

Surface Plates

Master Surface Plate(Granite)

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.)

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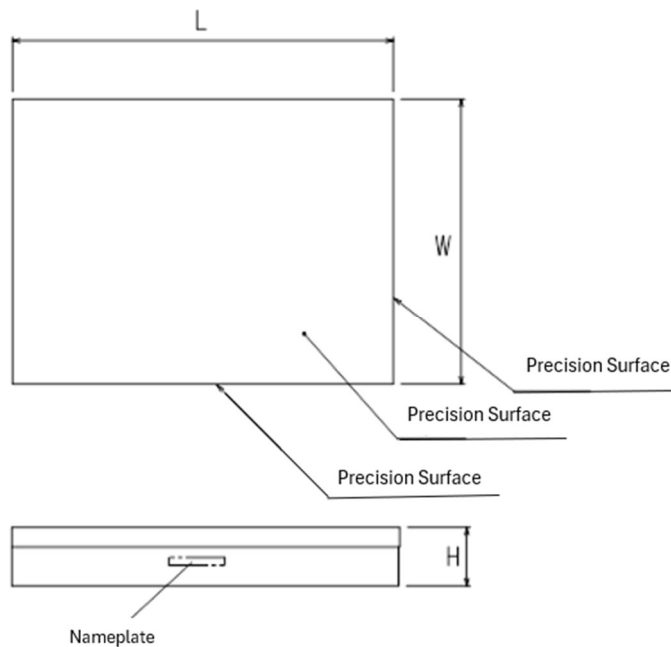
1. Product Features

- This product has the top surface and two side surfaces finished with high precision.
- Since the two side surfaces ensure squareness and straightness accuracy, it is very convenient for inspecting the squareness and straightness of workpieces using a dial gauge.

Note: A dedicated dial gauge stand is not included.

Note: A dedicated stand made of square pipes can also be manufactured.

2. Names of Parts and External View



3. Specifications

Code No.	Size (L×W×H mm)	Flatness (μ m)	Squareness (μ m)	Mass (Kg)
BK101	600×600×125	4	2	130
BK102	750×500×125	5	3	138
BK103	1000×750×150	7	4	325
BK104	1000×1000×150	8	5	435

Note: When this product is ordered alone, the support plates and adjustment bolts are not included.

4. Installation

【Installation Location】

- A place with minimal temperature change and humidity.
 - A place with little dust and vibration.
 - A place with a solid foundation that will not deform or twist under the weight of the surface plate.
- ◎ When using as a high-precision inspection surface plate, either construct a concrete installation base isolated from other structures and place the surface plate on it, or place the surface plate on a rigid and stable stand installed on an isolated concrete floor.

【Installation Method】

- Install the surface plate level on a stable stand.
- Accuracy is maintained when the plate is supported at three points and kept level.
- As shown in the figure below, install the surface plate with three-point support (two points on the left and one point on the right), and adjust the level using adjustment bolts or leveling blocks.

Note: Always support the plate at three points, and use two auxiliary supporting points to prevent overturning.

It is recommended to install the plate on a dedicated stand or with leveling blocks.

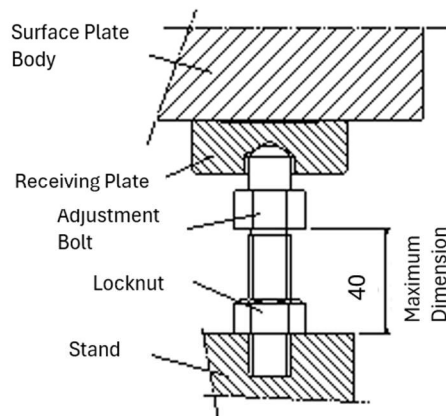
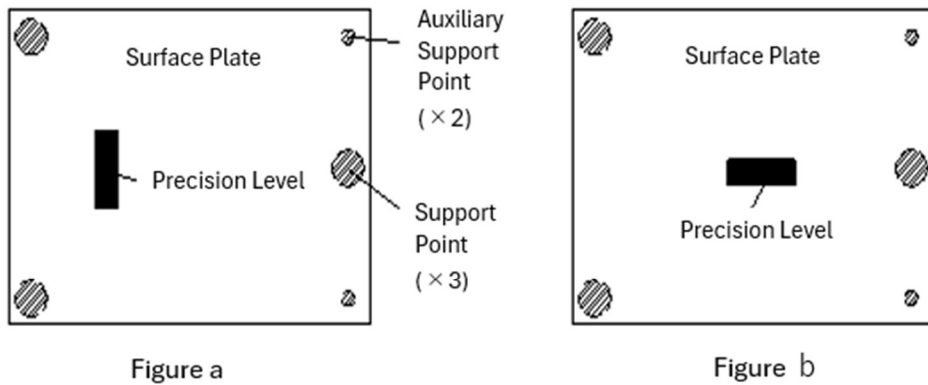
Level Adjustment Procedure Using Adjustment Bolts

- ① Loosen all locknuts, retract the adjustment bolts of the auxiliary support points, and set the plate on three-point support.
- ② Place the level at the center of the left support points as shown in Figure a, and turn the adjustment bolt to level the plate.
- ③ Place the level at the center of the instrument as shown in Figure b, and turn the adjustment bolt to level the plate.
- ④ Repeat steps 2 and 3 to adjust the level.

Note: Only the three adjustment bolts of the support points are used for level adjustment.

Note: Be careful not to let the auxiliary support points contact the floor during adjustment.

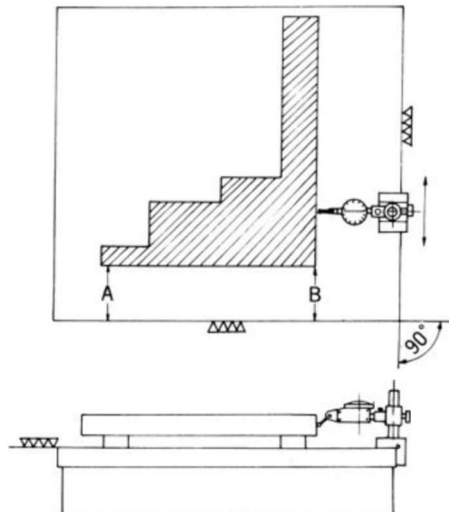
- ⑤ Hold the adjustment bolts to prevent them from turning, and tighten the locknuts.
- ⑥ Check again to ensure that the level has not shifted. Tightening the locknuts may cause a change in level.
- ⑦ After level adjustment, turn the adjustment bolts of the auxiliary support points by hand to prevent tipping.



Granite Precision Surface Plate

5. Instructions for Use

- ① Place the workpiece on the surface plate as shown in the figure below.
- ② Using a dial gauge stand, adjust the workpiece so that the dial gauge readings become zero at points A and B.
- ③ Then move the dial gauge stand to the other side and measure the squareness and straightness of the workpiece from the dial gauge readings.



6. 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 Install this instrument on a solid foundation in a stable location free from twisting or tilting.
- ⑥ Do not place this instrument in locations subject to vibration or other similar conditions.
- ⑦ Do not apply excessive load or impact to the surface plate.
- ⑧ Avoid using only a specific area of the surface plate. Use the entire surface evenly.
- ⑨ If there are scratches or damage, have the instrument repaired and inspected.
- ⑩ 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.
- ⑪ Check the accuracy regularly before using the product.
- ⑫ Do not leave workpieces or other items on the surface plate.
- △ ⑬ If the product has sharp edges, handle it carefully to avoid injuring your fingers or other parts of your body.
- ⑭ For heavy products, handle placement and other operations with two or more people, and take care to avoid injury.
- ⑮ 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.
- △ ⑯ Wear protective gloves and safety glasses as necessary to prevent injury while working.
- △ ⑰ Do not use this product if it is damaged or deteriorated, as it may cause injury or accidents.
- △ ⑱ If an injury occurs, give first aid immediately and seek medical attention if necessary.

Contact Information



JIS Certified Factory

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Head Office and 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).