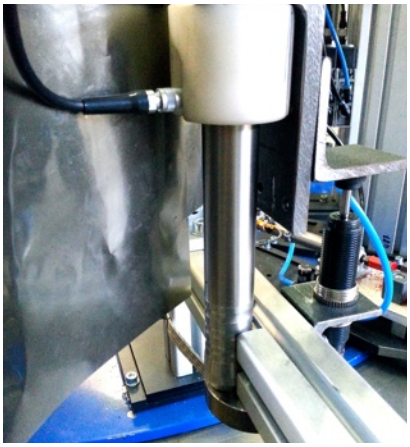
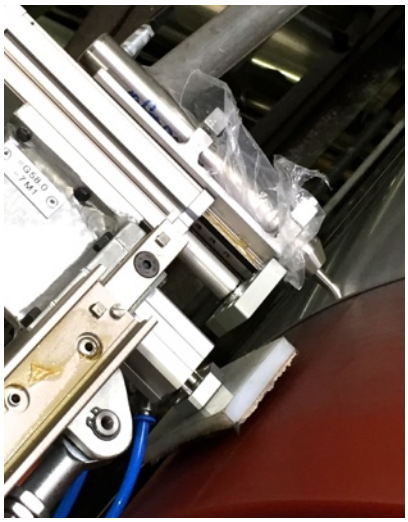
NewSonic

SonoDur-R: Fully Automated UCI-Hardness Testing

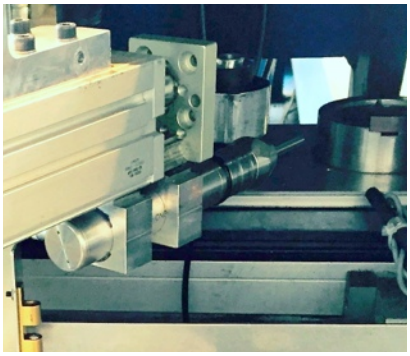
Current results and historical data at a glance. Many possibilities for data transfer and process control via standard interfaces.

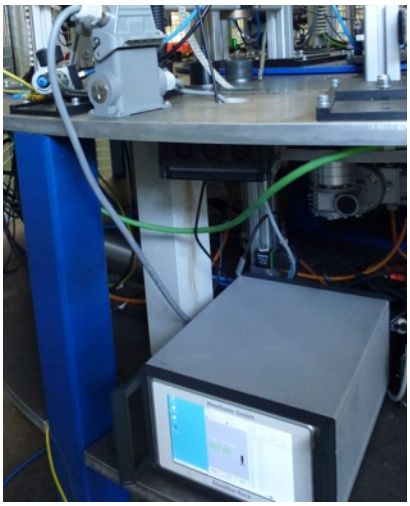
Designed for nonstop operation in production lines for mass produced parts with a massive amount of measurements





- High measuring rate (approximately one measurement per second)
- Highly reliable potential-free digital contacts for full remote control of the unit and for controlling of sorting bridges via SPS
- Fast pay-back of investment due to unparalleled long time performance handheld probes SONO-10H (HV 1), SONO-50H (HV 5) and SONO-100H (HV 10) for continuous work
- Remote control and automatic measurand output (RS232) with each reading
- One unique comprehensive and proven operating scheme and system concept stands for the SonoDur-Family (touchscreen, USB, nearly unlimited storage of data)





SONO-100H (HV 10) on safety critical parts for cars

Technical Data SonoDur-R "Rack"

Measuring Specification	
Measuring principle	UCI Method, corresponds to DIN 50159, ASTM A1038
Test indenter	Vickers diamond 136°
Test loads Newton scale (1 kgf = 9.81 N)	Motor probes: 1 N (0.1 kgf), 3 N (0.3 kgf) and 8.6 N (0.8 kgf) Handheld Probes: 10 N (1 kgf), 49 N (5 kgf), 98 N (10 kgf) (Other test loads on request)
Hardness scales and range accord. to standard conversion tables Note: Conversions are acc. to ASTM E140-12b$^{\varepsilon 1}$(2013), EN ISO 18265-2014, and DIN 50150-2000 (solely table 1, low-alloyed steel). Conversions into tensile strength for 98 N (10 kgf) test load only.	Vickers HV 10 – ca. 2000 Brinell HB 76 – 618 Knoop HK 87 – 920 (ASTM only) Rockwell HRB 41 – 105 Rockwell HRF 82,6 – 115,1 Rockwell HRC 20,3 – 68 Rockwell HRA 60,7 – 85,6 Rockwell HRD 40,3 – 76,9 (EN ISO 18265 only) HR45N 19,9 – 75,4 Tensile Strength MPa (N/mm^2) 255 – 2180 (EN ISO 18265 only)
Measurement uncertainty	< 4 % of the average out of 5 measurements relative to the plate value
Relative repeatability	< 5 % range relative to the average out of 5 measurements (better than required in DIN 50159)
Mechanical and Environmental (Instrument and probe)	
Operating Temperature	Probe: 0 °C to ~ + 50 °C
Storage Temperature	- 20 °C ~ + 70 °C
Humidity	Max. 90 %, non-condensing
Dimensions Motor probe Handheld probe L-Handheld probe	Instrument ca. H/B/T 132,55 x 235,54 x 313,5 mm (360 mm with handle) Ø 38 mm, L = 190 mm (free length oscillation rod ca. 32,5 mm) Ø 25 mm, L = 176 mm (free length oscillation rod ca. 12,5 mm) Ø 25 mm, L = 207 mm (free length oscillation rod ca. 34 mm)
Weight	Instrument ca. 3400 g Handheld probe ca. 280 g Motor probe ca. 370 g
Instrument	
Processor and Memory	ARM11® i.MX35 / 128 MB SDRAM / 256 MB Flash / micro SD Card up to 32 GB
Operating system	Windows CE 6.0 R3 English
Power Input	12 VDC – 24 VDC // 6 W
Display Size (Inch/mm) Luminance	TFT-Display 800 x 480 Pixel with LED-Backlight Touch-Screen 7.0/ 178 400 cd/m2
Interfaces Probe Digital Input / Output Communication	 Lemo ERD.0S.304, 5 V Signal Level 37 pos. D-Sub, galvanic isolated, max. voltage 36 VDC 1x USB Type B, RS232 (automatic measurand output)
Dust/Water-splash proof	IP20
Instrument Language	German, English, Polish, more on request