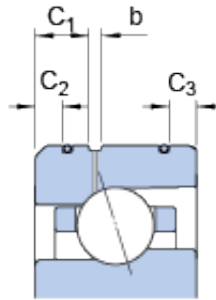
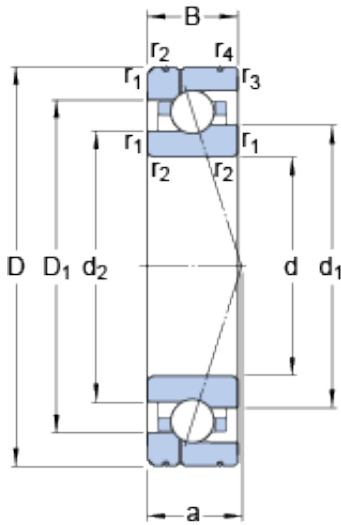




# KOYO PRECISION AXLE CORP.



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

Bearing No. 7024 ACE/HCP4AL1

7024 ACE/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	49.3 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	54 kN
Basic static load rating - C <sub>0</sub>	52 kN
Fatigue load limit - P <sub>u</sub>	1.8 kN
Limiting speed for grease lubrication	10000 r/min
Limiting speed for oil lubrication	15500 mm/min
Ball - D <sub>w</sub>	14.288 mm
Ball - z	29
G <sub>ref</sub>	28 cm <sup>3</sup>
Calculation factor - e	0.68
Calculation factor - Y <sub>2</sub>	0.87
Calculation factor - Y <sub>0</sub>	0.38
Calculation factor - X <sub>2</sub>	0.41
Calculation factor - Y <sub>1</sub>	0.92
Calculation factor - Y <sub>2</sub>	1.41
Calculation factor - Y <sub>0</sub>	0.76
Calculation factor - X <sub>2</sub>	0.67
Preload class A - G <sub>A</sub>	490 N
Preload class B - G <sub>B</sub>	1480 N
Preload class C - G <sub>C</sub>	2950 N
Calculation factor - f	1.12
Calculation factor - f <sub>1</sub>	0.99
Calculation factor - f <sub>2A</sub>	1
Calculation factor - f <sub>2B</sub>	1.03
Calculation factor - f <sub>2C</sub>	1.06
Calculation factor - f <sub>HC</sub>	1.01
Preload class A	288 N/micron
Preload class B	433 N/micron



## KOYO PRECISION AXLE CORP.

Preload class C	568 N/micron
$d_1$	141.42 mm
$d_2$	137.8 mm
$D_1$	158.61 mm
$C_1$	8.6 mm
$C_2$	5.4 mm
$C_3$	5.4 mm
$r_{1,2}$ min.	2 mm
$r_{3,4}$ 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	54 kN
Basic static load rating $C_0$	52 kN
Fatigue load limit $P_u$	1.8 kN
Attainable speed for grease lubrication	10000 r/min
Attainable speed for oil-air lubrication	15500 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 $G_A$	490 N
Static axial stiffness, preload class A	288 N/ $\mu$ m
Preload class B $G_B$	1480 N
Static axial stiffness, preload class B	433 N/ $\mu$ m
Preload class C $G_C$	2950 N



## KOYO PRECISION AXLE CORP.

Static axial stiffness, preload class C	568 N/ $\mu$ m
Calculation factor f	1.12
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
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	1.96 kg