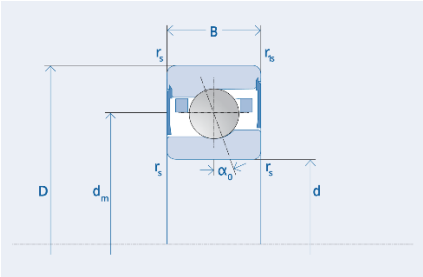
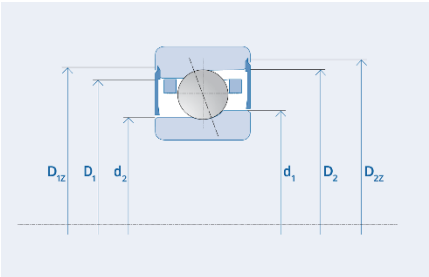
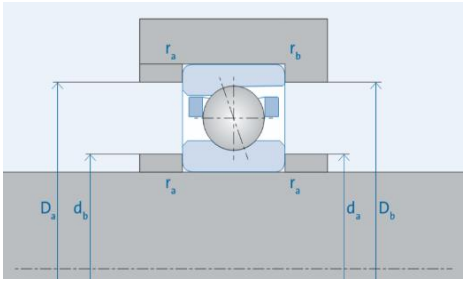
Data Sheet
High Precision Ball Bearings







Part Number	**KH 6016 C TA**
Bearing Size	6016

Bearing Series	KH
Ball Material	Silicon Nitride (Si3N4)
Ring Material	100 Cr 6 (SAE 52100)

Bearing Dimensions

Bore Diameter	d [mm]	80
Outer Diameter	D [mm]	125
Bearing Width	B [mm]	22
Pitch Circle Diameter	d_m [mm]	100.9
Ball Diameter	D_w [mm]	11.112
OD Inner Ring	d_1 [mm]	94.3
OD Inner Ring (Open Side)	d_2 [mm]	92.6
ID Outer Ring	D_1 [mm]	107.5
ID Outer Ring (Open Side)	D_2 [mm]	112.2
ID Outer Ring of Contact Surface	D_{1Z} [mm]	113.5
ID Outer Ring (Open Side) of Contact Surface	D_{2Z} [mm]	113.5
Chamfer	r_s [mm]	1.1
Chamfer (Open Side)	r_{1s} [mm]	0.6

Bearing Load Ratings

Dynamic Radial Load Rating	C_r [N]	32,500
Static Radial Load Rating	C_{0r} [N]	2,600
Fatigue Load Limit	C_{ur} [N]	1,340.0

Bearing RPM Ratings

Speed Value with Oil Lubrication	n_{oil} [1/min]	21,000
Speed Value with Grease Lubrication	n_{grease} [1/min]	15,500

Geometrical Data

Number of Balls	Z [Qty.]	24
Contact Angle	α_0 [°]	17
Bearing Weight	m [kg]	0.880

Mating Part Dimensions

Abutment Diameter Inner Ring	$d_{a,b}$ min. [mm]	87.0
Abutment Diameter Outer Ring	D_a max. [mm]	119.2
Abutment Diameter Outer Ring	D_b max. [mm]	119.9
Chamfer Associated Component	r_a max. [mm]	1.0
Chamfer Associated Component (Open Side)	r_b max. [mm]	0.6
Oil Nozzle Position	d_T [mm]	97.7

Bearing Preload Data

Light Preload	F_v L [N]	170
Light Axial Rigidity	C_{ax} L [N/µm]	79
Medium Preload	F_v M [N]	500
Medium Axial Rigidity	C_{ax} M [N/µm]	119
Heavy Preload	F_v S [N]	990
Heavy Axial Rigidity	C_{ax} S [N/µm]	157
Minimum Spring Preload	F_f [N]	1670

Notes:

1. Position of the oiling Nozzle (d_T) for bearings with TXM cage design upon request
2. The stated load and speed values are given for a spring preloaded single bearing with oil/air or oil mist lubrication. If specific applications differ, please consult correction factors and/or GMN Bearing USA engineers.

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