



# Timken MANUFACTURING (THAILAND)CO.,LTD.



7028 ACD/HCP4A Bearing 2D drawings and 3D CAD models

140 mm x 210 mm x 33 mm SKF 7028  
ACD/HCP4A angular contact ball bearings

Bearing No. 7028 ACD/HCP4A

Size	210x140x33 mm
Bore Diameter	210 mm
Outer Diameter	140 mm
Width	33 mm
d	140 mm
D	210 mm
B	33 mm
d <sub>1</sub>	161.6 mm
d <sub>2</sub>	161.6 mm
D <sub>1</sub>	188.4 mm
r <sub>1,2</sub> - min.	2 mm
r <sub>3,4</sub> - min.	1 mm
a	57.5 mm
d <sub>a</sub> - min.	149 mm
d <sub>b</sub> - min.	149 mm
D <sub>a</sub> - max.	201 mm
D <sub>b</sub> - max.	205 mm
r <sub>a</sub> - max.	2 mm
r <sub>b</sub> - max.	1 mm
d <sub>n</sub>	166.3 mm
Basic dynamic load rating - C	146 kN
Basic static load rating - C <sub>0</sub>	156 kN
Fatigue load limit - P <sub>u</sub>	5.1 kN
Limiting speed for grease	7000 r/min



# Timken MANUFACTURING (THAILAND)CO.,LTD.

Lubrication	
Limiting speed for oil lubrication	11000 mm/min
Ball - $D_w$	22.225 mm
Ball - $z$	22
$G_{ref}$	45 cm <sup>3</sup>
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 - $G_A$	900 N
Preload class B - $G_B$	1800 N
Preload class C - $G_C$	3600 N
Preload class D - $G_D$	7200 N
Calculation factor - $f$	1.16
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	404 N/micron
Preload class B	530 N/micron
Preload class C	702 N/micron
Preload class D	950 N/micron



## Timken MANUFACTURING (THAILAND)CO.,LTD.

$d_1$	161.6 mm
$d_2$	161.6 mm
$D_1$	188.4 mm
$r_{1,2}$ min.	2 mm
$r_{3,4}$ min.	1 mm
$d_a$ min.	149 mm
$d_b$ min.	149 mm
$D_a$ max.	201 mm
$D_b$ max.	205 mm
$r_a$ max.	2 mm
$r_b$ max.	1 mm
$d_n$	166.3 mm
Basic dynamic load rating C	146 kN
Basic static load rating $C_0$	156 kN
Fatigue load limit $P_u$	5.1 kN
Attainable speed for grease lubrication	7000 r/min
Attainable speed for oil-air lubrication	11000 r/min
Ball diameter $D_w$	22.225 mm
Number of balls z	22
Reference grease quantity $G_{ref}$	45 cm <sup>3</sup>
Preload class A $G_A$	900 N
Static axial stiffness, preload class A	404 N/ $\mu$ m
Preload class B $G_B$	1800 N
Static axial stiffness, preload class B	530 N/ $\mu$ m
Preload class C $G_C$	3600 N
Static axial stiffness, preload class C	702 N/ $\mu$ m
Preload class D $G_D$	7200 N
Static axial stiffness, preload class D	950 N/ $\mu$ m



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class D	
Calculation factor f	1.16
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	2.83 kg