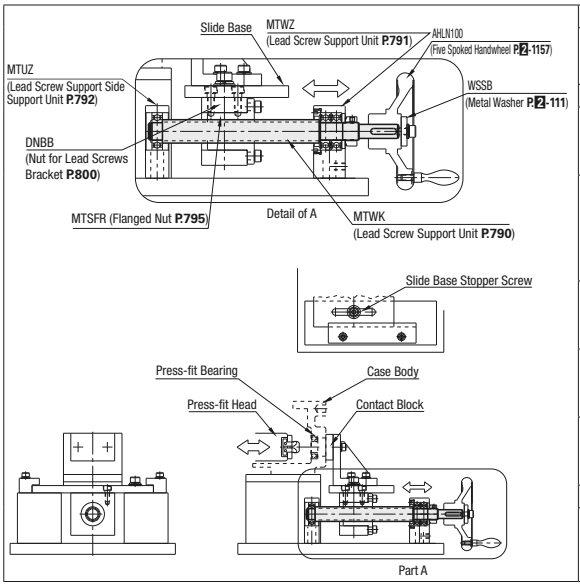
Lead Screw Application Examples

■Lead Screw Application Examples

■App. Example 1 Machine Name Slide Base Feed Mechanism for Reference Shoulder Adjusting

Configuration comprised of Shaft Support Unit for Lead Screws, Lead Screw Shaft, and a Position Indicator.



• Applications

Used for transfer feeding, locating stoppers, and guiding of various workpieces.
Adjustments are relatively small, but shock loads in axial direction are considered.
In addition, the lead screw scheme is chosen for its low price.

• Selection Criteria

Lead Screw Shaft
A lead screw shaft configured specifically for MISUMI Shaft Supports with a Keyway is selected.
The configuration supports each end of the shaft with a bearing.

Lead Screw Support Units
Lead Screw Support Unit is selected for the fixed side of the shaft.
Selected support unit has two radial bearings in preloaded arrangement.
Selected since thrust loads can be supported.

Lead Screw Support Units
A Shaft Support Unit for Lead Screws is selected for the shaft support side.
Comes with two radial bearings in the set, and used as is.

Nuts for Lead Screws
Commonly used Round Flanged Lead Screw Nut is selected.

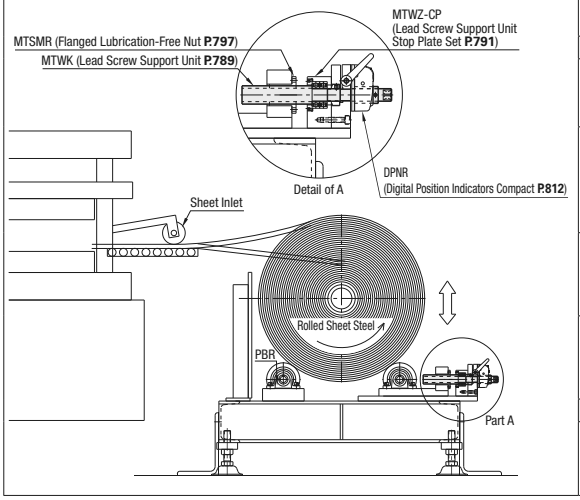
Nut Brackets
A Nut Bracket compatible with a lead screw nut is selected.

• Conditions of Use

①Applied Load	200N Material Mass : 300N
②Setup Change-over Frequency	Once a day for rod changes, etc.
③Positioning Accuracy	±0.5mm
④Stroke	150mm

■App. Example 2 Machine Name Sheet Steel Roll Base with Adjustment Mechanism

Configuration comprised of Shaft Support Unit for Lead Screws, Stop Plate Set, Lead Screw Shaft, and a Position Indicator.



• Applications

Sheet steel roll's remaining O.D. is measured at set intervals, and the roll is raised accordingly with a lead screw.
The lead screw feed amount is measured by a position indicator, instead of using a conversion table.

• Selection Criteria

Lead Screw Shaft
A lead screw shaft configured specifically for MISUMI Shaft Supports with no R machining on the support side (Alteration RC) is selected.

Lead Screw Support Units
Lead Screw Support Unit is selected for the fixed side of the shaft.
Selected since thrust loads can be supported, and a Digital Position Indicators Compact can be directly mounted.

Nuts for Lead Screws
Round Flanged Lubrication-Free Lead Screw Nut is selected.
Selected because the lubrication maintenance can be reduced to only once a year.

Position Indicators
A Digital Position Indicators Compact is selected for lead screw feed distance measurements.

• Conditions of Use

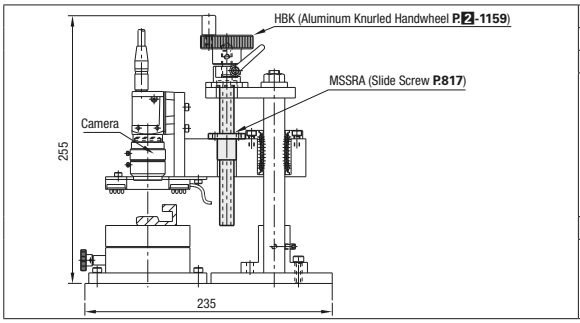
①Applied Load	20kN
②Maintenance	Once a year
③Positioning Accuracy	1~2mm
④Stroke	150mm

■Slide Screw Application Example

With a stainless steel thread shaft and a plastic nut, slide screws can be used without grease and are suitable for use with the screw feed mechanism in clean environments.
Slide screws are low cost and offer smooth movements due to their excellent tribological properties.

■App. Example 1 Machine Name Camera Inspection Unit

A slide screw is utilized as the Z axis.



• Applications

A slide screw is chosen for fine adjustability, and can be used without lubrication maintenance.

• Selection Criteria

Slide Screw Shaft
One End Stepped Type in EN 1.4301 Equiv. is selected.
Nut
Tribological resin nut is selected for zero grease requirement and good corrosion resistance.

• Conditions of Use

①Applied Load	50N
②Setup Change-over Frequency	Once a day for rod changes, etc.
③Positioning Accuracy	±0.5mm
④Stroke	100mm