# 7311 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 | 55 mm |
| Outside diameter | 120 mm |
| Width | 29 mm |
| Contact angle | 40 ° |

## Performance

| | |
|---|---|
| Basic dynamic load rating | 90 kN |
| Basic static load rating | 65.5 kN |
| Reference speed | 7 000 r/min |
| Limiting speed | 7 000 r/min |
| SKF performance class | SKF Explorer |

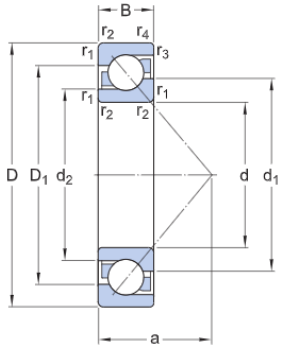
## Properties

| | |
|---|---|
| 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 | Brass 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 P6 (P6) |
| Material, bearing | Bearing steel |
| Coating | Without |

| | |
|---|---|
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | Without |

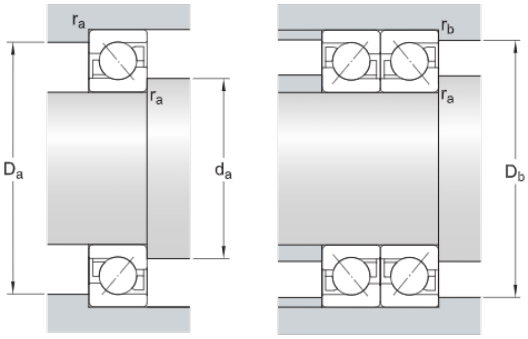
# Technical Specification

| | |
|---|---|
| SKF performance class | SKF Explorer |




## Dimensions

| | | |
|---|---|---|
| d | 55 mm | Bore diameter |
| D | 120 mm | Outside diameter |
| B | 29 mm | Width |
| $d_1$ | ≈ 80.3 mm | Shoulder diameter of inner ring (large side face) |
| $d_2$ | ≈ 66.66 mm | Shoulder diameter of inner ring (small side face) |
| $D_1$ | ≈ 96.6 mm | Shoulder diameter of outer ring (large side face) |
| a | 51 mm | Distance side face to pressure point |
| $r_{1,2}$ | min. 2 mm | Chamfer dimension |
| $r_{3,4}$ | min. 1 mm | Chamfer dimension |




## Abutment dimensions

| | | |
|---|---|---|
| $d_a$ | min. 66 mm | Diameter of shaft abutment |
| $D_a$ | max. 109 mm | Abutment diameter housing |
| $D_b$ | max. 114 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 | 90 kN |
| Basic static load rating | $C_0$ | 65.5 kN |
| Fatigue load limit | $P_u$ | 2.75 kN |
| Reference speed | | 7 000 r/min |
| Limiting speed | | 7 000 r/min |
| Minimum axial load factor | A | 0.0627 |
| Minimum radial load factor | $k_r$ | 0.1 |
| 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 | 1.4 kg |

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