

HARDNESS TESTING OF METALS (UCI)

Industry | Laboratory | Quality Assurance



SAUTER Pictograms

 Adjusting program (CAL) For quick setting of the instrument's accuracy. External adjusting weight required	 Data interface USB To connect the measuring instrument to a printer, PC or other peripheral devices	 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	 Motorised drive The mechanical movement is carried out by an electric motor
 Calibration block Standard for adjusting or correcting the measuring device	 Bluetooth* data interface To transfer data from the balance/measuring instrument to a printer, PC or other peripherals		 Motorised drive The mechanical movement is carried out by a synchronous motor (stepper)
 Peak hold function Capturing a peak value within a measuring process	 WIFI data interface To transfer data from the balance/measuring instrument to a printer, PC or other peripherals	 GLP/ISO record keeping of measurement data with date, time and serial number. Only with SAUTER printers	 Fast-Move The total length of travel can be covered by a single lever movement
 Scan mode Continuous capture and display of measurements	 Data interface infrared To transfer data from the measuring instrument to a printer, PC or other peripheral devices	 Measuring units Weighing units can be switched to e.g. non-metric. Please refer to website for more details	 Conformity assessment Models with type approval for construction of verifiable systems
 Push and Pull The measuring device can capture tension and compression forces	 Control outputs (optocoupler, digital I/O) To connect relays, signal lamps, valves, etc.	 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	 DAKkS calibration possible The time required for DAKkS calibration is shown in days in the pictogram
 Length measurement Captures the geometric dimensions of a test object or the movement during a test process	 Analogue interface To connect a suitable peripheral device for analogue processing of the measurements	 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	 Factory calibration (ISO) The time required for factory calibration is specified in the pictogram
 Focus function Increases the measuring accuracy of a device within a defined measuring range	 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)	 Battery operation Ready for battery operation. The battery type is specified for each device.	 Package shipment The time required for internal shipping preparations is shown in days in the pictogram
 Internal memory To save measurements in the device memory	 Statistics Using the saved values, the device calculates statistical data, such as average value, standard deviation etc.	 ZERO Resets the display to “0”	 Pallet shipment The time required for internal shipping preparations is shown in days in the pictogram
 Data interface RS-232 Bidirectional, for connection of printer and PC	 PC Software To transfer the measurement data from the device to a PC	 Rechargeable battery pack Rechargeable set	
 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	 Printer A printer can be connected to the device to print out the measurement data	 Integrated power supply unit Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or US on request	
 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	 Network interface For connecting the scale/measuring instrument to an Ethernet network		

*The *Bluetooth®* word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by KERN & SOHN GmbH is under license. Other trademarks and trade names are those of their respective owners.


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
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


SAUTER Customer Consultants

With questions about our products and services, we will be happy to advise you:

Product Specialist Measuring Technology




Irmgard Russo
Tel. +49 7433 9933-208
info.sauter@kern-sohn.com




Mark Hauder
Tel. +49 7433 9933-310
Mobil +49 160 3378426
mark.hauder@kern-sohn.com

Product Specialist Measuring Technology




Helga Biselli
Tel. +49 7433 9933-188
info.sauter@kern-sohn.com




Ariana Sevcenco
Tel. +49 7433 9933-203
Mobil +49 151 72434692
ariana.sevcenco@kern-sohn.com

Product Specialist Measuring Technology




Andreas Vossler
Tel. +49 7433 9933-243
info.sauter@kern-sohn.com




Corinna Matthes
Tel. +49 7433 9933-215
Mobil +49 151 44568364
corinna.matthes@kern-sohn.com

UK, BE, IRE, IS, LUX, NL




Maren Neff
Tel. +49 7433 9933-132
Mobil +49 151 46143240
maren.neff@kern-sohn.com



Michael Stingel
Tel. +49 7433 9933-293
michael.stingel@kern-sohn.com

Sales & Marketing Manager



Stephan Ade
Tel. +49 7433 9933-121
Mobil +49 171 3060086
ade@kern-sohn.com

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





8

Premium UCI hardness testing device for Rockwell, Brinell and Vickers



Mini statistics function:

Display of the measuring result, the number of measurements, the maximum and minimum value as well as the average value and the standard deviation



Scope of delivery:

Standard block for calibration (approx. 61 HRC), USB cable, display unit, UCI sensor unit, transport case, software to transfer the saved data to the PC, protective case (turquoise), further accessories



Test stand for repeatable movements during testing. In this way you can avoid errors which could occur in manual handling of the sensor. This ensures even more stable measurements and more precise measuring results, see *accessories*



Features

- This ultrasound hardness testing device is ideally suited for mobile hardness testing, where the main emphasis is on obtaining rapid and precise results
- The SAUTER HO measures by using a vibrating rod with ultrasonic frequency and which is pressed onto the sample with a predefined test force. At the lower end there is a Vickers indenter. Its resonant frequency increases as soon as an indentation is created when it comes into contact with the sample. This frequency displacement is matched with the corresponding Vickers hardness using appropriate adjustment of the device
- The SAUTER HO ultrasound hardness testing system is primarily used for measuring small forgings, castings, welding points, punched parts, casting tools, ball bearings and the flanks of gear wheels as well as for measuring the influence of warmth or heat
- Advantages compared with Rockwell and Brinell: Almost non-destructive testing by smaller test force
- Advantages compared with Vickers: Demanding optical measuring is not required. You can therefore carry out measurements directly on-site, for example, on a permanently installed workpiece
- Advantages compared with Leeb: The high requirements concerning the proper weight of the test object can be widely omitted
- The device meets following technical standards: DIN 50159-1; ASTM-A1038-2005; JB/T9377-2013
- Measurement data memory saves up to 1000 measurement groups each with 20 individual values

- The device can be set to both standard hardness test blocks and also to up to 20 reference calibration values. In this way different materials can be measured rapidly without having to re-adjust for individual materials

Technical data

- Measuring ranges: HRC: 20,3–68; HRB: 41–100; HRA: 61–85,6; HV: 80–1599; HB: 76–618; Tensile strength: 255–2180 N/mm²
- Measurement precision: $\pm 3\%$ HV; $\pm 1,5$ HR; $\pm 3\%$ HB
- Display units: HRC, HV, HBS, HBW, HK, HRA, HRD, HR15N, HR30N, HR45N, HS, HRF, HR15T, HR30T, HR45T, HRB.
- Minimum weight of the test object: 300 g for direct measurement with the sensor (included); 100 g with supporting ring (optional)
- Minimum dimensions the test surface size around: approx. 5×5 mm (recommended)
- Rechargeable battery pack integrated, as standard, operating time up to 12 h without backlight, charging time approx. 8 h
- Overall dimensions W×D×H 28×83×160 mm
- Net weight approx. 0,95 kg

Accessories

- External impact sensor Type D, as standard, can be reordered, SAUTER AHMO D, € 355,-
- Calibration and adjustment plate (hardness test blocks) with defined and tested steel hardness for regular testing and adjustment of hardness testing devices. The hardness values are indicated. A key feature of the plates is the low-granular, homogenous finish of the steel, \varnothing 90 mm
28 to 35 HRC, SAUTER HO-A09, € 440,-
38 to 43 HRC, SAUTER HO-A10, € 440,-

48 to 53 HRC, SAUTER HO-A11, € 440,-
58 to 63 HRC, SAUTER HO-A12, € 440,-

- Test stand for repeatable movements during testing. Smooth-running mechanical system, stroke length 34 mm, maximum height of the test object within the test stand 240 mm, swivel probe device for measurements outside the base plate, very robust construction, net weight approx. 9 kg, SAUTER HO-A08, € 1610,-
- Motorised probe. Enables testing at the touch of a button while maintaining the same procedure (while stocks last)
HV 0,3, SAUTER HO-A15, € 2900,-
HV 0,5, SAUTER HO-A16, € 2900,-
HV 0,8, SAUTER HO-A17, € 2900,-

SAUTER HO 1K, HO 2K

- Support ring, flat, SAUTER HO-A04N, € 510,-
- Support ring, small cylinder, \varnothing 8–20 mm, SAUTER HO-A05N, € 510,-
- Support ring, large cylinder, \varnothing 20–80 mm, SAUTER HO-A06N, € 510,-

SAUTER HO 5K, HO 10K

- Support ring, flat, SAUTER HO-A04, € 510,-
- Support ring, small cylinder, \varnothing 8–20 mm, SAUTER HO-A05, € 510,-
- Support ring, large cylinder, \varnothing 20–80 mm, SAUTER HO-A06, € 510,-
- Deep-hole protective cover, SAUTER HO-A07, € 280,-

STANDARD



OPTION



Model	Hardness scale	Min. weight of test item	Min. thickness of test item	Price excl. of VAT ex works €	Option	
					Factory Calibration Certificate	
		g	mm		KERN	€
SAUTER						
HO 1K	HV 1	300	2	5520,-	961-270	360,-
HO 2K	HV 2	300	2	5520,-	961-270	360,-
HO 5K	HV 5	300	2	5520,-	961-270	360,-
HO 10K	HV 10	300	2	5520,-	961-270	360,-

The oldest Precision Balance Factory in Germany

SAUTER GmbH

c/o KERN & SOHN GmbH

Ziegelei 1
72336 Balingen
Germany
Tel. +49 7433 9933-0
info@sauter.eu
www.kern-sohn.com

Discover the multifaceted World of Balances and Measuring Technology from SAUTER online: www.kern-sohn.com

- Full KERN & SAUTER Product Range
- Convenient 24/7 Ordering
- Selection of more than 5,000 Items across Weighing and Measuring Technology, Optical Instruments as well as Accessories and Services
- Extensive Information and useful Download Options
- Technical Product Data Sheets
- Operating Instructions
- Descriptive Image and Video Material
- Useful KERN Services
- Technical Glossary
- KERN Dealer Portal
- Practical Filter and Search Functions



Follow us on our social media
channels too



Printed in Germany by SAUTER GmbH
zcs-en-kp-20251

