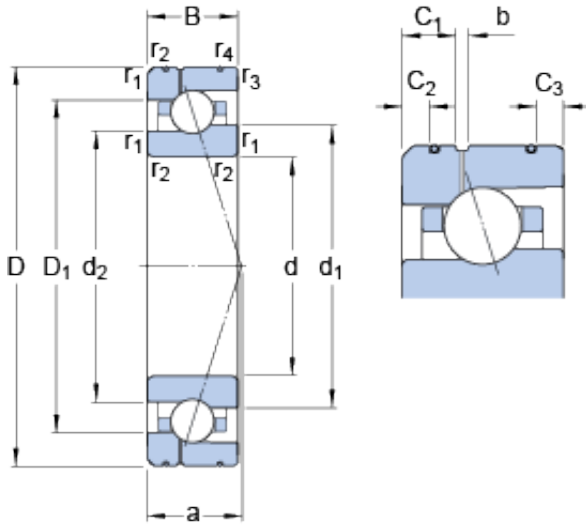




# KOYO PRECISION AXLE CORP.



120 mm x 180 mm x 28 mm SKF 7024  
CE/HCP4AL1 angular contact ball bearings

Bearing No. 7024 CE/HCP4AL1

7024 CE/HCP4AL1 Bearing 2D drawings and 3D CAD models

|                         |               |
|-------------------------|---------------|
| Size                    | 180x120x28 mm |
| Bore Diameter           | 180 mm        |
| Outer Diameter          | 120 mm        |
| Width                   | 28 mm         |
| d                       | 120 mm        |
| D                       | 180 mm        |
| B                       | 28 mm         |
| d <sub>1</sub>          | 141.42 mm     |
| d <sub>2</sub>          | 137.8 mm      |
| D <sub>1</sub>          | 158.61 mm     |
| b                       | 1.8 mm        |
| C <sub>1</sub>          | 8.6 mm        |
| C <sub>2</sub>          | 5.4 mm        |
| C <sub>3</sub>          | 5.4 mm        |
| r <sub>1,2</sub> - min. | 2 mm          |
| r <sub>3,4</sub> - min. | 1 mm          |
| a                       | 34.3 mm       |
| d <sub>a</sub> - min.   | 128.8 mm      |
| d <sub>b</sub> - min.   | 128.8 mm      |
| D <sub>a</sub> - max.   | 171.2 mm      |
| D <sub>b</sub> - max.   | 174.4 mm      |
| r <sub>a</sub> - max.   | 2 mm          |
| r <sub>b</sub> - max.   | 1 mm          |
| d <sub>n</sub>          | 144.9 mm      |
|                         |               |



## KOYO PRECISION AXLE CORP.

|   |                    |
|---|--------------------|
| Basic dynamic load rating - C             | 57.2 kN            |
| Basic static load rating - C <sub>0</sub> | 55 kN              |
| Fatigue load limit - P <sub>u</sub>       | 1.9 kN             |
| Limiting speed for grease lubrication     | 11200 r/min        |
| Limiting speed for oil lubrication        | 17500 mm/min       |
| Ball - D <sub>w</sub>                     | 14.288 mm          |
| Ball - z                                  | 29                 |
| G <sub>ref</sub>                          | 28 cm <sup>3</sup> |
| Calculation factor - f <sub>0</sub>       | 9.6                |
| Preload class A - G <sub>A</sub>          | 310 N              |
| Preload class B - G <sub>B</sub>          | 930 N              |
| Preload class C - G <sub>C</sub>          | 1850 N             |
| Calculation factor - f                    | 1.12               |
| Calculation factor - f                    | 1                  |
| Calculation factor - f <sub>2A</sub>      | 1                  |
| Calculation factor - f <sub>2B</sub>      | 1.03               |
| Calculation factor - f <sub>2C</sub>      | 1.05               |
| Calculation factor - f <sub>HC</sub>      | 1.01               |
| Preload class A                           | 115 N/micron       |
| Preload class B                           | 182 N/micron       |
| Preload class C                           | 250 N/micron       |
| d <sub>1</sub>                            | 141.42 mm          |
| d <sub>2</sub>                            | 137.8 mm           |
| D <sub>1</sub>                            | 158.61 mm          |
| C <sub>1</sub>                            | 8.6 mm             |
| C <sub>2</sub>                            | 5.4 mm             |
| C <sub>3</sub>                            | 5.4 mm             |
| r <sub>1,2</sub> min.                     | 2 mm               |



## KOYO PRECISION AXLE CORP.

|  |                    |
|--|--------------------|
| $r_{3,4}$ min.                           | 1 mm               |
| $d_a$ min.                               | 128.8 mm           |
| $d_b$ min.                               | 128.8 mm           |
| $D_a$ max.                               | 171.2 mm           |
| $D_b$ max.                               | 174.4 mm           |
| $r_a$ max.                               | 2 mm               |
| $r_b$ max.                               | 1 mm               |
| $d_n$                                    | 144.9 mm           |
| Basic dynamic load rating C              | 57.2 kN            |
| Basic static load rating $C_0$           | 55 kN              |
| Fatigue load limit $P_u$                 | 1.9 kN             |
| Attainable speed for grease lubrication  | 11200 r/min        |
| Attainable speed for oil-air lubrication | 17500 r/min        |
| Ball diameter $D_w$                      | 14.288 mm          |
| Number of balls z                        | 29                 |
| Reference grease quantity $G_{ref}$      | 28 cm <sup>3</sup> |
| Preload class A $G_A$                    | 310 N              |
| Static axial stiffness, preload class A  | 115 N/ $\mu$ m     |
| Preload class B $G_B$                    | 930 N              |
| Static axial stiffness, preload class B  | 182 N/ $\mu$ m     |
| Preload class C $G_C$                    | 1850 N             |
| Static axial stiffness, preload class C  | 250 N/ $\mu$ m     |
| Calculation factor f                     | 1.12               |
| Calculation factor $f_1$                 | 1                  |
| Calculation factor $f_{2A}$              | 1                  |
| Calculation factor $f_{2B}$              | 1.03               |
| Calculation factor $f_{2C}$              | 1.05               |
| Calculation factor $f_{HC}$              | 1.01               |



## KOYO PRECISION AXLE CORP.

|                          |         |
|--------------------------|---------|
| Calculation factor $f_0$ | 9.6     |
| Mass bearing             | 1.96 kg |