SC METROMAT SRL

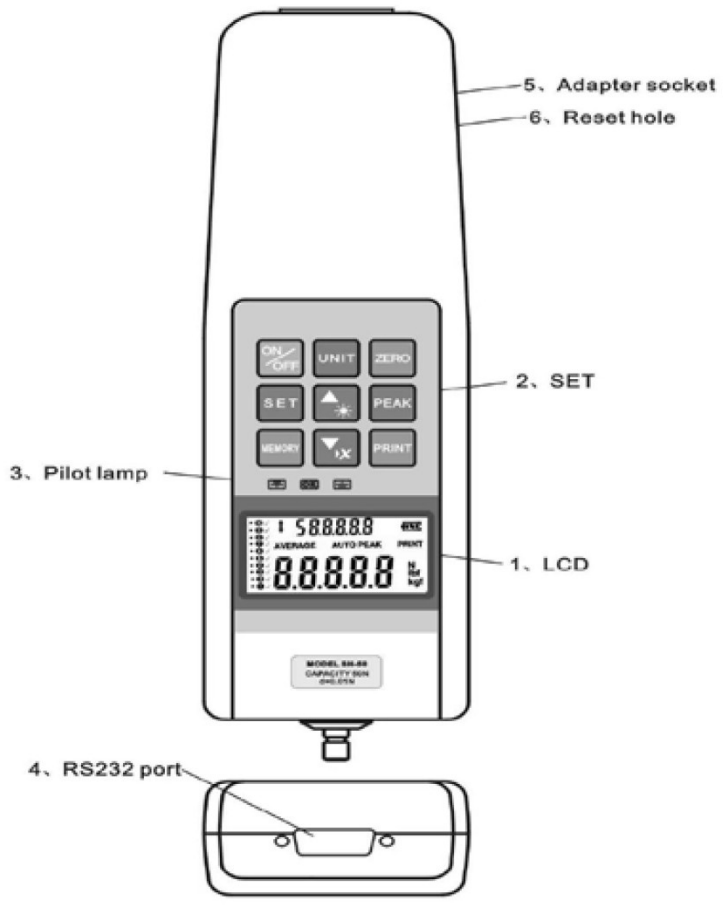
Compartimentul Comercial: 505600 - Sacele - Piata Libertatii nr.2 - tel/fax: 0268 275 212; 0268 276 807 e-mail: sales@metromat.ro - comert@metromat.ro

Dinamometre cu senzor extern, seria FH-EXT, max 500N.

FH 10– 500 EXT







Thank you for buying a SAUTER force gauge. We hope you are pleased with your high quality force gauge with its big functional range. If you have any queries, wishes or helpful suggestions, do not hesitate to call our service number.

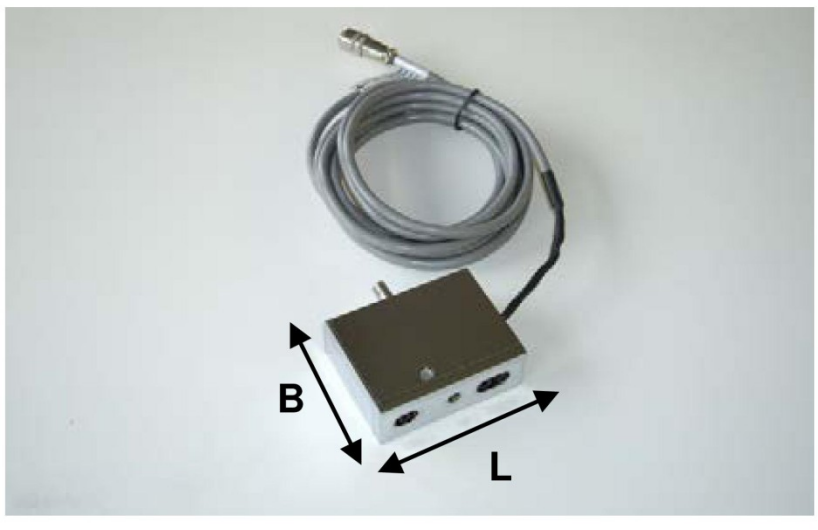
„Sensor Outside“ means the cell is outside the body.

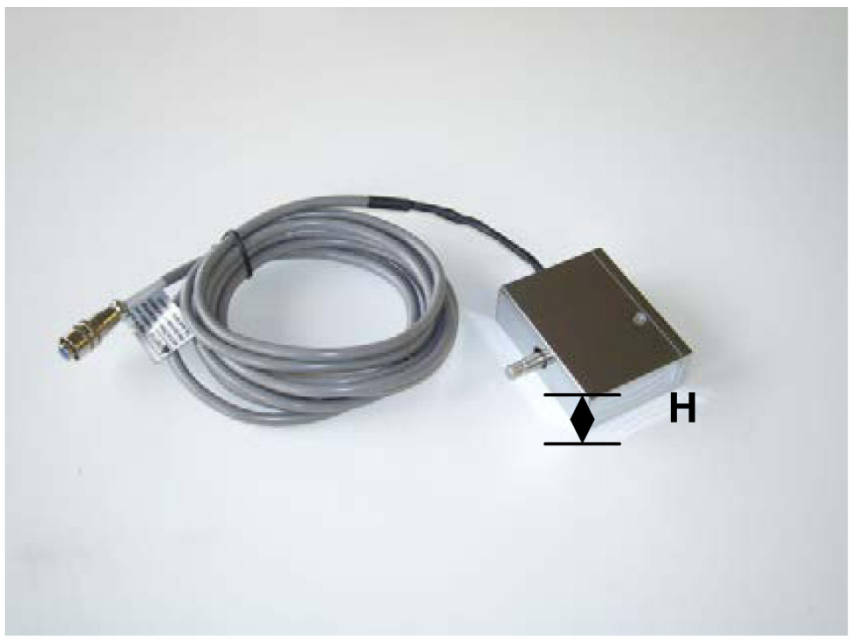
1. Included in Delivery

- SAUTER FH, incl. rechargeable battery
- Carrying Case
- Charger
- Standard attachments, 5 pieces. M3x 8 screws

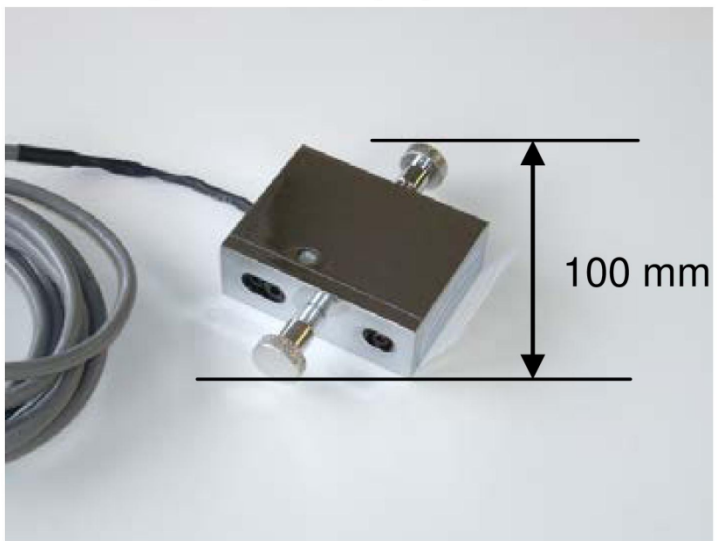


Dimensions in mm for the instruments
FH 10 EXT up to FH 500 EXT:





Dimensions of the sensor L x B x H:
74 x 50 x 22 mm
Cable length between display and sensor: 2 m



External sensor with accessories for compression tests

Important annotation:
By pressing the **RESET key** (on the right side of housing, see illustration on the left), individual settings and memorised values can be re-set or erased, in example for a new start of the instrument after an operating error.

2. Working Conditions

10°C to 30°C / 15% up to 80% humidity

3. Electrical Power Supply

Either by recharchable battery or current power supply

Current power supply:
- Connection by power adapter
- Rechargeable batteries are charged simultaneously

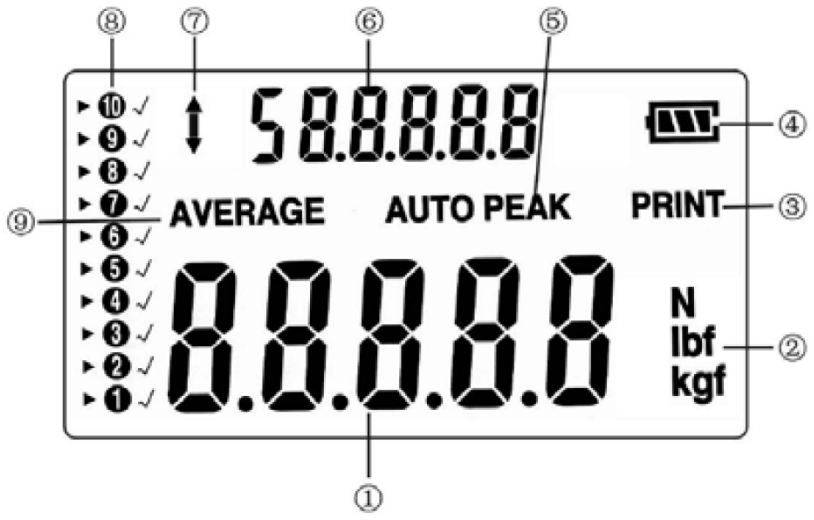
Rechargeable battery pack for mobile applications:
- Type: Ni 8.4V / 600 mAh
- Charging time: approx. 1 hour

4. Technical Data

- Accuracy: ± 0,5 % of capacity
- Data Sampling Rate: 2.000 Hz
- Weight: 640 g

5. Operation

Display



(1) Measuring Result
(2) Measuring Units
(3) Activation of PRINT Function
(4) Indication of power charging status
PEAK or AUTO-PEAK Mode
(5) Average value of stored peak values
(6) Force direction
(7) Occupancy of storing spaces
(8) AVERAGE- or Saving Mode

Operating keys

ON / OFF: 

ON / OFF key
(For ON, press 1 sec.)

UNIT: 

- Press short: Select unit: N, kg or lb
- Press for 2 sec.: Display return

ZERO: 

Three functions:
- Zeros the measuring result (Tara function)
- Cleans the peak value (in Peak mode)
- Saves a setting (in SET mode

SET:

SET

- 1 x Press: Upper Limit [HidT / Hi Lt]. To change press: ▲ or ▼ (see section High/Low Limit function)

Hi Lt

- 1 x Press: Lower Limit [LodT]. To change press ▲ or ▼ (see section High/Low Limit function)

Lo dT

- 1 x Press: Minimum limit to save peak values in the instrument's memory. [LE.SET / Lo Pe]. Please see section „Min Limit Peak Save". To change press: ▲ or ▼ (Only in „Peak-Mode" active) (see section min. limit peak save)

Lo Pe

- 1 x Press: Sets the Auto-STOP force value that stops the movement of a test stand. Adjustment of the force value. To change press: ▲ or ▼ (only active in „Battery-Mode")

StoP

- 1 x Press: Sets the AUTO-OFF force value that stops the movement of a test stand. To change press: ▲ or ▼ (Only in „Battery-Mode" active)

P.OFF

- 1 x Press: Peak-Freeze-Time [PE.2E / A.PE / HoldT]: Time period in which a peak value is being shown in the display in sec. To change press: ▲ or ▼

HoldT

- 1 x Press: Data Transfer [rS232] to PC (PC) or to the printer (Print) or (in version U 5.1) to the test stand (stand)

rS232

SET

- PC: Pressing SET once: Saves the Settings
- PRINT: Pressing SET twice: sending data to the printer
- STAND: Pressing SET three times: sending a signal to the Test Stand to stop its movement (in version U 5.1)

Back Light:

PEAK:

Three functions

- Track mode (continuous measurement)
- Peak mode (capture of maximum values)
- Auto-Peak mode, same as Peak-mode, only without the „Min limit peak save" function

MEMORY:

Saves the peak values to calculate the average value (please see section "Memory mode"

DELETE

Deletes stored peak values (only active in „Memory mode")

PRINT:

Sends the stored peak values to a PC or Printer (please see section „Data Output")

High / Low Limit Function

LEDs to display OK / NOT OK Tests

▼ Lower than lower limt
▲ Higher than higher limit

This function allows efficient testing of OK / NOT OK measurements of similar or identical testing objects.
A lower and an upper limit value can be defined. The instrument compares the individual measuring results with these limit values and shows the OK or NOT OK result by green or red light diode and by sound.
To set these limit values, please see the SET Menu in section „Operating keys".

Measurement (Track Modus)

Display (1) shows the continuous force in a defined direction (6)

To zero the display, press:

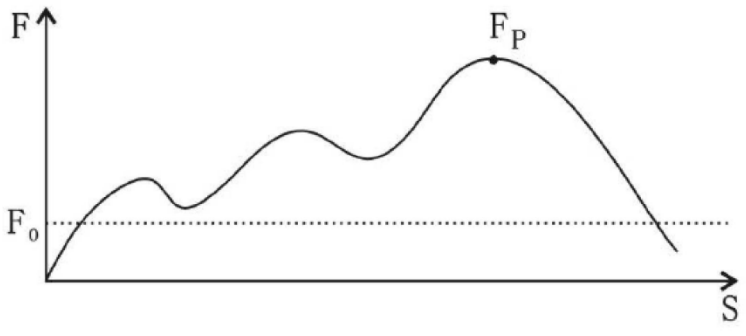
Peak-Hold Function (Peak Mode)

Please press:

Auto-Peak-Hold-Function(Auto-Peak Mode)

Please press: PEAK

Min. limit peak save



This function allows to eliminate unwanted „Pre-Peak values“ that are lower than the main peak value (Fp). The “Min limit peak save” value (Fo) takes care, that these “Pre-Peak values” are not saved.

The „Min limit peak save“ function is only possible in Peak-Mode.

To set this Min limit value, please see the SET Menu in section „Operating keys“.

Memory mode and average value (from up to 10 peak values)

Saving peak values in the instrument

⇨ Activating the „AUTO PEAK Function“ by PEAK key

⇨ Deactivating the „Average Function“ by MEMORY key

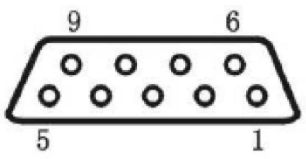
⇨ Now, all peak values are stored automatically in the instrument

⇨ To browse through the stored values, please use the ▲ or ▼ keys. (The values will be shown in the upper display segment)

⇨ By pressing the MEMORY key, the average value of the stored peak values can be shown (in the upper display segment)

⇨ To delete every stored value, press the▼-key in the AVERAGE-Mode

6. Configuration of RS 232



SUB-D 9pm

Pin	Signal	Illustration
2	TxD	Output signal
3	RxD	Input signal
5	GND	Ground
6	+1.6 to + 2 V	Over upper limit
7	+1.6 to + 2 V	Lower than lower limit
8	+1.6 to + 2 V	OK

6.1 Output Protocol

RS-232 Parameter:

Baud rate: 9600
Data-Bit: 8
Parity: none
Stop-Bit: 1

The measured value is requested by the PC by the ASCII Sign “9”.

The measured value that comes from the instrument has this format:

e.g. 0011.70 means -11,70 Newton, if Newton is the selected unit

||-----|
| |____> the other 6 places describe the measured value as ASCII-Signs
|_____> the first place desribes the direction of the force (0 = minus = Pressure; 1 = plus = Tension)

or: 1021.15 means +21,15 N (Tension)

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or: 1021.15 means +21,15 N (Tension)

7. Warning

Intended use

The instrument you have acquired serves to determine the measuring value of the material to be measured. It is intended to be used as a “non-automatic“ instrument, i.e. the material to be measured is manually and carefully attached at the instrument. The measuring value can be read off after a stable measuring value has been obtained.

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