



# 7004 CD/P4ADGAMatched set of two super-precision, high-capacity, D design, single row angular contact ball bearings

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	20 mm
Outside diameter	42 mm
Width	24 mm
Contact angle	15 °

## Performance

Basic dynamic load rating	14 kN
Basic static load rating	8.5 kN
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	Yes, back-to-back (<>), face-to-face (><) or tandem (>>)
Matched arrangement	Universal matching
Number of bearings in matched set	2
Matched condition (axial)	Extra light preload

clearance/  
preload)

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 (>>)



## Dimensions

d	20 mm	Bore diameter
D	42 mm	Outside diameter
B	24 mm	Width
d <sub>1</sub>	27.1 mm	Shoulder diameter of inner ring (large side face)
d <sub>2</sub>	27.1 mm	Shoulder diameter of inner ring (small side face)
D <sub>1</sub>	34.8 mm	Shoulder diameter of outer ring (large side face)
r <sub>1,2</sub>	min. 0.6 mm	Chamfer dimension
r <sub>3,4</sub>	min. 0.3 mm	Chamfer dimension

## Abutment dimensions

d <sub>a</sub>	min. 23.2 mm	Diameter of shaft abutment
d <sub>b</sub>	min. 23.2 mm	Diameter of shaft abutment
D <sub>a</sub>	max. 38.8 mm	Diameter of housing abutment
D <sub>b</sub>	max. 40 mm	Diameter of housing abutment
r <sub>a</sub>	max. 0.6 mm	Radius of fillet
r <sub>b</sub>	max. 0.3 mm	Radius of fillet
d <sub>n</sub>	28.4 mm	Position of oil nozzle





## Calculation data

Basic dynamic load rating	C	14 000 N
Basic static load rating	C <sub>0</sub>	8 500 N
Fatigue load limit	P <sub>u</sub>	365 N
Attainable speeds	Contact SKF for the attainable speeds	
Contact angle	α	15 °
Ball diameter	D <sub>w</sub>	6.35 mm
Number of rows	i	2
Number of balls (per bearing)	z	12
Reference grease quantity (per bearing)	G <sub>ref</sub>	0.9 cm <sup>3</sup>

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

Preload class		A
Preload	G	35 N
Axial stiffness		23 N/μm

## Correction factors for preload calculation

Correction factor dependent on bearing series and size	f	1.03
Correction factor dependent on contact angle	f <sub>1</sub>	1
Correction factor, preload class A	f <sub>2A</sub>	1
Correction factor for hybrid bearings	f <sub>HC</sub>	1

## Factors for equivalent bearing load calculation

Calculation factor for equivalent loads	$f_0$	9.2
Additional factors for equivalent loads		Refer to Notes 1 and 2 below

## Mass

Mass		0.14 kg
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