



NOVOTEST

QUALITY TESTING DEVICES

Combined Hardness Tester NOVOTEST T-UD3



Unique and unmatched Portable Hardness Tester! High-precision, multi-functional, convenient, reliable and at affordable price!



UCI probe



Leeb probe



The advantages of Hardness Tester NOVOTEST T-UD3:

- ✓ hardness measurement of any mass products with a thickness of 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.)
- ✓ small imprint after measuring (mirror surfaces of shafts necks, blades, gear teeth, etc.)
- ✓ measuring the hardness of the surface hardened layer
- ✓ wide range of hardness
- ✓ various measurement modes
- ✓ calibration of any scale in any range
- ✓ convenience and ease of measurement
- ✓ large full color graphic display with bright back-lighting
- ✓ automatic recognition of probe
- ✓ indication of the type of connected probe
- ✓ 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 bumper protected case

The device works with both ultrasonic contact impedance (UCI) and dynamic (Leeb) probes. User get the benefits of two methods of measurement – it is the maximum that can be obtained from a portable hardness tester.



The ultrasonic contact impedance (UCI) probe is used for measuring the hardness of small items, objects with a thin wall, complex form, and to measure the hardness of surface hardened layers.

Dynamic (Leeb) probe is used for measuring the hardness of non-ferrous metals, cast iron, coarse-grained materials, massive products etc.



The ultrasonic contact impedance (UCI) probe is used for measuring the hardness of small items, objects with a thin wall, complex form, and to measure the hardness of surface hardened layers.

Can be equipped with three types of UCI probes:

| Load | Advantage or Benefit | Typical Applications |
|-------------------|--|--|
| 98N (22.0 lbf) | Leaves relatively large dent. Suitable for low finished surfaces. Surface finish equivalent to 30 grind or better. | Small forged products, cast materials, heat-treated materials, etc. Turbine blades, inside tubes with $\varnothing > 90\text{mm}$. |
| 50N (11.2 lbf) | Considered to be the Universal type for most general applications. 50N of downward hand pressure is required to activate the probe. Surface finish equivalent to 80 grind or better. | Induction or carburized machined parts, e.g.. camshafts, turbines, weld inspection, HAZ. Measurement in grooves, gear tooth flanks and roots Turbine blades, inside tubes with $\varnothing > 90\text{mm}$. |
| 10N (2.2 lbf) | Load is easy to apply; provides control to test on a sharp radius. Only 10N of downward hand pressure is required to activate the probe. Surface finish equivalent to 150 grind or better. | Ion-nitrided stamping dies and molds, forms, presses, thin-walled parts Bearings, tooth flanks Turbine blades, inside tubes with $\varnothing > 90\text{ mm}$. |

Portable hardness tester T-UD3 has different operating modes:



- █ Graph – the mode of building the graph;
- █ Histogram – the mode of building the histogram;
- █ Statistic – the mode of statistics;
- █ Smart - the mode of filtering incorrect measurements;
- █ Signal – the mode of displaying the signal (only for Leeb probe).

Sealed housing with rubber protective strips - Hardness testers is ideal for use in workshop and field conditions with high humidity, dust, etc. Hardness tester has frost-resistant display that allows user to use the device at any season and in any climatic zone of the Earth.

Combined Hardness Tester NOVOTEST T-UD3 specifications:

| | |
|-----------------------|--|
| UCI probe types | 1 kgf (10N) 2.2 lbf, 5 kgf (50N) 11 lbf, 10 kgf (98N) 22 lbf |
| Leeb probe types | D, DC, DL, C, D+15, E, G |
| Measuring range | HV:230~940; HRC:20~70; HB:90~650. Tensile strength, MPa 370~1740 (User calibrations for any scales and ranges, for example 10 - 1770 HV) |
| Measuring accuracy | HV:±3%HV; HRC:±1.5%HRC; HB:±3%HB |
| Indenter | Diamond Indenter (UCI), Hardened ball (Leeb) |
| Measuring direction | Any direction 360° |
| Data storage | Limited only by the memory card |
| Communication | Upload data to PC and export as a spreadsheet (USB cable and software included) Bluetooth, SD-card |
| Hardness scale | HRC, HB, HV, HRB, HS, HL, MPa |
| Materials | - Ultrasonic (UCI) probe - pre-calibrated for steel. - Dynamic (Leeb) pre-calibrated for steel, alloy steel, cast iron, stainless steel, aluminum, bronze, brass, copper. - Additional custom materials for calibration. |
| Data display | Load applied/contact (UCI), Angle (Leeb), Single test result, Max, Min, Average of tests, Number of tests, Deviation, Var. coeff, Histogram, Signal and Smart Mode (Filter of incorrect measurements). |
| Indication | Color display (320x240) (Wireless connection via NOVOTEST Lab App to Android Smartphone/Tablet with touch screen any diagonal size) |
| Operating environment | Temperature: -20°C ~50°C; Humidity: 30%~80%R.H. |
| Power supply | DC 4,5V (3 pc batteries AA) |
| Instrument dimensions | 160x75x30 mm |
| Net weight | Approx. 0.3kg (Without probe) |
| Battery life | Approx. 10 hours. |



The device has PC software (novotest.info) with comfortable and intuitive interface

Standard set of Hardness Tester NOVOTEST T-UD3

- ✓ Electronic unit
- ✓ UCI probe
- ✓ Leeb probe
- ✓ 3 pcs batteries AA
- ✓ Charger
- ✓ USB cable
- ✓ Operating manual
- ✓ Software for PC
- ✓ Case

Available options for ordering of Hardness Tester NOVOTEST T-UD3

- ✓ UCI probe
- ✓ Leeb probe
- ✓ Different colors of rubber bumper protected case
- ✓ Wireless printer
- ✓ Portable grinding machine
- ✓ Set of measures of hardness
- ✓ Can be equipped with three types of UCI probes: 10N (2.2 lbf), 50N (11.2 lbf), 98N (22 lbf)
- ✓ Batteries
- ✓ Charger
- ✓ USB-cable
- ✓ Case



Application of Hardness Tester NOVOTEST T-UD3

