



45 mm x 75 mm x 16 mm SKF 7009 ACE/HCP4AL1 angular contact ball bearings

Bearing No. 7009 ACE/HCP4AL1

7009 ACE/HCP4AL1 Bearing 2D drawings and 3D CAD models

Size	75x45x16 mm
Bore Diameter	75 mm
Outer Diameter	45 mm
Width	16 mm
d	45 mm
D	75 mm
B	16 mm
d ₁	55.7 mm
d ₂	53.6 mm
D ₁	64.25 mm
b	1.4 mm
C ₁	5 mm
C ₂	3 mm
C ₃	3 mm
r _{1,2} - min.	1 mm
r _{3,4} - min.	0.6 mm
a	22.2 mm
d _a - min.	49.6 mm
d _b - min.	49.6 mm
D _a - max.	70.4 mm
D _b - max.	70.8 mm
r _a - max.	1 mm
r _b - max.	0.6 mm
d _n	57.6 mm



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Basic dynamic load rating - C	12.1 kN
Basic static load rating - C ₀	8.2 kN
Fatigue load limit - P _u	0.345 kN
Limiting speed for grease lubrication	29000 r/min
Limiting speed for oil lubrication	45000 mm/min
Ball - D _w	7.144 mm
Ball - z	21
G _{ref}	3.4 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	110 N
Preload class B - G _B	330 N
Preload class C - G _C	660 N
Calculation factor - f	1.06
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	104 N/micron
Preload class B	156 N/micron



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Preload class C	204 N/micron
d_1	55.7 mm
d_2	53.6 mm
D_1	64.25 mm
C_1	5 mm
C_2	3 mm
C_3	3 mm
$r_{1,2}$ min.	1 mm
$r_{3,4}$ min.	0.6 mm
d_a min.	49.6 mm
d_b min.	49.6 mm
D_a max.	70.4 mm
D_b max.	70.8 mm
r_a max.	1 mm
r_b max.	0.6 mm
d_n	57.6 mm
Basic dynamic load rating C	12.1 kN
Basic static load rating C_0	8.15 kN
Fatigue load limit P_u	0.345 kN
Attainable speed for grease lubrication	29000 r/min
Attainable speed for oil-air lubrication	45000 r/min
Ball diameter D_w	7.144 mm
Number of balls z	21
Reference grease quantity G_{ref}	3.4 cm ³
Preload class A G_A	110 N
Static axial stiffness, preload class A	104 N/ μ m
Preload class B G_B	330 N
Static axial stiffness, preload class B	156 N/ μ m
Preload class C G_C	660 N



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Static axial stiffness, preload class C	204 N/ μ m
Calculation factor f	1.06
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	0.22 kg