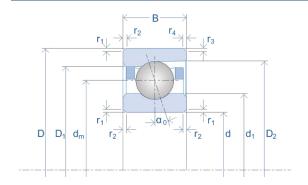


# Data Sheet High Precision Ball Bearings





Part Number	HY SM 61902 C TA
Bearing Size	61902

## **Bearing Dimensions**

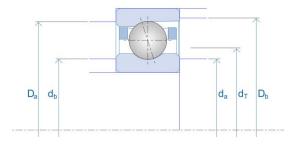
Bore Diameter	d [mm]	15
Outer Diameter	D [mm]	28
Bearing Width	B [mm]	7
Pitch Circle	d <sub>m</sub> [mm]	21.5
Ball Diameter	D <sub>w</sub> [mm]	3.969
OD Inner Ring	d <sub>1</sub> [mm]	18.7
ID Outer Ring	D <sub>1</sub> [mm]	24.3
ID Outer Ring (Open Side)	D <sub>2</sub> [mm]	25.4
Chamfer	r <sub>1,2</sub> [mm]	0.3
Chamfer (Open Side)	r <sub>3,4</sub> [mm]	0.3

# **Bearing Load Ratings**

Dynamic Radial Load Rating	C [N]	3,600
Static Radial Load Rating Steel Balls	C <sub>0</sub> [N]	1,560
Static Radial Load Rating Si <sub>3</sub> N <sub>4</sub> balls	C <sub>0 HY</sub> [N]	1,100

## **Bearing RPM Ratings**

Speed Value with Oil Lubrication	n <sub>oil</sub> [1/min]	116,250
Speed Value with Grease Lubrication	n <sub>grease</sub> [1/min]	87,500



Bearing Series	SM
Hybrid (Si₃N₄ Balls)	Yes

#### **Geometrical Data**

Number of Balls	Z [Qty.]	13
Contact Angle	α <sub>0</sub> [°]	15
Bearing Weight	m [kg]	0.015

## **Mating Part Dimensions**

Abutment Diameter Inner Ring	d <sub>a</sub> min. [mm]	17.5
Abutment Diameter Outer Ring	D <sub>a</sub> max. [mm]	25.5
Chamfer Associated Component	r <sub>a</sub> max. [mm]	0.3
Chamfer Associated Component (Open Side)	r₀ max. [mm]	0.1

# **Bearing Preload Data**

Light Pre-Load	Fv [N]	18
Light Axial Rigidity	C <sub>ax</sub> [N/µm]	15
Medium Pre-Load	F <sub>v</sub> [N]	55
Medium Axial Rigidity	C <sub>ax</sub> [N/µm]	24
Heavy Pre-Load	F <sub>v</sub> [N]	110
Heavy Axial Rigidity	C <sub>ax</sub> [N/µm]	33
Minimum Spring Pre-Load	F <sub>f</sub> [N]	110

### 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.