



ULTRASONIC PROBES for Flaw Detection and Sizing

- Straight Beam Transducers, Single Element
- Angle Beam Transducers and wedges, Single Element
- Straight Beam Transducers, Single Element with Ceramic Face
- Straight Beam Transducers, Dual Element with Replaceable Membrane
- Straight Beam Transducers, Dual Element
- Integral Angle Beam Transducers, Single Element
- TOFD transducers



www.ndt.com.ua



ABOUT THE COMPANY

In this catalog PROMPRYLAD LLC offers the wide range of transducers to ultrasonic flaw detectors and thickness gauges.

Since 1993, PROMPRYLAD LLC has been involved in development, manufacture and services of non-destructive testing means that have earned the common recognition due to its quality and wide variety.

The company fulfills the targets and tasks that have been determined during its establishment, supports the profile of the enterprise as the

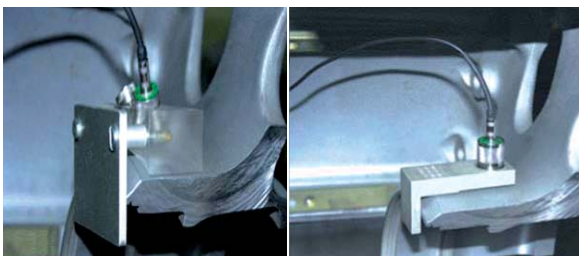
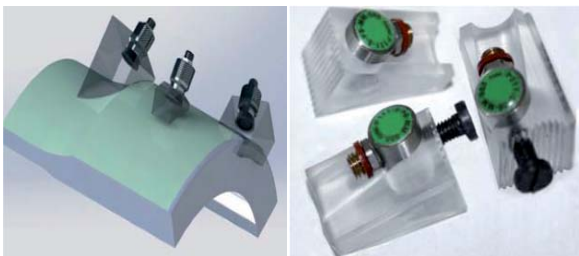
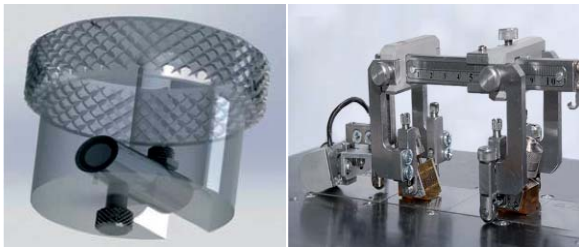
developer and today has the positive image

between the partners almost in all industries. At

the initial stage the company had developed and manufactured its own types of probes for **ultra-sonic flaw detectors and thickness gauges**.

Without good operation of probes, the normal operation of the instrument as well as the general testing performance is impossible. Continues upgrade of production technology allowed the improvement of specifications and reliability of manufactured probes.

Currently the enterprise produces more than two hundred of transducers of various types including special application transducers.



TRANSDUCER SELECTION

Straight Beam Contact Transducers. Straight beam single element transducers are transducers intended for inducing and receiving the longitudinal waves at a straight angle to the test object surface that is in contact with a transducer, and are used for testing the quality of materials, metalwares and pipelines in the machinery, energy, transport industry.

They are used for "sounding" the test object, for detecting the defects oriented perpendicular to the ultrasonic beam axis with pulse echo, images or echoimages techniques.

Angle Beam Contact Transducers. Angle beam transducers are single element transducers intended for inducing and receiving the longitudinal or shear waves in a test object at a corresponding angle.

Shear wave, surface wave, creeping wave probes are of serial production. Structurally probes are available in integral or **interchangeable designs**, i.e. having one transducer with several replaceable wedges to the dimension types that are required by the customer.

Straight Beam Contact Transducers with or without Replaceable Membrane, Dual Element (TR).

Series of contact dual element straight beam transducers with or without a replaceable membrane, allowing to perform the testing of test pieces with a raised surface roughness. Intended for testing the test pieces by longitudinal waves allowing to avoid the reverberation that are typical to single element transducers. They are widely used during the testing of rolled metals, T-joints and butt joints from the removed weld reinforcement. Besides the flaw detection, they are widely used during the ultrasonic thickness gauging.

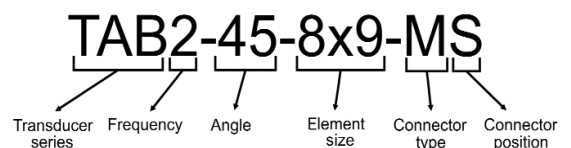
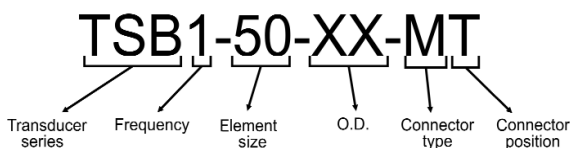
TOFD transducers. Intended for manual testing of butt weld joints of flat surfaces and pipes using the TOFD technique, based on measuring the time of flight of waves diffracted from defect boundaries.

This technique is realized with two probes in the pitch-and-catch configuration.



Transducer series	Description
TSB, TS	Single element straight beam contact transducer
TSD, TGI	Double element straight beam contact transducer
TAB	Single element angle beam contact transducer
TWS, WS	Single element straight beam contact transducer and wedge for interchangeable designs

For example:



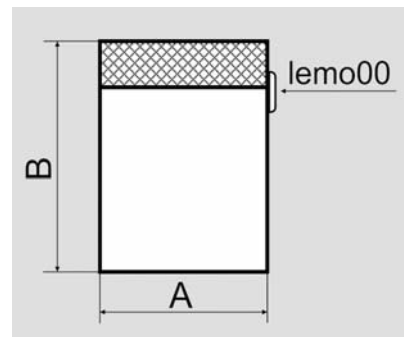
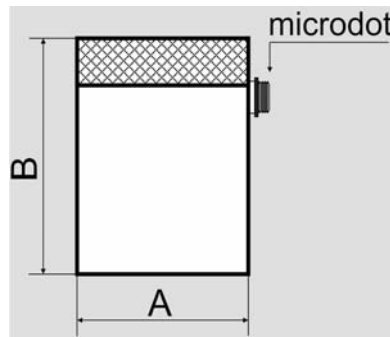
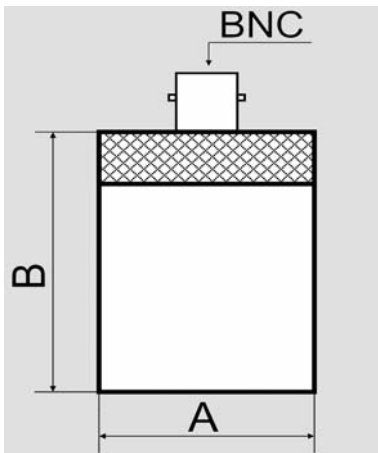
CONTACT TRANSDUCERS

Straight Beam Probes (single element)



Transducer dimensions

Element dia.,		A,		B,	
mm	in	mm	in	mm	in
4	.187	6	.250	12.5	.50
		8	.312	12.5	.50
6	.250	8	.312	12.5	.50
		10	.375	12.5	.50
10	.375	12	.475	16	.65
		16	.625	24	1.0
20	.750	24	.900	32	1.25
		30	1.15	32	1.25



General specifications

Catalog number	Frequency, MHz	Element dia.,		O.D. (A),		Type of case	Connector type	Connector position
		mm	in	mm	in			
TSB1-50-MS*	1.0	12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB1-75		20	.750	24	.900	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB1-100		24	1.00	30	1.15	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2-25	2.25	6	.250	10	.375	Stainless steel	Microdot	Top/side
TSB2-37		10	.375	12	.475	Stainless steel	Microdot/lemo00	Top/side
TSB2-50		12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2-75		20	.750	24	.900	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2-100		24	1.00	30	1.15	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB5-25	5.0	6	.250	8	.312	Stainless steel	Microdot	Top/side
TSB5-25-37**		6	.250	10	.375	Stainless steel	Microdot	Top/side
TSB5-37		10	.375	12	.475	Stainless steel	Microdot/lemo00	Top/side
TSB5-50		12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB10-18	10.0	4	.187	6	.250	Stainless steel	Microdot	Top
TSB10-18-31		4	.187	8	.312	Stainless steel	Microdot	Top/side
TSB10-25		6	.250	8	.312	Stainless steel	Microdot	Top/side
TSB10-25-37		6	.250	10	.375	Stainless steel	Microdot	Top/side
TSB10-37		10	.375	12	.475	Stainless steel	Microdot/lemo00	Top/side

*connector type: M - microdot; L - lemo00; B - BNC;

* connector position: T - top; S - side; **outside diameter of transducer

CONTACT TRANSDUCERS

Angle Beam Probe (single element)

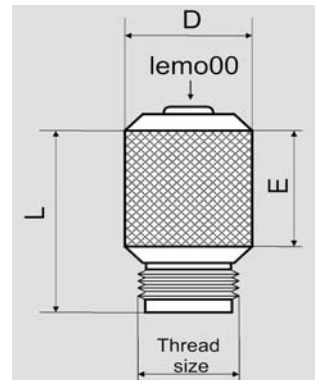
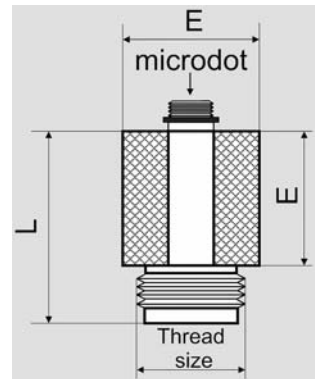


Transducer dimensions with "microdot" connector

Element dia.,		D,		L,		E,		Thread size
mm	in	mm	in	mm	in	mm	in	
6	.250	12.0	.450	14.0	.540	8.5	.335	3/8"- 32 UNEF
8	.375	16.0	.590	18.0	.690	11.2	.440	1/2"- 28 UNEF
10	.500	18.0	.700	18.0	.710	12.0	.460	5/8"- 24 UNEF

Transducer dimensions with "lemo00" connector

Element dia.,		D,		L,		E,		Thread size
mm	in	mm	in	mm	in	mm	in	
6	.250	12.5	.50	25.0	1.0	19.0	.75	3/8"-32 UNEF
8	.375	12.5	.50	25.0	1.0	19.0	.75	1/2"-28 UNEF
10	.500	12.5	.50	25.0	1.0	19.0	.75	5/8"-24 UNEF



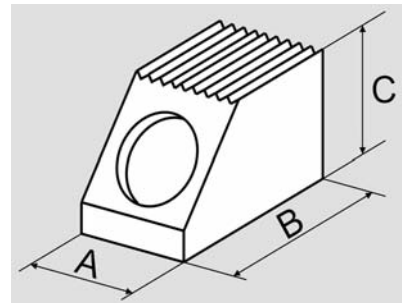
General specifications

Catalog number	Frequency, MHz	Element dia.,		Connector type	Connector position
		mm	in		
TWS1-37-M*	1.0	10	.375	Microdot/lemo00	Top
TWS1-50		12	.500	Microdot/lemo00	Top
TWS2-25	2.25	6	.250	Microdot/lemo00	Top
TWS2-37		10	.375	Microdot/lemo00	Top
TWS2-50		12	.500	Microdot/lemo00	Top
TWS2-25	5.0	6	.250	Microdot/lemo00	Top
TWS2-37		10	.375	Microdot/lemo00	Top
TWS2-50		12	.500	Microdot/lemo00	Top
TWS10-25	10.0	6	.250	Microdot/lemo00	Top
TWS10-37		10	.375	Microdot/lemo00	Top

* connector type: M - microdot; L - lemo00

Wedge dimensions

Catalog number	Element dia.,		A,		B,		C,		Refracted angle in steel
	mm	in	mm	in	mm	in	mm	in	
WS25-45	6	.250	14.0	.54	19.0	.74	12.0	.48	45
WS25-60			14.0	.54	21.0	.83	14.0	.54	60
WS25-70			14.0	.54	25.0	.98	14.5	.57	70
WS25-90			14.0	.54	28.5	1.12	16.0	.64	90
WS37-45	8	.375	15.75	.62	21.0	.83	45.0	.55	45
WS37-60			15.75	.62	27.5	1.08	60.0	.64	60
WS37-70			15.75	.62	30.7	1.21	70.0	.70	70
WS37-90			15.75	.62	36.0	1.41	90.0	.72	90
WS50-45	10	.500	19.0	.75	28.0	1.1	14.0	.55	45
WS50-60			19.0	.75	33.0	1.31	16.0	.64	60
WS50-70			19.0	.75	36.0	1.43	18.0	.70	70
WS50-90			19.0	.75	41.0	1.62	18.0	.72	90

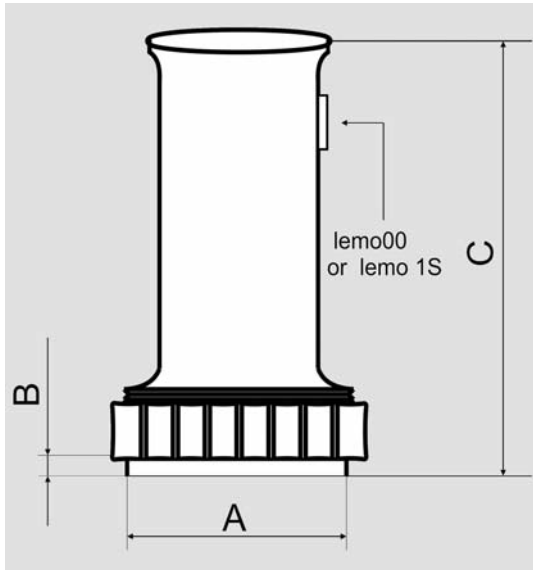


CONTACT TRANSDUCERS

Straight Beam Probe with ceramic face (single element)



Case dimensions



Element dia., mm	in	A, mm		B, mm		C, mm	
		mm	in	mm	in	mm	in
10	.375	13	.375	2.2	.08	43.5	1.7
12	.500	15	.570	2.2	.08	43.5	1.7
20	.750	23	.900	2.3	.12	50.6	2.0
24	1.00	28	1.1	3.2	.12	56.0	2.2

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General specifications

Catalog number	Frequency, MHz	Element dia., mm		Type of case	Connector type	Connector position
		mm	in			
TS2-10C*	2.0	10	.375	Plated brass	Lemo00	Side
TS4-10C	4.0	10	.375	Plated brass	Lemo00	Side
TS2-12C	2.0	12	.500	Plated brass	Lemo00	Side
TS4-12C	4.0	12	.500	Plated brass	Lemo00	Side
TS2-20C	2.0	20	.750	Plated brass	Lemo00	Side
TS4-20C	4.0	20	.750	Plated brass	Lemo00	Side
TS1-24C	1.0	24	1.00	Plated brass	Lemo1S	Side
TS2-24C	2.0	24	1.00	Plated brass	Lemo1S	Side
TS4-24C	4.0	24	1.00	Plated brass	Lemo1S	Side

* material of the face transducer: C - Ceramic

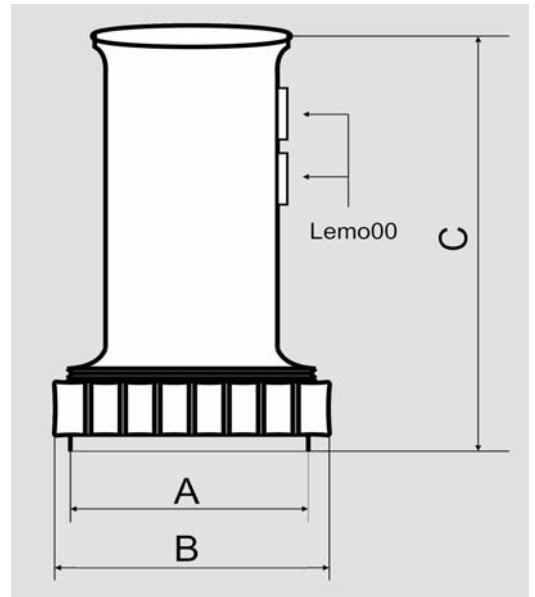
CONTACT TRANSDUCERS

**Straight Beam Probes
with replaceable membrane
(dual element)**



Case dimensions

Element size,		A,		B,		C,	
mm	in	mm	in	mm	in	mm	in
∅20	∅.750	24	.9	35.5	1.32	52.5	2.0
6 x 20	.250 x .750	30	1.2	44.5	1.75	57.0	2.24



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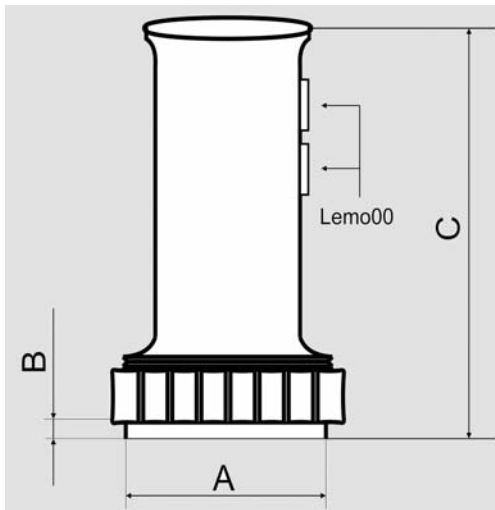
General specifications

Catalog number	Frequency, MHz	Element size,		Type of case	Connector type	Connector position
		mm	in			
TSD2-20F*	2.0	∅20	∅.750	Plated brass	Lemo00	Side
TSD4-20F	4.0	∅20	∅.750	Plated brass	Lemo00	Side
TSD2-24F	2.0	6 x 20	.250 x .750	Plated brass	Lemo00	Side
TSD4-24F	4.0	6 x 20	.250 x .750	Plated brass	Lemo00	Side

* material of the face transducer: F - flexible.

CONTACT TRANSDUCERS

Straight Beam Probes (double element)



Case dimensions

Element size,		A,		B,		C,	
mm	in	mm	in	mm	in	mm	in
∅10	∅.375	13.2	.52	9.0	.35	50.4	1.98
∅12	∅.500	15.4	.60	9.0	.35	50.4	1.98
∅20	∅.750	24.0	.94	9.0	.35	59.0	2.32
7 x 18	.275 x .750	29.0	1.14	10.0	.40	66.0	2.60
6 x 20	.250 x .750	29.0	1.14	10.0	.40	66.0	2.60

General specifications

Catalog Number	Frequency, MHz	Element size,		Type of case	Connector type	Connector position
		mm	in			
TSD2-10	2.0	∅10	∅.375	Plated brass	Lemo00	Side
TSD4-10	4.0	∅10	∅.375	Plated brass	Lemo00	Side
TSD5-10	5.0	∅10	∅.375	Plated brass	Lemo00	Side
TSD2-12	2.0	∅12	∅.500	Plated brass	Lemo00	Side
TSD4-12	4.0	∅12	∅.500	Plated brass	Lemo00	Side
TSD5-12	5.0	∅12	∅.500	Plated brass	Lemo00	Side
TSD2-20	2.0	∅20	∅.750	Plated brass	Lemo00	Side
TSD4-20	4.0	∅20	∅.750	Plated brass	Lemo00	Side
TSD5-20	5.0	∅20	∅.750	Plated brass	Lemo00	Side
TSD2-24	2.0	7 x 18	.275 x .750	Plated brass	Lemo00	Side
TSD4-24	4.0	6 x 20	.250 x .750	Plated brass	Lemo00	Side
TSD5-24	5.0	6 x 20	.250 x .750	Plated brass	Lemo00	Side

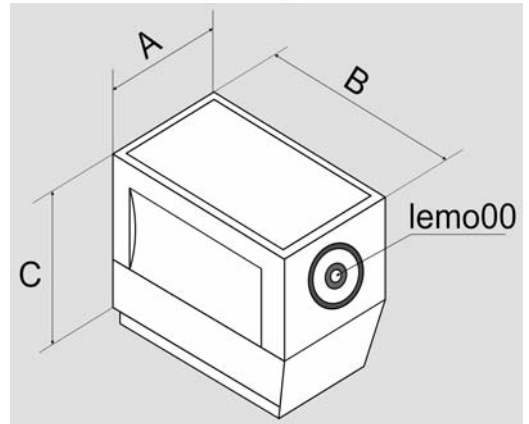
CONTACT TRANSDUCERS

Angle Beam Probes (single element)



Case dimensions

Element size,		A,		B,		C,	
mm	in	mm	in	mm	in	mm	in
8 x 9	.315 x .350	16.5	.65	28.5	1.12	22.0	2.0
14 x 14	.550 x .550	21.2	.83	37.5	1.47	30.7	1.2
22 x 22	.860 x .860	31.6	1.24	56.0	2.2	44.0	1.73



General specifications

Catalog number	Frequency, MHz	Refracted angle, °	Element size, mm		Type of case	Connector type	Connector position
TAB2-45-8x9	2.0	45	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB2-60-8x9	2.0	60	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB2-70-8x9	2.0	70	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB4-45-8x9	4.0	45	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB4-60-8x9	4.0	60	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB4-70-8x9	4.0	70	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB2-45-14x14	2.0	45	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB2-60-14x14	2.0	60	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB2-70-14x14	2.0	70	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB4-45-14x14	4.0	45	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB4-60-14x14	4.0	60	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB4-70-14x14	4.0	70	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB2-45-22x22	2.0	45	22 x 22	.860 x .860	Plated brass	Lemo00	Side
TAB2-60-22x22	2.0	60	22 x 22	.860 x .860	Plated brass	Lemo00	Side
TAB2-70-22x22	2.0	70	22 x 22	.860 x .860	Plated brass	Lemo00	Side
TAB4-45-22x22	4.0	45	22 x 22	.860 x .860	Plated brass	Lemo00	Side
TAB4-60-22x22	4.0	60	22 x 22	.860 x .860	Plated brass	Lemo00	Side
TAB4-70-22x22	4.0	70	22 x 22	.860 x .860	Plated brass	Lemo00	Side

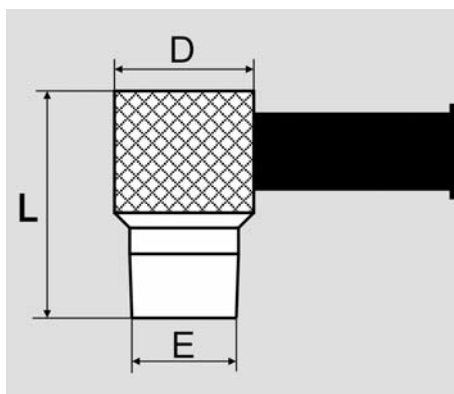
CONTACT TRANSDUCERS

**Straight Beam Probes
(dual element, integral
cable transducers) for
Thickness gauges**



Case dimensions

Element dia.,		D,		L,		E,	
mm	in	mm	in	mm	in	mm	in
3	.125	16	.60	26.0	1.0	10.0	.40
6	.250	16	.60	28.0	1.2	12.0	.50
8	.500	16	.60	28.0	1.2	15.5	.60



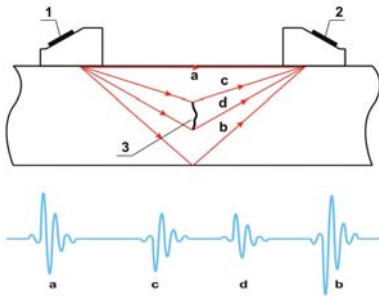
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General specifications

Catalog number	Frequency, MHz	Element dia.,		Type of case	Connector type	Connector position
		mm	in			
TGI2.5-12-L*	2.5	3	.125	Stainless steel	Lemo00/BNC	cabl
TGI5-12-B*	5.0	3	.125	Stainless steel	Lemo00/BNC	cabl
TGI10-12	10.0	3	.125	Stainless steel	Lemo00/BNC	cabl
TGI2-25	2.25	6	.250	Stainless steel	Lemo00/BNC	cabl
TGI2.5-25	2.5	6	.250	Stainless steel	Lemo00/BNC	cabl
TGI5-25	5.0	6	.250	Stainless steel	Lemo00/BNC	cabl
TGI10-25	10.0	6	.250	Stainless steel	Lemo00/BNC	cabl
TGI2-50	2.25	12	.500	Stainless steel	Lemo00/BNC	cabl
TGI2.5-50	2.5	12	.500	Stainless steel	Lemo00/BNC	cabl
TGI5-50	5.0	12	.500	Stainless steel	Lemo00/BNC	cabl

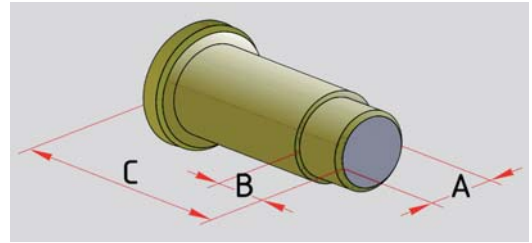
*connector type: L - lemo00; B - BNC

TOFD TRANSDUCERS AND WEDGES



1. Transmitter
2. Receiver
3. Internal crack

- a - lateral wave;
- b - back wall echo;
- c - diffracted signal from the top tip;
- d - diffracted signal from the bottom tip

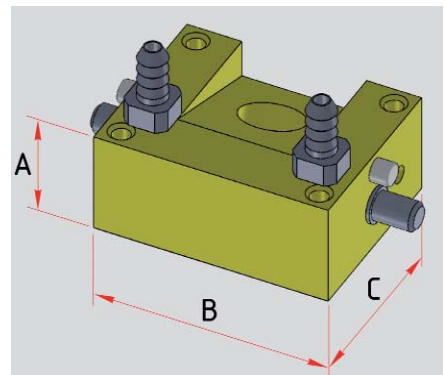


TOFD transducers specification

Catalog number	Frequency, MHz	Element dia.,		Object thickness,		A,		B,		C,	
		mm	in	mm	in	mm	in	mm	in	mm	in
TWS10-3-TOFD 3/8"	10	3	.125	10-15	.390-.600	10	.375	6.5	.256	28	1.1
TWS10-6-TOFD 3/8"	10	6	.250	15-35	.600 - 1.4	10	.375	6.5	.256	28	1.1
TWS5-6-TOFD 3/8"	5	6	.250	15-50	1.4 - 2.0	10	.375	6.5	.256	28	1.1
TWS5-12-TOFD M16	5	12	.500	50-100	2.0 - 4.0	16	.625	8	.315	33	1.3
TWS3-12-TOFD M16	3	12	.500	100-200	4.0 - 8.0	16	.625	8	.315	33	1.3
TWS2,5-12-TOFD M16	2.5	12	.500	200-300	8.0 - 6.0	16	.625	8	.315	33	1.3
TWS2,25-12-TOFD M16	2.25	12	.500	200-300	8.0 - 6.0	16	.625	8	.315	33	1.3
TWS3-8-TOFD M16	3.0	8	.325	100-200	4.0 - 8.0	16	.625	8	.315	33	1.3
TWS2,5-8-TOFD M16	2.5	8	.325	100-200	4.0 - 8.0	16	.625	8	.315	33	1.3
TWS2,25-8-TOFD M16	2.25	8	.325	100-200	4.0 - 8.0	16	.625	8	.315	33	1.3

TOFD wedges specification

Catalog number	Refracted angle, °	A,		B,		C,	
		mm	in	mm	in	mm	in
WS45 L-3/8"-TOFD	45	15	.570	32	1.26	25	.984
WS50 L-3/8"-TOFD	50	15	.570	32	1.26	25	.984
WS60 L-3/8"-TOFD	60	15	.570	32	1.26	25	.984
WS70 L-3/8"-TOFD	70	15	.570	32	1.26	25	.984
WS45 L-M16-TOFD	45	15	.570	32	1.26	25	.984
WS50 L-M16-TOFD	50	15	.570	32	1.26	25	.984
WS60 L-M16-TOFD	60	15	.570	32	1.26	25	.984
WS70 L-M16-TOFD	70	15	.570	32	1.26	25	.984





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