

Precision Level

Inclination Level 882A

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.



[90°]



[45°]

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.

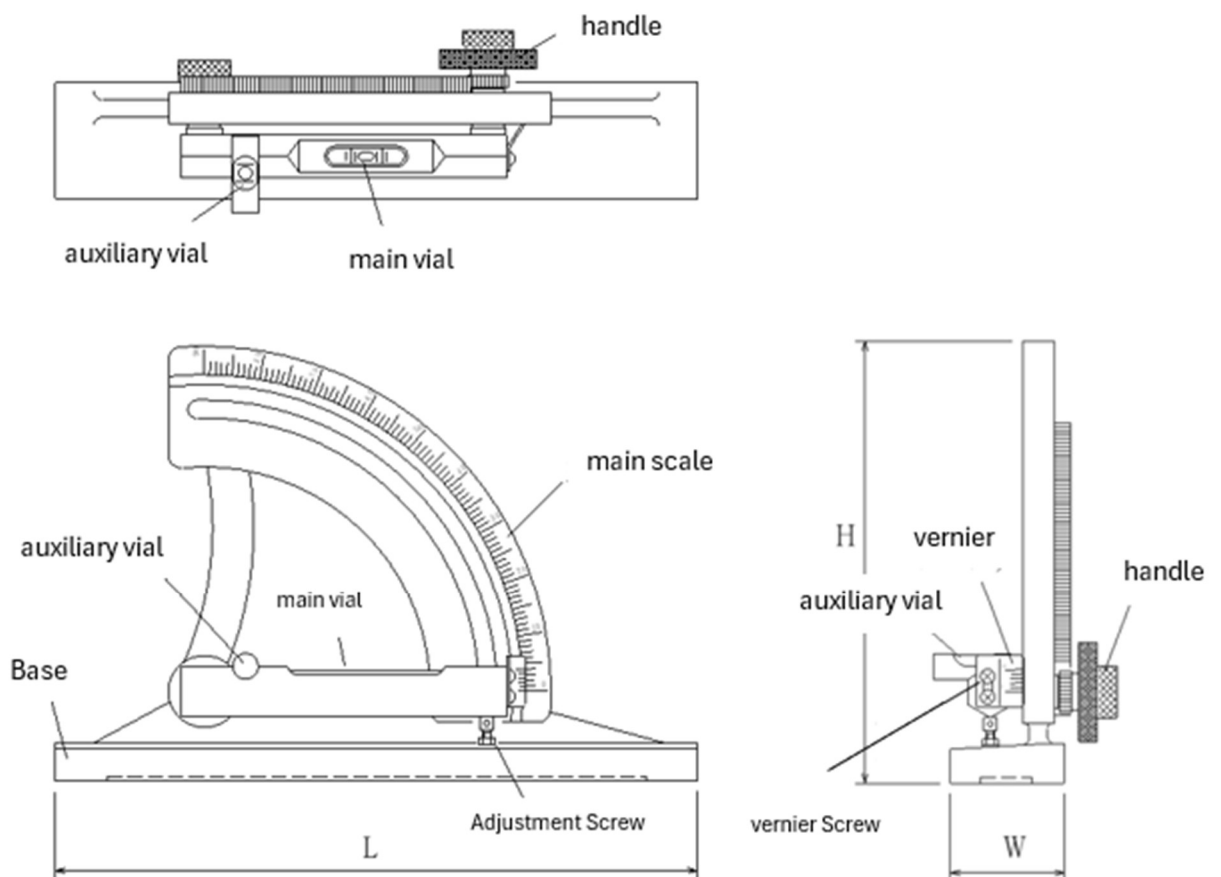
For Safe and Proper Use		
This instruction manual includes various symbols and pictograms throughout the text to ensure correct use of the product and to prevent harm or damage to the user. The symbols and their meanings are as follows. ● Please read the text after fully understanding the symbols and 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 level is designed for measuring inclination.
- When the bubble is aligned with the center of the graduation line, the angle can be read from the degree scale on the body and the vernier scale.
- For accurate measurements, the instrument is equipped with an auxiliary vial.

2. Names of Parts and External View



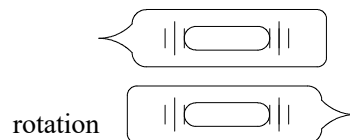
3. Specifications

Code No.	Model	Size (L × W × H mm)	Measurement Range (degrees)	Minimum Reading (minutes)	Mass (kg)
AK101	45°	250 × 44 × 140	45	12	2.7
AK102	90°	250 × 44 × 170	90	12	3.0

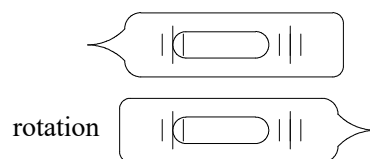
4. Preparation before Use and Periodic Accuracy Check

- (1) Place the instrument on the reference surface plate and make sure that the base of the main vial is firmly in contact with the reference screw.
- (2) Check that the “0” lines of the main scale and the vernier coincide and that the bubble is centered.
- (3) At the same location, turn the level 180 degrees and check the bubble position again.
- (4) If the bubble is centered, the instrument is level at zero degrees.

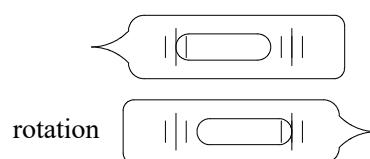
【When both the level and the reference surface plate are horizontal】・・・Usable



【When the level is horizontal but the reference surface plate is not horizontal】・・・Usable



【When the level is not horizontal】・・・stop using the instrument



The bubble moves equally to the left and right, offset by the same number of graduations from the reference.

The bubble moves irregularly to the left and right.

Caution: If the “0” lines of the main scale and the vernier do not coincide in step (2), loosen the vernier screw, align the vernier with the “0” line of the main scale, and then tighten the vernier screw.

Adjust so that the vernier does not contact the main scale.

Note: If the bubble movement is unstable, the instrument requires repair. Please contact us.

5. Instructions for Us

① Before measurement, place the instrument on the reference surface plate and make sure that the bubble is centered on the scale.

② After carefully wiping both the workpiece and the base surface of the instrument, place the instrument on the measuring surface of the workpiece.

③ Turn the handle to align the bubble in the main vial with the center of the scale.

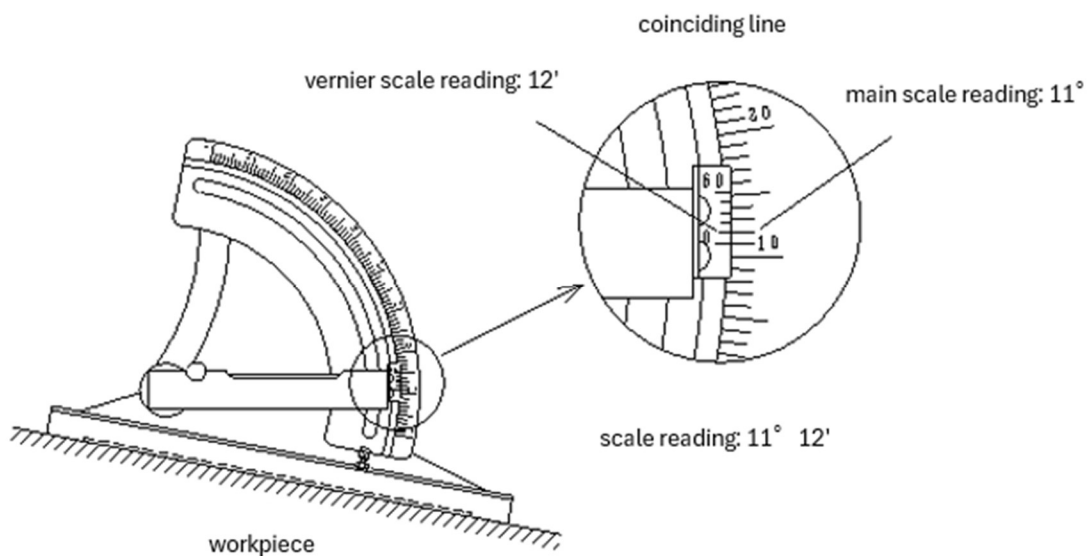
At the same time, make sure the bubble in the auxiliary vial is also centered.

Note: If the bubbles are not centered, accurate measurements may not be obtained.

④ Measure the inclination angle of the workpiece using the values from the main scale and the vernier scale.

Measurement Example:

Place the instrument on the workpiece and, with the bubble centered in the vial, read the scale line that coincides.



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 When moving the instrument on the workpiece, avoid lifting it unnecessarily and move it by sliding.
- ⑤ Since the bubble in this instrument moves slowly, always take the reading only after the bubble has come to a complete stop.
- △ ⑥ Do not use or store the instrument in locations subject to drastic temperature changes.
Storing or leaving the instrument in environments below -15°C or above $+40^{\circ}\text{C}$ may cause damage to the vial, such as breakage.
- ⑦ After use, always apply rust prevention treatment and store the instrument in its storage case.
- ⑧ Accurate measurement cannot be performed if there is rust, burrs, or scratches on the working surface, so handle with care.
Before use, remove minor scratches on the working surface locally with an Arkansas stone or similar tool.
- ⑨ When any of the following occurs, check the sensitivity of the instrument before use:
 - If the instrument has been dropped.
 - If an object has been dropped onto the instrument.
- ⑩ Check the accuracy regularly before using the product.
- △ ⑪ If the product has sharp edges, handle it carefully to avoid injuring your fingers or other parts of your body.
- △ ⑫ Wear protective gloves and safety glasses as necessary to prevent injury while working.
- △ ⑬ Do not use this product if it is damaged or deteriorated, as it may cause injury or accidents.
- △ ⑭ 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

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).