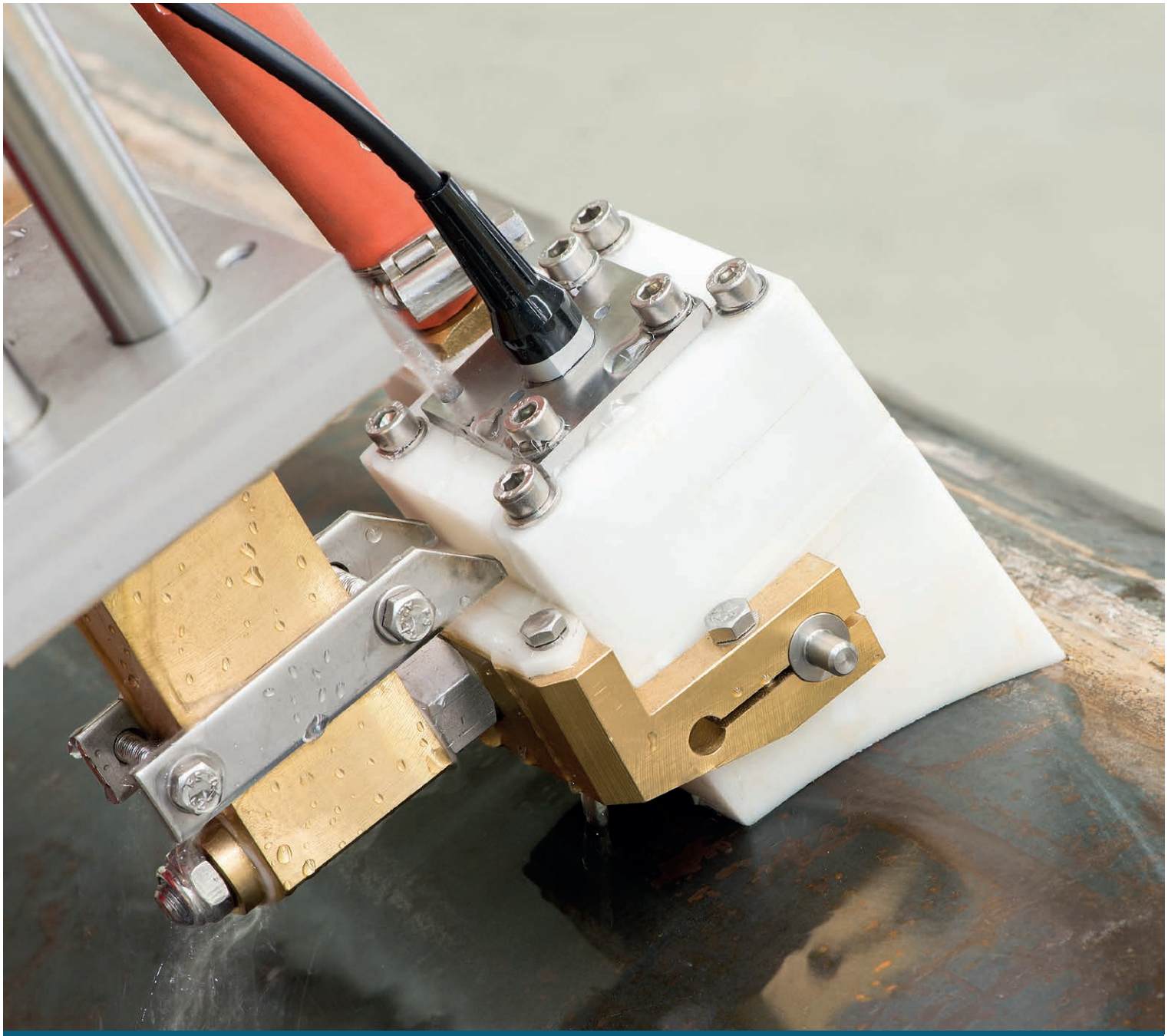


Phased Array Probes and Accessories
for Manual and Mechanized Testing

KARL DEUTSCH

Phased Array Probes with Wedges



Probe 1482.501

Probes

Order No.	Elements	Element Pitch x Width	Frequency	Bandwidth	Plug Type	Cable Length
1481.251	16	0.90 x 10 mm	2 MHz	75 %	IPEX	3 m
1481.2512	16	0.90 x 10 mm	2 MHz	75 %	Hypertronics	3 m
1481.2513	16	0.90 x 10 mm	2 MHz	75 %	Lemo, 18 pins	3 m
1481.551	16	0.75 x 10 mm	5 MHz	80 %	IPEX	3 m
1481.5512	16	0.75 x 10 mm	5 MHz	80 %	Hypertronics	3 m
1481.5513	16	0.75 x 10 mm	5 MHz	80 %	Lemo, 18 pins	3 m
1481.801	16	0.60 x 5 mm	10 MHz	90 %	IPEX	3 m
1482.501	32	0.60 x 8 mm	5 MHz	80 %	IPEX	3 m
1482.801	32	0.60 x 5 mm	10 MHz	90 %	IPEX	3 m
1483.251	64	0.85 x 10 mm	2 MHz	80 %	IPEX	3 m
1483.551	64	0.60 x 10 mm	5 MHz	80 %	IPEX	3 m

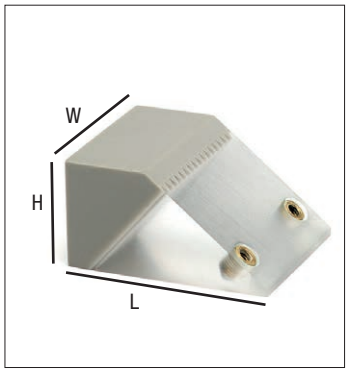


Delay line 1814.301

Delay lines for straight beam incidence

Order No.	for Probe Type	Incidence Angle*	Material	Threads, Distances	Dimensions L x W x H	Water Irrigation
1814.201	1482.xxx	0°	Polystyrene	M3, 22 mm / 10 mm	60 x 30 x 20 mm	-
1814.202	1482.xxx	0°	Polystyrene	M3, 22 mm / 10 mm	60 x 30 x 30 mm	-
1814.203	1482.xxx	0°	Polystyrene	M3, 22 mm / 10 mm	60 x 30 x 30 mm	yes
1814.301	1483.xxx	0°	Polystyrene	M3, 38 mm / 26.5 mm	70 x 35 x 15 mm	-
1814.302	1483.xxx	0°	Polystyrene	M3, 38 mm / 26.5 mm	85 x 35 x 30 mm	-
1814.303	1483.xxx	0°	Polystyrene	M3, 38 mm / 26.5 mm	85 x 35 x 30 mm	yes

*** Incidence angle of longitudinal waves in steel**



Angle beam wedge 1814.131

Angle beam wedges

Order No.	for Probe Type	Incidence Angle*	Material	Threads, Distances	Dimensions L x W x H	Water Irrigation
1814.131	1481.xxx	50°	Perspex	M3, 22 mm	37 x 30 x 20 mm	-
1814.132	1481.xxx	50°	Perspex	M3, 22 mm	37 x 30 x 20 mm	yes
1814.221	1482.xxx	55°	Polystyrene	M3, 22 / 10 mm	53 x 30 x 27 mm	-
1814.222	1482.xxx	55°	Polystyrene	M3, 22 / 10 mm	53 x 30 x 27 mm	yes
1814.321	1483.xxx	55°	Polystyrene	M3, 38 / 26.5 mm	96 x 35 x 48 mm	-
1814.322	1483.xxx	55°	Polystyrene	M3, 38 / 26,5 mm	96 x 35 x 48 mm	yes

*** Incidence angle of shear waves in steel**

For testing on curved surfaces the wedges can be delivered with customized convex or concave radius.

Phased Array Wedges with Water Irrigation



Plane delay 1814.203 with water irrigation

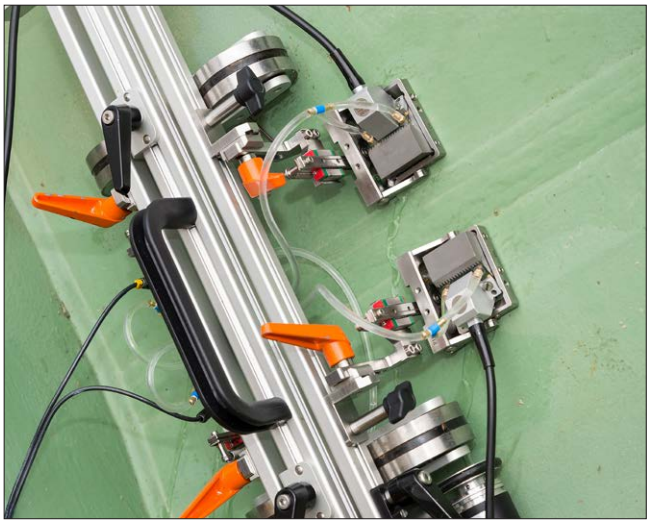


Wedge delay 1814.132 with water irrigation

Water is supplied via the nozzles on top of the delay or wedge.
Even in vertical or overhead positions: The notches in the bottom provide an excellent coupling.



Weld testing on a pillar of the famous Wuppertal Suspension Railway ...



... in a vertical position with water irrigation

Phased Array Probes for Mechanized Testing with Water Coupling



Probe 1598.649



Probe 1598.732



Probe 1598.679





Water nozzle for probe 1598.666 and 1598.649 with customized radius, e. g. for mechanized testing of longitudinal tube welds

Probes

Order No.	Elements	Element Pitch x Width	Frequency	Bandwidth	Cable Length	Dimensions L x W x H	Radius	Ring Segment	Plug Type
1598.666	16	1.40 x 8 mm	2 MHz	75 %	4 m	30 x 20 x 40 mm *)	-	-	Hypertronics
1598.649	32	0.70 x 8 mm	4 MHz	75 %	4 m	30 x 20 x 40 mm *)	-	-	Hypertronics
1598.732	64	1.0 x 15 mm	4 MHz	75 %	4 m	84 x 26 x 57 mm	-	-	Hypertronics
1598.731	128	1.0 x 15 mm	4 MHz	75 %	4 m	148 x 26 x 57 mm	-	-	Hypertronics
1598.679	64	0.9 x 12 mm	5 MHz	75 %	4 m	90 x 23 x 47 mm **)	60 mm	55°	Hypertronics

*) Housing dimension without flange
**) Height from apex of the curved transducer surface

The probes comply with the standards ASTM E2491-13 and DIN EN 16392-2:2014.
Further probes, wedges and water nozzles on request.

TOFD Probes and Accessories



TOFD caliper with 2 probes, 2 wedges, 2 probe cables and position encoder



Probe (Example)



Wedge with water irrigation (Example)

TOFD Probe Holder

Order No.	Description
6148.510	TOFD Caliper for 2 probes with position encoder

TOFD Probes

Order No.	Description	Frequency	Diameter	Thread	Connector
6148.610	TOFD probe	2 MHz	6 mm	M12	Lemo 00
6148.615	TOFD probe	5 MHz	6 mm	M12	Lemo 00
6148.620	TOFD probe	10 MHz	3 mm	M12	Lemo 00
6148.625	TOFD probe	15 MHz	3 mm	M12	Lemo 00

Accessory

Order No.	Description
1616.010	Coaxial cable Lemo 00 / Lemo 00, length 1 m

TOFD Wedges with Water Irrigation

Order No.	Description
6148.650	TOFD wedge, 45° longitudinal wave in steel
6148.655	TOFD wedge, 60° longitudinal wave in steel
6148.660	TOFD wedge, 70° longitudinal wave in steel

Probe holders with double gimbal suspension



For phased array probes 1481.xxx



For TOFD wedges 6148.xxx

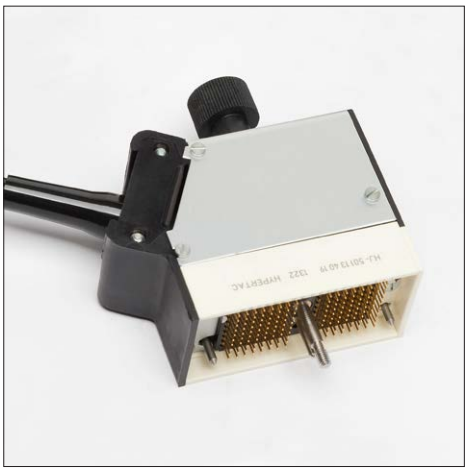


Example of a scanner for manual testing of circumferential tube welds with position encoder and suspensions for 2 phased array probes and 2 TOFD probes

Plugs for Phased Array Probes and Adaptors for Combined Testing



Standard plug type IPEX



Hypertronics plug



Adaptor Hypertronics to IPEX, order no.: 6148.101



Splitter 2 x IPEX to 1 x IPEX, order no.: 6148.102

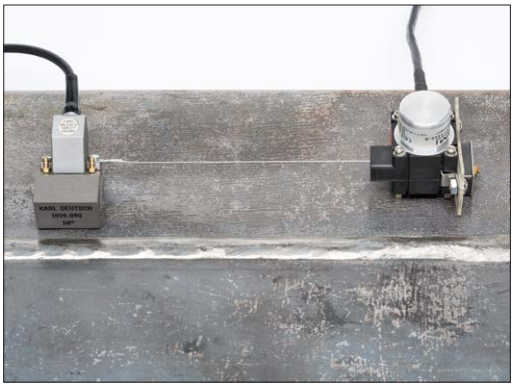


Lemo plug for phased array probes with 16 elements, type 1481.xxx



A comfortable solution: adaptor for 2 x Lemo to IPEX, order no.: 1698.158

Accessories



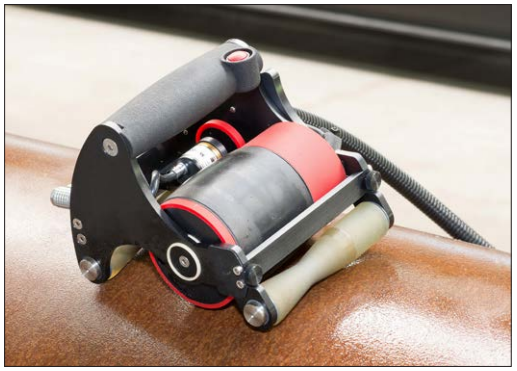
Wire encoder with magnetic foot, scan length 500 mm,
40 pulses/mm, order no.:1885.002



Wheel encoder



Roller probe for circumferential testing of bars and tubes



Roller probe for longitudinal testing of bars and tubes



Roller probe for testing on plane surfaces

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