



# 7205 CD/P4ADGAMatched set of two super-precision, high-capacity, D design, single row angular contact ball bearings

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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	25 mm
Outside diameter	52 mm
Width	30 mm
Contact angle	15 °

## Performance

Basic dynamic load rating	22.1 kN
Basic static load rating	14.6 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 (>>)

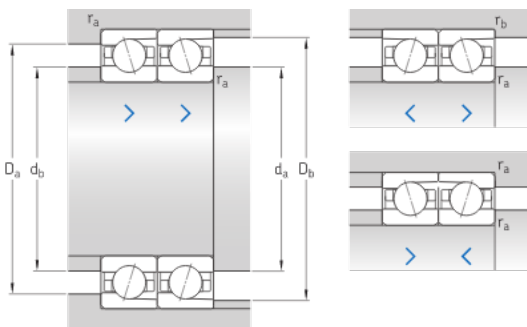


## Dimensions

d	25 mm	Bore diameter
D	52 mm	Outside diameter
B	30 mm	Width
$d_1$	34.1 mm	Shoulder diameter of inner ring (large side face)
$d_2$	34.1 mm	Shoulder diameter of inner ring (small side face)
$D_1$	43.7 mm	Shoulder diameter of outer ring (large side face)
$r_{1,2}$	min. 1 mm	Chamfer dimension
$r_{3,4}$	min. 0.3 mm	Chamfer dimension

## Abutment dimensions

$d_a$	min. 30.6 mm	Diameter of shaft abutment
$d_b$	min. 30.6 mm	Diameter of shaft abutment
$D_a$	max. 46.4 mm	Diameter of housing abutment
$D_b$	max. 49.6 mm	Diameter of housing abutment
$r_a$	max. 1 mm	Radius of fillet
$r_b$	max. 0.3 mm	Radius of fillet
$d_n$	36.1 mm	Position of oil nozzle





## Calculation data

Basic dynamic load rating	C	22 100 N
Basic static load rating	C <sub>0</sub>	14 600 N
Fatigue load limit	P <sub>u</sub>	610 N
Attainable speeds	Contact SKF for the attainable speeds	
Contact angle	α	15 °
Ball diameter	D <sub>w</sub>	7.938 mm
Number of rows	i	2
Number of balls (per bearing)	z	13
Reference grease quantity (per bearing)	G <sub>ref</sub>	1.872 cm <sup>3</sup>

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

Preload class		A
Preload	G	50 N
Axial stiffness		29 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	$f_0$	9.1
Additional factors for equivalent loads		Refer to Notes 1 and 2 below

## Mass

Mass		0.26 kg
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