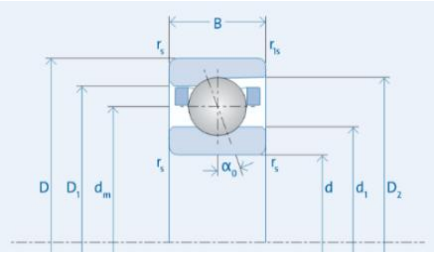
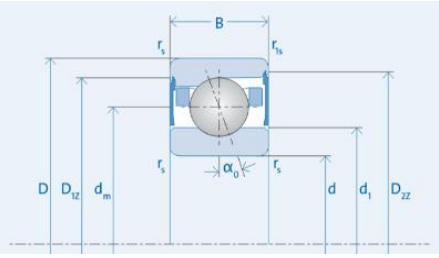
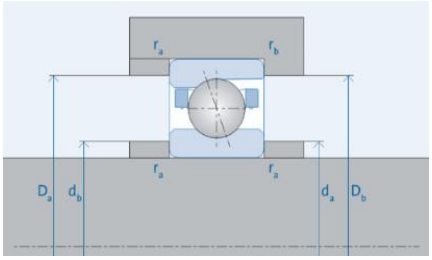
GMN BEARING USA

Data Sheet
High Precision Ball Bearings









Part Number	**HY S 6202 C TA**
Bearing Size	6202

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

Bearing Dimensions

Bore Diameter	d [mm]	15
Outer Diameter	D [mm]	35
Bearing Width	B [mm]	11
Pitch Circle Diameter	d_m [mm]	25.3
Ball Diameter	D_w [mm]	5.953
OD Inner Ring	d_1 [mm]	21.1
ID Outer Ring	D_1 [mm]	29.0
ID Outer Ring (Open Side)	D_2 [mm]	31.3
ID Outer Ring of Contact Surface	D_{1Z} [mm]	
ID Outer Ring (Open Side) of Contact Surface	D_{2Z} [mm]	
Chamfer	r_s [mm]	0.6
Chamfer (Open Side)	r_{1s} [mm]	0.3

Geometrical Data

Number of Balls	Z [Qty.]	11
Contact Angle	α_0 [°]	15
Bearing Weight	m [kg]	0.037

Bearing Load Ratings

Dynamic Radial Load Rating	C_r [N]	9,000
Static Radial Load Rating	C_{0r} [N]	4,700
Fatigue Load Limit	C_{ur} [N]	178.0

Mating Part Dimensions

Abutment Diameter Inner Ring	$d_{a,b}$ min. [mm]	18.6
Abutment Diameter Outer Ring	D_a max. [mm]	32.3
Abutment Diameter Outer Ring	D_b max. [mm]	32.7
Chamfer Associated Component	r_a max. [mm]	0.6
Chamfer Associated Component (Open Side)	r_b max. [mm]	0.3
Oil Nozzle Position	d_T [mm]	23.4

Bearing RPM Ratings

Speed Value with Oil Lubrication	n_{oil} [1/min]	84,000
Speed Value with Grease Lubrication	n_{grease} [1/min]	63,000

Bearing Preload Data

Light Pre-Load	F_v L [N]	45
Light Axial Rigidity	C_{ax} L [N/µm]	28
Medium Pre-Load	F_v M [N]	130
Medium Axial Rigidity	C_{ax} M [N/µm]	44
Heavy Pre-Load	F_v S [N]	270
Heavy Axial Rigidity	C_{ax} S [N/µm]	64
Minimum Spring Pre-Load	F_f [N]	190

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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