

# 7205 BECBY

## 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	25 mm
Contact angle	40 °
Outside diameter	52 mm
Width	15 mm

#### Performance

Basic dynamic load rating	15.6 kN
Basic static load rating	10 kN
Limiting speed	17 000 r/min
Reference speed	16 000 r/min
SKF performance class	SKF Explorer

#### Properties

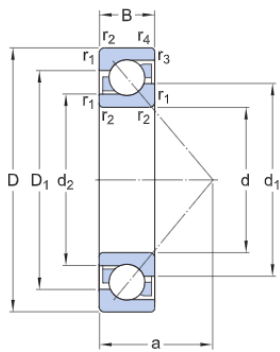
Axial internal clearance	Not applicable
Cage	Sheet metal
Coating	Without
Contact type	Normal contact (two-point contact)
Locating feature, bearing outer ring	None
Lubricant	None
Matched arrangement	No
Material, bearing	Bearing steel
Number of rows	1
Relubrication feature	Without
Ring type	One-piece inner and outer rings
Sealing	Without
Universal	Yes

matching bearing

# Technical Specification

SKF performance class

SKF Explorer

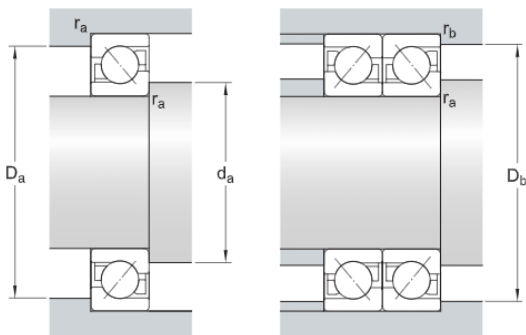


## Dimensions

d	25 mm	Bore diameter
D	52 mm	Outside diameter
B	15 mm	Width
d <sub>1</sub>	≈ 35.85 mm	Shoulder diameter of inner ring (large side face)
d <sub>2</sub>	≈ 30.87 mm	Shoulder diameter of inner ring (small side face)
D <sub>1</sub>	≈ 41.5 mm	Shoulder diameter of outer ring (large side face)
a	24 mm	Distance side face to pressure point
r <sub>1,2</sub>	min. 1 mm	Chamfer dimension
r <sub>3,4</sub>	min. 0.6 mm	Chamfer dimension

## Abutment dimensions

d <sub>a</sub>	min. 30.6 mm	Diameter of shaft abutment
D <sub>a</sub>	max. 46.4 mm	Abutment diameter housing
D <sub>b</sub>	max. 47.8 mm	Diameter of housing abutment
r <sub>a</sub>	max. 1 mm	Radius of fillet
r <sub>b</sub>	max. 0.6 mm	Radius of fillet



## Calculation data

Basic dynamic load rating	C	15.6 kN
Basic static load rating	$C_0$	10 kN
Fatigue load limit	$P_u$	0.43 kN
Reference speed		16 000 r/min
Limiting speed		17 000 r/min
Minimum axial load factor	A	0.00159
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	0.13 kg
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