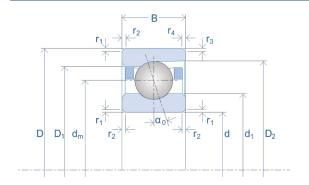


Data Sheet High Precision Ball Bearings





Part Number	HY S 61909 E TA
Bearing Size	61909

D_a d_b d_a d_T D_b Bearing Series

Yes

Bearing Dimensions

Bore Diameter	d [mm]	45
Outer Diameter	D [mm]	68
Bearing Width	B [mm]	12
Pitch Circle	d _m [mm]	56.5
Ball Diameter	D _w [mm]	6.35
OD Inner Ring	d ₁ [mm]	52.3
ID Outer Ring	D ₁ [mm]	60.7
ID Outer Ring (Open Side)	D ₂ [mm]	62.7
Chamfer	r _{1,2} [mm]	0.6
Chamfer (Open Side)	r _{3,4} [mm]	0.3

Bearing Load Ratings

Dynamic Radial Load Rating	C [N]	14,300
Static Radial Load Rating Steel Balls	C ₀ [N]	12,900
Static Radial Load Rating Si ₃ N ₄ balls	C _{0 HY} [N]	9,100

Bearing RPM Ratings

Speed Value with Oil Lubrication	n _{oil} [1/min]	31,875
Speed Value with Grease Lubrication	n _{grease} [1/min]	23,750

Geometrical Data

Hybrid (Si₃N₄ Balls)

Number of Balls	Z [Qty.]	20
Contact Angle	α ₀ [°]	25
Bearing Weight	m [kg]	0.128

Mating Part Dimensions

Abutment Diameter Inner Ring	d _a min. [mm]	50.0
Abutment Diameter Outer Ring	D _a max. [mm]	63.5
Chamfer Associated Component	r _a max. [mm]	0.6
Chamfer Associated Component (Open Side)	r₀ max. [mm]	0.15

Bearing Preload Data

Light Pre-Load	Fv [N]	120
Light Axial Rigidity	C _{ax} [N/µm]	115
Medium Pre-Load	F _v [N]	360
Medium Axial Rigidity	C _{ax} [N/µm]	173
Heavy Pre-Load	F _v [N]	720
Heavy Axial Rigidity	C _{ax} [N/µm]	232
Minimum Spring Pre-Load	F _f [N]	520

Notes:

- 1. Position of the oiling Nozzle (d_T) for bearings with TA cage/ TXM cage 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 USA engineers.