



Part Number	S 6209 E TA
Bearing Size	6209

Bearing Series	S
Hybrid (Si ₃ N ₄ Balls)	No

Bearing Dimensions

Bore Diameter	d [mm]	45
Outer Diameter	D [mm]	85
Bearing Width	B [mm]	19
Pitch Circle	d _m [mm]	65.0
Ball Diameter	D _w [mm]	12.7
OD Inner Ring	d ₁ [mm]	57.4
ID Outer Ring	D ₁ [mm]	72.5
ID Outer Ring (Open Side)	D ₂ [mm]	77.5
Chamfer	r _{1,2} [mm]	1.1
Chamfer (Open Side)	r _{3,4} [mm]	0.6

Geometrical Data

Number of Balls	Z [Qty.]	14
Contact Angle	α ₀ [°]	25
Bearing Weight	m [kg]	0.416

Mating Part Dimensions

Abutment Diameter Inner Ring	d _a min. [mm]	53.0
Abutment Diameter Outer Ring	D _a max. [mm]	77.0
Chamfer Associated Component	r _a max. [mm]	1.0
Chamfer Associated Component (Open Side)	r _b max. [mm]	0.6

Bearing Load Ratings

Dynamic Radial Load Rating	C [N]	43,500
Static Radial Load Rating Steel Balls	C ₀ [N]	32,500
Static Radial Load Rating Si ₃ N ₄ balls	C _{0HY} [N]	22,600

Bearing Preload Data

Light Pre-Load	F _v [N]	370
Light Axial Rigidity	C _{ax} [N/μm]	169
Medium Pre-Load	F _v [N]	1,100
Medium Axial Rigidity	C _{ax} [N/μm]	257
Heavy Pre-Load	F _v [N]	2,200
Heavy Axial Rigidity	C _{ax} [N/μm]	346
Minimum Spring Pre-Load	F _l [N]	1,580

Bearing RPM Ratings

Speed Value with Oil Lubrication	n _{oil} [1/min]	22,500
Speed Value with Grease Lubrication	n _{grease} [1/min]	17,000

Notes:

1. Position of the oiling Nozzle (d_r) 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.