outside diameter
B	9 mm	Width
d_1	≈ 18.3 mm	Shoulder diameter of inner ring (large side face)
d_2	≈ 14.57 mm	Shoulder diameter of inner ring (small side face)
D_1	≈ 22.85 mm	Shoulder diameter of outer ring (large side face)
a	13 mm	Distance side face to pressure point
$r_{1,2}$	min. 0.6 mm	Chamfer dimension
$r_{3,4}$	min. 0.3 mm	Chamfer dimension



Abutment dimensions

d_a	min. 14.2 mm	Diameter of shaft abutment
D_a	max. 25.8 mm	Abutment diameter housing
D_b	max. 27.6 mm	Diameter of housing abutment
r_a	max. 0.6 mm	Radius of fillet
r_b	max. 0.3 mm	Radius of fillet

Calculation data

Basic dynamic load rating	C	7.02 kN
Basic static load rating	C_0	3.35 kN
Fatigue load limit	P_u	0.14 kN
Reference speed		30 000 r/min

Limiting speed		30 000 r/min
Minimum axial load factor	A	0.000224
Minimum radial load factor	k_r	0.095
Limiting value	e	1.14

Single bearing or bearing pair arranged in tandem

Calculation factor (single, tandem)	X	0.35
Calculation factor (single, tandem)	Y_0	0.26
Calculation factor (single, tandem)	Y_2	0.57

Bearing pair arranged back-to-back or face-to-face

Calculation factor (back-to-back, face-to-face)	X	0.57
Calculation factor (back-to-back, face-to-face)	Y_0	0.52
Calculation factor (back-to-back, face-to-face)	Y_1	0.55
Calculation factor (back-to-back, face-to-face)	Y_2	0.93

Mass

Mass	0.03 kg

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