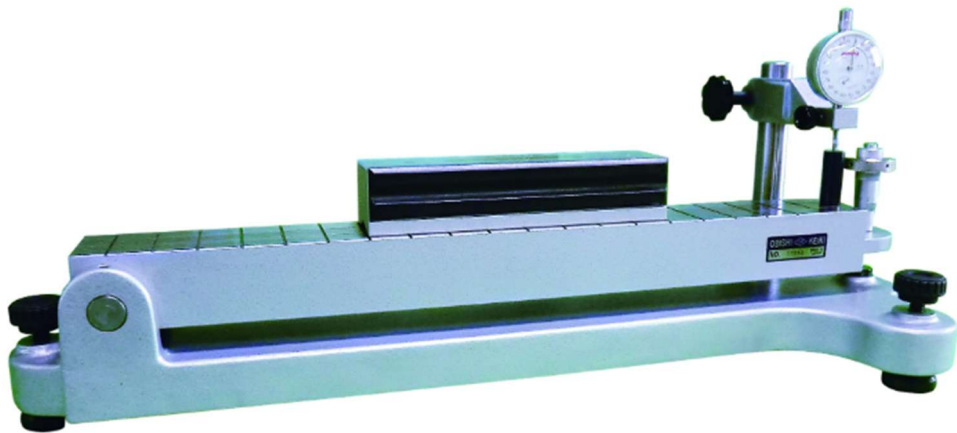


Precision Level Level Tester

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.)

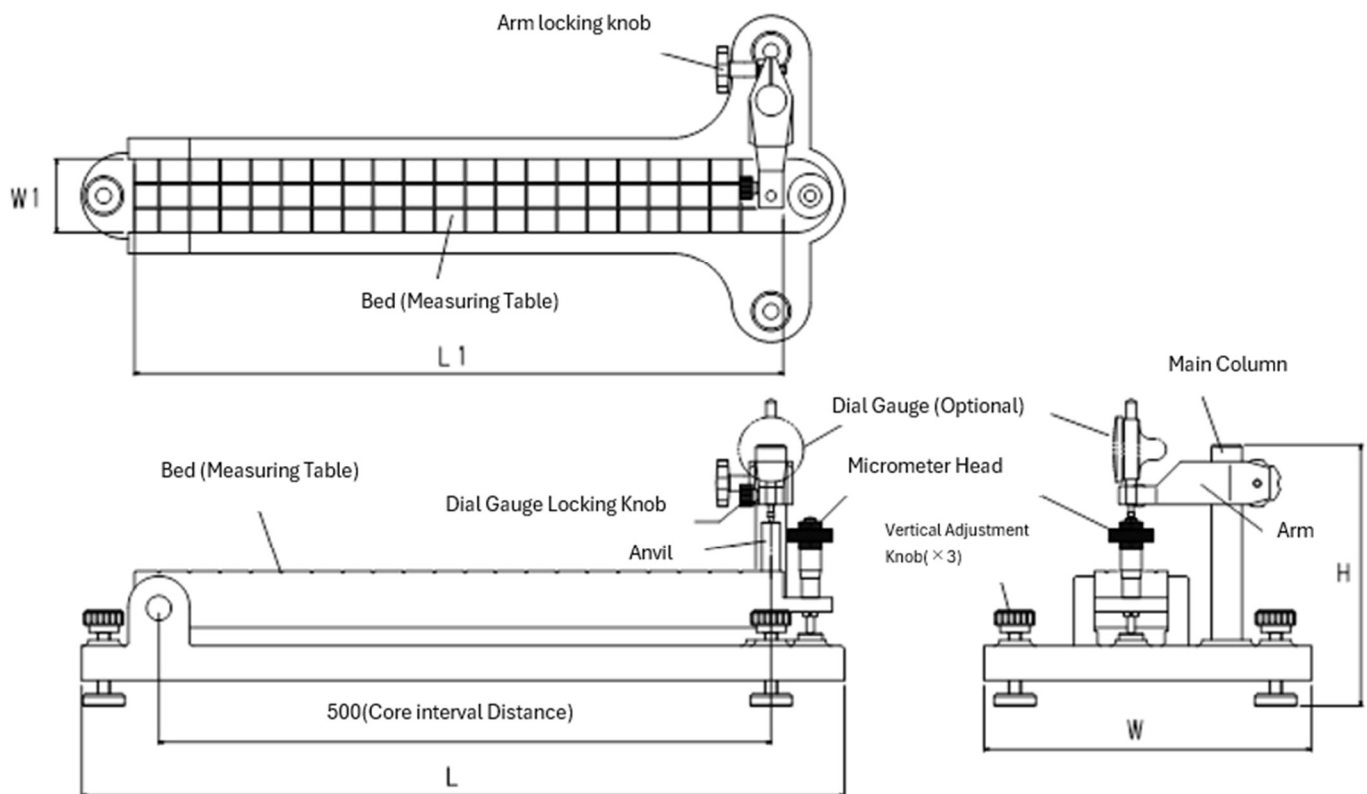
Level Tester Instruction Manual

1. Product Features

- It is very useful for checking the sensitivity of levels, and for inspection and verification of horizontality.
- The center-to-center distance of this instrument is 500 mm. Since the sensitivity of levels is usually expressed per 1 m, the sensitivity of the level is obtained by multiplying the dial gauge reading by 2.

※Note: The level and dial gauge are not included.

2. Names of Parts and External View

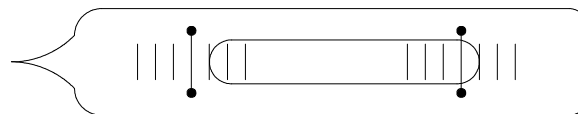


3. Specifications

Code No.	Nominal	Size (L×W×H mm)	Table Size (L1×W1 mm)	Core interval Distance (mm)	flatness (μ m)	Mass (kg)
AZ101	500	623×267×(214)	530×60	500	10	20

4. Instructions for Use

- ① Place this instrument on the surface plate or an equivalent reference surface.
- ② Select a location with minimal temperature variation, dust, and vibration.
- ③ Attach the dial gauge to the arm.
- ④ Loosen the arm locking knob and adjust the dial gauge mounted on the arm so that the contact point is aligned with the center of the anvil. Then tighten the locking knob.
(Note: Align with the center along the length of the anvil. When loosening the locking knob, always hold the arm by hand to prevent it from dropping.)
- ⑤ When placing the level on the bed surface, wipe both the bed surface and the level clean to ensure they are free from foreign matter.
- ⑥ Align the bubble of the level with the measuring position (one of the reference lines on the left or right).
- ⑦ Set the dial gauge scale to zero.
- ⑧ Using the micrometer head, move the bubble of the level according to its sensitivity and measure the sensitivity (see figure below).



When the bubble is moved one graduation to the right

- ⑨ When the bubble of a vial with a sensitivity of 0.02 mm/m is moved one graduation to the right as shown above, and the dial gauge reading is 0.01 mm, the sensitivity of this vial can be confirmed to be 0.02 mm/m according to the following formula.

$$\begin{array}{c}
 \text{Sensitivity} = \underset{\substack{\text{dial gauge reading}}}{0.01} \times \frac{\overset{1\text{m}}{1000}}{\underset{\substack{\text{Core interval distance of the Level Tester}}}{500}} = 0.02 \text{ (mm/m)}
 \end{array}$$

- ⑩ As mentioned above, the core interval distance of the Level Tester is 500 mm. Therefore, the sensitivity of the vial is obtained by multiplying the dial gauge reading by 2.
- ⑪ Similarly, measure the sensitivity by moving the Level Tester up and down while observing the dial gauge graduations.

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 Since the bubble in this instrument moves slowly, always take the reading only after the bubble has come to a complete stop.
- ⑤ When held by hand for an extended period, a level with a sensitivity of 0.02 mm/m may exhibit zero-point drift due to temperature changes from hand contact.
- ⑥ After use, always apply rust prevention treatment and store the instrument in its storage case.
- 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 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.
- ⑨ Check the accuracy regularly before using the product.
- △ ⑩ If the product has sharp edges, handle it carefully to avoid injuring your fingers or other parts of your body.
- △ 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

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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).