

3314 A Double row angular contact ball bearing



Double row angular contact ball bearing

Double row angular contact ball bearings correspond, in their design and operation, to a pair of single row angular contact ball bearings in a back-to-back arrangement, while requiring less axial space. They can operate at high speeds and are more suitable than deep groove ball bearings for supporting large axial forces in both directions.

- High-speed capability
- Accommodate relatively high radial loads, high axial loads in both directions and tilting moments
- Suitable where a stiff bearing arrangement is required
- Require less axial space than equivalent pair of single row angular contact ball bearings

Overview

Dimensions

| | |
|------------------|---------|
| Bore diameter | 70 mm |
| Outside diameter | 150 mm |
| Width | 63.5 mm |
| Contact angle | 30 ° |

Performance

| | |
|---------------------------|--------------|
| Basic dynamic load rating | 163 kN |
| Basic static load rating | 125 kN |
| Reference speed | 5 000 r/min |
| Limiting speed | 4 300 r/min |
| SKF performance class | SKF Explorer |

Properties

| | |
|---|------------------------------------|
| Contact type | Normal contact (two-point contact) |
| Number of rows | 2 |
| Locating feature, bearing outer ring | None |
| Ring type | One-piece inner and outer rings |
| Cage | Sheet metal |
| Arrangement of contact angle (double-row bearing) | Back-to-back (O) |
| Matched arrangement | No |
| Universal | No |

matching bearing

| | |
|--------------------------|---------------|
| Axial internal clearance | CN |
| Material, bearing | Bearing steel |
| Coating | Without |
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | Without |

Technical Specification

SKF performance class

SKF Explorer

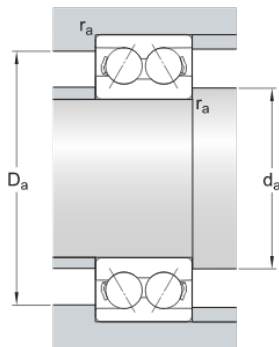


Dimensions

| | | |
|-----------|-------------|------------------------------|
| d | 70 mm | Bore diameter |
| D | 150 mm | Outside diameter |
| B | 63.5 mm | Width |
| d_1 | ≈ 96.5 mm | Shoulder diameter inner ring |
| D_1 | ≈ 131 mm | Shoulder diameter outer ring |
| $r_{1,2}$ | min. 2.1 mm | Chamfer dimension inner ring |
| a | 89 mm | Distance pressure point(s) |

Abutment dimensions

| | | |
|-------|-------------|---------------------------|
| d_a | min. 82 mm | Abutment diameter shaft |
| D_a | max. 138 mm | Abutment diameter housing |
| r_a | max. 2 mm | Fillet radius |



Calculation data

| | | |
|---------------------------|-------|-------------|
| Basic dynamic load rating | C | 163 kN |
| Basic static load rating | C_0 | 125 kN |
| Fatigue load limit | P_u | 5 kN |
| Reference speed | | 5 000 r/min |

| | | |
|--------------------|-------|-------------|
| Limiting speed | | 4 300 r/min |
| Calculation factor | k_r | 0.07 |
| Limiting value | e | 0.8 |
| Calculation factor | X | 0.63 |
| Calculation factor | Y_0 | 0.66 |
| Calculation factor | Y_1 | 0.78 |
| Calculation factor | Y_2 | 1.24 |

Mass

| | | |
|--------------|--|---------|
| Mass bearing | | 5.05 kg |
|--------------|--|---------|

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