ULTRASONIC HARDNESS TESTER

PCE-5000



- **Measures the hardness of metals and alloys with a minimum thickness of 2 mm**
- **Displays measurements in Rockwell A (HRA), Rockwell B (HRB), Rockwell C (HRC), Brinell (HB), Vickers (HV) and MPa (N/mm²) SI units**
- **Measuring range: 61 ... 85.6 HRA, 41 ... 100 HRB, 20.3 ... 68 HRC, 85 ... 650 HB, 50 ... 999 HV, 255 ... 2180 MPa (N/mm²)**
- **Accuracy: ± 1.5 HR, ± 3% HB, ± 3% HV**
- **Stores up to 2000 measurement groups / 20 calibration sets to memory**
- **Provides measurements in just 2 seconds**
- **Probe fits into small spaces and hard-to-reach places**
- **Features a large and easy-to-read LCD screen, simple calibration and an RS-232 interface**

A portable hardness tester or durometer that uses the ASTM A1038 ultrasonic contact impedance (UCI) method to measure the hardness of metals and alloys with a minimum thickness of 2 mm / .08 in. Ultrasonic hardness testing is considered nondestructive, as it creates a microscopic indentation only visible when using a high-powered microscope.

Featuring a quick 2-second measurement time, this UCI hardness tester is the ideal tool for weld inspection, hardness control of metal coatings and hardness measurement of fine-grained metals, small forgings, cast materials, heat-affected zones, ion-nitrided stamping dies and molds, forms, presses, thin-walled structures and parts, bearings, tooth flanks, pipes, tanks, steel sheets and products with intricate or complex shapes.

Additional measuring sensors can be connected to the ultrasonic meter, which vary in their test force, which is applied to measure the hardness. The different sensors measure the hardness of the objects depending on the roughness of their surface. For example, the standard sensor with 20 N measures surfaces with a roughness of less than 5 µm. The 10 N sensor measures a roughness of less than 3.2 µm and the one with 98 N measures a roughness of less than 15 µm.

Specification

Hardness	
Measuring range	76 ... 618 HB
Resolution	1 HB
Accuracy	±3%
Hardness	
Measuring range	20,3 ... 68 HRC
Resolution	0,1 HRC
Accuracy	±1.5 HRC
Hardness	
Measuring range	41 ... 100 HRB
Resolution	0,1 HRB
Accuracy	1.5 HRB
Hardness	
Measuring range	61 ... 85,6 HRA
Resolution	0,1 HRA
Accuracy	1.5 HRA
Hardness	
Measuring range	50 ... 999 HV
Resolution	1 HV
Accuracy	±3%

General technical data	
Measuring functions	MIN, MAX, Average value
Measuring functions (additional information)	Single value, mean value
Measuring principle	Ultrasonic Sonic Impedance
Display Typ	LCD graphic display with illumination
Storage medium	Internal memory
Storage capacity	2000 Measurements
Interface	RS232
Measuring surface minimum	2 mm
Operating time	10 h
Automatic power-off	30 min.
Measuring angle	360 °
Measurement time	2 s
Impact device	Type D
Hardness scales	HRC, HV, HB, HRA, HRB, MPa
Menu language	English (US), Chinese, Portuguese, Turkish, German
Protection class (device)	IP52
Power supply	Primary: 100 ... 240V AC | 50/60 Hz Secondary: 5V DC / 2 A
Connector type	Device Europlug
Battery/battery	1 x 3,7 V intern , Lithium-ion battery
Battery capacity	3200 mAh
Operating conditions	-10 ... 40 °C , 0 ... 85 %RH
Storage conditions	-20 ... 60 °C , 0 ... 85 %RH
Dimensions (L x W x H)	163 x 82 x 30 mm
Weight	524 g