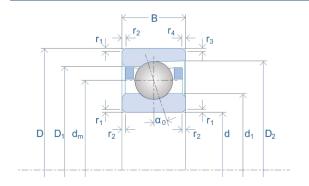


Data Sheet High Precision Ball Bearings





Part Number	S 6205 E TA
Bearing Size	6205

D_a d_b d_a d_T D_b

Bearing Series S Hybrid (Si₃N₄ Balls) No

Bearing Dimensions

Bore Diameter	d [mm]	25
Outer Diameter	D [mm]	52
Bearing Width	B [mm]	15
Pitch Circle	d _m [mm]	38.5
Ball Diameter	D _w [mm]	7.938
OD Inner Ring	d ₁ [mm]	34.0
ID Outer Ring	D ₁ [mm]	44.1
ID Outer Ring (Open Side)	D ₂ [mm]	46.9
Chamfer	r _{1,2} [mm]	1.0
Chamfer (Open Side)	r _{3,4} [mm]	0.6

Bearing Load Ratings

Dynamic Radial Load Rating	C [N]	18,200
Static Radial Load Rating Steel Balls	C ₀ [N]	12,000
Static Radial Load Rating Si ₃ N ₄ balls	C _{0 HY} [N]	8,400

Bearing RPM Ratings

Speed Value with Oil Lubrication	n _{oil} [1/min]	37,000
Speed Value with Grease Lubrication	n _{grease} [1/min]	27,500

Geometrical Data

Number of Balls	Z [Qty.]	13
Contact Angle	α ₀ [°]	25
Bearing Weight	m [kg]	0.128

Mating Part Dimensions

Abutment Diameter Inner Ring	d _a min. [mm]	31.0
Abutment Diameter Outer Ring	D _a max. [mm]	46.0
Chamfer Associated Component	r _a max. [mm]	1.0
Chamfer Associated Component (Open Side)	r₀ max. [mm]	0.6

Bearing Preload Data

Light Pre-Load	Fv [N]	150
Light Axial Rigidity	C _{ax} [N/µm]	104
Medium Pre-Load	F _v [N]	450
Medium Axial Rigidity	C _{ax} [N/µm]	159
Heavy Pre-Load	F _v [N]	900
Heavy Axial Rigidity	C _{ax} [N/µm]	216
Minimum Spring Pre-Load	F _f [N]	660

Notes:

- 1. Position of the oiling Nozzle ($\mbox{d}_{\mbox{\scriptsize T}})$ 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.