



BALL SCREW/COMMON INSTRUCTIONS①

Be sure to read the following instructions before use.
Also refer to“FOR SAFETY USE”

PRECAUTIONS FOR DESIGN

⚠ WARNING

•Number of revolutions

Refer to the permissible number of revolutions shown on this catalog and use at the permissible number of revolutions or lower.

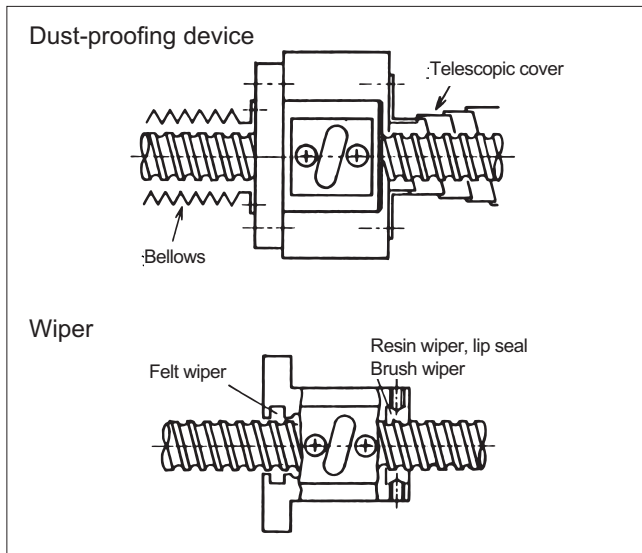
If it is used over the given DmN value, the circulating parts will be damaged, making operation impossible. In the case of vertical shaft, the ball may come off, sometimes dropping the head etc. or resulting in other accident.

⚠ CAUTION

•Dustproof cover

When intrusion of dust or foreign matters is presupposed, provide the ball screw with a dust guard such as bellows and telescopic cover.

To make it more effective, provide a wiper on both ends of the nut. If dust or foreign matters get into the nut of a ball screw, defective operation, abnormal sound, abnormal vibration, early wear-out, early fraking and other various troubles will be caused.



•Unbalanced load

In designing a system, take care that radial load and moment load may not be directly applied to the ball screw. Otherwise, part of the balls will suffer heavy load, thus shortening the service life of the ball screw.

•Precautions for mounting a ball screw

For easy mounting a ball screw to a machine/device, design that it can be mounted with the nut fitted to the screw shaft.

If the nut is removed, the balls will come out from the ball circuit, thus breaking the recirculation parts.

When it is inevitable to remove the nut, consult KURODA beforehand.

PRECAUTIONS FOR OPERATION AND MOUNTING

⚠ WARNING

•Avoid overrun

If the nut of a ball screw is overrun and shocked at the stroke end, dents will occur in the thread groove, causing a defective operation.

Moreover, when the end of the thread groove is machined to cut, the ball recirculation parts will be damaged, sometimes making operation impossible.

•Thoroughly keep in mind the mounting accuracy.

Moment load due to misalignment and poor squareness between ball screws, bearings, guide and nut housing causes defective operation, abnormal sound, abnormal vibration and short life. In addition, it may break the screw shaft due to rotating bending fatigue, sometimes resulting in a serious accident.

•Be careful of dropping by its own weight.

As a ball screw has a low coefficient of friction, the shaft or nut may sometimes drop by its own weight.

Take care so that the finger may not be pinched.

⚠ CAUTION

•Do not remove the nut.

If the balls come off from the nut or the shaft is detached from the nut, return them to our company without reassembling.

They will be repaired (Repair cost is charged).

Some series of standard ball screws are so designed that the nut can be separated for additional machining.

Such series of ball screws are provided with sleeves for nut separation. Thoroughly read the attached instructions.

•Be careful of accumulation of dust and foreign matter.

In the assembly process of a mechanical installation, put a cover so that dust and foreign matter may not accumulate on the screw shaft. Accumulation of dust and foreign matter will cause defective operation.

•When fitting bearing, gear, pulley and other parts to the screw shaft, be careful not to shock them. The screw shaft may be bent.

If such parts are accidentally shocked, apply an indicator to the outside diameter, such as coupling attachment of the screw shaft and check that there is not bend.

•Use it within the operating temperature limit.

Usually, the designed operating temperature limit is below 60°C. If the ball screw is used at higher than the operating temperature limit, there is a possibility that the lubricating parts or sealing parts may be damaged. When using in special environment, consult KURODA beforehand.



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LUBRICATION

CAUTION

•type of lubricants

Unless otherwise specified, SHELL Albania No.2 Grease is enclosed as lubricant.

As anticorrosive oil applied to the screw shaft has lubricating performance, it can be used in that condition. Do not change it for any other lubricant and do not wipe it off.

Grease

Use	Brand name	Maker name
For ordinary use	Alvania Grease No.2	Showa Shell Sekiyu
	Mobilux No.2	Mobil Sekiyu
	Daphny Coronex Green No.2	Idemitsu Kosan
For low temperature	Multemp PS No.2	Kyodo Yushi
For wide temperature range	Multemp LRL3	Kyodo Yushi

Oil

Use	Brand name	Maker name
For ordinary use	Daphny Mechanical Oil	Idemitsu Kosan
	Mobile Vactra Oil Heavy	Mobil Sekiyu

•Checking lubricant conditions and applying grease

Taking into consideration the accumulation of dust and foreign matter in the assembly process of a mechanical installation and working efficiency, lubricant to the ball screw is enclosed in the nut alone, and is not applied on the screw shaft unless otherwise specified.

The quantity of grease in the nut may be insufficient according to the screw size and screw shaft length.

Reciprocate the nut and then check that sufficient grease is applied to the rolling contact surface of the thread groove. If it is insufficient, apply additional grease to the screw shaft.

•Checking and supplying lubricant

Check lubricant 2 to 3 months after starting operation. If it is excessively dirty, wipe off old grease and apply new grease.

Usually, check and supply grease every year after that. However, set this interval according to circumstances, as it varies with the operating environment.

•For clean grease “KURODA C Grease”, refer to Page 446.

STORAGE

CAUTION

•How to store

Store it indoors with least temperature difference if possible.

Store it in the horizontal condition with it packed.

To prevent intrusion of dust and rusting, do not unpack and open the internal package except in case of necessity.