



# 3304 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	20 mm
Contact angle	30 °
Outside diameter	52 mm
Width	22.2 mm

### Performance

Basic dynamic load rating	24.5 kN
Basic static load rating	15.6 kN
Limiting speed	13 000 r/min
Reference speed	13 000 r/min
SKF performance class	SKF Explorer

### Properties

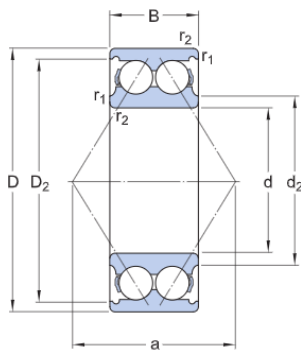
Arrangement of contact angle (double-row bearing)	Back-to-back (0)
Axial internal clearance	CN
Cage	Non-metallic
Coating	Without
Contact type	Normal contact (two-point contact)
Locating feature, bearing outer ring	None
Lubricant	None
Matched arrangement	No
Material, bearing	Bearing steel
Number of rows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

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

# Technical Specification

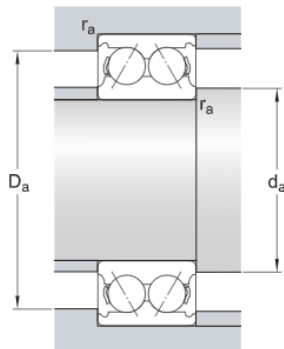
SKF performance class

SKF Explorer



## Dimensions

d	20 mm	Bore diameter
D	52 mm	Outside diameter
B	22.2 mm	Width
d <sub>2</sub>	≈ 29.9 mm	Recess diameter inner ring shoulder
D <sub>2</sub>	≈ 43.95 mm	Recess diameter outer ring shoulder
r <sub>1,2</sub>	min. 1.1 mm	Chamfer dimension inner ring
a	30 mm	Distance pressure point(s)



## Abutment dimensions

da	min. 27 mm	Abutment diameter shaft
Da	max. 45 mm	Abutment diameter housing
ra	max. 1 mm	Fillet radius

## Calculation data

Basic dynamic load rating	C	24.5 kN
Basic static load rating	C <sub>0</sub>	15.6 kN
Fatigue load limit	P <sub>u</sub>	0.67 kN
Reference speed		13 000 r/min

Limiting speed		13 000 r/min
Calculation factor	$k_r$	0.07
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	0.22 kg
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