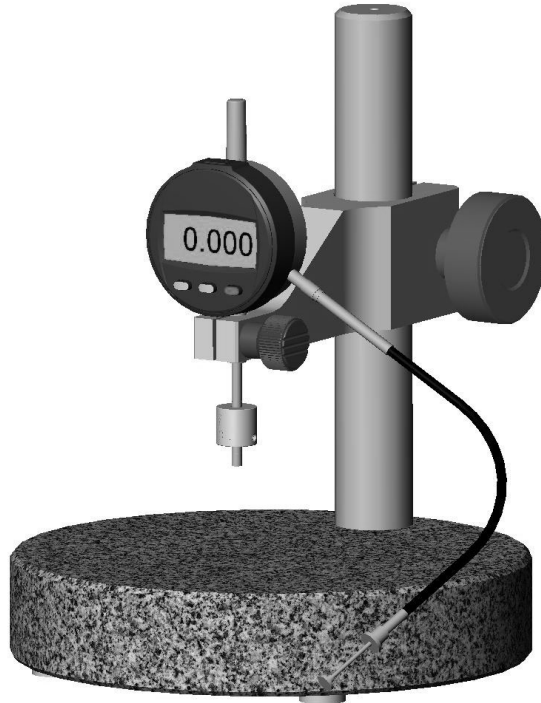




# Operating instructions



## Thickness Gauge HSTGA

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# 1. Important hints for the user/intended purpose

In order to achieve the best use of this instrument it is most important that you read the operating instructions first.

We reserve the right to make changes and supplements to our products, especially due to technical improvements and further developments and documentations. All illustrations and technical data are therefore without guarantee.

Reprints require prior written approval.

A change or modification of the Thickness Gauge is not allowed.

The HSTGA Thickness Gauges are exclusively intended for measuring thickness. This also refers to all versions listed below. All versions are only intended for measuring the thickness of the materials listed. The application of all Thickness Gauges and their site of installation are designed for indoor use only. Any other and/or exceeding use will be judged as inappropriate use. Appropriate use requires the adherence to any information published regarding this product as well as compliance to all applicable legal provisions and required regulations. The manufacturer will not be liable for any damages caused by non-adherence to any of the above.

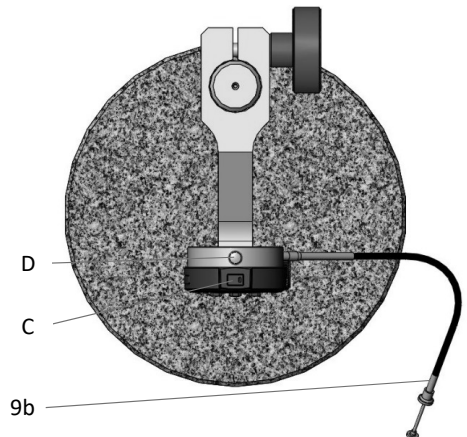
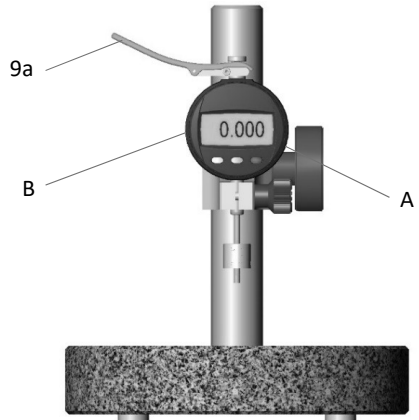
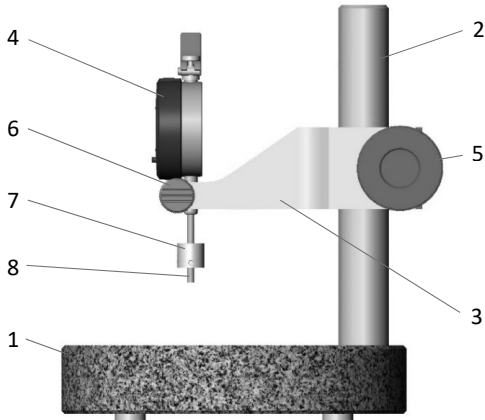
To avoid a damage on the granite base the maximum descent rate of the contact point onto the granite base is 2,5 mm/s. Avoid hard impacts with sharp or hard items onto the granite base and sliding of sharp items and abrasive items on the lapped surface.

## Applications of Thickness Gauges HSTGA

Model	Application
HSTGA	Rigid materials
HSTGA-1	Elastomers according to ISO 23529 and ASTM D 3767
HSTGA-3	Textiles according to ISO 5084
HSTGA-4	Elastomers with a hardness <35 IRHD according to ASTM D 3767
HSTGA-5	Textile Materials, coated fabrics, Webbing, Tapes, Ribbons, Braids according to ASTM D 1777-Option 2
HSTGA-11	Tissue according to DIN EN ISO 12625-3
HSTGA-12	Flexible sheets for waterproofing according to DIN EN 1849-2
HSTGA-13	Woven fabrics, knitted fabrics, textured fabrics according to ASTM D 1777 Option 1
HSTGA-14	Blankets, pile fabrics, napped fabrics according to ASTM D 1777-Option 5
HSTGA-15	Rubber- or plastics-coated fabrics according to DIN EN ISO 2286-3 Part 3
HSTGA-16	Rubber- or plastics-coated fabrics according to DIN EN ISO 2286-3 Part 3
HSTGA-18	Flexible packaging material according to ASTM F 2251

## 2. Description/overview

No.	Description
1	Granite base
2	Column
3	Lever
4	Gauge
5	Knob for height adjustment
6	Knob for clamping the Gauge
7	Weight (optional, according to each version)
8	Contact point (optional, according to each version)
9a	Lifting device (according to each version)
9b	Cable release (according to each version)
A	Thread for cable release
B	Battery tray
C	Data output
D	Cover cap

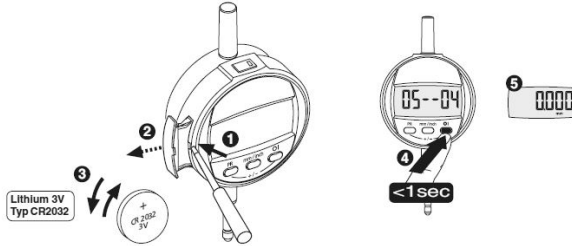


### 3. Notes for installation

The Thickness Gauge must be placed on a rigid and vibration free surface. Avoid direct solar radiation and air flow and maintain a constant temperature of 23 °C or to the respective standard (chapter 1, chart „Applications of Thickness Gauges HSTGA“).

### 4. Connecting and adjusting of Gauge

1. Remove the battery tray (B) and insert the battery accurate to side (see imprint battery tray). Slide the battery tray in the correct position into the Gauge.



Source: Mahr GmbH 73728 Esslingen

2. Hold the lever (3) with your left hand and open the Knob for height adjustment (5).
  3. Slide the lever (3) up to the top end position of the column (2) and tighten the Knob for height adjustment (5).
  4. Untighten the Knob for clamping the Gauge (6).
  5. Is the weight (7) and the contact point (8) present on the Gauge? Then remove the 2 parts. Turn the weight (7) by hand carefully anticlockwise (bottom view on the Gauge).
  6. Slide the lower stem of the Gauge into the hole of  $\varnothing 8^{H7}$  of the lever (3). The Gauge case must have a distance of min. 2 mm to the lever (3). The Gauge must be placed parallel to the front lever end.
  7. Tighten the Knob for clamping the Gauge (6) a little bit.
  8. Install the weight (7) and the contact point (8) into the Gauge. Tighten by hand only a little bit (not with pliers).
  9. Clean the granite base (top surface) (1) and the surface on the contact point with a Microfibre care cloth.
  10. Press and release 1 x the red button (O1) on the Gauge. Display: 0,000
  11. Hold the lever (3) with your left and open the Knob for height adjustment (5).
  12. Slide the lever (3) downwards until the Gauge displays approx. 1,000 to 1,500. The contact point (8) should be located in the middle of the granite base (1).
  13. Tighten the Knob for height adjustment (5).
  14. Press and release 1 x the red button (O1) on the Gauge. Display: 0,000
- The Thickness Gauge is now ready for operation.

## 5. Thickness Measuring

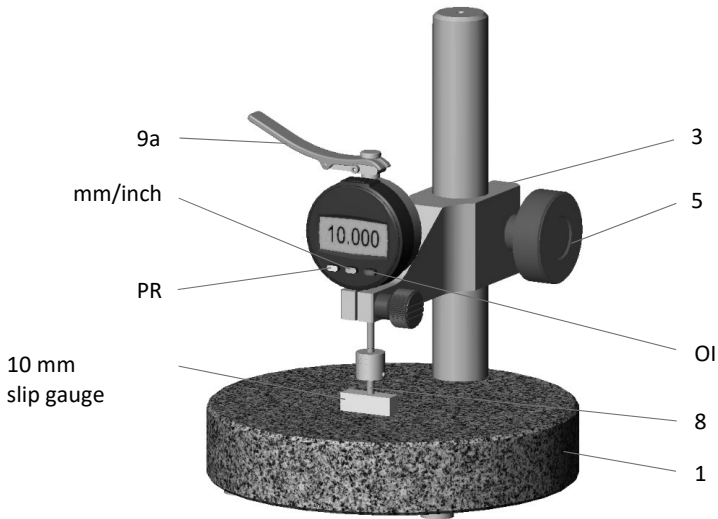
You have to do the procedure in chapter 4 „Connecting and adjusting of Gauge“.

Press and hold the Lifting device (9a) or Cable release (9b). The contact point (8) lifts upwards. Put the sample below the contact point (8) on the granite base (1). Release slowly the Lifting device (9a) or Cable release (9b). The contact point (8) lowers to the sample. The value is now on the display of the Gauge (4).

Further functions of the Gauge are described on the enclosed original operating instructions of the Gauge manufacturer.

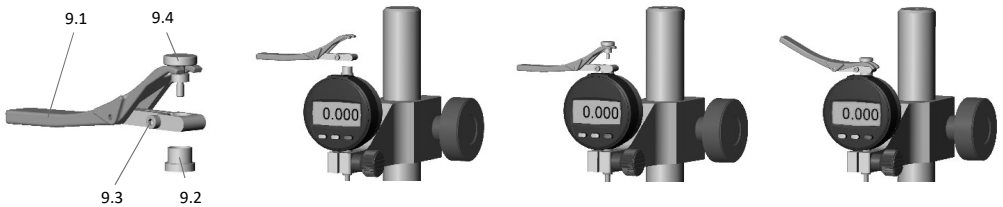
## 6. Extension of measuring range with a 10 mm slip block

1. Hold the lever (3) with your left hand and open the Knob for height adjustment (5).
2. Slide the lever (3) up to the top end position of the column (2) and tighten the Knob for height adjustment (5).
3. Press and release 1 x the red button (OI) on the Gauge. Display: 0,000
4. Place the 10 mm slip gauge onto the granite base (1), with the writing to the front, below the contact point (8) and in the middle of the granite base.
5. Hold the lever (3) with your left hand and open the Knob for height adjustment (5).
6. Slide the lever (3) downwards. The contact point must be in the middle of the slip gauge and the gauge should indicate 1,000 to 1,500.
7. Tighten the Knob for height adjustment (5).
8. Press and release 1 x the red button (OI) on the Gauge. Display: 0,000
9. Press the „PR“ button >2 seconds. Display: „+ or -“ is blinking.
10. When you press the „PR“ button <1 second you can change the algebraic sign. Setup the algebraic sign to „+“.
11. Press the „PR“ button >2 seconds. Display: Hundred value is blinking.
12. Press several times the „PR“ button <1 second till the 0 is blinking.
13. Press the „PR“ button >2 seconds. Display: Decadic value is blinking.
14. Repeat the steps 11 and 12 as long as the Gauge displays 10,000 and no number is blinking.
15. Operate the cable release (9a) or a lifting device (9b) and remove the slip gauge.
16. Now you can measure a material thickness of 10 up to 20 mm.
17. If you reset the Gauge through the (OI) button and/or the lever (3) is adjusted in height you have to repeat the steps 1 to 6. Press the „PR“ button <1 second. When you remove the slip gauge you can measure material thickness of 10 up to 20 mm.



## 7. Mounting of cable release and lifting device

- Cable release 9b  
Screw the cable release into the thread (A) carefully.
- Lifting device 9a
  1. Remove the cover cap (D) on the Gauge.
  2. Screw the sleeve (9.2) carefully with the flange downwards onto the Gauge.
  3. Mount the lifting device (9.1) onto the sleeve (9.2) and tighten the screw (9.3) softly. The lifting device must be, parallel to the Gauge.
  4. Place the collar screw (9.4) in the furcate orifice and screw it clockwise carefully and softly.



## 8. Test specification

Please take the test specification from the standard of your respective thickness gauge (chapter 1, chart „Applications of Thickness Gauges HSTGA“).

## 9. Maintenance and care

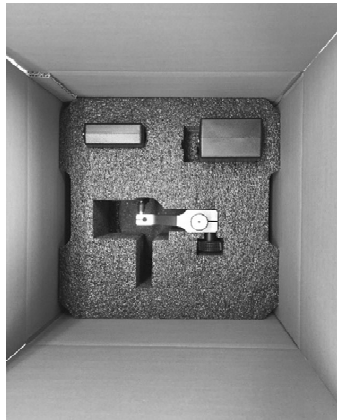
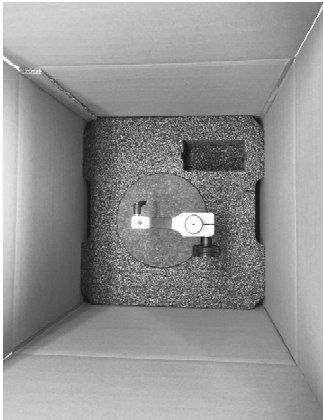
The Thickness Gauge does not require any maintenance. Clean and care the granite base frequently with a suitable cleaner for granite (accessories). Don't use a cleaner that consists of wax. If the lever is moving with difficulty please clean the column with alcohol and oil it afterwards a little bit.



## 10. Packaging

Dispatch the Thickness Gauge only with the original packaging. Don't ship it with the installed Gauge. Remove the weight and contact point by turning it by hand carefully anticlockwise (bottom view on the Gauge). Untighten the knob for clamping the Gauge (6) and remove the Gauge. Is the Thickness Gauge equipped with a cable release (9a) or a lifting device (9b) you have to remove it. Store the Gauge into the delivered case.

Please pack the items as below:



## 11. Technical data

- Delivery contents:
  - Thickness Gauge HSTGA
  - Weight and contact point according to each version
  - Cable release/lifting device according to each version
  - Operating instructions
- Weight: 5,5 kg
- Dimensions: Ø200 mm x 244 mm

## 12. Accessories

Description:
Ceramic slip gauge 10,0 mm
Microfibre care cloth for slip gauge
Cable release for the Gauge
Lifting Device for the Gauge
Cleaner for granite
Oil for column

## 13. Guarantee

Our equipment is under warranty for at least 12 months with regard to material or production faults in accordance with national legislation. In the EU countries, the warranty period is 24 months (an invoice or delivery note is required as proof of purchase). Damage resulting from, in particular, normal wear and tear, overloading, improper handling, or caused by the user or other damage caused by not following the operating instructions, or any fault acknowledged at the time of purchase, is not covered by the warranty. Complaints will only be acknowledged if the equipment has not been dismantled before being sent back to the suppliers or to an authorised customer support workshop. Store the operating instructions, safety notes, spare parts list and proof of purchase in a safe place. In addition, the manufacturer's current warranty conditions apply.

## 14. Disposal

The disposal of the instrument is to be accomplished according to the local disposal regulations. Dispose the packing clean according to sorts.



Notizen:

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