



**NOVOTEST**  
QUALITY TESTING DEVICES



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

# Combined Hardness Tester NOVOTEST T-UD3



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.



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

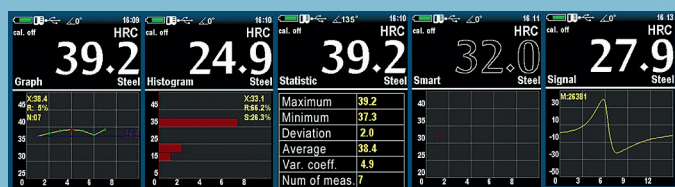
The ultrasonic contact impedance (UCI) probe is used for measuring the hardness of small items, objects with a thin wall, complex form, and to measure the hardness of surface hardened layers.



### 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 $\phi > 90\text{mm}$ .
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 $\phi > 90\text{mm}$ .
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 $\phi > 90\text{ mm}$ .

### 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
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 )
Hardness scale	HRC, HB, HV, HRB, HS, HL, MPa
Materials	<ul style="list-style-type: none"> <li>- Ultrasonic (UCI) probe - pre-calibrated for steel.</li> <li>- Dynamic (Leeb) pre-calibrated for steel, alloy steel, cast iron, stainless steel, aluminum, bronze, brass, copper.</li> <li>- Additional custom materials for calibration.</li> </ul>
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 LCD display (320x240)
Operating environment	Temperature: -20°C ~40°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 with a 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

