Measuring Instruments

Roll Caliper

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>
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Roll Caliper Instruction Manual

1. Product Features

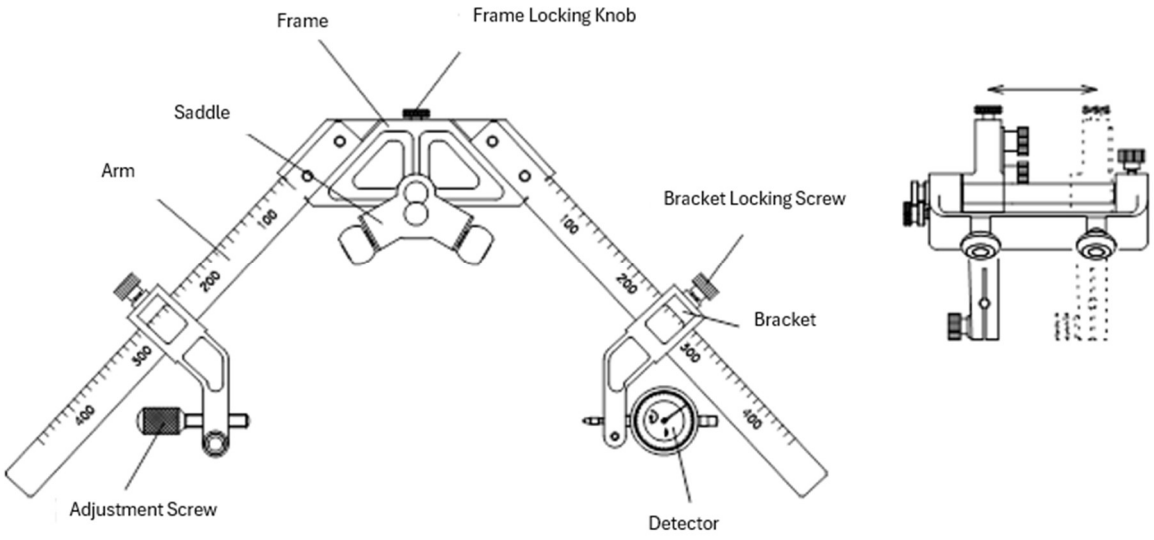
- Rolls used in the rolling and manufacturing of metals, paper, rubber, and other materials have sections of different diameters, such as crowns, bell mouths, and tapers, and these require strict accuracy.

  The roll caliper is an optimal comparative measuring instrument for inspecting rolls with varying diameters, such as rolling rolls. It allows continuous, accurate, and easy determination of diameter variations of roll-shaped workpieces.
- The body is made of light alloy, providing a lightweight structure (the frame section is made of cast iron).
- The four traveling rollers, equipped with bearings and finished with precision grinding, move smoothly and lightly over the roll.
- Special interval graduations are engraved on the arm, enabling the dial gauge to be easily set to the center of the roll by simply aligning the bracket with the workpiece dimensions.

  Note: A dial gauge with 0.01 mm graduations is included as standard.

  Note: Supplied with a dedicated storage box (the body is of a disassembly storage type).

2. Names of Parts and External View



3. Specifications

Code No.	Model	Measurement Range (Roll diameter)	Mass(kg)
DA101	810-1	100～450	4.3
DA102	810-2	200～600	10
DA103	810-3	270～800	13
DA104	810-4	400～1050	26
DA105	810-5	450～1400	34
DA106	810-6	700～1600	38
DA107	810-7	1200～1900	60
DA108	810-8	1400～2000	61

4. Instructions for Use

【4. 1Assembly Procedure】

Before assembly, remove each part of the roll caliper from the storage box and wipe off any oil or grease thoroughly.

(1) Assembly of the Frame and Arms (Figure 1)

Attach the two arms, each equipped with a bracket, to the frame using two arm locking screws per arm.

Make sure that the arms are correctly seated against the frame during installation.

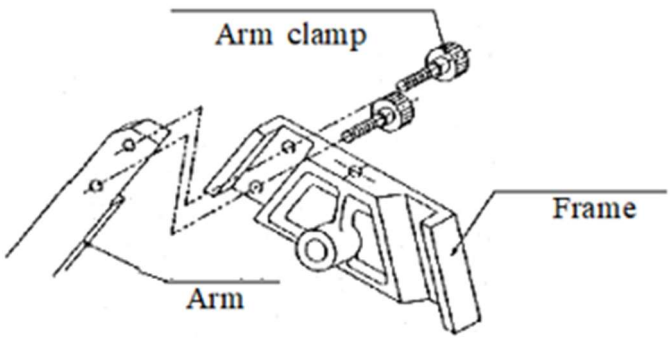


Fig.1 Frame and Arm assembly

(2) Assembly of the Saddle and Frame (Figure 2)

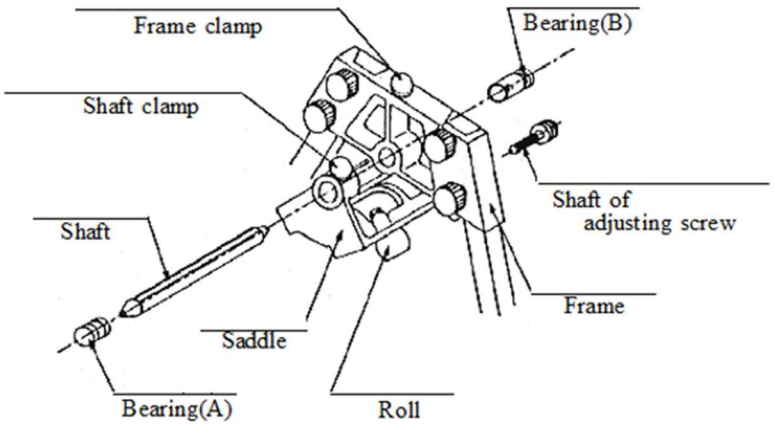


Figure2 Installation of frame to saddle

① Loosen the shaft clamp and remove the shaft.

② With the frame clamp sufficiently loosened, insert the frame between the saddles as shown in Figure 2. Then reinsert the shaft and tighten it with the shaft clamp.

③ Adjust the position of the frame and tighten the frame clamp.

When measurement is to be made near the end face of the roll, fix the frame in advance at a position close to the end of the saddle.

【4.2 Measurement】

① Bracket Positioning

Slide the bracket until its pointer indicates the diameter of the roll to be measured, and fix it with the bracket locking screw.

② Placement on the Roll to Be Measured

Loosen the adjustment screw sufficiently and gently place the roll caliper on the roll.

③ Positioning with the Adjustment Screw

Adjust the position with the adjustment screw so that the gaps between the roll and the brackets on both sides are equal.

④ Attachment of the Detector

Attach the detector to the bracket and fix it so that the pointer indicates approximately zero.

⑤ Zero Setting of the Detector

Move the roll caliper to the starting point on the roll and set the zero of the detector using the adjustment screw.

Note: The roll caliper moves very lightly on the roll. Be sure to check the horizontal condition of the roll before placing the roll caliper.

⑥ While lightly pushing the saddle end by hand, move the roll caliper along the roll and measure the variation in the roll diameter.

Note: Pre-selecting the measuring points on the roll allows for efficient measurement work.

Note: Loose clamps affect accuracy. Always tighten them before measurement.

Note: To minimize measurement error, always move the roll caliper in a constant direction along the roll during measurement.

5. Precautions for Use

● ① Handle the instrument carefully during use and storage to avoid impact or shock.

② Allow the instrument to acclimate to the ambient temperature before use.

③ Do not use or store the instrument in places with drastic temperature changes.

④ Be careful not to apply excessive load or impact.

⑤ Do not place this instrument in locations subject to vibration or other similar conditions.

● ⑥ After use, always apply rust prevention treatment and store the instrument in its storage case.

⑦ 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.

⑧ Check the accuracy regularly before using the product.

⑨ 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.

△ 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).