



# 71903 CD/P4ADGA Matched set of two super-precision, high-capacity, D design, single row angular contact ball bearings

Matched set of two super-precision, high-capacity, D design, single row angular contact ball bearings

These matched sets of two super-precision, high-capacity, D design, single row angular contact ball bearings are available in a variety of arrangements. They are designed for high-load capacity and relatively high speed operation and, compared to the equivalent SKF B and E design high-speed bearings, are best suited for heavier loads.

- Very high running accuracy
- Very high load carrying capacity

## Overview

### Dimensions

|                  |       |
|------------------|-------|
| Bore diameter    | 17 mm |
| Outside diameter | 30 mm |
| Width            | 14 mm |
| Contact angle    | 15 °  |

## Performance

|                           |                                       |
|---------------------------|---------------------------------------|
| Basic dynamic load rating | 6.76 kN                               |
| Basic static load rating  | 4.15 kN                               |
| Note                      | Contact SKF for the attainable speeds |

## Properties

|                                   |  |
|-----------------------------------|--|
| Contact type                      | Normal contact (two-point contact)                       |
| Number of rows                    | 2  |
| Ring type                         | One-piece inner and outer rings                          |
| Design                            | High-capacity D  |
| Universal matching bearing        | Yes, back-to-back (<>), face-to-face (><) or tandem (>>) |
| Matched arrangement               | Universal matching                                       |
| Number of bearings in matched set | 2  |
| Matched condition (axial)         | Extra light preload                                      |

clearance/  
preload)

|                   |               |
|-------------------|---------------|
| Tolerance class   | P4A           |
| Material, bearing | Bearing steel |
| Coating           | Without       |
| Sealing           | Without       |
| Lubricant         | None          |

# Technical Specification

Universal matching bearing(s)

Yes, back-to-back (<>), face-to-face (><) or tandem (>>)



## Dimensions

|                  |             |   |
|------------------|-------------|---|
| d                | 17 mm       | Bore diameter                                     |
| D                | 30 mm       | Outside diameter                                  |
| B                | 14 mm       | Width   |
| d <sub>1</sub>   | 20.9 mm     | Shoulder diameter of inner ring (large side face) |
| d <sub>2</sub>   | 20.9 mm     | Shoulder diameter of inner ring (small side face) |
| D <sub>1</sub>   | 25.7 mm     | Shoulder diameter of outer ring (large side face) |
| r <sub>1,2</sub> | min. 0.3 mm | Chamfer dimension                                 |
| r <sub>3,4</sub> | min. 0.2 mm | Chamfer dimension                                 |

## Abutment dimensions

|                |              |                              |
|----------------|--------------|------------------------------|
| d <sub>a</sub> | min. 19 mm   | Diameter of shaft abutment   |
| d <sub>b</sub> | min. 19 mm   | Diameter of shaft abutment   |
| D <sub>a</sub> | max. 28 mm   | Diameter of housing abutment |
| D <sub>b</sub> | max. 28.6 mm | Diameter of housing abutment |
| r <sub>a</sub> | max. 0.3 mm  | Radius of fillet             |
| r <sub>b</sub> | max. 0.2 mm  | Radius of fillet             |
| d <sub>n</sub> | 22.1 mm      | Position of oil nozzle       |





## Calculation data

|   |                                       |                      |
|---|---------------------------------------|----------------------|
| Basic dynamic load rating               | C                                     | 6 760 N              |
| Basic static load rating                | C <sub>0</sub>                        | 4 150 N              |
| Fatigue load limit                      | P <sub>u</sub>                        | 176 N                |
| Attainable speeds                       | Contact SKF for the attainable speeds |                      |
| Contact angle                           | α                                     | 15 °                 |
| Ball diameter                           | D <sub>w</sub>                        | 3.969 mm             |
| Number of rows                          | i                                     | 2                    |
| Number of balls (per bearing)           | z                                     | 14                   |
| Reference grease quantity (per bearing) | G <sub>ref</sub>                      | 0.24 cm <sup>3</sup> |

## Preload and stiffness (back-to-back, face-to-face)

|                 |   |         |
|-----------------|---|---------|
| Preload class   |   | A       |
| Preload         | G | 15 N    |
| Axial stiffness |   | 16 N/μm |

## Correction factors for preload calculation

|  |                 |      |
|--|-----------------|------|
| Correction factor dependent on bearing series and size | f               | 1.05 |
| Correction factor dependent on contact angle           | f <sub>1</sub>  | 1    |
| Correction factor, preload class A                     | f <sub>2A</sub> | 1    |
| Correction factor for hybrid bearings                  | f <sub>HC</sub> | 1    |

## Factors for equivalent bearing load calculation

|   |       |     |
|---|-------|-----|
| Calculation factor for equivalent loads | $f_0$ | 9.8 |
|---|-------|-----|

|   |  |                              |
|---|--|------------------------------|
| Additional factors for equivalent loads |  | Refer to Notes 1 and 2 below |
|---|--|------------------------------|

## Mass

|      |  |          |
|------|--|----------|
| Mass |  | 0.034 kg |
|------|--|----------|

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