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71903 CD/HCP4A Bearing 2D drawings and 3D CAD models

## 17 mm x 30 mm x 7 mm SKF 71903 CD/HCP4A angular contact ball bearings

Bearing No. 71903 CD/HCP4A

|   |             |
|---|-------------|
| Size                                      | 30x17x7 mm  |
| Bore Diameter                             | 30 mm       |
| Outer Diameter                            | 17 mm       |
| Width                                     | 7 mm        |
| d   | 17 mm       |
| D   | 30 mm       |
| B   | 7 mm        |
| d <sub>1</sub>                            | 20.9 mm     |
| d <sub>2</sub>                            | 20.9 mm     |
| D <sub>1</sub>                            | 25.7 mm     |
| r <sub>1,2</sub> - min.                   | 0.3 mm      |
| r <sub>3,4</sub> - min.                   | 0.2 mm      |
| a   | 6.7 mm      |
| d <sub>a</sub> - min.                     | 19 mm       |
| d <sub>b</sub> - min.                     | 19 mm       |
| D <sub>a</sub> - max.                     | 28 mm       |
| D <sub>b</sub> - max.                     | 28.6 mm     |
| r <sub>a</sub> - max.                     | 0.3 mm      |
| r <sub>b</sub> - max.                     | 0.2 mm      |
| d <sub>n</sub>                            | 22.1 mm     |
| Basic dynamic load rating - C             | 4.2 kN      |
| Basic static load rating - C <sub>0</sub> | 2.1 kN      |
| Fatigue load limit - P <sub>u</sub>       | 0.088 kN    |
| Limiting speed for grease                 | 63000 r/min |



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|                                    |                      |
|------------------------------------|----------------------|
| Lubrication                        |                      |
| Limiting speed for oil lubrication | 90000 mm/min         |
| Ball - $D_w$                       | 3.969 mm             |
| Ball - $z$                         | 14                   |
| $G_{ref}$                          | 0.24 cm <sup>3</sup> |
| Calculation factor - $f_0$         | 9.8                  |
| Preload class A - $G_A$            | 15 N                 |
| Preload class B - $G_B$            | 30 N                 |
| Preload class C - $G_C$            | 60 N                 |
| Preload class D - $G_D$            | 120 N                |
| Calculation factor - $f$           | 1.05                 |
| Calculation factor - $f$           | 1                    |
| Calculation factor - $f_{2A}$      | 1                    |
| Calculation factor - $f_{2B}$      | 1.07                 |
| Calculation factor - $f_{2C}$      | 1.12                 |
| Calculation factor - $f_{2D}$      | 1.18                 |
| Calculation factor - $f_{HC}$      | 1.04                 |
| Preload class A                    | 18 N/micron          |
| Preload class B                    | 24 N/micron          |
| Preload class C                    | 34 N/micron          |
| Preload class D                    | 47 N/micron          |
| $d_1$                              | 20.9 mm              |
| $d_2$                              | 20.9 mm              |
| $D_1$                              | 25.7 mm              |
| $r_{1,2}$ min.                     | 0.3 mm               |
| $r_{3,4}$ min.                     | 0.2 mm               |
| $d_a$ min.                         | 19 mm                |
| $d_b$ min.                         | 19 mm                |
| $D_a$ max.                         | 28 mm                |
|                                    |                      |



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|  |                      |
|--|----------------------|
| $D_b$ max.                               | 28.6 mm              |
| $r_a$ max.                               | 0.3 mm               |
| $r_b$ max.                               | 0.2 mm               |
| $d_n$                                    | 22.1 mm              |
| Basic dynamic load rating C              | 4.16 kN              |
| Basic static load rating $C_0$           | 2.08 kN              |
| Fatigue load limit $P_u$                 | 0.088 kN             |
| Attainable speed for grease lubrication  | 63000 r/min          |
| Attainable speed for oil-air lubrication | 90000 r/min          |
| Ball diameter $D_w$                      | 3.969 mm             |
| Number of balls z                        | 14                   |
| Reference grease quantity $G_{ref}$      | 0.24 cm <sup>3</sup> |
| Preload class A $G_A$                    | 15 N                 |
| Static axial stiffness, preload class A  | 18 N/ $\mu$ m        |
| Preload class B $G_B$                    | 30 N                 |
| Static axial stiffness, preload class B  | 24 N/ $\mu$ m        |
| Preload class C $G_C$                    | 60 N                 |
| Static axial stiffness, preload class C  | 34 N/ $\mu$ m        |
| Preload class D $G_D$                    | 120 N                |
| Static axial stiffness, preload class D  | 47 N/ $\mu$ m        |
| Calculation factor f                     | 1.05                 |
| Calculation factor $f_1$                 | 1                    |
| Calculation factor $f_{2A}$              | 1                    |
| Calculation factor $f_{2B}$              | 1.07                 |
| Calculation factor $f_{2C}$              | 1.12                 |
| Calculation factor $f_{2D}$              | 1.18                 |
| Calculation factor $f_{HC}$              | 1.04                 |
|  |                      |



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|                          |          |
|--------------------------|----------|
| Calculation factor $f_0$ | 9.8      |
| Mass bearing             | 0.015 kg |