

# 2210 EKTN9

## Self-aligning ball bearing with tapered bore



Self-aligning ball bearings, with a tapered bore, 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, which can be caused, for example, by shaft deflection. The tapered bore facilitates ease of mounting via adapter sleeves or withdrawal sleeves.

- Ease of mounting via adapter sleeves or withdrawal sleeves
- Accommodate static and dynamic misalignment
- Excellent high-speed performance
- Excellent light load performance
- Low friction

## Overview

### Dimensions

Bore diameter	50 mm
Outside diameter	90 mm
Width	23 mm

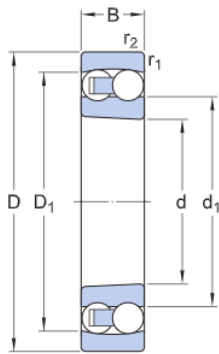
### Properties

Bore type	Tapered 1:12
Cage	Non-metallic
Coating	Without
Locating feature, bearing outer ring	None
Lubricant	None
Material, bearing	Bearing steel
Radial internal clearance	CN
Relubrication feature	Without
Retaining feature, inner ring	None
Sealing	Without
Tolerance class	Normal

# Technical Specification

Bore type

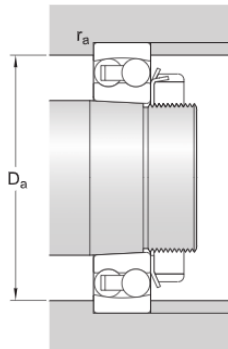
Tapered 1:12



## Dimensions

d	50 mm	Bore diameter
D	90 mm	Outside diameter
B	23 mm	Width
$d_1$	$\approx 61.47$ mm	Shoulder diameter inner ring
$D_1$	$\approx 80.2$ mm	Shoulder diameter outer ring
$r_{1,2}$	min. 1.1 mm	Chamfer dimension

## Abutment dimensions



$D_a$	max. 83 mm	Abutment diameter housing
$r_a$	max. 1.1 mm	Fillet radius

## Calculation data

Basic dynamic load rating	C	33.8 kN
Basic static load rating	$C_0$	11.2 kN
Fatigue load limit	$P_u$	0.57 kN
Reference speed		14 000 r/min

Limiting speed		9 500 r/min
Permissible angular misalignment	$\alpha$	2.5 °
Calculation factor	$k_r$	0.045
Limiting value	$e$	0.23
Calculation factor	$Y_0$	2.8
Calculation factor	$Y_1$	2.7
Calculation factor	$Y_2$	4.2

## Mass

Mass bearing		0.6 kg
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