

# 2210 E-2RS1KTN9



## Self-aligning ball bearing with tapered bore and seals on both sides

Self-aligning ball bearings, with a tapered bore and seals on both sides, 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 tapered bore facilitates ease of mounting via adapter/withdrawal sleeves. The integral sealing can prolong bearing service life by keeping lubricant in the bearings and contaminants out.

- Ease of mounting via adapter/withdrawal sleeves
- Accommodate static and dynamic misalignment
- Excellent high-speed and light load performance
- Low friction
- Integral sealing results in reduced maintenance requirements and prolonged bearing service life

## Overview

### Dimensions

|                  |       |
|------------------|-------|
| Bore diameter    | 50 mm |
| Outside diameter | 90 mm |
| Width            | 23 mm |

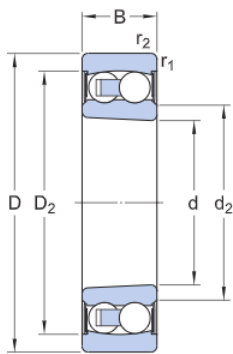
### Properties

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

# Technical Specification

Bore type

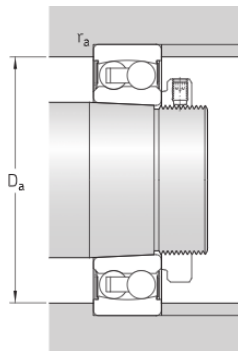
Tapered 1:12



## Dimensions

|                  |             |                            |
|------------------|-------------|----------------------------|
| d                | 50 mm       | Bore diameter              |
| D                | 90 mm       | Outside diameter           |
| B                | 23 mm       | Width                      |
| d <sub>2</sub>   | ≈ 57.7 mm   | Recess diameter inner ring |
| D <sub>2</sub>   | ≈ 79.4 mm   | Recess diameter outer ring |
| r <sub>1,2</sub> | min. 1.1 mm | Chamfer dimension          |

## Abutment dimensions



|                |             |                           |
|----------------|-------------|---------------------------|
| D <sub>a</sub> | max. 83 mm  | Abutment diameter housing |
| r <sub>a</sub> | max. 1.1 mm | Fillet radius             |

## Calculation data

|                           |                |             |
|---------------------------|----------------|-------------|
| Basic dynamic load rating | C              | 22.9 kN     |
| Basic static load rating  | C <sub>0</sub> | 8.15 kN     |
| Fatigue load limit        | P <sub>u</sub> | 0.415 kN    |
| Limiting speed            |                | 4 800 r/min |

|                                  |          |       |
|----------------------------------|----------|-------|
| Permissible angular misalignment | $\alpha$ | 1.5 ° |
| Calculation factor               | $k_r$    | 0.045 |
| Limiting value                   | $e$      | 0.2   |
| Calculation factor               | $Y_0$    | 3.2   |
| Calculation factor               | $Y_1$    | 3.2   |
| Calculation factor               | $Y_2$    | 4.9   |

## Mass

|              |         |
|--------------|---------|
| Mass bearing | 0.57 kg |
|--------------|---------|

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