

# HARDNESS TESTER



The New T-UD3 Combined Harness Tester Model works with both ultrasonic contact impedance (UCI) and dynamic (Leeb) probes. User gets the benefits of two methods of measurement - it is the maximum that can be obtained from a portable hardness tester.

## Hardness Tester

**Unique and unmatched Portable Hardness Tester!**

**High-precision, multi-functional, convenient, reliable at an affordable price!**

- ✓ 88 combinations of materials and hardness scales (calibrations)
- ✓ Photographing of tested object
- ✓ Two methods of measuring
- ✓ Big color display
- ✓ Modes: statistic, graph, histogram
- ✓ Smart mode
- ✓ Internal memory in UCI probe
- ✓ Wireless printer



### Description of Combined Hardness Tester NOVOTEST T-UD3:



Built in camera allows picture taking of tested object and marking of tested area with corresponding hardness value

User gets the most reliable and intuitive method of logging of measurements.



**Hardness tester has technical specifications that compare to the most eminent and expensive hardness testers in the world, with a much more extensive functionality!**

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 two types of UCI probes:

Load	Advantage or Benefit	Typical Applications
<b>50N (11.2lbf)</b>	<p>Considered to be the Universal type for most general applications.</p> <p>50N of downward hand pressure is required to activate the probe.</p> <p>Surface finish equivalent to 80 grind or better.</p>	<p>Induction or carburized machined parts, e.g.. camshafts, turbines, weld inspection, HAZ.</p> <p>Measurement in grooves, gear tooth flanks and roots, turbine and inside blades and tubes with &gt; 90mm.</p>
<b>10N (2.2lbf)</b>	<p>Load is easy to apply; provides control to test on a sharp radius.</p> <p>Only 10N of downward hand pressure is required to activate the probe.</p> <p>Surface finish equivalent to 150 grind or better.</p>	<p>Ion-nitrided stamping dies and molds, forms, presses, thin-walled parts, bearings and tooth flanks, turbine blades and inside tubes with &gt; 90mm.</p>



Has different operating modes:



- Graph** - the mode of building a graph;
- Histogram** - the mode of building a histogram;
- Statistics** - the mode of statistic;
- Smart** - the mode of filtering of incorrect measurements;
- Signal** - the mode of displaying of signal (only for Leeb probe).



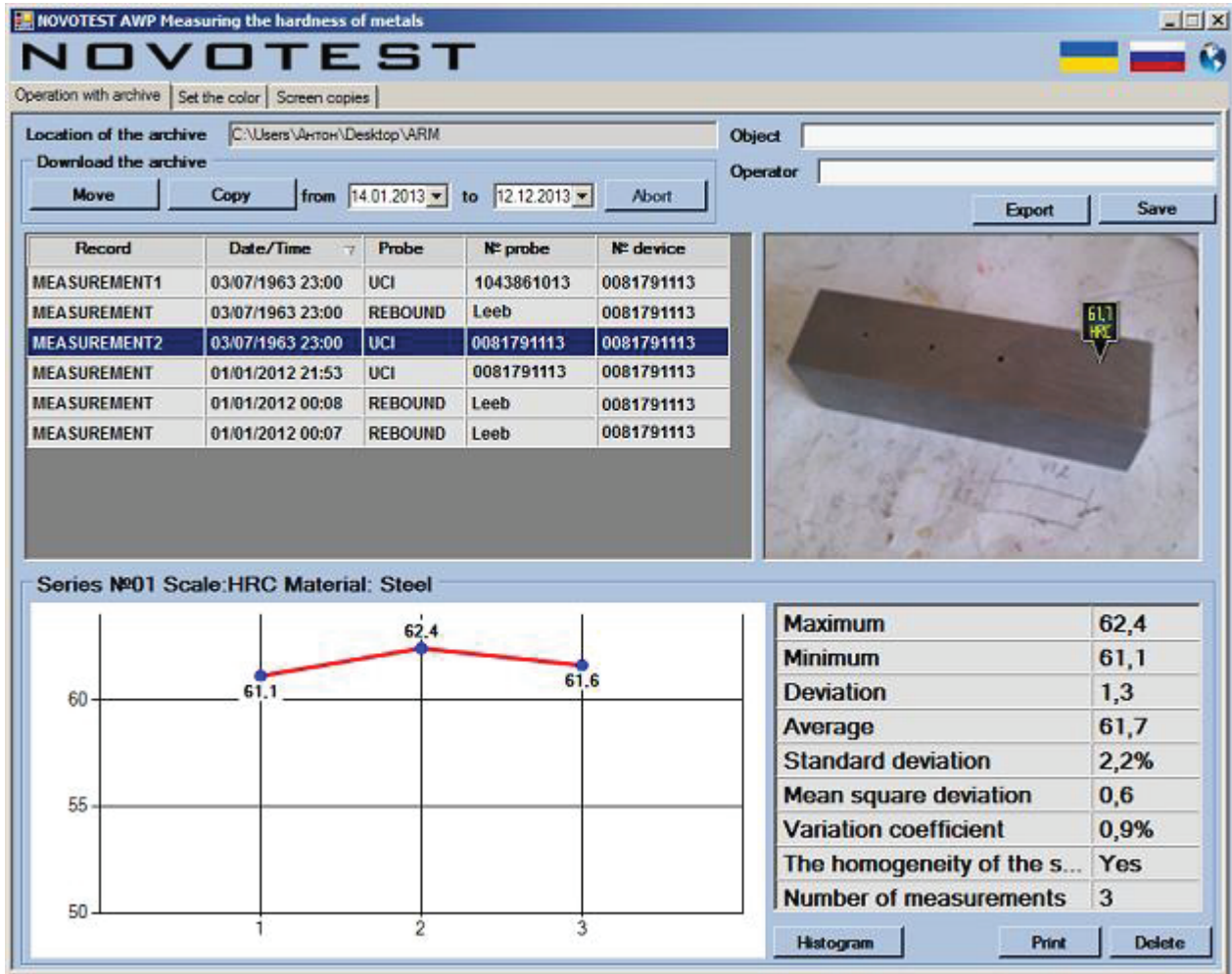
Sealed housing with rubber protective strips - Hardness testers are ideal for use in workshop and field conditions with high humidity, dust, etc. Hardness tester has frost-resistant display that allows user to use the device in any season and in any climatic zone on Earth.

#### Combined Hardness Tester NOVOTEST T-UD3 specifications:

UCI probe types	1kgf (10N) 2.2 lbf, 5kgf (50N) 11lbf, 10kgf (98N)
Leeb probe types	D, DC, DL, C, D+15, E, G
Measuring Range	HV:100~940; 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	160x75x30mm
Net Weight	Approx. 0.3kg (Without probe)
Battery life	Approx. 10 hours.



The device has PC software with a comfortable and intuitive interface



**NOVOTEST AWP Measuring the hardness of metals**

Operation with archive | Set the color | Screen copies

Location of the archive: C:\Users\Anton\Desktop\ARM

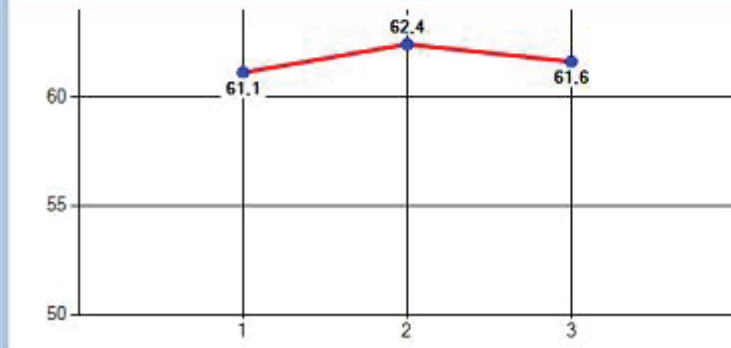
Download the archive: Move | Copy | from 14.01.2013 to 12.12.2013 | Abort

Record	Date/Time	Probe	N° probe	N° device
MEASUREMENT1	03/07/1963 23:00	UCI	1043861013	0081791113
MEASUREMENT	03/07/1963 23:00	REBOUND	Leeb	0081791113
MEASUREMENT2	03/07/1963 23:00	UCI	0081791113	0081791113
MEASUREMENT	01/01/2012 21:53	UCI	0081791113	0081791113
MEASUREMENT	01/01/2012 00:08	REBOUND	Leeb	0081791113
MEASUREMENT	01/01/2012 00:07	REBOUND	Leeb	0081791113

Object: [ ]  
Operator: [ ]

Export | Save

Series №01 Scale:HRC Material: Steel



Maximum	62,4
Minimum	61,1
Deviation	1,3
Average	61,7
Standard deviation	2,2%
Mean square deviation	0,6
Variation coefficient	0,9%
The homogeneity of the s...	Yes
Number of measurements	3

Histogram | Print | Delete



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  
v
- ✓ calibration of any scale in any range
- ✓ convenience and ease of measurement
- ✓ optimized number of buttons
- ✓ large full color graphic display with bright back
- ✓ 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 (IP64)
- ✓ rubber bumper protected case





### **Standard set of Combined Hardness Tester NOVOTEST T-UD3**

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



### **Available options for ordering of Combined Hardness Tester NOVOTEST T-UD3**

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





## Application of Combined Hardness Tester NOVOTEST T-UD3

