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

71809 CD/P4DBA

Matched set of two super-precision, high-capacity, D design, single row angular contact ball bearings

These matched sets of two super-precision, high-capacity, D design, single row angular contact ball bearings are available in a variety of arrangements. They are designed for high-load capacity and relatively high speed operation and, compared to the equivalent SKF B and E design high-speed bearings, are best suited for heavier loads.

- Very high running accuracy
- Very high load carrying capacity

Overview

Dimensions

Bore diameter	1.772 in
Outside diameter	2.283 in
Width	0.551 in
Contact angle	15 °

Performance

|	
Basic dynamic load rating	1 783 lbf
Basic static load rating	2 383 lbf
Note	Contact SKF for the attainable speeds

Properties

Contact type	Normal contact (two-point contact)
Number of rows	2
Ring type	One-piece inner and outer rings
Design	High-capacity D
Universal matching bearing	No
Matched arrangement	Back-to-back <>
Number of bearings in matched set	2
Matched condition (axial clearance/ preload)	Extra light preload
Tolerance class	P4
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None

Logistics

Product net weight	0.172 lb
eClass code	23-05-08-04
UNSPSC code	31171531

Technical specification

Universal matching bearing(s)	No
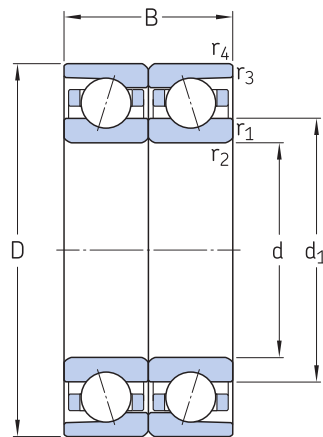
Dimensions

d	1.772 in	Bore diameter
D	2.283 in	Outside diameter
B	0.551 in	Width
d_1	1.953 in	Shoulder diameter of inner ring (large side face)
$r_{1,2}$	min. 0.012 in	Chamfer dimension
$r_{3,4}$	min. 0.006 in	Chamfer dimension
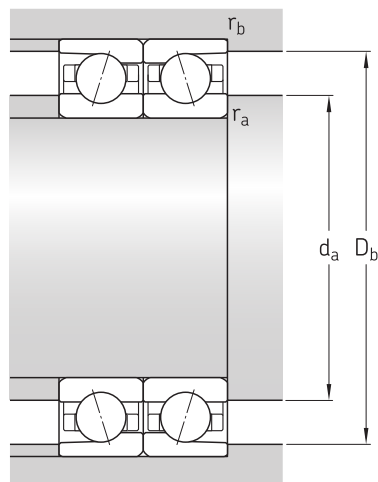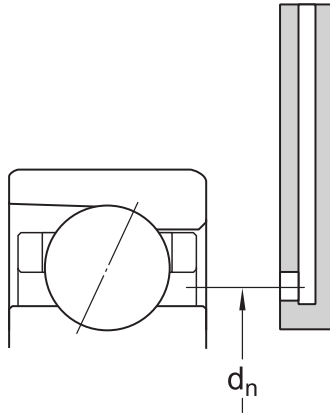
Abutment dimensions

d_a	min. 1.85 in	Diameter of shaft abutment
D_b	max. 2.252 in	Diameter of housing abutment
r_a	max. 0.012 in	Radius of fillet
r_b	max. 0.006 in	Radius of fillet
d_n	1.969 in	Position of oil nozzle

Calculation data

Basic dynamic load rating	C	1 783 lbf
Basic static load rating	C_0	2 383 lbf
Fatigue load limit	P_u	101 lbf
Attainable speeds		Contact SKF for the attainable speeds
Contact angle	α	15 °
Ball diameter	D_w	0.125 in
Number of rows	i	2
Number of balls (per bearing)	z	31
Reference grease quantity (per bearing)	G_{ref}	0.02197 in³

PRELOAD AND STIFFNESS (BACK-TO-BACK, FACE-TO-FACE)

Preload class		A
Preload	G	6.1 lbf

CORRECTION FACTORS FOR PRELOAD CALCULATION

Correction factor dependent on bearing series and size	f	1.24

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	17.4
Additional factors for equivalent loads		Refer to Notes 1 and 2 below

Compatible products

Aftermarket replacement

Matched set of two super-precision, high-capacity, D design, single row angular contact ball bearings	71809 CD/P4DGA
Super-precision, high-capacity, universally matchable single row angular contact ball bearing	2 x 71809 CDGA/P4 *Verify quantity of bearing rows*

More Information

📄 Product details

Designs and variants

Markings on bearings and bearing sets

General bearing specifications

Preload, clearance, and stiffness

Loads

Attainable speeds

Mounting

Designation system

📋 Engineering information

Principles of bearing selection and application

General bearing knowledge

Bearing selection process

Bearing failure and how to prevent it

🔧 Tools

SimPro Quick

SimPro Spindle

Bearing Frequency Calculator

LubeSelect for SKF greases

Heater selection tool

Super-precision manager tool

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