

## 71802 CD/HCP4

Angular contact ball bearings,  
super-precision

### Product details

[Tolerances,](#)

P4A, P4B, P4, PA9A, P2, D design,

E design, B design,

[direct oil-air lubrication](#)

### Principles of bearing

selection and application

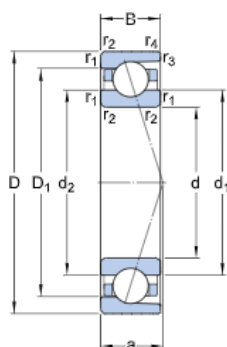
[Chamfer dimensions,](#)

[Seat tolerances for standard conditions,](#)

shafts, housings, shafts, housings,

[Initial grease fill](#)

## Technical specification

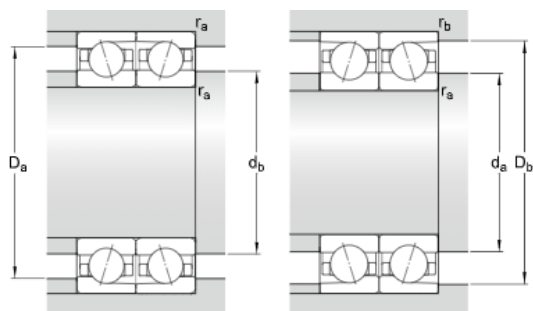


### DIMENSIONS

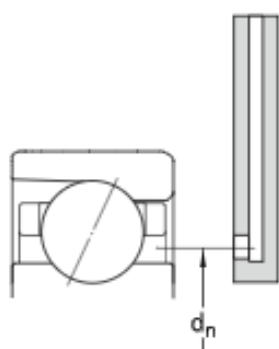
d	15 mm
D	24 mm
B	5 mm
d <sub>1</sub>	18.1 mm
d <sub>2</sub>	18.1 mm
D <sub>1</sub>	21.1 mm
r <sub>1,2</sub>	min. 0.3 mm
r <sub>3,4</sub>	min. 0.15 mm
a	5.1 mm

### ABUTMENT DIMENSIONS

d <sub>a</sub>	min. 17 mm
d <sub>b</sub>	min. 17 mm
D <sub>a</sub>	max. 22 mm
D <sub>b</sub>	max. 23.2 mm



$r_a$	max. 0.3 mm
$r_b$	max. 0.15 mm
$d_n$	18.4 mm



## CALCULATION DATA

Basic dynamic load rating	$C$	2.29 kN
Basic static load rating	$C_0$	1.5 kN
Fatigue load limit	$P_u$	0.045 kN
Attainable speed for grease lubrication		70000 r/min
Attainable speed for oil-air lubrication		110000 r/min
Contact angle	$\alpha$	15 °
Ball diameter	$D_w$	2.381 mm
Number of balls	$z$	17
Reference grease quantity	$G_{ref}$	0.08 cm

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

Preload class A	$G_A$	12 N
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Static axial stiffness, preload class A		19 N/μm
Preload class B	$G_B$	36 N
Static axial stiffness, preload class B		33 N/μm
Preload class C	$G_C$	72 N
Static axial stiffness, preload class C		48 N/μm

## CALCULATION FACTORS

Calculation factor	$f$	1.08
Calculation factor	$f_1$	1
Calculation factor	$f_{2A}$	1
Calculation factor	$f_{2B}$	1.1
Calculation factor	$f_{2C}$	1.18
Calculation factor	$f_{HC}$	1.02
Calculation factor	$f_0$	16

## MASS

Mass bearing	0.006 kg
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## More information

Product details	Engineering information	Tools
<a href="#">Designs and variants</a>	<a href="#">Principles of bearing selection and application</a>	<a href="#">SimPro Quick</a>
<a href="#">Markings on bearings and bearing sets</a>	<a href="#">General bearing knowledge</a>	<a href="#">SimPro Spindle</a>
<a href="#">Bearing data</a>	<a href="#">Bearing selection process</a>	<a href="#">Engineering Calculator</a>
<a href="#">Preload, clearance, and stiffness</a>	<a href="#">Bearing failure and how to prevent it</a>	<a href="#">LubeSelect for SKF greases</a>
<a href="#">Loads</a>		<a href="#">Heater selection tool</a>
<a href="#">Attainable speeds</a>		
<a href="#">Mounting</a>		
<a href="#">Designation system</a>		

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