



## 71800 ACD/P4

### 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

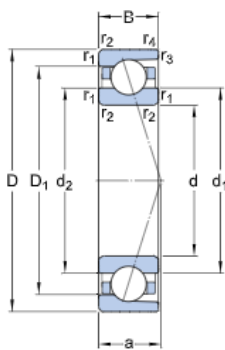
[Chamfer dimensions,](#)

[Seat tolerances for standard conditions,](#)

shafts, housings, shafts, housings,

[Initial grease fill](#)

### Technical specification

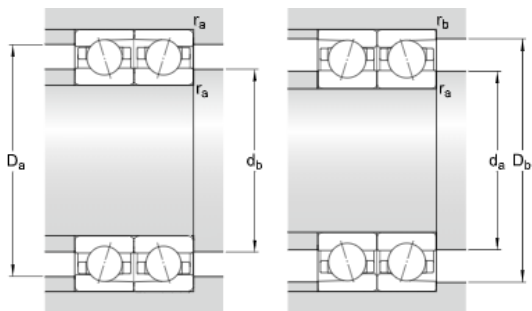


#### DIMENSIONS

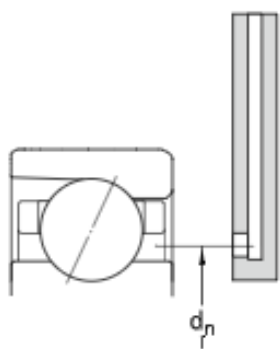
d	10 mm
D	19 mm
B	5 mm
d <sub>1</sub>	13.1 mm
d <sub>2</sub>	13.1 mm
D <sub>1</sub>	16.1 mm
r <sub>1,2</sub>	min. 0.3 mm
r <sub>3,4</sub>	min. 0.15 mm
a	5.9 mm

#### ABUTMENT DIMENSIONS

d <sub>a</sub>	min. 12 mm
d <sub>b</sub>	min. 12 mm
D <sub>a</sub>	max. 17 mm
D <sub>b</sub>	max. 18.2 mm
r <sub>a</sub>	max. 0.3 mm



$r_b$	max. 0.15 mm
$d_n$	13.4 mm



CALCULATION DATA

Basic dynamic load rating	C	1.78 kN
Basic static load rating	$C_0$	0.93 kN
Fatigue load limit	$P_u$	0.04 kN
Attainable speed for grease lubrication		70 000 r/min
Attainable speed for oil-air lubrication		110 000 r/min
Contact angle	$\alpha$	25 °
Ball diameter	$D_w$	2.381 mm
Number of balls	z	12
Reference grease quantity	$G_{ref}$	0.06 cm

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

Preload class A	$G_A$	16 N
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Static axial stiffness, preload class A		30 N/μm
Preload class B	$G_B$	48 N
Static axial stiffness, preload class B		47 N/μm
Preload class C	$G_C$	100 N
Static axial stiffness, preload class C		65 N/μm

## CALCULATION FACTORS

Calculation factor	$f$	1.05
Calculation factor	$f_1$	0.97
Calculation factor	$f_{2A}$	1
Calculation factor	$f_{2B}$	1.08
Calculation factor	$f_{2C}$	1.15
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		0.005 kg
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## More information

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