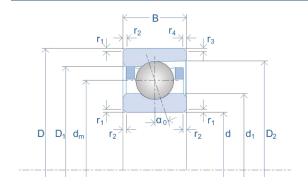


# **Data Sheet High Precision Ball Bearings**





| Part Number  | S 6012 E TA |
|--------------|-------------|
| Bearing Size | 6012        |

### **Bearing Dimensions**

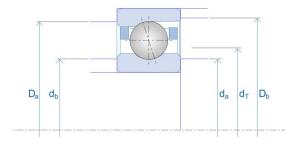
| Bore Diameter             | d [mm]                | 60    |
|---------------------------|-----------------------|-------|
| Outer Diameter            | D [mm]                | 95    |
| Bearing Width             | B [mm]                | 18    |
| Pitch Circle              | d <sub>m</sub> [mm]   | 77.5  |
| Ball Diameter             | D <sub>w</sub> [mm]   | 9.525 |
| OD Inner Ring             | d <sub>1</sub> [mm]   | 71.9  |
| ID Outer Ring             | D <sub>1</sub> [mm]   | 83.2  |
| ID Outer Ring (Open Side) | D <sub>2</sub> [mm]   | 87.0  |
| Chamfer                   | r <sub>1,2</sub> [mm] | 1.1   |
| Chamfer (Open Side)       | r <sub>3,4</sub> [mm] | 1.0   |

# **Bearing Load Ratings**

| Dynamic Radial Load Rating                                     | C [N]                 | 32,000 |
|--|-----------------------|--------|
| Static Radial Load Rating Steel Balls                          | C <sub>0</sub> [N]    | 31,000 |
| Static Radial Load Rating Si <sub>3</sub> N <sub>4</sub> balls | C <sub>0 HY</sub> [N] | 21,600 |

## **Bearing RPM Ratings**

| Speed Value with Oil Lubrication    | n <sub>oil</sub> [1/min]    | 18,500 |
|-------------------------------------|-----------------------------|--------|
| Speed Value with Grease Lubrication | n <sub>grease</sub> [1/min] | 14,000 |



| Bearing Series                                | S  |
|---|----|
| Hybrid (Si <sub>3</sub> N <sub>4</sub> Balls) | No |

#### **Geometrical Data**

| Number of Balls | Z [Qty.]           | 22    |
|-----------------|--------------------|-------|
| Contact Angle   | α <sub>0</sub> [°] | 25    |
| Bearing Weight  | m [kg]             | 0.406 |

#### **Mating Part Dimensions**

| Abutment Diameter Inner Ring             | d <sub>a</sub> min. [mm] | 67.0 |
|--|--------------------------|------|
| Abutment Diameter Outer Ring             | D <sub>a</sub> max. [mm] | 88.0 |
| Chamfer Associated Component             | r <sub>a</sub> max. [mm] | 1.1  |
| Chamfer Associated Component (Open Side) | r₀ max. [mm]             | 0.6  |

# **Bearing Preload Data**

| Light Pre-Load          | Fv [N]                 | 270   |
|-------------------------|------------------------|-------|
| Light Axial Rigidity    | C <sub>ax</sub> [N/µm] | 180   |
| Medium Pre-Load         | F <sub>v</sub> [N]     | 810   |
| Medium Axial Rigidity   | C <sub>ax</sub> [N/µm] | 274   |
| Heavy Pre-Load          | F <sub>v</sub> [N]     | 1,620 |
| Heavy Axial Rigidity    | C <sub>ax</sub> [N/µm] | 364   |
| Minimum Spring Pre-Load | F <sub>f</sub> [N]     | 1,160 |

#### 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.