

Image may differ from product. See technical specification for details.

3311 DMA

Double row angular contact ball bearing with two-piece inner ring

Double row angular contact ball bearings, with two-piece inner ring, correspond to a pair of single row angular contact ball bearings in a back-to-back arrangement, while requiring less axial space than the equivalent pair of single row angular contact ball bearings. The two-

piece inner ring enables incorporation of a larger number of balls, with a larger contact angle, providing a high load carrying capacity, especially in the axial direction.

- Accommodate very high axial loads in both directions, radial loads, and tilting moments
- Suitable where a stiff bearing arrangement is required
- Separable design means outer ring with ball and cage assemblies can be mounted independently of the inner ring halves

Overview

Dimensions

Bore diameter	55 mm
Outside diameter	120 mm
Width	49.2 mm
Contact angle	45 °

Performance

Basic dynamic load rating	111 kN
Basic static load rating	100 kN
Reference speed	6 000 r/min
Limiting speed	5 000 r/min

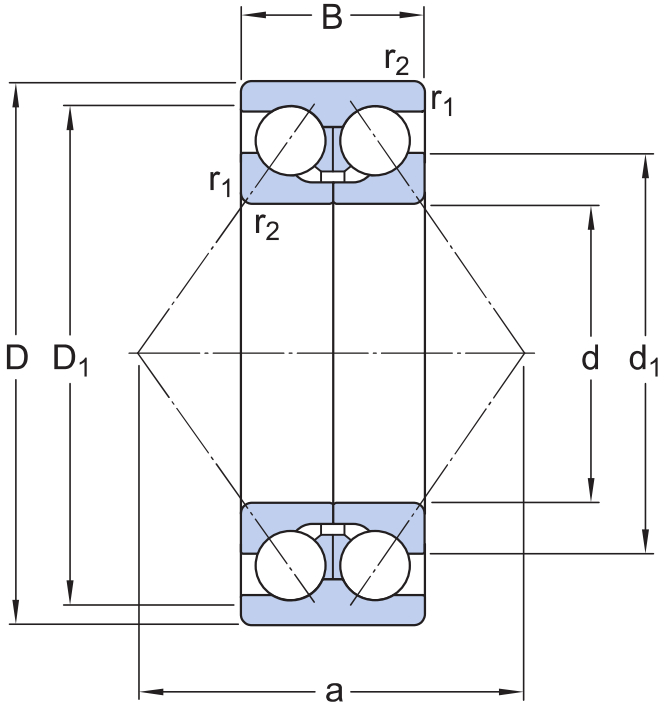
Properties

Contact type	Normal contact (two-point contact)
Number of rows	2
Locating feature, bearing outer ring	None
Ring type	Two-piece inner ring and one-piece outer ring
Cage	Machined metal
Arrangement of contact angle (double-row bearing)	Back-to-back (O)
Matched arrangement	No
Universal matching bearing	No
Axial internal clearance	CN
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without

Logistics

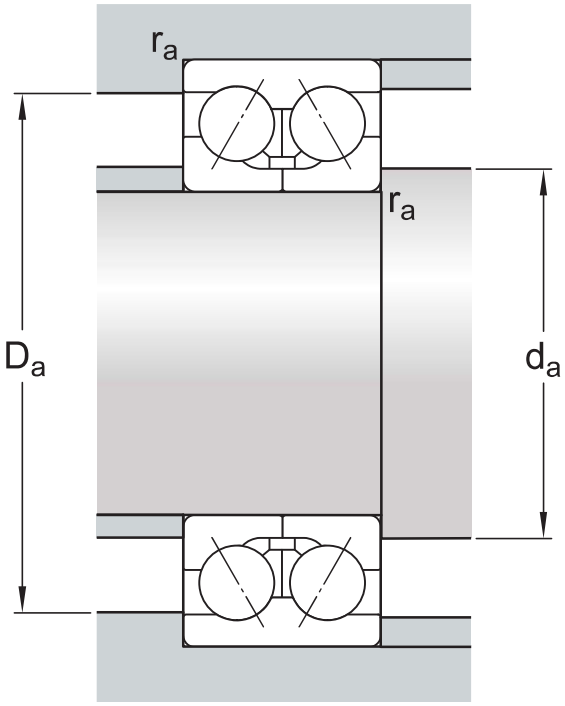
Product net weight	2.8 kg
eClass code	23-05-08-03
UNSPSC code	31171531

Technical specification



Dimensions

d	55 mm	Bore diameter
D	120 mm	Outside diameter
B	49.2 mm	Width
d_1	≈ 81.4 mm	Shoulder diameter inner ring for two-piece inner ring
D_1	≈ 104.4 mm	Shoulder diameter outer ring
$r_{1,2}$	min. 2 mm	Chamfer dimension inner ring for two-piece inner ring
a	114 mm	Distance pressure point(s)



Abutment dimensions

d_a	min. 66 mm	Abutment diameter shaft
D_a	max. 109 mm	Abutment diameter housing
r_a	max. 2 mm	Fillet radius

Calculation data

Basic dynamic load rating	C	111 kN
Basic static load rating	C_0	100 kN
Fatigue load limit	P_u	4.3 kN
Reference speed		6 000 r/min
Limiting speed		5 000 r/min
Calculation factor	k_r	0.095
Limiting value	e	1.34
Calculation factor	X	0.54
Calculation factor	Y_0	0.44
Calculation factor	Y_1	0.47
Calculation factor	Y_2	0.81

Tolerances and clearances

GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal, P6, P5
- Internal clearance: table, drawing no

BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fit

More Information

Product details

- Designs and variants
- General bearing specifications
- Loads
- Temperature limits
- Permissible speed
- Designation system

Engineering information

- Principles of rolling bearing selection
- General bearing knowledge
- Bearing selection process
- Bearing interfaces
- Seat tolerances for standard conditions
- Selecting internal clearance or preload
- Lubrication
- Sealing, mounting and dismounting
- Bearing failure and how to prevent it

Tools

- SKF Product select
- SimPro Quick
- Bearing Frequency Calculator
- LubeSelect for SKF greases
- Heater selection tool
- SKF mounting and dismounting instructions

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