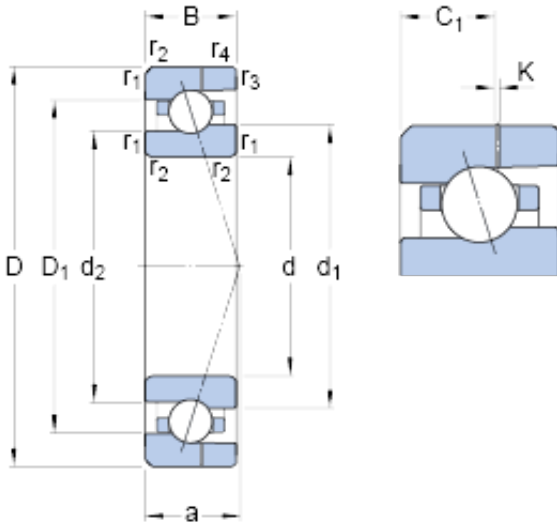




# BEARING PRECISION AXLE CORP.



7 mm x 19 mm x 6 mm SKF 707  
ACE/HCP4AH angular contact ball bearings

Bearing No. 707 ACE/HCP4AH

707 ACE/HCP4AH Bearing 2D drawings and 3D CAD models

|   |           |
|---|-----------|
| Size                                      | 19x7x6 mm |
| Bore Diameter                             | 19 mm     |
| Outer Diameter                            | 7 mm      |
| Width                                     | 6 mm      |
| d   | 7 mm      |
| D   | 19 mm     |
| B   | 6 mm      |
| d <sub>1</sub>                            | 10.4 mm   |
| d <sub>2</sub>                            | 9.9 mm    |
| D <sub>1</sub>                            | 15.7 mm   |
| K   | 0.5 mm    |
| C <sub>1</sub>                            | 3.65 mm   |
| r <sub>1,2</sub> - min.                   | 0.3 mm    |
| r <sub>3,4</sub> - min.                   | 0.15 mm   |
| a   | 6.1 mm    |
| d <sub>a</sub> - min.                     | 9 mm      |
| d <sub>b</sub> - min.                     | 9 mm      |
| D <sub>a</sub> - max.                     | 17 mm     |
| D <sub>b</sub> - max.                     | 17.6 mm   |
| r <sub>a</sub> - max.                     | 0.3 mm    |
| r <sub>b</sub> - max.                     | 0.15 mm   |
| d <sub>n</sub>                            | 11.4 mm   |
| Basic dynamic load rating - C             | 1.9 kN    |
| Basic static load rating - C <sub>0</sub> | 0.62 kN   |



## BEARING PRECISION AXLE CORP.

|                                       |                      |
|---------------------------------------|----------------------|
| Fatigue load limit - $P_u$            | 0.026 kN             |
| Limiting speed for grease lubrication | 133000 r/min         |
| Limiting speed for oil lubrication    | 205000 mm/min        |
| Ball - $D_w$                          | 3.572 mm             |
| Ball - $z$                            | 8                    |
| $G_{ref}$                             | 0.11 cm <sup>3</sup> |
| Calculation factor - $e$              | 0.68                 |
| Calculation factor - $Y_2$            | 0.87                 |
| Calculation factor - $Y_0$            | 0.38                 |
| Calculation factor - $X_2$            | 0.41                 |
| Calculation factor - $Y_1$            | 0.92                 |
| Calculation factor - $Y_2$            | 1.41                 |
| Calculation factor - $Y_0$            | 0.76                 |
| Calculation factor - $X_2$            | 0.67                 |
| Preload class A - $G_A$               | 17 N                 |
| Preload class B - $G_B$               | 50 N                 |
| Preload class C - $G_C$               | 100 N                |
| Calculation factor - $f$              | 1.02                 |
| Calculation factor - $f_1$            | 0.99                 |
| Calculation factor - $f_{2A}$         | 1                    |
| Calculation factor - $f_{2B}$         | 1.03                 |
| Calculation factor - $f_{2C}$         | 1.06                 |
| Calculation factor - $f_{HC}$         | 1.01                 |
| Preload class A                       | 23 N/micron          |
| Preload class B                       | 34 N/micron          |
| Preload class C                       | 45 N/micron          |
| $d_1$                                 | 10.4 mm              |
| $d_2$                                 | 9.9 mm               |



## BEARING PRECISION AXLE CORP.

|  |                      |
|--|----------------------|
| $D_1$                                    | 15.7 mm              |
| $C_1$                                    | 3.65 mm              |
| $r_{1,2}$ min.                           | 0.3 mm               |
| $r_{3,4}$ min.                           | 0.15 mm              |
| $d_a$ min.                               | 9 mm                 |
| $d_b$ min.                               | 9 mm                 |
| $D_a$ max.                               | 17 mm                |
| $D_b$ max.                               | 17.6 mm              |
| $r_a$ max.                               | 0.3 mm               |
| $r_b$ max.                               | 0.15 mm              |
| $d_n$                                    | 11.4 mm              |
| Basic dynamic load rating C              | 1.86 kN              |
| Basic static load rating $C_0$           | 0.62 kN              |
| Fatigue load limit $P_u$                 | 0.026 kN             |
| Attainable speed for grease lubrication  | 133000 r/min         |
| Attainable speed for oil-air lubrication | 205000 r/min         |
| Ball diameter $D_w$                      | 3.572 mm             |
| Number of balls z                        | 8                    |
| Reference grease quantity $G_{ref}$      | 0.11 cm <sup>3</sup> |
| Preload class A $G_A$                    | 17 N                 |
| Static axial stiffness, preload class A  | 23 N/ $\mu$ m        |
| Preload class B $G_B$                    | 50 N                 |
| Static axial stiffness, preload class B  | 34 N/ $\mu$ m        |
| Preload class C $G_C$                    | 100 N                |
| Static axial stiffness, preload class C  | 45 N/ $\mu$ m        |
| Calculation factor f                     | 1.02                 |
| Calculation factor $f_1$                 | 0.99                 |
| Calculation factor $f_{2A}$              | 1                    |



## BEARING PRECISION AXLE CORP.

|   |          |
|---|----------|
| Calculation factor $f_{2B}$                           | 1.03     |
| Calculation factor $f_{2C}$                           | 1.06     |
| Calculation factor $f_{HC}$                           | 1.01     |
| 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 bearing  | 0.006 kg |