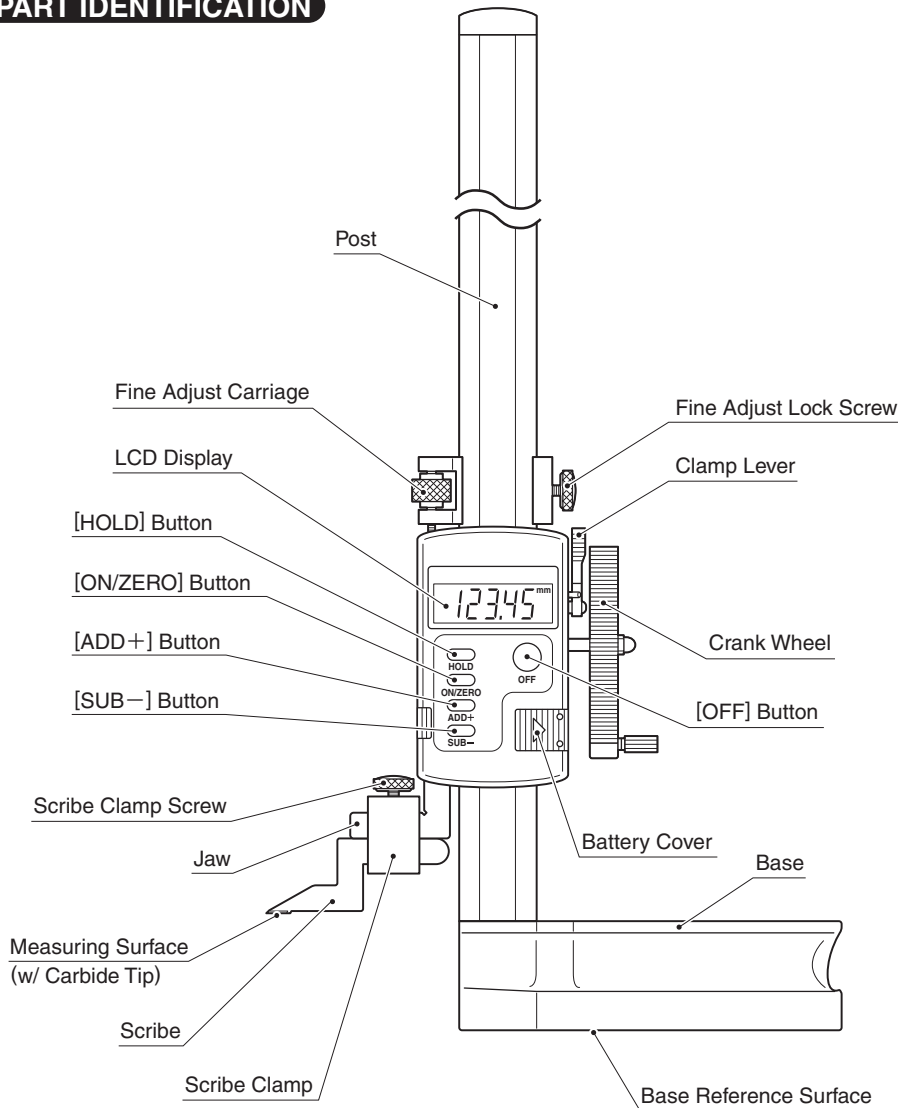
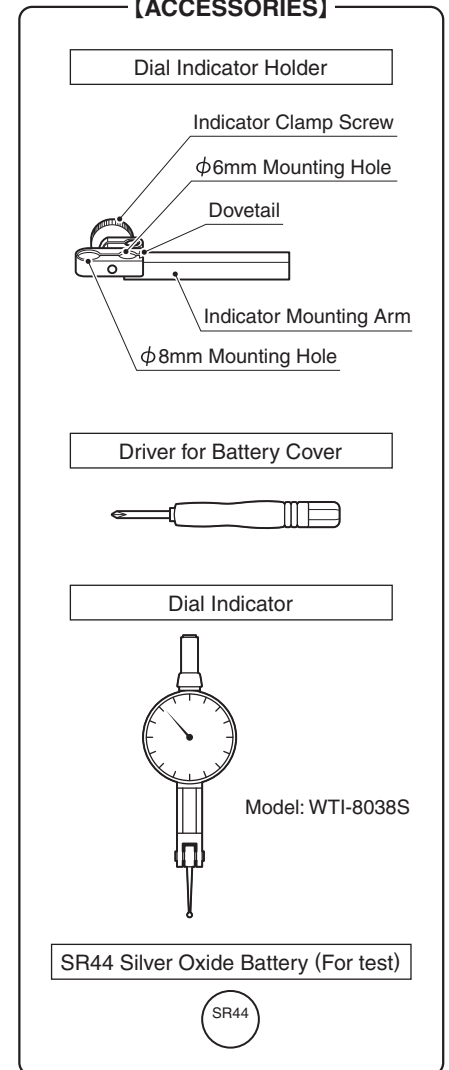


Thank you for purchasing the Digital Height Gauge.
Please read this manual thoroughly before use for proper operation.

PART IDENTIFICATION



[ACCESSORIES]



APPLICATIONS and FEATURES

- Smooth operation of slide carriage using crank wheel.
- Ideal for measuring and marking work for molds, jigs, and tooling.
- Accessory arm for mounting φ8mm or φ6mm dial indicator.
- Easy to ready digital display.
- Origin can be set at any position.
- Preset function.
- HOLD function.

NOTES

- Before using for the first time, please wipe off the corrosion protectant with an oiled cloth.
- This is a precision instrument, handle with care. Do not drop or subject to excessive forces.
- Please avoid damage to post. Do not scratch instrument, for example by writing ID number.
- Keep away from direct sunlight. Do not store instrument in extreme temperatures.
- When measuring using a dial indicator in place of scribe, values for instrument error will vary from listed specifications.

How to Use Each Button

1 [ON/ZERO] Button

- When power is OFF, press once to turn ON.
- When power is ON, press once to set display to "0.00mm".

2 [OFF] Button

Press to turn OFF power.

3 [ADD+] , [SUB-] Buttons

Allows operator to change display reading to any value. Press [ADD+] to increase value by 0.01mm, or [SUB-] to decrease by 0.01mm. Press and hold to quickly increase or decrease value.

Any number can be preset into instrument for a position using these buttons.

4 [HOLD] Button

Press to freeze (hold) the reading, and the LCD will display the "HOLD" icon.

SPECIFICATIONS

Digital Height Gauge

- Max Measuring Height : VHS-30D...300mm
VHS-60D...600mm
- Resolution : 0.01mm
- Instrument Error : VHS-30D... ± 0.04 mm
VHS-60D... ± 0.05 mm

※Instrument error will vary when used with dial indicator;
Please refer to section: **"Instrument Error When Using Accessory Dial Indicator (WTI-8038S)"**

- Fine Adjustment Range : 10mm
- Display : 5 Digit LCD
- Approx. Weight : VHS-30D...6.4kg
VHS-60D...7.5kg
- Power Supply : SR44 Silver Oxide Battery
- Included Accessories : Dial Indicator (WTI-8038S)
Dial Indicator Holder
SR44 Silver Oxide Battery (For test)
Driver for Battery Cover

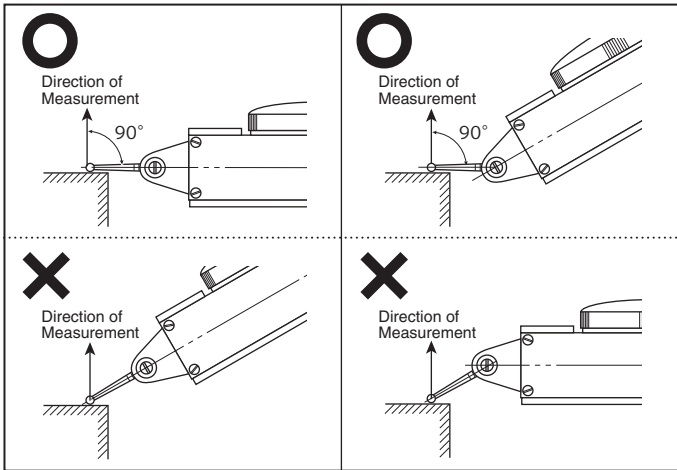
Dial Indicator WTI-8038S (Accessory)

- Measurement Range : 0—0.8mm
- Graduation : 0.01mm
- Scale Type : 0—40—0
- Wide Range Error : 0.013mm
- Retrace Error : 0.003mm
- Repeatability : 0.003mm
- Adjacent Error : 0.01mm
- Measurement Force : Less than 0.5N

PLEASE NOTE

- When using the Dial Indicator, make sure measuring element (Stylus) is perpendicular to the direction of measurement. If held at an angle, measurement will not be accurate.
- When measuring using a Dial Indicator in place of the Scribe, specified values for instrument error (※) may not be achieved.

※VHS-30D : ± 0.04 mm、VHS-60D : ± 0.05 m



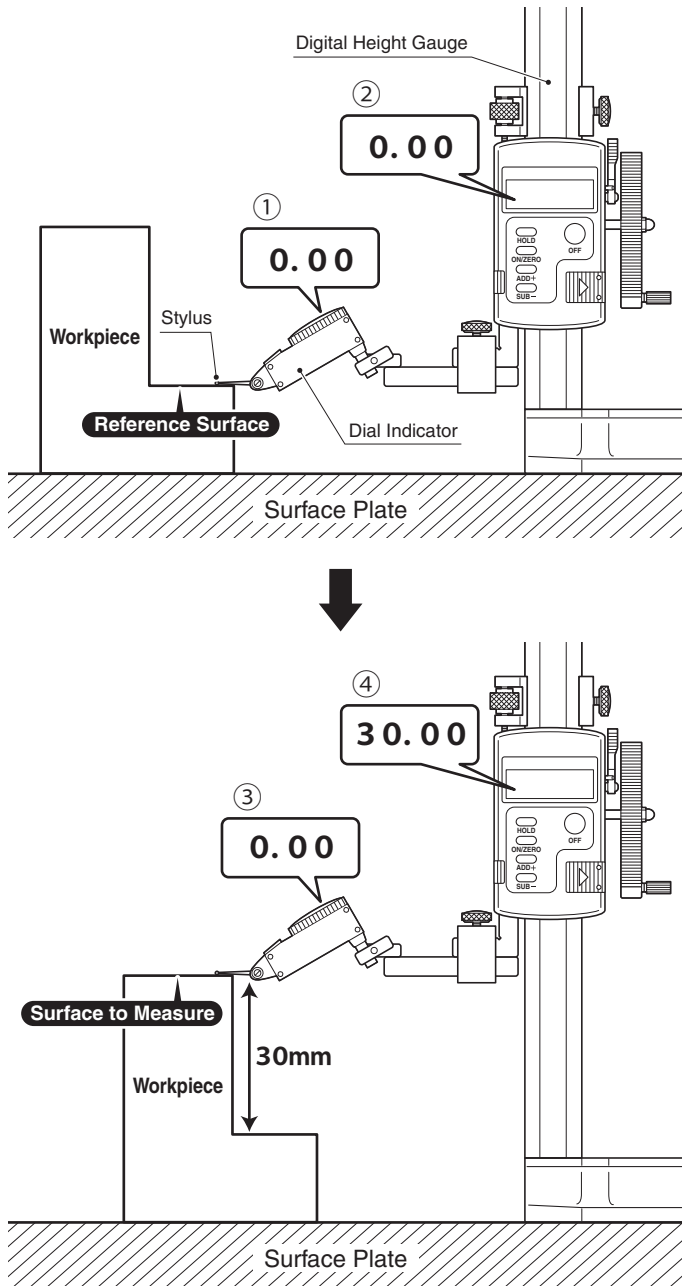
INSTRUMENT ERROR WHEN USING ACCESSORY DIAL INDICATOR (WTI-8038S)

1 Example using dial indicator with measurement read off the Height Gauge LCD display.

To measure the height from reference surface:

- ① Place the Indicator Stylus on the reference surface, and set the Indicator to 0.00mm.
- ② Set the Height Gauge reading to 0.00mm. This is the reference position.
- ③ Measuring Height.
Reposition the Dial Indicator Stylus to the surface to be measured, and adjust the Height Gauge so that the Dial Indicator reading is 0.00mm.
- ④ The LCD display of the Height Gauge now shows the height relative to the reference surface.

For this method, the total error is the sum of the Height Gauge Instrument Error (VHS-30D : ± 0.04 mm, VHS-60D : ± 0.05 mm) + Dial Indicator repeatability (0.003mm)



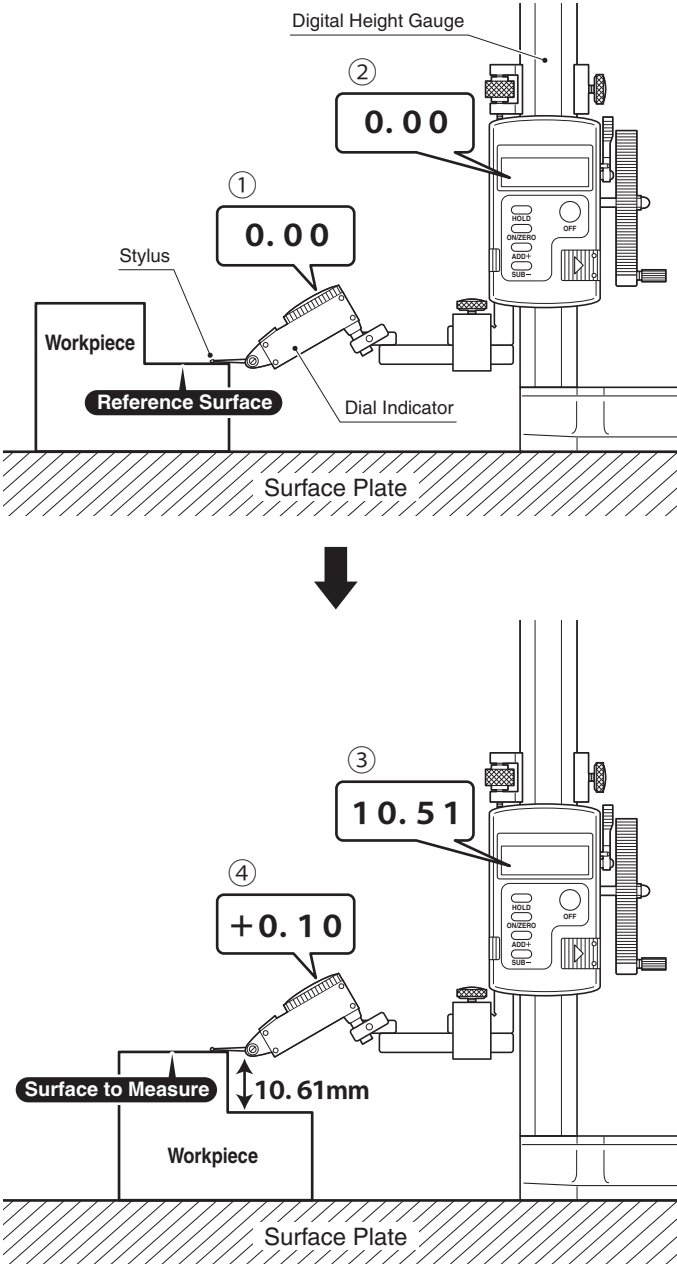
2 Example with measurement read off the Dial Indicator and LCD display of the Height Gauge.

To measure the height from reference surface:

- ① Place the Indicator Stylus on the reference surface, and set the Indicator to 0.00mm.
- ② Set the Height Gauge reading to 0.00mm. This is the reference position.
- ③ Measuring Height.
Reposition the Dial Indicator Stylus to the surface to be measured, and read the LCD display of the Height Gauge. This value is 10.51mm
- ④ Read the scale of the Dial Indicator. This value is +0.10mm
- ⑤ The height relative to the reference surface is the sum, 10.51 + 0.10 = 10.61mm

⚠ **NOTE:** Make sure the sign (+, -) of the measurement from the Dial Indicator is same as sign for the Height Gauge.

For this method, the total error is the sum of the Height Gauge Instrument Error (VHS-30D: ± 0.04 mm, VHS-60D: ± 0.05 mm) + Dial Indicator Wide Range Error (0.013mm)



PREPARATION BEFORE USE

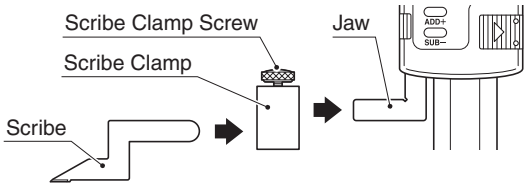
1 Inserting the Battery

1. Using the provided driver, remove the Battery Cover Screws.
2. Open the Battery cover by sliding in the direction of the arrow (▶).
3. Insert the Battery with (+) side facing outward.
4. Return the Battery Cover to its original position.
5. Replace the Battery Cover Screws to secure the cover.

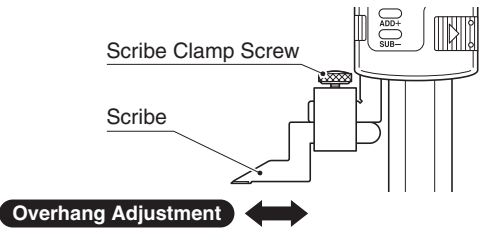
⚠ **NOTE:** Only use SR44 Silver Oxide Battery.

2 Installing the Scribe

1. Loosen the Scribe Clamp Screw and insert onto Jaw.



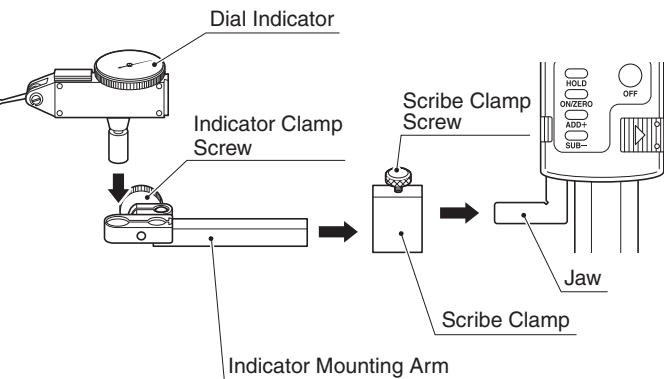
2. Insert the Scribe to desired overhang and secure by tightening the Scribe Clamp Screw.



3 Dial Indicator Holder

The Dial Indicator Holder is used to mount the accessory dial indicator in place of the Scribe.

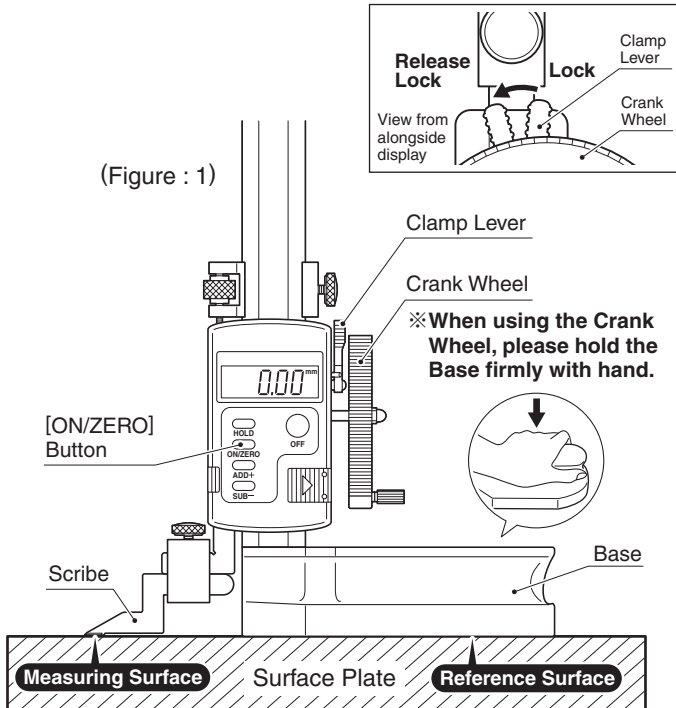
1. Loosen the Indicator Clamp Screw, insert the indicator shaft, and secure by tightening the clamp screw.
2. Loosen the Scribe Clamp Screw and place the Clamp onto the Jaw.
3. Insert the Indicator Mounting Arm into the Clamp, and tighten Clamp Screw at the desired amount of overhang.



TAKING MEASUREMENTS

1 Absolute Measurement

1. Press the [ON/ZERO] Button to turn on power.
2. Release the Carriage by moving the Clamp Lever forward, located next to the Crank Wheel. (Figure : 1)
3. Move the Scribe Measuring Surface to make good contact with the Surface Plate using the Crank Wheel and the Fine Adjust Feed Screw. (refer to "Fine Adjust Feed Operation")
4. Press the [ON/ZERO] Button to set the LCD reading to "0.00mm".
5. Take a measurement by moving the Scribe to the surface to be measured.

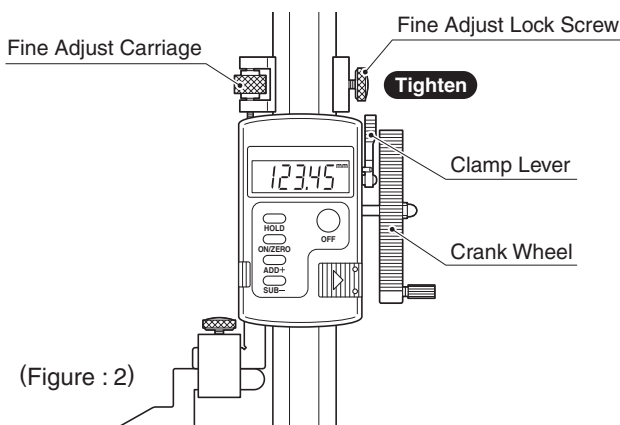


2 Relative Measurement

1. Press the [ON/ZERO] Button to turn on power.
2. Release the Carriage by moving the Clamp Lever forward.
3. Move the Scribe to the Reference Surface and press the [ON/ZERO] Button to set the LCD reading to "0.00mm".
4. Moving the Scribe to the surface to be measured, and the height relative to the reference surface will be displayed.

Fine Adjust Feed Operation

1. Release the Carriage by moving the Clamp Lever forward.
2. Tighten the Fine Adjust Lock Screw. (Figure : 2)
3. Turn the Fine Adjust Feed Screw for fine control of position.



TROUBLESHOOTING

- Q. Nothing is displayed, or the numbers are flashing.**
- A. The battery may be low. Please replace with new SR44 battery.
- Q. With power on, the number on the LCD does not change as the carriage is moved.**
- A. Please reset by removing battery for about 30sec., and then replacing.
- Q. Nothing happens when buttons are pressed.**
- A. Battery may not have good contact with terminals. Please reset battery and confirm orientation with (+) side outward.

SERVICE

- If height gauge is not working properly, or if you have any questions, please contact distributor or place of purchase.
- Please note, manufacturer is unable to respond to inquiries or provide service directly. Please contact distributor or place of purchase.

SK Niigata seiki Co., Ltd.

6-15-22, Tsukanome, Sanjo, Niigata, Japan, 955-0055
 Tel. : +81-256-31-5670 Fax. : +81-256-39-7730
 MAIL: intl.sales@niigataseiki.co.jp
 URL http://www.niigataseiki.co.jp