



Manual Tablet Hardness Testing Instrument, PTB 302

Test the Hardness tablets, oblongs, cores, capsule shaped samples, sweets, electronic components using the **PTB 302** Hardness Testing Instrument which is in full compliance with the valid monographs of the European (EP 2.9.8) Pharmacopoeia.

Place manually the sample onto the sample support. Start the test and get the result shown at the digital LED display and immediately printed by the built-in printer or the optional available serial matrix printer.

The PTB 302 offers the following features to the user:

- | do up to 250 tests
- | use automatic re-start facility to speed up the testing sequence
- | delete invalid results, for example because of incorrect positioning
- | get direct printout of each result and a full statistical calculation including mean value, standard and absolute deviation, maximum and minimum test result.
- | built-in thermo printer (ink printer optional)
- | easy instrument validation and calibration procedure
- | print calibration report
- | use standard RS 232 data interface to transmit or print the test results
- | **select force mode:** adjust linear force increase rate within 5 - 50 N/Sec. - standard setting: 20 N/sec.
- | set sample touching force level (useful to test very soft samples)
- | set sample breaking level (useful to test "soft" tablets)
- | no change of hardness test tools, system set up to be used with all shapes of tablets
- | select 300 or 500N* maximum testing force

Depending on the sample hardness you can manually test between 6 to 10 samples per minute. The broken samples are collected in a removable shoot having. The testing station has a Plexiglas user protection screen.

Principle of Operation

The user places the sample onto the support and starts the test. The driven force jaw moves towards the sample. As soon as it did touch the sample it will start to increase the force as per selected force rate until the sample is broken. The maximum force shown as hardness in either Newton (N), Kilopond (Kp) or StrongCobb (Sc) is shown at the display. The instrument is ready to test the next sample. Whenever the number of samples used to be tested is finished, stop the test series and call for statistical calculation of the total series.

The instruments operation and design is in full compliance to the valid Monograph for Hardness Testing of the EP and DAB Pharmacopoeia. The used Load Cell offers 10 time more accurate results as requested.

Which force mode to select ?

Since more than 10 years most PHARMA TEST Hardness Test instruments offer the possibility to select either linear Force or Speed increase.

[Linear force increase](#) certainly offers the most accurate control, as the rate of increase is directly controlled by the electronical load cell used to read the force. Also it quite simple to validate the correct and linear operation as a Tablet of 100 Newton hardness will be broken within 5 seconds if 20N/s had been adjusted.

[Linear speed increase](#) cannot be also used with the PTB302.

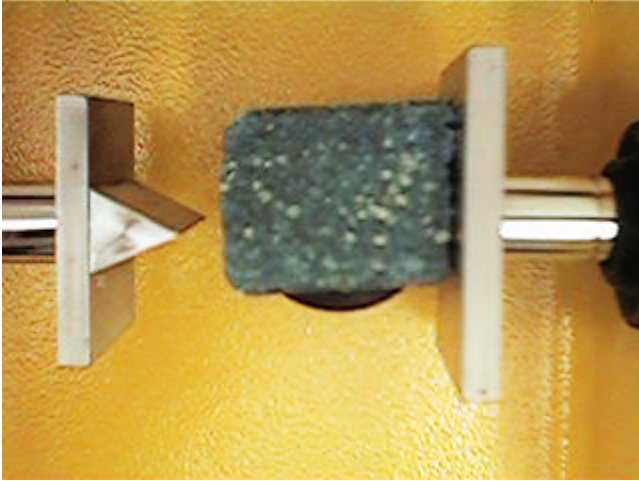
Calibration and Validation

Built-in calibration and validation program. To validate the hardness test station the [PT-MT2](#) magnetic tablet is used. Select a force of 50, 85 or 130 N and run a test series, the resolution of the results should be within 1.0N. The PT-MT2 instrument works like a tablet, it withstands force and than “breaks”. For the 2 point calibration of the hardness station a certified reference weight of 10 kg is used. All calibration and validation results can be printed and countersigned.

* requires optional Load Cell range up to 550N

Special Design

To test square samples we developed a special force jaw



Technical Data

Display:	LED Display for No. of samples and hardness results
Keyboard:	numerical and function keys
Hardness:	2.0 - approx. 330 N (Newton) - 550N optional available
Accuracy:	better 1N
Resolution:	0.08N
Measuring units:	hardness selectable in either Newton (N), kilopond (kp) or Strong Cobb (Sc)
Force rate:	adjustable for linear force increase
Range:	5 - 50 N/sec.
Number of tests for statistics	up to 250
Calibration Procedure:	10 kg reference weight (certified)
Validation:	PT-MT2 magnetic tablet at 50 - 85 and 130 N
Interface:	RS-232 serial port
Instrument Housing :	stainless steel to meet GLP requirements

Options

Extended hardness range up to approx. 550N.

Weights and Dimensions

Net weight:	12 kg
Gross weight:	18 kg
Packaging:	590 mm x 590 mm x 590 mm

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

