HARDNESS TESTER

METERDI MR-HD700/ MR-HD700 WITH NABL

The METERDI MR-HD700, a versatile hardness tester, is specifically engineered to monitor the hardness of metal products.

Combining ultrasonic and dynamic methods of hardness measurement, the MR-HD700 stands out as the most adaptable and efficient solution for conducting incoming, in-process, and outgoing quality control of materials.

Utilized for diverse applications, including the measurement of carbon and structural steels, surface-hardened products, heat-resistant, corrosion-resistant, stainless steels, galvanized coatings, welds, aluminum and copper alloys, products of complex configuration, thin-walled, and compact products.

Addressing challenges arising from discrepancies between departments or subcontractors in hardness measurement results during component acceptance, the MR-HD700 offers an accessible and reliable solution. It enables measurements with an accuracy closely approaching that of stationary hardness testers.

The hardness tester, featuring a protective casing with rubber inserts and a dust-resistant cover, as well as a vibrant colored 3.5" LCD TFT display and a user-friendly menu interface, can be employed not only in laboratories but also in manufacturing workshops and open-air field conditions.

DYNAMIC SENSOR:
Designed for measuring the hardness of large and massive objects, the sensor ensures optimal measurement conditions. Additional dynamic sensors with varying sizes and spring stiffness, providing different impact energy of the indenter, can be employed for diverse objects.

ULTRASONIC SENSOR:
Effective in tackling tasks involving hardness measurement in grooves, surfaces with a small radius, hard-to-reach areas, complex-shaped products, and small details. Well-suited for measuring the hardness of mirror surfaces on shaft necks, blades, and gear teeth, especially when using the UCI-S type sensor.

FEATURES OF THE HARDNESS TESTER MR-HD700:

- Dust and moisture-resistant casing.
- Intuitive interface organized on the principle of 'TURN ON AND WORK.'
- Color display with backlighting for clear presentation of measurement results in bright sunlight and low light conditions.
- Notification of measurement result output within established limits.
- Unique system for statistical data processing for prompt analysis of measurement results.
- Single-point calibration function.
- Large memory capacity – enables input and storage of over 100 user scales and viewing the history of all conducted measurements after completing the operation.
- Self-programming of additional scales.
- Saving all measurement results by date and time. Viewing results in the form of tables and graphs for detailed analysis of obtained values.
- Stable operation of the device in challenging climatic conditions.

In addition to standard sensors, it is possible to supply additional dynamic («E», «G» type) and ultrasonic (UCI-S, UCI-R, UCI-L, UCI-P) sensors for various tasks.

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SPECIFICATION

Measurement range for the main scales		
Rockwell	**20 – 70 HRC***	
Brinell	**30 – 650 HB***	
Vickers	**230 – 940 HV***	
Measurement error	**Subject to following recommendations ***	**Requirements of ISO and ASTM standards**
Rockwell	**±0.2 HRC**	**±2 HRC**
Brinell, in the range90-180 HB180-250 HB250-460 HB	**± 3 HB**	**±10 HB±15 HB±20 HB**
Vickers in the range240-500 HV500-800 HV800-940 HV	**± 3 HV**	**+/– 15 HV+/– 20 HV+/– 25 HV**
Diameter of the surface for installing the sensor		
For the ultrasonic sensor	**– from 1 mm on the plane,from 5 mm/0.197" in a blind hole (groove)**	
For the dynamic sensor:	**from 14 mm/0.551" on the plane**	
The recommended roughness of the controlled product		
For a dynamic sensortype “D”type “G”	**3.2 Ra7.2 Ra**	
For an ultrasonic sensor	**1.6 Ra**	
Algorithm of false values	**Yes**	
Materials	**Ultrasonic sensor (UCI) – pre-calibrated for steel**	
	Dynamic sensor – pre-calibrated for steel, cast iron, stainless steel, aluminum, bronze, brass, and copper	
	Additional user materials for calibration	
Calculations	**Average value for 1-20 measurements;Minimum, maximum, average values;Algorithm for rejecting incorrect measurements**	
Scale conversion	**Conversion of measured hardness into different scales**	
Programmable scales	**Additional scales beyond 100**	
Construction of graphs	**All points from the series that were considered in the calculation of the mean value**	
Language	**Ukrainian, English, Russian**	
Memory capacity	**128Mb (Possibility of saving more than 1000 measurements)**	
Device body	**Impact-resistant plastic casing with a rubber bumper (fall protection)**	
Display	**LCD TFT 3.5" 320×480 px**	
PC connection	**USB, results processing, report generation**	
Power supply	**Rechargeable, Li-Pol, 3.7V 3000mAh**	
Work without recharging	**9 hours**	
Operating temperature	**-10...+45 °C, no condensation**	
Overall dimensions	**185 x 98 x 42 mm (including rubber inserts)**	
Weight	**0.35 kg**	

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OPTIONAL ADDITIONAL SENSORS