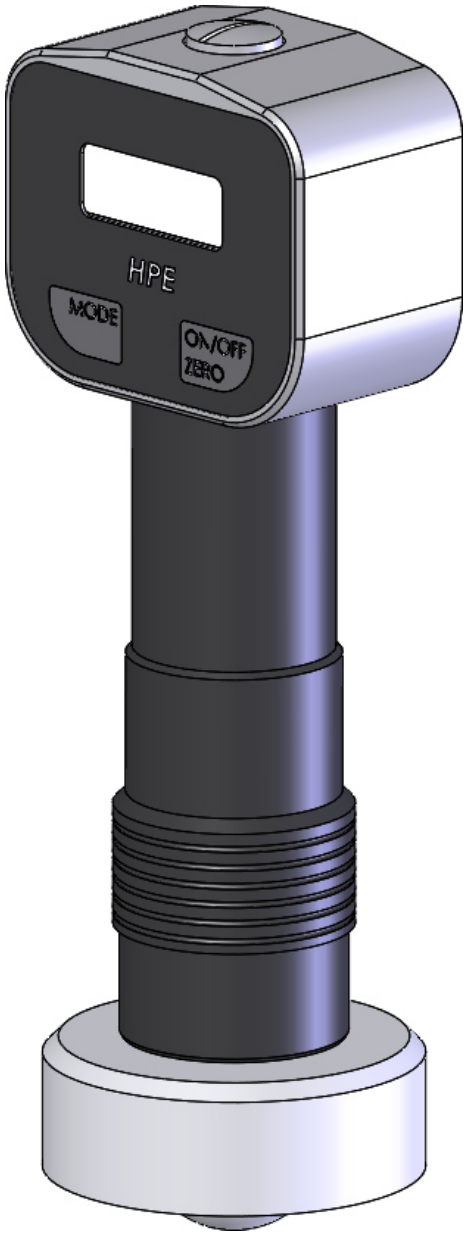
testing solutions since 1954

Operating Instructions



Bauchometer

Translation of original operating instructions

List of contents

1 Safety Hints

Using the HPE II Bauchometer, named as testing device in the following, you should take care of the following hints:

- Warning!
  All repair works shall only be done at the powerless testing device.
- The testing device may only be used for the hardness determination on materials as described under ranges of application
- Works on testing device may only be done by authorized persons.
- The testing device is to be sheltered from dusty, oily, greasy and metal-dusty air, sources of heating (direct sun beaming, ovens), humidity, wetness and vibration as well as from damage caused by falling down.
- For cleaning of testing device, you should only use smooth agents in order to avoid damaging the surfaces. The cleaning cloth should be soft and lint-free.
- Alcohol, gasoline, diluents or other easily inflammatory substances may not be used for the cleaning or maintenance of the instrument.
- Possible danger of injury by sharp edged indenters.

2 Technical details

2.1 Application principle

A calotte, with a defined curve, intrudes the surface of the specimen at a path-depended force.
The indentation depth informs about the existing surface tension of the specimen.
It is a non-destructive test method.

2.2 Range of application and technical data

Application	Maximum Force	Spring constant	Pretension Force	Indenter Ball Data	Maximum Indentation Depth
Foams Foam sandwiches with flexible upper skin and hard base skin	33 N	3N / mm	3 N tolerance: -0,5N	Ø 30 mm radius: 15 mm	10 mm

3 Testing device

3.1 Elements of testing device

1 cover screw
2 housing
3 serial interface RS232
4 cover of battery
5 MODE - key
6 ON/OFF ZERO - key
7 handle sleeve
8 pressure plate
9 indenter

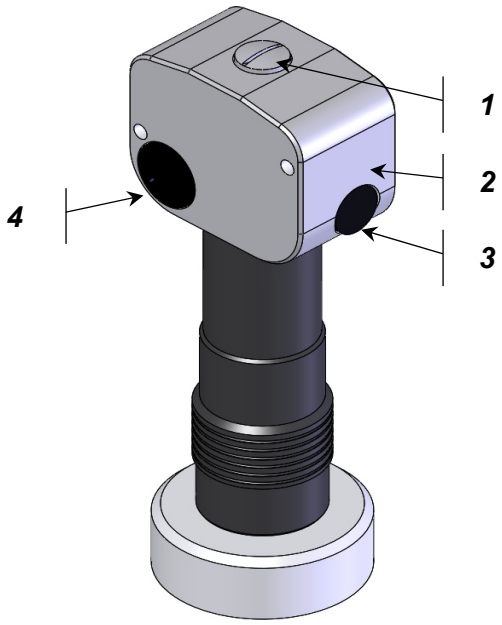


FIG. 1 REAR VIEW

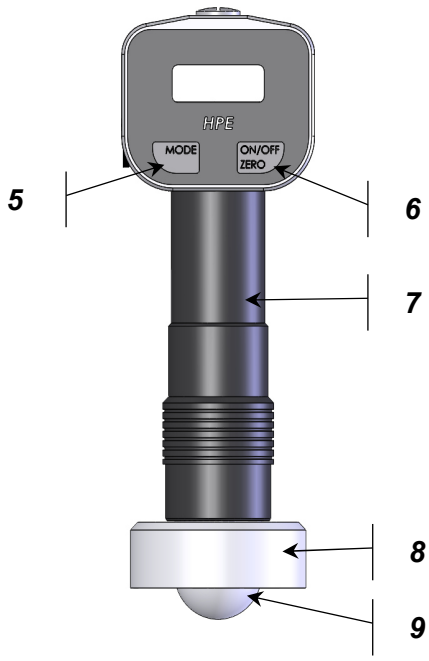


FIG. 2 FRONT VIEW

4 Start Up

4.1 Control of Contents

Check supplied equipment for completeness and soundness,
see "delivery note".

4.2 Switching on testing device

- Switch on the testing device by pressing the ON/OFF ZERO–key (6).

The testing device is to be kept as perpendicular as possible, so that the indenter hangs freely.
An audio signal sounds.
The display shortly reads the selected measuring time and then 10.00.
If measured values are in the memory the display shortly reads the activated measuring time, the number of measured values in the memory and then 10.00M.
The testing device is ready for measurement.
If display reads a beam - - - instead of 10.00, please press the ON/OFF ZERO-key shortly.
Now the display is reading 10.00 again.
The testing device is ready for the measurement.

4.3 Input of measuring time

The measuring time cannot be changed during the measurement.
If you want to change measuring time, the memory has to be erased.

See Transmission of measured values to PC or Clearing of memory

Recommended factory setting of measuring time: 3 seconds
A change of the measuring time may be necessary because of demands of norms or different measuring specifications.
Here you should take care that different measuring times may lead to different measuring results.

- Select measuring time by pressing the Mode-key (5) repeatedly.

4.3.1 Working with memory

The memory allows storing 300 measured values.

The storage is done automatically after each measurement.
As soon as there are measured values in the memory the display reads "M".
From 295 measured values on the "M" is flashing. This signalizes that the memory is full and that only another 5 measured values can be stored.
From value 301 on, the first measured value will be erased.

- Pressing the Mode-key the number of stored measured values is indicated.

4.3.2 Transmission of measured values to PC or Clearing of memory

- If you press the ON/OFF ZERO-key while keeping pressed the Mode-key, the measured data are sent via the RS 232 interface and the memory is erased.

4.4 Switching off the testing device

4.4.1 Manual switching off

- Keep ON/OFF ZERO-key (6) pressed until the display expires.
  The measured data remain in the memory.

4.4.2 Automatic switching off

The testing device switches off automatically after 10 minutes after the last measurement.

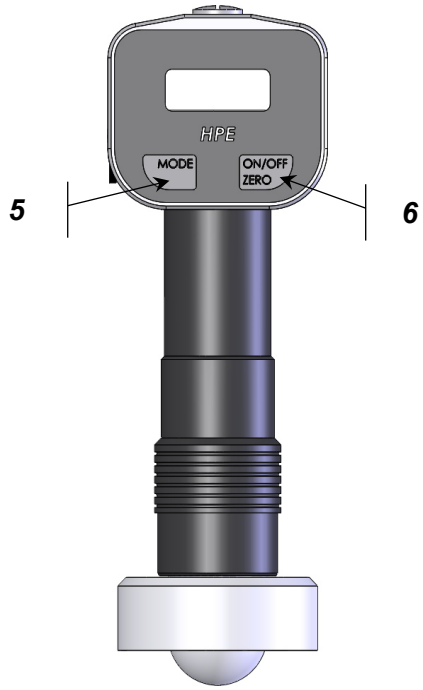


FIG. 3 MODE AND ON/OFF ZERO - KEYS

5 Measuring procedure

5.1 Hardness test

- After switching on, press testing device by handle sleeve (7) rectangular against the specimen (11) until the measuring time has run down.

Thus, the contact pressure is applied.

The measuring time is started as soon as the testing device is pressed onto the specimen.
The reading is flashing during the measurement.

- Keep testing device pressed until measuring time has run down.

This is indicated by a frozen measured value in the display and a signal sound.

If an instrument / PC for data transfer is connected to testing device, the measured value will be sent via the data output RS 232.
The measurement is finished.
The measurement is interrupted as soon as the testing device is lifted.
A double acoustic signal sounds. The display reads 5.0.

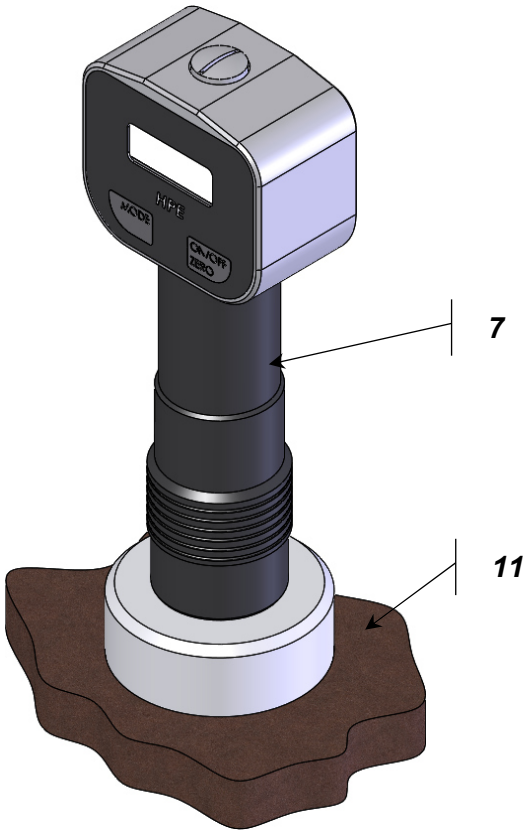


FIG. 4 MEASURING PROCEDURE

6 Exchange of battery

An exchange of battery is necessary when battery symbol is read in the display.

- Unscrew battery cover (4) by help of a coin.
- Take out the battery (12).
- Put in the new battery.

Pay attention for correct polarity (13)

- Tighten battery cover by help of a coin.

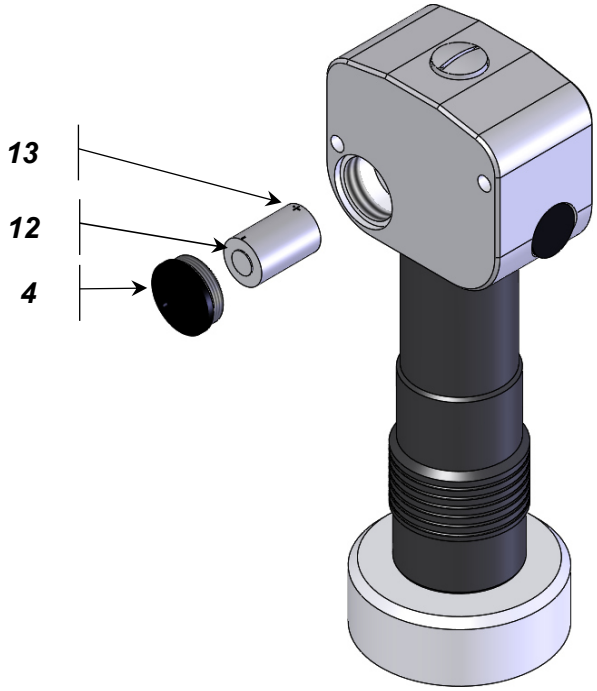


FIG. 5 EXCHANGE OF BATTERY / RESET

7 Reset

If testing device is not working correctly a RESET will be necessary.

The testing device is switched on.

- Unscrew battery cover by help of a coin.
- Take out battery.
- Put in new battery.

Pay attention for correct polarity.

- Tighten battery cover by help of a coin.

The RESET is finished.

8 Technical Data

power supply	Lithium-Battery 3.6 V: Seize ½ AA
actual working time	approx. 2000 hours
kind of protection	IP 30
resolution	0.1 mm
measuring range	5 mm
data output	RS 232 - 9600 Baud, 1 Start bit, 8 Data bits, 1 Stop bit
memory	300 Values
testing device dimensions (LxWxH), weight	160 x 70 x 40 mm, 0,58 kg
transport case dimensions (LxWxH), weight	240 x 210 x 55 mm, 0,50 kg

9 Standard volume of delivery

See delivery note

10 Accessories / Spare parts

No. of article	Denomination
wks09002-5	Works Calibration Certificate for Bauchometer
k58-00002	system for data logging and analysis, stat. evaluation, graph. diagrams and further treatment of the measured values via PC
fm90036	battery
fm00221	standard rubber block for Bauchometer 100 x 90 x 12 mm with support plate with Serial-No., plastic box
wks09141	works calibration certificate for standard rubber block for Bauchometer

11 Troubleshooting

Problem	Cause	Remedy
the instrument doesn't show any reaction when switched on	check battery	exchange battery see Exchange of Battery
the display doesn't flash during the measurement	measuring time of 0 seconds is put in	put in the measuring time see Input of Measuring Time
faulty measuring result	indenter is damaged spring adjustment has been changed	send the instrument for repair
the dispersion of the measured values is too big	irregular surface	select flat measuring point
testing device doesn't work correctly		make a RESET see Reset

ⓘ If proposed measures have not been successful, please contact our address partner.

12 Conditions of warranty

The duration of the warranty please take from our common business conditions "AGB's" (see: www.bareiss.de)

There is no claim of guarantee for damages or faults caused by:

- ignoring the correct connection
- inappropriate handling
-
- neglecting the operating instructions
- repair works on digi test by persons without authorization
- removing the type plates

13 Info for return of goods

Dear Customer,

we ask you to check the testing device before you return it to us because there could be e.g. a defect or malfunctioning.
If there are be some uncertainties we are glad to be of help for you by our telephone / fax / E-Mail service.

In order to avoid further questions please send us a precise fault description.

For **calibration only,** the **testing device** should be sent in **transport case.**

A transport suitable packing protects from transport damages and thus resulting costs.

BAREISS PRÜFGERÄTEBAU GmbH
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www.bareiss-germany.com

14 Disposal

Old devices contain valuable recyclable materials –please dispose them environment-friendly-.

Old devices can be disposed on suitable collection points for recycling which are offered In cities and villages. It should be noted that electrical / electronical parts (like e.g. motors, cables, circuit boards) have to be disposed separately.
If you don’t do the recycling yourself, the manufacturer of the devices will do this for you.
Send us your device with the hint: “Recycle this device “.

15 Care

Warning!
All works on testing device may only be done during it is switched off.
For cleaning of Testing device, you should only use smooth cleaning agents in order to avoid damaging the surfaces.
The cleaning cloth should be soft and lint free.
Alcohol, gasoline, diluents or other easily inflammable substances may not be used. The application of such substances can lead to fires.

16 EU - Declaration of Conformity

EU – Declaration of Conformity

Manufacturer: Bareiss Prüfgerätebau GmbH
DAkkS/DKD-Kalibrierlaboratorium
Breiteweg 1
DE-89610 Oberdischingen

We hereby declare that the product

Hardness tester, Type **Bauchometer,** serial no.: see rating plate

complies with the following directives:

- Measuring instruments directive 2014/32/EU
- Low voltage directive 2014/35/EU
- EMC directive 2014/30/EU

The following standards have been applied:

- DIN EN 61010-1:2011 Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements

- DIN EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements – Part 1: General requirements

Documentation officer: Mr Harald Glöggler
Address: see manufacturer's address

Oberdischingen, 02 May 2016

Place/ date

Manfred Maier
Head of sales

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