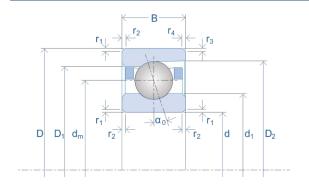


Data Sheet High Precision Ball Bearings



 D_{b}

 d_{T}



Part Number	HY S 61903 C TA
Bearing Size	61903

Bearing Series S Hybrid (Si₃N₄ Balls) Yes

Bearing Dimensions

Bore Diameter	d [mm]	17
Outer Diameter	D [mm]	30
Bearing Width	B [mm]	7
Pitch Circle	d _m [mm]	23.5
Ball Diameter	D _w [mm]	3.969
OD Inner Ring	d ₁ [mm]	21.0
ID Outer Ring	D ₁ [mm]	26.6
ID Outer Ring (Open Side)	D ₂ [mm]	27.7
Chamfer	r _{1,2} [mm]	0.3
Chamfer (Open Side)	r _{3,4} [mm]	0.3

Bearing Load Ratings

Dynamic Radial Load Rating	C [N]	4,700
Static Radial Load Rating Steel Balls	C ₀ [N]	2,700
Static Radial Load Rating Si ₃ N ₄ balls	C _{0 HY} [N]	1,900

Bearing RPM Ratings

Speed Value with Oil Lubrication	n _{oil} [1/min]	88,750
Speed Value with Grease Lubrication	n _{grease} [1/min]	66,250

Geometrical Data

Da

d

Number of Balls	Z [Qty.]	14
Contact Angle	α ₀ [°]	15
Bearing Weight	m [kg]	0.017

Mating Part Dimensions

Abutment Diameter Inner Ring	d _a min. [mm]	19.5
Abutment Diameter Outer Ring	D _a max. [mm]	27.5
Chamfer Associated Component	r _a max. [mm]	0.3
Chamfer Associated Component (Open Side)	r₀ max. [mm]	0.1

Bearing Preload Data

Light Pre-Load	Fv [N]	25
Light Axial Rigidity	C _{ax} [N/µm]	20
Medium Pre-Load	F _v [N]	75
Medium Axial Rigidity	C _{ax} [N/µm]	32
Heavy Pre-Load	F _v [N]	150
Heavy Axial Rigidity	C _{ax} [N/µm]	45
Minimum Spring Pre-Load	F _f [N]	120

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.