# Mobile Leeb hardness tester SAUTER HN-D



SAUTER



# "Pen type" Leeb hardness tester for mobile hardness testing of metals

### Features

- User-friendly operation: The compact version enables the product to be used in a significantly wider range of applications compared with traditional devices
- The measuring device has been designed for one-hand operation and this allows the user to work more quickly and flexibly
- Modern LCD display: Optimised for industrial applications: increased luminosity and backlight can be switched on, that way the display can be read from any angle
- All measurement directions possible (360°) thanks to an automatic compensation function
- Internal impact sensor included (Type D)
- Measurement value display: Rockwell (B & C), Vickers (HV), Brinell (HB), Leeb (HL) Hardness comparison block not included
- Internal data memory for up to 500 measurements with date and time
- Data interface USB, including USB interface cable
- Delivered in a robust carrying case

# **Technical data**

- Measurement uncertainty ± 4 HLD
- Minimum sample weight on a solid and stable support: 2 kg
- Minimum sample material thickness: 3 mm with coupling on fixed base
- Dimensions W×D×H 35×25×145 mm
- Operation by rechargeable battery, standard, operating time without backlight 16 h, charging time 3 h
- · Mains adapter, external, standard
- Net weight approx. 0,07 kg

# Accessories

- Plug-In for data transfer of measuring data from the measuring instrument and transfer to a PC, e.g. in Microsoft Excel<sup>®</sup>, SAUTER AFI-1.0
- Impact body, SAUTER AHMO D01
- I 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
- Factory calibration certificates for SAUTER AHMO D02, AHMO D03, AHMO D04, SAUTER 961-132

STANDARD			OPTION
MEMORY USB		230 V 1 DAY	CALBLOCK SOFTWARE

Model	Sensor	Measuring range	Readout	Factory ca	Option Factory calibration certificates	
		[Max]	[d]			
SAUTER		HLD	HL	KERN		
HN-D	Typ D	170-960	1	961-13	31	

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# **SAUTER CATALOGUE 2022**

### Pictograms



Adjusting program (CAL): For quick setting of the instrument's accuracy. External adjusting weight required



Calibration block:

Standard for adjusting or correcting the measuring device



### Peak hold function: Capturing a peak value within a

measuring process



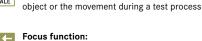
Scan mode: Continuous capture and display of measurements



The measuring device can capture tension and compression forces



Length measurement: Captures the geometric dimensions of a test



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



FOCUS

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:

Your KERN specialist dealer:

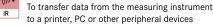
To transfer data from the balance/measuring instrument to a printer, PC or other peripherals



# WLAN data interface:

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

### Data interface Infrared: • (((() •



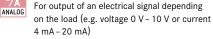


Control outputs (optocoupler, digital I/O): To connect relays, signal lamps, valves, etc.



To connect a suitable peripheral device for ANALOG analogue processing of the measurements

# Analog output:



Statistics:

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



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



A printer can be connected to the device to print out the measurement data

### Network interface:



For connecting the scale/measuring 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: GLP

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

### Measuring units:

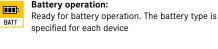
 ${\mathcal C}$ Weighing units can be switched to e.g. non-metric. UNIT Please refer to website for more details



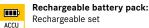
Measuring with tolerance range (limit-setting function):

Upper and lower limiting can be programmed individually. The process is supported by an audible or visual signal, see the relevant model

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ZERO:



Rechargeable set

Resets the display to "0"

<u> </u>
230 V

666

IP

+04

ZERO

Plug-in power supply:

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

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Protection against dust and water splashes IPxx:

The type of protection is shown in the

pictogram cf. DIN EN 60529:2000-09, IEC 60529:1989+A1:1999+A2:2013



Integrated power supply unit:

Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or USA on request



The mechanical movement is carried ELECTRO out by a electric motor

# Motorised drive:

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



STEPPER

### Fast-Move:

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



# Verification possible:

The time required for verification is specified in the pictogram

DAkkS +3 DAYS

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



Factory calibration:



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

### Pallet shipment:



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

+4 DAYS specified in the pictogram

The time required for factory calibration is