

## S7210 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,](#)

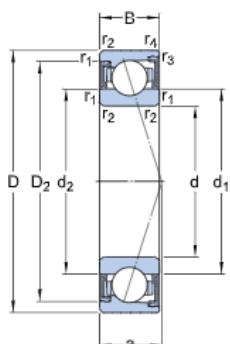
[Seat tolerances for standard](#)  
[conditions,](#)

shafts, housings, shafts, housings,

#### [Initial grease fill](#)

## Technical specification

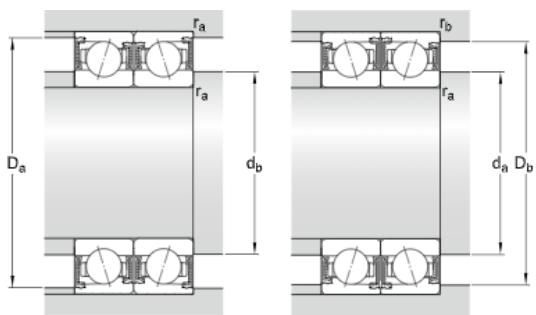
### DIMENSIONS



d	50 mm
D	90 mm
B	20 mm
d <sub>1</sub>	62.3 mm
d <sub>2</sub>	62.3 mm
D <sub>2</sub>	80.7 mm
r <sub>1,2</sub>	min. 1.1 mm
r <sub>3,4</sub>	min. 0.6 mm
a	26.4 mm

### ABUTMENT DIMENSIONS

d <sub>a</sub>	min. 57 mm
d <sub>a</sub>	max. 61.5 mm
d <sub>b</sub>	min. 57 mm
d <sub>b</sub>	max. 61.5 mm



D <sub>a</sub>	max. 83 mm
D <sub>b</sub>	max. 85.8 mm
r <sub>a</sub>	max. 1 mm
r <sub>b</sub>	max. 0.6 mm

## CALCULATION DATA

Basic dynamic load rating	C	42.3 kN
Basic static load rating	C <sub>0</sub>	32.5 kN
Fatigue load limit	P <sub>u</sub>	1.37 kN
Attainable speed for grease lubrication		14000 r/min
Contact angle	α	25 °
Ball diameter	D <sub>w</sub>	12.7 mm
Number of balls	z	15

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

Preload class A	G <sub>A</sub>	265 N
Static axial stiffness, preload class A		154 N/μm
Preload class B	G <sub>B</sub>	530 N
Static axial stiffness, preload class B		201 N/μm
Preload class C	G <sub>C</sub>	1060 N
Static axial stiffness, preload class C		266 N/μm
Preload class D	G <sub>D</sub>	2120 N
Static axial stiffness, preload class D		359 N/μm

## CALCULATION FACTORS

Calculation factor	f	1.08
Calculation factor	f <sub>1</sub>	0.99

Calculation factor	$f_{2A}$	1
Calculation factor	$f_{2B}$	1.01
Calculation factor	$f_{2C}$	1.02
Calculation factor	$f_{2D}$	1.05
Calculation factor	$f_{HC}$	1
Calculation factor	$e$	0.68
Calculation factor (single, tandem)	$Y_2$	0.87
Calculation factor (single, tandem)	$Y_0$	0.38
Calculation factor (single, tandem)	$X_2$	0.41
Calculation factor (back-to-back, face-to-face)	$Y_1$	0.92
Calculation factor (back-to-back, face-to-face)	$Y_2$	1.41
Calculation factor (back-to-back, face-to-face)	$Y_0$	0.76
Calculation factor (back-to-back, face-to-face)	$X_2$	0.67

## MASS

Mass bearing	0.47 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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