UCI T-U3 Lab

Ultrasonic contact impedance (UCI)

Ultrasonic contact impedance (UCI) hardness testers use a vibrating rod with a diamond tip to measure metal hardness and are designed to handle tasks that cannot solve with the Leeb method..

NOVOTEST Lab is your real laboratory in your pocket!

NOVATEST
Engineering Solutions

Contact us for: purchase, rental, quote.

Via Albertini, 36/F8
c/o Gross Ancona
60131 Ancona (AN)

T. +39 071.2415386
info@novatest.it
novatest.it

New features:

With NOVOTEST App you are able:

- Setting and calibration of the hardness tester;
- Display of measurement results in real time in numerical form with the construction of a graph, histogram or statistics;
- Take a picture of the test object with the puting of hardness marks;
- Creation of a video of the controlled product;
- Recording audio notes fro the tested object;
- Automatic saving of measurement geolocation on Google maps;
- Displaying a Google map with markers of places of measurements made on it and the ability to view these measurements;
- Displaying the calendar of measurements (presentation of the archive in the form of measurements grouped by date);
- Formation of the final comprehensive report on the measurement;
- Sending a finished report to e-mail, messenger (or in any convenient way) directly from the application;
- Flexible structure of the archive of measurements – completely similar to the usual explorer, with the ability to create folders and files with any names;
- Synchronization with PC and other smartphones;
- Cloud service for storing the archive of measurements;
- Automatic and manual synchronization of cloud measurement archives between devices;
- Launching the Google navigation mode, building a route and accompanying to the point at which the measurements were made;
- The ability to store archives of other devices with Bluetooth in one application.

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The main advantages of the device are:

Measuring the hardness of thin-walled products

The UCI Hardness Tester T-U3 allows user to measure products from 1 mm thick without additional tools, and even less with the use of the UCI Probe Test Stand for thin sheets, which makes it unique among analogues.

Measuring hardness of small products

Using this device, the user can, without additional fixation and accessories, carry out hardness testing of products weighing just 100g or even less.

Measuring hardness of complex shaped products

Unlike the standard Leeb probe, an ultrasonic (UCI) hardness tester probe needs an area of only a few square millimeters in order to measure hardness. This allows users to measure hardness in hard-to-reach places, products of complex shape, weld and heat affected zone (HAZ), gear teeth, etc.

Probes universality

The probe of the UCI Hardness Tester T-U3 has a special nozzle, which ensures the perpendicularity of the indenter penetration into the surface of the tested object and minimizes the probability of operator error. Also, a special nozzle washer can be installed on the reverse side to operate with radius surfaces of different diameters. In the same way as it can be removed from the probe, in this case the thin nose of the probe can be installed in the grooves or in the narrow points of the product, where it is necessary to measure hardness.

Archiving measurement results with photo fixation and print the protocol on a wireless printer

The world's only portable hardness tester with a built-in camera, which allows users to save the image of the tested object with fixed points of the hardness value on its surface. Also, the device can be supplied with a wireless printer, which allows users to quickly print a measurement protocol without leaving the testing object.

UCI Hardness Tester T-U3 also comes with **special software** for operate with the device archive and subsequent data transfer for processing in convenient formats.

Other advantages:

- Hardness measurement of any mass products with a thickness more than 1 mm – inaccessible to the dynamic (Leeb) hardness testers (small parts, thin-walled structures, pipes, tanks, steel sheets, articles of complex shape, hardness control of metal coatings, etc.);
- Measuring the hardness of the surface hardened layer;
- Small imprint after measuring (mirror surfaces of shafts necks, blades, gear teeth, etc.);
- Wide range of hardness testing;
- Various measurement modes;
- Calibration of any scale in any range;
- Convenience and ease for measurement;
- Optimized number of buttons;
- Large full color graphic display with bright back-lighting;
- Calibrations stored in memory of probe;
- Extended temperature range (frost, down to – 40°C);
- Internal memory and communication with PC;
- New, intuitive menu with tips on the buttons;
- Optional wireless mini printer;
- Water resistant case;
- Rubber protected bumper;
- Has different operating modes:
  - / Graph – the mode of building of graph
  - / Histogram – the mode of building of histogram
  - / Statistics – the mode of statistic
  - / Smart – the mode of filtering of incorrect measurements

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Technical features:

UCI probe types	• 1 kgf (10N) • 5 kgf (50N) • 10 kgf (98N)
Measuring range: Factory calibrations	• HRC: 20~70 • HB: 90~650 • HV: 100~750 • Tensile strength MPa: 370~1740
User calibrations	For any scale and range (for example: 1-3000HV)
Measuring accuracy	• HRC: ±2HRC • HB: ±10HB • HV: ±15HV • Standard: ASTM A1038 • Indenter: Diamond indenter (UCI) • Measuring direction: Any direction 360° • Data storage: Limited only by the memory card
Hardness scale	• HRC, HB, HV, MPa • Additional custom scales for calibration
Materials	• Pre-calibrated for steel • Additional custom materials for calibration
Data display	• Load applied/contact (UCI) • Single test result • Max, Min, Average of tests • Number of tests • Deviation • Var. coeff. • Histogram • Signal and Smart Mode (Filter of incorrect measurements) – PC cable connection (USB MINI B (to device) – USB A (to PC))
Languages	English, german, french, polish, portuguese, ukrainian, russian * additional languages available by request
Indication	Color LCD display (320×240)
Operating environment	Temperature:-20°C~40°C; Humidity: 30%~80% R.H.
Power supply	DC 4,5V (3 pcs batteries AA)
Batteries life	Approx. 10 hours
Instrument dimensions	160 × 75 × 30 mm
Net weight	Approx. 0.3kg (without probe)
Gross weight (with package)	1,7 kg
Package dimensions	33 × 27 × 10 cm

Accessories:

"Basic" kit:

- Electronic unit UCI Hardness Tester T-U3 (Lab)
- UCI probe – 1pc (10N, 50N or 98N for choice)
- Special nozzle

Accessory package:

- AA batteries – 3 pcs
- USB charger
- USB cable for PC
- PC software:
- USB-Connect
- LAB App for Android gadgets
- Operating manual/Quick guide
- Test certificate
- Transportation plastic case