ACOUSTIC CONTROL SYSTEMS

CATALOG

ULTRASONIC TRANSDUCERS FOR NON-DESTRUCTIVE MATERIAL TESTING

PIEZOELECTRIC EMAT AIR-COUPLED DRY-POINT-CONTACT EMBEDDED

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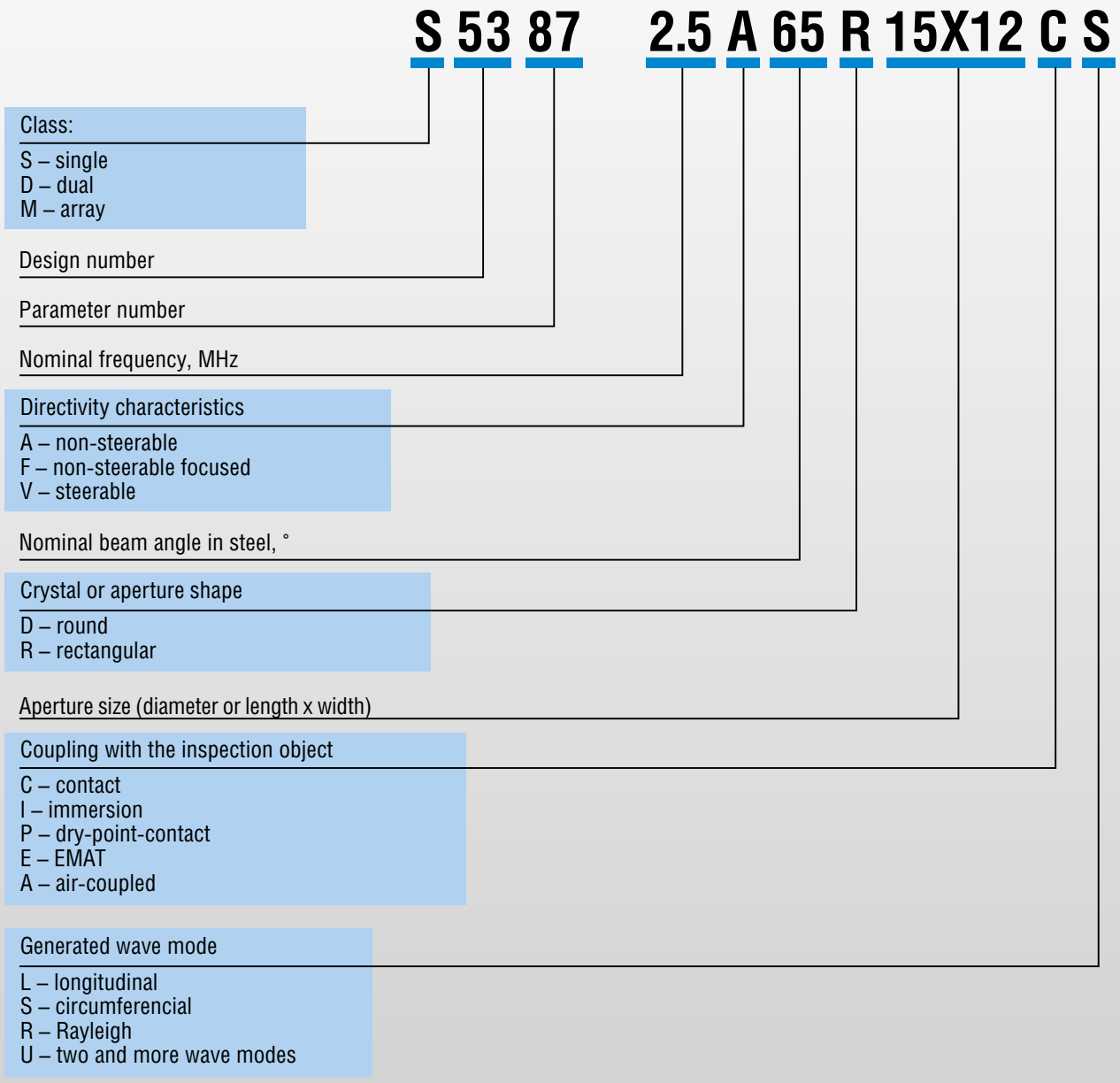
Acoustic Control Systems – ACS Group specializes in the development, manufacturing, and supply of high-tech products in the field of ultrasonic non-destructive material testing (NDT).

For over 20 years, ACS Group has been producing ultrasonic transducers of various types, which are supplied both as part of complete instruments and as standalone products.

The established product range includes the following main types of transducers, which differ fundamentally in design, characteristics, capabilities, and application features:

- Normal-beam single-crystal and dual-crystal transducers
- Angle-beam transducers
- Low-frequency dry-point-contact transducers and transducer arrays
- Normal-beam electromagnetic-acoustic transducers (EMAT)
- Air-coupled transducers
- Phased array transducers

TRANSDUCER DESIGNATION



NORMAL-BEAM SINGLE-CRYSTAL PIEZOELECTRIC TRANSDUCERS

HIGH-FREQUENCY NORMAL-BEAM SINGLE-CRYSTAL PIEZOELECTRIC TRANSDUCERS WITH LIQID COUPLING

These ransducers are intended for thickness measurement and flaw detection in metals, plastics, and composites. The transducers are connected to the thickness gauge or flaw detector via a single LEMO cable. A wear-resistant ceramic protector allows sliding over the surface of the inspection object.

Characteristics	Value		
Model	**S3567 2.5A0D10CL**	**S3568 2.5A0D10CL**	**S3569 5.0A0D10CL**
Application field	Thickness measurement	Flaw detection	Thickness measurement
Appearance			
To be used with the instrument	A1208, A1209, A1210	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1208, A1209, A1210
Measurement / inspection range, mm / inch	from 0.8 to 300.0 / from 0.028 to 10.6	from 7 to 6000 / from 0.028 to 10.6	from 0.8 to 300.0 / from 0.028 to 10.6
Nominal frequency, MHz	2.5	2.5	5
Active aperture (crystal size), mm / inch	10 / 0.39	10 / 0.39	10 / 0.39
Dimensions, mm / inch	18 × 24 / 0.71 x 0.94	18 × 24 / 0.71 x 0.94	18 × 24 / 0.71 x 0.94
Weight, gramm / ounce	26 / 0.92	26 / 0.92	26 / 0.92

Characteristics	Value				
Model	**S3460 2.5A0D18CL**	**S3466 1.25A0D18CL**	**S3469 1.8A0D18CL**	**S3373 5.0A0D8CL**	**S3375 4.0A0D5CL**
Application field	Flaw detection	Flaw detection	Flaw detection	Thickness measurement	Flaw detection
Appearance					
To be used with the instrument	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1208, A1209, A1210	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor
Measurement / inspection range, mm / inch	from 7 to 6000 / from 0.28 to 236	from 7 to 6000 / from 0.28 to 236	from 7 to 6000 / from 0.28 to 236	from 0,8 to 300,0 / from 0.031 to 11.8	from 3 to 500 / from 0.12 to 19.7
Nominal frequency, MHz	2.5	1.25	1.8	5	4
Active aperture (crystal size), mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	8 / 0.71	5 / 0.71
Dimensions, mm / inch	27 × 24 / 1.1 x 0.94	27 × 24 / 1.1 x 0.94	27 × 24 / 1.1 x 0.94	18 × 36 / 1.1 x 0.94	18 × 36 / 1.1 x 0.94
Weight, gramm / ounce	55 / 1.94	55 / 1.94	55 / 1.94	20 / 1.94	15 / 1.94

MIDDLE-FREQUENCY NORMAL-BEAM SINGLE-CRYSTAL PIEZOELECTRIC TRANSDUCERS WITH LIQID COUPLING

These transducers are intended for measuring large thicknesses and detecting defects in metals, plastics, and composite materials. Due to their reduced operating frequency, the transducers are suitable for ultrasonic testing of highly attenuating materials (such as bonded composites), as well as products with a coarse grain structure (such as cast iron and various stainless steels).

Characteristics	Value		
Model	**S3740 0.25A0D30CL**	**S3745 0.5A0D30CL**	**S3750 1.0A0D30CL**
Application field	Flaw detection	Flaw detection	Flaw detection
Appearance			
To be used with the instrument	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor
Measurement / inspection range, mm / inch	from 7 to 6000 / from 0.28 to 236	from 7 to 6000 / from 0.28 to 236	from 7 to 6000 / from 0.28 to 236
Nominal frequency, MHz	0.25	0.5	1
Active aperture (crystal size), mm / inch	30 / 1.18	30 / 1.18	30 / 1.18
Dimensions, mm / inch	36 × 42 / 1.42 x 1.65	36 × 42 / 1.42 x 1.65	36 × 42 / 1.42 x 1.65
Weight, gramm / ounce	220 / 7.76	220 / 7.76	220 / 7.76

LOW-FREQUENCY NORMAL-BEAM SINGLE-CRYSTAL PIEZOELECTRIC TRANSDUCERS WITH LIQID COUPLING

These transducers are designed for flaw detection in concrete and reinforced concrete structures when used with low-frequency ultrasonic flaw detectors such as the A1220 MONOLITH, as well as for ultrasonic testing of elongated metal objects (e.g., anchor bolts) when used with low-frequency ultrasonic flaw detectors such as the A1220 ANKER. They are intended for the excitation of longitudinal waves at low frequencies (kHz range).

Characteristics	**Value**		
Model	**S0205 0.025A0R20X20CL**	**S0206 0.05A0R20X20CL**	**S0208 0.1A0R20X20CL**
Application field	Flaw detection	Flaw detection	Flaw detection
Appearance			
To be used with the instrument	A1220 MONOLITH A1220 ANKER	A1220 MONOLITH A1220 ANKER	A1220 MONOLITH A1220 ANKER
Measurement / inspection range, mm / inch	from 50 to 2150 (concrete) / from 1.97 to 84.6 from 600 to 3000 (steel) / from 23.6 to 118	from 50 to 2150 (concrete) / from 1.97 to 84.6 from 600 to 3000 (steel) / from 23.6 to 118	from 50 to 2150 (concrete) / from 1.97 to 84.6 from 600 to 3000 (steel) / from 23.6 to 118
Nominal frequency, KHz	25	50	100
Active aperture (crystal size), mm / inch	25 / 0.98	25 / 0.98	25 / 0.98
Dimensions, mm / inch	70 × 35 / 2.76 x 1.38	55 × 35 / 2.17 x 1.38	41 × 35 / 1.61 x 1.38
Weight, gramm / ounce	245 / 8.64	170 / 6	110 / 3.88

NORMAL-BEAM DUAL-CRYSTAL TRANSDUCERS

Dual-crystal transducers with a liquid coupling are intended for thickness measurement and flaw detection in metals and plastics (polyethylene). The transducers are connected to the electronic unit of a thickness gauge or flaw detector via a dual LEMO cable. Thanks to their design, these transducers are more sensitive to the detection of pitting corrosion and provide stable measurements on curved objects, including convex curved surfaces and pipes.
These transducers allow thickness measurement on both smooth and corroded surfaces without requiring additional adjustments.

Characteristics	**Value**					
Model	**D1761 2.5A0D12CL**	**D1762 5.0A0D12CL**	**D1771 4.0A0D12CL**	**D1471 4.0A0D12CL**	**D1763 5.0A0D12CL**	**D2763 10.0A0D6CL**
Application field	Flaw detection	Flaw detection, Thickness measurement	Flaw detection, Thickness measurement	Flaw detection, Thickness measurement	Thickness measurement	Flaw detection, Thickness measurement
Special features				Biult-in cable 1 meter / 39.4 inches	Suitable for high-temperatures up to 350°C / 662 °F	
Appearance						
To be used with the instrument	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor, A1208, A1209, A1210	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor, A1208, A1209, A1210	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor, A1201	A1208, A1209, A1210, A1201	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor, A1208, A1209, A1210
Measurement / inspection range, mm / inch	2 to 3000 / 0.08 to 118	2 to 3000 / 0.08 to 118 (Flaw detection) 2 to 300 / 0.03 to 11.8 (Thickness measurement)	2 to 3000 / 0.08 to 118 (Flaw detection) 0.7 to 300 / 0.027 to 11.8 (Thickness measurement)	от 2 до 3000 (Flaw detection) от 1 до 300 (Thickness measurement)	2 to 3000 / 0.08 to 118	2 to 100 / 0.08 to 3.94 (Flaw detection) 2 to 300 / 0.03 to 11.8 (Thickness measurement)
Nominal frequency, MHz	2,5	5	4	4	5	10
Active aperture (crystal size), mm / inch	12 /0.47	12 /0.47	12 /0.47	12 /0.47	12 /0.47	6 /0.24
Dimensions, mm / inch	23 × 44 / 0.91 x 1.73	23 × 44 / 0.91 x 1.73	23 × 44 /0.91 x 1.73	24 × 36 / 0.94 x 1.42 (without cable)	48 × 46 / 1.89 x 1.81	18 × 50 / 0.71 x 1.97
Weight, gramm / ounce	22 / 0.78	22 / 0.78	22 / 0.78	60 / 2.12 (with cable)	60 / 2.12	15 / 0.53

ANGLE-BEAM TRANSDUCERS

Angle beam transducers are intended for detecting flaws in the base material as well as in weld joints of metal and alloy components, including pipes of various diameters. The transducers are connected to the flaw detector's electronic unit via a single LEMO cable. The product line includes angle beam transducers with frequencies of 1.8, 2.5, and 5.0 MHz and an angle range from 40 to 90 degrees. Optionally, the working surface of the transducer can be ground to match a required curvature radius.

ANGLE-BEAM TRANSDUCERS WITH THE OPERATING FREQUENCY 1.8 MHZ

These transducers are intended for inspecting welds in metallic inspection objects with a wall thickness exceeding 50 mm. The selection of a transducer with a specific angle of incidence is carried out in accordance with the applicable regulatory documentation for the inspection object and/or the approved testing procedure.

Characteristics	Value					
Model	**S5280 1.8A40D18CS**	**S5280 1.8A45D18CS**	**S5280 1.8A50D18CS**	**S5280 1.8A60D18CS**	**S5280 1.8A65D18CS**	**S5280 1.8A70D18CS**
Application field	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection
Appearance						
To be used with the instrument	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor
Angle of incidence in steel, °	40	45	50	60	65	70
Index point offset, mm / inch	15 / 0.59	15 / 0.59	17 / 0.67	20 / 0.79	21 / 0.83	22 / 0.87
Nominal frequency, MHz	1.8	1.8	1.8	1.8	1.8	1.8
Active aperture (crystal diameter), mm / inch	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71	18 / 0.71
Curvature diameter adjustment, mm / inch	40 – 900 / 1.57 – 35.4 (axial) 89 – 1460 / 3.5 – 57.5 (circumferencial)	40 – 900 / 1.57 – 35.4 (axial) 89 – 1460 / 3.5 – 57.5 (circumferencial)	40 – 900 / 1.57 – 35.4 (axial) 89 – 1460 / 3.5 – 57.5 (circumferencial)	40 – 900 / 1.57 – 35.4 (axial) 89 – 1460 / 3.5 – 57.5 (circumferencial)	40 – 900 / 1.57 – 35.4 (axial) 89 – 1460 / 3.5 – 57.5 (circumferencial)	40 – 900 / 1.57 – 35.4 (axial) 89 – 1460 / 3.5 – 57.5 (circumferencial)
Dimensions, mm / inch	46 × 24 × 34 / 1.81x0.94x1.34	46 × 24 × 34 / 1.81x0.94x1.34	46 × 24 × 34 / 1.81x0.94x1.34	46 × 24 × 34 / 1.81x0.94x1.34	46 × 24 × 34 / 1.81x0.94x1.34	46 × 24 × 34 / 1.81x0.94x1.34
Weight, gramm / ounce	63 / 2.48	63 / 2.48	63 / 2.48	63 / 2.48	63 / 2.48	63 / 2.48

ANGLE-BEAM TRANSDUCERS WITH THE OPERATING FREQUENCY 2.5 MHZ

The transducers are intended for inspecting welds in metallic objects within a thickness range of 15 to 50 mm. The selection of a transducer with a specific angle of incidence is carried out in accordance with the applicable regulatory documentation for the test object and/or the approved inspection procedure.

Characteristics	Value						
Model	**S5182 2.5A40D12CS**	**S5182 2.5A45D12CS**	**S5182 2.5A50D12CS**	**S5182 2.5A60D12CS**	**S5182 2.5A65D12CS**	**S5182 2.5A70D12CS**	**S5182 2.5A90D12CR**
Application field	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection
Appearance							
To be used with the instrument	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor
Angle of incidence in steel, °	40	45	50	60	65	70	90
Index point offset, mm / inch	11 / 0.43	12 / 0.47	13 / 0.51	15 / 0.59	15 / 0.59	17 / 0.67	on request
Nominal frequency, MHz	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Active aperture (crystal diameter), mm / inch	12 / 0.47	12 / 0.47	12 / 0.47	12 / 0.47	12 / 0.47	12 / 0.47	12 / 0.47
Curvature diameter adjustment, mm / inch	30 – 700 / 1.18 – 27.6 (axial) 40 – 1200 / 1.57 – 47.2 (circumferencial)	30 – 700 / 1.18 – 27.6 (axial) 40 – 1200 / 1.57 – 47.2 (circumferencial)	30 – 700 / 1.18 – 27.6 (axial) 40 – 1200 / 1.57 – 47.2 (circumferencial)	30 – 700 / 1.18 – 27.6 (axial) 40 – 1200 / 1.57 – 47.2 (circumferencial)	30 – 700 / 1.18 – 27.6 (axial) 40 – 1200 / 1.57 – 47.2 (circumferencial)	30 – 700 / 1.18 – 27.6 (axial) 40 – 1200 / 1.57 – 47.2 (circumferencial)	30 – 700 / 1.18 – 27.6 (axial) 40 – 1200 / 1.57 – 47.2 (circumferencial)
Dimensions, mm / inch	33 × 19 × 27 / 1.3 x 0.75 x 1.06	33 × 19 × 27 / 1.3 x 0.75 x 1.06	33 × 19 × 27 / 1.3 x 0.75 x 1.06	33 × 19 × 27 / 1.3 x 0.75 x 1.06	33 × 19 × 27 / 1.3 x 0.75 x 1.06	33 × 19 × 27 / 1.3 x 0.75 x 1.06	33 × 19 × 27 / 1.3 x 0.75 x 1.06
Weight, gramm / ounce	29 / 1.02	29 / 1.02	29 / 1.02	29 / 1.02	29 / 1.02	29 / 1.02	29 / 1.02

ANGLE-BEAM TRANSDUCERS WITH THE OPERATING FREQUENCY 5 MHZ

The transducers are intended for inspecting welds in metallic objects within a thickness range of 4 to 15 mm. The selection of a transducer with a specific angle of incidence is carried out in accordance with the applicable regulatory documentation for the test object and/or the approved inspection procedure.

Characteristics	Value							
Model	**S5096 5.0A40D6CS**	**S5096 5.0A45D6CS**	**S5096 5.0A50D6CS**	**S5096 5.0A60D6CS**	**S5096 5.0A65D6CS**	**S5096 5.0A70D6CS**	**S5096 5.0A72D6CS**	**S5096 5.0A90D6CR**
Application field	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection	Flaw detection
Appearance								
To be used with the instrument	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor	A1211 Mini, A1212 MASTER, A1214 EXPERT, A1525 Solo, A1550 IntroVisor
Angle of incidence in steel, °	40	45	50	60	65	70	72	90
Index point offset, mm / inch	6 / 0.24	7 / 0.28	8 / 0.31	9 / 0.35	9 / 0.35	10 / 0.39	11 / 0.43	on request
Nominal frequency, MHz	5	5	5	5	5	5	5	5
Active aperture (crystal diameter), mm / inch	6 / 0.24	6 / 0.24	6 / 0.24	6 / 0.24	6 / 0.24	6 / 0.24	6 / 0.24	6 / 0.24
Curvature diameter adjustment, mm / inch	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)	20 – 500 / 0.79 – 19.69 (axial) 30 – 900 / 1.18 – 35.43 (circumferencial)
Dimensions, mm / inch	24 × 15 × 22 / 0.94 x 0.59 x 0.87	24 × 15 × 22 / 0.94 x 0.59 x 0.87	24 × 15 × 22 / 0.94 x 0.59 x 0.87	24 × 15 × 22 / 0.94 x 0.59 x 0.87	24 × 15 × 22 / 0.94 x 0.59 x 0.87	24 × 15 × 22 / 0.94 x 0.59 x 0.87	24 × 15 × 22 / 0.94 x 0.59 x 0.87	24 × 15 × 22 / 0.94 x 0.59 x 0.87
Weight, gramm / ounce	14 / 0.49	14 / 0.49	14 / 0.49	14 / 0.49	14 / 0.49	14 / 0.49	14 / 0.49	14 / 0.49

LOW-FREQUENCY DRY-POINT-CONTACT TRANSDUCERS

Dry-point-contact transducers are intended to measure the sound velocity and transit time to assess compressive strength of concrete by direct or indirect through-transmission method. The transducers are connected to the electronic unit of a low-frequency flaw detector via a single LEMO cable. Measurement is performed using two transducers, which are positioned either along a line or opposite each other, depending on the selected measurement method.
The measurement results can be used to calculate the physical and mechanical properties of various heterogeneous materials, stone, rock, as well as to evaluate the internal structure of coarse-grained materials.

Characteristics	Value					
Model	**S1902 0.025A0D4PS**	**S1905 0.025A0D4PL**	**S1801 0.05A0D2PS**	**S1802 0.05A0D2PS**	**S1844 0.05A0D3PL**	**S1803 0.1A0D2PL**
Application field	UPVT	UPVT	UPVT	UPVT	UPVT	UPVT
Appearance						
To be used with the instrument	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC
Wave mode	Circumferencial	Longitudial	Circumferencial	Circumferencial	Longitudial	Longitudial
Nominal frequency, KHz	25	25	50	50	100	100
Damping	Damped	Damped	Non-damped	Damped	Non-damped	Damped
Dimensions, mm / inch	50 × 20 / 1.97 x 0.79	75 × 20 / 2.95 x 0.79	45x18 / 1.77x0.71	45x18 / 1.77x0.71	45x18 / 1.77x0.71	45x18 / 1.77x0.71
Weight, g / ounce	66 / 2.33	100 / 3.53	8 / 0.28	20 / 0.71	10 / 0.35	14 / 0.49

Characteristics	Value					
Model	**S1805 0.15A0D2PL**	**S1806 0.1A0D2PS**	**S1807 0.15A0D2PS**	**S1808 0.25A0D4PS**	**S1820 0.05/03A0D2PS**	**S1823 0.1A0D2PU**
Application field	UPVT	UPVT	UPVT	UPVT	UPVT	UPVT
Appearance						
To be used with the instrument	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1580 Sonic A1220 Monolith A1052 MultiSONIC
Wave mode	Longitudial	Circumferencial	Circumferencial	Circumferencial	Circumferencial	Circumferencial
Nominal frequency, KHz	150	100	150	250	50/300	120
Damping	Damped	Damped	Damped	Non-damped	Damped	Damped
Dimensions, mm / inch	45x18 / 1.77x0.71	45x18 / 1.77x0.71	45x18 / 1.77x0.71	45x18 / 1.77x0.71	45x18 / 1.77x0.71	45 × 12 / 1.77 x 0.47 (without cable)
Weight, g / ounce	14 / 0.49	20 / 0.71	20 / 0.71	14 / 0.49	20 / 0.71	14 / 0.49

LOW-FREQUENCY DRY-POINT-CONTACT TRANSDUCER ARRAYS

Low-frequency dry-point-contact transducer arrays are intended for detecting defects in concrete, reinforced concrete, and natural stone structures, as well as for determining the thickness of the test object when access is available from only one side. The arrays are connected to the electronic unit of a low-frequency flaw detector via single and/or dual LEMO cables.
Depending on the type of antenna array, ultrasonic testing can be performed using the pulse-echo method (with one-sided access to the object) or in through-transmission mode (e.g., inspection of concrete columns with densely spaced reinforcement or objects with substantial thickness).
It is also possible to inspect products made of graphite, coal and wood.

Characteristics	Value		
Model	**M2502 0.05A0R100X60PS**	**M2503 0.1A0R100X60PL**	**M2102 0.05A0D60PS**
Application field	UPVT	UPVT	UPVT
Appearance			
To be used with the instrument	A1560 Sonic A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1560 Sonic A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1560 Sonic A1580 Sonic A1220 Monolith A1052 MultiSONIC
Wave mode	Circumferencial	Longitudinal	Circumferencial
Nominal frequency, MHz	25	25	50
Damping	Damped	Damped	Damped
Dimensions, mm / inch	139 × 105 × 89 / 5.47 x 4.13 x 3.5	139 × 105 × 89 / 5.47 x 4.13 x 3.5	Ø97 × 105 / 3.82 x 4.13
Weight, gramm / ounce	1100 / 38.8	1100 / 38.8	700 / 24.69

Characteristics	Value		
Model	**M2103 0.1A0D60PL**	**M1002 0.1A0D40PS**	**M1003 0.1A0D40PL**
Application field	UPVT	UPVT	UPVT
Appearance			
To be used with the instrument	A1560 Sonic A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1560 Sonic A1580 Sonic A1220 Monolith A1052 MultiSONIC	A1560 Sonic A1580 Sonic A1220 Monolith A1052 MultiSONIC
Wave mode	Circumferencial	Circumferencial	Longitudinal
Nominal frequency, MHz	50	50	50
Damping	Damped	Non-damped	Non-damped
Dimensions, mm / inch	Ø97 × 105 / 3.82 x 4.13	Ø50x80 / 1.97 x 3.15	Ø50x80 / 1.97 x 3.15
Weight, gramm / ounce	700 / 24.69	220 / 7.76	220 / 7.76

EMBEDDED ULTRASONIC TRANSDUCERS FOR ACTIVE AND PASSIVE CONCRETE MONITORING

Air-coupled transducers are used to inspect materials without direct contact or liquid coupling. They operate by transmitting and receiving ultrasonic waves through air, which is particularly useful when conventional couplants (like gels or water) are impractical or undesirable. These transducers are intended for testing of porous, soft, or sensitive materials, Inspection of dry or high-temperature surfaces, flaw detection in laminated and composite structures as well as for non-contact testing of thin materials.

Model	To be used with the instrument	Nominal frequency, KHz	Dimensions, mm / inch	Weight, gramm / ounce	Cable length	Special feature
S0807	A1052 MultiSONIC	70	Ø 72 x 17 / 2.83 x 0.67	35 / 41.23	Up to 10 meters	
S0807-R	A1052 MultiSONIC	70	Ø 72 x 17 / 2.83 x 0.67	35 / 41.23	Up to 10 meters	Suitable for using at elevated temperatures, in aggressive media and higher pressure

ELECTROMAGNETIC-ACOUSTIC TRANSDUCERS (EMAT)

Electromagnetic-acoustic transducers (EMAT) are intended for measuring the thickness of objects made of metals and alloys without the use of a couplant. EMATs are used in combination with the ultrasonic thickness gauges A1270. The transducers connect to the. It is possible to inspect objects heated up to 800°C (S73 series). It is also possible to measure metallic objects through insulating or paint coatings (up to 5 mm thick) without removing them (S76 series).

Characteristics	Value				
Model	**S3950 5.0A0D15ES**	**S7692 3.0A0D25ES**	**S7694 3.0A0R18X12ES**	**S7392 4.0A0D10ES**	**S7394 3.0A0R10X10ES**
Type	EMAT with pulse magnetization & integrated cable	EMAT with permanent magnet	EMAT with permanent magnet	EMAT with permanent magnet	EMAT with permanent magnet
Wave mode	Circumferencial wave with circular polarization	Circumferencial wave with circular polarization	Circumferencial wave with linear polarization	Circumferencial wave with circular polarization	Circumferencial wave with linear polarization
Appearance					
To be used with the instrument	A1270 EMAT A1570 EMAT	A1270 EMAT A1570 EMAT	A1270 EMAT A1570 EMAT	A1270 EMAT A1570 EMAT	A1270 EMAT A1570 EMAT
Nominal frequency, MHz	4	3	3	3	4
Eeffective aperture, mm / inch	15 / 0.59	10 / 0.39	10 / 0.39	25 / 0.98	25 / 0.98
Thickness measurement range, mm / inch	0.9 to 80 0.035 to 3.15	0.9 to 100 0.035 to 3.9	0.9 to 200 0.035 to 7.8	0.9 to 100 0.035 to 3.9	0.9 to 200 0.035 to 7.8
Dimensions, mm / inch	Ø41 x 42 Ø1.61 x 1.65	Ø40 x 55 Ø1.57 x 2.17	Ø40 x 55 Ø1.57 x 2.17	Ø35 x 58 Ø1.38 x 2.28	Ø35 x 58 Ø1.38 x 2.28
Weight, gramm / ounce	195 6.9	250 8.8	250 8.8	255 9	255 9

AIR-COUPLED TRANSDUCERS

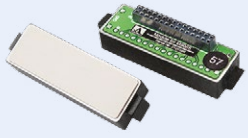
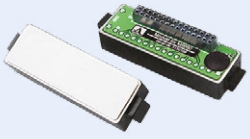
Electromagnetic-acoustic transducers (EMAT) are intended for measuring the thickness of objects made of metals and alloys without the use of a couplant. EMATs are used in combination with the ultrasonic thickness gauges A1270. The transducers connect to the. It is possible to inspect objects heated up to 800°C (S73 series). It is also possible to measure metallic objects through insulating or paint coatings (up to 5 mm thick) without removing them (S76 series).

Model	To be used with the instrument	Nominal frequency, KHz	Dimensions, mm / inch	Weight, gramm / ounce	Special feature
T0830 / R0830	A1560 SONIC Air A1580 SONIC	100	∅ 30 x 90 / 1.18 x 3.54	150 / 5.3	Different transmitter and receiver design

PHASED ARRAY TRANSDUCERS & EXCHANGEABLE ACOUSTIC MODULES

Phased array probes are intended for detecting defects in welded joints and inspecting the main body of metal and plastic structures. The special feature of phased array transducers by ACS that the user can independently replace the exchangeable acoustic module without any additional tools.
It is also possible to lap the acoustic module to match the required surface curvature radius.

Characteristics	Value			
Model	**M9060 4.0V0R40X10CL**	**M9065 4.0V60R40X10CS**	**M9170 4.0V60R26X10CS**	**M9171 4.0V0R26X10CL**
Type	Phased array	Phased array	Phased array	Phased array
Wave mode	Longitudinal wave	Circumferencial wave	Circumferencial wave	Circumferencial wave
Appearance				
To be used with the instrument	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR
Nominal frequency, MHz	4	4	4	4
Number of elements	16	16	16	16
Pitch size, mm / inch	2.5 / 0.1	2.5 / 0.1	1.75 / 0.07	1.75 / 0.07
Effective aperture, mm / inch	40 x 10 / 1.57 x 0.39	40 x 10 / 1.57 x 0.39	26 x 10 / 1.57 x 0.39	26 x 10 / 1.57 x 0.39
Angle range, °	± 30	35 to 85	35 to 85	± 30
Dimensions, mm / inch	90 x 42 x 22 / 3.54 x 1.65 x 0.87	90 x 42 x 22 / 3.54 x 1.65 x 0.87	32 x 18 x 44 / 1.26 x 0.71 x 1.73	32 x 18 x 44 / 1.26 x 0.71 x 1.73
Weight, gramm / ounce	200 / 7	200 / 7	170 / 6	170 / 6

Characteristics	Value					
Model	**M9060**	**M9065**	**M9050**	**M9052**	**M9055**	**M9067**
Type	Acoustic module for phased array transducer	Acoustic module for phased array transducer	Acoustic module for phased array transducer	Acoustic module for phased array transducer	Acoustic module for phased array transducer	Acoustic module for phased array transducer
Wave mode	Longitudinal wave	Circumferencial wave	Longitudinal wave	Longitudinal wave	Circumferencial wave	Longitudinal & circumferencial wave
Appearance						
To be used with the instrument	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR
Nominal frequency, MHz	4	4	1	2,5	2,5	4
Number of elements	16	16	16	16	16	16
Pitch size	2.5 / 0.1	2.5 / 0.1	2.5 / 0.1	2.5 / 0.1	2.5 / 0.1	2.5 / 0.1
Effective aperture, mm / inch	40 x 10 / 1.57 x 0.39	40 x 10 / 1.57 x 0.39	40 x 10 / 1.57 x 0.39	40 x 10 / 1.57 x 0.39	40 x 10 / 1.57 x 0.39	40 x 10 / 1.57 x 0.39
Angle range,°	±30	35 to 85	±30	±30	35 to 85	0 to 80 for longitudinal, 16 to 65 for circumferencial
Curvature diameter adjustment, mm / inch	30 to 500 for axial, 108 to 1460 for circumferencial	30 to 500 for axial, 108 to 1460 for circumferencial	30 to 500 for axial, 108 to 1460 for circumferencial	30 to 500 for axial, 108 to 1460 for circumferencial	30 to 500 for axial, 108 to 1460 for circumferencial	30 to 500 for axial, 108 to 1460 for circumferencial
Dimensions, mm / inch	58 x 16 x 13 2.28 x 0.63 x 0.51	58 x 16 x 13 2.28 x 0.63 x 0.51	58 x 16 x 13 2.28 x 0.63 x 0.51	58 x 16 x 13 2.28 x 0.63 x 0.51	58 x 16 x 13 2.28 x 0.63 x 0.51	58 x 16 x 13 2.28 x 0.63 x 0.51
Weight, gramm / ounce	32 / 1.13	32 / 1.13	32 / 1.13	32 / 1.13	32 / 1.13	32 / 1.13

Characteristics	Value			
Model	**M9170**	**M9171**	**M9172**	**M9174**
Type	Acoustic module for phased array transducer	Acoustic module for phased array transducer	Acoustic module for phased array transducer	Acoustic module for phased array transducer
Wave mode	Longitudinal wave	Circumferencial wave	Longitudinal wave	Longitudinal wave
Appearance				
To be used with the instrument	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR	A1525 SOLO A1550 INTROVISOR
Nominal frequency, MHz	4	4	1	2.5
Number of elements	16	16	16	16
Pitch size	1.75 / 0.07	1.75 / 0.07	1.75 / 0.07	1.75 / 0.07
Effective aperture, mm / inch	26 x 10 / 1 x 0.39	26 x 10 / 1 x 0.39	26 x 10 / 1 x 0.39	26 x 10 / 1 x 0.39
Angle range,°	35 to 85	±30	0 to 80 for longitudinal, 16 to 65 for circumferencial	35 to 85
Curvature diameter adjustment, mm / inch	30 to 500 for axial, 108 to 1460 for circumferencial	-	30 to 500 for axial, 108 to 1460 for circumferencial	30 to 500 for axial, 108 to 1460 for circumferencial
Dimensions, mm / inch	31 x 20 x 13 1.22 x 0.79 x 0.51	31 x 20 x 13 1.22 x 0.79 x 0.51	31 x 20 x 13 1.22 x 0.79 x 0.51	31 x 20 x 13 1.22 x 0.79 x 0.51
Weight, gramm / ounce	13 / 0.46	13 / 0.46	13 / 0.46	13 / 0.46

EXCHANGEABLE TRANSDUCERS FOR A1207 SERIES

Exchangeable normal-beam ultrasonic transducers with liquid coupling for thickness gauges A1207 PenGauge featuring a small contact spot and allowing quick replacement without additional tools. Designed for thickness measurement of products made of metals and their alloys, as well as glass, ceramics, plastics, and ice. These transducers can also be used in a pitch-catch configuration on small-diameter pipes.

Characteristics	Value		
Model	**D1572 10.0A0D6CL**	**D1573 6.0A0D6CL**	**S1573 5.0A0D8CL**
Appearance			
To be used with the instrument	A1207	A1207	A1207
Nominal frequency, MHz	4	4	4
Thickness range, mm	0.6 to 50 / 0.023 to 2	0.6 to 50 / 0.023 to 2	1 to 150 / 0.039 to 5.9
Effective aperture, mm / inch	6 / 0.24	6 / 0.24	8 / 0.31
Dimensions, mm / inch	Ø 13 x 26 / Ø 0.51 x 1.02	Ø 13 x 26 / Ø 0.51 x 0.98	Ø 13 x 26 / Ø 0.51 x 0.98
Weight, gramm / ounce	3 / 0.1	3 / 0.1	3 / 0.1


A1270
A1210
A1209
A1201
16.89
5950 m/s


A1220 MONOLITH
LOW FREQUENCY FLAW DETECTOR
A1220 ANKER
LOW FREQUENCY FLAW DETECTOR
A1212 MASTER
ULTRASONIC FLAW DETECTOR
A1325 Solo
ULTRASONIC FLAW DETECTOR
A1211 Mini
ULTRASONIC FLAW DETECTOR
A1550 IntroVisor Ultrasonic Flow Detector
A1214 EXPERT
ULTRASONIC FLAW DETECTOR
Esc
Enter
Mode

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