

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

NKI 10/20

Single row needle roller bearing with machined rings, with flanges

Single row needle roller bearings incorporate cylindrical rollers that are small in diameter relative to their length. Owing to their large number of rollers, the bearings have a high load carrying capacity. 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
- Separable design

Overview

Dimensions

Bore diameter	10 mm
Outside diameter	22 mm
Width	20 mm

Performance

Basic dynamic load rating	12.8 kN
Basic static load rating	16.6 kN
Reference speed	24 000 r/min
Limiting speed	28 000 r/min

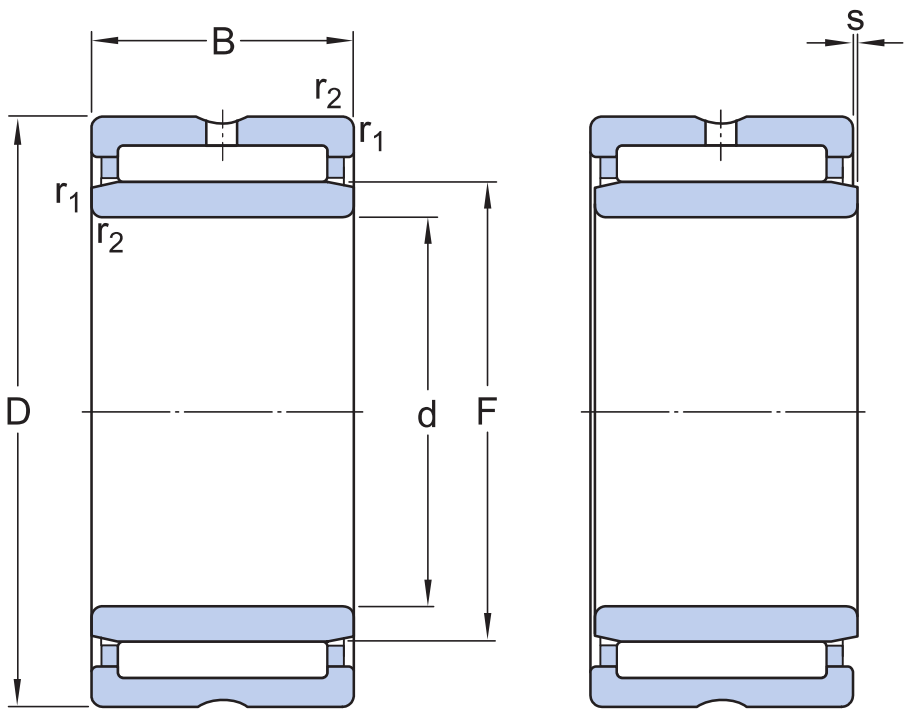
Properties

Bearing part	Complete bearing
Number of rows	1
Outer ring type	Machined (solid)
Aligning feature	Without
Cage	Sheet metal
Number of flanges, outer ring	2
Radial internal clearance	CN
Tolerance class	Normal
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	With

Logistics

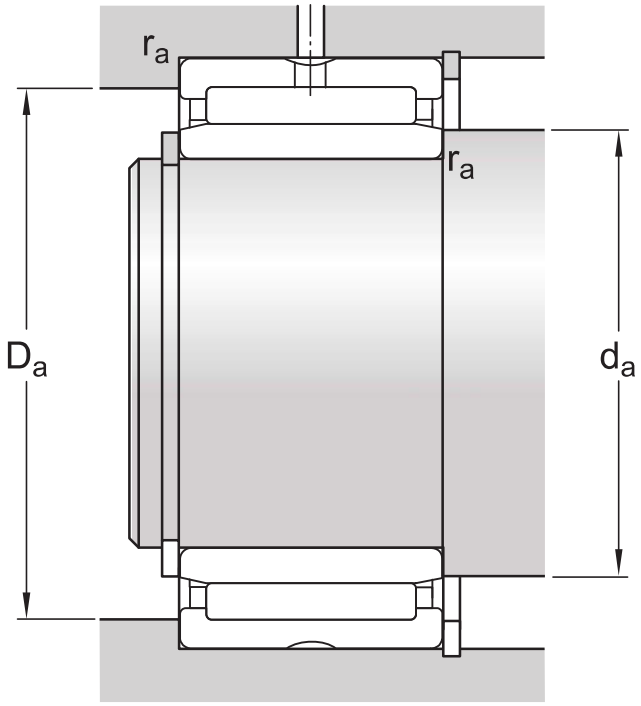
Product net weight	0.037 kg
eClass code	23-05-09-03
UNSPSC code	31171512

Technical specification



Dimensions

d	10 mm	Bore diameter
D	22 mm	Outside diameter
B	20 mm	Width
F	14 mm	Raceway diameter inner ring
$r_{1,2}$	min. 0.3 mm	Chamfer dimension outer ring
s	max. 0.5 mm	Permissible axial displacement from the normal position of one bearing ring relative to the other



Abutment dimensions

d_a	min. 12 mm	Smallest permissible abutment diameter shaft, bearings with flanges
D_a	max. 20 mm	Diameter of housing abutment
r_a	max. 0.3 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	12.8 kN
Basic static load rating	C_0	16.6 kN
Fatigue load limit	P_u	2 kN
Reference speed		24 000 r/min
Limiting speed		28 000 r/min

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

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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