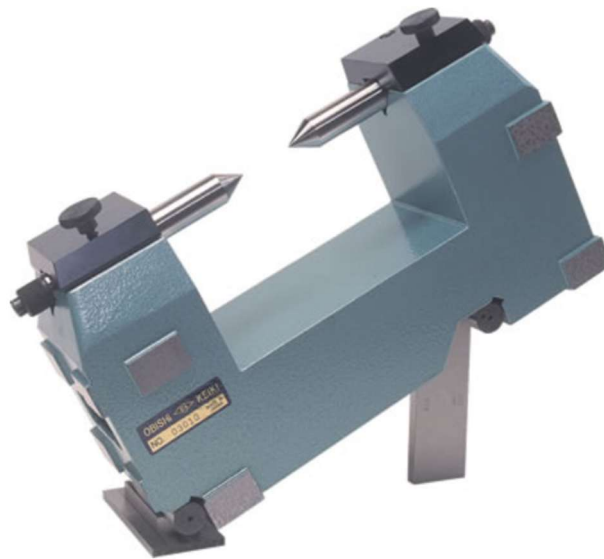


Deflection Tester

Universal Bench Centers

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.)

Universal Bench Centers Instruction Manual

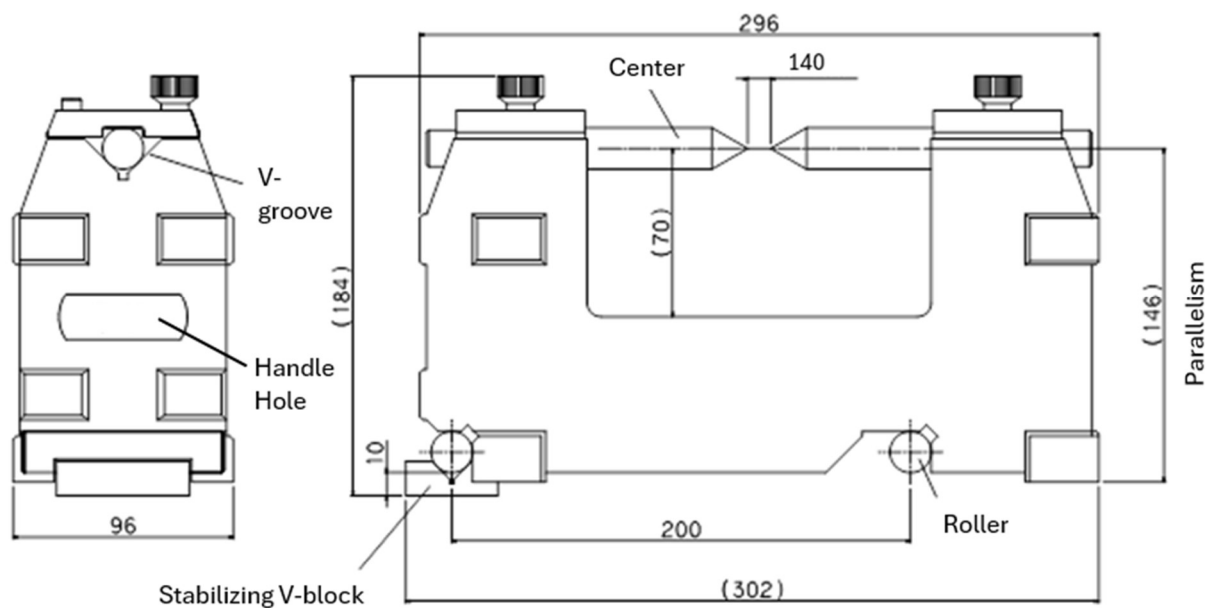
1. Product Features

- This is a general-purpose device for eccentricity measurement.
- It is compact and highly accurate.
- The positional accuracy between the center axis and the bottom surface, side surfaces, and end surface is ensured.
- A sine bar system is adopted, enabling measurement of tapered shapes.
- The centers are of a combined male/female type.
- The centers are of a straight type, and the center support section is a V-groove type.
- By removing the centers, measurement using the V-groove is also possible.

Note on accessories:

- A stabilizing V-block for angle measurement is included.
- Gauge blocks and a test bar are not included. Please prepare them separately.

2. Names of Parts and External View



3. Specification

Code No.	Model	Length (L mm)	Center Distance (mm)	Center Height (mm)	Roller Pitch (mm)	Height Parallelism (μ m)	Mass (kg)
SMV101	MV-1	302	140	(70)	200 ± 0.003	3	11

4. Instructions for Use

Workpiece Measurement

- ① Set this instrument on a reference surface plate or equivalent.
- ② Mount the workpiece on the instrument.
- ③ Place the stand with the dial gauge on the reference surface plate or equivalent.
- ④ Lightly touch the stylus of the dial gauge to the highest point of the workpiece.
- ⑤ Rotate the workpiece and record the deflection of the needle.

Measuring Tapered Workpieces

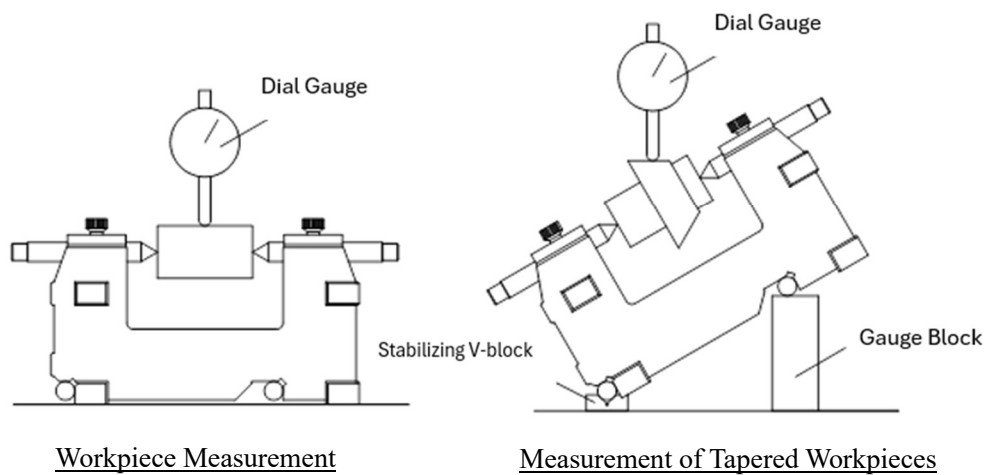
- ① Prepare gauge blocks that match the taper angle of the workpiece.
- ② Wipe this instrument and the workpiece clean, place the stabilizing V-block on the reference surface plate or equivalent, and set this instrument on it.
- ③ Mount the workpiece on the instrument.
- ④ Lift the instrument, place the prepared gauge blocks under the rollers, and gently lower the rollers onto the gauge blocks.

Caution: Strong impact to the rollers may damage them and prevent accurate measurement. Also, the gauge blocks may fall over and cause injury, so handle with care.

- ⑤ Slide the stand on the reference surface plate or equivalent, and lightly touch the stylus of the dial gauge to the highest point of the workpiece.
- ⑥ Rotate the workpiece and record the deflection of the needle.
- ⑦ After measurement, lift the instrument and remove the gauge blocks.
- ⑧ Remove the workpiece.

Note: Always place the gauge blocks at the center of the rollers.

Note: If not placed at the center, the instrument may tilt and fall over.



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 Do not apply excessive load or impact to the centers.
- ⑥ Check that the center holes of the workpiece are properly engaged with the centers of this instrument.
If they are not properly engaged, the workpiece may fall when released.
- ⑦ When removing the workpiece, firmly support it with your hand or an equivalent fixture while removing it.
- ⑧ Do not place this instrument in locations subject to vibration or other similar conditions.
- ⑨ After use, always perform rust prevention treatment on the instrument.
- 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 Use the instrument only after regularly checking for any abnormalities.
- △ 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

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Head Office and Factory

ISO9001
JQA-QMA11294

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).