# Rolled Ball Screws / Precision Ball Screws

## Type, Lead Accuracy and Available Grease

### Rolled Ball Screws

**Type**

- **Compact Nut Type**
- **Standard Nut Type**
- **Block Nut Type**

**Part Number**

- **BSSC**
- **BSSZ/BSSZ/BSSST**
- **BSBR**

**Accuracy Grade**

- **C7**
- **C3/C5/C7**
- **C10**

**Features**

- The Nut size is up to 40% smaller.
- Most common type
- Can be mounted to the table directly

### Precision Ball Screws

**Type**

- **Compact Nut Type**
- **Standard Nut Type**

**Part Number**

- **BSS**
- **BSSZ/BSS/OSSSE**

**Accuracy Grade**

- **C3**
- **C7 BSST**
- **C10 BSSE**

**Features**

- Nut body diameter is smaller.
- Most common type

### Rolled Ball Screw Lineup

**Type**

- **Example**
- **Shaft Dia. (mm)**
- **Lead**
- **Axial Play**
- **Shaft Length (mm)**
- **MIN**
- **MAX**

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
<th>Shaft Dia. (mm)</th>
<th>Lead</th>
<th>Axial Play</th>
<th>Shaft Length (mm)</th>
<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSSC</td>
<td>2</td>
<td>100</td>
<td>300</td>
<td></td>
<td></td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>150</td>
<td>350</td>
<td></td>
<td></td>
<td>150</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>200</td>
<td>400</td>
<td></td>
<td></td>
<td>200</td>
<td>400</td>
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<tr>
<td></td>
<td>20</td>
<td>250</td>
<td>450</td>
<td></td>
<td></td>
<td>250</td>
<td>450</td>
</tr>
</tbody>
</table>

### Precision Ball Screw Lineup

**Type**

- **Example**
- **Shaft Dia. (mm)**
- **Lead**
- **Axial Play**
- **Shaft Length (mm)**
- **MIN**
- **MAX**

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<tr>
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<th>Shaft Dia. (mm)</th>
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<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSS</td>
<td>6</td>
<td>88</td>
<td></td>
<td>0.250 or Less</td>
<td>88</td>
<td>205</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>100</td>
<td></td>
<td>0.500 or Less</td>
<td>100</td>
<td>230</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>120</td>
<td></td>
<td>0.625 or Less</td>
<td>120</td>
<td>250</td>
<td>270</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>140</td>
<td></td>
<td>0.750 or Less</td>
<td>140</td>
<td>270</td>
<td>290</td>
</tr>
</tbody>
</table>

### Lead Accuracy of Ball Screws (For details, see P. 1937)

The lead accuracy of Ball Screws is defined by JIS Standard Characteristics. In general, confirm actual mean travel error for Ball Screws is within the range of necessary positioning precision. Then select the accuracy grade for Ball Screws to be used.

#### Allowable Values

- **Allowable Values of Actual Mean Travel Error (±)** for Transfer Screws (C Accuracy Grade Series)

<table>
<thead>
<tr>
<th>Accuracy Grade</th>
<th>±Ct7</th>
<th>±Ct10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Type</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Available Grease

Grease type can be changed from the standard type to the following types.

**Part Number**

- **Product Name**
- **Main Features**
  - **L Type** (Operating Temp.)
  - **G Type** (Performance)

**Grease Performance**

- **Condition**
- **Unit**
- **Measurement Method**
- **L Type**
- **G Type**

**Available Ball Screw and Grease Types**

- **Driving Part Number**
- **Part Number**
- **Type**

**Actual Mean Travel Error (±)** for Transfer Screws (C Accuracy Grade Series) is obtained by $\pm \frac{V}{2\pi}$ for Positioning Screws (C Accuracy Grade Series).