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 data groups, with up to 9 values per group forming the average value of the group
- **Mini statistics function:** displays the measured result, the average value, the impact direction, date and time
- **New:** SAUTER HMM-NP! This model has identical product features as the SAUTER HMM. model, but comes without the wireless infrared 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

- 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× 1.5V AAA, block, operating time up to 30 h, AUTO-OFF function to preserve battery life, Battery charge indicator
- Net weight approx. 0,2 kg

Accessories

- Connection cable, without impact sensor, SAUTER HMM-A02
- **Attachment rings** for secure positioning, SAUTER AHMR 01
- **4 Impact body,** SAUTER AHMO D01
- **Test block** Type D/DC, ∅ 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
- **5 SAUTER HMM.: Wireless IR printer** standard for o´site printing of measurement protocols (rechargeable battery operated), can be reordered, SAUTER AHN-02
- **Paper roll,** 1 piece, for SAUTER AHN-02, SAUTER ATU-US11

STANDARD							OPTION
CAL BLOCK	MEMORY	IR	STATISTIC	PRINT	BATT	230 V	1 DAY	ISO +4 DAYS

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 NEW	Typ D	170–960	1		961-131	

NEW New model

SAUTER Pictograms:

Adjusting program (CAL):
For quick setting of the balance'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.

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.

Data interface USB:
To connect the balance to a printer,
PC or other peripheral devices.

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

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

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

Statistics:
using the saved values, the device
calculates statistical data, such as
average value, standard deviation etc.

PC Software:
to transfer the measurements from
the device to a PC.

Printer:
a printer can be connected to the
device to print out the measurements.

GLP/ISO record keeping:
of measurements with date, time and
serial number. Only with SAUTER printers.

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.

**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

ZERO:
Resets the display to "0".

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

Rechargeable battery pack:
rechargeable set.

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

Power supply:
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.

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.

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

Your SAUTER specialist dealer: