11. MANUFACTURING, ASSEMBLING & INSPECTION FACILITIES

Precision Long Size Thread Grinding Machine

Grinding of Thread Groove of Nut

Laser Type Screw Lead Automatic Measuring Machine

Application Example: Measurement of Lead and Nut Assembly (PAT.)
As Ball Screws are precision parts, carefully handle them by referring to the following instructions:

**Lubrication**

1. Thoroughly check the lubricant condition before use. Improper lubrication will shorten the service life of Ball Screw.
2. When lubricating grease is applied to Ball Screw, use the Ball Screw directly. However, if dust and chips accumulate on the surface of grease coating, clean it with pure kerosene or degrease, and then apply new lubricating grease of the same type as coated on the Ball Screw before use. When degreasing Ball Screw, avoid using organic solvent which may melt acrylic adhesives.
3. Check the grease 2 to 3 months after Ball Screw is used for the first time. If the grease is extremely dirty, wipe off old grease and apply a sufficient amount of new grease. Thereafter, check and replenish every year, but perform periodic check and maintenance according to operating conditions for the Ball Screw.

**Handling**

1. Never disassemble Ball Screw. Otherwise, dust may enter it, resulting in an accident and degrading accuracy.
2. Avoid reassembling Ball Screw on the user side. Otherwise the function of the Ball Screw may be lost due to incorrect assembling. Send the Ball Screw to our company for repair and reassembly at your expense.
3. As Ball Screw or Nut may sometimes drop spontaneously, be careful not to get hurt. If Ball Screw drops, its function may be lost due to a damage to the circulating parts etc. In this case, the Ball Screw should be checked by our company. Be sure to send it to our company for check and repair at your expense.
4. When Ball Screw drops, the circulating parts, shaft outside surface, ball groove, etc, may be flawed or scratched.

**Operating Precautions**

1. Use Ball Screw in a clean environment. Prevent dust and chips from entering Ball Screw by using a dustproof cover. Dust and chips which enter Ball Screw due to insufficient dustproofing may adversely affect the performance of the Ball Screw, causing to lock it or damage the circulating parts or sometimes drop the table.
2. For operating speed of Ball Screw, refer to "Permissible Operating Speed" given in TOSOK BALL SCREW CATALOG or specifications and drawings supplied by our company. If the permissible operating speed is exceeded during operation, the circulating parts may be damaged, sometimes resulting in a lock or an accidental drop of the table. When Ball Screw is mounted on a vertical axis, it is recommended that safety nuts or drop prevention be provided. For details of a safety device, contact our company.
3. If Ball Screw Nut is overrun, the ball may drop, the circulating part may be damaged or the ball groove may dent, causing a malfunction. Be careful not to overrun Ball Screw without fail. If your Ball Screw is overrun, contact our company. We will check it or take proper countermeasures at your expense.
4. The operating temperature limit is usually set at less than 80°C. Avoid operating Ball Screw at higher temperature than the temperature limit. Otherwise, the circulating parts and sealing parts may be damaged.

**Storage**

1. When storing Ball Screw, keep it in the original package supplied by our company. Do not unpack or tear the package except in case of need. Otherwise, dust may enter Ball Screw, resulting in resting and deterioration of the performance.
2. It is recommendable to store Ball Screw as follows:
   1. Place it horizontally in the original package supplied by our company.
   2. Put a sleeper on Ball Screw and place them horizontally in a clean place.
   3. Suspend Ball Screw in a clean place.
Name:
Title:
Company Name:
Company Address:
Name of machine in use:
Drawing or sketch: Attached
Not attached (Draw rough sketch below.)

1. Loading conditions

<table>
<thead>
<tr>
<th>Component</th>
<th>Max. axial load</th>
<th>No. of rev.</th>
<th>Operating ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>rpm</td>
<td>%</td>
</tr>
<tr>
<td>Normal</td>
<td>N</td>
<td>rpm</td>
<td>%</td>
</tr>
<tr>
<td>Min.</td>
<td>N</td>
<td>rpm</td>
<td>%</td>
</tr>
<tr>
<td>1-2 Max.</td>
<td>N</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>1-3 Existence</td>
<td>Yes</td>
<td>Moment load</td>
<td>N·m</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>Radial load</td>
<td>N</td>
</tr>
</tbody>
</table>

2. Installation

2-1 Supported length mm
Supporting method

3. Operating conditions

3-1 Max. stroke mm
3-2 Life required hr. km mm × 10rev
3-3 Shaft rotation
Nut rotation
3-4 Shockless smooth operation Ordinary operation Vibratory operation

4. Dimensions

4-1 Nominal shaft outside diameter mm
4-2 Nominal lead (Pitch mm) Right-hand thread Left-hand thread
4-3 Overall shaft length Effective thread length mm
4-4 Nut type Flange configuration
4-5 Seal Provided Not provided

5. Lead accuracy

5-1 Target value of specified travel mm
5-2 Grade symbol

6. Axial clearance, preload and stiffness

6-1 Existence of axial clearance Yes mm Max. No. mm
6-2 Amount of preload N Torque required N·m
Stiffness of Nut N·m

7. Operating conditions

7-1 Lubrication Grease Oil
7-2 Dustproof cover
7-3 Operating temperature °C
7-4 Corrosion prevention Required Not required Material Surface treatment

8. Quantities

8-1 Set per unit
8-2 Scheduled date of trial manufacture
8-3 Scheduled date of mass-production Q’ ty/lot

9. Rough sketch Sheets