MEASURING TECHNOLOGY & TEST SERVICE 2023

HARDNESS TESTING OF METALS (UCI)

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 SAUTER 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 concerning the proper weight of the test object can be widely omitted
- Standards: The device meets following technical standards: DIN 50159-1; ASTM-A1038-2005; JB/T9377-2013
- Measurement data memory saves up to 1000 measurement groups each with 20 individual values
- III 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 as well as 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
- I Scope of delivery: Standard block for calibration (approx. 61 HRC), 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 • Measurement precision: ± 3 % HV; ± 1,5 HR; + 3 % HB
- Display units: HRC, HV, HBS, HBW, HK, HRA, HRD, HR15N, HR30N, HR45N, HS, HRF, HR15T, HR30T, HR45T, HRB.
- Rechargeable battery pack integrated, as 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 supporting ring (optional)
- Minimum thickness of the test object: 2 mm
- Minimum dimensions the test surface size around: approx. 5×5 mm (recommended)
- Overall dimensions W×D×H 28×83×160 mm
- Net weight approx. 0,50 kg

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Accessories

- External impact sensor Type D, as standard, can be reordered, SAUTER AHMO D
- 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, Ø 90 mm, including calibration certificate

28 to 35 HRC, SAUTER HHO-A09 38 to 43 HRC, SAUTER HO-A10 48 to 53 HRC, SAUTER HO-A11 58 to 63 HRC, SAUTER HO-A12

- I Test stand for repeatable movements during testing. In this way you can avoid errors which could occur in 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 stand 240 mm, swivel probe device for measurements outside the base plate, very robust construction, net weight approx. 9 kg, SAUTER HO-A08
- Motorised probe. Enables testing at the touch of a button while maintaining the same procedure (while stocks last)
 HV 0,3, SAUTER HO-A15
 HV 0,5, SAUTER HO-A16
 HV 0,8, SAUTER HO-A17
 HV 1, SAUTER HO-A18



SAUTER HO 1K, HO 2K

- Support ring, flat, SAUTER HO-A04N
- Support ring, small cylinder, Ø 8–20 mm, SAUTER HO-A05N
- Support ring, large cylinder, Ø 20–80 mm, SAUTER HO-A06N

SAUTER HO 5K, HO 10K

- Support ring, flat,
- SAUTER HO-A04
- ■ Support ring, small cylinder, Ø 8–20 mm, SAUTER HO-A05
- ■ Support ring, large cylinder, Ø 20–80 mm, SAUTER HO-A06
- Deep-hole protective cover, SAUTER HO-A07

STANDARD		CCU 230 V 1 DAY		
Model	Hardness scale	Min. weight of test item	Min. thickness of test item	Option Factory calibration certificate
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	HV 10	300	2	961-270



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SAUTER PICTOGRAMS

required



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Adjusting program (CAL):
For quick setting of the instrument's accuracy. External adjusting weight
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Calibration block: Standard for adjusting or correcting the measuring device



Peak hold function: Capturing a peak value within a measuring process

Scan mode: _/\~ Continuous capture and display SCAN of measurements



Push and Pull: The measuring device can capture

tension and compression forces



Length measurement:

Captures the geometric dimensions of a test object or the movement during a test process



Focus function:

Increases the measuring accuracy of a device within a defined measuring range



Internal memory:

To save measurements in the device memory



Data interface RS-232:

Bidirectional, for connection of printer and PC



Profibus:

For transmitting data, e.g. between scales, measuring cells, controllers and peripheral devices over long distances. Suitable for safe, fast, fault-tolerant data transmission. Less susceptible to magnetic interference.



Profinet:

Enables efficient data exchange between decentralised peripheral devices (balances, measuring cells, measuring instruments etc.) and a control unit (controller). Especially advantageous when exchanging complex measured values, device, diagnostic and process information. Savings potential through shorter commissioning times and device integration possible



Data interface USB:

To connect the measuring instrument to a printer, PC or other peripheral devices



Bluetooth* data interface: To transfer data from the balance/

imlab

measuring instrument to a printer, PC or other peripherals

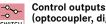


WLAN data interface:

To transfer data from the balance/ measuring instrument to a printer, PC or other peripherals



Data interface Infrared: To transfer data from the measuring instrument to a printer, PC or other peripheral devices

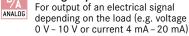


(optocoupler, digital I/O): SWITCH To connect relays, signal lamps, valves, etc.



Analogue interface: To connect a suitable peripheral device for analogue processing of the measurements

Analog output:



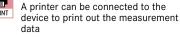
how Statistics:

Using the saved values, the device STATISTIC calculates statistical data, such as average value, standard deviation etc.



PC Software: To transfer the measurement data from the device to a PC

Printer: 님



D Network interface: For connecting the scale/measuring LAN instrument to an Ethernet network



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



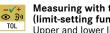
GLP/ISO record keeping:

Of measurement data with date, time and serial number. Only with SAUTER printers



Measuring units:

Weighing units can be switched to e.g. UNIT non-metric. Please refer to website for more details



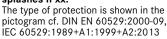
Measuring with tolerance range (limit-setting function): Upper and lower limiting can be programmed individually. The process

is supported by an audible or visual signal, see the relevant model



🔘 www.imlab.eu - info@imlab.eu

Protection against dust and water splashes IPxx:



B

Rechargeable battery pack: Rechargeable set ACCU

→0+

ZERO

E

BATT

ZERO:

Resets the display to "0"

Battery operation:



Plug-in power supply:

Ready for battery operation. The battery type is specified for each device

230V/50Hz in standard version for EU. On request GB, AUS or USA version available



Integrated power supply unit: Integrated, 230V/50Hz in EU.

More standards e.g. GB, AUS or USA on request



Motorised drive:

The mechanical movement is carried out by a electric motor



Motorised drive:

The mechanical movement is carried out by a synchronous motor (stepper)



Fast-Move:

The total length of travel can be covered by a single lever movement



Verification possible:

Models with type approval for construction of verifiable systems



DAkkS calibration possible:

The time required for DAkkS calibration is shown in days in the pictogram



Factory calibration:

The time required for factory calibration is specified in the pictogram



Package shipment:

The time required for internal shipping preparations is shown in days in the pictogram



() +33(0)3 20 55 19 11 () +32(0)16 73 55 72

The time required for internal shipping preparations is shown in days in the pictogram

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