



**7011 ACD/P4A SKF High Speed Angular Contact Ball Bearings**

Bearing No. 7011 ACD/P4A

7011 ACD/P4A Bearing 2D drawings and 3D CAD models

Size	90x55x18 mm
Bore Diameter	90 mm
Outer Diameter	55 mm
Width	18 mm
d	55 mm
D	90 mm
B	18 mm
d <sub>1</sub>	65.8 mm
d <sub>2</sub>	65.8 mm
D <sub>1</sub>	79.2 mm
r <sub>1,2</sub> - min.	1.1 mm
r <sub>3,4</sub> - min.	0.6 mm
a	26 mm
d <sub>a</sub> - min.	61 mm
d <sub>b</sub> - min.	61 mm
D <sub>a</sub> - max.	84 mm
D <sub>b</sub> - max.	86.8 mm
r <sub>a</sub> - max.	1 mm
r <sub>b</sub> - max.	0.6 mm
d <sub>n</sub>	68.1 mm
Basic dynamic load rating - C	37.1 kN
Basic static load rating - C <sub>0</sub>	31 kN
Fatigue load limit - P <sub>u</sub>	1.3 kN
Limiting speed for grease	14000 r/min



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Lubrication	
Limiting speed for oil lubrication	22000 mm/min
Ball - $D_w$	11.112 mm
Ball - $z$	18
$G_{ref}$	5.1 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 - $G_A$	230 N
Preload class B - $G_B$	460 N
Preload class C - $G_C$	920 N
Preload class D - $G_D$	1840 N
Calculation factor - $f$	1.1
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
Preload class A	159 N/micron
Preload class B	207 N/micron
Preload class C	275 N/micron
Preload class D	372 N/micron



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Category	Precision Ball Bearings
Inventory	0.0
Manufacturer Name	SKF
Minimum Buy Quantity	N/A
Weight / Kilogram	0.39
Product Group	B04270
Enclosure	Open
Precision Class	ABEC 7   ISO P4
Material - Ball	Steel
Number of Bearings	1 (Single)
Contact Angle	25 Degree
Preload	None
Raceway Style	1 Rib Outer Ring
Cage Material	Phenolic
Rolling Element	Ball Bearing
Flush Ground	No
Inch - Metric	Metric
Other Features	Single Row   Angular Contact   High Precision
Long Description	55MM Bore; 90MM Outside Diameter; 18MM Width; Open Enclosure; ABEC 7   ISO P4 Precision; Steel Ball Material; 1 (Single) Bearings; 25 Degree Contact Angle; Phenolic Cage Material; 1 Rib Outer Ring Rac
Category	Precision Ball Bearings
UNSPSC	31171531
Harmonized Tariff Code	8482.10.50.28
Noun	Bearing
Keyword String	Angular Contact Ball
Manufacturer URL	<a href="http://www.skf.com">http://www.skf.com</a>
Manufacturer Item Number	7011 ACD/P4A



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Weight / LBS	0.858
Width	0.709 Inch   18 Millimeter
Outside Diameter	3.543 Inch   90 Millimeter
Bore	2.165 Inch   55 Millimeter
$d_1$	65.8 mm
$d_2$	65.8 mm
$D_1$	79.2 mm
$r_{1,2}$ min.	1.1 mm
$r_{3,4}$ min.	0.6 mm
$d_a$ min.	61 mm
$d_b$ min.	61 mm
$D_a$ max.	84 mm
$D_b$ max.	86.8 mm
$r_a$ max.	1 mm
$r_b$ max.	0.6 mm
$d_n$	68.1 mm
Basic dynamic load rating C	37.1 kN
Basic static load rating $C_0$	31 kN
Fatigue load limit $P_u$	1.32 kN
Attainable speed for grease lubrication	14000 r/min
Attainable speed for oil-air lubrication	22000 r/min
Ball diameter $D_w$	11.112 mm
Number of balls z	18
Reference grease quantity $G_{ref}$	5.1 cm <sup>3</sup>
Preload class A $G_A$	230 N
Static axial stiffness, preload class A	159 N/ $\mu$ m
Preload class B $G_B$	460 N
Static axial stiffness, preload class B	207 N/ $\mu$ m
Preload class C $G_C$	920 N



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Static axial stiffness, preload class C	275 N/ $\mu$ m
Preload class D $G_D$	1840 N
Static axial stiffness, preload class D	372 N/ $\mu$ m
Calculation factor f	1.1
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
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	0.38 kg