

# Stand for Surface 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     |                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>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.</p> <p>The symbols and their meanings are as follows.</p> <ul style="list-style-type: none"> <li>● Please read the text after fully understanding the symbols and their meanings.</li> <li>● After reading, be sure to keep this manual in a place where anyone using the product can easily refer to it at any time.</li> <li>● All of these are safety-related instructions, so please be sure to follow them.</li> </ul> |                                                                                     |                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 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.<br>(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.<br>(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.<br>(The figure on the left is used for general mandatory actions or instructions without specifying details.)                               |

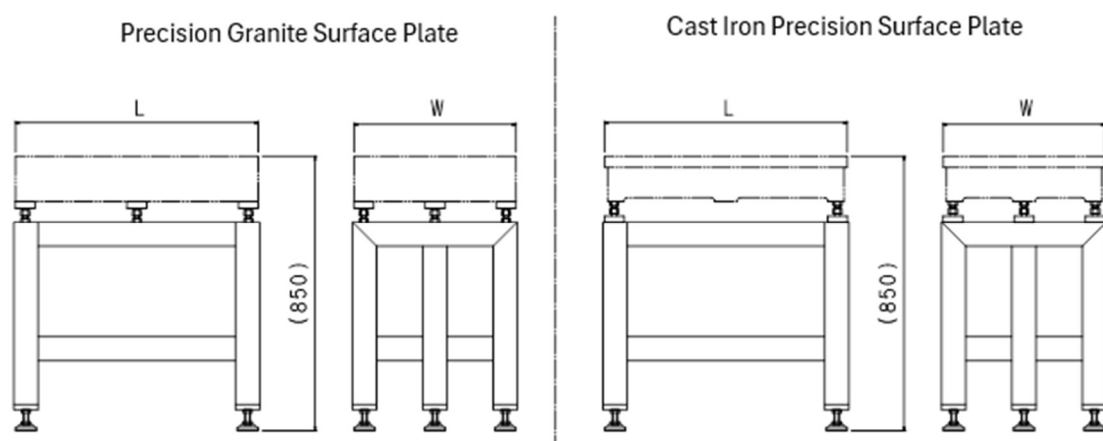
# Stand for Surface Plate Instruction Manual

## 1. Product Features

- This product is designed with square pipe material, emphasizing safety and ease of use.
- It has a rigid and stable structure to maintain the high precision of the surface plate over a long period of time.
- The standard height from the top surface of the surface plate to the floor is 850 mm, but custom dimensions can also be manufactured upon request.

Note: Special stands such as those with custom-size specifications or fall-prevention mechanisms can also be manufactured.

## 2. Names of Parts and External View



## 3. Specifications

### Granite Surface Plate Stand

| Surface Plate Size<br>(L×W mm) | Code No. | Square Pipe<br>(mm) | Number of Support Legs | Adjustment Screw<br>(mm) | Face Height<br>(mm) | Mass<br>(kg) |
|--------------------------------|----------|---------------------|------------------------|--------------------------|---------------------|--------------|
| 600×450                        | BL101    | 60×60               | 5                      | M 1 6                    | 850                 | 40           |
| 600×600                        | BL102    | 75×75               |                        |                          |                     | 45           |
| 750×500                        | BL103    |                     |                        |                          |                     | 55           |

|           |       |       |   |     |     |     |
|-----------|-------|-------|---|-----|-----|-----|
| 1000×750  | BL104 | 75×75 | 5 | M16 | 850 | 63  |
| 1000×1000 | BL105 |       |   |     |     | 75  |
| 1500×1000 | BL106 | 80×80 | 7 | M20 | 850 | 90  |
| 2000×1000 | BL107 |       |   |     |     | 110 |
| 2000×1500 | BL108 |       |   |     |     | 120 |
| 3000×1500 | BL109 |       |   |     |     | 155 |

#### Precision Surface Plate(Cast Iron)Stand

| Surface Plate Size<br>(L×W mm) | Code No. | Square Pipe<br>(mm) | Number of Support Legs | Adjustment Screw<br>(mm) | Face Height<br>(mm) | Mass<br>(kg) |
|--------------------------------|----------|---------------------|------------------------|--------------------------|---------------------|--------------|
| 600×450                        | BL301    | 60×60               | 5                      | M 1 6                    | 850                 | 40           |
| 600×600                        | BL302    |                     |                        |                          |                     | 45           |
| 750×500                        | BL303    | 75×75               |                        |                          |                     | 55           |
| 1000×750                       | BL304    |                     |                        |                          |                     | 63           |
| 1000×1000                      | BL305    |                     |                        |                          |                     | 75           |
| 1500×1000                      | BL306    | 80×80               | 7                      | 90                       |                     |              |
| 2000×1000                      | BL307    |                     |                        | 110                      |                     |              |
| 2000×1500                      | BL308    |                     |                        | 120                      |                     |              |
| 3000×1500                      | BL309    |                     |                        | 155                      |                     |              |

## 4. Installation

### 【Installation Location】

- A place with minimal temperature change and humidity.
- A place with little dust and vibration.
- A location with a solid foundation that will not deform or twist under the weight of the surface plate.

- ◎ When using the plate as a precision inspection surface plate, either construct a concrete installation base isolated from other areas and place the plate on it, or place the plate on a rigid and stable stand installed on a concrete floor that is isolated from other areas.

### **[Installation Method]**

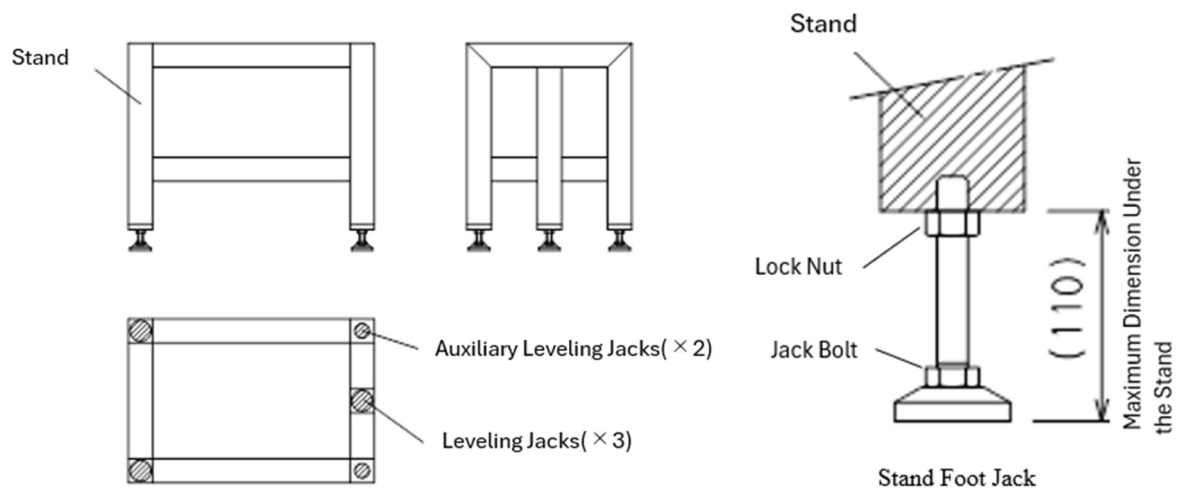
- Install the surface plate level on a flat and solid floor.
- The accuracy of the surface plate is maintained when it is supported at three points and kept level.
- Install the surface plate and stand with three-point support (two points on the left and one point on the right) as shown in the procedure below, and adjust the level accordingly.

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

### **[Step 1] Rough Leveling Procedure for the Stand**

- ① Loosen all lock nuts, retract the jack bolts of the auxiliary supporting points, and set the stand on three-point support.
- ② Place the level on the stand and turn the jack bolts to roughly adjust the level (strict accuracy is not required).
  - Adjust so that the bubble remains within the graduation range.
  - Check and adjust the level in both longitudinal and transverse directions.
  - Only the three supporting jack bolts are used for this leveling adjustment.
  - Ensure that the auxiliary supporting points do not contact the floor during adjustment.
- ③ While holding the jack bolts to prevent them from turning, tighten the lock nuts.
- ④ Check again to ensure that the stand remains level. Note that tightening the lock nuts may cause a slight shift in the level.
- ⑤ Turn the jack bolts of the auxiliary supporting points by hand until they approach the floor to prevent overturning.
- ⑥ Place the surface plate on the stand. Check the position of the adjustment bolts and install it carefully.

Note: Use sufficient safety measures and appropriate lifting equipment during installation. Refer to the instruction manual of the surface plate.



### [Step 2] Leveling Procedure for the Surface Plate

- ⑦ Loosen all lock nuts, retract the adjustment bolts of the auxiliary supporting points, and set the plate on three-point support.
- ⑧ As shown in Figure a, place the level at the center of the left supporting points and turn the adjustment bolts to level the plate.
- ⑨ As shown in Figure b, place the level at the center of the plate and turn the adjustment bolts to level it.
- ⑩ Repeat steps 8 and 9 until the plate is level.
  - Only the three adjustment bolts at the supporting points are used for this leveling adjustment.
  - Ensure that the auxiliary supporting points do not contact the floor during adjustment.
- ⑪ While holding the adjustment bolts to prevent them from turning, tighten the lock nuts.
- ⑫ Check again to ensure that the plate remains level. Note that tightening the lock nuts may cause a slight shift in the level.
- ⑬ After leveling, turn the adjustment bolts of the auxiliary supporting points by hand to prevent overturning.
- ⑭ Turn the jack bolts of the auxiliary supporting points of the stand by hand to prevent overturning.

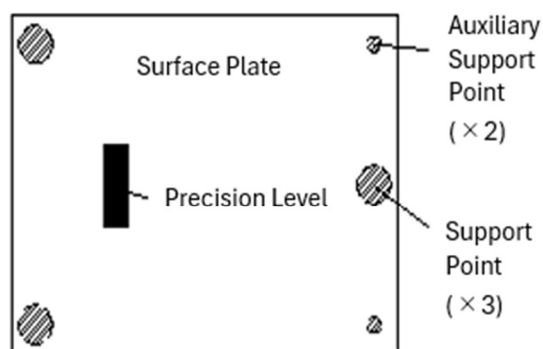


Figure a

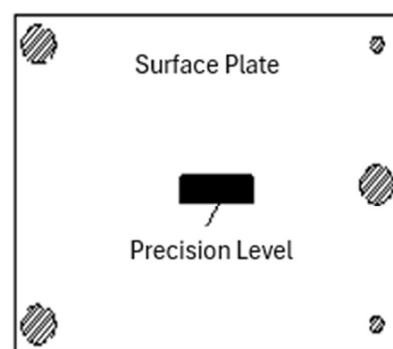
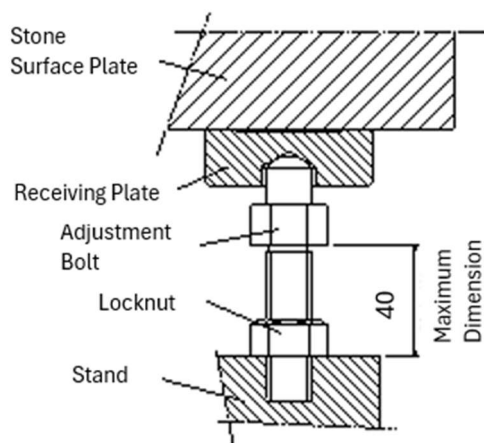
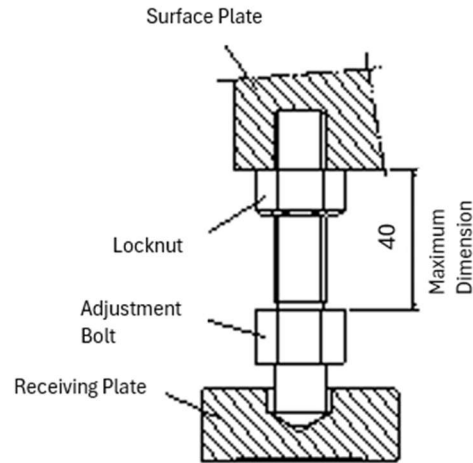


Figure b



Granite Precision Surface Plate



Cast Iron Precision Surface Plate

### 【Notes】

- **Leveling of the surface plate is an extremely important process that directly affects measurement accuracy. Always perform the work carefully and take sufficient time.**
- **After installation, regularly check the levelness and readjust as necessary.**

## 5. Precautions for Use

- ① Before use, clean the working surface.
- 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.
- △ ⑧ If the product has sharp edges, handle it carefully to avoid injuring your fingers or other parts of your body.
- ⑨ For heavy products, handle placement and other operations with two or more people, and take care to avoid injury.
- ⑩ 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.
- △ ⑪ Wear protective gloves and safety glasses as necessary to prevent injury while working.
- △ ⑫ Do not use this product if it is damaged or deteriorated, as it may cause injury or accidents.
- △ ⑬ If an injury occurs, give first aid immediately and seek medical attention if necessary.

## Contact Information



JIS Certified Factory

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**ISO9001 Certified (JQA-QMA11294)**

Head Office and Factory

ISO9001  
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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).