

Angle Plate Sine Plate

Instruction Manual

To ensure correct use, please read this instruction manual carefully before use. After reading, keep it in a safe place where the user can always refer to it.



OBISHI KEIKI SEISAKUSHO Co., Ltd.

Safety Precautions

- ※Before use, please read this instruction manual carefully and use the product correctly.
- ※The precautions shown here are intended to ensure the safe and proper use of the product and to prevent any potential hazards to the user.
- ※The precautions are categorized into three levels — **Danger, Warning, and Caution** — to clearly indicate the severity and urgency of potential harm or damage that may occur if the product is mishandled.

For Safe and Proper Use		
This instruction manual includes various symbols and pictograms throughout the text to ensure correct use of the product and to prevent harm or damage to the user. The symbols and their meanings are as follows. ● Please read the text after fully understanding the symbols and their meanings. ● After reading, be sure to keep this manual in a place where anyone using the product can easily refer to it at any time. ● All of these are safety-related instructions, so please be sure to follow them.		
	Danger	This indicates situations where incorrect handling could result in imminent risk of death or serious injury.
	Warning	This indicates situations where incorrect handling could potentially result in death or serious injury.
	Caution	This indicates situations where incorrect handling may result in injury to persons or only property damage.
Examples of symbols		The △ symbol indicates the presence of danger, warning, or caution messages, with specific precautions described within the figure. (The left figure is used to indicate general danger, warning, or caution without specifying details.)
		The ○ symbol indicates prohibited actions, with specific precautions described within or below the figure. (The figure on the left is used for general prohibition notices without specifying particular actions.)
		The ● symbol indicates mandatory actions, with specific instructions detailed within the figure. (The figure on the left is used for general mandatory actions or instructions without specifying details.)

Sine Plate Instruction Manual

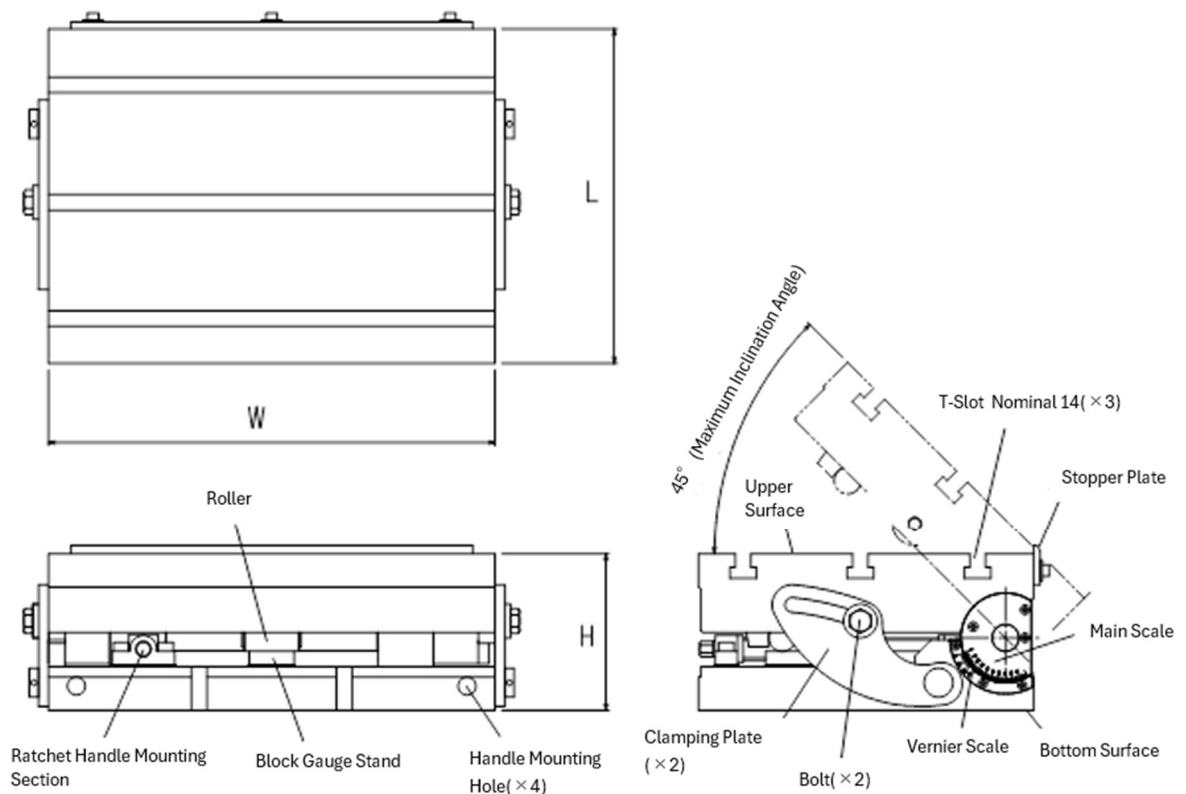
1. Product Features

- This is a sine plate designed to ensure high accuracy.
- The inclination angle can be adjusted from 0° to 45° .
- Equipped with a main scale (1° divisions) and a vernier scale ($6'$ divisions).
- A block gauge stand is provided for high-precision measurement.
- Parallelism between the top and bottom surfaces is ensured.
- Equipped with three T-slots (nominal size 14) for fixing the workpiece.
- Angle adjustment is performed using a handle with a screw-lift mechanism.

Note: The angle adjustment handle is included.

Note: Gauge blocks are not included.

2. Names of Parts and External View



3. Specifications

Code No.	Size (L×W×H mm)	Upper Surface size (L×W mm)	Inclination Angle (°)	Roller Pitch Distance (mm)	Parallelism (μm)	Mass (kg)
NE101	300×400×140	300×400	0~45	200±0.005	10	70

Caution: Although the main scale is graduated beyond 45° up to 90°, this is for manufacturing purposes only. Do not use the instrument beyond 45°.

Load Capacity: 500 N (approx. 50 kg)

When supporting block gauges: 600 N (approx. 60 kg)

Accessories

- Stopper Plate ... 1 piece
- Ratchet Handle ... 1 piece
- Handle ... 4 pieces

4. Instructions for Use

【When Using the Scale Plate】

- ① Clean this instrument and the workpiece to remove any dirt.
 - ② Mount the workpiece on the top surface of the sine plate.
 - ③ Loosen the bolts on both sides of the sine plate, and while checking the main scale and vernier scale, use the ratchet handle to tilt the top surface of the plate to the specified angle. Then tighten the bolts to fix it.
 - ④ Perform the measurement or machining.
 - ⑤ After finishing the work, loosen the bolts and use the ratchet handle to lower the sine plate. Lower the rollers slowly onto the block gauge stand.
 - ⑥ Remove the workpiece from the sine plate.
- Note: When attaching or removing the workpiece while the sine plate is set at an angle, always make sure that the plate is securely fixed with the bolts. Applying excessive load to the rollers may cause accuracy errors.

【When Using Gauge Blocks】

- ① Clean this instrument and the workpiece, and remove any dirt or foreign matter.
- ② Mount the workpiece on the top surface of the sine plate.
- ③ Loosen the bolts on both sides of the sine plate, and while checking the main scale and vernier scale, use the ratchet handle to raise the top surface slightly above the measuring angle.
- ④ Place the gauge blocks on the block gauge stand.
- ⑤ Use the ratchet handle to lower the top surface of the sine plate, gently set the rollers onto the gauge blocks, and tighten the bolts to fix the plate.
- ⑥ Perform the measurement or machining.
- ⑦ After finishing the work, loosen the bolts, raise the top surface slightly, and remove the gauge blocks.
- ⑧ Use the ratchet handle to lower the top surface of the sine plate and slowly lower the rollers onto the block gauge stand.
- ⑨ Remove the workpiece from the sine plate.

Note: When using gauge blocks, always make sure there is no foreign matter or gap between the gauge blocks, the block gauge stand, and the rollers.

【Raising and Lowering the Sine Plate】

- Always loosen the bolts on both sides before raising or lowering the top surface of the sine plate.
- Attach the ratchet handle; turning it counterclockwise raises the top surface of the sine plate, and turning it clockwise lowers it.
- After operating, always tighten the bolts to fix the plate in position.
- • Always turn the ratchet handle slowly. Sudden operation may place excessive load on the sine plate and cause damage. In particular, operate carefully when the rollers come into contact with the gauge blocks or the block gauge stand.

Others

- When resetting the indicator to 0°, first raise the top surface of the sine plate slightly, then slowly lower it onto the block gauge stand before resetting.

5. Precautions for Use

- ① Clean the Precision Surface and the measurement surface of the workpiece before use.
- ② Handle the instrument carefully during use and storage to avoid impact or shock.
- ③ Allow the instrument to acclimate to the ambient temperature before use.
- ④ Do not use or store the instrument in places with drastic temperature changes.
- ⑤ After use, always apply rust prevention treatment and store the instrument in its storage case.
- ⑥ Check the instrument for abnormalities before use in the following cases:
 - When the instrument has been dropped.
 - When an object has been dropped onto the instrument.
- ⑦ If there are scratches or damage, have the instrument repaired and inspected. Remove minor scratches on the Precision Surface locally with an Arkansas stone or similar before use.
- ⑧ Check the accuracy regularly before using the product.
- ⑨ Do not apply a load greater than the specified load capacity.
- ⑩ Do not use the instrument beyond its maximum inclination range.
- △ ⑪ If the product has sharp edges, handle it carefully to avoid injuring your fingers or other parts of your body.
- △ ⑫ For heavy products, handle placement and other operations with two or more people, and take care to avoid injury.
- ⑬ Use cloth or nylon sleeves for lifting. Do not use hard materials such as metal chains or wires, as they may cause scratches or cracks on the product and pose a risk of injury to the operator.
- ⑭ Wear protective gloves and safety glasses as necessary to prevent injury while working.
- △ ⑮ Do not use this product if it is damaged or deteriorated, as it may cause injury or accidents.
- △ ⑯ If an injury occurs, give first aid immediately and seek medical attention if necessary.

Contact Information



JIS Certified Factory

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Design, development, manufacturing, and calibration services for precision measuring instruments (levels, surface plates, straight edges, reference measuring instruments, square rulers, blocks, dial gauge stands, comparators, angle measuring instruments, bench centers, squareness measuring instruments).