FOERSTER

SONODUR PROBES

Hardness Testing Probes for Every Application

SONO PROBES

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Hardness Testing Probes for Every Application

The Right Probe for Every Measurement. The SONODUR probe portfolio offers the right solution for virtually every hardness testing application. From flexible handheld UCI probes and guided measuring systems to motorized probes for maximum repeatability and Leeb rebound probes for large components, every probe is designed to deliver reliable results in demanding industrial environments.

Whether you need maximum mobility, operator-independent measurements, or high-precision testing of sensitive surfaces, SONODUR combines a comprehensive range of probes with one powerful hardness testing platform. Depending on the application, UCI and Leeb probes can be used with the same SONODUR device, providing maximum flexibility without changing instruments.

YOUR ADVANTAGES AT A GLANCE

One platform – multiple probe solutions: Handheld, guided, motorized and Leeb probes cover virtually every hardness testing application.

Choose the right measuring method: UCI for thin surface layers and sensitive components, Leeb for large and heavy workpieces.

Reliable measurement results: Every probe is designed for high accuracy, repeatability and long-term stability.

Optimized for industrial use: Robust construction and application-oriented designs ensure reliable performance in production and field environments.

Flexible integration: Compatible with SONODUR 3 and, depending on the probe type, with SONODUR R for automated testing.

SONO H

Handheld UCI Measuring Probes for Flexible Hardness Testing

Flexible Testing. Reliable Results. The SONO H handheld UCI measuring probes are designed for fast, reliable hardness testing in everyday industrial applications. Their compact, ergonomic design enables flexible measurements directly on the component while delivering stable and reproducible hardness values across a wide range of materials and applications.

The corrosion-resistant stainless-steel housing protects the proven probe technology and ensures long-term durability, even in demanding production environments. The probes are compatible with both the portable SONODUR 3 and the SONODUR R for automated production systems, offering maximum flexibility from manual inspections to integrated quality control.

The intelligent measuring system covers the complete hardness range of the classic Vickers scale and is suitable for metals, industrial ceramics and, with certain limitations, heterogeneous materials such as nodular cast iron. A wide range of probe variants with different test forces and geometries allows the optimum probe configuration for virtually every application.

The probes operate according to the UCI (Ultrasonic Contact Impedance) method. A Vickers diamond mounted on a vibrating rod is pressed into the material with a defined test force. The resulting frequency shift is measured and directly converted into a hardness value. Unlike conventional Vickers testing, no optical evaluation of the indentation is required, enabling fast, reliable and virtually non-destructive hardness testing directly on the component.

YOUR ADVANTAGES AT A GLANCE

Maximum application flexibility: A wide range of probe variants and test forces enables reliable hardness testing across numerous applications.

Reliable and reproducible measurements: Proven UCI technology delivers stable hardness values with high repeatability.

Compact handheld design: Ergonomic probe geometry provides easy access to difficult measuring positions and confined spaces.

Fast measurements within seconds: Short measuring times support efficient testing and rapid decision-making.

Low-destructive testing: Minimal indentations preserve valuable components and sensitive surfaces.

Durable industrial construction: The corrosion-resistant stainless-steel housing ensures reliable operation in demanding industrial environments.

NORMS

- **DIN 50159**
- **ASTM A1038**

TECHNICAL INFORMATION

TEST METHOD:	UCI-method, according to DIN 50159-1,2-2021, ASTM A1038-2019
PROBE HOUSING MATERIAL:	stainless steel
PROBE HOUSING DIMENSIONS:	25 mm × 177 mm (may differ for special probes)
MEASURING TIP MATERIAL:	Vickers diamond
TIP DIAMETER:	3.4 mm (optional 1.7 mm)
TIP LENGTH:	13 mm (optional 40 mm)
DIAMOND ANGLE:	136°
CONNECTION:	wired via Lemo plug connection

ACCESSORIES

SONO PS 1
Measurement tasks with small installation space and when precisely checking the probe calibration

SONO MS 1 (M)
Operator-independent, highly accurate and flexible precision tripod

SONO MS 2 (M)
The all-rounder among tripods - adjustable, highly accurate and highly flexible

SONO L

Bluetooth Leeb rebound sensors for fast and reliable hardness testing

Reliable Leeb Hardness Testing for Large Components. The SONO L Leeb rebound sensors combine robust construction with advanced sensor technology to deliver fast, repeatable hardness measurements on large and heavy metal components. Designed for demanding industrial environments, they provide reliable results both in production and during field inspections. The wireless sensors communicate directly with SONODUR 3 via Bluetooth, offering maximum flexibility without compromising measurement accuracy.

Measurement results are evaluated within the Android-based SONODUR 3 platform, where statistical analysis, graphical visualization, tolerance monitoring and data export support efficient documentation and evaluation. The Leeb rebound method determines hardness by measuring the energy loss of an impact body striking the material surface. It is ideally suited for large, solid workpieces with a minimum weight of 5 kg and a minimum wall thickness of 25 mm (SONO HLD), enabling fast, non-destructive hardness testing directly on site.

YOUR ADVANTAGES AT A GLANCE

Fast hardness testing on large components: Ideal for heavy, solid workpieces where portable and efficient testing is required.

Reliable and repeatable measurement results: Advanced sensor technology ensures consistent hardness values in industrial applications.

Wireless operation via Bluetooth: Cable-free communication with SONODUR 3 provides maximum flexibility when measuring large or difficult-to-access components.

Immediate readiness for use: Connect the sensor, start the measurement and receive results within seconds.

Material-specific calibration: Comparative measurements allow easy adaptation to materials with different elastic moduli, including cast iron, aluminium alloys and other non-ferrous metals.

Robust industrial design: Built for reliable operation in production environments and demanding field applications.

TECHNICAL INFORMATION

MEASURING METHOD:	Leeb rebound (dynamic hardness testing)
APPLICATIONS:	Large, solid metal components
MINIMUM WORKPIECE WEIGHT:	5 kg
MINIMUM WALL THICKNESS:	> 25 mm (SONO HLD)
DATA TRANSMISSION:	Bluetooth
COMPATIBLE DEVICE:	SONODUR 3, SONODUR 3 LITE LEEB
HARDNESS CONVERSION:	HV, HB, HRC, HRB, HS, tensile strength (depending on material)
CONVERSION STANDARDS:	ISO 16859, EN ISO 18265:2019, ASTM E140:2019, EPRI P91:2020

SONO M

Motorized UCI Measuring Probes for Maximum Repeatability

Consistent Test Force. Reliable Hardness Results. The SONO M motorized UCI measuring probes combine precision mechanics with intelligent control technology to deliver highly accurate, operator-independent hardness measurements. By applying the test force automatically and with high repeatability, they ensure consistent measurement conditions and outstanding reproducibility – even in demanding industrial applications.

The robust anodized aluminium housing protects the precision mechanics and is designed for reliable long-term operation in production environments. Thanks to integrated motor control, adjustable penetration time and interchangeable probe feet, the probes can be adapted to a wide range of testing tasks and operated manually, semi-automatically or fully automatically.

The SONO M probes are compatible with both the portable SONODUR 3 and the SONODUR R for fully automated production systems. Their low test forces produce only minimal indentations, making them particularly suitable for thin surface layers, coatings and sensitive components where conventional hardness testing reaches its limits.

The probes operate according to the UCI (Ultrasonic Contact Impedance) method. A Vickers diamond mounted on a vibrating rod is pressed into the material with a defined test force. The resulting frequency shift is measured and converted directly into a hardness value. Unlike conventional Vickers testing, no optical evaluation of the indentation is required, enabling fast, reliable and virtually non-destructive hardness testing directly on the component.

YOUR ADVANTAGES AT A GLANCE

Maximum measurement reproducibility: Motor-controlled force application ensures highly repeatable hardness measurements with minimal measurement scatter.

Operator-independent testing: Automated test force application minimizes user influence and provides consistent measurement conditions.

Ideal for sensitive surfaces: Low test forces create only minimal indentations, making the probes ideal for thin surface layers, coatings and finished components.

Flexible integration into your testing process: Suitable for manual, semi-automatic or fully automatic operation in laboratory, production and inline applications.

Versatile configuration: Adjustable penetration times and interchangeable probe feet enable reliable testing across a wide range of applications.

Robust industrial design: The anodized aluminium housing protects the precision mechanics and ensures long-term measurement stability in demanding environments.

NORMS

- **DIN 50159**
- **ASTM A1038**

TECHNICAL INFORMATION

TEST METHOD:	UCI-method, according to DIN 50159-1,2-2021, ASTM A1038-2019
PENETRATION TIME:	according to standard DIN EN 6607-1
PROBE HOUSING MATERIAL:	Anodized aluminium
PROBE HOUSING DIMENSIONS:	38.5 mm × 188 mm
MATERIAL MEASURING TIP:	Vickers diamond
TIP DIAMETER:	3.4 mm
TIP LENGTH:	33 mm
DIAMOND ANGLE:	136°
CONNECTION:	Wired via Lemo plug connection

ACCESSORIES

SONO MS 1 (M)
Operator-independent, highly accurate and flexible precision tripod

SONO MS 2 (M)
The all-rounder among tripods - adjustable, highly accurate and highly flexible

SONO PS 2
Operator-independent precision stand for semi-automatic hardness testing

SONO S

Guided UCI Measuring Probes for Reliable Everyday Hardness Testing

Guided Measurements. Reliable Results.
The SONO S guided UCI measuring probes are designed for fast, repeatable hardness testing in everyday industrial applications. Their integrated probe guide supports precise positioning and consistent force application, reducing operator influence and improving measurement reproducibility.

The robust aluminium housing is ergonomically designed for comfortable handling while protecting the sensitive probe technology in demanding production environments.

The probes are compatible with both the portable SONODUR 3 and the SONODUR R, making them suitable for manual measurements as well as automated production systems.

The intelligent measuring system covers the complete hardness range of the classic Vickers scale and is suitable for metals, industrial ceramics and, with certain limitations, heterogeneous materials such as nodular cast iron. Thanks to interchangeable probe shoes, the probes are ideal for flat surfaces, tubes, pipes, wires, round stock and curved components. Custom probe shoes can also be supplied for application-specific geometries.

The probes operate according to the UCI (Ultrasonic Contact Impedance) method. A Vickers diamond mounted on a vibrating rod is pressed into the material with a defined test force. The resulting frequency shift is measured and directly converted into a hardness value. Unlike conventional Vickers testing, no optical evaluation of the indentation is required, enabling fast, reliable and virtually non-destructive hardness testing directly on the component.

YOUR ADVANTAGES AT A GLANCE

Guided measurements for maximum repeatability: The integrated probe guide minimizes operator influence and ensures highly reproducible hardness measurements.

Precise positioning on curved surfaces: Interchangeable probe shoes enable centered and repeatable measurements on tubes, round stock and other curved components.

Reliable results in everyday operation: Ergonomic handling and robust construction support consistent measurements in industrial environments.

Fast measurement within seconds: Short measuring times enable efficient testing and rapid decision-making.

Versatile application: Suitable for flat surfaces, tubes, pipes, wires, round materials and application-specific geometries.

Robust industrial design: The solid aluminium housing protects the probe technology and ensures long-term reliability.

TECHNICAL INFORMATION

TEST METHOD:	UCI method, complies with DIN 50159 1.2-2021, ASTM A1038 2019
PROBE HOUSING MATERIAL:	Aluminium
PROBE HOUSING DIMENSIONS:	38.5 mm × 169 mm
PROBE TIP MATERIAL:	Vickers Diamond
DIAMETER MEASURING TIP:	3.4 mm
TIP ANGLE MEASURING TIP:	136°
CONNECTION:	Wired via Lemo connector

NORMS

- **ASTM A1038**
- **DIN 50159**

WIRED LEEB PROBES

Always ready, no charging required

Proven performance, now with wired options. With the expansion of our LEEB portfolio, we're offering you even more flexibility in your daily work. In addition to the proven Bluetooth probes, wired LEEB probes are now available in the LEEB D and LEEB G versions.

The wired probes draw their power directly from the SONODUR 3, eliminating the need for separate charging. Thanks to the integrated ON/OFF switch, the probe can be easily turned off when not in use.

This allows it to remain connected while conserving the SONODUR 3's battery – ensuring maximum operating time.

After use, simply disconnect the probe from the device and store it together with the cable in the SONODUR case. As always, our LEEB probes deliver high precision, easy handling, and fast measurements – now with even greater user convenience.

YOUR ADVANTAGES AT A GLANCE

Cost Advantage: The wired LEEB probes deliver outstanding performance at an attractive price point.

No Separate Charging Needed: No more empty probes at the start of a shift – there's no separate battery to charge.

Replaceable Impact Bodies: The impact bodies can be easily replaced by the user, just like with previous models.

Easy to Use: The probe operation can be learned within minutes and is simple and intuitive.

Ideal for Serial Measurements: Perfect for testing

FOERSTER

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The FOERSTER Group is represented by subsidiaries and representatives in over 60 countries worldwide. You can find a complete overview on our website.

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