Precision Square plates

Cast Iron Master Angle

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.

<table>
<tr><th colspan="3">For Safe and Proper Use</th></tr>
<tr><td colspan="3">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.</td></tr>
<tr><td colspan="2">⚠ Danger</td><td>This indicates situations where incorrect handling could result in imminent risk of death or serious injury.</td></tr>
<tr><td colspan="2">⚠ Warning</td><td>This indicates situations where incorrect handling could potentially result in death or serious injury.</td></tr>
<tr><td colspan="2">⚠ Caution</td><td>This indicates situations where incorrect handling may result in injury to persons or only property damage.</td></tr>
<tr><td rowspan="3">Examples of symbols</td><td>  </td><td>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.)</td></tr>
<tr><td>  </td><td>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.)</td></tr>
<tr><td>  </td><td>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.)</td></tr>
</table>

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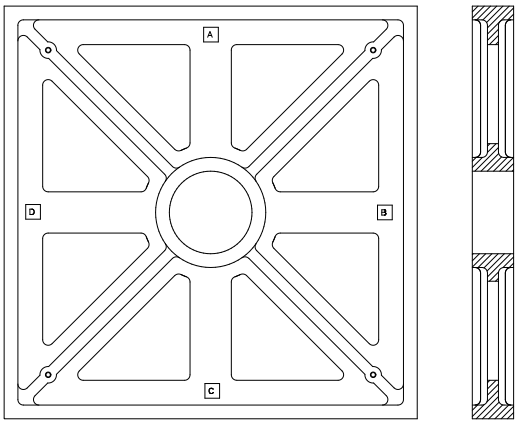
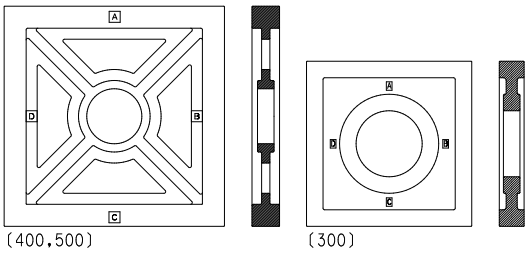
1. Product Features

- The parallelism and squareness of all four faces are maintained with high precision.
- It is manufactured to minimize the effects of aging and temperature changes.
- Its accuracy is maintained over a long period, making it ideal as a right-angle master.
- It is very useful for verifying the accuracy of precision machinery and similar equipment.
- The Precision Surface has a precision Lapped Finish.

2. External View



〔750,1000〕



〔400,500〕　〔300〕

3. Specifications

Code No.	Nominal	Size (L×H×W mm)	Squareness (μm)	Parallelism (μm)	Side surface and Use surface Squareness (μm)	Mass (kg)
GE101	300	300×300×45	3	3	10	19
GE102	400	400×400×50	4	4	13	36
GE103	500	500 ×500×55	5	5	15	44

GE104	750	750×750×75	7	7	20	95
GE105	1000	1000×1000×100	8	8	25	185

4. Operating Instructions for Using the Master Angle in Horizontal and Vertical Positions

【When used in the horizontal position】

① Take it out of the storage case horizontally.

Note: When hanging, use the hanging hole or lightening hole and secure it with a nylon sleeve or similar.

Note: To prevent direct contact of the hanging equipment with the Precision Surface, use a protective cloth as needed

② Thoroughly clean any dirt from the Precision Surface, contact surfaces, and installation surfaces such as the Reference Surface Plate or machine base where the instrument will be placed.

③ Slowly place the instrument on the Reference Surface Plate or machine base.

【When using in a vertical position】

Note: When using lifting gear, use the bolt holes or lightening holes, and secure it with nylon sleeves or similar.

Note: To prevent the lifting gear from coming into direct contact with the Precision Surface, use a protective cloth if necessary.

① For temporary placement, prepare two wooden (or similar) bars and place them in parallel on a wide area.（A length approximately 1.5 times that of the instrument is required.）

② Remove the instrument horizontally from the storage case.

③ Slowly lower the instrument onto the wooden bars prepared in Step 1 to make a temporary placement. When placing it temporarily, position it toward one side of the bars (e.g., the right side as shown in the figure) to facilitate the next operation.

Note: Place a protective cloth between the Precision Surface and the wooden bars to prevent any scratches or damage.

④ Slowly lift the right side of the instrument (the side placed against the bars) and bring the instrument to an upright position.

Note: The balance will be unstable, so operate carefully and take care to prevent the instrument from tipping or falling.

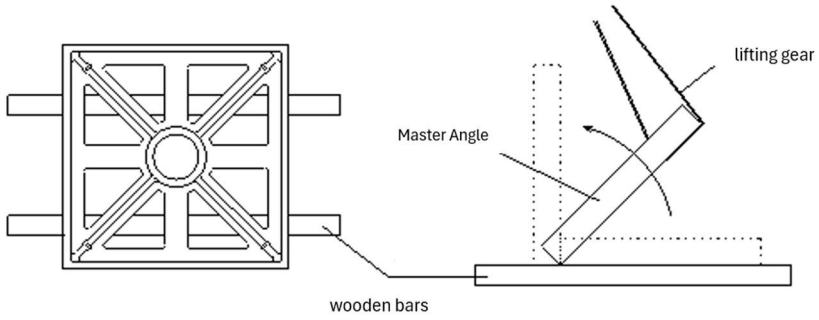
Note: When using a lifting device, attach it to the right side (the side placed against the bars) and operate carefully.

⑤ Thoroughly clean the Precision Surface, the contact surfaces, and the surfaces of the Reference

Surface Plate or machine base where the instrument will be placed.

⑥ Carefully place the instrument onto the Reference Surface Plate or machine base.

⑦ After measurement, store the instrument by following the reverse of the above procedure.



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 Do not concentrate usage on a single Precision Surface. Use all four faces evenly.

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 instrument for abnormalities before use in the following cases:

・When the instrument has been dropped.

・When an object has been dropped onto the instrument.

⑨ Check the accuracy regularly before using the product.

⑩ For heavy products, handle placement and other operations with two or more people, and take care to avoid injury.

⑪ 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.

△ ⑫ If the product has sharp edges, handle it carefully to avoid injuring your fingers or other parts of your body.

△ ⑬ Wear protective gloves and safety glasses as necessary to prevent injury while working.

△ ⑭ Do not use this product if it is damaged or deteriorated, as it may cause injury or accidents.

△ ⑮ If an injury occurs, give first aid immediately and seek medical attention if necessary.

Contact Information

JIS Certified Factory

OBISHI KEIKI SEISAKUSHO Co., Ltd.

Head Office: 1-1216-1 Nanyo, Nagaoka City, Niigata 940-1164

TEL: (0258)22-1100　FAX: (0258)22-0014

Tokyo Office: 3-5, Kanda Surugadai, Chiyoda-ku, Tokyo 101-0062

TEL: (03)3293-8881　FAX: (03)3293-8884

Nagoya Office: 2F Nichiju Bldg., 3-15 Oimachi, Naka-ku, Nagoya City, Aichi 460-0015

TEL: (052)322-4031　FAX: (052)322-5647

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Head Office and Factory

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).