

7002 CD/P4A

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

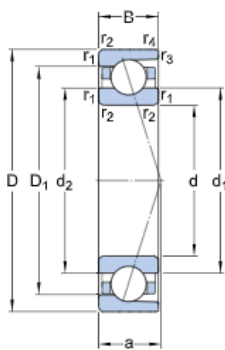
[Chamfer dimensions,](#)

[Seat tolerances for standard
conditions,](#)

shafts, housings, shafts, housings,

[Initial grease fill](#)

Technical specification

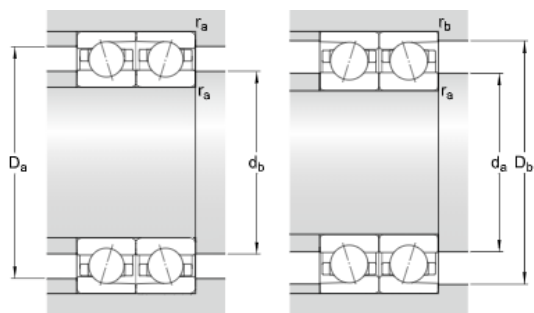


DIMENSIONS

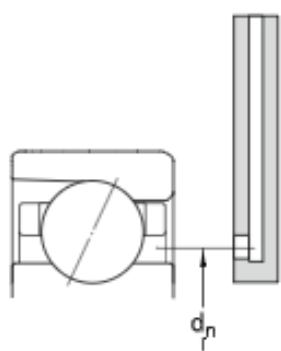
d	15 mm
D	32 mm
B	9 mm
d ₁	20.6 mm
d ₂	20.6 mm
D ₁	26.4 mm
r _{1,2}	min. 0.3 mm
r _{3,4}	min. 0.2 mm
a	7.7 mm

ABUTMENT DIMENSIONS

d _a	min. 17 mm
d _b	min. 17 mm
D _a	max. 30 mm
D _b	max. 30.6 mm
r _a	max. 0.3 mm



r_b	max. 0.2 mm
d_n	21.5 mm



CALCULATION DATA

Basic dynamic load rating	C	5.2 kN
Basic static load rating	C_0	2.45 kN
Fatigue load limit	P_u	0.104 kN
Attainable speed for grease lubrication		56 000 r/min
Attainable speed for oil-air lubrication		85 000 r/min
Contact angle	α	15 °
Ball diameter	D_w	4.762 mm
Number of balls	z	12
Reference grease quantity	G_{ref}	0.39 cm

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

Preload class A	G_A	20 N
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Static axial stiffness, preload class A		17 N/μm
Preload class B	G_B	40 N
Static axial stiffness, preload class B		23 N/μm
Preload class C	G_C	80 N
Static axial stiffness, preload class C		31 N/μm
Preload class D	G_D	160 N
Static axial stiffness, preload class D		44 N/μm

CALCULATION FACTORS

Calculation factor	f	1.03
Calculation factor	f_1	1
Calculation factor	f_{2A}	1
Calculation factor	f_{2B}	1.02
Calculation factor	f_{2C}	1.05
Calculation factor	f_{2D}	1.09
Calculation factor	f_{HC}	1
Calculation factor	f_0	9.3

MASS

Mass bearing	0.03 kg
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More information

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

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