



SKF 7209 BECBJ

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.

Technical specifications

Dimensions	
Bore diameter	45 mm
Deviation limits of mid-range bore diameter	-0.01..0 mm
Outside diameter	85 mm
Deviation limits of mid-range outside diameter	-0.013..0 mm
Width	19 mm
Deviation limits of ring width	-0.12..0 mm
Shoulder diameter of inner ring (large side face)	60.85 mm
Shoulder diameter of inner ring (small side face)	52.68 mm
Shoulder diameter of outer ring (large side face)	70.15 mm
Distance side face to pressure point	37 mm
Chamfer dimension	1.1 mm
Chamfer dimension	0.6 mm
ISO tolerance class for dimensions	P6
Contact angle	40 °

Abutment dimensions	
Diameter of shaft abutment	52 mm
Abutment diameter housing	78 mm
Diameter of housing abutment	80.8 mm
Radius of fillet	1 mm
Radius of fillet	0.6 mm

Calculation data	
SKF performance class	SKF Explorer
Basic dynamic load rating	38 kN
Basic static load rating	28.5 kN
Fatigue load limit	1.22 kN
Reference speed	10000 r/min
Limiting speed	10000 r/min
Minimum axial load factor	0.01
Minimum radial load factor	0.1
Limiting value	1.1
Calculation factor (single, tandem)	0.35
Calculation factor (single, tandem)	0.26
Calculation factor (single, tandem)	0.57
Calculation factor (back-to-back, face-to-face)	0.57
Calculation factor (back-to-back, face-to-face)	0.52
Calculation factor (back-to-back, face-to-face)	0.55
Calculation factor (back-to-back, face-to-face)	0.93

Tolerances of run-out	
Range of section height at inner ring of assembled bearing	5 µm
Maximum run-out of inner ring side face to the bore	8 µm
Range of section height at outer ring of assembled bearing	10 µm
Perpendicularity of outer ring outside surface	4.5 µm
ISO tolerance class for geometrical tolerances	P5

Performance	
Basic dynamic load rating	38 kN
Basic static load rating	28.5 kN
Reference speed	10000 r/min
Limiting speed	10000 r/min
SKF performance class	SKF Explorer

Properties	
Contact type	Normal contact (two-point contact)
Number of rows	1
Locating feature, bearing outer ring	Without
Ring type	One-piece inner and outer rings
Cage	Steel sheet metal
Matched arrangement	No
Universal matching bearing	Yes
Axial internal clearance	Not applicable
Matched condition (axial clearance/ preload)	Axial clearance CB
Tolerance class	Class 6 (P6)
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without
Indicative carbon footprint for new product	1.6 kg CO ₂ e

Logistics	
Product net weight	0.43 kg
eClass code	23-05-08-03
UNSPSC code	31171531

SKF drawings

