

11209 TN9



Self-aligning ball bearing with extended inner ring

Self-aligning ball bearings, with extended inner ring, have two rows of balls, a common sphered raceway in the outer ring and two deep uninterrupted raceway grooves in the inner ring. They are insensitive to angular misalignment of the shaft relative to the housing. The extended inner ring enables use of commercial grade shafting and axially location on the shaft by means of a slot at one end of the inner ring.

- Accommodate static and dynamic misalignment
- Excellent high-speed performance
- Excellent light load performance
- Low friction
- Extended inner ring facilitates ease of mounting

Overview

Dimensions

| | |
|------------------|-------|
| Bore diameter | 45 mm |
| Outside diameter | 85 mm |
| Width | 58 mm |

Performance

| | |
|---------------------------|--------------|
| Basic dynamic load rating | 22.9 kN |
| Basic static load rating | 7.8 kN |
| Reference speed | 12 000 r/min |
| Limiting speed | 4 500 r/min |

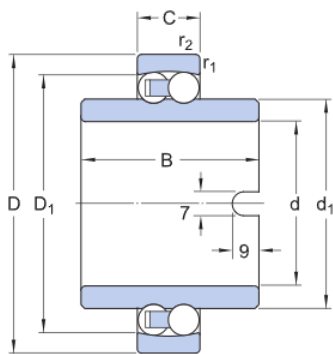
Properties

| | |
|--------------------------------------|---------------|
| Retaining feature, inner ring | Locating slot |
| Locating feature, bearing outer ring | None |
| Number of rows | 2 |
| Bore type | Cylindrical |
| Cage | Non-metallic |
| Radial internal clearance | CN |
| Tolerance class | Normal |
| Material, bearing | Bearing steel |
| Coating | Without |
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | Without |

Technical Specification

Bore type

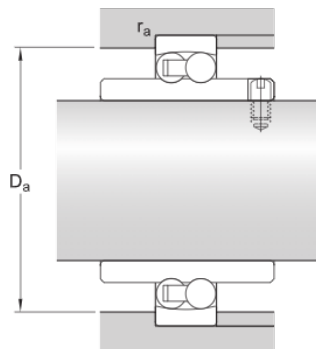
Cylindrical



Dimensions

| | | |
|------------------|-------------|------------------------------|
| d | 45 mm | Bore diameter |
| D | 85 mm | Outside diameter |
| B | 58 mm | Width |
| C | 19 mm | Width outer ring |
| d ₁ | ≈ 57.7 mm | Shoulder diameter inner ring |
| D ₁ | ≈ 72.5 mm | Shoulder diameter outer ring |
| r _{1,2} | min. 1.1 mm | Chamfer dimension |

Abutment dimensions



| | | |
|----------------|-------------|---------------------------|
| D _a | max. 78 mm | Abutment diameter housing |
| r _a | max. 1.1 mm | Fillet radius |

Calculation data

| | | |
|---------------------------|----------------|-------------|
| Basic dynamic load rating | C | 22.9 kN |
| Basic static load rating | C ₀ | 7.8 kN |
| Fatigue load limit | P _u | 0.4 kN |
| Limiting speed | | 4 500 r/min |

| | | |
|----------------------------------|----------|-------|
| Permissible angular misalignment | α | 2.5 ° |
| Calculation factor | k_r | 0.04 |
| Limiting value | e | 0.21 |
| Calculation factor | Y_0 | 3.2 |
| Calculation factor | Y_1 | 3 |
| Calculation factor | Y_2 | 4.6 |

Mass

| | |
|--------------|---------|
| Mass bearing | 0.77 kg |
|--------------|---------|

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