



X-Series

Ultrasonic Phased Array Transducers



Building on the Phased Array instrumentation range from Sonatest Ltd, the X-Series of transducers now offer the operator a broader choice in range and frequencies; together with the assurance of industry standard configurations. These X-Series phased array probes have an integral 2.5 metre cable and an IPEX connector, compatible with the Sonatest veo and other leading phased array testing equipment. Most probes are also available with a 5 metre cable, part numbers ending in IX500.

X1 Series - Miniature & Sub-Miniature PA Probes

The X1 models are small probes for aerospace and limited access work. Key applications include “Scribe line” inspection.

Transducer Part Number	Description
X1PE5.0M10E0.6PIX250	Min casing probe, linear pulse-echo array, 5MHz, 10 elements, 0.6mm pitch, 6x5 active area, 5mm elevation, external wedge mounting.
X1PE10M10E0.6PIX250	Min casing probe, linear pulse-echo array, 10MHz, 10 elements, 0.6mm pitch, 6x5 active area, 5mm elevation, external wedge mounting.
X1PE10M16E0.3PIX250	Sub-Min casing probe, linear pulse-echo array, 10MHz, 16 elements, 0.3mm pitch, 5x5 active area, 5mm elevation, external wedge mounting.

Wedge Part Number	Description
X1-SB54-N0L	X1 Delay Line 0 Degree, 20mm thick for X1 miniature probe.
X1-SB54-N55S	X1 Wedge 55 degree SW for X1 miniature probe
X1-SB54-N60L	X1 Wedge 60 degree LW for X1 miniature probe
X1-SB55-N0L	X1 Delay Line 0 degree 20mm thick for X1 sub-miniature probe
X1-SB55-N55S	X1 Wedge 55 degree SW for X1 sub-miniature probe
X1-SB55-N60L	X1 Wedge 60 degree LW for X1 sub-miniature probe

X2 Series - General Purpose PA Probes

This is a general purpose compact probe design suitable for sector scanning applications.

Transducer Part Number	Description
X2PE5.0M16E0.6PIX250	Linear pulse-echo array, 5MHz, 16 elements, 0.6mm pitch, 10 x 10 active area, 10mm elevation, external wedge mounting.
X2PE7.5M16E0.6PIX250	Linear pulse-echo array, 7.5 MHz, 16 elements, 0.6mm pitch, 10 x 10 active area, 10mm elevation, external wedge mounting.
X2PE10M16E0.6PIX250	Linear pulse-echo array, 10 MHz, 16 elements, 0.6mm pitch, 10 x 10 active area, 10mm elevation, external wedge mounting.
X2PE10M32E0.3PIX250	Linear pulse-echo array, 10 MHz, 32 elements, 0.3mm pitch, 10 x 10 active area, 10mm elevation, external wedge mounting.

Wedge Part Number	Description
X2-SB56-N0L-IHC	X2 Delay Line 0 Degree, 25mm thick for X2 array probe, with irrigation & wear pins.
X2-SB56-N45S-IHC	X2 Wedge 45 degree SW for X2 array probe, with irrigation & wear pins.
X2-SB56-N60L-IHC	X2 Wedge 60 degree LW for X2 array probe, with irrigation & wear pins.
X2-SB56-N60S-IHC	X2 Wedge 60 degree SW X2 array probe, with irrigation & wear pins.



X3 Series - Long Array Probes for Electronic Scanning

These probes are ideal for Linear Scanning applications (L-Scan or E-Scan)

Transducer Part Number	Description
X3PE2.2M48E0.8PIX250	Linear pulse-echo array, 2.25MHz, 48 elements, 0.8mm pitch, 39 x 8 active area, 8mm elevation, external wedge mounting.
X3PE3.5M64E0.6PIX250	Linear pulse-echo array, 3.5MHz, 64 elements, 0.6mm pitch, 39 x 8 active area, 8mm elevation, external wedge mounting.
X3PE5.0M64E0.6PIX250	Linear pulse-echo array, 5MHz, 64 elements, 0.6mm pitch, 39 x 8 active area, 8mm elevation, external wedge mounting.
X3PE10M64E0.6PIX250	Linear pulse-echo array, 10MHz, 64 elements, 0.6mm pitch, 39 x 8 active area, 8mm elevation, external wedge mounting.

Wedge Part Number	Description
X3-SB57-N0L-IHC	X2 Delay Line 0 Degree, 25mm thick for X3 array probe, with irrigation & wear pins.
X3-SB57-N45L-IHC	X3 Wedge 45 degree W for X3 array probe, with irrigation & wear pins.
X3-SB57-N45S-IHC	X3 Wedge 45 degree SW for X3 array probe, with irrigation & wear pins.
X3-SB57-N55S-IHC	X3 Wedge 55 degree SW X3 array probe, with irrigation & wear pins.
X3-SB57-N60L-IHC	X3 Wedge 60 degree LW for X3 array probe, with irrigation & wear pins.
X3-SB57-N60S-IHC	X3 Wedge 60 degree SW for X3 array probe, with irrigation & wear pins.

X4 Series - Miniature Phased Array Probes with Integral Wedge

An integral wedge design which are dimensionally and ultrasonically equivalent to standard European mono-element shear wave probes. A good choice where a compact angle beam is required.

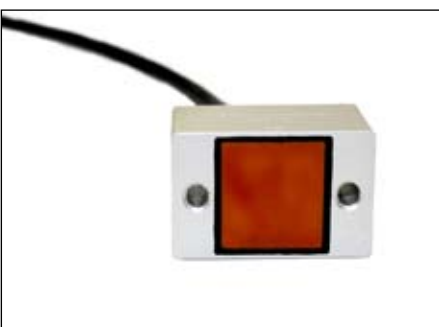
Transducer Part Number	Description
X4PE2M8E1.0PN58SIX250	Phased Array probe with integral wedge, "DGS" type, 2 MHz, 8 elements, 1.0mm pitch, 8 x9 active area.
X4PE4M16E0.5PN58SIX225	Phased Array probe with integral wedge, "DGS" type, 2 MHz, 8 elements, 1.0mm pitch, 8 x9 active area.

X5 Series - Medium Phased Array Probes - AWS, High Temperature & Deep Penetration

These are low frequency high energy probes intended for fairly deep penetration applications and general testing. These can also be used with the appropriate SW62XXX range wedges, including the "Snail" and high temperature versions.

Transducer Part Number	Description
X5PE2.2M16E1.0PIX250	Linear Pulse-Echo Array, 2.25 MHz, 16 Elements, 1.0 mm pitch, 16 x 16 Active area, 16mm elevation, external wedge mounting.
X5PE2.2M16E1.0PIX250H	Linear Pulse-Echo Array, 2.25 MHz, 16 Elements, 1.0 mm pitch, 16 x 16 Active area, 16mm elevation, hard face for direct contact.
X5PE5.0M16E1.0PIX250	Linear Pulse-Echo Array, 5 MHz, 16 Elements, 1.0 mm pitch, 16 x 16 Active area, 16mm elevation, external wedge mounting.

Wedge Part Number	Description
X5-SB58-N0L-IHC	X5 Delay Line 0 Degree, 25mm thick for X5 array probe, with irrigation & wear pins.
X5-SB58-N60S-IHC	X5 Wedge 60 degree SW for X5 array probe, with irrigation & wear pins.
X5-SB58-N60L-IHC	X5 Wedge 60 degree LW for X5 array probe, with irrigation & wear pins.
X5-SB58-N60S-IHC (HT)	X5 High temperature wedge 60 degree SW for X5 array probe, with irrigation & wear pins.



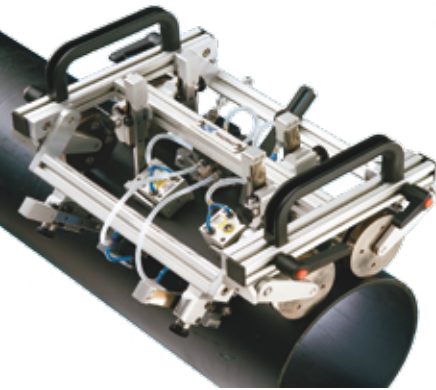
Phased Array Accessories

Probes and Adapters

Sonatest manufacture a wide range of Array and Mono-element probes suitable for use on the veo and other phased array flaw detectors.

The DAAH (Detachable Active Array Head) range provides a unique phased array probe solution using standard cables and a range of detachable probe heads. This concept brings advantages in cost and gives the end user more flexibility in the field during the inspection process.

The Sonatest Array Wheel Probe provides a very effective solution for the standard beam inspection of large areas, particularly in corrosion assessment and composite



Encoders and Scanners

Many applications require accurate measurement of position. This can be done in several ways. The Sonatest QuickTrace encoder attaches to a probe and measures the distance moved. Clips and clamps are available to suit different probe types.

Where more than one probe must be moved together a variety of scanner systems are also available.

Calibration Blocks

Accurate measurements require accurate calibration. Some reference blocks are also particularly useful for training.



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