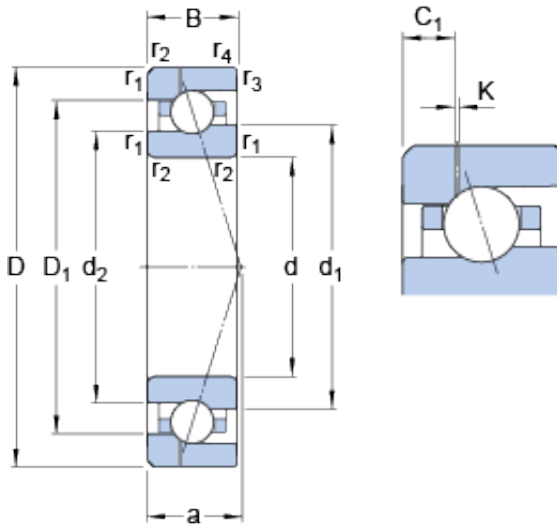




# BEARING PRECISION AXLE CORP.



## 7011 ACE/HCP4AH1 SKF High Speed Angular Contact Ball Bearings

Bearing No. 7011 ACE/HCP4AH1

7011 ACE/HCP4AH1 Bearing 2D drawings and 3D CAD models

|   |             |
|---|-------------|
| Size                                      | 90x55x18 mm |
| Bore Diameter                             | 90 mm       |
| Outer Diameter                            | 55 mm       |
| Width                                     | 18 mm       |
| d   | 55 mm       |
| D   | 90 mm       |
| B   | 18 mm       |
| d <sub>1</sub>                            | 67.73 mm    |
| d <sub>2</sub>                            | 65.6 mm     |
| D <sub>1</sub>                            | 77.25 mm    |
| K   | 0.5 mm      |
| C <sub>1</sub>                            | 6.3 mm      |
| r <sub>1,2</sub> - min.                   | 1.1 mm      |
| r <sub>3,4</sub> - min.                   | 0.6 mm      |
| a   | 26.1 mm     |
| d <sub>a</sub> - min.                     | 61 mm       |
| d <sub>b</sub> - min.                     | 61 mm       |
| D <sub>a</sub> - max.                     | 84 mm       |
| D <sub>b</sub> - max.                     | 85.8 mm     |
| r <sub>a</sub> - max.                     | 1 mm        |
| r <sub>b</sub> - max.                     | 0.6 mm      |
| d <sub>n</sub>                            | 69.6 mm     |
| Basic dynamic load rating - C             | 15.9 kN     |
| Basic static load rating - C <sub>0</sub> | 11.6 kN     |



## BEARING PRECISION AXLE CORP.

|                                       |                   |
|---------------------------------------|-------------------|
| Fatigue load limit - $P_u$            | 0.49 kN           |
| Limiting speed for grease lubrication | 23000 r/min       |
| Limiting speed for oil lubrication    | 35000 mm/min      |
| Ball - $D_w$                          | 7.938 mm          |
| Ball - $z$                            | 24                |
| $G_{ref}$                             | 5 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 - $G_A$               | 140 N             |
| Preload class B - $G_B$               | 430 N             |
| Preload class C - $G_C$               | 860 N             |
| Calculation factor - $f$              | 1.07              |
| 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                       | 128 N/micron      |
| Preload class B                       | 193 N/micron      |
| Preload class C                       | 251 N/micron      |
| $d_1$                                 | 67.73 mm          |
| $d_2$                                 | 65.6 mm           |



## BEARING PRECISION AXLE CORP.

|  |                   |
|--|-------------------|
| $D_1$                                    | 77.25 mm          |
| $C_1$                                    | 6.3 mm            |
| $r_{1,2}$ min.                           | 1.1 mm            |
| $r_{3,4}$ min.                           | 0.6 mm            |
| $d_a$ min.                               | 61 mm             |
| $d_b$ min.                               | 61 mm             |
| $D_a$ max.                               | 84 mm             |
| $D_b$ max.                               | 85.8 mm           |
| $r_a$ max.                               | 1 mm              |
| $r_b$ max.                               | 0.6 mm            |
| $d_n$                                    | 69.6 mm           |
| Basic dynamic load rating C              | 15.9 kN           |
| Basic static load rating $C_0$           | 11.6 kN           |
| Fatigue load limit $P_u$                 | 0.49 kN           |
| Attainable speed for grease lubrication  | 23000 r/min       |
| Attainable speed for oil-air lubrication | 35000 r/min       |
| Ball diameter $D_w$                      | 7.938 mm          |
| Number of balls z                        | 24                |
| Reference grease quantity $G_{ref}$      | 5 cm <sup>3</sup> |
| Preload class A $G_A$                    | 140 N             |
| Static axial stiffness, preload class A  | 128 N/ $\mu$ m    |
| Preload class B $G_B$                    | 430 N             |
| Static axial stiffness, preload class B  | 193 N/ $\mu$ m    |
| Preload class C $G_C$                    | 860 N             |
| Static axial stiffness, preload class C  | 251 N/ $\mu$ m    |
| Calculation factor f                     | 1.07              |
| 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  | 0.36 kg |