



Part Number	<b>HY S 6009 E TA</b>
Bearing Size	6009

Bearing Series	S
Hybrid (Si <sub>3</sub> N <sub>4</sub> Balls)	Yes

**Bearing Dimensions**

Bore Diameter	d [mm]	45
Outer Diameter	D [mm]	75
Bearing Width	B [mm]	16
Pitch Circle	d <sub>m</sub> [mm]	60.0
Ball Diameter	D <sub>w</sub> [mm]	8.731
OD Inner Ring	d <sub>1</sub> [mm]	54.7
ID Outer Ring	D <sub>1</sub> [mm]	65.0
ID Outer Ring (Open Side)	D <sub>2</sub> [mm]	68.6
Chamfer	r <sub>1,2</sub> [mm]	1.0
Chamfer (Open Side)	r <sub>3,4</sub> [mm]	0.6

**Geometrical Data**

Number of Balls	Z [Qty.]	18
Contact Angle	α <sub>0</sub> [°]	25
Bearing Weight	m [kg]	0.238

**Mating Part Dimensions**

Abutment Diameter Inner Ring	d <sub>a</sub> min. [mm]	51.0
Abutment Diameter Outer Ring	D <sub>a</sub> max. [mm]	69.0
Chamfer Associated Component	r <sub>a</sub> max. [mm]	1.0
Chamfer Associated Component (Open Side)	r <sub>b</sub> max. [mm]	0.3

**Bearing Load Ratings**

Dynamic Radial Load Rating	C [N]	26,000
Static Radial Load Rating Steel Balls	C <sub>0</sub> [N]	21,500
Static Radial Load Rating Si <sub>3</sub> N <sub>4</sub> balls	C <sub>0HY</sub> [N]	15,100

**Bearing Preload Data**

Light Pre-Load	F <sub>v</sub> [N]	210
Light Axial Rigidity	C <sub>ax</sub> [N/μm]	140
Medium Pre-Load	F <sub>v</sub> [N]	650
Medium Axial Rigidity	C <sub>ax</sub> [N/μm]	220
Heavy Pre-Load	F <sub>v</sub> [N]	1,300
Heavy Axial Rigidity	C <sub>ax</sub> [N/μm]	300
Minimum Spring Pre-Load	F <sub>r</sub> [N]	950

**Bearing RPM Ratings**

Speed Value with Oil Lubrication	n <sub>oil</sub> [1/min]	30,000
Speed Value with Grease Lubrication	n <sub>grease</sub> [1/min]	22,500

**Notes:**

1. Position of the oiling Nozzle (d<sub>r</sub>) 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.