

RPNA 30/47Alignment needle roller bearings, without an inner ring

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Alignment needle roller bearings are self-aligning and offer a compact solution in applications where less space is available. Owing to their large number of rollers, they have a high load carrying capacity. Their internal design, where a convex outer ring meets two concave seating rings encased in a drawn sleeve, enables the bearings to accommodate initial static misalignment. Bearings without an inner ring are an excellent choice for compact bearing arrangements, if the shaft can be hardened and ground.

- High radial load carrying capacity
- Accommodate static initial misalignment
- Low cross-sectional height
- Suitable for compact bearing arrangements

Overview

Dimensions

Bore diameter of needle roller complement	30 mm
Outside diameter	47 mm
Width	20 mm

Performance

Basic dynamic load rating	22.9 kN
Basic static load rating	38 kN
Reference speed	13 000 r/min
Limiting speed	15 000 r/min

Properties

Bearing part	Bearing without inner ring
Number of rows	1
Outer ring type	Drawn cup with open ends
Aligning feature	With
Cage	Sheet steel
Number of flanges, outer ring	2
Tolerance class	Normal
Material, bearing	Bearing steel
Coating	Without
Sealing	Without

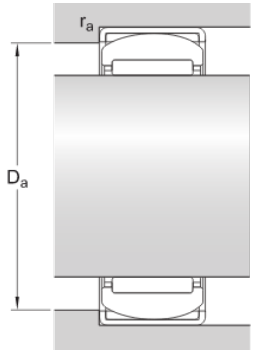
Lubricant	None
Relubrication feature	Without

Technical Specification

NOT FOUND

Dimensions

F_w	30 mm	Diameter under rollers
D	47 mm	Outside diameter
C	20 mm	Width
D_1	42 mm	Shoulder diameter sleeve
r	min. 0.8 mm	Chamfer dimension sheet steel sleeve



Abutment dimensions

D_a	min. 41 mm	Smallest permissible abutment diameter housing
D_a	max. 42 mm	Largest permissible abutment diameter housing
r_a	max. 0.8 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	22.9 kN
Basic static load rating	C_0	38 kN
Fatigue load limit	P_u	4.8 kN
Reference speed		13 000 r/min
Limiting speed		15 000 r/min

Mass

Mass bearing	0.13 kg

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