7220 BECCM

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	100 mm
Outside diameter	180 mm
Width	34 mm
Contact angle	40 °

Performance

Basic dynamic load rating	143 kN
Basic static load rating	134 kN
Reference speed	4 300 r/min
Limiting speed	5 600 r/min
SKF performance class	SKF Explorer

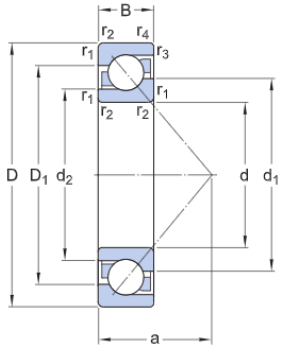
Properties

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	Machined brass
Matched arrangement	No
Universal matching bearing	Yes
Axial internal clearance	Not applicable
Matched condition (axial clearance/ preload)	Axial clearance CC
Tolerance class	Class P6 (P6)
Material, bearing	Bearing steel
Coating	Without

Sealing	Without
Lubricant	None
Relubrication feature	Without

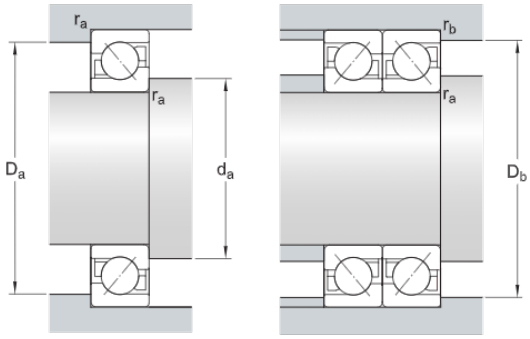
Technical Specification

SKF performance class	SKF Explorer



Dimensions

d	100 mm	Bore diameter
D	180 mm	Outside diameter
B	34 mm	Width
d_1	≈ 130.95 mm	Shoulder diameter of inner ring (large side face)
d_2	≈ 115.22 mm	Shoulder diameter of inner ring (small side face)
D_1	≈ 150.9 mm	Shoulder diameter of outer ring (large side face)
a	76 mm	Distance side face to pressure point
$r_{1,2}$	min. 2.1 mm	Chamfer dimension
$r_{3,4}$	min. 1.1 mm	Chamfer dimension



Abutment dimensions

d_a	min. 112 mm	Diameter of shaft abutment
D_a	max. 168 mm	Abutment diameter housing
D_b	max. 173 mm	Diameter of housing abutment
r_a	max. 2 mm	Radius of fillet
r_b	max. 1 mm	Radius of fillet

Calculation data

Basic dynamic load rating	C	143 kN
Basic static load rating	C_0	134 kN
Fatigue load limit	P_u	4.75 kN
Reference speed		4 300 r/min
Limiting speed		5 600 r/min
Minimum axial load factor	A	0.239
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	3.3 kg

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