

# 3220 A Double row angular contact ball bearing



## 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	100 mm
Outside diameter	180 mm
Width	60.3 mm
Contact angle	30 °

## Performance

Basic dynamic load rating	178 kN
Basic static load rating	166 kN
Reference speed	3 800 r/min
Limiting speed	3 200 r/min

### Properties

Contact type	Normal contact (two-point contact)
Number of rows	2
Locating feature, bearing outer ring	None
Ring type	One-piece inner and outer rings
Cage	Sheet metal
Arrangement of contact angle (double-row bearing)	Back-to-back (O)
Matched arrangement	No
Universal	No

matching bearing

Axial internal clearance	CN
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without

## Technical Specification

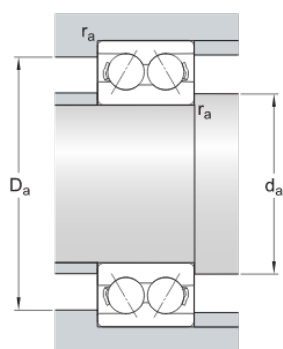


### Dimensions

d	100 mm	Bore diameter
D	180 mm	Outside diameter
B	60.3 mm	Width
$d_1$	≈ 126.55 mm	Shoulder diameter inner ring
$D_1$	≈ 161.05 mm	Shoulder diameter outer ring
$r_{1,2}$	min. 2.1 mm	Chamfer dimension inner ring
a	107 mm	Distance pressure point(s)

### Abutment dimensions

$d_a$	min. 112 mm	Abutment diameter shaft
$D_a$	max. 168 mm	Abutment diameter housing
$r_a$	max. 2 mm	Fillet radius



### Calculation data

Basic dynamic load rating	C	178 kN
Basic static load rating	$C_0$	166 kN
Fatigue load limit	$P_u$	6 kN
Reference speed		3 800 r/min
Limiting speed		3 200 r/min
Calculation factor	$k_r$	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		6.1 kg
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