



**SKF 7004 ACE/HCP4AL angular contact ball bearings**

Bearing No. 7004 ACE/HCP4AL

7004 ACE/HCP4AL Bearing 2D drawings and 3D CAD models

Size	42x20x12 mm
Bore Diameter	42 mm
Outer Diameter	20 mm
Width	12 mm
d	20 mm
D	42 mm
B	12 mm
d <sub>1</sub>	26.6 mm
d <sub>2</sub>	24.8 mm
D <sub>1</sub>	34.21 mm
b	1.9 mm
C <sub>1</sub>	5.9 mm
C <sub>2</sub>	1.8 mm
C <sub>3</sub>	1.9 mm
r <sub>1,2</sub> - min.	0.6 mm
r <sub>3,4</sub> - min.	0.3 mm
a	13.2 mm
d <sub>a</sub> - min.	22 mm
d <sub>b</sub> - min.	22 mm
D <sub>a</sub> - max.	40 mm
D <sub>b</sub> - max.	39.6 mm
r <sub>a</sub> - max.	0.6 mm
r <sub>b</sub> - max.	0.3 mm
d <sub>n</sub>	28.1 mm



## TZR Bearing Machine Development Co.,...

Basic dynamic load rating - C	7.2 kN
Basic static load rating - C <sub>0</sub>	3.2 kN
Fatigue load limit - P <sub>u</sub>	0.137 kN
Limiting speed for grease lubrication	58000 r/min
Limiting speed for oil lubrication	88000 mm/min
Ball - D <sub>w</sub>	6.35 mm
Ball - z	12
G <sub>ref</sub>	1.1 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>	64 N
Preload class B - G <sub>B</sub>	193 N
Preload class C - G <sub>C</sub>	390 N
Calculation factor - f	1.04
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	58 N/micron
Preload class B	86 N/micron



## TZR Bearing Machine Development Co.,...

Preload class C	113 N/micron
$d_1$	26.6 mm
$d_2$	24.8 mm
$D_1$	34.21 mm
$C_1$	5.9 mm
$C_2$	1.8 mm
$C_3$	1.9 mm
$r_{1,2}$ min.	0.6 mm
$r_{3,4}$ min.	0.3 mm
$d_a$ min.	22 mm
$d_b$ min.	22 mm
$D_a$ max.	40 mm
$D_b$ max.	39.6 mm
$r_a$ max.	0.6 mm
$r_b$ max.	0.3 mm
$d_n$	28.1 mm
Basic dynamic load rating C	7.15 kN
Basic static load rating $C_0$	3.25 kN
Fatigue load limit $P_u$	0.137 kN
Attainable speed for grease lubrication	58000 r/min
Attainable speed for oil-air lubrication	88000 r/min
Ball diameter $D_w$	6.35 mm
Number of balls z	12
Reference grease quantity $G_{ref}$	1.1 cm <sup>3</sup>
Preload class A $G_A$	64 N
Static axial stiffness, preload class A	58 N/ $\mu$ m
Preload class B $G_B$	193 N
Static axial stiffness, preload class B	86 N/ $\mu$ m
Preload class C $G_C$	390 N



## TZR Bearing Machine Development Co.,...

Static axial stiffness, preload class C	113 N/ $\mu$ m
Calculation factor f	1.04
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	0.056 kg