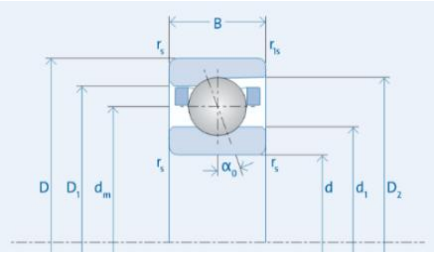
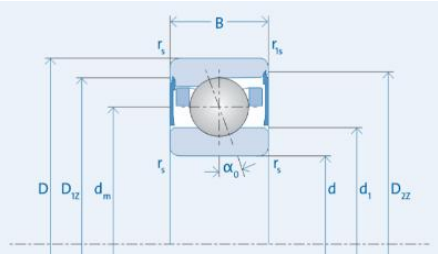
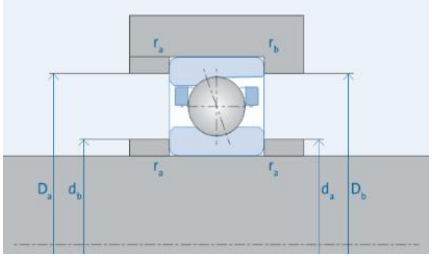
# Data Sheet
## High Precision Ball Bearings






| | |
|---|---|
| Part Number | **HY SM 61901 C TA** |
| Bearing Size | 61901 |

| | |
|---|---|
| Bearing Series | SM |
| Ball Material | Silicon Nitride (Si3N4) |
| Ring Material | 100 Cr 6 (SAE 52100) |

### Bearing Dimensions

| | | |
|---|---|---|
| Bore Diameter | d [mm] | 12 |
| Outer Diameter | D [mm] | 24 |
| Bearing Width | B [mm] | 6 |
| Pitch Circle Diameter | $d_m$ [mm] | 17.5 |
| Ball Diameter | $D_w$ [mm] | 3.175 |
| OD Inner Ring | $d_1$ [mm] | 15.4 |
| ID Outer Ring | $D_1$ [mm] | 19.6 |
| ID Outer Ring (Open Side) | $D_2$ [mm] | 20.7 |
| ID Outer Ring of Contact Surface | $D_{1Z}$ [mm] | |
| ID Outer Ring (Open Side) of Contact Surface | $D_{2Z}$ [mm] | |
| Chamfer | $r_s$ [mm] | 0.3 |
| Chamfer (Open Side) | $r_{1s}$ [mm] | 0.3 |

### Geometrical Data

| | | |
|---|---|---|
| Number of Balls | Z [Qty.] | 13 |
| Contact Angle | $\alpha_0$ [°] | 15 |
| Bearing Weight | m [kg] | 0.010 |

### Mating Part Dimensions

| | | |
|---|---|---|
| Abutment Diameter Inner Ring | $d_{a,b}$ min. [mm] | 13.9 |
| Abutment Diameter Outer Ring | $D_a$ max. [mm] | 22.5 |
| Abutment Diameter Outer Ring | $D_b$ max. [mm] | 22.5 |
| Chamfer Associated Component | $r_a$ max. [mm] | 0.3 |
| Chamfer Associated Component (Open Side) | $r_b$ max. [mm] | 0.3 |
| Oil Nozzle Position | $d_T$ [mm] | 16.5 |

### Bearing Load Ratings

| | | |
|---|---|---|
| Dynamic Radial Load Rating | $C_r$ [N] | 2,330 |
| Static Radial Load Rating | $C_{0r}$ [N] | 960 |
| Fatigue Load Limit | $C_{ur}$ [N] | 36.0 |

### Bearing Preload Data

| | | |
|---|---|---|
| Light Pre-Load | $F_v$ L [N] | 12 |
| Light Axial Rigidity | $C_{ax}$ L [N/µm] | 13 |
| Medium Pre-Load | $F_v$ M [N] | 35 |
| Medium Axial Rigidity | $C_{ax}$ M [N/µm] | 20 |
| Heavy Pre-Load | $F_v$ S [N] | 70 |
| Heavy Axial Rigidity | $C_{ax}$ S [N/µm] | 28 |
| Minimum Spring Pre-Load | $F_f$ [N] | 40 |

### Bearing RPM Ratings

| | | |
|---|---|---|
| Speed Value with Oil Lubrication | $n_{oil}$ [1/min] | 145,000 |
| Speed Value with Grease Lubrication | $n_{grease}$ [1/min] | 105,000 |

**Notes:**

1. Position of the oiling Nozzle ($d_T$) for bearings with TXM cage design 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 Bearing USA engineers.


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