

# PROBE CATALOG

NONDESTRUCTIVE TESTING WITH ULTRASOUND

نماینده انحصاری در ایران

کاوشکاران

تلفن: ۰۲۱ - ۸۸۶۸ ۵۲۹۷

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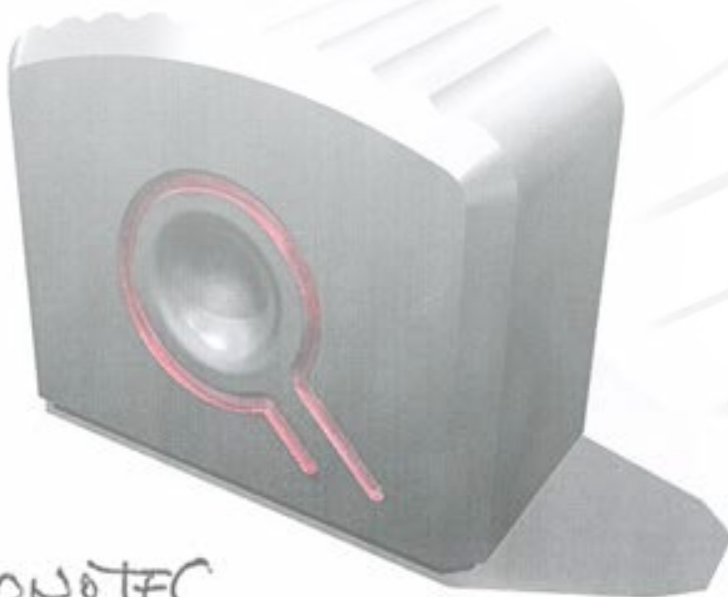


**SONOTEC**  
ULTRASONIC SOLUTIONS



Ultrasound is our Strength.

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**SONOTEC**   
ULTRASONIC SOLUTIONS

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<b>SONOSCAN Probes for Nondestructive Testing</b>	<b>7</b>
Test Equipment from the Ultrasound Specialist	7
High Quality made in Germany	9
Probe Parameters	10
<b>SONOSCAN Straight Beam Probes According to European Standard</b>	<b>12</b>
Pulse Echo Probe with Hard Wear Plate	13
Pulse Echo Probe with Protective Membrane	14
Dual Element Probe	16
<b>SONOSCAN Angle Beam Probes According to European Standard</b>	<b>18</b>
Small Types (8 x 9 mm)	20
Medium Types (14 x 14 mm)	21
Large Types (20 x 22 mm)	22



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## SONOSCAN Quick Change Probes According to North American Standard 23

Small Type (Ø 1/4") 24

Medium Type (Ø 3/8") 25

Large Type (Ø 1/2") 25

## SONOSCAN AWS Probes According to North American Standard 26

Small Type (0.63" x 0.63") 27

Medium Type (0.63" x 0.75") 28

Large Type (0.75" x 0.75") 28

## SONO-ID Probes 29

Pulse Echo Probes with Protective Membrane 30

Dual Element Probes 31



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<b>Probe Sets</b>	<b>32</b>
Set of Probes for Testing of Forgings	33
Set of Probes for Weld Seam Testing	34
Set of Probes for Steel Testing	36
<b>SONOSCAN Immersion Probes</b>	<b>38</b>
Type IW – Broadband Probe	39
Type IK – Broadband Probe with Composite Transducer	40
<b>Air-Coupled Ultrasonic Probes SONOSCAN CF</b>	<b>41</b>
Overview Air-coupled Probes SONOSCAN CF	42



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## Accessories

44

Probe Cables

45

Calibration Blocks

46

Couplant

47

Coupling Membranes for Straight Beam Probes

47

Replacement Soles for Angle Beam Probes

48

Angle Wedges for Quick Change Probes

49

Angle Wedges for AWS Probes

50

# SONOSCAN Probes for Nondestructive Testing

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## Test Equipment from the Ultrasound Specialist

SONOTEC was founded in the beginning of 1991 by the physicists Dr. Santer zur Horst-Meyer and Hans-Joachim Münch and has been owner-managed since then. With currently more than 150 employees, today we are a growing technology company established on the market as a provider of specific solutions using ultrasonic measurement technologies.

*Ultrasound is our Strength.*

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More than 25 years of experience in the development, production and worldwide distribution of innovative ultrasonic solutions - our philosophy of strong customer orientation and an open corporate culture are the secrets of our success.

You don't find the required product or the suitable accessories on the following pages? Contact us!



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# SONOSCAN Probes

## High Quality - Made in Germany.

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### Ultrasonic Flaw Detectors for NDT

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**Experienced material testers** have supervised the development of SONOTEC flaw detector and probes focusing on **simple operation procedures and high sensitivity** while simultaneously providing a robust design.

The SONOSCREEN ST10 can be used for all conventional ultrasonic tests such as weld inspections, wall thickness measurements and the detection of discontinuities, which includes invisible cracks, inclusions, voids and other discontinuities in metals, plastics, ceramics and composites.

### Precise Wall Thickness Measurement Gages

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**Wall thickness measurement** as part of nondestructive testing is one of the most common uses of ultrasonic technologies. In addition to the classic measurement of wall thickness as part of **quality control**, our precise wall thickness measurement devices can also be used to detect damage caused by **erosion and corrosion** on, for example, ships, storage tanks, pipelines and cranes. We have a variety of versions of our devices for all types of applications as well as stationary solutions.

### Air-Coupled Ultrasonic Inspection Systems

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Compared to conventional contact non-destructive testing methods the advantage of air-coupling is that the inspection can be performed **100 % contact free**.

Accordingly, this innovative testing method is suited especially for the **inspection of modern composite materials** as they are used in several industries such as automotive, aerospace, ship building, machine building and sports and leisure goods. The applications and structures are highly diverse and are being developed further constantly.

In addition to standard products, **we also manufacture customized solutions.**



# SONOSCAN Probes

## Made in Germany.

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### Our Probe Quality

Our ergonomically designed, in manufactory work individually produced probes are used for locating objects accurately as well as for safe evaluation of material defects and discontinuities within components and test objects. The evaluation of such flaws is made on the basis of reflected ultrasound using the maximum of this echo signal. Decisive for extraordinary acoustic properties of the probe are the characteristics of the transducer. With a strong R&D department and an own production for piezo-composites we are able to offer efficient probes as well as implement variable solutions fast and flexible.

The quality of ultrasonic probes is mainly defined by their invisible properties. Probes are characterized by technical specifications like nominal frequency, bandwidth, and the diameter of transducer. However, only the long-term stability of these parameters is a sign for the reliability and quality of probes. Additional requirements are set in specific applications by environmental conditions such as temperature, pressure, and resistance to media.

To make sure that the various probes cope with the particular measuring tasks, all technical data of the SONOSCAN probes is specified in very close tolerance limits. In order to ensure a high quality every probe manufactured at SONOTEC has to pass a strict quality control. In this test it is checked if the measuring values of the probe lie in the close tolerance range of our acceptance inspection. The evaluation of measuring data enables us to restrict our tolerance range to a smaller extent. So, we can steadily increase the precision of our probes and create more accurate products for our customers.

# SONOSCAN Probes for Nondestructive Testing

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## Probe Parameters

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Size of transducer	Describes the dimensions (diameter or length x width) of the ultrasound generating element, i.e., piezo-ceramic or piezo-composite material. The dimensions of the active element have a significant impact on the shape of the emitted sound field.
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Center frequency	Is the average frequency of all probes of the same type. The probe frequency has a high influence on the evaluation of reflectors. The reflection behavior of diagonal reflectors highly depends on the inspection frequency. In addition, the used frequency has strong effects on the shape of the sound field. We check every probe according to very close tolerance limits in order to ensure a high reproducibility and standard conformity.
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Bandwidth	Describes the range of frequencies in an echo spectrum that shows a maximum amplitude deviation of up to 6 dB from the center frequency. A probe with a broad bandwidth can generate shorter ultrasonic pulses. As the lower frequencies of the pulse are less attenuated than the center frequency, resolution and penetration can be improved with higher bandwidths.
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# SONOSCAN Probes for Nondestructive Testing

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## Focus

Probes can be focused with acoustic lenses in order to identify even small reflectors with a higher sensitivity. The focal length refers to the distance of a reflector to the probe which generates the highest possible echo amplitude. Focusing is only possible within the near field of a probe. Flat probes have a natural focus which is defined by the transducer size and its frequency as well as diffraction effects and interferences.

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# SONOSCAN Straight Beam Probes According to European Standard

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The ergonomic straight beam probes of the SONOSCAN series for Nondestructive Testing comply with the European Standard DIN EN 12668-2. They are used to check metals, plastics and ceramic materials for discontinuities, such as cracks, inclusions, blowholes and other material flaws. The pulse echo and dual element probes "Made in Germany" are powerful, robust ultrasonic transducers, which are compatible to the new ultrasonic flaw detector SONOSCREEN ST10, developed by SONOTEC as well, and common mobile ultrasonic test equipment.

We offer our precise ultrasonic probes with different frequencies and transducer sizes. Choose the most suitable probe for your application, depending on material characteristics, thickness and geometry of the work piece.

## Applications

- Straight beam flaw detection and wall thickness measurement on metals, plastics and ceramic materials
- Inspection of pipes, plates, billets, castings and forgings
- Testing of pipes and bars
- Detection of delaminations

## Advantages

- Excellent acoustic characteristics
- Unique ergonomics and fatigue-proof, handy usage
- Suitable for DGS evaluation



# SONOSCAN Straight Beam Probes According to European Standard

## General Probe Data

Operating temperature:	-20 °C to +60 °C
Transducer material:	Piezo-ceramic
Casing material:	Stainless steel, plastics
Standard:	EN 12668-2:2009
Optional:	Probe certificate acc. DIN EN 12668-2 Order-No. 500 01 0093

## Pulse Echo Probe with Hard Wear Plate

### SONOSCAN HS

Element size:	Ø 10 mm
Contact face:	Ø 14 mm
Protective layer:	Aluminum oxide
Connector:	LEMO 00



Probe type	Center frequency	Order number
HS4 EN	4 MHz	100 02 0007

# SONOSCAN Straight Beam Probes According to European Standard

## Pulse Echo Probe with Delay Line

### SONOSCAN PXS

Element size:  $\varnothing$  6 mm contact face  
with delay line  
Contact face:  $\varnothing$  8 mm  
Coupling membrane: Vulkollan®  
Connector: Microdot



Probe type	Center frequency	Order number
PXS10 EN	10 MHz	100 02 0308

## Pulse Echo Probe with Protective Membrane

### SONOSCAN PS

Element size:  $\varnothing$  10 mm  
Contact face:  $\varnothing$  14 mm  
Coupling membrane: Vulkollan®  
Connector: LEMO 00



Probe type	Center frequency	Order number
PS2 EN	2 MHz	100 02 0004
PS4 EN	4 MHz	100 02 0005

# SONOSCAN Straight Beam Probes According to European Standard

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## Pulse Echo Probe with Protective Membrane

### SONOSCAN PL

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Contact face:                    Ø 29 mm  
Coupling membrane:        Vulkollan®  
Connector:                       LEMO 1S



Probe type	Center frequency	Element Size	Order number
PL1 EN	1 MHz	24 mm	100 02 0001
PL2 EN	2 MHz	24 mm	100 02 0002
PL4 EN	4 MHz	24 mm	100 02 0003

# SONOSCAN Straight Beam Probes According to European Standard

## Dual Element Probes

### SONOSCAN TXS

Contact face:                    Ø 8 mm  
 Delay material:                Plastics  
 Connectors:                    2 x LEMO 00



Probe type	Center frequency	Element size	Order number
TXS10 EN	10 MHz	Ø 6/2 mm	100 02 0032

### SONOSCAN TS

Contact face:                    TS4 Ø 17 mm  
                                       TS2 Ø 14 mm  
                                       TS5 Ø 12 mm  
 Delay material:                Plastics  
 Connectors:                    2 x LEMO 00



Probe type	Center frequency	Element size	Order number
TS2 EN	2 MHz	Ø 11/2 mm	100 02 0010
TS4 EN	4 MHz	3.5 x 10 mm	100 02 0011
TS5 EN	5 MHz	Ø 9/2 mm	100 02 0032



# SONOSCAN Straight Beam Probes According to European Standard

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## Dual Element Probes

### SONOSCAN TL

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Contact face:                     $\varnothing$  29 mm  
Delay material:                 Plastics  
Connectors:                     2 x LEMO 00



Probe type	Center frequency	Element size	Order number
TL2 EN	2 MHz	7 x 18 mm	100 02 0008
TL4 EN	4 MHz	6 x 20 mm	100 02 0009

# SONOSCAN Angle Beam Probes According to European Standard

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The SONOSCAN series angle beam probes for Nondestructive Testing detect even smallest discontinuities and quality failures such as cracks, incomplete fusions, blowholes or inclusions. All SONOSCAN probes are compatible with the new flaw detector SONOSCREEN ST10, developed by SONOTEC as well, and other common ultrasonic testing equipment.

During the testing process, the transducer transmits ultrasonic waves through an integrated wedge into the test object. Typical incident angles are 45°, 60° and 70°. There exist several construction types and sizes for various applications. By individual grinding, the probes can be adapted to differently curved surfaces.

Due to the high quality of the angle beam probes, the EN 12668-2 Standard can easily be achieved. Their unique and ergonomic design allows comfortable and fatigue-proof testing.

The high precision SONOSCAN probes are manufactured in three different construction types. They can be selected according to their angle, frequency, transducer size and environmental conditions. In addition to standard probes, customer specific solutions can be realized.

## Advantages

- ▶ Excellent acoustic characteristics
- ▶ Unique ergonomics and fatigue-proof, handy usage
- ▶ Realization of customized solutions possible



# SONOSCAN Angle Beam Probes According to European Standard

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## General Probe Data

Operating temperature:	0 °C to +60 °C
Transducer material:	Piezo-ceramic
Casing material:	Anodized aluminum
Protective layer:	Plastics
Label:	Probe type, frequency (color coded), angle of incidence, Element size, serial number
Color code:	Yellow - 2 MHz, Blue - 4 MHz
Standard:	EN 12668-2:2009
Optional:	Probe certificate acc. DIN EN 12668-2 Order-No. 500 01 0093



# SONOSCAN Angle Beam Probes According to European Standard

## Small Types (8 x 9 mm)

### SONOSCAN WS

Element size: 8 x 9 mm<sup>2</sup>  
 Contact face: 24 x 15,5 mm  
 Connector: LEMO 00  
 Dimensions W x H x D: 24 x 25.5 x 15.5 mm



Probe type	Angle of incidence in steel	Center frequency	Order number
WS 45-2	45°	2 MHz	100 01 0170
WS 60-2	60°	2 MHz	100 01 0171
WS 70-2	70°	2 MHz	100 01 0172
WS 45-4	45°	4 MHz	100 01 0173
WS 60-4	60°	4 MHz	100 01 0174
WS 70-4	70°	4 MHz	100 01 0175

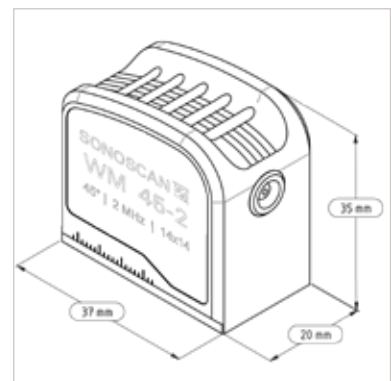


# SONOSCAN Angle Beam Probes According to European Standard

## Medium Types (14 x 14 mm)

### SONOSCAN WM

Element size: 14 x 14 mm<sup>2</sup>  
 Contact face: 37 x 20 mm  
 Connector: LEMO 00  
 Dimensions W x H x D: 37 x 35 x 20 mm



Probe type	Angle of incidence in steel	Center frequency	Order number
WM 45-2	45°	2 MHz	100 02 0012
WM 60-2	60°	2 MHz	100 02 0013
WM 70-2	70°	2 MHz	100 02 0014



# SONOSCAN Angle Beam Probes According to European Standard

## Large Types (20 x 22 mm)

### SONOSCAN WL

Element size: 20 x 22 mm<sup>2</sup>  
 Contact face: 54 x 32 mm  
 Connector: LEMO 1S  
 Dimensions W x H x D: 54 x 52 x 32 mm



Probe type	Angle of incidence in steel	Center frequency	Order number
WL 45-2	45°	2 MHz	100 01 0176
WL 60-2	60°	2 MHz	100 01 0177
WL 70-2	70°	2 MHz	100 01 0178





# SONOSCAN Quick Change Probes According to North American Standard

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In addition to the angle beam probes according to European Standards, we offer Quick Change probes with interchangeable wedges for weld seam testing in all common sizes and frequencies especially for the American market. Suitable wedges you can find on page 60.

The probes are manufactured by ourselves according to specific requirements of the ASTM E1065 defined by the American Welding Society. Instead of regular ceramics are used highly sensitive piezo-composites for the SONOSCAN probe series, manufactured in our own in-house production. An innovative manufacturing technology for the protective layer also helps to ensure advantageous acoustic features such as high sensitivity and low noise.

The SONOTEC angle wedges as well as all common wedges can be mounted easily at the probe with the customary screw thread and can be changed quickly, if different frequencies or angles are necessary to perform an adequate evaluation of defects. Quick Change probes are used anywhere where the access to the test object is limited. In addition, the fairly small, circular transducers offer a better failure resolution.



# SONOSCAN Quick Change Probes

## According to North American Standard

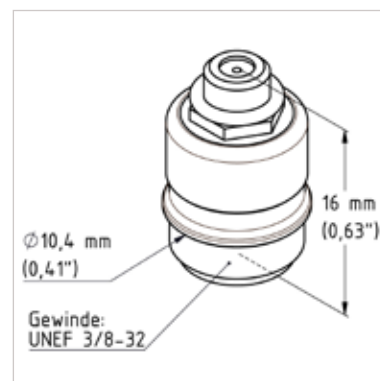
### General Probe Data

Transducer material:	Piezo-composite
Casing material:	Stainless steel, plastics
Label:	Probe type, frequency (color coded), transducer dimension, serial number
Farbcodierung:	Yellow - 2.25 MHz, Green - 5 MHz
Connector:	Microdot UNF 10-32
Standard:	ASTM E1065
Optional:	Probe certificate

### Small Type (Ø 1/4")

#### SONOSCAN QSC

Element size:	Ø 1/4" (6.4 mm)
Contact face:	Ø 0.41" (10.4 mm)
Thread:	UNEF 3/8-32



Probe type	Center frequency	Order number
QSC 2.25	2.25 MHz	100 02 0023
QSC 5	5 MHz	100 02 0026

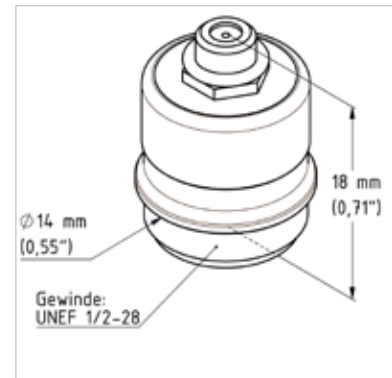


# SONOSCAN Quick Change Probes According to North American Standard

## Medium Type (Ø 3/8")

### SONOSCAN QMC

Element size: Ø 3/8" (9.5 mm)  
 Contact face: Ø 0,55" (14 mm)  
 Thread: UNEF 1/2-28

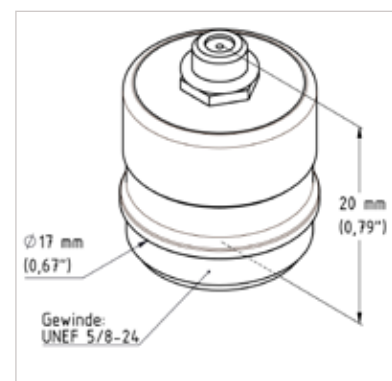


Probe type	Center frequency	Order number
QMC 2.25	2.25 MHz	100 02 0022
QMC 5	5 MHz	100 02 0025

## Large Type (Ø 1/2")

### SONOSCAN QLC

Element size: Ø 1/2" (12.7 mm)  
 Contact face: Ø 0,67" (17 mm)  
 Thread: UNEF 5/8-24



Probe type	Center frequency	Order number
QLC 2.25	2.25 MHz	100 02 0021
QLC 5	5 MHz	100 02 0024

# SONOSCAN AWS Probes

## According to North American Standard

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In addition to the angle beam probes according to European Standards and Quick Change probes, we offer AWS probes with interchangeable wedges for weld seam testing in all common sizes and frequencies especially for the American market. Suitable wedges (serrated and snail wedges) you can find on page 58.

The probes are manufactured by ourselves according to specific requirements of the ASTM E1065 defined by the American Welding Society. Instead of regular ceramics are used highly sensitive piezo-composites for the SONOSCAN probe series, manufactured in our own in-house production. An innovative manufacturing technology for the protective layer also helps to ensure advantageous acoustic features such as high sensitivity and low noise.

The robust probes with BNC connector allow a fast scanning over comparatively large areas with high precision and repeatability. Via the mounting screws can be attached the SONOTEK angle wedges as well as common angle wedges.

Thanks to the different types of wedges various material tests can be performed.



# SONOSCAN AWS Probes

## According to North American Standard

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### General Probe Data

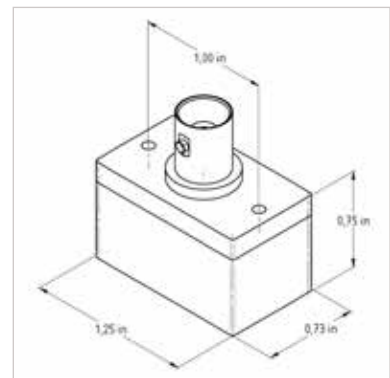
Transducer material:	Piezo-composite
Casing material:	Stainless steel, plastics
Label:	Probe type, Element size, serial number
Connector:	BNC
Thread:	UNF 4-40
Standard:	ASTM E1065
Optional:	Probe certificate

### Small Type (0.63" x 0.63")

#### SONOSCAN RSC

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Element size: 0.63" x 0.63" (16 x 16 mm)  
Contact face: 1,25" x 0,73" (31,8 x 18,5 mm)



Probe type	Center frequency	Order number
RSC 2.25	2.25 MHz	100 02 0300

# SONOSCAN AWS Probes

## According to North American Standard

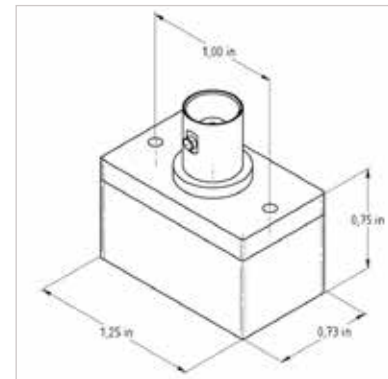
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### Medium Type (0.63" x 0.75")

#### SONOSCAN RMC

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Element size: 0.63" x 0.75" (16 x 19 mm)  
 Contact face: 1,25" x 0,73" (31,3 x 18,5 mm)



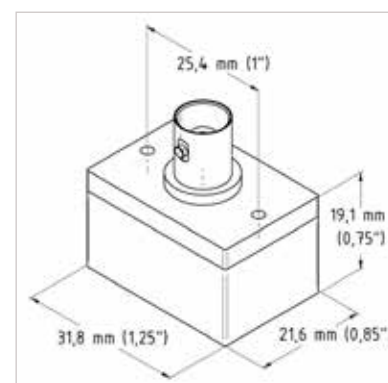
Probe type	Center frequency	Order number
RMC 2.25	2.25 MHz	100 02 0028

### Large Type (0.75" x 0.75")

#### SONOSCAN RLC

---

Element size: 0.75" x 0.75" (19 x 19 mm)  
 Contact face: 1,25" x 0,85" (31,8 x 21,6 mm)



Probe type	Center frequency	Order number
RLC 2.25	2.25 MHz	100 02 0029

# SONO-ID Wireless Probe Recognition For SONOWALL 70 / SONOFLAW

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## Intelligent and wireless probe recognition

SONO-ID probes are especially conducted for SONOWALL 70 / SONOFLAW. The SONOWALL 70 / SONOFLAW is the first gage in the market with intelligent probe recognition. The wireless recognitions allows a quick probe setup for testing. In addition the extended probe management enables probe-specific information, such as DAC-curves, delay lines and serial numbers, to be saved directly in the probe.

Thanks to the different sizes various material tests can be performed.



# SONO-ID Wireless Probe Recognition For SONOWALL 70 / SONOFLAW

## Pulse Echo Probes with Protective Membrane

### SONOSCAN PXS<sub>i</sub> Fingertip Probe

Element size:                    Ø 8 mm  
 Contact face:                    Ø 12 mm  
 Protective Layer:                Vulkollan®  
 Connector:                        Microdot



Probe type	Center frequency	Order number
PXS10i EN	10 MHz	100 02 0309

### SONOSCAN PS<sub>i</sub>

Element size:                    Ø 10 mm  
 Contact face:                    Ø 14 mm  
 Protective Layer:                Epoxy filled  
 Connector:                        LEMO 00



Probe type	Center frequency	Order number
PS2i EN	2 MHz	100 02 0307

# SONO-ID Wireless Probe Recognition For SONOWALL 70 / SONOFLAW

## Dual Element Probe

### SONOSCAN TXSi Miniature Probe

Contact face:                     $\varnothing$  6/2 mm  
 Delay material:                Plastics  
 Connectors:                    2 x LEMO 00



Probe type	Center frequency	Element size	Order number
TXS10i EN	10 MHz	$\varnothing$ 8 mm	100 02 0031

### SONOSCAN TSi

Contact face:                    TS2i  $\varnothing$  14 mm  
                                           TS5i  $\varnothing$  12 mm  
 Delay material:                Plastics  
 Connectors:                    2 x LEMO 00



Probe type	Center frequency	Element size	Order number
TS2i EN	2 MHz	$\varnothing$ 11/2 mm	100 02 0311
TS5i EN	5 MHz	$\varnothing$ 9/2 mm	100 02 0306

# Probe Sets

## Testing of Forgings

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Order number: 700 01 0211





# Probe Sets

## Testing of Forgings

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Consisting of:

### SONOSCAN Angle Beam Probes

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Probe type	Center frequency	Order number
WS 45-4	4 MHz	100 01 0173
WS 70-4	4 MHz	100 01 0175
WL 45-2	2 MHz	100 01 0176

### SONOSCAN Straight Beam Probes

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Probe type	Center frequency	Order number
HS4	4 MHz	100 02 0007
PS4	4 MHz	100 02 0005
PL2	2 MHz	100 02 0002
PL4	4 MHz	100 02 0003
TL2	2 MHz	100 02 0008
TL4	4 MHz	100 01 0009

### Probe Cables

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Cable type	Order number
Lemo 1S to 1S	800 01 0033
Lemo 00 to 1S	800 01 0032
Lemo 00 to 2 Lemo 1S	800 01 0030

# Probe Sets Weld Seam Testing

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Order number: 700 01 0212



# Probe Sets

## Weld Seam Testing

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Consisting of:

### SONOSCAN Angle Beam Probes

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Probe type	Center frequency	Order number
WS 45-2	2 MHz	100 01 0170
WS 45-4 (2x)	4 MHz	100 01 0173
WS 60-4	4 MHz	100 01 0174
WS 70-4 (2x)	4 MHz	100 01 0175
WL 45-2	2 MHz	100 01 0176
WL 70-2	2 MHz	100 01 0178

### SONOSCAN Straight Beam Probes

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Probe type	Center frequency	Order number
PS4	4 MHz	100 01 0005
TL4	4 MHz	100 01 0009

### Probe Cables

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Cable type	Order number
Lemo 1S to 1S	800 01 0033
Lemo 00 to 1S	800 01 0032
Lemo 00 to 2 Lemo 1S	800 01 0030

# Probe Sets Steel Testing

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Order number: 700 01 0212



# Probe Sets

## Steel Testing

---

Consisting of:

### SONOSCAN Angle Beam Probes

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Probe type	Center frequency	Order number
WS 45-4 (2x)	4 MHz	100 01 0173
WS 70-4	4 MHz	100 01 0175
WL 45-2	2 MHz	100 01 0176
WL 70-2	2 MHz	100 01 0178

### SONOSCAN Straight Beam Probes

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Probe type	Center frequency	Order number
HS4	4 MHz	100 02 0007
PL4	4 MHz	100 02 0003
TS4	4 MHz	100 02 0011
TL2	2 MHz	100 02 0008

### Probe Cables

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Cable type	Order number
Lemo 1S to 1S	800 01 0033
Lemo 00 to 1S	800 01 0032
Lemo 00 to 2 Lemo 1S	800 01 0030

# SONOSCAN Immersion Probes

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Immersion probes are used for semi- or fully-automatic testing of serial and mass production over a water stand-off distance.

The test object is checked for smallest defects or defective fabrics with maximum repeatability of the testing results. Thus, defects in soldered junctions, welding faults or cracks and pinholes in metal parts can be identified reliably.

Most testings are conducted in water-filled immersion tanks. Thereby the test object is completely immersed. To check the object, it is either firmly clamped and scanned by the probe or it is uniformly moved on coordinates passing the probe.

Larger test objects, which cannot be immersed completely, are clamped into special attachments. The probe is either connected from the bottom through a water-filled reservoir or through a free water jet.

The emitted ultrasonic impulses are transmitted through the water into the test object. The signals are reflected by inhomogeneities and interfaces of the object. Therefore, the immersion analysis provides constant connection conditions and accurately repeatable testing results.

## Properties

- Complete waterproof construction
- Robust stainless steel housing
- Extremely high detection sensitivity for smallest inhomogeneities with high-frequency probes



# SONOSCAN Immersion Probes

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## General Probe Data

Casing material:	Stainless steel
Protective layer:	Plastics
Label:	Probe type, serial number
Connector:	Lemo HVR 03
Bandwidth (-6 dB):	approx. 80 %
Storage temperature:	-20 to +80 °C
Operating temperature:	+10 to +40 °C
Operating pressure:	0.2 to 1 bar
Medium resistance:	Water
Optional:	Probe certificate

## Type IW – Broadband Probe

### SONOSCAN IW-10-6

Center frequency:	10 MHz
Element size:	Ø 6 mm
Contact face:	Ø 9,5 mm
Transducer material:	Piezo-ceramic
Order number:	100 01 0130



Further types on request.

# SONOSCAN Immersion Probes

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## Type IK – Broadband Probe with Composite Transducer

### SONOSCAN IK

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Transducer material: Piezo-composite

Contact faces:      IK 1-20 Ø 24 mm  
                             IK 2-20 Ø 24 mm  
                             IK 5-6 Ø 9,5 mm  
                             IK 5-10 Ø 13 mm



Probe type	Center frequency	Element size	Order number
IK 1-20	1 MHz	Ø 20 mm	100 01 0161
IK 2-20	2 MHz	Ø 20 mm	100 01 0163
IK 5-6	5 MHz	Ø 6 mm	100 01 0162
IK 5-10	5 MHz	Ø 10 mm	100 01 0195



# SONOSCAN CF Probes For Air-Coupled Testing

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The high performing probes of the **SONOSCAN CF** series have been designed for couplant-free material testing. Due to their stainless steel housing the probes are extremely rugged and maintenance free. Currently the portfolio comprises **frequencies from 50 to 400 kHz**. In addition to these standard specifications customized probes with the following features can be realized as well:

- Outstanding acoustic characteristics
- Your technical requirements
- Reasonable price performance ratio

## Probes from the ultrasound specialist:

- In-house piezo-composite manufacturing
- SONOSCAN CF probes for absolutely contact free testing
- Air-coupled probes within the frequency range of 50 to 400 kHz, focusing and non-focusing as well as multi-element probes



# SONOSCAN CF Probes For Air-Coupled Testing

## Overview Air-Coupled Probes SONOSCAN CF

We offer the extremely rugged and maintenance free probes in stainless steel housing in frequencies from 50 to 400 kHz.



Designation	CF 050	CF 075	CF 125
Order number	700 01 0265	700 01 0266	700 01 0267
Frequency	50 kHz $\pm$ 4 %	75 kHz $\pm$ 4 %	125 kHz $\pm$ 4 %
Near field length	73 mm	50 mm	32 mm
Sound beam $\varnothing$ (-6 dB)	13 mm	8 mm	5 mm
Wavelength in air	6.8 mm	4.5 mm	2.8 mm
Max. voltage (2 % duty cycle tone burst)	1500 Vpp	1000 Vpp	800 Vpp
Sensitivity (transfer ratio in air)	-34 dB	-34 dB	-32 dB
Operating temperature	-40 °C to 90 °C	-40 °C to 90 °C	-40 °C to 90 °C
Dimensions	$\varnothing$ 62 x 77 mm	$\varnothing$ 42 x 64 mm	$\varnothing$ 28 x 51 mm
Weight	465 g	195 g	95 g

# SONOSCAN CF Probes For Air-Coupled Testing

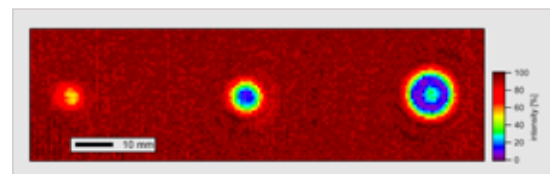
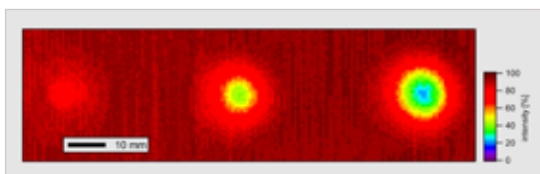


Designation	CF 200	CF 300	CF 400 *
Order number	700 01 0268	700 01 0269	700 01 0270
Frequency	200 kHz $\pm$ 4 %	300 kHz $\pm$ 4 %	400 kHz $\pm$ 4 %
Near field length	18 mm	12 mm	50 mm *
Sound beam $\varnothing$ (-6 dB)	3 mm	2 mm	4 mm
Wavelength in air	1.7 mm	1.1 mm	0.8 mm
Max. voltage (2 % duty cycle tone burst)	500 Vpp	400 Vpp	400 Vpp
Sensitivity (transfer ratio in air)	-35 dB	-52 dB	-31 dB
Operating temperature	-40 °C to 90 °C	-40 °C to 90 °C	-20 °C to 60 °C
Dimensions	$\varnothing$ 19 x 43 mm	$\varnothing$ 19 x 38 mm	$\varnothing$ 28 x 51 mm
Weight	39 g	38 g	90 g

\* This probe can be offered as well as multi element probe with the possibility of an electronic focused sound beam.

This is linked with a halving of the near field length and a considerably improved resolution.

Comparison of a drilled hole - unfocused (left) and focused probe (right)



# Accessories For Nondestructive Testing

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In addition to our ultrasonic flaw detectors and probes we offer extensive accessories for different applications. On the following pages we offer common articles and consumables:

- ▶ Probe cables with various connectors
- ▶ Selection of calibration blocks with certificates
- ▶ Couplant
- ▶ Coupling membranes for straight beam probes
- ▶ Replacement soles for angle beam probes to extend service life
- ▶ Life extension soles for angle beam probes
- ▶ Angle wedges for quick change and AWS probes (according to North American Standard)



# Accessories

## For Nondestructive Testing

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### Probe Cables

Length: approx. 6.56 ft (2 m)

Probe type	Connectors	Order number
Straight or angle beam probes	LEMO 00 – LEMO 00	800 01 0035
	LEMO 00 – LEMO 1S	800 01 0036
	LEMO 1S – Lemo 1S	800 01 0037
T/R probes dual	Dual LEMO 00 – 2 x LEMO 1S	800 01 0030
	Dual LEMO 00 – 2 x LEMO 00	800 01 0034
T/R probes	2x LEMO 00 to LEMO 00	800 01 0043
AWS pulse echo probes	BNC – Microdot	800 01 0047
	LEMO 1S – LEMO BNC	800 01 0056
Quick change pulse echo probes	LEMO 1S – Microdot	800 01 0046
	LEMO 00 – Microdot	800 01 0048
	Microdot – BNC	800 01 0059

Further cable types on request.



# Accessories For Nondestructive Testing

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## Calibration blocks

### Calibration block K1 with certificate

Order number: 500 01 0043



### Calibration block K2 with certificate

Order number:

25 mm	500 01 0044
12.5 mm	500 01 0076



### Stepped reference block with certificate

Steps: 2.5 mm / 5 mm / 7.5 mm / 10 mm / 12.5 mm

Order number: 500 01 0045



# Accessories For Nondestructive Testing

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## Couplant

### Oil Couplant

Amount: 100 ml  
Order number: 500 01 0032

### Water-Based Gel Couplant

Amount: 250 ml  
Order number: 500 01 0061



## Coupling Membranes for Straight Beam Probes

Scope of delivery: 10 pieces  
Thickness: 0.7 bis 0.3 mm  
Material: Vulkollan®

Probe type	Order number
PS	002 09 0016
PL	002 09 0015



# Accessories

## For Nondestructive Testing

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### Life Extension Soles for Angle Beam Probes

Scope of delivery: 5 pieces  
Thickness: 3 mm  
Material: PMMA

Probe type	Order number
WS	500 01 0047
WM	500 01 0048
WL	500 01 0049





# Accessories

## Angle Wedges for Quick Change Probes



Probe type	Transducer size	Thread	Angle	Order number
QSC	Ø 1/4" (6.4 mm)	UNEF 3/8-32	45°	500 01 0078
			60°	500 01 0079
			70°	500 01 0080
QMC	Ø 3/8" (9.5 mm)	UNEF 1/2-28	45°	500 01 0081
			60°	500 01 0082
			70°	500 01 0083
QLC	Ø 1/2" (12.7 mm)	UNEF 5/8-24	45°	500 01 0084
			60°	500 01 0085
			70°	500 01 0086

# Accessories

## Angles Wedges for AWS Probes

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### Angle Wedges for AWS Probes

Thread: UNF 4-40  
Probe types: RSC, 0,63 x 0,63" (16 x 16 mm)  
RMC, 0,63 x 0,75" (16 x 19 mm)  
RLC, 0,75 x 0,75" (19 x 19 mm)

Angle Wedge	Angle	Order number
AWS Serrated Wedge	45°	500 01 0087
	60°	500 01 0088
	70°	500 01 0089
AWS Snail Wedge	45°	500 01 0090
	60°	500 01 0091
	70°	500 01 0092





# Ultrasound is our Strength.

PROBES FOR NONDESTRUCTIVE TESTING



**SONOTEC**   
ULTRASONIC SOLUTIONS

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نماینده انحصاری در ایران

کاوشکاران

تلفن: ۰۲۱ - ۸۸۶۸ ۵۲۹۷

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Technische Änderungen vorbehalten!

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