



Part Number	<b>HY S 61909 E TA</b>
Bearing Size	61909

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]	68
Bearing Width	B [mm]	12
Pitch Circle	d <sub>m</sub> [mm]	56.5
Ball Diameter	D <sub>w</sub> [mm]	6.35
OD Inner Ring	d <sub>1</sub> [mm]	52.3
ID Outer Ring	D <sub>1</sub> [mm]	60.7
ID Outer Ring (Open Side)	D <sub>2</sub> [mm]	62.7
Chamfer	r <sub>1,2</sub> [mm]	0.6
Chamfer (Open Side)	r <sub>3,4</sub> [mm]	0.3

### Geometrical Data

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

### Mating Part Dimensions

Abutment Diameter Inner Ring	d <sub>a</sub> min. [mm]	50.0
Abutment Diameter Outer Ring	D <sub>a</sub> max. [mm]	63.5
Chamfer Associated Component	r <sub>a</sub> max. [mm]	0.6
Chamfer Associated Component (Open Side)	r <sub>b</sub> max. [mm]	0.15

### Bearing Load Ratings

Dynamic Radial Load Rating	C [N]	14,300
Static Radial Load Rating Steel Balls	C <sub>0</sub> [N]	12,900
Static Radial Load Rating Si <sub>3</sub> N <sub>4</sub> balls	C <sub>0 HY</sub> [N]	9,100

### Bearing RPM Ratings

Speed Value with Oil Lubrication	n <sub>oil</sub> [1/min]	31,875
Speed Value with Grease Lubrication	n <sub>grease</sub> [1/min]	23,750

### Bearing Preload Data

Light Pre-Load	F <sub>v</sub> [N]	120
Light Axial Rigidity	C <sub>ax</sub> [N/μm]	115
Medium Pre-Load	F <sub>v</sub> [N]	360
Medium Axial Rigidity	C <sub>ax</sub> [N/μm]	173
Heavy Pre-Load	F <sub>v</sub> [N]	720
Heavy Axial Rigidity	C <sub>ax</sub> [N/μm]	232
Minimum Spring Pre-Load	F <sub>r</sub> [N]	520

### 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.