

Mobile ultrasound hardness testing device SAUTER HO



Premium UCI hardness testing device for Rockwell, Brinell and Vickers

Features

- **Application:** This ultrasound hardness testing device is ideally suited for mobile hardness testing, where the main emphasis is on obtaining rapid and precise results.
- **Principle:** The SAUTER HO measures by using a vibrating rod which vibrates at ultrasonic frequency and is pressed onto the sample at a defined test force. At the lower end there is a Vickers indenter. Its resonant frequency increases as soon as an indentation is created when it comes into contact with the sample. Through appropriate adjustment of the device, the resulting change in resonant frequency is matched with the corresponding Vickers hardness.
- **Examples:** The HO ultrasound hardness testing system is primarily used for measuring small forgings, castings, welding points, punched parts, casting tools, ball bearings and the flanks of gear wheels as well as for measuring the influence of warmth or heat
- **Advantages compared with Rockwell and Brinell:** Means that the testing is almost nondestructive, small penetrations means that the testing is less destructive
- **Advantages compared with Vickers:** Demanding optical measuring is not required. You can therefore carry out measurements directly on-site, for example, on a permanently installed workpiece
- **Advantages compared with Leeb:** The high requirements on the weight of the test object can be widely omitted
- **Standards:** The device meets following technical standards: DIN 50159-1-2008; ASTM-A1038-2005; JB/T9377-2013
- **Measurement data memory** saves up to 1000 measurement groups each with 20 individual values
- **Mini statistics function:** Display of the measuring result, the number of measurements, the maximum and minimum value as well as the average value and the standard deviation
- **Calibration:** The device can be set to both standard hardness test blocks and also to up to 20 reference calibration values. When doing this it is possible to measure different materials quickly, without having to re-adjust the device to the individual materials
- **Scope of delivery:** Standard block for calibration, USB cable, Display unit, UCI sensor unit, transport case, software to transfer the saved data to the PC, accessories

Technical data

- Measuring ranges: HRC: 20,3-68; HRB: 41-100; HRA: 61-85,6; HV: 80-1599; HB: 76-618; Tensile strength: 255-2180 N/mm²
- Measuring precision: ± 3 HV; $\pm 1,5$ HR; $\pm 3\%$ HB
- Measuring time: adjustable from 1-5 sec.
- Display units: HRC, HV, HBS, HBW, HK, HRA, HRD, HR15N, HR30N, HR45N, HS, HRF, HR15T, HR30T, HR45T, HRB.
- Rechargeable battery integrated, standard, operating time up to 12 h without backlight, charging time approx. 8 h
- Minimum weight of the test object: 300 g for direct measurement with the sensor (included); 100 g with support ring (optional)
- Minimum thickness of the test object: 2 mm
- Minimum dimensions the test surface size around: approx. 5x5 mm (recommended)
- Overall dimensions WxDxH 160x83x28 mm
- Permissible ambient temperature -10 °C/40 °C
- Net weight approx. 0,93 kg

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Accessories

- **External impact sensor** Type D, Leeb standard sensor, can be reordered at any time, SAUTER AHMO D
- **3 Support ring, flat**, SAUTER HO-A04
- **4 Support ring, small cylinder**, \varnothing 8-20 mm, SAUTER HO-A05
- **5 Support ring, large cylinder**, \varnothing 20-80 mm, SAUTER HO-A06
- **6 Deep-hole protective cover**, SAUTER HO-A07
- **7 Calibration and adjustment plate** (hardness test blocks) with defined and tested steel hardness for regular testing and adjustment of hardness testing devices. The hardness values are indicated. A key feature of the plates is the low-granular, homogenous finish of the steel, \varnothing 90 mm, including calibration certificate, each
 28 to 35 HRC: SAUTER HO-A09
 38 to 43 HRC: SAUTER HO-A10
 48 to 53 HRC: SAUTER HO-A11
 58 to 63 HRC: SAUTER HO-A12
- **8 Test stand** for repeatable movements during testing. In this way you can avoid errors which could occur with manual handling of the sensor. This ensures even more stable measurements and more precise measuring results. Smooth-running mechanical system, stroke length 34 mm, maximum height of the test object within the test bench 240 mm, swivel probe device for measurements outside the base plate, very robust construction, net weight approx. 9 kg, SAUTER HO-A08

STANDARD





































OPTION



Model	Hardness scale	Min. weight of test item	Min. thickness of test item	Option	
				Factory calibration certificates	
SAUTER		g	mm	KERN	
HO 1K	HV 1	300	2	961-270	
HO 2K	HV 2	300	2	961-270	
HO 5K	HV 5	300	2	961-270	
HO 10K	HV10	300	2	961-270	

Pictograms

 Adjusting program (CAL): For quick setting of the instrument's accuracy. External adjusting weight required.	 Control outputs (optocoupler, digital I/O): to connect relays, signal lamps, valves, etc.	 ZERO: Resets the display to "0".
 Calibration block: standard for adjusting or correcting the measuring device.	 Analogue interface: to connect a suitable peripheral device for analogue processing of the measurements	 Battery operation: Ready for battery operation. The battery type is specified for each device.
 Peak hold function: capturing a peak value within a measuring process.	 Statistics: using the saved values, the device calculates statistical data, such as average value, standard deviation etc.	 Rechargeable battery pack: rechargeable set.
 Scan mode: continuous capture and display of measurements.	 PC Software: to transfer the measurement data from the device to a PC.	 Mains adapter: 230V/50Hz in standard version for EU. On request GB, AUS or USA version available.
 Push and Pull: the measuring device can capture tension and compression forces.	 Printer: a printer can be connected to the device to print out the measurement data.	 Power supply: Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or USA on request.
 Length measurement: captures the geometric dimensions of a test object or the movement during a test process.	 Network interface: For connecting the scale to an Ethernet network.	 Motorised drive: The mechanical movement is carried out by a electric motor.
 Focus function: increases the measuring accuracy of a device within a defined measuring range.	 KERN Communication Protocol (KCP): It is a standardized interface command set for KERN balances and other instruments, which allows retrieving and controlling all relevant parameters and functions of the device. KERN devices featuring KCP are thus easily integrated with computers, industrial controllers and other digital systems.	 Motorised drive: The mechanical movement is carried out by a synchronous motor (stepper).
 Internal memory: to save measurements in the device memory.		 Fast-Move: the total length of travel can be covered by a single lever movement.
 Data interface RS-232: bidirectional, for connection of printer and PC.	 GLP/ISO record keeping: of measurement data with date, time and serial number. Only with SAUTER printers	 DAkkS calibration possible: The time required for DAkkS calibration is shown in days in the pictogram.
 Data interface USB: To connect the measuring instrument to a printer, PC or other peripheral devices.	 Measuring units: Weighing units can be switched to e.g. non-metric at the touch of a key. Please refer to website for more details.	 Factory calibration: The time required for factory calibration is specified in the pictogram.
 WLAN data interface: To transfer data from the balance to a printer, PC or other peripherals.	 Measuring with tolerance range (limit-setting function): Upper and lower limiting can be programmed individually. The process is supported by an audible or visual signal, see the relevant model	 Package shipment: The time required for internal shipping preparations is shown in days in the pictogram.
 Data interface Infrared: To transfer data from the measuring instrument to a printer, PC or other peripheral devices.		 Pallet shipment: The time required for internal shipping preparations is shown in days in the pictogram.

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