

HARDNESS TESTING OF PLASTICS (SHORE)

Industry | Laboratory | Quality Assurance



PROFESSIONAL MEASURING 

2025

SAUTER 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



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 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/measuring instrument to a printer, PC or other peripherals



WIFI 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



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



Analogue output
For output of an electrical signal depending on the load (e.g. voltage 0 V - 10 V or current 4 mA - 20 mA)



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



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



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



Measuring units
Weighing units can be switched to e.g. 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



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



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



Integrated power supply unit
Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or US on request



Motorised drive
The mechanical movement is carried out by an 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



Conformity assessment
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 (ISO)
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

SAUTER Models A-Z

281/285	6
283	7
287/289	5

A

AE 500	34
AFH FAST	35
AFH FD/AFH LD	36
AFI 2.0	37

C

CB	92
CE HSx	84
CE WT	85
CJ	96
CK	90
CP	88-89
CR	91
CT	93
CS	94-95
CW	98-100

D

DA	41
DB	42
DC Y1 · DC Y2	87

F

FA	8
FC	10
FC 1K-BT	21
FG	20
FH-M	13
FH-S	12
FK	9
FL-M	15
FL-S	14
FS	16-17
FS Set	18-19

H

HB	60
HD	61
HE	58
HK-D/-DB	64
HMM/-NP	65
HMO	67
HN-D	66
HO	70-71

J

JCS	80-81
JCT	48
JIT	78

L

LB	39
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S

S71	24
SD-M	32
SO	73
SP	74
SU	75
SW	76-77

T

TB	44
TB-US	50
TC	45
TD-US	51
TE	46
TF/TG	47
TI	62
TI-HE	59
TN-EE	54
TN-GOLD	52
TN-US	53
TO-EE	56
TU-US	55
TVL/-E/-O/XLS	22
TVM-N/-NL/-LB	28-29
TVO	25
TVO-S/LD	26-27
TVP/-L	23
TVS/-LD	30-31

Y

YKV	83
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SAUTER Hotlines



Technical questions about our products?

You will find assistance here quickly: +49 7433 9933 - ...

Service Hotline

for general technical questions about your SAUTER product

→ 199

SAUTER Measuring Instruments

for all technical questions concerning our SAUTER measuring instruments, test benches, force measuring accessories (clamps etc.), SAUTER software

→ 555

Industrial Scales

for all technical questions concerning our basic scales (laboratory & industry), pocket balances, school balances, bench scales, price-computing scales, platform scales, counting scales, counting systems, floor scales, pallet truck scales, crane scales, veterinary scales

→ 333

System Solutions Industry 4.0

for all technical questions concerning the interlocking of the latest information and communication technology with our scales, load cells and measuring devices as well as questions about KERN software

→ 200



6

Shore hardness tester with extensive functionality

Features

- To measure the hardness of plastics through penetration measurement
- **1** Shore A: Rubber, elastomers, neoprene, silicone, vinyl, so plastics, felt, leather and similar material
- **2** Shore D: Plastics, formica, epoxides, plexiglass etc.
- Different measuring modes: Average value, maximum value, chronological sequence
- Limit alarm function, which triggers an audible and visual signal when the value goes below or above the defined limits
- Entering the workpiece number is possible
- Setting the measuring time from 0 to 99 seconds
- Recommended for internal comparison measurement
- **3** Can be attached to the test stands SAUTER TI-HEA (for Shore A), SAUTER TI-HED (for Shore D) to improve the measurement result, see *accessories*
- Large display with backlight
- Battery status indicator
- USB data interface, as standard
- **4** Delivered in a robust carrying case

Technical data

- Test force hardness measurement
SAUTER HEA: 10 N
SAUTER HED: 50 N
- Tolerance: 1 % of [Max]
- Diameter of measuring probe: 18 mm
- Material thickness of the sample, min. 6 mm
- Internal memory for up to 500 results
- Rechargeable battery pack integrated, as standard, operating time up to 20 h without backlight, charging time approx. 3 h
- overall dimensions W×D×H 153×50×29 mm
- Net weight approx. 0,20 kg

Accessories

- Shore comparison plates for testing and calibration of Shore hardness testing devices. By regular comparisons the measuring accuracy increases significantly
- **5** 7 hardness comparison plates for Shore A, tolerance up to ± 2 HA, SAUTER AHBA-01, **€ 105,-**
- **6** 3 hardness comparison plates for Shore D, tolerance up to ± 2 HD, SAUTER AHBD-01, **€ 86,-**
- Factory calibration of the comparison plates, SAUTER 961-170, **€ 132,-**
- Test stand for HEA 100, SAUTER TI-HEA, **€ 1070,-**
- Test stand for HED 100, SAUTER TI-HED, **€ 1170,-**

STANDARD



Model	Hardness scales	Measuring range	Readability	Price excl. of VAT ex works €
SAUTER		[Max]	[d]	
HEA 100	Shore A	100 HA	0,1 HA	640,-
HED 100	Shore D	100 HD	0,1 HD	750,-



Test stand for hardness testing Shore A and D

Features

- High-quality test stand for Shore hardness testing of plastics in industry and the laboratory
- **1** One test stand for two hardness scales: You just need to screw the additional weight TI-HE onto the TI-HEA test bench, so that this can then also be used for Shore D hardness testing, see *accessories*
- **2** Level adjustment: For the precise levelling of the steel base plate, e.g. for the correction of inhomogeneous test objects
- Robust design enables accurate measuring movements
- **3** Simple handling means that you can achieve repeatable measuring results
- Hardness tester is not included with delivery

Technical data

- Maximum stroke length: 20 mm
- Maximum test object height: 50 mm
- Base plate \varnothing 115 mm

Accessories

- **1** Option Shore D pour TI-HE: Additional weight for TI-HEA test stand, SAUTER TI-HE, € 103,-

STANDARD



Model	Hardness scales	Test force hardness measurement	Overall dimensions W×D×H mm	Net weight approx. kg	Price excl. of VAT ex works €
SAUTER TI-HEA	Shore A	10	200×200×390	6	1070,-
TI-HED	Shore D	50	200×200×470	10	1170,-



6

Compact handheld durometer with drag indicator

Features

- Typical application: measurement of penetration (Shore)
- Particularly recommended for internal comparison measurement. Standard calibrations e.g. to DIN 48-4 are not possible because of very narrow standard tolerances
- Shore A: Rubber, elastomers, neoprene, silicone, vinyl, so plastics, felt, leather and similar material
- Shore D: Plastics, formica, epoxides, plexiglass etc.
- Shore A0: Foam, sponge etc.
- Max mode: Records the peak value indication by drag pointer
- Can be attached to the test stands SAUTER TI-AC (for Shore A and A0), SAUTER TI-D (for Shore D)
- **1** Delivery in a plastic box
- The measuring tips are not interchangeable

Technical data

- Measuring precision: 3 % of [Max]
- Material thickness of the sample, min. 6 mm
- Screws to screw on to the TI: M7 fine thread
- Overall dimensions WxDxH 115x60x25 mm
- Net weight approx. 0,15 kg

Accessories

- Shore comparison plates for testing and calibration of Shore hardness testing devices. By regular comparisons the measuring accuracy increases significantly:
 - 2** 7 hardness comparison plates for Shore A, tolerance up to ± 2 HA, SAUTER AHBA-01, **€ 105,-**
 - 3** 3 hardness comparison plates for Shore D, tolerance up to ± 2 HD, SAUTER AHBD-01, **€ 86,-**
- Factory calibration of the comparison plates, SAUTER 961-170, **€ 132,-**
- Test stand for HBA, HBO, SAUTER TI-AC, **€ 270,-**
- Test stand for HBD, SAUTER TI-D, **€ 355,-**

STANDARD



Model	Hardness scales	Measuring range	Readability	Price excl. of VAT ex works €
SAUTER		[Max]	[d]	
HBA 100-0	Shore A	100 HA	1 HA	125,-
HBO 100-0	Shore A0	100 HAO	1 HAO	130,-
HBD 100-0	Shore D	100 HD	1 HD	170,-



Professional Shore hardness tester

Features

- To measure the hardness of plastics through penetration measurement
- Particularly recommended for internal comparison measurement. Standard calibrations e.g. to DIN 48-4 are not possible because of very narrow standard tolerances
- Shore A: Rubber, elastomers, neoprene, silicone, vinyl, so plastics, felt, leather and similar material
- Shore 0: foam, sponge
- Shore D: Plastics, formica, epoxides, plexiglass etc.
- Can be attached to the test stands TI-ACL (for Shore A and 0), TI-DL (for Shore D) to improve the measurement result
- Large display with backlight
- Selectable: AUTO-OFF function or continuous operation, battery level indicator
- **1** Delivered in a robust carrying case

Technical data

- Tolerance: 1 % of [Max]
- Material thickness of the sample, min. 6 mm
- Transfer via RS-232 to the PC, e.g. to Microsoft Excel®
- Battery operation, batteries standard (2×1.5 V AAA)
- Overall dimensions W×D×H 125×70×27 mm
- Net weight approx. 0,20 kg

Accessories

- Shore comparison plates for testing and calibration of Shore hardness testing devices. By regular comparisons the measuring accuracy increases significantly
- **2** 7 hardness comparison plates for Shore A, tolerance up to ± 2 HA, SAUTER AHBA-01, **€ 105,-**
- **3** 3 hardness comparison plates for Shore D, tolerance up to ± 2 HD, SAUTER AHBD-01, **€ 86,-**
- Factory calibration of the comparison plates, SAUTER 961-170, **€ 132,-**
- Test stand for HDA, HD0, SAUTER TI-ACL, **€ 365,-**
- Test stand for HDD, SAUTER TI-DL, **€ 445,-**
- Data transfer software, interface cable included, SAUTER ATC-01, **€ 100,-**

STANDARD					OPTION
CAL EXT	PEAK	RS 232	ZERO	BATT	1 DAY

OPTION



Model	Hardness scales	Measuring range	Readability	Price excl. of VAT ex works €
SAUTER		[Max]	[d]	
HDA 100-1	Shore A	100 HA	0,1 HA	420,-
HDO 100-1*	Shore 0	100 H0	0,1 H0	420,-
HDD 100-1	Shore D	100 HD	0,1 HD	420,-

1 * ONLY WHILE STOCKS LAST



6

Lever operated test stand for hardness testing with base plate made of glass

Features

- For Shore hardness testing of plastics, leather etc.
- **1** Glass plate: high measurement accuracy by means of superior hardness of the glass plate
- **2** Mechanical construction: Robust design enables accurate measuring movements
- **3** Level adjustment: For the precise levelling of the base plate, e.g. for the correction of inhomogeneous test objects
- **4** SAUTER TI-DL: with exchangeable longer column for use with digital hardness tester HD
- Hardness tester is not included with delivery

- Operation:
 1. The SAUTER hardness testing device HB/HD is fitted in a suspended position
 2. The test object is placed on the round testing table right under the durometer measuring tip
 3. By pressing the lever down, the test weight will be released, and this then presses the measuring tip into the test object with its own weight (see test force hardness measurement)
- The accuracy of the displayed result is about 25 % higher than in a manual operated test

Technical data

- Stroke length: 15 mm
- Base plate \varnothing 75 mm

STANDARD



Model	Hardness scales	Test force hardness measurement	Test object height [Max] mm	Overall dimensions W×D×H mm	Net weight approx. kg	Price excl. of VAT ex works €
SAUTER		N				
TI-AC	Shore A	10	60	150×200×330	5,0	270,-
TI-D	Shore D	50	60	150×200×400	8	355,-
TI-ACL	Shore A	10	290	150×200×580	6	365,-
TI-DL	Shore D	50	290	150×200×580	9	445,-

The oldest Precision Balance Factory in Germany

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