



7012 ACE/HCP4A SKF High Speed Angular Contact Ball Bearings

Bearing No. 7012 ACE/HCP4A

7012 ACE/HCP4A Bearing 2D drawings and 3D CAD models

Size	95x60x18 mm
Bore Diameter	95 mm
Outer Diameter	60 mm
Width	18 mm
d	60 mm
D	95 mm
B	18 mm
d ₁	72.74 mm
d ₂	70.6 mm
D ₁	82.22 mm
r _{1,2} - min.	1.1 mm
r _{3,4} - min.	0.6 mm
a	27.3 mm
d _a - min.	66 mm
d _b - min.	66 mm
D _a - max.	89 mm
D _b - max.	90.8 mm
r _a - max.	1 mm
r _b - max.	0.6 mm
d _n	74.6 mm
Basic dynamic load rating - C	16.3 kN
Basic static load rating - C ₀	12.2 kN
Fatigue load limit - P _u	0.52 kN
Limiting speed for grease	22000 r/min



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Lubrication	
Limiting speed for oil lubrication	33000 mm/min
Ball - D_w	7.938 mm
Ball - z	25
G_{ref}	5.3 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	150 N
Preload class B - G_B	440 N
Preload class C - G_C	870 N
Calculation factor - f	1.08
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	135 N/micron
Preload class B	200 N/micron
Preload class C	260 N/micron
d_1	72.74 mm
d_2	70.6 mm
D_1	82.22 mm
$r_{1,2}$ min.	1.1 mm



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$r_{3,4}$ min.	0.6 mm
d_a min.	66 mm
d_b min.	66 mm
D_a max.	89 mm
D_b max.	90.8 mm
r_a max.	1 mm
r_b max.	0.6 mm
d_n	74.6 mm
Basic dynamic load rating C	16.3 kN
Basic static load rating C_0	12.2 kN
Fatigue load limit P_u	0.52 kN
Attainable speed for grease lubrication	22000 r/min
Attainable speed for oil-air lubrication	33000 r/min
Ball diameter D_w	7.938 mm
Number of balls z	25
Reference grease quantity G_{ref}	5.3 cm ³
Preload class A G_A	150 N
Static axial stiffness, preload class A	135 N/ μ m
Preload class B G_B	440 N
Static axial stiffness, preload class B	200 N/ μ m
Preload class C G_C	870 N
Static axial stiffness, preload class C	260 N/ μ m
Calculation factor f	1.08
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



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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	0.39 kg