

Image may differ from product. See technical specification for details.

# 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

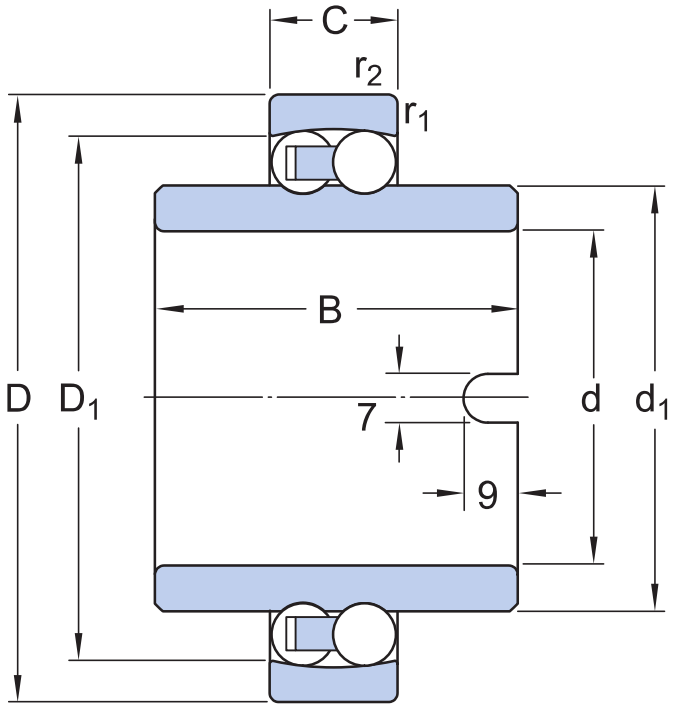
| | |
|---|---|
| Retaining feature, inner ring | Locating slot |
| Locating feature, bearing outer ring | None |
| Number of rows | 2 |
| Bore type | Cylindrical |
| Cage | Non-metallic |
| Radial internal clearance | CN |
| Tolerance class | Normal |
| Material, bearing | Bearing steel |
| Coating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

## Logistics

| | |
|---|---|
| Product net weight | 0.77 kg |
| eClass code | 23-05-08-06 |
| UNSPSC code | 31171532 |

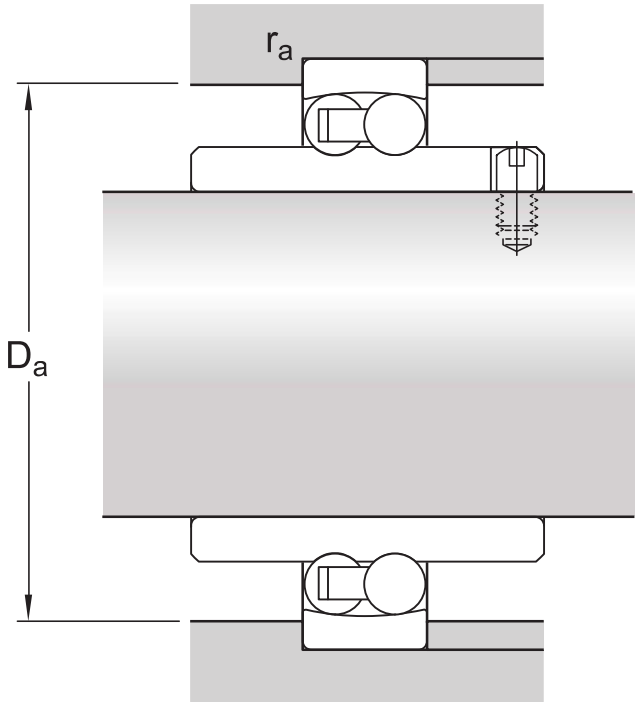
# Technical specification

| | |
|---|---|
| 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 |

## Tolerances and clearances

### GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal, JS7
- Radial internal clearance: table

## BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fits

## More Information

### Product details

- Designs and variants
- General bearing specifications
- Loads
- Temperature limits
- Permissible speed
- Design considerations
- Mounting
- Designation system

### Engineering information

- Principles of rolling bearing selection
- General bearing knowledge
- Bearing selection process
- Bearing interfaces
- Seat tolerances for standard conditions
- Selecting internal clearance
- Lubrication
- Sealing, mounting and dismounting
- Bearing failure and how to prevent it

### Tools

- SKF Product select - Select and evaluate bearing
- SKF Product select - Combine housing with bearing
- SimPro Quick
- LubeSelect for SKF greases
- Heater selection tool
- Drive-up Method Program
- Oil Injection Method Program
- Tool and Accessory Selector for sleeves and shafts

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