

39025

Stroke counter

Design

- With key zero position
- Adding in one stroke direction
- Stroke lever automatically returns to home position
- Stroke stop: min. 38°–60°
- Stroke direction away from the viewer
- Drive shaft protrudes to left and right
- Front/rear mounting
- Stroke lever can be mounted on both sides

39025



| Max. strokes/min. | Number of digits | Digit height mm | Base area mm | 39025 | ... |
|-------------------|------------------|-----------------|--------------|-------|-----|
| 500 | 6 | 4.5 | 70 x 60 | | 101 |

39035

Crown stop watch

hanhart
CHRONOGRAPHEN 1882

Design

- Pin-lever movement
- 1 stone
- Impact-resistant
- ABS special housing
- 30-minute counter
- Start, stop, reset by pressing on the crown

39035



| Housing Ø mm | Reading sec./min. | 39035 | ... |
|--------------|-------------------|-------|-----|
| 55 | 0.2/0.01 | | 101 |

39040

Addition stop watch

hanhart
CHRONOGRAPHEN 1882

Design

- Pin-lever movement
- 1 stone
- Impact-resistant
- ABS special housing
- 30-minute counter
- Start and stop by pressing on the crown, in any desired sequence
- Reset using side button

39040



| Housing Ø mm | Reading sec. | 39040 | ... |
|--------------|--------------|-------|-----|
| 55 | 0.2 | | 201 |

39045

Digital stopwatch

hanhart
CHRONOGRAPHEN 1882

Design

- Waterproof ABS housing
- Easy-to-read LCD display
- Display range 9 hours, 59 minutes, 59.99 seconds.
- Supplied with protective case, cord and 1.5 V battery (type LR 6, AA)

Functions:

Start/Stop/Reset/Addition/Split/Lap/Time.
5 memory spaces: 5 split and lap times.

Note:

Replacement batteries, see art. no. 39900 303.

39045



| Size mm | LCD display | Digit height mm | Weight approx. g | 39045 | ... |
|--------------|-------------|-----------------|------------------|-------|-----|
| 22 x 61 x 28 | 7-digit | 8 | 90 | | 101 |

Stopwatches | Tachometers | Rotation speed measuring instruments

39050

Digital stopwatch

hanhart
CHRONOGRAPHEN 1882

Design

- Ultrasound-welded viewing window
- **Watertight ABS housing**
- 2-button operation
- 1/100 min, 1/100 sec. can be selected
- 2.5-line LCD display: Top line 6-digit with battery level display, bottom line 7-digit
- Function window for lap/standard time
- 2-digit memory display, digit height 7 mm/5 mm
- **Display range:** top line 9999.99 min., bottom line 99,999.99 min.
- Supplied with lanyard, protective case and 1.5 V battery (type LR 03, AAA)

Functions with 1/100 min.:

- Start/Stop/Reset Split/Lap/Addition (Split and Lap can be read simultaneously)
- Time, date
- **65 memory spaces** for Split and Lap

Functions with 1/100 sec.:

- Start/Stop/Reset – Addition/Split/Lap/Short-Lap
- Split time can be set from the time
- Countdown function (countdown and stopwatch can be used simultaneously)
- Time, date
- **65 memory spaces** with evaluation
- Quick search

Note:

Replacement batteries, see art. no. 39900 304.



39050

| Size mm | Weight g | 39050 | ... |
|--------------|----------|-------|-----|
| 82 x 61 x 28 | 85 | | 301 |

39055

Table stopwatch

hanhart
CHRONOGRAPHEN 1882

Design

- Quartz-controlled
- Display 0–60 seconds, 0–60 minutes
- Inner scale 0–100/100 minutes
- Dial Ø 110 mm
- Dimensions 175 x 130 x 40/95 mm
- Supplied with 1.5 V battery (type LR 6, AA)

Functions:

1. Start/Stop
Reset (zero setting)
2. Addition (as often as desired)
Reset (zero setting)

Note:

Replacement batteries, see art. no. 39900 303.



39055

| Size mm | Dial Ø mm | 39055 | ... |
|-------------------|-----------|-------|-----|
| 175 x 130 x 40/95 | 110 | | 101 |

39110

Hand-held tachometer

DEUMO

Design

- Works according to the eddy current principle
- Push-button locking of the respective measured value
- **Display accuracy +/-0.5%** (related to the end value)
- Measuring range divided into 3 measuring stages: 40–500/400–5000/4000–50,000 rpm.
- Complete with rubber tip, rubber centre inserts, carrier funnel, roller disc for speed measurement, extension and replacement tips, in case

Applications

For rotation and cutting speed measurement (roller disc) with continuous display, for both directions of rotation.



39110

| Measuring range rpm | Dial Ø mm | 39110 | ... |
|---------------------|-----------|-------|-----|
| 40 - 50,000 | 74 | | 101 |

39120

Tachometers TESTO 465 / TESTO 470



**39120 101
TESTO 465**

Design

- Optical measured value recording with modulated light beam
- Easy one-handed operation
- Max/Min function
- Storage of average/max value and last value after shutdown
- Measuring distance up to 600 mm
- Auto-Off function (30 sec.)

Scope of delivery:

- Tachometer TESTO 465
- Soft case (protective sleeve)
- Reflective markers
- Calibration protocol
- 1.5 V batteries, type LR 6, AA

Applications

For non-contact measurement of rotation speeds in industry and trades, e.g. on shafts of a filter pump, on turbines and pumps, on fans and ventilators, etc.

Note:

Replacement batteries, see art. no. 39900 303.

**39120 100
TESTO 470**

Design

- With adapter for mechanical speed measurement
- Optical measured value recording with modulated light beam
- Easy one-handed operation
- Max/Min function
- Storage of average/max value and last value after shutdown
- Measuring distance up to 600 mm
- Auto-Off function (30 sec.)

Scope of delivery:

- Tachometer TESTO 470
- Soft case (protective sleeve)
- Adapter
- Sensor tip
- Impeller
- Reflective markers
- Calibration protocol
- 1.5 V batteries, type LR 6, AA

Note:

Replacement batteries, see art. no. 39900 303.

39120 102

Reflective markers

150 mm self-adhesive (1 pack = 5 pieces).



| Type | Optical measuring range rpm | Mechanical measuring range rpm | Accuracy | Dimension mm | Weight g | 39120 | ... |
|--------------------|-----------------------------|--------------------------------|---------------------------------------|---------------|----------|-------|-----|
| TESTO 465 | 1.00 ... 99,999 | - | +/- 0.02% of meas. val. (+/- 1 digit) | 144 x 58 x 20 | 145 | | 101 |
| TESTO 470 | 1.00 ... 99,999 | 1.00 ... 19,999 | +/- 0.02% of meas. val. (+/- 1 digit) | 175 x 60 x 28 | 190 | | 100 |
| Reflective markers | - | - | - | - | - | | 102 |

39121

Optical tachometer TESTO 460



Design

- Optical rotation speed measurement with LED measuring spot marking
- Max/min values operating temperature 0–50°C

Scope of delivery:

- TESTO 460
- Calibration protocol
- Hand strap
- Belt bag
- Protective cap
- Batteries (2 x AAA)

Note:

Replacement batteries, see art. no. 39900 304.

Reflex markers, see art. no. 39120 102.



| Type | 39121 | ... |
|-----------|-------|-----|
| TESTO 460 | | 101 |

| Technical data: | TESTO 460 |
|------------------------------------|---|
| Measuring range: | 100 to 29,999 rpm |
| Resolution: | 0.1 rpm (100 to 999.9 rpm) 1.0 rpm (1,000 to 29,999 rpm) |
| Accuracy: | +/- (0.02% of meas. val.) +1 digit |
| Units: | rpm, rps |
| Dimensions (incl. protective cap): | 119 x 46 x 25 mm |



39145

Paint and powder-coating measuring instrument easyCOATING

ATORN®

Design

- Ergonomic wireless probe for quick and simple layer thickness measurement
- Measuring layers of paint, lacquer, rubber or plastic on steel, iron or cast iron (Fe)
- Measuring layers of paint, lacquer, rubber or plastic on aluminium, copper or brass (NFe)
- Measuring anodised coatings on aluminium
- Measuring ranges: 0–2500 µm Fe, 0–2500 µm NFe

Scope of delivery:

- Wireless probe
- USB cable
- 2 calibration films 25 µm/250 µm
- 2 metal plates Fe/NFe
- Operating instructions
- Case

Features:

- Automatic detection of base material
- Suitable for measurements on smooth and rough surfaces
- Wireless probe with Bluetooth for connection to smartphone or tablet
- LED lighting when tolerance limits are exceeded
- Free software app for measured value display and calibration (for download)
- Create and manage measurement tasks, analyses and reports
- Measurement reports in PDF or CSV format, insertion of photos and comments

NEW



LED lighting when tolerance limits are exceeded



Measured value display via app



39145

| Type | Dimensions L x Ø mm | Weight g | 39145 | ... |
|-------------|------------------------|-------------|-------|-----|
| easyCOATING | 133.4 x 25 | 74 | | 101 |

39146

Layer thickness measuring instrument professionalCOATING

ATORN®

Design

- Robust, powerful handheld device for simple layer thickness measurement
- Measurement of paint, lacquer, rubber or plastic coatings, chrome or copper layers as well as zinc-plated and hot-dip zinc-plated coatings on steel and iron
- Measurement of paint, lacquer or plastic coatings on aluminium, copper or brass
- Measuring range of 0–2500 µm on Fe/0–2000 µm on NFe

Accuracy:

- 0–100 µm: ≤ 1.0 µm
- 100–1000 µm: ≤ 1.5 %
- 1000–2500 µm: ≤ 3.0 %

Features:

- Dual probe enables measurements on Fe + NFe substrates
- Shockproof, dustproof and waterproof IP65
- One-handed operation via 4 buttons for efficient working
- Three-point support for precise measurement
- High-contrast, rotating display for all viewing angles
- The following measuring standards: SSPC-PA 2 with Level 1–5, IMO PSPC, ISO 19840, Australian AS 3894.3 B, Swedish IS 184160, etc. are already preconfigured
- Visual, haptic and acoustic signal for user-defined limits
- Data transfer via Bluetooth, Wi-Fi and USB-C
- Storage space for more than 100,000 values

NEW



**IP
65**

39146

| Type | Dimensions mm | Weight g | 39146 | ... |
|---------------------|------------------|-------------|-------|-----|
| professionalCOATING | 130 x 73 x 40 | 187 | | 101 |

39150

Layer thickness measuring instrument QNix® 1500

Design

- Precise measurement of layer thickness with extremely simple handling
- Broad range of applications on different metal surfaces as well as a wide **measuring range from 0 to 5000 µm for both measurement processes Fe and NFe**
- Usually at least four instruments are required for this purpose – one for the lower and one for the upper measuring range, as well as for each of the two measurement processes

Features:

- Both measuring probes Fe and NFe integrated in the instrument
- Large measuring range 0–5000 µm
- High accuracy over the entire measuring range
- No measuring range changeover necessary
- No probe change necessary
- Comfortable one-handed operation
- Design without cables and connectors
- High operational safety in harsh working conditions
- No calibration necessary
- Automatic switch on and off
- Measuring in hard-to-reach places
- Storage of the last measured value
- Duplex display for reading in any position
- Wear-resistant measuring probes thanks to fitting with ruby
- V-groove for measurement on axes and bars

| | | |
|------------|-------|-----|
| Type | 39150 | ... |
| QNix® 1500 | | 101 |

Scope of delivery:

- Layer thickness measuring instrument
- 9 V battery (type 6 LR 61)
- Case with zero plates
- Test certificate
- Operating instructions

Note:

Replacement battery, see art. no. 39900 405.

39150



| Technical data: | |
|--|---|
| Base material (substrate) steel and iron: | Fe probe |
| Non-magnetic metals, e.g. aluminium, zinc, copper, brass, stainless steel: | NFe probe |
| Measuring range: | 0.0–5000 µm or 0.00–200 mil (switchable) |
| Measurement display: | from 0.00–999 in µm from 1.00–5.00 in mm or from 0.00–200 mil |
| Measuring accuracy: | +/- (1 µm + 2%) of the measured value in the range of 0–999 µm +/- 3.5% of the measured value in the range of 1.00–5.00 mm |
| Smallest measuring surface: | 10 x 10 mm |
| Smallest curvature radius: | 5 mm convex/25 mm concave |
| Smallest thickness of base material: | Fe: 0.2 mm/NFe: 0.05 mm |
| Temperature range: | 0°C–50°C |
| Display: | Digital (LCD) |
| Probes: | Single-point, integrated in the instrument |
| Power supply: | 9 V electric block (alkaline) Type 6 LR 61 |
| Dimensions (L x W x H): | 166 x 64 x 34 mm |
| Weight: | approx. 150 g with battery |

39152

Layer thickness measuring instruments QNix® 4200 P/4500P

Design

- High measuring accuracy over the entire measuring range
- Only one function key
- Proven Hall sensor technology (and eddy current technology for QNix® 4500)
- One-handed operation for all measuring tasks
- **No calibration necessary on uncoated base material**
- Integrated sensor without cables or connectors
- Automatic switch on/off
- Metric or inch display can be selected
- Acoustic signal on start of measurement
- LC display for measurement value, battery status, measuring unit, operating mode and serial number

Scope of delivery:

- Layer thickness measuring instrument
- 2 x 1.5 V AA batteries LR 6 AA
- Device case with zero references
- Test certificate
- Operating instructions

Applications

Specially designed for automotive and painting applications.

| | | |
|--------------|-------|-----|
| Type | 39152 | ... |
| QNix® 4200 P | | 201 |
| QNix® 4500 P | | 202 |

Note:

Replacement batteries, see art. no. 39900 303.
1 m cable probe available as an option.

39152 201

QNix® 4200 P

Applications

For measurements on steel and iron.

39152 202

QNix® 4500 P

Applications

For measurements on both steel and iron as well as on non-ferrous metals. You can switch between the two measurement processes at the touch of a button.

39152



| Technical data: | |
|---|---|
| Base material (substrate) steel and iron: | Fe probe (4200/4500) |
| Non-magnetic metals, e.g. aluminium, copper, brass: | NFe probe (4500) |
| Measuring range: | Fe: 0–3000 µm/NFe: 0–3000 µm |
| Measuring accuracy: | +/- (2 µm + 3%*) (*of the measured value) |
| Smallest curvature radius: | 5 mm convex/25 mm concave |
| Smallest thickness of base material: | Fe: 0.2 mm/NFe: 0.05 mm |
| Temperature range: | 0°C–50°C |
| Display: | Digital (LCD) |
| Sensor: | Single-point, integrated in the instrument |
| Power supply: | 2 x 1.5 V AA batteries (alkaline) type LR 6, AA |
| Dimensions: | 100 x 60 x 27 mm |
| Weight: | approx. 100 g |

Info

Layer thickness measuring instruments QNix®

Further layer thickness measuring instruments QNix® with various accessories deliverable on request.

Please contact us!



Layer thickness measuring instruments | Wall thickness measuring instruments | Hardness testers

39153 - 39154 Layer thickness measuring instruments QNix® 8500

39153

QNix® 8500

Design

- High measurement accuracy over the entire measuring range
- Ergonomic modern, illuminated keypad
- All languages can be installed through available editors
- One-handed operation for all measuring tasks
- Probes can be used both directly and with adapter cables on the handheld unit
- Automatic switch on/off
- Metric or inch display can be selected
- Acoustic signal on start of measurement
- High resolution, rotating graphic display for measurement value, battery state, measuring unit, operating mode and serial number
- Due to the modular design of the device, the digital probe must be ordered separately

Applications

Suitable for paint as well as for corrosion protection on metals. Can be used with iron, aluminium, copper, zinc and steel. By simply changing probes, both all non-magnetic coatings on steel and iron as well as all insulating coatings on non-ferrous metals can be measured with the highest measuring accuracy and without any damage.

If ordered with a coating thickness measuring instrument and a probe, an adapter cable is included in the delivery.

39153 101

QNix® 8500 Basic

- 100 memory spaces for measured values
- 1 memory block
- 1 calibration option
- Scope of delivery:**
- Layer thickness measuring instrument (without sensor)
- Adapter cable for external probe (not for wireless probe)
- Test certificate for optional sensor
- 2 x 1.5 V AA batteries (AA)
- Operating instructions
- Soft bag with belt clip
- Plastic case with reference plates

39153 102

QNix® 8500 Premium

- 30,000 memory spaces for measured values
- 250 memory blocks
- 100 calibration options
- Selectable resolution
- Scope of delivery:**
- Layer thickness measuring instrument (without sensor)
- Adapter cable for external probe (not for wireless probe)
- USB dongle
- QNix® software
- Test certificate for optional sensor
- 2 x 1.5 V AA batteries (AA)
- Operating instructions
- Soft bag with belt clip
- Plastic case with reference plates

Display

- High-resolution graphic display
- All major languages can be displayed as menu navigation
- Backlight
- Flip display by 180 degrees



Navigation cross

- Ergonomic modern keypad
- Simple menu navigation
- 2-colour LEDS to display measurement, data transfer and limit setting



| Type | 39153 | ... |
|--------------------|-------|-----|
| QNix® 8500 Basic | 101 | |
| QNix® 8500 Premium | 102 | |

Technical data:

| | |
|---|--|
| Base material (substrate) steel and iron: | Fe probe |
| Non-magnetic metals, e.g. aluminium, copper, brass: | NFe probe |
| Measuring range: | Fe: 0-5000 µm/NFe: 0-5000 µm |
| Measuring accuracy: | from 0-2000 µm: +/- (1 µm + 2% of the measured value) 2000 µm: +/- 3.5% of the measured value |
| Smallest curvature radius: | 5 mm convex/30 mm concave |
| Smallest thickness of base material: | Fe: 0.2 mm/NFe: 0.05 mm |
| Temperature range: | 0°C-50°C |
| Display: | Digital (LCD) |
| Sensor: | Replaceable |
| Power supply: | 2 x 1.5 V AA batteries (alkaline) type AA |
| Dimensions: | 124 x 67 x 33 mm |
| Weight: | approx. 120 g |

39154 101-105

Digital probes

39154 201-206

Wireless probes

- Enhanced safety for the user and avoids significant sources of error
- Wireless transmission of data between the handheld device and a PC
- Wireless range of the probe to the hand-held device up to max. 20 metres
- Confirmation of measurement transmission via LED signal
- Stable and secure one-hand measurement with cord safety mechanism
- Up to 4000 measurements without recharging
- Charging using handheld device

39154 107

QNix® software

- For wireless, bi-directional exchange between PC and handheld device via USB dongle
- Automatic device recognition, simple configuration, simultaneous control and management of multiple QNix® 8500 devices
- All languages can be installed through available editors
- Enables downloading and installation of firmware updates via the Internet
- Online measurements and on screen help
- Simple transfer and statistical evaluation of the measured values in Excel (data and graphics)
- QNix® software can be run from Windows 2000, XP and with the last SP

Scope of delivery:

- QNix® software (1 CD-Rom)

39154 108

Adapter cable (1 m) for external probes



| | Digital probes | | Wireless probes | | USB dongle | | QNix® software | | Adapter cable | |
|----------------------|----------------|-----|-----------------|-----|------------|-----|----------------|-----|---------------|-----|
| Measuring range µm | 39154 | ... | 39154 | ... | 39154 | ... | 39154 | ... | 39154 | ... |
| Fe 0-2000 | | 101 | | 201 | | | | | | |
| Fe 0-5000 | | 102 | | 202 | | | | | | |
| NFe 0-2000 | | 103 | | 203 | | | | | | |
| Fe 0-2000/NFe 0-2000 | | 104 | | 204 | | | | | | |
| Fe 0-5000/NFe 0-2000 | | 105 | | 205 | | | | | | |
| Fe 0-5000/NFe 0-5000 | | | | 206 | | | | | | |
| Accessories | | | | | | 106 | | | 107 | 108 |

39166

Ultrasonic wall thickness measuring instrument



SAUTER Design

- Measuring head 5 MHz, Ø 10 mm
- Sound speed can be adjusted from 1000–9999 m/sec
- Measuring range 1.2–230 mm (steel)
- Measurement uncertainty: 0.5% of the measured value + 0.04 mm
- Internal data memory for 20 files (with up to 100 individual values per file)
- Selectable units: mm/inch
- External measuring head for easy accessibility of hard-to-reach measuring points, cable length 1 m
- Scan mode: (10 measurements per second) or single-point measurement can be selected
- Auto power off function.

Scope of delivery:

- Ultrasonic wall thickness measuring instrument with external measuring head
- 2 x 1.5 V AA batteries
- In robust carrying case

Applications

For measuring the thickness of hard materials, such as metal, glass and plastic. Material thickness, corrosion and wear testing of pressure vessels, boilers and tanks.

Note:

Replacement batteries, see art. no. 39900 303. PC software, thermal printer, ISO calibration certificate as well as optional probes are deliverable on request.



39166



| Type | Resolution mm | Measuring range mm | Dimensions L x W x H mm | 39166 | ... |
|----------------|---------------|--------------------|-------------------------|-------|-----|
| TN 230-0.01 US | 0.01 | 1.2–230 | 150 x 74 x 32 | | 102 |

39173

SHORE analogue hardness tester



39173 101-102

SHORE hardness testers

Design

- With trailing pointer
- Large glare-free display, rotates through 360°
- In case

Advantage:

- Ergonomic handles for excellent handling

Note:

Can be used as a handheld device or for series testing using ATORN test stand (art. no. 39173 103).

39173 101

SHORE A hardness testers

Design

- For soft materials

Applications

For determining hardness in accordance with SHORE A in accordance with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240. Suitable for e.g. soft rubber, elastomers, natural rubber, neoprene, polyester, casting resins etc.

39173 102

SHORE D hardness tester

Design

- For hard materials

Applications

For determining hardness in accordance with SHORE D in accordance with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240. Suitable for e.g. hard rubber, acrylic glass, stiff thermoplastics, Resopal, vinyl sheets, cellulose/acetate, hard plastic materials etc.

39173 103

Test stand

Design

- Height adjustable including setting disc 20 SHORE
- Overhang 115 mm
- Test bench Ø 98 mm
- Sample thickness max. 180 mm
- Materials testing unit: aluminium construction
- Delivery without hardness tester

Advantage:

- Tilt lever for shock-free and constant test force

Applications

For fitting the ATORN SHORE hardness testers, art. no. 39173 101–102. Ideal for precise and reproducible individual or series measurements.

39173 104

Loading weight SHORE D 4000 g

Design

- Material: Stainless steel A2, 1.4305

Applications

For ATORN test stand, art. no. 39173 103.

39173 105

Test sample set SHORE A

Design

- 7 pieces
- Hardness range SHORE: 30, 40, 50, 60, 70, 80, 90

39173 106

Test sample set SHORE D

Design

- 3 pieces
- Hardness range SHORE: 60, 75, 85



| | Trailing pointer | Dial gauge Ø mm | Scale interval SHORE | Error limit SHORE | 39173 | ... | 39173 | ... |
|-------------------------|------------------|-----------------|----------------------|-------------------|-------|-----|-------|-----|
| Hardness tester SHORE A | x | 57 | 1 | +/- 0.5 | | | 101 | |
| Hardness tester SHORE D | x | 57 | 1 | +/- 0.5 | | | 102 | |
| Test stand | - | - | - | - | | | | 103 |
| Loading weight | - | - | - | - | | | | 104 |
| Test sample set SHORE A | - | - | - | - | | | | 105 |
| Test sample set SHORE D | - | - | - | - | | | | 106 |

Hardness tester

Accessories

Hardness testers

39174

SHORE digital hardness tester

ATORN®

39174 101-103

SHORE hardness testers

Design

- Large, high-contrast LCD display
- Data output OPTO-RS 232
- Accurate to 0.5 hardness units
- Measurement times for standards set
- Preset time of 1 to 99 s
- Resolution 0.1
- AUTO-OFF and HOLD function
- Ergonomic handle design for ease of use

Note:

Can be used as a handheld device or for series testing using ATORN test stand (art. no. 39173 103 and 39174 105). Replacement batteries, see art. no. 39901 103.

39174 101

SHORE A hardness testers

Design

- For hardness testing of rubber items

Applications

For determining hardness in accordance with SHORE A in accordance with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240.

39174 102

SHORE D hardness tester

Design

- For hardness testing of plastic items

Applications

For determining hardness in accordance with SHORE D in accordance with DIN ISO 7619-1, ISO 7619-1, ISO 868 and ASTM D 2240.

39174 103

SHORE OO hardness tester

Design

- For very soft materials

Applications

For determining hardness in accordance with SHORE OO in accordance with ASTM D 2240. Suitable for e.g. foams, cellular and micro cellular rubber, etc.

39174 104

adapters

Applications

This adapter connects the digital ATORN SHORE hardness testers with the ATORN test stands.

39174 105

Test stand for SHORE OO hardness tester

Design

- Height adjustable including setting disc 20 SHORE
- Overhang 115 mm
- Test bench Ø 98 mm
- Sample thickness max. 180 mm
- Test unit material: Aluminium construction
- Delivery without hardness tester

Advantage:

- Tilt lever for shock-free and constant test force

Applications

For fitting the ATORN SHORE OO hardness tester, art. no. 39174 103. The test stand was developed for series tests on samples in accordance with SHORE OO (ASTM D 2240) in order to determine accurate and reproducible results. Subjective measurement errors caused by incorrect pressure force or non-vertical measurement are excluded.

39174 106

Test sample set SHORE OO

Design

- 3 pieces
- SHORE hardness range: 35, 60, 80
- Test samples 50 x 50 x 8 mm
- In storage box

Applications

For checking the hardness testers SHORE OO 3 test samples with the hardness grades approx. 35, 60 and 80 type OO are available. Here too, an annual verification should take place.

Note:

Test sample sets for SHORE A and SHORE D, see art. no. 39173 105+106.

39174 107

Software for digital SHORE hardness testers

Design

- Windows® 7 compatible
- Measurement display, analogue/digital
- Comprehensive statistics
- Configurable test report (pdf)
- Output files as .csv or .jpg
- Different languages can be set
- Individual licenses for the products named above
- Configurable user interface
- Pre-adjustable user profile
- Automatic device recognition

Applications

The ATORN software for digital ATORN SHORE hardness testers is an ideal tool for laboratory application and documentation.

Note:

An USB adapter cable, art. no. 39174 108 is enclosed with the software.

39174 108

USB adapter cable

Design

- Adapter cable RS232/USB for digital ATORN SHORE hardness testers, art. no. 39174 101-103

Applications

For connecting digital hardness testers to a PC.

NEW

39174 101-103



39174 105



39174 104

39174 106



| | Error limit SHORE | Hardness tester | | Accessories | |
|-----------------------------|----------------------|-----------------|-----|-------------|-----|
| | | 39174 | ... | 39174 | ... |
| Hardness tester SHORE A | +/- 0.5 | | 101 | | |
| Hardness tester SHORE D | +/- 0.5 | | 102 | | |
| Hardness tester SHORE OO | +/- 1.0 | | 103 | | |
| Adapter for test stand | - | | | | 104 |
| Test stand for SHORE OO | - | | | | 105 |
| Test sample set SHORE OO | - | | | | 106 |
| Software | - | | | | 107 |
| USB adapter cable RS232/USB | - | | | | 108 |

39175 - 39176 Impact handheld hardness tester

-POLDI-

39175

Design

- Delivery complete with magnifier, gauging rod and table
- In case (pocket size)

Applications

For testing according to Brinell, for testing materials with a tensile strength between 300 and 2200 N/mm², particularly in the case of semi-finished products of all forgeable iron and steel grades, of bulky or built-in pieces. **Tensile strength and the Brinell hardness can be read from table.** The specimen must be at least 12 mm thick and 16 mm wide at the testing point (with round parts 12 mm).

39176

Replacement gauging rod

- Dimensions: 12.5 x 12.5 x 150 mm



39175



39176

| | | | | |
|--|-------|-----|-------|-----|
| | 39175 | ... | 39176 | ... |
| | | 101 | | 101 |

39181 Portable Leeb hardness tester HN-D



SAUTER

39181 101

Design

- The compact design enables a much broader range of applications than with conventional devices
- It can be **operated with just one hand**, making it faster and more flexible to use
- High-contrast LC display optimised for industrial applications: High brightness and backlight can be switched on to ensure the display can be read from all directions
- Rebound hardness test
- Measurement uncertainty +/- 4 HLD

Digital display of the hardness scales:

Rockwell (B & C), Vickers (HV), Brinell (HB),

Shore (HSD), Leeb (HL)

- Tests in all test directions (360°) automatically compensated
- Internal data memory for up to 500 pieces of measurement data with date and time
- Wireless printer connection via IR (printer optional)
- USB-PC data output: Easily installable on any PC
- Battery operation

Scope of delivery:

Hardness tester TN-D, 1 sensor type D, in sturdy carrying case.

Note:

ISO calibration certificate, attachment rings, impact body, thermal printer, test blocks and PC software deliverable on request.

39181 102

Test block type D

Design

Ø 90 mm, hardness range 790 +/- 40 HLD.



39181

| Type | Measuring range HL | Dimensions L x W x H mm | 39181 | ... |
|-------------------|-----------------------|----------------------------|-------|-----|
| HN-D | 0-999 | 145 x 35 x 25 | | 101 |
| Test block type D | - | - | | 102 |

Hardness testers | Mirrors | Magnifiers

39184

Portable Leeb hardness tester



SAUTER

Design

- **Mobility:** Compared to stationary table devices and hardness testers, offers maximum mobility and flexibility with internal sensor
- Automatic sensor detection
- **Mini statistics function:** Displays the measured value, the average value, the difference between the max and min values, time and date
- **Tests in all test directions (360°)**
- Internal data memory for up to 9 measuring groups (with up to 9 individual values, from which the average value of the group was formed)
- **Measurement display:** Rockwell (B & C), Vickers (HV), Brinell (HB), Shore (HSD), Leeb (HL) and tensile strength (MPa)
- **Automatic unit conversion:** Converts the measurement result automatically to all of the above-mentioned hardness units, as well as to tensile strength
- Auto power off function

Scope of delivery:

- Portable hardness tester HMM
- Impact device type D
- Wireless infrared-connected printer
- 3 x 1.5 V AAA batteries
- Mains plug

Note:

Replacement batteries, see art. no. 39900 304.

Wireless infrared-connected printer (battery operated) for on-site printouts of measuring protocols



39184



| Technical data: | Hardness values | | | | | |
|--------------------------------------|-----------------|-----------|-----------|-----------|---------|--------|
| | Material | HLD | HRC | HRB | HSD | HB |
| Steel and cast iron | 170-960 | 19.8-68.5 | 59.6-99.6 | 26.4-99.5 | 140-651 | 83-976 |
| Tool steel (cold work tool steel) | 170-960 | 19.8-68.5 | - | - | - | 83-976 |
| Stainless steel | 170-960 | 19.8-68.5 | 59.6-99.6 | - | 140-651 | 83-976 |
| Cast iron | 170-960 | - | - | - | 140-334 | - |
| Spheroidal graphite cast iron | 170-960 | - | - | - | 140-387 | - |
| Cast aluminium | 170-960 | - | - | - | 30-159 | - |
| Brass (copper-zinc alloys) | 170-960 | - | 13.5-95.3 | - | 40-173 | - |
| Bronze (copper-aluminium-tin alloys) | 170-960 | - | - | - | 60-290 | - |
| Wrought copper alloys | 170-960 | - | - | - | 45-315 | - |

| Measuring range | Measurement uncertainty | Thinnest measurable layer | Dimensions L x W x H | 39184 | ... |
|-----------------|---------------------------|---------------------------|----------------------|-------|-----|
| HL | | mm | mm | | |
| 170-960 | 1% at 800 HLD (+/- 6 HLD) | 8 | 150 x 80 x 30 | | 101 |

39190

Portable ultrasonic hardness testers HO



SAUTER

Design

- **Mini statistics function:** Displays the measurement result, the number of measurements, the maximum and the minimum value, as well as the average value and standard deviation
- **Measurement data memory:** Saves up to 1000 measured value groups of 20 individual values
- **Precision:** +/- 3 HV, +/- 1.5 HR, +/- 3% HB
- **Measuring time:** adjustable from 1-5 seconds
- **Display units:** HRC, HV, HBS, HBW, HK, HRA, HRD, HR15N, HR30N, HR45N, HS, HRF, HR15T, HR30T, HR45T, HRB

Principle:

The HO measures using a Vickers diamond tip, which is pressed onto the test object with a defined force. Then the tip is moved in high-frequency ultrasonic vibrations. The hardness is derived from the damping.

Scope of delivery:

- Display unit
- UCI sensor unit
- Connection cable
- Transport case
- Software to transfer the saved data to the PC
- Hardness reference plate

Applications

Ideal for portable hardness testing where the emphasis is on fast and precise results.

Note:

ISO calibration certificate and accessories deliverable on request.



39190



| Type | Hardness scale | Measuring range HRC | Measuring range HRB | Measuring range HRA | Measuring range HV | Measuring range HB | Tensile strength N/mm ² | 39190 | ... |
|-------|----------------|---------------------|---------------------|---------------------|--------------------|--------------------|------------------------------------|-------|-----|
| HO 1K | HV 1 | 20.3-68 | 41-100 | 61-85.6 | 80-1599 | 76-618 | 255-2180 | | 101 |
| HO 2K | HV 2 | 20.3-68 | 41-100 | 61-85.6 | 80-1599 | 76-618 | 255-2180 | | 102 |