



# 3203 ATN9

## Double row angular contact ball bearing

Double row angular contact ball bearings correspond, in their design and operation, to a pair of single row angular contact ball bearings in a back-to-back arrangement, while requiring less axial space. They can operate at high speeds and are more suitable than deep groove ball bearings for supporting large axial forces in both directions.

- High-speed capability
- Accommodate relatively high radial loads, high axial loads in both directions and tilting moments
- Suitable where a stiff bearing arrangement is required
- Require less axial space than equivalent pair of single row angular contact ball bearings

## Overview

### Dimensions

Bore diameter	17 mm
Contact angle	30 °
Outside diameter	40 mm
Width	17.5 mm

### Performance

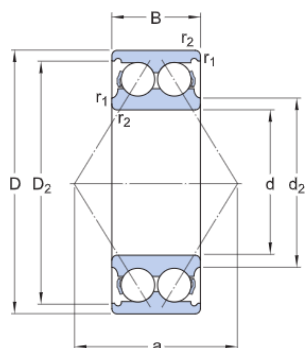
Basic dynamic load rating	14.3 kN
Basic static load rating	8.8 kN
Limiting speed	16 000 r/min
Reference speed	19 000 r/min

## Properties

Arrangement of contact angle (double-row bearing)	Back-to-back (0)
Axial internal clearance	CN
Cage	Non-metallic
Coating	Without
Contact type	Normal contact (two-point contact)
Locating feature, bearing outer ring	None
Lubricant	None
Matched arrangement	No
Material, bearing	Bearing steel
Number of rows	2
Relubrication feature	Without

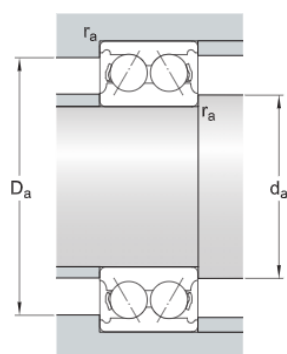
Ring type	One-piece inner and outer rings
Sealing	Without
Universal matching bearing	No

## Technical Specification



### Dimensions

d	17 mm	Bore diameter
D	40 mm	Outside diameter
B	17.5 mm	Width
d <sub>2</sub>	≈ 23.3 mm	Recess diameter inner ring shoulder
D <sub>2</sub>	≈ 34.95 mm	Recess diameter outer ring shoulder
r <sub>1,2</sub>	min. 0.6 mm	Chamfer dimension inner ring
a	23 mm	Distance pressure point(s)



### Abutment dimensions

d <sub>a</sub>	min. 21.4 mm	Abutment diameter shaft
d <sub>a</sub>	max. 23 mm	Abutment diameter shaft
D <sub>a</sub>	max. 35.6 mm	Abutment diameter housing
r <sub>a</sub>	max. 0.6 mm	Fillet radius

### Calculation data

Basic dynamic load rating	C	14.3 kN
Basic static load rating	C <sub>0</sub>	8.8 kN
Fatigue load limit	P <sub>u</sub>	0.365 kN
Reference speed		19 000 r/min
Limiting speed		16 000 r/min
Calculation factor	k <sub>r</sub>	0.06
Limiting value	e	0.8
Calculation factor	X	0.63

Calculation factor	$Y_0$	0.66
Calculation factor	$Y_1$	0.78
Calculation factor	$Y_2$	1.24

## Mass

Mass bearing	0.096 kg
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