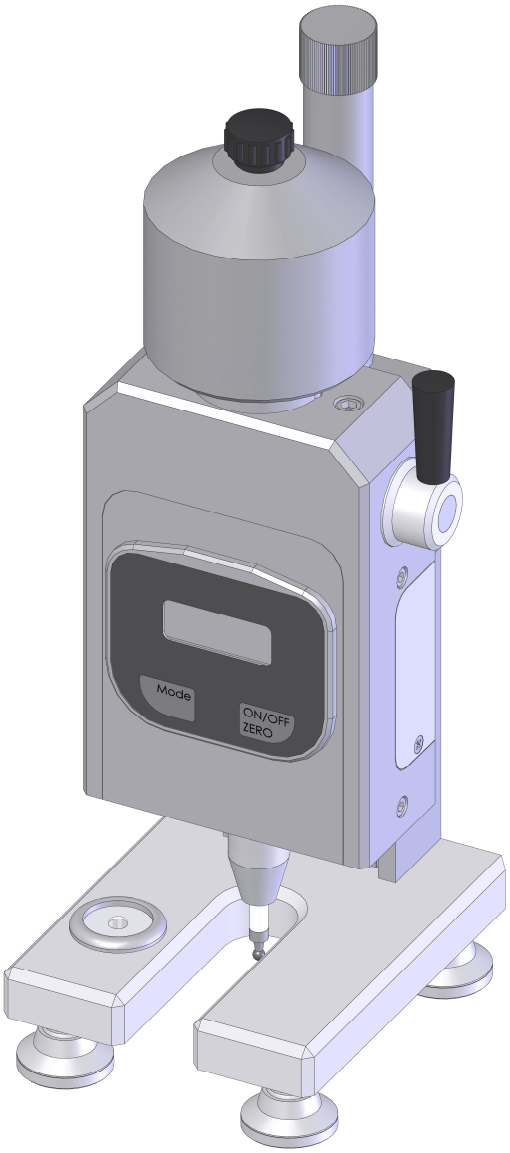
testing solutions since 1954

Operating Instructions



Pusey & Jones

Translation of original operating instructions

List of contents

1 Safety Hints

Using the Pusey & Jones Tester, named as testing device in the following, you should follow the following hints:

- Warning!
  All repair works shall only be done at the switched off 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 or other easily inflammatory substances may not be used for the cleaning or maintenance of the instrument.
- Possible squeezing when positioning testing device on the rubber roller.

2 Ranges of application

Test method	Range of application	Standards	
Pusey & Jones	rubber- and rubberlike materials rubber drums of paper industry minimum Ø 150 mm	ISO 7267-3	
		ASTM D 531	Thick x Long x Width min. 13 x 30 x 75 mm

3 Technical data

Test method	Loading weight	Indenter [mm]	Measuring distance [mm]	Range of reading
Pusey & Jones	1000 g	ball Ø 3,175	3,0	0 - 300
1 Pusey & Jones-value ≙ 0,01 mm				

4 Start-Up

4.1 Control of contents

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

4.2 Preparation of testing device

- Loosen knurled nut (1.15).
- Tear transport protection (1.16) upward.
- Push weight (1.10) onto guiding bar (1.02).
- Tighten knurled nut (1.15), whereby you hold loading weight.

Store transport protection for transport.

- Screw down loading lever (1.01).

4.3 Assembly of indenter

- Screw down indenter (2.00).

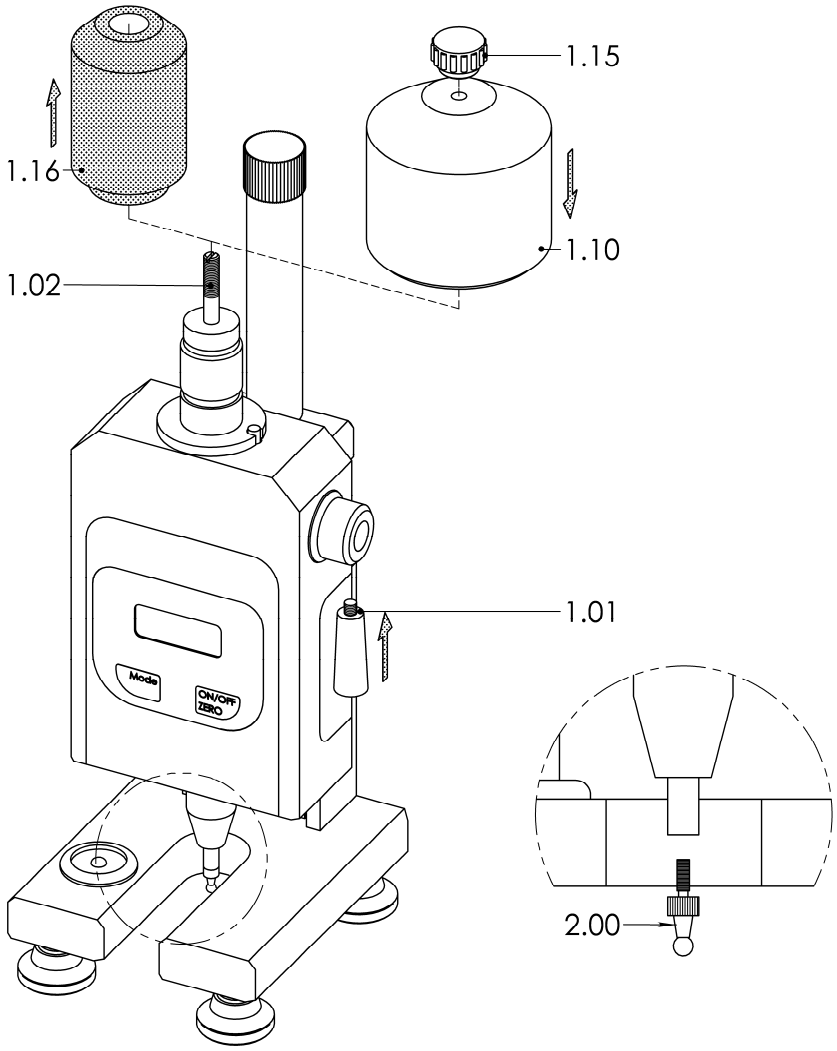


FIG. 1 PREPARATION OF TESTING DEVICE

4.4 Switching on the testing device

- Switch testing device (1.00) on by pressing the ON/OFF ZERO-key (1.04).

Hereby the indenter (2.00,Fig.4) is free hanging. A signal sounds.
The display (1.06) shortly reads the measuring time and then "0".
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 "0M".
The testing device is ready.
If display reads a beam - - - instead of "0", please press the ON/OFF ZERO-key shortly.
Now the display is reading "0" again. The testing device is ready.

4.5 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 cleared
Factory setting of measuring time acc. to standard: 60 seconds
A change of the measuring time may be necessary because of different measuring demands or specifications. Here you should take care that different measuring times may lead to different measuring results.

- Press MODE-key (1.05) while testing device is on..

The display is reading the measuring time.

By the MODE-key the input of the measuring time between 0 and 99 s is done by:

- a repeated short pressing -> single steps
- a permanent pressing -> continuous steps

- Press shortly the ON/OFF ZERO-key in order to store the changed measuring time. The testing device is ready.

4.6 Working with memory

The memory allows storing of 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 only another 5 measured values can be stored.
From value 301 on, the first measured value will be cleared
Pressing the Mode-key the number of stored measured values is indicated.

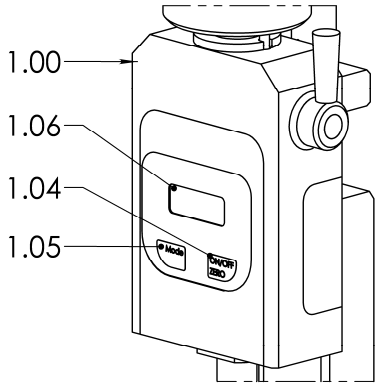


FIG. 2 SETTINGS

4.7 Transmission of measured value to PC and clearing of memory

The testing device is connected to PC via interface RS 232 (1.09).

- Press ON/OFF ZERO-key (1.04) while pressing the MODE-key (1.05), whereby the measured values are sent via interface RS 232 and the memory is cleared.

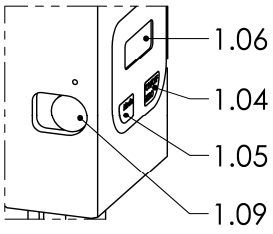


FIG. 3 INTERFACE

4.8 Switching off of testing device

4.8.1 Manual switching off

- Keep ON/OFF ZERO-key pressed until the display (1.06) expires.
  The measured data remain in the memory.

4.8.2 Automatic switching off

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

5 Measuring procedure

5.1 Hardness test

The loading lever (1.01) points up.
The indenter (2.00) is free hanging.

- Place testing device on specimen (1.20).

For drums the testing device is levelled according to the bubble level of levelling device (1.03).

- Switch display (1.06) of testing device (1.00) on by short pressing of ON/OFF ZERO-key (1.04).
- Lower testing device onto specimen by rotating the set screw (1.07) to your right until the display is reading "300".

A signal sounds.

- Rotate loading lever down until its stop.

The measurement is running down automatically. The display is shortly reading the remaining time in steps by 10 seconds.

At the expiration of the measuring time a signal sounds and the measured Pusey & Jones-value is read in the display.

- Rotate loading lever up to its stop.
- Lift testing device from specimen by rotating the set screwto your left until display reads "0_M".

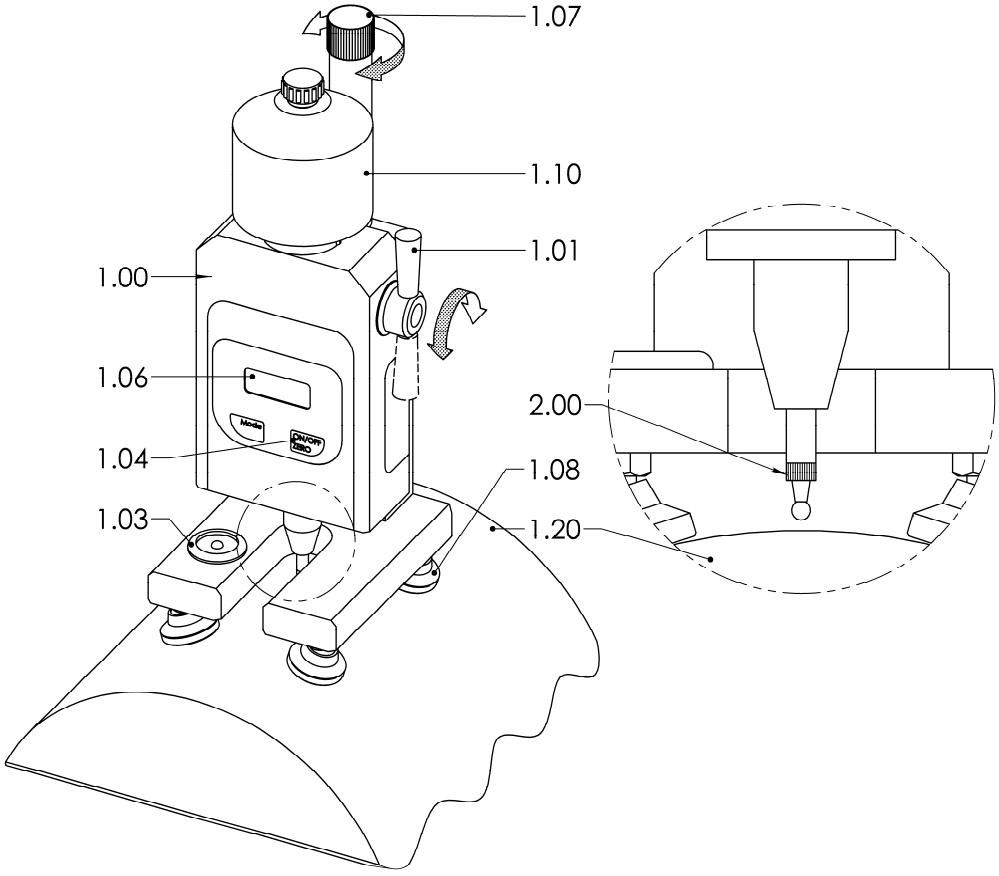


FIG. 4 HARDNESS TEST ACC. TO PUSEY AND JONES

5.2 Determination of the elasticity of the material

You have made the hardness test as described.
- The loading lever points down.
- The indenter remains on specimen

- Shortly press ON/OFF ZERO-key.
- The display reads the selected measuring time shortly.
- Rotate loading lever up until its stop.

The measurement is running down automatically. The display is shortly reading the remaining time in steps by 10 seconds.

The measuring time is reading e.g."6o" in order to differ the reading of the measuring time from the reading of the Pusey & Jones-value.
At the expiration of the measuring time a signal sounds and the reset value in Pusey & Jones is read in the display.

- Lift testing device from specimen by turning the set screw to your left until display reads "0M".

6 Change of battery

If battery symbol "B" is read in the display, the battery should be exchanged.

- Unscrew screws (1.11) of battery cover (1.10) while holding battery cover.
- Take off battery cover .
- Press battery (1.12) down and take it out.
- Put in new battery.

Pay attention for correct polarity.
The "+ Pole" (1.13) has to point up.

- Put in battery cover.
- Screw down screws of battery cover.

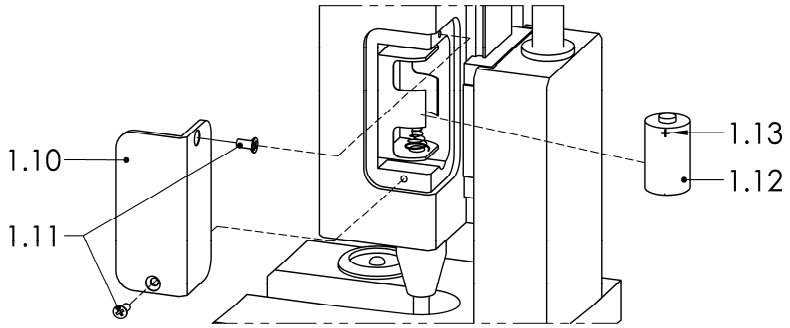


FIG. 5 CHANGE OF BATTERY / RESET

7 Reset

If there is a malfunction of testing device a RESET is necessary.

The testing device is switched on.

- Unscrew screws of battery cover while holding battery cover.
- Take off battery cover .
- Press battery down and take it out.
- Put in new battery.

Pay attention for correct polarity.
The "+ Pole" has to point up.

- Put in battery cover.
- Screw down screws of battery cover.

The RESET is finished.

8 Technical Data

power supply	Lithium-Battery 3,6 V: Size ½ AA
operation period	approx. 2000 hours
kind of protection	IP 30
resolution	1 Pusey & Jones
measuring range	Pusey & Jones
interface	RS 232 - 9600 Baud, 1 Start bit, 8 Date bits, 1 Stop bit
capacity of memory	300 measured values
testing device dimensions (LxWxH), weight	250 x 90 x 130 mm, 3,3 kg
transport case dimensions (LxWxH), weight	240 x 210 x 55 mm, 0,5 kg

9 Volume of delivery

See delivery note

10 Accessories / Spare parts

Number of Articles	Denomination
k58-00002	Hardtest for Windows Software
dkd09053	official DAKKS / DKD-calibration certificate for testing device
fm01139	indenter Pusey & Jones
dkd09039	official DAKKS / DKD-calibration certificate for indenter Pusey & Jones
dkd00185	standard rubber block Ø 44 mm for Pusey & Jones in metal mounting Ø 50 mm - Serial No. official DAkkS/DKD-calibration certificate, plastic case

11 Troubleshooting

Problem	Cause	Solution
the instrument doesn't show any reaction when switched on	check battery	exchange battery Exchange of Battery
the display doesn't flash during the measurement	measuring time of 0 seconds is put in	put in the measuring time Input of Measuring Time
faulty measuring result	indenter is damaged	send testing device for repair
the dispersion of the measured values is too big	testing device is not in a horizontal position to specimen	adjust testing device horizontally by help of levelling device
testing device doesn't work correctly		make a RESET RESET

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

12 Warranty

The warranty period please take from our common business conditions (AGB).
(see www.bareiss.de)

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

- inappropriate handling
- neglecting the operating instructions
- repair works on Testing device 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.

13.1 Return of testing device

- Loosen knurled nut (1.15,Fig.1).
- Tear weight (1.10,Fig.1) up.
- Push transport protection (1.16) onto guiding bar (1.02,Fig.1) until it snaps.
- Tighten knurled nut (1.15) whereby you hold the transport protection (1.16,Fig.1).
- Unscrew loading lever (1.01,Fig.1).
- Unscrew indenter (2.00,Fig.1).
- Place all items into corresponding cut-outs of transport case.

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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 may only be done on switched off testing device.
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 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 **HPE II,** serial no.: see rating plate

complies with the following directives:

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

The following standards have been applied:

- DIN EN ISO 12100:2011 Safety of machinery - General principles for design – Risk assessment and risk reduction

- 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 Head of sales

17 List of figures