



Part Number	<b>HY S 6003 E TA</b>
Bearing Size	6003

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

**Bearing Dimensions**

Bore Diameter	d [mm]	17
Outer Diameter	D [mm]	35
Bearing Width	B [mm]	10
Pitch Circle	d <sub>m</sub> [mm]	26.0
Ball Diameter	D <sub>w</sub> [mm]	4.762
OD Inner Ring	d <sub>1</sub> [mm]	22.7
ID Outer Ring	D <sub>1</sub> [mm]	29.4
ID Outer Ring (Open Side)	D <sub>2</sub> [mm]	30.7
Chamfer	r <sub>1,2</sub> [mm]	0.3
Chamfer (Open Side)	r <sub>3,4</sub> [mm]	0.3

**Geometrical Data**

Number of Balls	Z [Qty.]	14
Contact Angle	α <sub>0</sub> [°]	25
Bearing Weight	m [kg]	0.037

**Mating Part Dimensions**

Abutment Diameter Inner Ring	d <sub>a</sub> min. [mm]	20.0
Abutment Diameter Outer Ring	D <sub>a</sub> max. [mm]	31.5
Chamfer Associated Component	r <sub>a</sub> max. [mm]	0.3
Chamfer Associated Component (Open Side)	r <sub>b</sub> max. [mm]	0.1

**Bearing Load Ratings**

Dynamic Radial Load Rating	C [N]	6,650
Static Radial Load Rating Steel Balls	C <sub>0</sub> [N]	4,000
Static Radial Load Rating Si <sub>3</sub> N <sub>4</sub> balls	C <sub>0HY</sub> [N]	2,800

**Bearing Preload Data**

Light Pre-Load	F <sub>v</sub> [N]	60
Light Axial Rigidity	C <sub>ax</sub> [N/μm]	58
Medium Pre-Load	F <sub>v</sub> [N]	170
Medium Axial Rigidity	C <sub>ax</sub> [N/μm]	88
Heavy Pre-Load	F <sub>v</sub> [N]	340
Heavy Axial Rigidity	C <sub>ax</sub> [N/μm]	115
Minimum Spring Pre-Load	F <sub>r</sub> [N]	245

**Bearing RPM Ratings**

Speed Value with Oil Lubrication	n <sub>oil</sub> [1/min]	70,000
Speed Value with Grease Lubrication	n <sub>grease</sub> [1/min]	52,500

**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.