



RNA 4901 Single row needle roller bearing with machined rings, with flanges, without inner ring

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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 | 16 mm |
| Outside diameter | 24 mm |
| Width | 13 mm |

Performance

| | |
|---------------------------|--------------|
| Basic dynamic load rating | 9.9 kN |
| Basic static load rating | 12.2 kN |
| Reference speed | 22 000 r/min |
| Limiting speed | 26 000 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 |

Technical Specification



Dimensions

| | | |
|-----------|-------------|------------------------------|
| F_w | 16 mm | Diameter under rollers |
| D | 24 mm | Outside diameter |
| C | 13 mm | Width |
| $r_{1,2}$ | min. 0.3 mm | Chamfer dimension outer ring |

Abutment dimensions



| | | |
|-------|-------------|--|
| D_a | max. 22 mm | Abutment diameter housing (with flanges) |
| r_a | max. 0.3 mm | Fillet radius |

Calculation data

| | | |
|---------------------------|-------|--------------|
| Basic dynamic load rating | C | 9.9 kN |
| Basic static load rating | C_0 | 12.2 kN |
| Fatigue load limit | P_u | 1.46 kN |
| Reference speed | | 22 000 r/min |
| Limiting speed | | 26 000 r/min |

Mass

Mass bearing

0.017 kg

Associated seals



| | |
|---------------|---|
| G 16x24x3 | Radial shaft seal with a low cross-sectional height, single lip |
| SD 16x24x3 | Radial shaft seal with a low cross-sectional height, double lip |

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