# 71802 CD/HCP4

## Angular contact ball bearings, super-precision

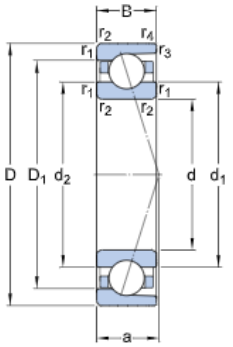
Product details

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

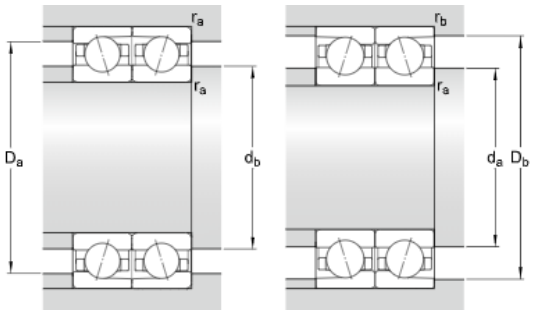



### DIMENSIONS

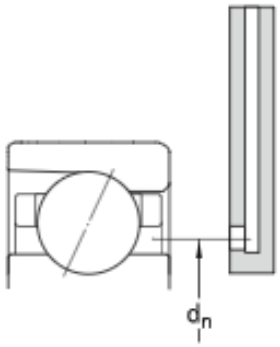
| | |
|---|---|
| d | 15 mm |
| D | 24 mm |
| B | 5 mm |
| $d_1$ | 18.1 mm |
| $d_2$ | 18.1 mm |
| $D_1$ | 21.1 mm |
| $r_{1,2}$ | min. 0.3 mm |
| $r_{3,4}$ | min. 0.15 mm |
| a | 5.1 mm |

### ABUTMENT DIMENSIONS

| | |
|---|---|
| $d_a$ | min. 17 mm |
| $d_b$ | min. 17 mm |
| $D_a$ | max. 22 mm |
| $D_b$ | 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 | α | 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 |

| | | |
|---|---|---|
| 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 |

## More information

### Product details

- Designs and variants
- Markings on bearings and bearing sets
- Bearing data
- Preload, clearance, and stiffness
- Loads
- Attainable speeds
- Mounting
- Designation system

### Engineering information

- Principles of bearing selection and application
- General bearing knowledge
- Bearing selection process
- Bearing failure and how to prevent it

### Tools

- SimPro Quick
- SimPro Spindle
- Engineering Calculator
- LubeSelect for SKF greases
- Heater selection tool

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