71944 CDGA/P4A

Super-precision, high-capacity, universally matchable single row angular contact ball bearing

These super-precision, high-capacity, single row angular contact ball bearings accommodate radial and axial loads acting simultaneously, where the axial load acts in one direction only. They are designed to accommodate heavy loads at relatively high speeds under low to moderate operating temperatures. Being universally matchable, they can be used together in arrangements to provide effective load sharing, within a predetermined preload range, without the use of shims or similar devices.

- Very high running accuracy
- Very high load carrying capacity
- Relatively high speed and stiffness
- Universally matchable

Overview

Dimensions

Bore diameter	220 mm
Outside diameter	300 mm
Width	38 mm
Contact angle	15 °

Performance

Basic dynamic load rating	221 kN
Basic static load rating	300 kN
Note	Contact SKF for the attainable speeds

Properties

Contact type	Normal contact (two-point contact)
Number of rows	1
Ring type	One-piece inner and outer rings
Design	High-capacity D
Universal matching bearing	Yes, back-to-back (<>), face-to-face (><) or tandem (>>)
Matched arrangement	No
Matched condition (axial clearance/ preload)	Measuring load, class A

Tolerance class	P4A
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None

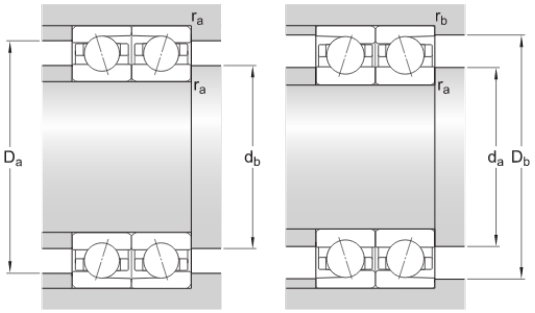
Technical Specification

Universal matching bearing(s)	Yes, back-to-back (<>), face-to-face (><) or tandem (>>)

NOT FOUND

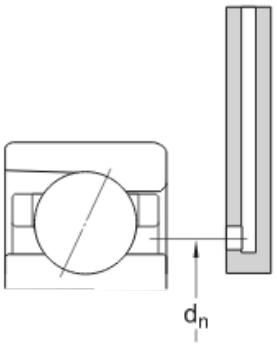
Dimensions

d	220 mm	Bore diameter
D	300 mm	Outside diameter
B	38 mm	Width
d_1	244.7 mm	Shoulder diameter of inner ring (large side face)
d_2	244.7 mm	Shoulder diameter of inner ring (small side face)
D_1	275.3 mm	Shoulder diameter of outer ring (large side face)
$r_{1,2}$	min. 2.1 mm	Chamfer dimension
$r_{3,4}$	min. 1 mm	Chamfer dimension
a	54 mm	Distance from side face to pressure point



Abutment dimensions

d_a	min. 231 mm	Diameter of shaft abutment
d_b	min. 231 mm	Diameter of shaft abutment
D_a	max. 289 mm	Diameter of housing abutment
D_b	max. 295 mm	Diameter of housing abutment
r_a	max. 2 mm	Radius of fillet
r_b	max. 1 mm	Radius of fillet
d_n	251.4 mm	Position of oil nozzle



Calculation data

Basic dynamic load rating	C	221 kN
Basic static load rating	C_0	300 kN
Fatigue load limit	P_u	7.8 kN
Attainable speeds		Contact SKF for the attainable speeds
Contact angle	α	15 °
Ball diameter	D_w	25.4 mm
Number of rows	i	1
Number of balls (per bearing)	z	29
Reference grease quantity (per bearing)	G_{ref}	84 cm^3

Preload and stiffness (back-to-back, face-to-face)

Preload class		A
Preload when unmounted	G	850 N
Axial stiffness		224 N/µm

Correction factors for preload calculation

Correction factor dependent on bearing series and size	f	1.28
Correction factor dependent on contact angle	f_1	1
Correction factor, preload class A	f_{2A}	1
Correction factor for hybrid bearings	f_{HC}	1

Factors for equivalent bearing load calculation

Calculation factor for equivalent loads	f_0	16.5
Additional factors for equivalent loads		Refer to Notes 1 and 2 below

Mass

Mass	6.6 kg

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