



# BEARING PRECISION AXLE CORP.



S7010 ACD/HCP4A Bearing 2D drawings and 3D CAD models

## S7010 ACD/HCP4A SKF High Speed Angular Contact Ball Bearings

Bearing No. S7010 ACD/HCP4A

Size	80x50x16 mm
Bore Diameter	80 mm
Outer Diameter	50 mm
Width	16 mm
d	50 mm
D	80 mm
B	16 mm
d <sub>1</sub>	59.2 mm
d <sub>2</sub>	59.2 mm
D <sub>2</sub>	73.3 mm
r <sub>1,2</sub> - min.	1 mm
r <sub>3,4</sub> - min.	0.3 mm
a	23.2 mm
d <sub>a</sub> - min.	54.6 mm
d <sub>a</sub> - max.	58.7 mm
d <sub>b</sub> - min.	54.6 mm
d <sub>b</sub> - max.	58.7 mm
D <sub>a</sub> - max.	75.4 mm
D <sub>b</sub> - max.	78 mm
r <sub>a</sub> - max.	1 mm
r <sub>b</sub> - max.	0.3 mm
Basic dynamic load rating - C	28.1 kN
Basic static load rating - C <sub>0</sub>	23.2 kN
Fatigue load limit - P <sub>u</sub>	0.98 kN



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Limiting speed for grease lubrication	18000 r/min
Ball - $D_w$	9.525 mm
Ball - $z$	18
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 - $G_A$	180 N
Preload class B - $G_B$	360 N
Preload class C - $G_C$	720 N
Preload class D - $G_D$	1440 N
Calculation factor - $f$	1.11
Calculation factor - $f_1$	0.99
Calculation factor - $f_{2A}$	1
Calculation factor - $f_{2B}$	1.02
Calculation factor - $f_{2C}$	1.05
Calculation factor - $f_{2D}$	1.08
Calculation factor - $f_{HC}$	1.02
Preload class A	156 N/micron
Preload class B	204 N/micron
Preload class C	271 N/micron
Preload class D	367 N/micron
$d_1$	59.2 mm
$d_2$	59.2 mm
$D_2$	73.3 mm



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$r_{1,2}$ min.	1 mm
$r_{3,4}$ min.	0.3 mm
$d_a$ min.	54.6 mm
$d_a$ max.	58.7 mm
$d_b$ min.	54.6 mm
$d_b$ max.	58.7 mm
$D_a$ max.	75.4 mm
$D_b$ max.	78 mm
$r_a$ max.	1 mm
$r_b$ max.	0.3 mm
Basic dynamic load rating C	28.1 kN
Basic static load rating $C_0$	23.2 kN
Fatigue load limit $P_u$	0.98 kN
Attainable speed for grease lubrication	18000 r/min
Ball diameter $D_w$	9.525 mm
Number of balls z	18
Preload class A $G_A$	180 N
Static axial stiffness, preload class A	156 N/ $\mu$ m
Preload class B $G_B$	360 N
Static axial stiffness, preload class B	204 N/ $\mu$ m
Preload class C $G_C$	720 N
Static axial stiffness, preload class C	271 N/ $\mu$ m
Preload class D $G_D$	1440 N
Static axial stiffness, preload class D	367 N/ $\mu$ m
Calculation factor f	1.11
Calculation factor $f_1$	0.99
Calculation factor $f_{2A}$	1
Calculation factor $f_{2B}$	1.02
Calculation factor $f_{2C}$	1.05



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Calculation factor $f_{2D}$	1.08
Calculation factor $f_{HC}$	1.02
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	0.22 kg