



BEARING PRECISION AXLE CORP.



7010 ACD/HCP4A Bearing 2D drawings and 3D CAD models

7010 ACD/HCP4A SKF High Speed Angular Contact Ball Bearings

Bearing No. 7010 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 ₁	59.2 mm
d ₂	59.2 mm
D ₁	70.8 mm
r _{1,2} - min.	1 mm
r _{3,4} - min.	0.3 mm
a	23.2 mm
d _a - min.	54.6 mm
d _b - min.	54.6 mm
D _a - max.	75.4 mm
D _b - max.	78 mm
r _a - max.	1 mm
r _b - max.	0.3 mm
d _n	61.2 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
Limiting speed for grease	18000 r/min



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Lubrication	
Limiting speed for oil lubrication	28000 mm/min
Ball - D_w	9.525 mm
Ball - z	18
G_{ref}	3.6 cm ³
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



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d_1	59.2 mm
d_2	59.2 mm
D_1	70.8 mm
$r_{1,2}$ min.	1 mm
$r_{3,4}$ min.	0.3 mm
d_a min.	54.6 mm
d_b min.	54.6 mm
D_a max.	75.4 mm
D_b max.	78 mm
r_a max.	1 mm
r_b max.	0.3 mm
d_n	61.2 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
Attainable speed for oil-air lubrication	28000 r/min
Ball diameter D_w	9.525 mm
Number of balls z	18
Reference grease quantity G_{ref}	3.6 cm ³
Preload class A G_A	180 N
Static axial stiffness, preload class A	156 N/ μ m
Preload class B G_B	360 N
Static axial stiffness, preload class B	204 N/ μ m
Preload class C G_C	720 N
Static axial stiffness, preload class C	271 N/ μ m
Preload class D G_D	1440 N
Static axial stiffness, preload class D	367 N/ μ m



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class D	
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
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