

CATALOGUE OF PROBES



SONOTEC



نماینده انحصاری در ایران

کاوشکاران

تلفن: ۰۲۱ - ۸۸۶۸۵۲۹۷

www.IR-QC.com

SONOSCAN – Probes for NDT

▀ The quality of our probes

The quality of probes is mainly defined by their invisible properties. Probes are characterised by technical specifications like nominal frequency, bandwidth, and the diameter of transducer. The stability of these parameters over a long period is a sign for the reliability of probes.

Probes are used for locating objects accurately as well as for safe evaluation of material defects and reflectors. The highest echo, which is sent back to the probe, serves for the reflector evaluation.

In order to achieve identical echo signals of several probes with the same type of reflector, the technical specifications of the probes need to be tolerated very closely.

The acoustic parameters are completed by application-oriented characteristics such as temperature, pressure and environment resistance. Furthermore, our probes stand out by their modern design and their great ergonomics.

▀ Our product guarantee

To make sure that our probes cope with the particular measuring tasks, all technical data is specified in very close tolerance limits.

For this purpose the mentioned values are accurately detected by special measuring systems and methods. In order to ensure a high quality every probe we manufactured 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. Consequently, only products that meet our quality standards are released for sale.

▀ Increased accuracy

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.

➤ **Explanation of terms**

Term	Explanation
Diameter of transducer	<p>Characterises the diameter of transducer (piezoceramics) in the probe.</p> <p>The dimension of the oscillator has an impact on the form of the emitted sound field.</p>
Nominal frequency	<p>Is the average inspection frequency of all probes of one type.</p> <p>The inspection frequency has a high influence on the sound field and the evaluation of reflectors. The form of the sound field and the reflection behaviour of angular reflectors depend on the frequency. Therefore, we check every probe if its inspection frequency corresponds to the mentioned nominal frequency within close tolerance limits.</p>
Bandwidth	<p>Characterises the range of frequencies in the echo signal, whose amplitude is 6dB less the maximum amplitude.</p> <p>A large bandwidth stands for short echo impulses, high resolution and good diffusion ability. The lower frequencies of the impulse are less damping than the higher frequencies. High frequencies in the spectrum improve the image quality.</p> <p>A small bandwidth stands for long die away and high sensitivity especially with small reflectors. For this reason such probes are suited very well for the detection of size and position of reflectors.</p>
Focus	<p>Describes the necking of the emitted sound beam in the propagation medium.</p> <p>Probes are focused in order to indentify very small reflectors with a high indication range. Focusing is only possible in the near field range of the probe. Plane oscillators have a natural focus, which is just defined by diffraction effects and interferences. Focusing can also be realised with acoustic lenses, which are integrated in the probe.</p>

Immersion probes

Operating mode

The ultrasonic impulses are emitted by the probe and 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.

Range of application

Most testings are conducted in water-filled immersion bathes. Thereby the test object is completely immersed. To check the object, it is either clamped or put on a coordinate to be passed by 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.

Characteristics

- Ultrasonic transducer for sending and receiving ultrasonic impulses
- Contactless testing by vertical and angular intromission of sound of longitudinal and transverse waves over a water stand-off distance
- Completely waterproof construction
- Robust stainless steel housing
- Extremely high detection sensitivity for small inhomogeneities with high-frequency probes

Range of application

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.

SONOSCAN IS-1-20

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

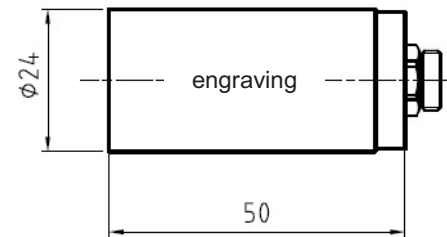
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

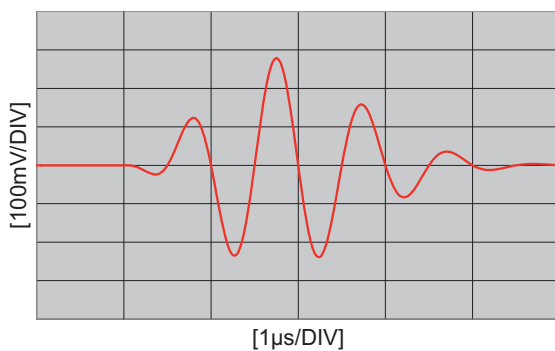
➤ Mechanical drawing



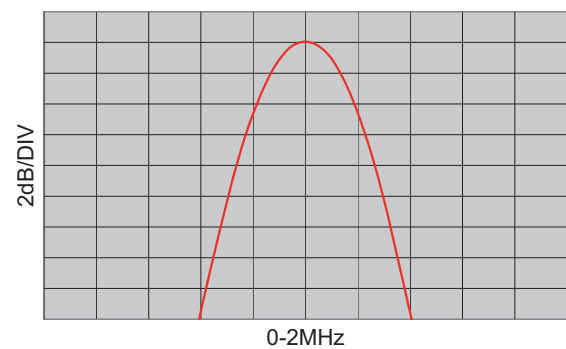
➤ Characteristics:

Diameter of transducer:	20 mm
Nominal frequency:	1 MHz
Bandwidth (-6 dB):	approx. 60 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IS-2-20

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

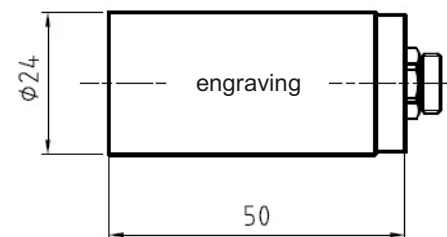
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

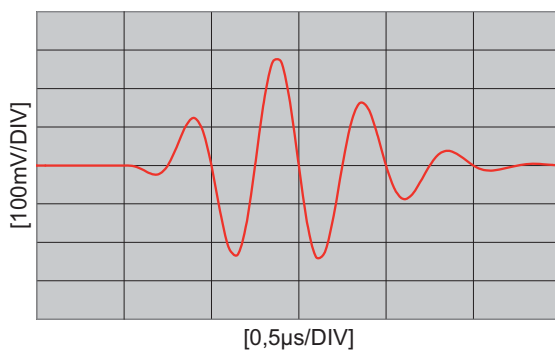
➤ Mechanical drawing



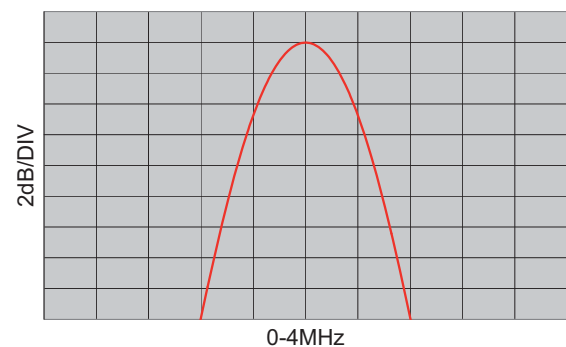
➤ Characteristics:

Diameter of transducer:	20 mm
Nominal frequency:	2 MHz
Bandwidth (-6 dB):	approx. 60 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IS-5-10

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

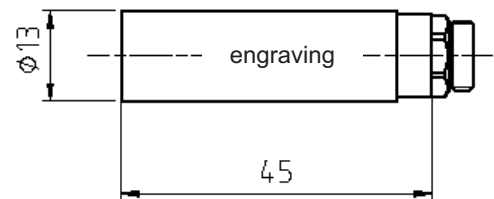
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

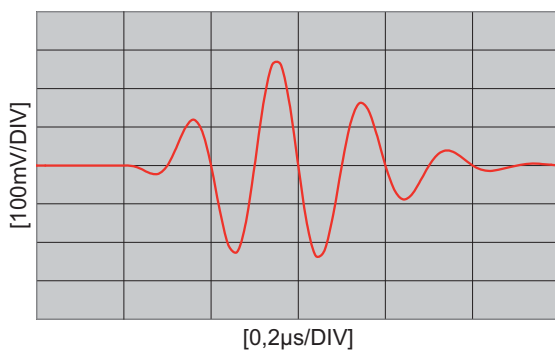
➤ Mechanical drawing



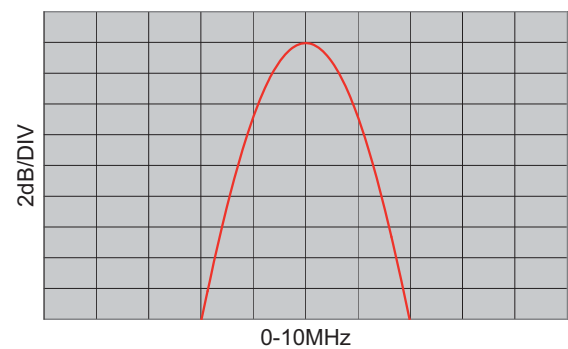
➤ Characteristics:

Diameter of transducer:	10 mm
Nominal frequency:	5 MHz
Bandwidth (-6 dB):	approx. 60 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IS-5-6

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

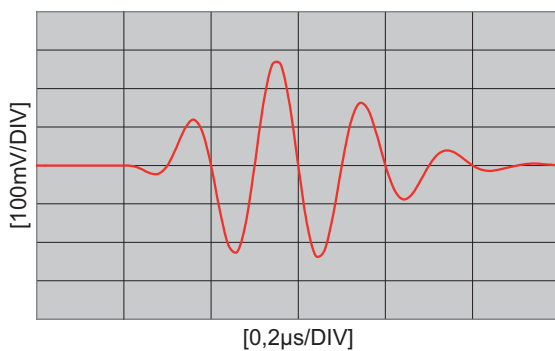
➤ Mechanical drawing



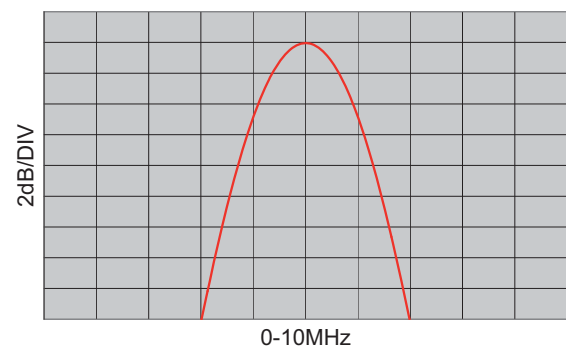
➤ Characteristics:

Diameter of transducer:	6 mm
Nominal frequency:	5 MHz
Bandwidth (-6 dB):	approx. 60 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IS-10-6

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

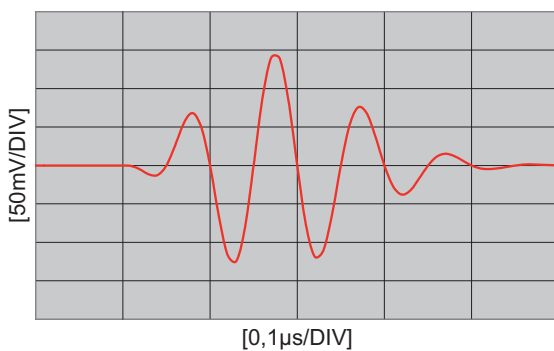
➤ Mechanical drawing



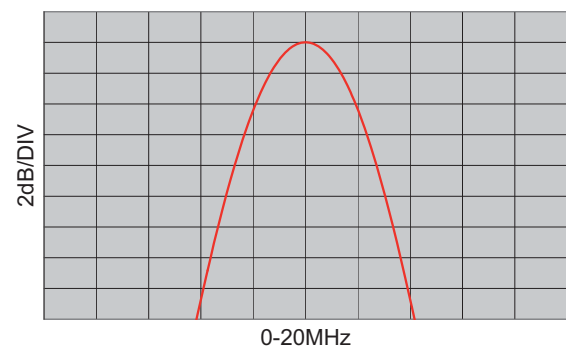
➤ Characteristics:

Diameter of transducer:	6 mm
Nominal frequency:	10 MHz
Bandwidth (-6 dB):	approx. 60 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IW-1-20

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

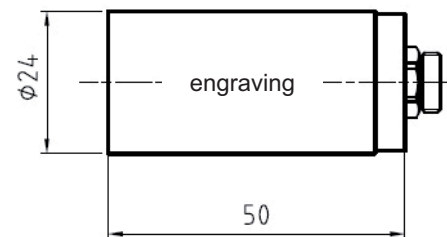
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

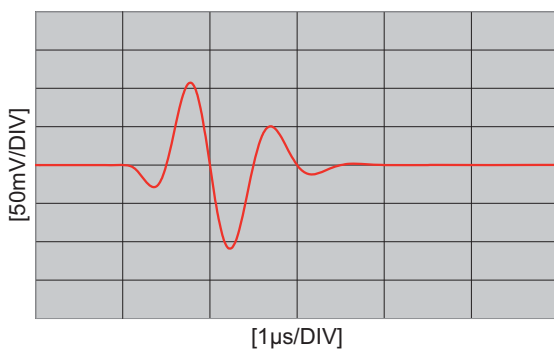
➤ Mechanical drawing



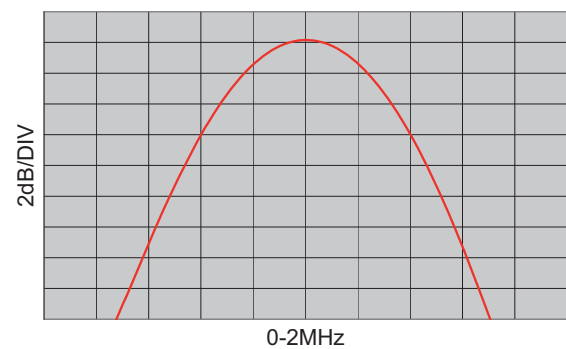
➤ Characteristics:

Diameter of transducer:	20 mm
Nominal frequency:	1 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IW-2-20

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

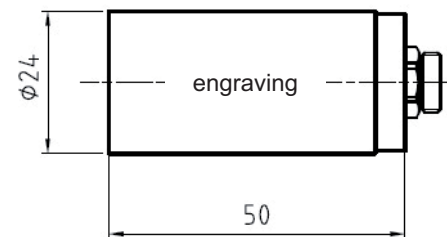
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

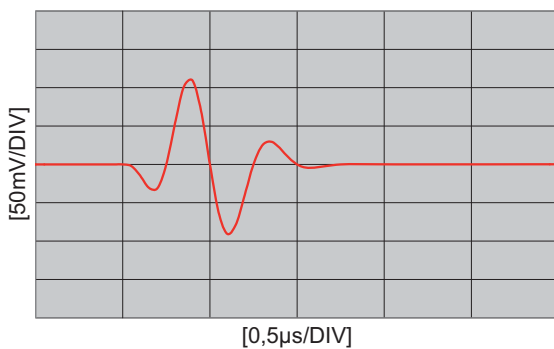
➤ Mechanical drawing



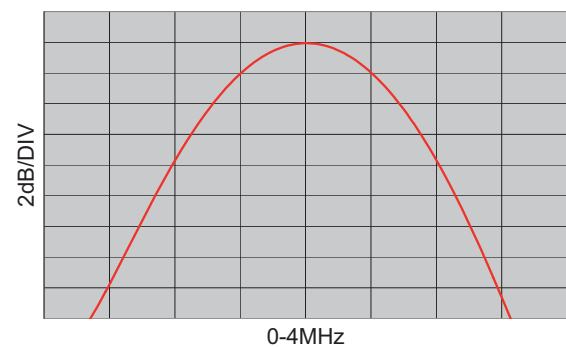
➤ Characteristics:

Diameter of transducer:	20 mm
Nominal frequency:	2 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IW-5-10

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material



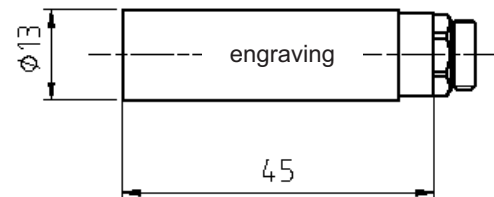
➤ Electrical connection:

Lemo HVR 03

➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

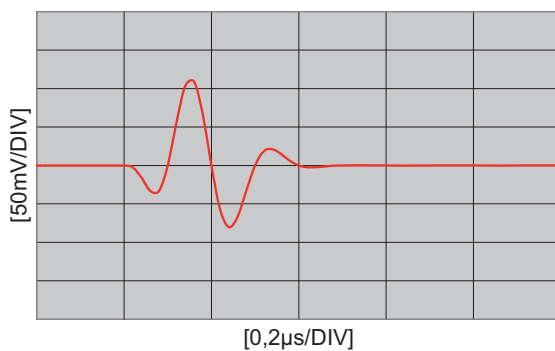
➤ Mechanical drawing



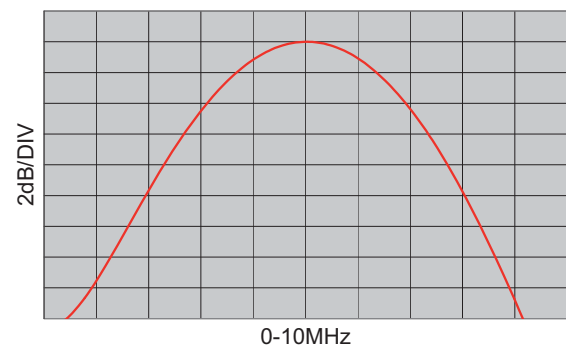
➤ Characteristics:

Diameter of transducer:	10 mm
Nominal frequency:	5 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IW-5-6

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

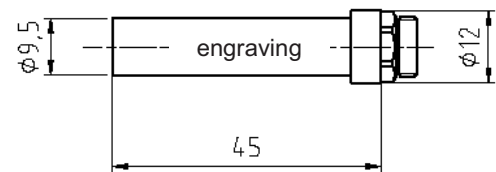
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

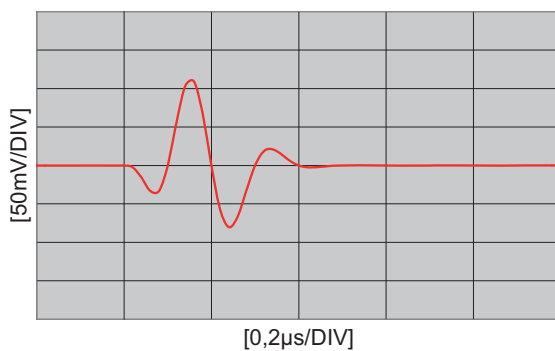
➤ Mechanical drawing



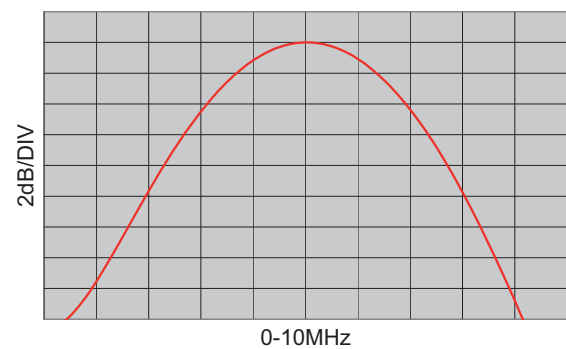
➤ Characteristics:

Diameter of transducer:	6 mm
Nominal frequency:	5 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IW-10-6

▀ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

▀ Electrical connection:

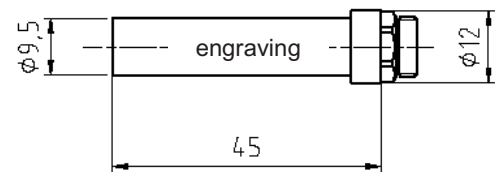
Lemo HVR 03



▀ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

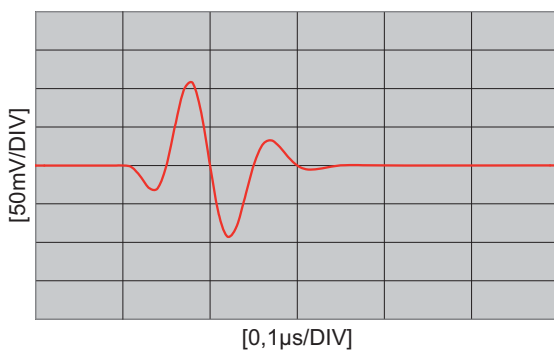
▀ Mechanical drawing



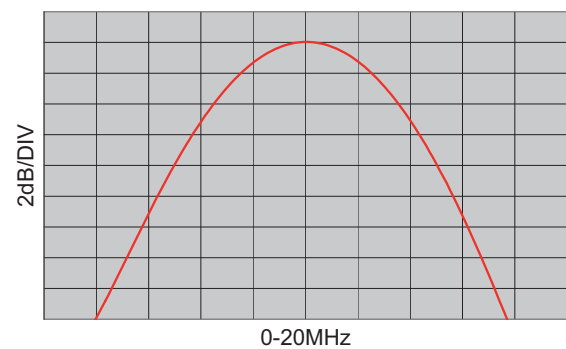
▀ Characteristics:

Diameter of transducer:	6 mm
Nominal frequency:	10 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

▀ Impulse



▀ Spectrum



SONOSCAN IK-1-20

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

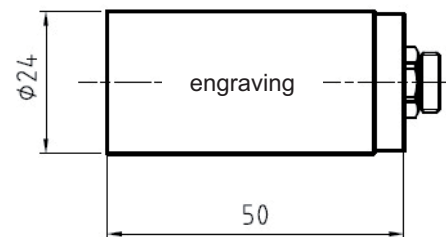
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

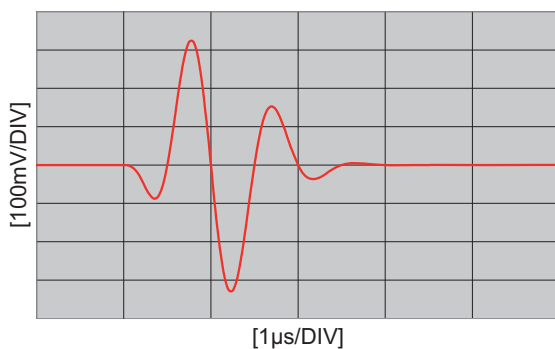
➤ Mechanical drawing



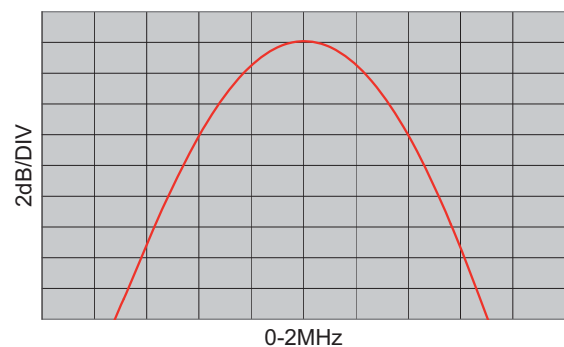
➤ Characteristics:

Diameter of transducer:	20 mm
Material of transducer:	piezo composite
Nominal frequency:	1 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IK-2-20

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

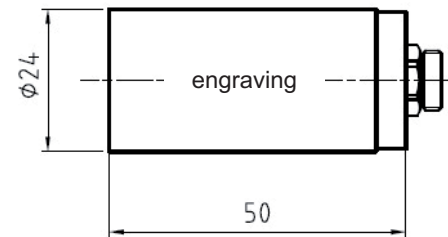
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

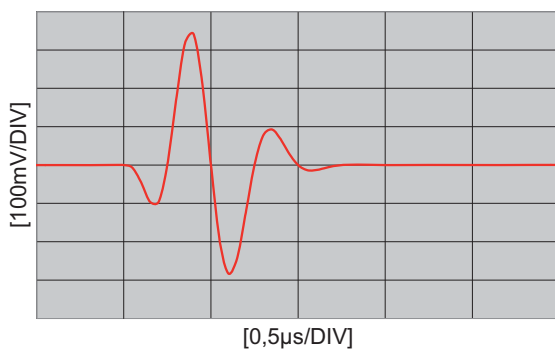
➤ Mechanical drawing



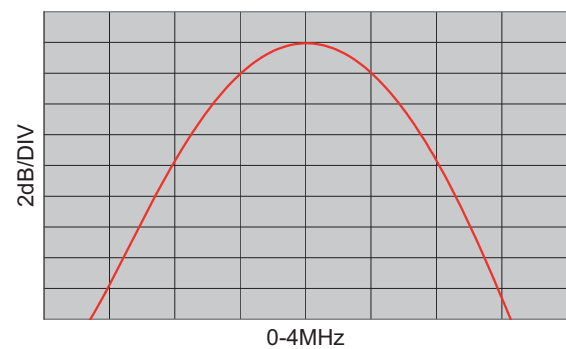
➤ Characteristics:

Diameter of transducer:	20 mm
Material of transducer:	piezo composite
Nominal frequency:	2 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IK-5-10

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

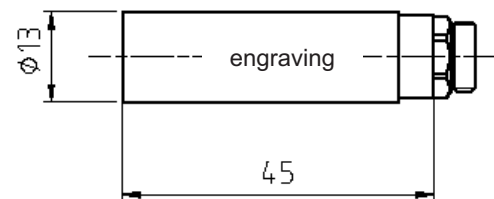
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

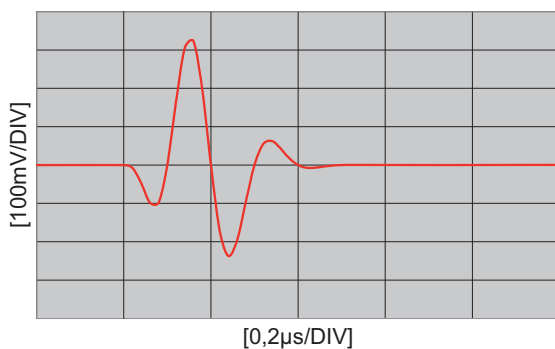
➤ Mechanical drawing



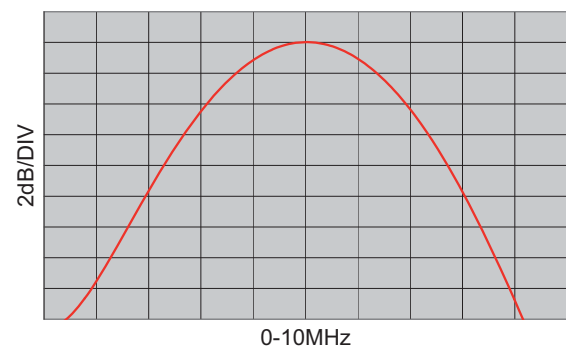
➤ Characteristics:

Diameter of transducer:	10 mm
Material of transducer:	piezo composite
Nominal frequency:	5 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum



SONOSCAN IK-5-6

➤ Housing:

Material:	stainless steel
Label:	engraving
Protective layer:	synthetic material

➤ Electrical connection:

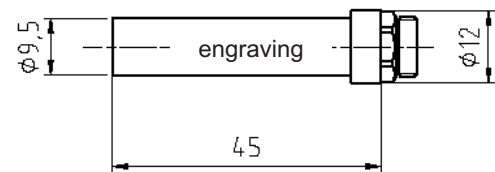
Lemo HVR 03



➤ Conditions in use:

Storage temperature:	-20 ... +80 °C
Working temperature:	+10 ... +40 °C
Working pressure:	0,2 ... 1 bar
Medium resistance:	water

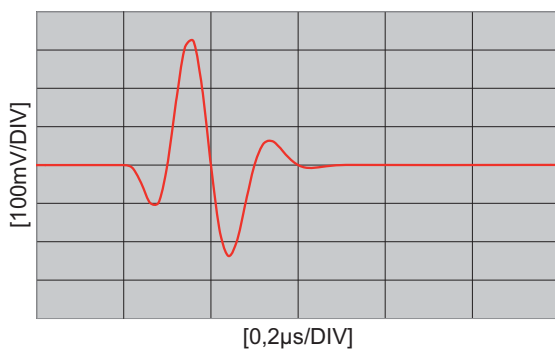
➤ Mechanical drawing



➤ Characteristics:

Diameter of transducer:	6 mm
Material of transducer:	piezo composite
Nominal frequency:	5 MHz
Bandwidth (-6 dB):	approx. 80 %
Focus:	natural focus

➤ Impulse



➤ Spectrum

