

PNA 20/42Alignment needle roller bearing, with 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 compensate for initial errors of alignment. Bearings with an inner ring are used for applications where the shaft cannot be hardened and ground.

- High radial load carrying capacity
- Accommodate static initial misalignment
- Low cross-sectional height

Overview

Dimensions

Bore diameter	20 mm
Outside diameter	42 mm
Width	20 mm

Performance

Basic dynamic load rating	19 kN
Basic static load rating	32.5 kN
Reference speed	16 000 r/min
Limiting speed	18 000 r/min

Properties

Bearing part	Complete bearing
Number of rows	1
Outer ring type	Drawn cup with open ends
Aligning feature	With
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	Without

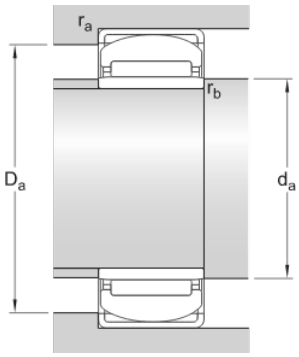
Technical Specification

Designation	PNA 20/42

NOT FOUND

Dimensions

d	20 mm	Bore diameter
D	42 mm	Outside diameter
B	20 mm	Width
F	25 mm	Raceway diameter inner ring
D_1	36.5 mm	Shoulder diameter sleeve
r	min. 0.8 mm	Chamfer dimension sheet steel sleeve
$r_{1,2}$	min. 0.3 mm	Chamfer dimension inner 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. 22 mm	Smallest permissible abutment diameter shaft
D_a	min. 35 mm	Smallest permissible abutment diameter housing
D_a	max. 37 mm	Largest permissible abutment diameter housing
r_a	max. 0.8 mm	Fillet radius
r_b	max. 0.3 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	19 kN
Basic static load rating	C_0	32.5 kN
Fatigue load limit	P_u	4 kN
Reference speed		16 000 r/min
Limiting speed		18 000 r/min

Mass

Mass bearing	0.14 kg

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