

# 11209 TN9 Self-aligning ball bearing with extended inner ring



## 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	With

# Technical Specification

Bore type

Cylindrical

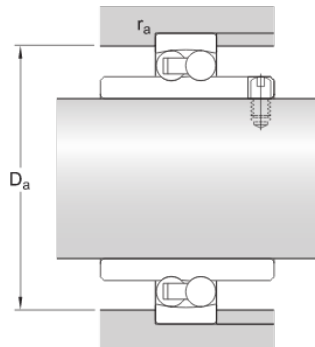


## Dimensions

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	$\alpha$	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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