

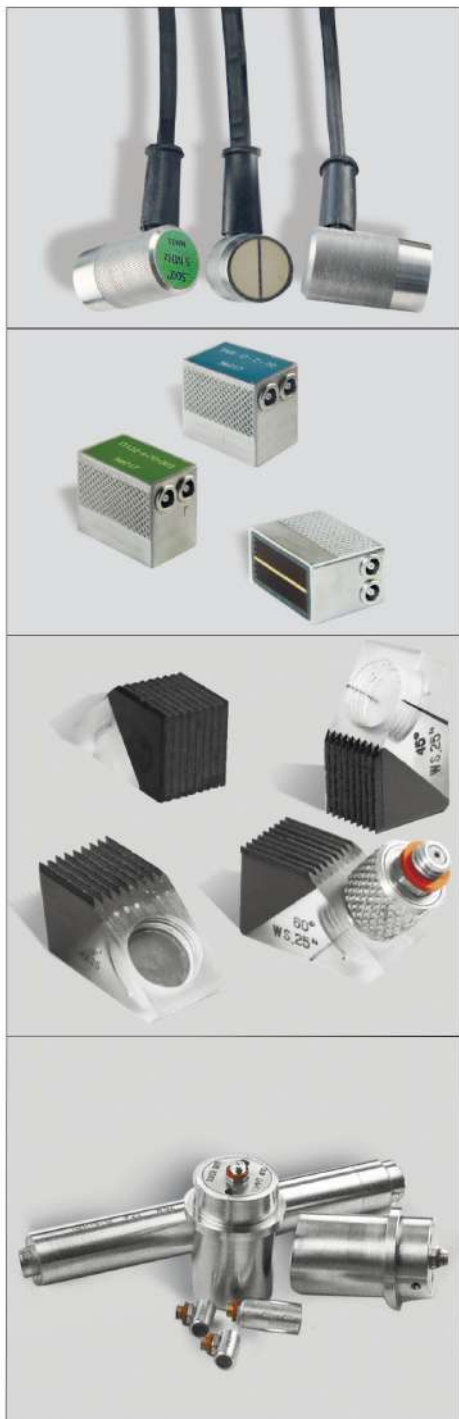


ULTRASONIC PROBES

for Flaw Detection and Sizing



www.oko-ndt.com



ABOUT THE COMPANY

In this catalog OKOndt Group™ offers the wide range of transducers for ultrasonic flaw detectors and thickness gauges.

Since 1993, first production company of the group, 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 variety of products.

The company achieves the targets and fulfills the tasks that have been determined during its establishment, supports the profile of the enterprise as the developer and today has the positive image among the partners almost in all industries. At the initial stage the company had developed and manufactured its own types of probes used in ultrasonic flaw detection and thickness gauging. Neither normal operation of the instrument, nor general testing performance is possible without good operation of probes. Continuous upgrade of production technology allowed to improve the specifications and reliability of manufactured probes.



Currently
OKOndt Group™
produces more than
two hundred
transducers of
various types
including special
application
transducers.





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TRANSDUCER SELECTION

Straight Beam Contact Transducers. Straight beam single element transducers are intended for inducing and receiving the longitudinal waves at a straight angle to the test object surface that is in a contact with a transducer. 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.

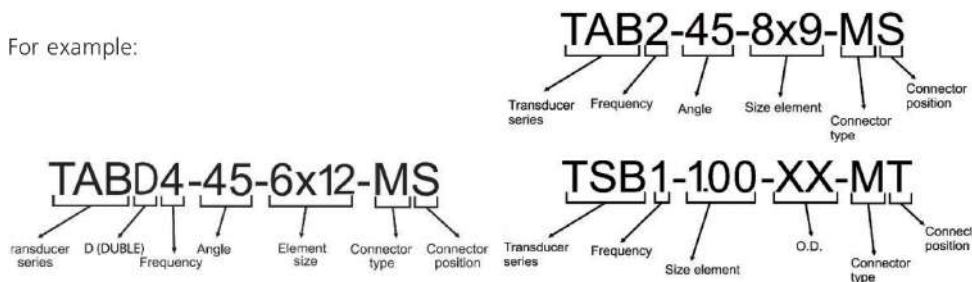
Straight Beam Contact Transducers with or without Replaceable Membrane, Dual Element (TR). Series of contact dual element straight beam transducers with or without a replaceable membrane allow to perform the testing of test pieces with a raised surface roughness. Intended for testing the test pieces 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. 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
TABD	Double element angle beam contact transducer
TWS, WS	Single element straight beam contact transducer and wedge for interchangeable designs

For example:

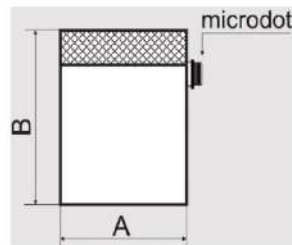
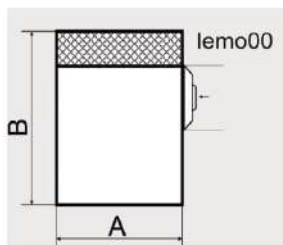
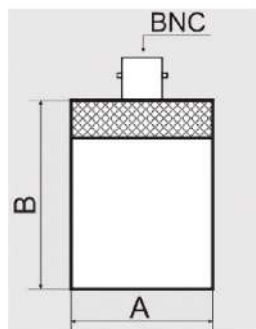


STRAIGHT BEAM PROBES TSB (single element)

Transducer dimensions



Element size		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
12	.375	12	.475	16	.65
16	.500	16	.625	24	1.0
20	.750	24	.900	32	1.25
24	1.00	30	1.15	32	1.25



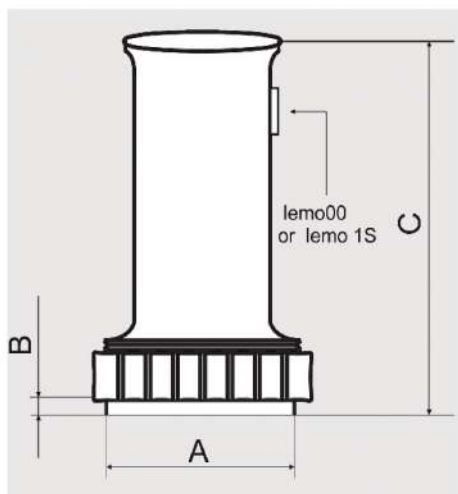
General specifications

Catalog number	Frequency, MHz	Element dia.		O.D. (A)		Type of case	Connector type	Connector position
		mm	in	mm	in			
TSB1-12	1.0	12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB1-20		20	.750	24	.900	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB1-24		24	1.00	30	1.15	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2-6	2.0	6	.250	10	.375	Stainless steel	Microdot	Top/side
TSB2-10		10	.375	12	.475	Stainless steel	Microdot/lemo00	Top/side
TSB2-12		12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2-20		20	.750	24	.900	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2-24		24	1.00	30	1.15	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2.25-6		6	.250	10	.375	Stainless steel	Microdot	Top/side
TSB2.25-10	2.25	10	.375	12	.475	Stainless steel	Microdot/lemo00	Top/side
TSB2.25-12		12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2.25-20		20	.750	24	.900	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB2.25-24		24	1.00	30	1.15	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB4-6	4.0	6	.250	8	.312	Stainless steel	Microdot	Top/side
TSB4-6		6	.250	10	.375	Stainless steel	Microdot	Top/side
TSB4-10		10	.375	12	.475	Stainless steel	Microdot/lemo00	Top/side
TSB4-12		12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB5-6	5.0	6	.250	8	.312	Stainless steel	Microdot	Top/side
TSB5-6		6	.250	10	.375	Stainless steel	Microdot	Top/side
TSB5-10		10	.375	12	.475	Stainless steel	Microdot/lemo00	Top/side
TSB5-12		12	.500	16	.625	Stainless steel	Microdot/lemo00/BNC	Top/side
TSB10-4	10.0	4	.187	6	.250	Stainless steel	Microdot	Top
TSB10-6		6	.250	8	.312	Stainless steel	Microdot	Top/side
TSB10-10		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

STRAIGHT BEAM PROBES WITH CERAMIC FACE TS (single element)



Case dimensions

Element size		A ₁		B ₁		C ₁	
mm	in	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

General specifications

Catalog number	Frequency, MHz	Element size		Type of case	Connector type	Connector position
		mm	in			
TS2-10C*	2.0	10	.375	Plated brass	Lemo00	Side
TS4-10C	4.0	10	.500	Plated brass	Lemo00	Side
TS5-10C	5.0	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
TS5-12C	5.0	20	.750	Plated brass	Lemo00	Side
TS2-20C	2.0	20	.750	Plated brass	Lemo1S	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

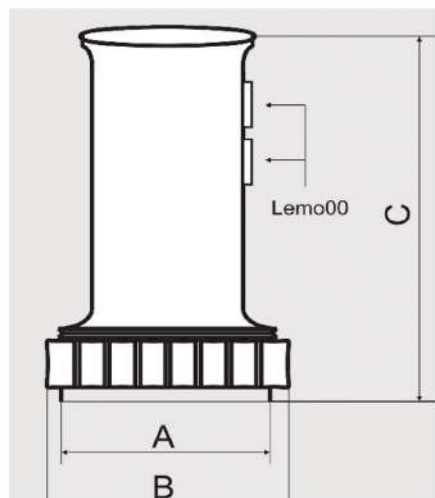
* material of the face transducer: C ceramic; F flexible.

STRAIGHT BEAM PROBES WITH REPLACEABLE MEMBRANE TSD-F (double element)



Case dimensions

Element size		A, in mm		B, in mm		C, in	
mm	in	mm	in	mm	in	mm	in
20	Ø .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
7 x 18	.250 x .750	30	1.2	44.5	1.7	57.0	2.24

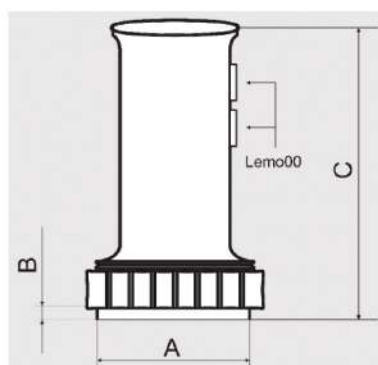


General specifications

Catalog	Frequency, number	Element size		Type of in	Connector case	Connector type
		MHz	mm			
TSD2-20F*	2.0	Ø 20	Ø .750	Plated brass	Lemo00	Side
TSD4-20F	4.0	Ø 20	Ø .750	Plated brass	Lemo00	Side
TSD2-7 x 18F	2.0	7 x 18	.250 x .750	Plated brass	Lemo00	Side
TSD4-6 x 20F	4.0	6 x 20	.250 x .750	Plated brass	Lemo00	Side

* material of the face transducer: F - flexible.

STRAIGHT BEAM PROBES TSD (double element)



Case dimensions

Element size		A,		B,		C,	
mm	in	mm	in	mm	in	mm	in
Ø10	Ø.375	13.2	.52	9.0	.35	50.4	1.98
Ø12	Ø.500	15.4	.60	9.0	.35	50.4	1.98
Ø20	Ø.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

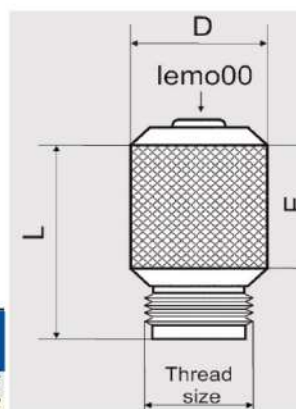
Catalog Number	Frequency, MHz	Element size		Type of case	Connector type	Connector position/
		mm	in			
TSD2-11	2.0	Ø 11/2	Ø.375	Plated brass	Lemo00	Side
TSD4-3,5 x 10	4	3,5 x 10	.375	Plated brass	Lemo00	Side
TSD5-9	5.0	Ø 9/2	Ø.375	Plated brass	Lemo00	Side
TSD2-12	2.0	Ø 12	Ø.500	Plated brass	Lemo00	Side
TSD4-12	4.0	Ø 12	Ø.500	Plated brass	Lemo00	Side
TSD5-12	5.0	Ø 12	Ø.500	Plated brass	Lemo00	Side
TSD2-20	2.0	Ø 20	Ø.750	Plated brass	Lemo00	Side
TSD4-20	4.0	Ø 20	Ø.750	Plated brass	Lemo00	Side
TSD5-20	5.0	Ø 20	Ø.750	Plated brass	Lemo00	Side
TSD2-7 x 18	2.0	7 x 18	.275 x .750	Plated brass	Lemo00	Side
TSD4-6 x 20	4.0	6 x 20	.250 x .750	Plated brass	Lemo00	Side
TSD5-6 x 20	5.0	6 x 20	.250 x .750	Plated brass	Lemo00	Side

ANGLE BEAM PROBES TWS (single element)



Transducer dimensions with "microdot" connector

Element size		D _i		L _i		E _i		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
10	.375	16.0	.590	18.0	.690	11.2	.440	1/2" - 28 UNEF
12	.500	18.0	.700	18.0	.710	12.0	.460	5/8" - 24 UNEF



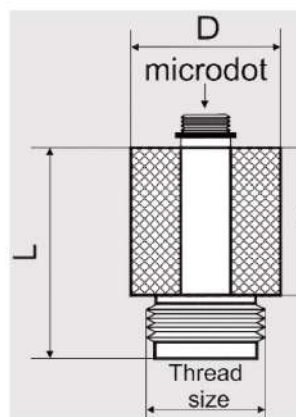
Transducer dimensions with "lemo00" connector

Element size.		D _i		L _i		E _i		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
10	.375	12.5	.50	25.0	1.0	19.0	.75	1/2" - 28 UNEF
12	.500	12.5	.50	25.0	1.0	19.0	.75	5/8" - 24 UNEF

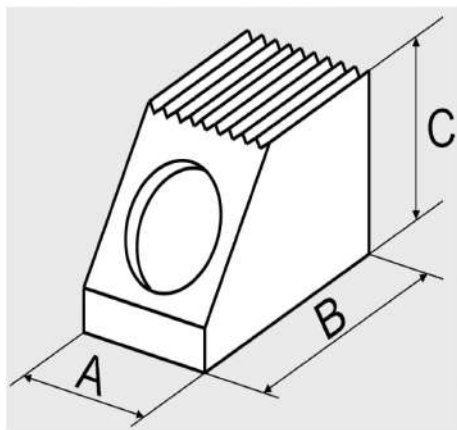
General specifications

Catalog number	Frequency, MHz	Element dia.		Connector type	Connector position
		mm	in		
TWS1-12	1.0	12	.500	Microdot/lemo00	Top
TWS2-6	2.0	6	.250	Microdot/lemo00	Top
TWS2-10		10	.375	Microdot/lemo00	Top
TWS2-12		12	.500	Microdot/lemo00	Top
TWS5-6	5.0	6	.250	Microdot/lemo00	Top
TWS5-10		10	.375	Microdot/lemo00	Top
TWS5-12		12	.500	Microdot/lemo00	Top
TWS10-6	10.0	6	.250	Microdot/lemo00	Top
TWS10-10		10	.375	Microdot/lemo00	Top

* connector type: M - microdot; L - lemo00



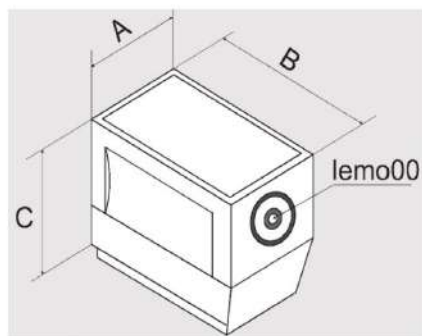
WEDGES WS (single element)



Wedge dimensions

Catalog number	Element size		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	10	.375	15.75	.62	21.0	.83	45	.55	45
WS37-60			15.75	.62	27.5	1.08	60	.64	60
WS37-70			15.75	.62	30.7	1.21	70	.70	70
WS37-90			15.75	.62	36.0	1.41	90	.72	90
WS50-45	12	.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

ANGLE BEAM PROBES TAB (single element)



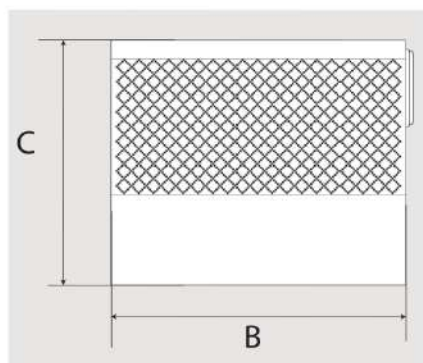
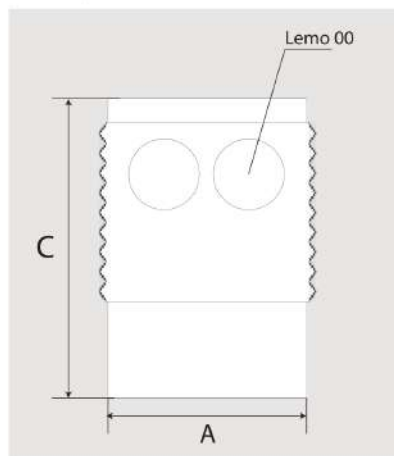
Case dimensions

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

General specifications

Catalog number	Frequency, MHz	Refracted angle, °	Element size		Type of case	Connector type	Connector position
			mm	in			
TAB 1-45-20 x 22	1.0	45	20 x 22	0.750 x 0.860	Plated brass	Lemo00	Side
TAB 1-60-20 x 22	1.0	60	20 x 22	0.750 x 0.860	Plated brass	Lemo00	Side
TAB 2-45-8x9	2.0	45	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB 2-60-8x9	2.0	60	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB 2-70-8x9	2.0	70	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB 4-45-8x9	4.0	45	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB 4-60-8x9	4.0	60	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB 4-70-8x9	4.0	70	8 x 9	.315 x .350	Plated brass	Lemo00	Side
TAB 2-45-14x14	2.0	45	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB 2-60-14x14	2.0	60	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB 2-70-14x14	2.0	70	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB 4-45-14x14	4.0	45	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB 4-60-14x14	4.0	60	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB 4-70-14x14	4.0	70	14 x 14	.550 x .550	Plated brass	Lemo00	Side
TAB 2-45-20x22	2.0	45	20 x 22	.750 x .860	Plated brass	Lemo00	Side
TAB 2-60-20x22	2.0	60	20 x 22	.750 x .860	Plated brass	Lemo00	Side
TAB 2-70-20x22	2.0	70	20 x 22	.750 x .860	Plated brass	Lemo00	Side
TAB 4-45-20x22	4.0	45	20 x 22	.750 x .860	Plated brass	Lemo00	Side
TAB 4-60-20x22	4.0	60	20 x 22	.750 x .860	Plated brass	Lemo00	Side
TAB 4-70-20x22	4.0	70	20 x 22	.750 x .860	Plated brass	Lemo00	Side

ANGLE BEAM PROBES TABD (double element)



Case dimensions

Element size		A,		B,		C,	
mm	in	mm	in	mm	in	mm	in
6x12	.236x.472	20	.787	30	1.181	25	.985

General specifications

Catalog number	Frequency, MHz	Refracted angle, °	Element size		Type of case	Connector type	Connector position
			mm	in			
TABD2-45-6x12	2.0	45	6 x 12	.250 x 0,5	Plated brass	Lemo00	Side
TABD2-60-6x12	2.0	60	6 x 12	.250 x 0,5	Plated brass	Lemo00	Side
TABD2-70-6x12	2.0	70	6 x 12	.250 x 0,5	Plated brass	Lemo00	Side
TABD4-45-6x12	4.0	45	6 x 12	.250 x 0,5	Plated brass	Lemo00	Side
TABD4-60-6x12	4.0	60	6 x 12	.250 x 0,5	Plated brass	Lemo00	Side
TABD4-70-6x12	4.0	70	6 x 12	.250 x 0,5	Plated brass	Lemo00	Side

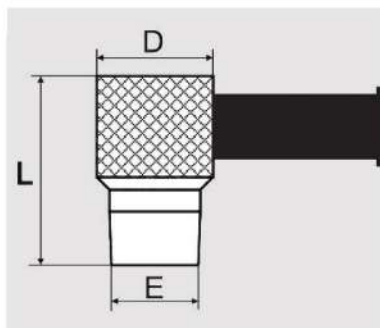


STRAIGHT BEAM PROBES TGI (double element, integral cable transducers) for Thickness gauges



Case dimensions

Element size		D ₁		L ₁		E ₁	
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

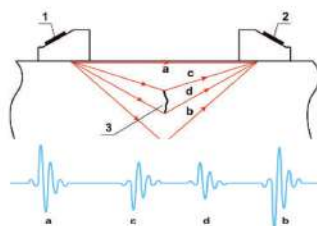


General specifications

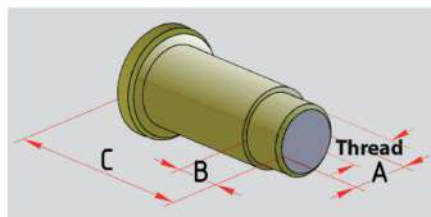
Catalog number	Frequency, MHz	Element size mm in	Type of case	Connector type	Connector position
TGI 5.250	5.0	0.250	Stainless steel	Lemo00/BNC	cable
TGI 5.500	5.0	0.500	Stainless steel	Lemo00/BNC	cable
TGI 7.5.187	7.5	0.187	Stainless steel	Lemo00/BNC	cable
TGI 7.5.250	7.5	0.250	Stainless steel	Lemo00/BNC	cable
TGI 10.187	10.0	0.187	Stainless steel	Lemo00/BNC	cable
TGI 10.250	10.0	0.250	Stainless steel	Lemo00/BNC	cable

*connector type: L - lemo00; B - BNC

TOFD TRANSDUCERS TWST AND WEDGES WST



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

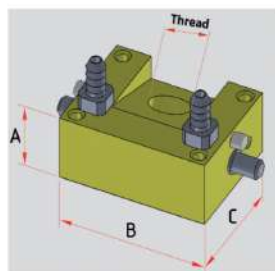


TOFD transducers specification

Catalog number	Frequency, MHz	mm	Element size in mm	Object thickness, in mm	A, in mm	B, in mm	C, in mm	Thread
TWST10-3-TOFD 3/8"	10	3	.125 10-15	.390-.600 10	.375 6.5	.256 28	1.1 3/8"	3/8"
TWST10-6-TOFD 3/8"	10	6	.250 15-35	.600 - 1.4 10	.375 6.5	.256 28	1.1 3/8"	3/8"
TWST5-6-TOFD 3/8"	5	6	.250 15-50	1.4 - 2.0 10	.375 6.5	.256 28	1.1 3/8"	3/8"
TWST5-12-TOFD M16	5	12	.500 50-100	2.0 - 4.0 16	.625 8	.315 33	1.3 M16	M16
TWST2,5-12-TOFD M16	2.5	12	.500 200-300	8.0 - 6.0 16	.625 8	.315 33	1.3 M16	M16
TWST2,25-12-TOFD M16	2.25	12	.500 200-300	8.0 - 6.0 16	.625 8	.315 33	1.3 M16	M16
TWST2,5-8-TOFD M16	2.5	8	.325 100-200	4.0 - 8.0 16	.625 8	.315 33	1.3 M16	M16
TWST2,25-8-TOFD M16	2.25	8	.325 100-200	4.0 - 8.0 16	.625 8	.315 33	1.3 M16	M16

TOFD wedges specification

Catalog number	Refracted angle, °	mm	A, in mm	B, in mm	C, in mm	Thread
WST45 L-3/8"-TOFD	45	15	.570 32	1.26 25	.984 3/8"	3/8"
WST50 L-3/8"-TOFD	50	15	.570 32	1.26 25	.984 3/8"	3/8"
WST60 L-3/8"-TOFD	60	15	.570 32	1.26 25	.984 3/8"	3/8"
WST70 L-3/8"-TOFD	70	15	.570 32	1.26 25	.984 3/8"	3/8"
WST45 L-M16-TOFD	45	15	.570 32	1.26 25	.984 M16	M16
WST50 L-M16-TOFD	50	15	.570 32	1.26 25	.984 M16	M16
WST60 L-M16-TOFD	60	15	.570 32	1.26 25	.984 M16	M16
WST70 L-M16-TOFD	70	15	.570 32	1.26 25	.984 M16	M16





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