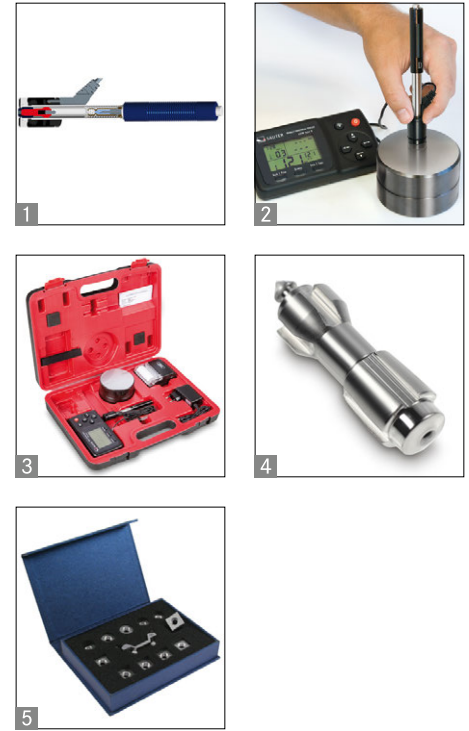


Mobile Leeb hardness tester SAUTER HMM · HMM-NP



## Advanced features for demanding applications

### Features

- **1 Impact (rebound) sensor:** The bounce module is accelerated by a spring against the item being tested. Depending on how hard the object is, the kinetic energy of the module will be absorbed. The speed reduction will be measured and converted to Leeb hardness values.
- **External impact sensor (Type D)** included
- **Mobility:** In comparison with stationary table-top devices and testing devices with an internal sensor, using the SAUTER HMM. offers the highest level of mobility and flexibility
- **All measurement directions possible (360°)** thanks to an automatic compensation function
- **2 Standard block for calibration** included (approx. 790 ± 40 HL)
- **3 Delivered in a robust carrying case**
- **Internal memory** for up to 9 measured values
- **Mini statistics function:** displays the measured result, the average value, the impact direction, date and time
- SAUTER HMM-NP: identical product features as the SAUTER HMM. model, but comes without the printer

- **Measurement value display:** Rockwell (B & C), Vickers (HV), Brinell (HB), Shore (HSD), Leeb (HL), tensile strength (MPa)
- **Automatic unit conversion:** The measuring result is automatically converted into all specified hardness units

### Technical data

- Measuring precision: 1 % at 800 HLD (± 6 HLD)
- Measuring range tensile strength: 375–2639 MPa (steel)
- Min. sample weight on a solid and stable support: 3 kg
- Minimum sample material thickness: 8 mm
- Minimum sample radius (concave/convex): 50 mm (with support ring: 10 mm)
- Dimensions W×D×H 80×30×150 mm
- SAUTER HMM.: External mains adaptor for printer, as standard
- Ready for use: Batteries included, 3× 1.5 V AAA, block, operating time up to 30 h, AUTO-OFF function to preserve battery life
- Net weight approx. 0,2 kg

### Accessories

- Connection cable, without impact sensor, SAUTER HMM-A02
- **5 Attachment rings** for secure positioning, SAUTER AHMR 01
- **4 Impact body**, SAUTER AHMO D01
- **Test block** Type D/DC, Ø 90 mm (± 1 mm), net weight < 3 kg, hardness range 790 ± 40 HL, SAUTER AHMO D02 630 ± 40 HL, SAUTER AHMO D03 530 ± 40 HL, SAUTER AHMO D04
- **Paper roll**, 1 piece, SAUTER ATU-US11
- **Factory calibration certificates** for SAUTER AHMO D02, AHMO D03, AHMO D04, SAUTER 961-132

STANDARD





































OPTION



Model	Sensor	Measuring range	Readout	Option	
				Factory calibration certificates	
SAUTER		[Max] HL	[d] HL	KERN	
HMM.	Typ D	170-960	1	961-131	
HMM-NP	Typ D	170-960	1	961-131	

## Pictograms

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

Your KERN specialist dealer: