

GE  
Measurement & Control

# Standard Phased Array Probes and Accessories

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GE imagination at work

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GE's Inspection Technologies business manufactures a wide variety of phased array transducers for use with Phasor XS and other ultrasonic flaw detectors.

33 standard phased array transducers cover a broad application spectrum and are stocked and available with short delivery times. All these probes offer three connector options and are manufactured to GE's high quality standards.

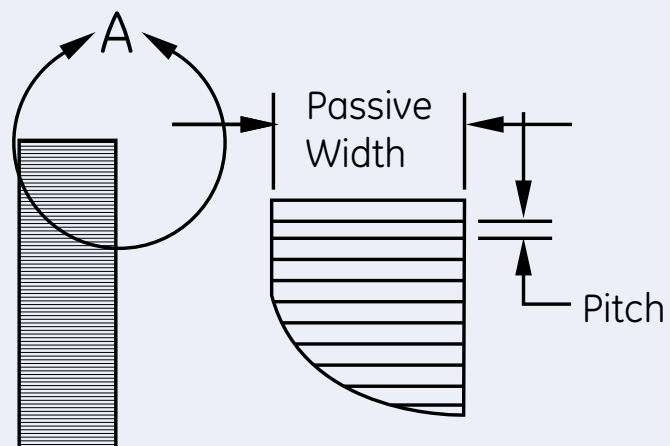
More information on our full range of phased array transducers is available at [www.UTprobes.com](http://www.UTprobes.com)



# Definitions

1. **KERF:** Spacing between elements.
2. **PITCH:** Element size plus kerf.
3. **PASSIVE WIDTH / Elevation:** Size of element on linear array in non steering axis.
4. **LINEAR ARRAY:** Array with the ability to steer in one axis and fixed on the opposite axis or scan in one axis.
5. **TEST MATERIAL:** The common name of the material being tested (ex. carbon steel).
6. **ACOUSTIC VELOCITY:** The wave speed of the desired wave mode in the material (preferred units = inches x 106 per second). Please specify the acoustic velocity if it is known. Otherwise, GE will use the general published velocity for the material.
7. **COUPLANT MEDIUM:** What couplant material will be used between the probe and the test specimen (wedge, water, coolant, etc... also include wedge thickness or water patch used).
8. **VIRTUAL PROBE:** Size of the element when fired (example: linear array 1 mm pitch x 10 mm width fired with 10 elements would have a virtual probe size of 10 mm x 10 mm).  
**Note: Array near field and focus ability will be determined by the Virtual Probe size used during the test.**
9. **LINE FOCUS:** Array will focus in a line (flat linear array when focused at a certain depth will give a line focus, similar to a cylindrical focus single element probe).
10. **SPOT FOCUS:** Array will focus at a point.

## Linear Array



# Connector Options

Almost every probe in this catalog can be delivered with three connector options. The part numbers for each connector option are directly listed on product pages.

## Phasor connector



## Omniscan® connector



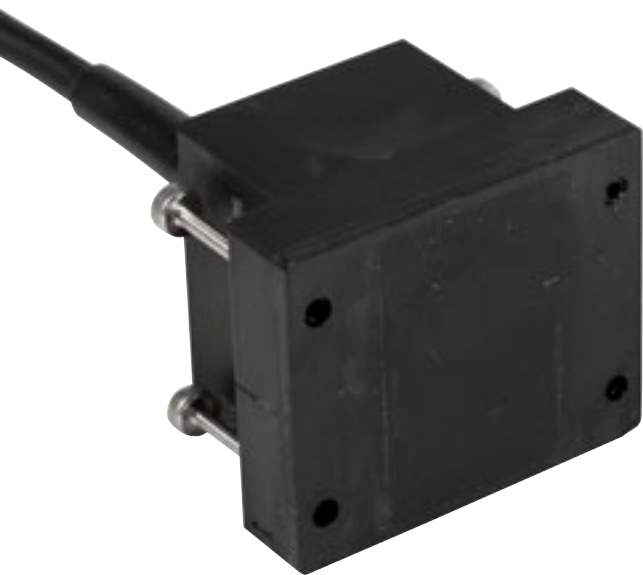
## Hypertronics connector



As an example, if 115-120-001 part number from the table below is ordered, the probe will be delivered with Hypertronics connector with a short lead time.

Part number Phasor	Part number Hypertronics	Part number Omniscan®	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	Case Style	A (mm)	B (mm)	C (mm)	D (mm)
115-100-001	<b>115-120-001</b>	115-130-001	8.0 x 9.0	2	8	1.0	9.0	3.0	C2	15.0	28.0	27.0	21.0
115-100-002	115-120-002	115-130-002	8.0 x 9.0	4	16	0.5	9.0	3.0	C2	15.0	28.0	27.0	21.0
115-100-003	115-120-003	115-130-003	16.0 x 10.0	5	16	1.0	10.0	3.0	C2	23.0	34.0	37.0	25.0
115-100-004	115-120-004	115-130-004	16.0 x 10.0	5	32	0.5	10.0	3.0	C2	23.0	34.0	37.0	25.0
115-100-005	115-120-005	115-130-005	16.0 x 13.0	2.25	16	1.0	13.0	3.0	C2	22.0	37.0	36.0	29.0
115-100-006	115-120-006	115-130-006	24.0 x 19.0	2.25	16	1.5	19.0	3.0	C2	30.0	45.0	30.0	37.0
115-100-007	115-120-007	115-130-007	64.0 x 10.0	5	64	1.0	10.0	3.0	C4	84.0	36.0	32.0	36.0

# General Use Probes

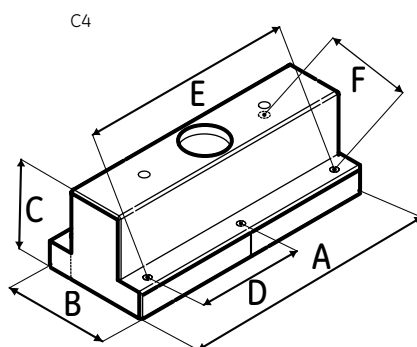
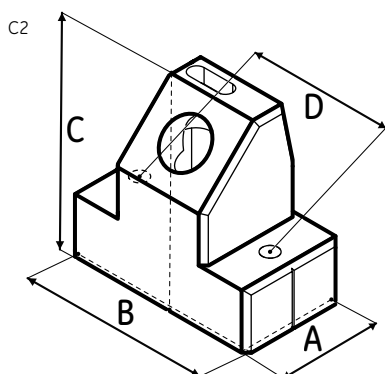


## Applications

- General weld inspection
- Tubes, pipes, tanks, pressure vessels
- Axles, forgings, castings
- Bridges and other structures
- Railroad wheels and rail
- Pumps, valve housings
- Turbine blades, shafts
- Wheel rims

## Features

- Wide range of applications
- 3 different connector types available
- Used with wedges, delay lines, or wear caps
- Used for sector scanning or linear scanning



Part number Phasor	Part number Hypertronics	Part number Omniscan®	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	Case Style	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
115-100-001	115-120-001	115-130-001	8.0 x 9.0	2	8	1.0	9.0	3.0	C2	15.0	28.0	27.0	21.0	-	-
115-100-002	115-120-002	115-130-002	8.0 x 9.0	4	16	0.5	9.0	3.0	C2	15.0	28.0	27.0	21.0	-	-
115-100-003	115-120-003	115-130-003	16.0 x 10.0	5	16	1.0	10.0	3.0	C2	23.0	34.0	37.0	25.0	-	-
115-100-004	115-120-004	115-130-004	16.0 x 10.0	5	32	0.5	10.0	3.0	C2	23.0	34.0	37.0	25.0	-	-
115-100-005	115-120-005	115-130-005	16.0 x 13.0	2.25	16	1.0	13.0	3.0	C2	22.0	37.0	36.0	29.0	-	-
115-100-006	115-120-006	115-130-006	24.0 x 19.0	2.25	16	1.5	19.0	3.0	C2	30.0	45.0	30.0	37.0	-	-
115-100-007	115-120-007	115-130-007	64.0 x 10.0	5	64	1.0	10.0	3.0	C4	84.0	36.0	32.0	36.0	71.0	28.0

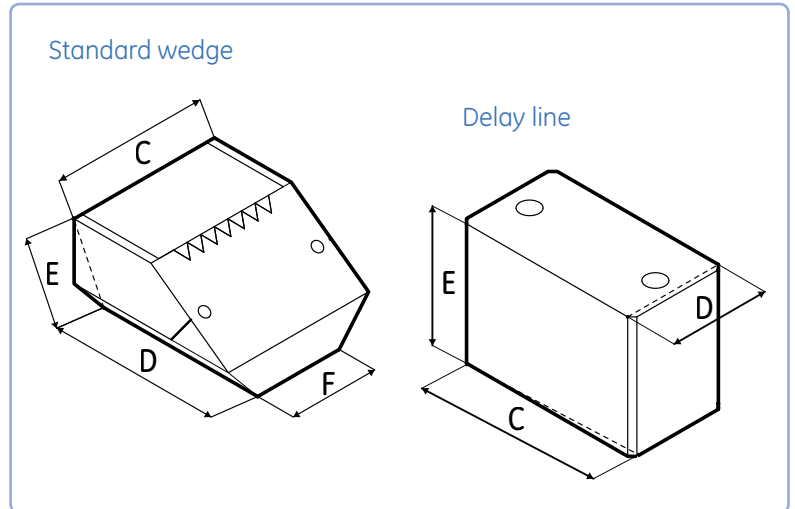
# Wedges/Delay Lines/Wear Caps for General Use Probes

## Features

- Sectorial scanning
- Small footprint design
- Curved wedges available
- Optional carbide and couplant ports

\* Z-Offset is the dimension from the center of the array mounted on the wedge to the bottom of the wedge (perpendicular to the bottom). This value is used to calculate delay laws in the Phasor.

\* WF (Wedge Front) is the dimension from the center of the array mounted on the wedge to the front of the wedge. This value is entered into the Phasor and directly affect the frame of reference from which all projection results are measured.



## Accessories Part numbers

Part number Phasor	Part number Hypertronics	Part number Omniscan®	Shear Wedge 35° to 75°	Delay Line 20 mm (0.79")	Delay Line 40 mm (1.58")	Wear Cap
115-100-001	115-120-001	115-130-001	118-350-024	118-350-036	118-350-048	118-240-003
115-100-002	115-120-002	115-130-002	118-350-024	118-350-036	118-350-048	118-240-003
115-100-003	115-120-003	115-130-003	118-350-025	118-350-037	118-350-049	118-240-004
115-100-004	115-120-004	115-130-004	118-350-025	118-350-037	118-350-049	118-240-004
115-100-005	115-120-005	115-130-005	118-350-027	118-350-039	118-350-063	118-240-001
115-100-006	115-120-006	115-130-006	118-350-028	118-350-040	118-350-064	118-240-002
115-100-007	115-120-007	115-130-007	360-141-182 (sweep angle) 118-350-026 (fixed angle, lateral sweep)	118-350-038	118-350-050	118-240-005

Standard Wedges	C (mm)	D (mm)	E (mm)	F (mm)	Incident	Z-Offset * (mm)	WF * (mm)
118-350-024	28.2	24.7	15.0	12.3	36	10.6	18.7
118-350-025	33.5	32.6	18.5	21.3	36	12.4	24.1
118-350-026	84.0	54.8	31.1	84.1	36	20.6	40.5
360-141-182	35.6	124.5	59.9	35.6	36	35.3	65.8
118-350-027	37.3	37.8	22.9	22.0	36	15.9	28.9
118-350-028	45.4	50.0	29.6	26.4	36	20.5	37.4

Standard Delay Lines	C (mm)	D (mm)	E (mm)
118-350-036	28.2	15.0	20.0
118-350-037	33.5	23.0	20.0
118-350-038	84.0	35.6	20.0
118-350-039	37.3	21.0	20.0
118-350-063	37.3	21.0	40.0
118-350-040	45.4	30.0	20.0
118-350-064	45.4	30.0	40.0

Standard Delay Lines	C (mm)	D (mm)	E (mm)
118-350-048	28.2	15.0	40.0
118-350-049	33.5	23.0	40.0
118-350-050	84.0	35.6	40.0

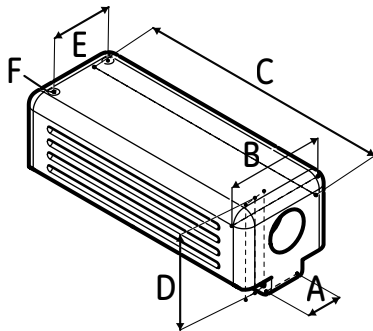
# Corrosion Probes

## Applications

- Remaining wall thickness, corrosion, erosion
- Near surface flaw detection
- Bond testing

## Features

- Amazing near surface resolution; 1.9 mm (0.075") on a #4 flat bottomed hole (1.5 mm / 0.062" diameter)
- Optimum test range 1.9 mm (0.075") to 25.4 mm (1") in steel
- Adjustable wear bars
- Available with 3 different connectors



Part number Phasor	Part number Hypertronics	Part number Omniscan®	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F
115-100-020	115-120-020	115-130-020	48.0 x 10.0	5	Dual 32	1.5	5.0	3.0	9.1	25.4	65.5	24.4	16.0	M3X0.5
115-100-021	115-120-021	115-130-021	24.0 x 10.0	5	Dual 32	0.8	5.0	3.0	9.1	25.4	41.0	24.4	16.0	M3X0.5



# Accessories for Corrosion Probes

## Features

- Curved wear bars for alignment on curved pipe
- Flat wear bars for durability on flat plate
- Potted wear bars for flat or curved bars with fittings for couplant feed

Curved wear bars



Curved wear bars



Long flat wear bars



Flat ported wear bars



Curved ported wear bars

Flat Wear Bars	Mate
389-075-530	115-100-020, 115-120-020, 115-130-020
389-075-540	115-100-021, 115-120-021, 115-130-021

Curved Wear Bars	Mate
389-075-560	115-100-020, 115-120-020, 115-130-020
389-075-570	115-100-021, 115-120-021, 115-130-021

Curved Ported Wear Bars	Mate
389-077-160	115-100-020, 115-120-020, 115-130-020
389-077-150	115-100-021, 115-120-021, 115-130-021

Flat Ported Wear Bars	Mate
389-076-700	115-100-020, 115-120-020, 115-130-020
389-077-140	115-100-021, 115-120-021, 115-130-021

# MSWS Probes



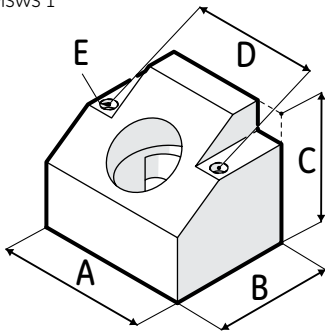
## Applications

- General weld inspection, smaller objects, thinner sections
- Tubes, pipes, pressure vessels, containers
- Pumps, valve housings
- Turbine blades, shafts
- Wheel rims

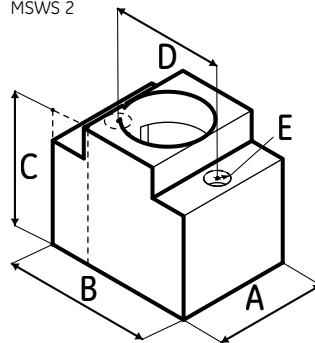
## Features

- Small contact area
- Fits on standard single element MSWS wedges
- Comparable to standard single element MSWS probes with Phased Array capabilities
- Available with 3 different connectors

MSWS 1



MSWS 2

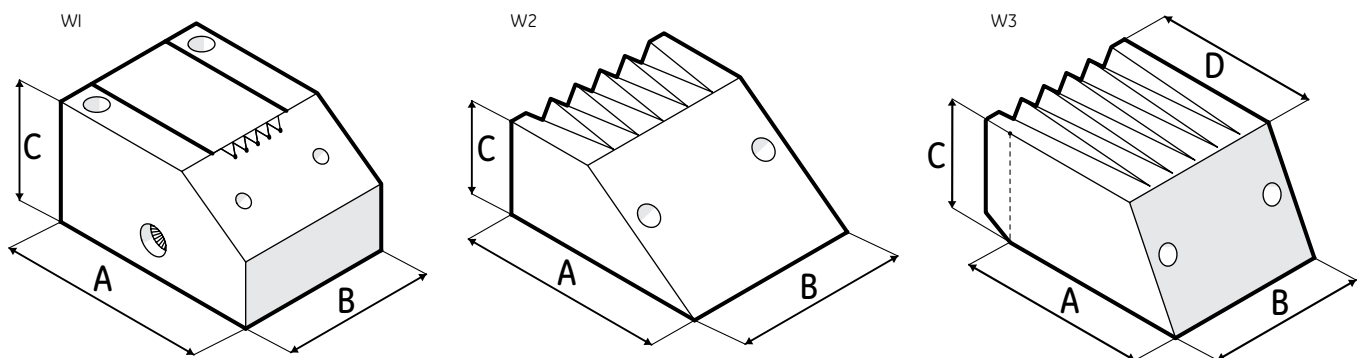


Part number Phasor	Part number Hypertronics	Part number Omniscan®	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	Case Style	A (mm)	B (mm)	C (mm)	D (mm)	E
115-100-010	115-120-010	115-130-010	12.8 × 12.7	5	32	0.4	12.7	3	MSWS1	19.1	15.1	16.3	16.0	#1-64
115-100-011	115-120-011	115-130-011	12.8 × 12.7	10	32	0.4	12.7	3	MSWS1	19.1	15.1	16.3	16.0	#1-64
115-100-015	115-120-015	115-130-015	6.35 × 6.35	10	16	0.4	6.35	3	MSWS2	9.5	12.6	11.2	9.5	#1-64
115-100-012	115-120-012	115-130-012	12.8 × 12.7	5	16	0.8	12.7	3	MSWS1	19.1	15.1	16.3	16.0	#1-64
115-100-013	115-120-013	115-130-013	12.8 × 12.7	2.25	16	0.8	12.7	3	MSWS1	19.1	15.1	16.3	16.0	#1-64
115-100-037	115-120-037	115-130-037	6.4 × 6.4	5	16	0.4	6.4	3	MSWS2	9.5	12.6	11.2	9.5	#1-64

# Wedges for MSWS Probes

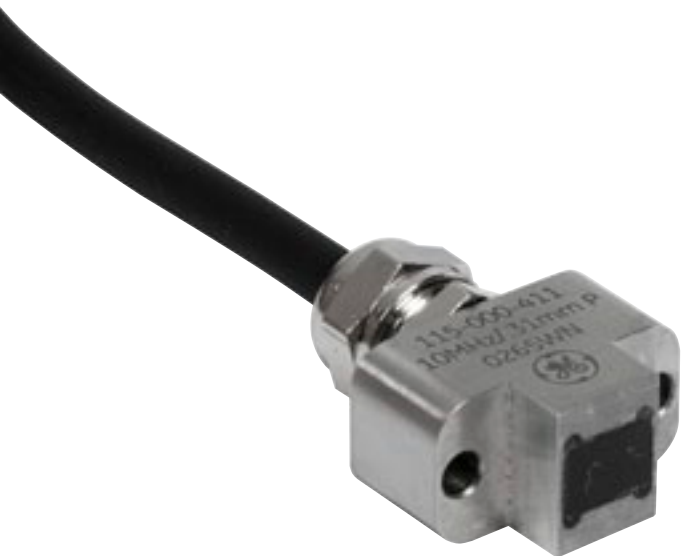
## Features

- Delay line or wedge attachment
- Small contact area
- Custom wedge angles and curvatures can be special ordered
- Manual or automated inspections



Mates to Case style	Wedge Style	Order Code	Shear Wave Carbon Steel	A (mm)	B (mm)	C (mm)	D (mm)
MSWS2	W1	360-141-219	30-80 DG	22.9	16.8	12.9	-
MSWS2	W2	118-340-028	45 DG	15.2	12.7	6.7	-
MSWS2	W2	118-340-030	60 DG	16.6	12.7	7.6	-
MSWS2	W2	118-340-032	70 DG	18.5	12.7	8.2	-
MSWS2	W2	118-340-034	80 DG	20.2	12.7	8.5	-
MSWS2	W3	118-340-036	90 DG	15.2	12.7	8.6	17.4
MSWS1	W2	118-340-040	45 DG	23.9	19.1	10.9	-
MSWS1	W2	118-340-042	60 DG	26.7	19.1	12.6	-
MSWS1	W2	118-340-044	70 DG	29.8	19.1	13.5	-
MSWS1	W2	118-340-046	80 DG	32.4	19.1	14.0	-
MSWS1	W3	118-340-048	90 DG	26.3	19.1	14.8	30.2

# Scribeline Probes

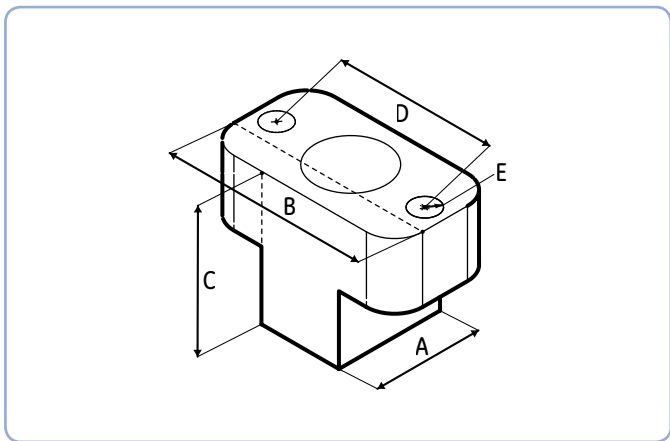


## Applications

- General weld inspection, smaller objects, thinner sections
- Tubes, pipes, pressure vessels, containers
- Pumps, valve housings
- Turbine blades, shafts
- Aircraft lap joint inspections

## Features

- Small contact area
- Available in 3 different connectors

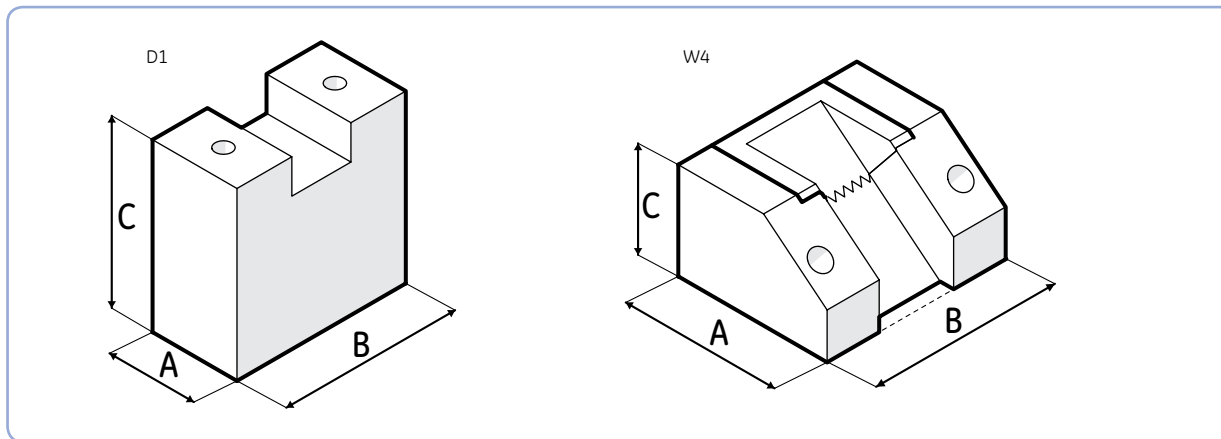


Part Number Phasor	Part Number Hypertronics	Part number Omniscan	Aperture (mm)	Freq. (MHz)	Element Count	Pitch (mm)	Elev. (mm)	Cable (m)	A (mm)	B (mm)	C (mm)	D (mm)	E
115-100-017	115-120-017	115-130-017	5.0 x 5.0	10	16	0.3	5.0	3.0	11.0	21.0	15.0	17.0	M3X0.5
115-100-016	115-120-016	115-130-016	5.0 x 5.0	5	16	0.3	5.0	3.0	11.0	21.0	15.0	17.0	M3X0.5

# Wedges/Delay line for Scribeline Probes

## Features

- Delay line and wedge attachment
- Small contact area
- Custom wedge angles and curvatures can be special ordered
- Manual or automated inspections



Order Code	Wedge	A (mm)	B (mm)	C (mm)
360-141-129	W4	17.8	21.3	11.6
360-141-148	W4	20.8	21.3	10.2

Order Code	Delay line	A (mm)	B (mm)	C (mm)
389-081-360	D1	12.7	25.4	19.9
389-071-220	D1	12.7	25.4	10.0

# Hardwater Probes



## Applications

- Composite inspection
- Bubbler applications where water is an issue

## Features

- Probes use hardwater delay\* to minimize water required for coupling
- Delay acoustically matched to water to minimize the water to delay interface
- Available with 3 different connectors

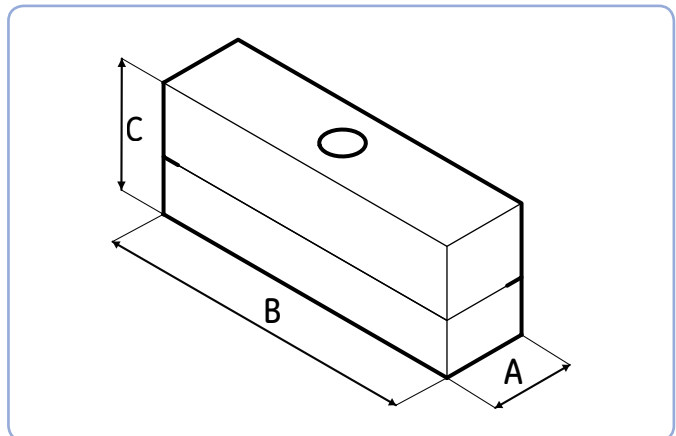
\*Hardwater delay is a material applied to the face of the probe that is non-removable.

Main benefits:

Acoustically matches water to minimize interface echo.

Improves near surface resolution.

Decreases operating gain and frequency. (5MHz design frequency operates at approximately 2.6MHz)



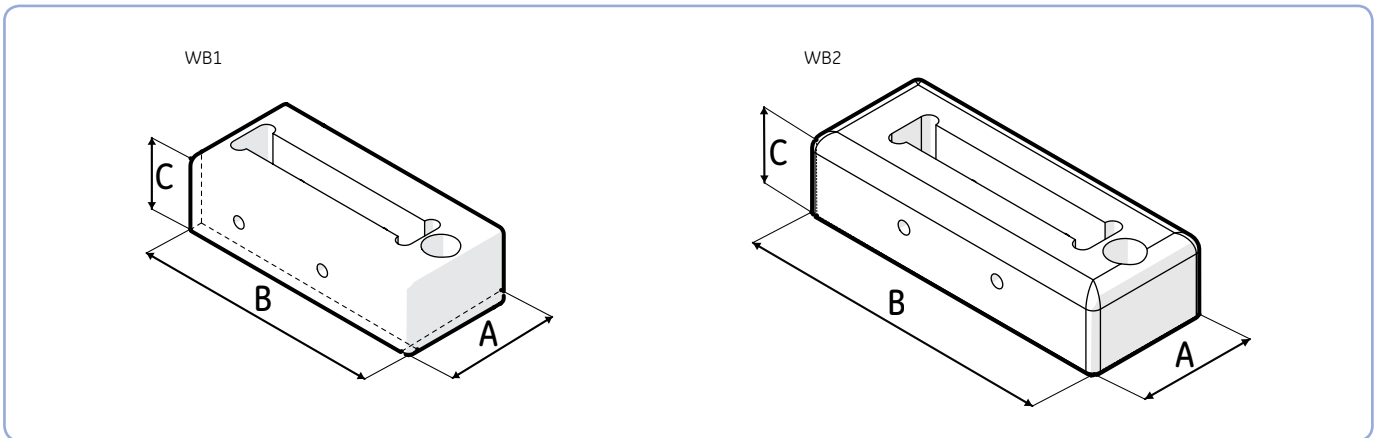
Part number Phasor	Part number Hypertronics	Part number Omniscan	Aperture (mm)	Freq. (MHz)	Element Count	Pitch (mm)	Elev. (mm)	Cable (mm)	A (mm)	B (mm)	C (mm)
115-100-027	115-120-027	115-130-027	40.6 x 8.0	5	32	1.3	8.0	6.0	13.0	43.0	31.0
115-100-028	115-120-028	115-130-028	81.2 x 8.0	5	64	1.3	8.0	6.0	13.0	86.0	31.0

# Accessories for Hardwater Probes



## Features

- Bubbler fixture for automated or hand scanning
- Available with or without encoder
- Applies 0.050" water coupling to hardwater probe



Part Number	Waterbox	Description	Mating Probe	A (mm)	B (mm)	C (mm)
022-509-571	WB1	Waterbox with side mount encoder module	Hardwater Probe, 115-100-028, 115-120-028, 115-130-028	48.0	106.0	31.0
389-064-070	WB2	Waterbox, no encoder		48.0	125.0	31.0
389-074-200	WB2	Waterbox with mini encoder				

# Immersion Probes

## Applications

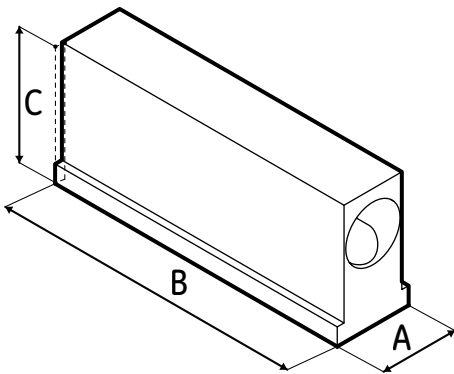
- Composite plate inspection
- Immersion scanning area coverage
- Plates, billets and bars
- Disks, axles and shafts
- Large area scanning

## Features

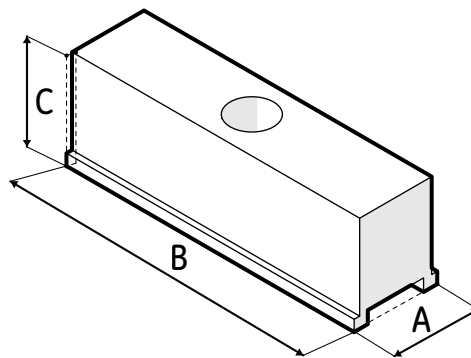
- Acoustically matched for best efficiency in water
- Fixture mountable
- Fast inspection of large areas
- Waterproof design
- Near wall design allows close access to edge of case (~1 mm)
- 6 meter cable



IM2 & IM3



INW2



Part number Phasor	Part number Hypertronics	Part number Omniscan®	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	Case Style	A (mm)	B (mm)	C (mm)
115-100-035	115-120-035	115-130-035	64.0 x 7.0	3.5	64	1.0	7.0	6.0	INW2	19.0	65.9	22.0
115-100-036	115-120-036	115-130-036	64.0 x 7.0	5	64	1.0	7.0	6.0	INW2	19.0	65.9	22.0
N/A	115-120-031	115-130-031	76.8 x 10.0	5	128	0.6	10.0	6.0	IM2	21.0	83.0	35.0
N/A	115-120-032	115-130-032	64.0 x 7.0	10	128	0.5	7.0	6.0	IM2	21.0	83.0	35.0
N/A	115-120-033	115-130-033	96.0 x 12.0	2.25	128	0.8	12.0	6.0	IM3	21.0	102.0	35.0
N/A	115-120-034	115-130-034	96.0 x 10.0	5	128	0.8	10.0	6.0	IM3	21.0	102.0	35.0



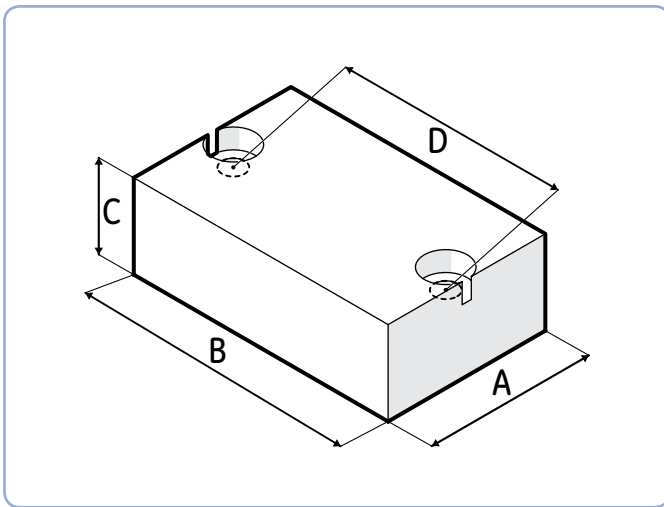
# High Resolution Probes

## Typical Applications

- Thin Plate, near surface defects, small defects

## Advantages

- High frequency highly damped arrays for near surface inspections
- Acoustically matched to water/delay material
- Waterproof design



Part number Phasor	Part number Hypertronics	Part number Omniscan®	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	Case Style	A (mm)	B (mm)	C (mm)	D (mm)	E
115-100-025	115-120-025	115-130-025	16.0 x 10.0	10	32	0.5	10.0	3.0	HRD1	23.8	38.5	12.7	32.2	M3X.5
115-100-026	115-120-026	115-130-026	32.0 x 10.0	10	64	0.5	10.0	3.0	HRD1	23.8	54.5	12.7	48.2	M3X.5

Removable Delay Line (included with transducer)	Transducer number
387-007-296 (12.7 mm length)	115-100-025, 115-120-025, 115-130-025
387-007-295 (12.7 mm length)	115-100-026, 115-120-026, 115-130-026

# RotoArray



## Applications

- Primarily for the inspection of composite materials and structures
- Flaw detection and thickness measurement in a wide range of materials
- Inspection during manufacture as well as for in service inspection

## Features

- Excellent acoustic performance
- Use in any attitude including overhead
- Transparent tire for easy bubble removal
- Unique encoder
- 3 popular connector options
- Owner serviceable
- Platform for future models
- Interactive digital manual on [UTprobes.com](http://UTprobes.com)

### Standard 0-59 mm width array

The compact 51.2 mm RotoArray is designed for quick and easy scanning of a variety of different applications. Its small design allows it to be used in tight locations and its light weight and ergonomic design keeps the operator from becoming fatigued during long periods of use.

Part number Phasor	Part number Hypertronics	Part number Omniscan®	Coverage area (mm)	Frequency (MHz)	Pitch (mm)	Elements	Elevation (mm)	Focus	Cable (m)	Probe Offset (mm)
115-910-100	115-920-100	115-930-100	51.2	5	0.8	64	6.4	Flat	3.0	28.2

### Standard 60-99 mm width array

The 81.3 mm RotoArray is currently our only standard offering in the 60-99 mm range. Its larger size makes it ideal for inspecting airframes and fuselages.

Part number Phasor	Part number Hypertronics	Part number Omniscan®	Coverage area (mm)	Frequency (MHz)	Pitch (mm)	Elements	Elevation (mm)	Focus	Cable (m)	Probe Offset (mm)
115-910-200	115-920-200	115-930-200	81.3	5	1.3	64	8.0	Flat	3.0	28.2

# Accessories for RotoArray

## Included Accessories



The accessories included with the RotoArray allow for full functionality, and help to keep it maintained and functioning.

## Optional Accessories



The optional accessories are highly recommended for the RotoArray and provide an ease of maintenance, verification, and use. The comprehensive RotoArray Service Station is one of the most useful accessories allowing users to minimize downtime by carrying out any necessary repairs and maintenance on a customized workbench fitted with all the necessary tools.

	Included / Optional Accessories	Part Numbers	115-910-100	115-920-100	115-930-100	115-910-200	115-920-200	115-930-200
Encoder 3 meter cable to 7 pin Lemo	Included (if Yes)	388-000-506	YES	YES	YES	YES	YES	YES
Frame Assembly w/ handels	Included (if Yes)		YES	YES	YES	YES	YES	YES
3 switch assembly w/ 3meter lemo	Included (if Yes)	388-000-500	NO	YES	YES	NO	YES	YES
Fluid fill bottle assembly	Included (if Yes)	389-079-240	YES	YES	YES	YES	YES	YES
Couplant Spray bottle	Included (if Yes)	021-265-015	YES	YES	YES	YES	YES	YES
Propylene Glycol 1Qt	Included (if Yes)	111-200-559	YES	YES	YES	YES	YES	YES
RotoArray tool kit	Included (if Yes)	388-000-502	YES	YES	YES	YES	YES	YES
RotoArray spare parts kit	Included (if Yes)	388-000-503	YES	YES	YES	YES	YES	YES
Case	Included (optional large or small)	Small= 021-026-099 Large= 021-026-354	Small or large	Small or large	Small or large	Small or large	Small or large	Small or large
Adapter Cable	Included (if Yes) (optional DBHD or Fisher)	DBHD= 388-000-501 Fisher= 388-000-525	NO	DBHD-15 or Fisher	DBHD-15 or Fisher	NO	DBHD-15 or Fisher	DBHD-15 or Fisher
Tire Change Station	Optional	389-079-390	Optional	Optional	Optional	Optional	Optional	Optional
Egronomic Water Sprayer	Optional	021-265-020	Optional	Optional	Optional	Optional	Optional	Optional
Demo Block Kit	Optional	389-081-400	Optional	Optional	Optional	Optional	Optional	Optional

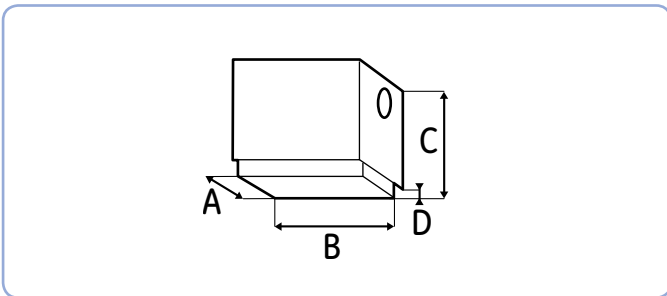
# Integral Wedge Probes

## Applications

- General weld inspection: MWB for small parts, SWB for thick parts
- Other applications where conventional MWB or SWB probes are in use

## Features

- Easy transfer from conventional to phased array inspection
- Durable and ergonomically-designed, die-cast housing as known from conventional probes
- Existing mechanics and probe holders can be re-used
- Non-detachable wedges, no coupling loss between probe and wedge
- Replacement soles (sold separately) for extended service life



Part number Phasor	Part number Hypertronics	Part number Omniscan®	Probe Description	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	Case Style	A (mm)	B (mm)	C (mm)	D (mm)
69141	69732	69730	MWB2PA16	8.0 x 9.0	2	16	0.5	9.0	2.0	MWB	14.0	24.0	22.0	2.0
69142	69733	69731	MWB4PA16	8.0 x 9.0	4	16	0.5	9.0	2.0	MWB	14.0	24.0	22.0	2.0

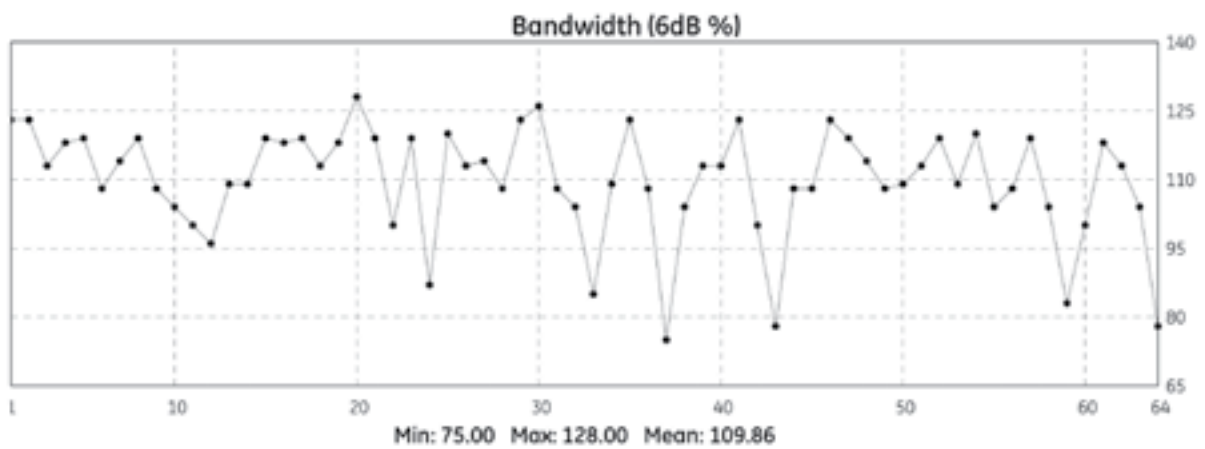
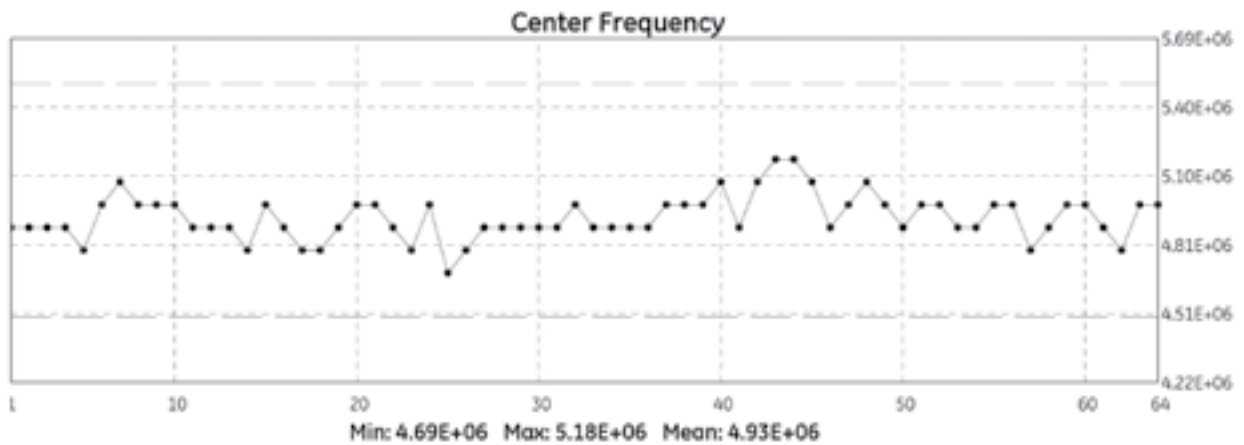
Part number Phasor	Part number Hypertronics	Part number Omniscan®	Probe Description	Aperture (mm)	Frequency (MHz)	Element Count	Pitch (mm)	Elevation (mm)	Cable (m)	Case Style	A (mm)	B (mm)	C (mm)	D (mm)
69143	69738	69736	SWB2PA16	14.0 x 14.0	2	16	0.9	14.0	2.0	SWB	22.0	37.0	31.0	3.0
69144	69739	69737	SWB4PA16	14.0 x 14.0	4	16	0.9	14.0	2.0	SWB	22.0	37.0	31.0	3.0

021814

Certification of Conformity

115-000-546 64EL .5MM PITCH ARRAY

Monday, July 12, 2010



The Ultrasonic Transducer listed above has been performance tested and meets all manufacturing specifications. It performed as designed and specified on the applicable style of Krautkramer instrumentation.

The accuracy of the transducer described above has been confirmed by factory standard test equipment and laboratory reference standards traceable to the National Institute of Standards and Technology. This facility's Quality System is registered to ISO 9001-2008, and is compliant to MIL-STD-45662A and ANSI/NCSL 2540-1-1994.

GE Inspection Technologies, LP  
50 Industrial Park Rd.  
Lewistown, PA 17044  
Tel: 717.242.0327  
Fax: 717.242.2606  
GEInspectionTechnologies.com

021-247-480, Rev 1



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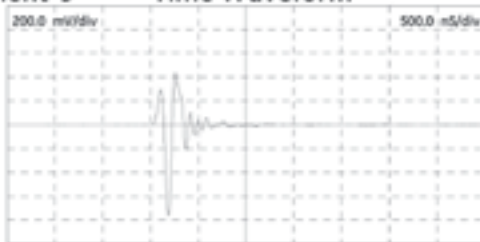
021814

Certification of Conformity

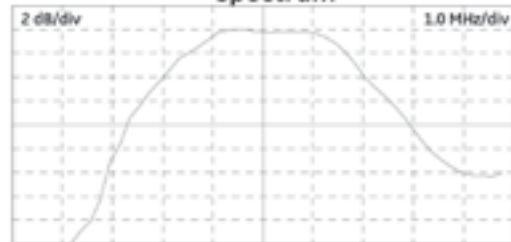
115-000-546 64EL .5MM PITCH ARRAY

Monday, July 12, 2010

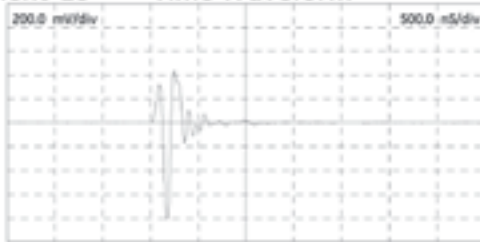
Element 9 Time Waveform



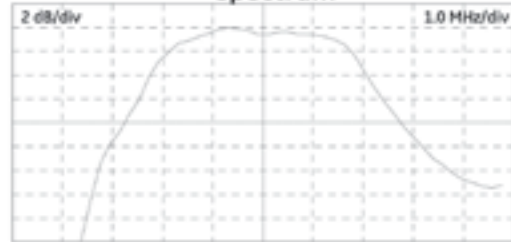
Spectrum



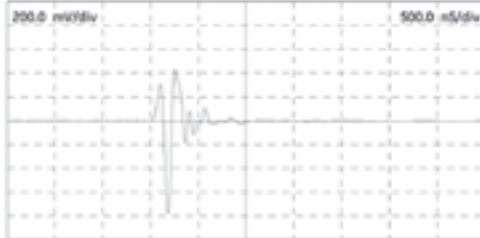
Element 18 Time Waveform



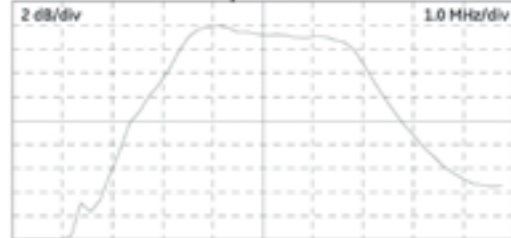
Spectrum



Element 27 Time Waveform



Spectrum



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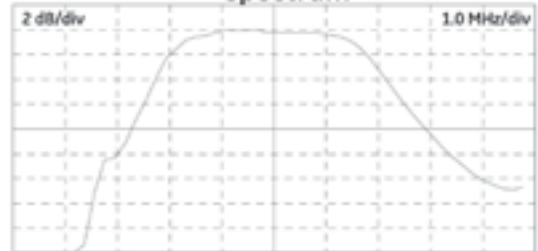
115-000-546 64EL .5MM PITCH ARRAY

Monday, July 12, 2010

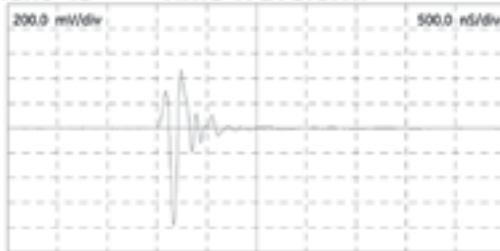
Element 36 Time Waveform



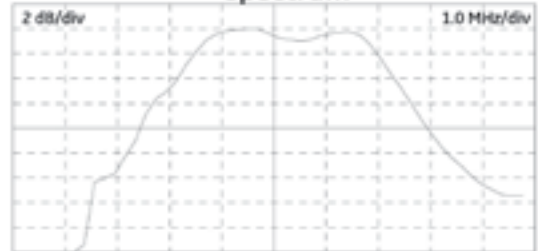
Spectrum



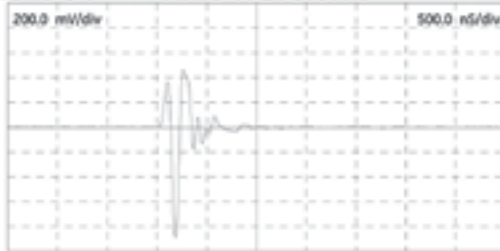
Element 45 Time Waveform



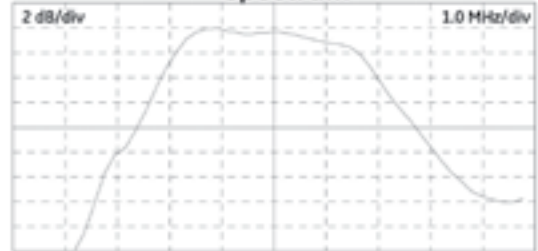
Spectrum



Element 54 Time Waveform



Spectrum



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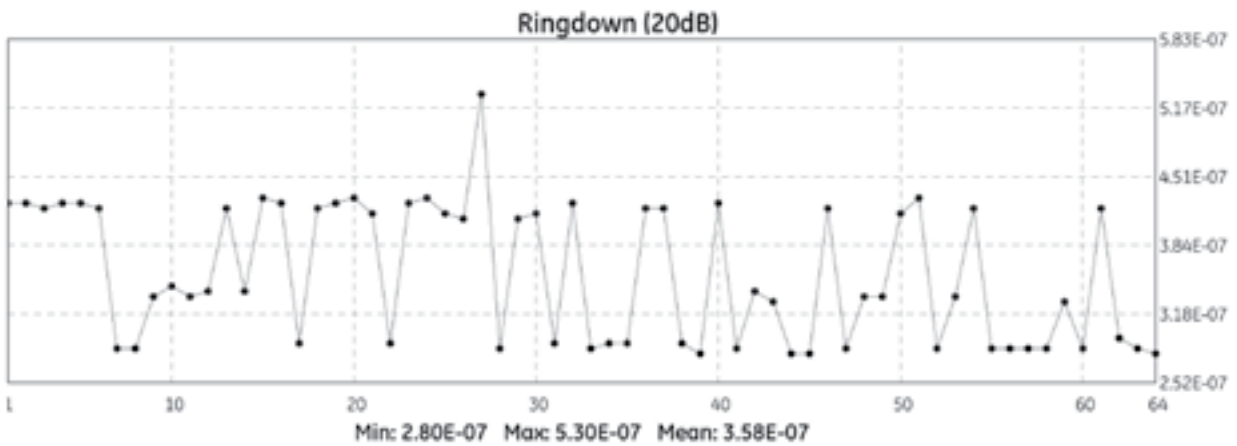
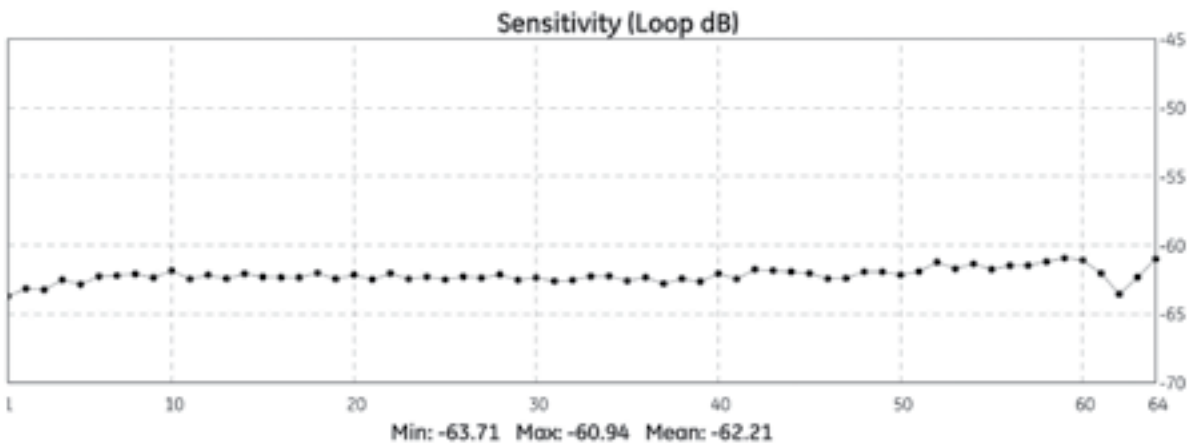
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115-000-546 64EL .5MM PITCH ARRAY

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115-000-546 64EL .5MM PITCH ARRAY

Date Tested	7/12/2010 6:52:51 AM
Operator	BA
Test Specification	0512170
Test Specification Rev	C
Oscilloscope Serial Number	8747-DP310-001
Oscilloscope Cal Date	10/31/10
UTA Serial Number	MM00107
UTA Cal Date	6/14/2011
Software Designation	FNT0101
Software Rev	A

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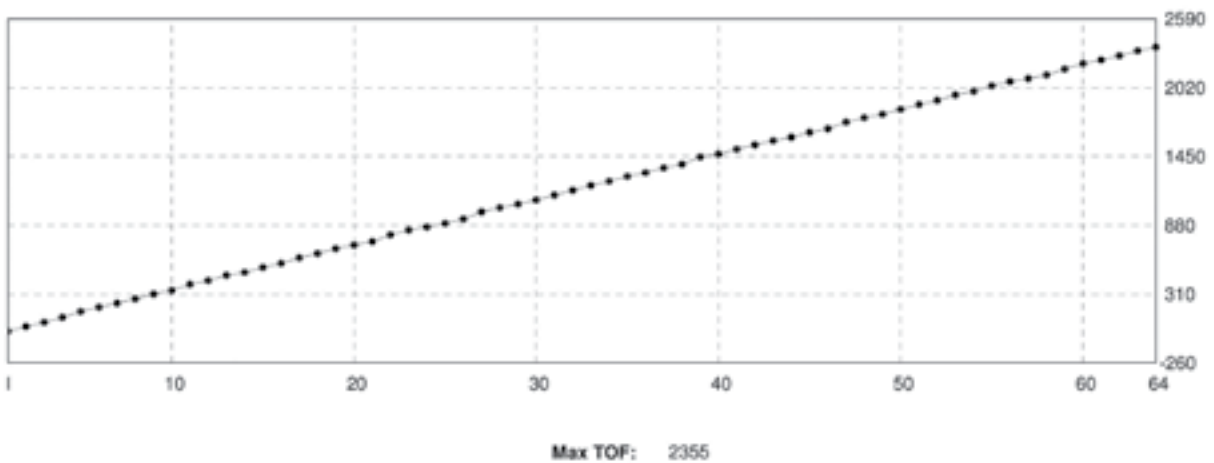
021814

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115-000-546 64EL .5MM PITCH ARRAY

Monday, July 12, 2010

## TOF Wiring Verify



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# Integral Wedge Probes Certificate

GE  
Measurement & Control

Technische Daten/Technical data				Min	Actual	Max	Dimension	
Element	T <sub>u</sub> / μs	L / MHz	E <sub>u</sub> / %	Toleranz	Actual	Toleranz	Dimension	
1	0.66	4.19	66.6	±0.1	4	5.1	6	mm
2	0.51	4.33	72.6	±0.1	8	6.5	12	mm
3	0.52	4.33	68.3	±0.1	32	35	36	Grid
4	0.66	4.32	65.6	±0.1	15	17	17	mm
5	0.65	4.33	68.0	±0.1	---	43.2	---	Gridbagas
6	0.51	4.39	69.7	±0.1	---	2730	---	ms
7	0.68	4.33	68.3	±0.1	---	0.50	---	mm
8	0.52	4.36	68.0	±0.1	---	16	---	mm
9	0.62	4.27	69.7	±0.1	---	8.0	---	mm
10	0.66	4.29	67.4	±0.1	---	---	---	---
11	0.65	4.32	58.5	±0.1	---	---	---	---
12	0.69	4.38	66.3	±0.1	---	---	---	---
13	0.61	4.38	66.3	±0.1	---	---	---	---
14	0.54	4.40	65.9	±0.1	---	---	---	---
15	0.69	4.36	66.3	±0.1	---	---	---	---
16	0.75	4.22	53.6	±0.1	---	---	---	---

Hersteller / Model	Serial Nr. / Serial no.	Produkt Nr. / Part no.	Kalibrierdatum / Cal Date	Gültig bis / Due Date
GE S&T GmbH / USM25 PR-Messgerät	7621	5865	12.08.2012	12.08.2013
Teilname / TD: 3032	8016372	5538	25.01.2012	25.01.2014
Schreiber / V1100	8	0903	18.03.2010	18.03.2014
GE S&T GmbH / N30	2115	5863	09.05.2011	09.05.2013
GE S&T / Kontrollkörper 43.2"		6143	12.08.2011	12.08.2013

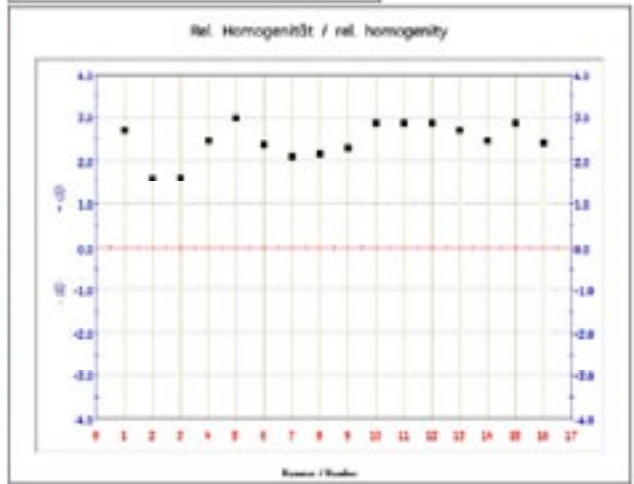
  

Testblock	
Material	43.2" Integral block
Flächgeschwindigkeit / Sound velocity	2730 m/s
Refaktor / Refactor	ebene Rückwand / flat backwall
Abstand / Distance	30 mm
Kabelänge / Cable length	2m
Stecker / Connector	Type

**PZ(E)**

Prüfkopf-Typ / Probe type: MWB4PA16  
 Ident-Nr. / Ident no.: 069142  
 Serien-Nr. / Serial no.: 00558\_00  
 Prüfvorschrift / Spec: 069142\_00010001  
 Prüfdatum / Test date: 29.10.2012

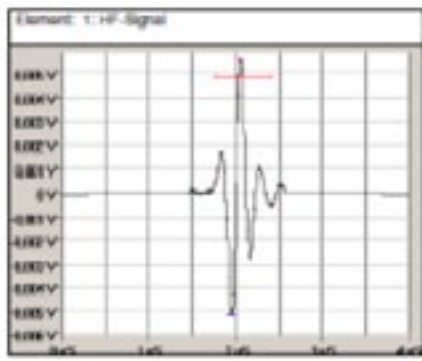
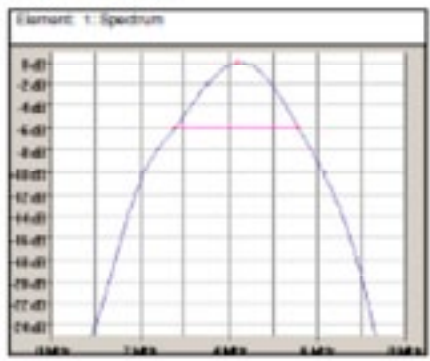
GE-Num: 67682\_005/08.2008



GE Services & Insurance Technische Dienst

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Waveforms and spectra



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- Berchem, Belgium
- Alzenau, Germany
- Burford, United Kingdom
- Moscow, Russia
- Bucharest, Romania
- Prague, Czech Republic
- Stockholm, Sweden
- Milan, Italy
- East Perth, Australia
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