



7202 ACD/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

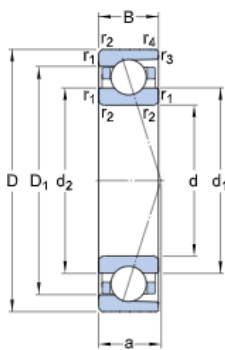
[Chamfer dimensions,](#)

[Seat tolerances for standard conditions,](#)

shafts, housings, shafts, housings,

[Initial grease fill](#)

Technical specification

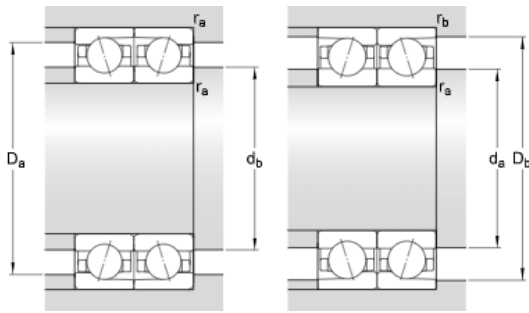


DIMENSIONS

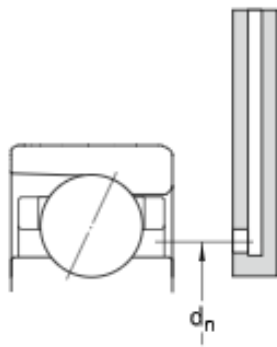
d	15 mm	Bore diameter
D	35 mm	Outside diameter
B	11 mm	Width
d1	21.4 mm	Shoulder diameter of inner ring (large side face)
d2	21.4 mm	Shoulder diameter of inner ring (small side face)
D1	29.1 mm	Shoulder diameter of outer ring (large side face)
r1,2	min.0.6 mm	Chamfer dimension (large side face)
r3,4	min.0.3 mm	Chamfer dimension (small side face)
a	11.5 mm	Distance from side face to pressure point

ABUTMENT DIMENSIONS

da	min.19.2 mm	Diameter of shaft abutment
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d_b	min.19.2 mm	Diameter of shaft abutment
D_a	max.30.8 mm	Diameter of housing abutment
D_b	max.32.6 mm	Diameter of housing abutment
r_a	max.0.6 mm	Radius of fillet
r_b	max.0.3 mm	Radius of fillet
d_n	23 mm	Psition of oil nozzle



CALCULATION DATA

Basic dynamic load rating	C	7.15 kN
Basic static load rating	C_0	3.2 kN
Fatigue load limit	P_u	0.134 kN
Attainable speed for grease lubrication		43 000 r/min
Attainable speed for oil-air lubrication		63 000 r/min
Contact angle	α	25 °
Ball diameter	D_w	6.35 mm
Number of balls	z	10
Reference grease quantity	G_{ref}	0.729 cm

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

Preload class A	G_A	45 N
Static axial stiffness, preload class A		46 N/ μm
Preload class B	G_B	90 N
Static axial stiffness, preload class B		60 N/ μm
Preload class C	G_C	180 N
Static axial stiffness, preload class C		78 N/ μm
Preload class D	G_D	360 N
Static axial stiffness, preload class D		102 N/ μm

CALCULATION FACTORS

Correction factor dependent on bearing series and size	f	1.03
Correction factor dependent on contact angle	f1	0.99
Correction factor, preload class A	f2A	1
Correction factor, preload class B	f2B	1.01
Correction factor, preload class C	f2C	1.02
Correction factor, preload class D	f2D	1.05
Correction factor for hybrid bearings	fHC	1
Limiting value	e	0.68
Axial load factor (single, tandem)	Y2	0.87
Axial load factor (single, tandem)	Y0	0.38
Radial load factor (single, tandem)	X2	0.41
Axial load factor (back-to-back, face-to-face)	Y1	0.92
Axial load factor (back-to-back, face-to-face)	Y2	1.41

Axial load factor (back-to-back, face-to-face)	Y0	0.76
Radial load factor (back-to-back, face-to-face)	X2	0.67

MASS

Mass	0.043 kg
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More information

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

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