

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

# NKS 50

## Single row needle roller bearing with machined rings, with flanges, without inner ring

Single row needle roller bearings without an inner ring consist of an outer ring with a needle roller and cage assembly. They are an excellent choice for compact bearing arrangements in applications where hardened and ground raceways can be provided on the shaft. The

outer ring includes two integral flanges to guide the bearing axially and an annular groove with one or more lubrication holes to facilitate relubrication.

- High radial load carrying capacity
- High stiffness
- Low cross-sectional height
- Accommodate axial displacement in both directions

# Overview

## Dimensions

| | |
|---|---|
| Bore diameter of needle roller complement | 50 mm |
| Outside diameter | 65 mm |
| Width | 22 mm |

## Performance

| | |
|---|---|
| Basic dynamic load rating | 42.9 kN |
| Basic static load rating | 72 kN |
| Reference speed | 8 000 r/min |
| Limiting speed | 9 000 r/min |

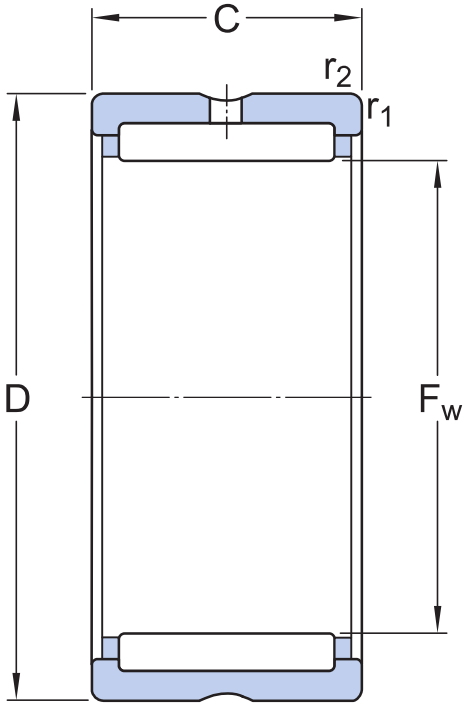
## Properties

| | |
|---|---|
| Bearing part | Bearing without inner ring |
| Number of rows | 1 |
| Outer ring type | Machined (solid) |
| Aligning feature | Without |
| Cage | Sheet steel |
| Number of flanges, outer ring | 2 |
| Tolerance class | Normal |
| Material, bearing | Bearing steel |
| Coating | Without |
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | With |

## Logistics

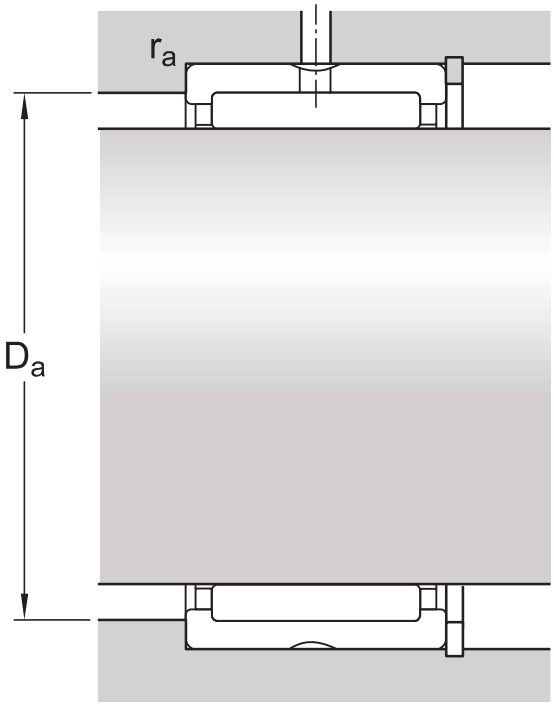
| | |
|---|---|
| Product net weight | 0.162 kg |
| eClass code | 23-05-09-03 |
| UNSPSC code | 31171512 |

## Technical specification




## Dimensions

| | | |
|---|---|---|
| $F_w$ | 50 mm | Diameter under rollers |
| D | 65 mm | Outside diameter |
| C | 22 mm | Width |
| $r_{1,2}$ | min. 1 mm | Chamfer dimension outer ring |

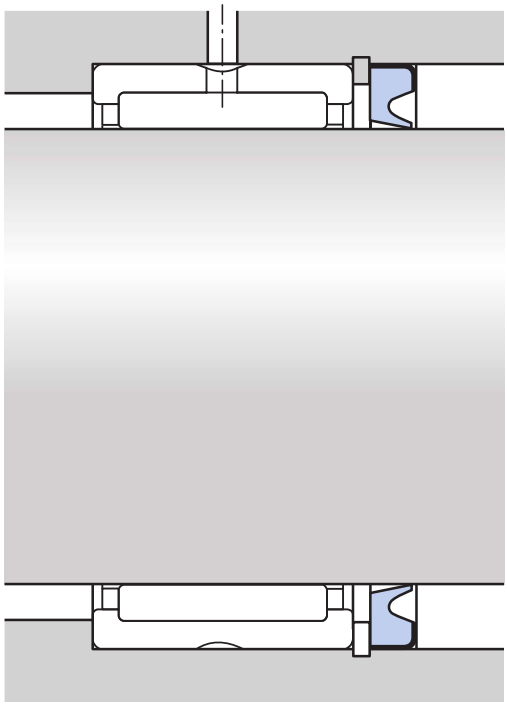



## Abutment dimensions

| | | |
|---|---|---|
| $D_a$ | max. 60 mm | Diameter of housing abutment |
| $r_a$ | max. 1 mm | Fillet radius |

## Calculation data

| | | |
|---|---|---|
| Basic dynamic load rating | C | 42.9 kN |
| Basic static load rating | $C_0$ | 72 kN |
| Fatigue load limit | $P_u$ | 8.8 kN |
| Reference speed | | 8 000 r/min |
| Limiting speed | | 9 000 r/min |



## Associated seals

| | |
|---|---|
| 50x65x8 HMS5 RG | Radial shaft seal |

## Tolerances and clearances

### GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal, P6, P5, ISO - F6 ($F_W$)
- Radial internal clearance: table

## DESIGN CONSIDERATIONS

- Housing tolerances: table
- Shaft tolerances: Operating clearance

# Compatible products

## Recommended product

| | |
|---|---|
| Radial shaft seal with rubber outside diameter and single sealing lip, for oil or grease | 50X65X8 HMS5 RG |

## More Information

### Product details

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

### Engineering information

- Principles of rolling bearing selection
- General bearing knowledge
- Bearing selection process
- Bearing failure and how to prevent it

### Tools

- SimPro Quick
- Bearing Select
- Engineering Calculator
- LubeSelect for SKF greases
- Heater Selection Tool
- skf.com/mount

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