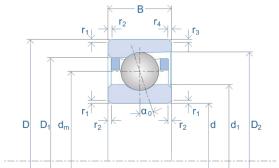


Data Sheet High Precision Ball Bearings





| Part Number | SM 61900 C TA |
|--------------|---------------|
| Bearing Size | 61900 |

Bearing Dimensions

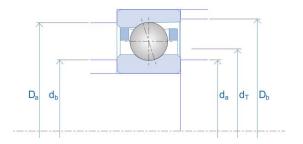
| Bore Diameter | d [mm] | 10 |
|---------------------------|-----------------------|-------|
| Outer Diameter | D [mm] | 22 |
| Bearing Width | B [mm] | 6 |
| Pitch Circle | d _m [mm] | 16.0 |
| Ball Diameter | D _w [mm] | 3.175 |
| OD Inner Ring | d ₁ [mm] | 13.6 |
| ID Outer Ring | D ₁ [mm] | 17.8 |
| ID Outer Ring (Open Side) | D ₂ [mm] | 18.8 |
| 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] | 2,080 |
|--|-----------------------|-------|
| Static Radial Load Rating Steel Balls | C ₀ [N] | 810 |
| Static Radial Load Rating Si ₃ N ₄ balls | C _{0 HY} [N] | 565 |

Bearing RPM Ratings

| Speed Value with Oil Lubrication | n _{oil} [1/min] | 125,000 |
|-------------------------------------|-----------------------------|---------|
| Speed Value with Grease Lubrication | n _{grease} [1/min] | 94,000 |



| Bearing Series | SM |
|----------------------|----|
| Hybrid (Si₃N₄ Balls) | No |

Geometrical Data

| Number of Balls | Z [Qty.] | 11 |
|-----------------|--------------------|-------|
| Contact Angle | α ₀ [°] | 15 |
| Bearing Weight | m [kg] | 0.010 |

Mating Part Dimensions

| Abutment Diameter Inner Ring | d _a min. [mm] | 12.5 |
|--|--------------------------|------|
| Abutment Diameter Outer Ring | D _a max. [mm] | 19.5 |
| 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] | 11 |
|-------------------------|------------------------|----|
| Light Axial Rigidity | C _{ax} [N/µm] | 11 |
| Medium Pre-Load | F _v [N] | 30 |
| Medium Axial Rigidity | C _{ax} [N/µm] | 16 |
| Heavy Pre-Load | F _v [N] | 65 |
| Heavy Axial Rigidity | C _{ax} [N/µm] | 23 |
| Minimum Spring Pre-Load | F _f [N] | 65 |

Notes:

- 1. Position of the oiling Nozzle (d_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.