



7209 CD/HCP4A Bearing 2D drawings and 3D CAD models

## 45 mm x 85 mm x 19 mm SKF 7209 CD/HCP4A angular contact ball bearings

Bearing No. 7209 CD/HCP4A

Size	85x45x19 mm
Bore Diameter	85 mm
Outer Diameter	45 mm
Width	19 mm
d	45 mm
D	85 mm
B	19 mm
d <sub>1</sub>	57.3 mm
d <sub>2</sub>	57.3 mm
D <sub>1</sub>	72.7 mm
r <sub>1,2</sub> - min.	1.1 mm
r <sub>3,4</sub> - min.	0.6 mm
a	18.3 mm
d <sub>a</sub> - min.	52 mm
d <sub>b</sub> - min.	52 mm
D <sub>a</sub> - max.	78 mm
D <sub>b</sub> - max.	80.8 mm
r <sub>a</sub> - max.	1 mm
r <sub>b</sub> - max.	0.6 mm
d <sub>n</sub>	60.6 mm
Basic dynamic load rating - C	42.3 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	20000 r/min



## NTN BEARING USA CORP.

Lubrication	
Limiting speed for oil lubrication	32000 mm/min
Ball - $D_w$	12.7 mm
Ball - $z$	14
$G_{ref}$	5.922 cm <sup>3</sup>
Calculation factor - $f_0$	14.2
Preload class A - $G_A$	160 N
Preload class B - $G_B$	320 N
Preload class C - $G_C$	640 N
Preload class D - $G_D$	1280 N
Calculation factor - $f$	1.07
Calculation factor - $f$	1
Calculation factor - $f_{2A}$	1
Calculation factor - $f_{2B}$	1.01
Calculation factor - $f_{2C}$	1.03
Calculation factor - $f_{2D}$	1.06
Calculation factor - $f_{HC}$	1.01
Preload class A	67 N/micron
Preload class B	92 N/micron
Preload class C	128 N/micron
Preload class D	185 N/micron
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



## NTN BEARING USA CORP.

Material - Ball	Ceramic
Number of Bearings	1 (Single)
Contact Angle	15 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   Super Precision   High Capacity   Hybrid   Corrosion Resistant Ball
Long Description	45MM Bore; 85MM Outside Diameter; 19MM Width; Open Enclosure; ABEC 7   ISO P4 Precision; Ceramic Ball Material; 1 (Single) Bearings; 15 Degree Contact Angle; Phenolic Cage Material; 1 Rib Outer Ring R
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	7209 CD/HCP4A
Weight / LBS	0.849
Bore	1.772 Inch   45 Millimeter
Width	0.748 Inch   19 Millimeter
Outside Diameter	3.346 Inch   85 Millimeter
d <sub>1</sub>	57.3 mm
d <sub>2</sub>	57.3 mm
D <sub>1</sub>	72.7 mm



## NTN BEARING USA CORP.

$r_{1,2}$ min.	1.1 mm
$r_{3,4}$ min.	0.6 mm
$d_a$ min.	52 mm
$d_b$ min.	52 mm
$D_a$ max.	78 mm
$D_b$ max.	80.8 mm
$r_a$ max.	1 mm
$r_b$ max.	0.6 mm
$d_n$	60.6 mm
Basic dynamic load rating C	42.3 kN
Basic static load rating $C_0$	31 kN
Fatigue load limit $P_u$	1.32 kN
Attainable speed for grease lubrication	20000 r/min
Attainable speed for oil-air lubrication	32000 r/min
Ball diameter $D_w$	12.7 mm
Number of balls z	14
Reference grease quantity $G_{ref}$	5.922 cm <sup>3</sup>
Preload class A $G_A$	160 N
Static axial stiffness, preload class A	67 N/ $\mu$ m
Preload class B $G_B$	320 N
Static axial stiffness, preload class B	92 N/ $\mu$ m
Preload class C $G_C$	640 N
Static axial stiffness, preload class C	128 N/ $\mu$ m
Preload class D $G_D$	1280 N
Static axial stiffness, preload class D	185 N/ $\mu$ m
Calculation factor f	1.07
Calculation factor $f_1$	1



## NTN BEARING USA CORP.

Calculation factor $f_{2A}$	1
Calculation factor $f_{2B}$	1.01
Calculation factor $f_{2C}$	1.03
Calculation factor $f_{2D}$	1.06
Calculation factor $f_{HC}$	1.01
Calculation factor $f_0$	14.2
Mass bearing	0.34 kg