

PTB-M100

Portable Tablet Hardness Testing Instrument

PTB-M100 is a portable, manual hardness testing instrument for tablets. The instrument is made in strict compliance with the EP <2.9.8> and USP <1217> Pharmacopoeia. PTB-M100 is very easy to use. The force and break point are measured by a precise force sensor and the result is immediately displayed on the large color touchscreen.



Password Protection

Important settings, such as date and time are protected by a password. The password can be changed. Calibration and adjustment of the instrument also require the password.

Build Quality

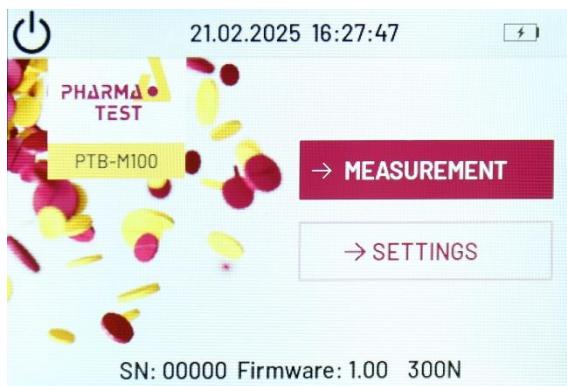
The instrument is solidly built and yet perfectly portable, making it ideal for use in a production department, for example. The integrated rechargeable battery lasts for approximately two hours of operation.

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Operation Principle



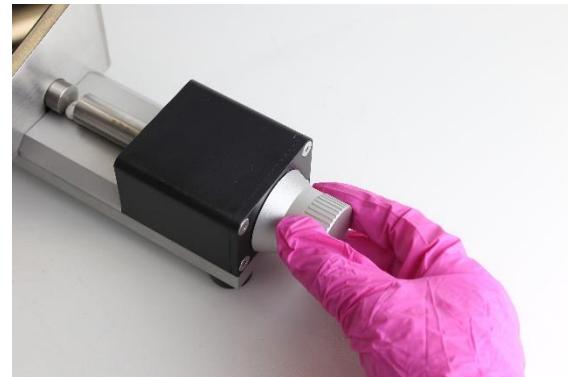
Manual Handling

Simply place the sample on the testing platform and manually rotate the knob. This moves the jaw and applies force to the sample. The result is immediately displayed. All results of a current measurement run are then shown in a scrollable table. Incorrectly measured samples can be discarded here. These results are still documented on the result report but are not included in the statistics. The results of the latest test run are stored in the instrument memory and can be printed repeatedly. Starting a new measurement run discards the results of the previous run.



Touch Screen

The instrument is operated using a 3.5" color touch screen. During a test the hardness value is displayed live in either Newton (N), Kilopond (Kp) or StrongCobb (Sc). The instrument is powered by a rechargeable battery using a standard USB-C charger. The test results can be documented by connecting a ticket printer or by using the Pharma Test PT-Node network adapter. When starting a new test run, a batch number (alpha-numeric) can be entered using a software keyboard.

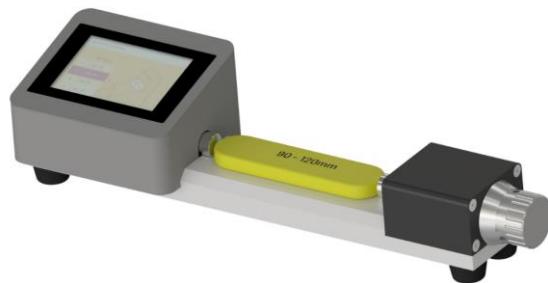


Settings

The settings menu is password protected. This password can be changed. The instrument keeps date and time (date and time are not lost when the battery is empty) and supports 12- and 24-hour time formats and US and European date formats. All printouts contain date and time of performance and date and time of the printing.

PTB-M100 with Extended Measurement Range for Larger Samples

PTB-M100 is also available in an extended measurement range version. In this instrument variant, the mechanics have been extended to be able to test larger samples than the standard model. This is useful for certain veterinary products or other, non-pharmaceutical applications.



PTB-M100 is available with the following extended measurement ranges:

Part No.	Sample Min. Diameter	Sample Max. Diameter	Hardness Max.
29-01660	30mm	60mm	300N
29-01665	30mm	60mm	500N
29-01690	60mm	90mm	300N
29-01695	60mm	90mm	500N
29-01620	90mm	120mm	300N
29-01625	90mm	120mm	500N

Calibration and Validation

PT-MET Mechanical Tablets

For daily verification, PTB-M100 is compatible with the Pharma Test PT-MET mechanical tablets. PT-MET are available with four different nominal hardness values (50, 100, 150, 200N). They can be purchased individually or as a complete set. They come with a certificate of calibration, operating instructions and can be returned to us for re-calibration.



PTB-CAL 15 Weight Set

Using the certified PTB-CAL15 weight set, adjustment and calibration of PTB-M100 can be carried out on site and requires only a few minutes. The current USP Pharmacopeia requires the force sensor of a tablet hardness testing instrument to be calibrated periodically over the complete measuring range (or the range used for measuring samples) with a precision of 1N. All Pharma Test tablet hardness testing instrument can be statically calibrated using different traceable counterweights.

Example Test Report

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Pharma Test PTB-M100-300 SN 33402 v1.00

Batch      : 1234abcd
Date       : 19.02.2025  Time: 16:58:04

-----Results-----
No.      1: 99 N
No.      2: 97 N
No.      3: 104 N
No.      4: 101 N
No.      5: 95 N
No.      6: 96 N
No.      7: 95 N
No.      8: 95 N
No.      9: 96 N
No.     10: 94 N

-----Statistics-----
Xmax      : 104 N
Xmin      : 94 N
Xdif      : 10 N
Xmean     : 97.2 N
Xabs      : 3.2 N
Xrel      : 3.3 %

Operator: -----
Released: ----- Name/Signature Date/Time
Printed  : 20.02.2025  Time: 11:03:49

```

Header with instrument serial number and firmware version

Alpha-numeric batch number

Date and time when the test was performed

Individual test results, a test run can contain up to 100 tests

Statistics:

Maximum

Minimum

Mean value

Absolute standard deviation

Relative standard deviation

Space for signatures of operator and second person for release

Date and time when this report was printed



PT-Node Network Adapter for Printing and Data Transfer

PT-Node is an adapter that connects up to two Pharma Test instruments simultaneously to a network using a wired LAN connection. This way you can print test results from the instrument via your web browser on any local or network printer. Furthermore, it is possible to transfer the test results from the instruments to external systems in the same network. PT-Node supports PTB-M100.

Advantages

- » Very easy to use via color touch screen, get immediate results
- » Solidly built and yet compact, portable instrument
- » Powered by an integrated rechargeable battery using a standard USB-C port
- » Features the same high quality force sensor as other Pharma Test hardness testers
- » Important settings such as date and time are password protected
- » Select result display unit from Newton (N), Kilopond (Kp) or StrongCobb (Sc)
- » Documentation of all results using the optional ticket printer or PT-Node network adapter
- » Calibration and adjustment programs and printing of reports included
- » Date and time are included on all reports

Features

- Fully USP <1217> and EP <2.9.8> compliant
- Hardness Range: 5N to approx. 300N (500N optional)
- Test tablet sizes of up to 28mm diameter (extended measurement range models available)
- 3.5" color LCD touch screen
- Date & time (printed on all reports)
- Connect ticket printer or PT-Node network adapter to document the results (optional)
- Calibration and adjustment programs included

Standard Scope of Supply

The PTB-M100 comes ready to use with the following standard scope of supply:

- » USB-C power adapter
- » Comprehensive documentation folder including:
 - » User manual
 - » QC/DQ testing certificate
 - » IQ documentation
 - » OQ documentation
 - » Conformity Declaration
 - » CE/EMC Declaration
 - » Instrument logbook

Options

In addition to the standard scope of supply Pharma Test offers a broad range of accessories and options including:

- » 500N extended force range
- » Extended measurement range to test larger samples of 30-60mm, 60-90mm or 90-120mm diameter
- » Ticket printer to document results
- » PT-Node network adapter
- » Recommended spare part set
- » Full range of certified validation tools available

Technical Specifications

Parameter	Specification
Display	3.5" color LCD
Data entry	Touch screen
Standard force range	5.0 to approximately 300N (500N optional)
Hardness accuracy	1N
Hardness resolution	1N
Maximum number of tests	100 in one test run
Maximum sample size	28mm diameter (extended measurement range models available)
Battery capacity	2x 1.100mwh NiMH AAA battery cells (approx. 2 hours of working time, can be used and charged simultaneously)
Printer	Serial printer port to connect ticket printer
Interface	RS-232 COM port supporting PT-Node network adapter
Calibration program	3-point calibration program including report
Adjustment program	2-point adjustment program including report
Instrument dimensions	Approx. 27cm x 9cm x 9cm (Length x Width x Height) w/o printer
Packaging dimensions	Approx. 40cm x 30cm x 21cm (Length x Width x Height)
Net / gross weight	Approx. 2kg / 3kg
Certification	All components certified to USP / EP requirements
CE / EMC Certification	All CE / EMC Certification provided
Validation	All IQ & OQ documents included

We reserve the right to make technical changes without any prior notice.