

7204 BECBM

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	20 mm
Outside diameter	47 mm
Width	14 mm
Contact angle	40 °

Performance

Basic dynamic load rating	14.3 kN
Basic static load rating	8.15 kN
Reference speed	19 000 r/min
Limiting speed	24 000 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 CB
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None

Relubrication feature

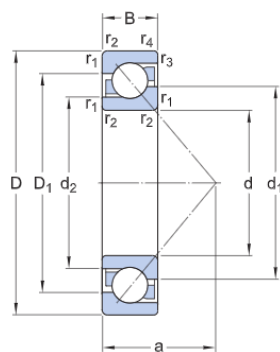
Without

Technical Specification

SKF performance class

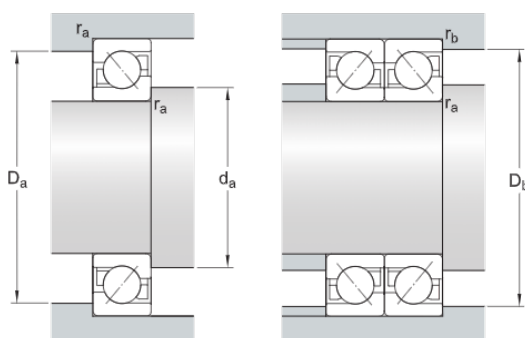
SKF Explorer

Dimensions



d	20 mm	Bore diameter
D	47 mm	Outside diameter
B	14 mm	Width
d ₁	≈ 30.85 mm	Shoulder diameter of inner ring (large side face)
d ₂	≈ 25.87 mm	Shoulder diameter of inner ring (small side face)
D ₁	≈ 36.5 mm	Shoulder diameter of outer ring (large side face)
a	21 mm	Distance side face to pressure point
r _{1,2}	min. 1 mm	Chamfer dimension
r _{3,4}	min. 0.6 mm	Chamfer dimension

Abutment dimensions



d _a	min. 25.6 mm	Diameter of shaft abutment
D _a	max. 41.4 mm	Abutment diameter housing
D _b	max. 42.8 mm	Diameter of housing abutment
r _a	max. 1 mm	Radius of fillet
r _b	max. 0.6 mm	Radius of fillet

Calculation data

Basic dynamic load rating	C	14.3 kN
Basic static load rating	C ₀	8.15 kN
Fatigue load limit	P _u	0.345 kN
Reference speed		19 000 r/min
Limiting speed		24 000 r/min
Minimum axial load factor	A	0.00113
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	0.11 kg
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