

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

RNA 4900

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	14 mm
Outside diameter	22 mm
Width	13 mm

Performance

Basic dynamic load rating	8.8 kN
Basic static load rating	10.4 kN
Reference speed	24 000 r/min
Limiting speed	28 000 r/min

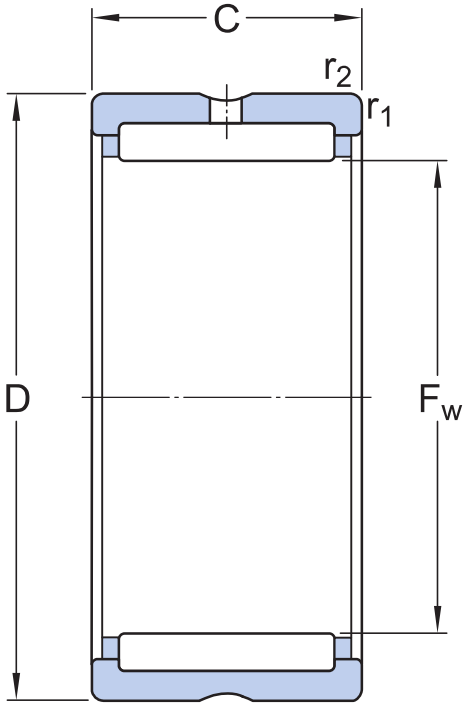
Properties

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

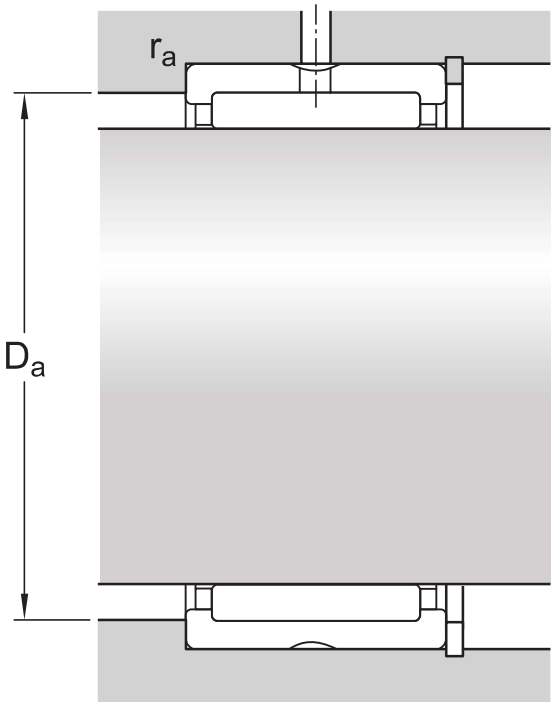
Product net weight	0.016 kg
eClass code	23-05-09-03
UNSPSC code	31171512

Technical specification



Dimensions

F_w	14 mm	Diameter under rollers
D	22 mm	Outside diameter
C	13 mm	Width
$r_{1,2}$	min. 0.3 mm	Chamfer dimension outer ring

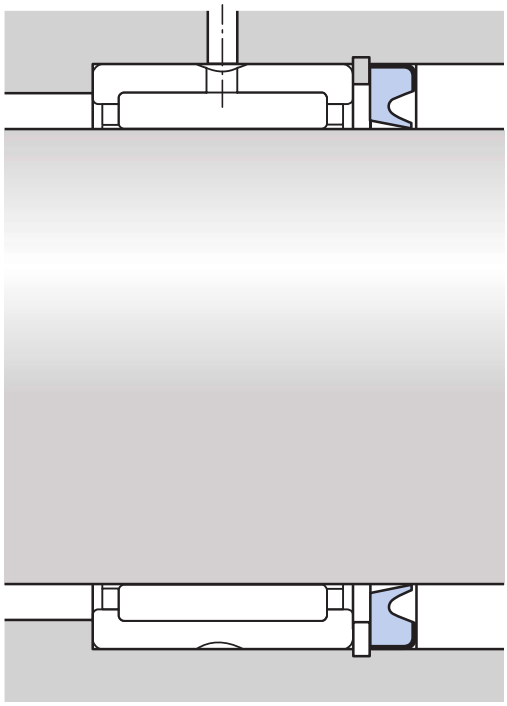


Abutment dimensions

D_a	max. 20 mm	Diameter of housing abutment
r_a	max. 0.3 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	8.8 kN
Basic static load rating	C_0	10.4 kN
Fatigue load limit	P_u	1.22 kN
Reference speed		24 000 r/min
Limiting speed		28 000 r/min



Associated seals

G 14x22x3	Radial shaft seal with a low cross-sectional height, single lip
SD 14x22x3	Radial shaft seal with a low cross-sectional height, double lip

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 low cross-sectional height for needle roller bearings, G design	G 14X22X3

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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