Introduction

Founded in 1958, Sonatest is the third largest UT inspection equipment manufacturer and recognised for the quality of its rugged and portable products all around the world.

60 Years Pioneering Ultrasonics in the NDT Industry

Whether it is conventional, phased array or FMC-TFM ultrasonic technology, Sonatest is a significant partner in providing Non-Destructive Testing solutions to many industries, including transportation, aerospace, power generation, manufacturing, NDT service and oil and gas to name but a few.

Our products are used by the world’s leading companies such as Boeing, Airbus, Shell, Eon, Network Rail and are designed to give the user a powerful tool that is easy to use and will withstand the harsh environments in which NDT is carried out.

Innovative Product Design

Sonatest is focused on achieving our goals of “Simplicity, Capability and Reliability”, both within our product development programs and customer relationships.

The Sitescan and Masterscan range of flaw detectors has an enviable reputation for reliability, whilst our user interface design has set the industry standard. The veo+ and Prisma ultrasonic flaw detectors reinforce Sonatest’s reputation for innovative technician focused product development within phased array.

Global Coverage

Over the years Sonatest expanded its network to now provide world-class assistance with multiple service points and an extended network of one hundred distributors and agents all around the globe. Headquartered in Milton Keynes in the United Kingdom, Sonatest is a privately owned company with operations in the NDT hub of Québec City, Canada and in San Antonio, USA.

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**veo+**

Retaining the best features of the established Veo line, the new Veo+ is designed to meet the needs of today and tomorrow, making the Veo+ a smart and future-proof asset for your business. Key design elements considered in the development of the Veo+ are user and performance focused.

Based on a superior and innovative digital technology, four available PA configuration (16:64PR, 32:64PR, 16:128PR or 32:128PR) are offered as software options. Along with Xpair Cloud Remote Access, Phased Array Curved Surface Correction and Export to CSV, the FMC-TFM is another software option that gives access to FMC recording of the acoustic information, and TFM imaging using up to 64 elements phased array probe. Upgradeability in the field when needed!

**Specification:**
- Multiscan Phased Array FMC-TFM 32:128PR and UT-TOFD 2PR
- Screen: 10.4 wide LED backlit LCD, enhanced sunlight readable 1024 x 600
- Software: UTstudio+
- Weight: 5 kg (11 lb) with one battery
- Battery Life: 6h (hot-swapable batteries)
- Designed to meet: IP66 & MIL-810

**Ultrasonic Phased Array - Veo+ Series**

<table>
<thead>
<tr>
<th>Veo+ 16:64PR BNC</th>
<th>Veo+ 16-64 Standard Kit BNC</th>
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<tr>
<td>Veo+ 16:64PR LEMO</td>
<td>Veo+ 16-64 Standard Kit LEMO</td>
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<td>Veo+ 32:64PR BNC</td>
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<td>Veo+ 32-64 Standard Kit LEMO</td>
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<td>Veo+ 16:128PR BNC</td>
<td>Veo+ 16-128 Standard Kit BNC</td>
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<td>Veo+ 16:128PR LEMO</td>
<td>Veo+ 16-128 Standard Kit LEMO</td>
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<tr>
<td>Veo+ 32:128PR BNC</td>
<td>Veo+ 32-128 Standard Kit BNC</td>
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<tr>
<td>Veo+ 32:128PR LEMO</td>
<td>Veo+ 32-128 Standard Kit LEMO</td>
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</table>

**Standard Kit Content:**
- Veo+ Raw Detector
- 165281 WIFI USB key
- 242171 2 x Lithium battery Veo+
- 800423 Veo+ power supply
- 147409 Veo+ User Guide
- 147390 Veo+ Quick Start Guide
- 195193 Carry strap Veo+
- 195192 Veo+ transportation case
- USTudio+ UTStudio+ standard version (1 license)

**Software options:**
- SW-VEO+PA32 Upgrade to 32 pulser/receiver
- SW-VEO+PA128 Upgrade to 128 channels
- SW-VEO+CSV Export view data to CSV file
- SW-VEO+PACSC SW Option: Activate PA Curved
- SW-VEO+CLOUD SW Option: Xpair Cloud Remote
- SW-VEO+FMC/TFM FMC/TFM Software
- USTUDIO+ UTSudio+ single license
- XPAIR Xpair: single license
- UMap UMap single license

**Universal Encoders**

<table>
<thead>
<tr>
<th>JX-1004</th>
<th>Single Universal Encoder 2.5m</th>
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<td>JX-1007</td>
<td>Single Universal 5m</td>
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**Flaw Detectors & Accessories**

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<tr>
<th>Ultrasonic Phased Array - Veo+ Series</th>
<th>Software options:</th>
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<tr>
<td>Veo+ 16:64PR BNC</td>
<td>Upgrade to 32 pulser/receiver</td>
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<tr>
<td>Veo+ 16:64PR LEMO</td>
<td>Upgrade to 128 channels</td>
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<tr>
<td>Veo+ 32:64PR BNC</td>
<td>Export view data to CSV file</td>
</tr>
<tr>
<td>Veo+ 32:64PR LEMO</td>
<td>SW Option: Activate PA Curved</td>
</tr>
<tr>
<td>Veo+ 16:128PR BNC</td>
<td>SW Option: Xpair Cloud Remote</td>
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<tr>
<td>Veo+ 16:128PR LEMO</td>
<td>FMC/TFM Software</td>
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<tr>
<td>Veo+ 32:128PR BNC</td>
<td>UTSudio+ single license</td>
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<tr>
<td>Veo+ 32:128PR LEMO</td>
<td>Xpair: single license</td>
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<tr>
<td>Veo+ 32:128PR LEMO</td>
<td>UMap single license</td>
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</tbody>
</table>
Accessories and Spares

195193  Carry Strap Veo/Prisma
195192  Veo/RSlite Transport case
242171  Lithium Battery

800423  Power Supply (LEMO)
800424  Single Bay Battery Charger
800422  Dual Bay Battery Charger

196101  Waterproof Keyboard
196100  Waterproof Mouse

Also Available:
145428  Veo Window Protector
146102  7 Lt Portable Hand Spray Kit
165281  Compact USB Wi-Fi Router
147390  Quick Start Guide
147409  Quick Start CD
125 ml bottle Couplant
Prisma

The **Prisma** Ultrasonic Flaw Detector offers the end user outstanding performance in the field together with the flexibility and capability to step up from using a high-end ultrasonic flaw detector to an instrument with phased array functionality. All models have conventional UT, TOFD and Phased Array capabilities on board, together with excellent reporting output. Just select the options you need and upgrade when ready.

**Specification:**
- UT-TOFD 2PR Phased Array 16:64
- Display: Multi-view, 8.4 inch display size (diagonal)
- Dimensions (HxWxD): 205 x 300 x 90 mm
- Weight: 3.5 Kg (with battery)
- Battery Life: 7h in UT mode / 6h in PA mode
- Designed to Meet: IP66

**Ultrasonic Phased Array - Prisma Series**
- PRISMA 16:64 TOFD B: UT plus TOFD & PA (16/64)
- PRISMA 16:64 TOFD L: UT plus TOFD & PA (16/64)
- PRISMA UT BNC KIT: Prisma UT BNC Standard Kit
- PRISMA UT LEMO KIT: Prisma UT LEMO Standard Kit
- PRISMA UT/PA B: UT plus PA (16/16)
- PRISMA UT/PA L: UT plus PA (16/16)
- PRISMA UT/PA/TOFD B: UT plus TOFD & PA (16/16)
- PRISMA UT/PA/TOFD L: UT plus TOFD & PA (16/16)
- PRISMA UT/TOFD B: UT plus TOFD
- PRISMA UT/TOFD L: UT plus TOFD

**Standard Kit Content**
- Prisma Flaw Detector
- 145512 Micro 8Gb USB Memory Key
- 242171 Lithium battery
- 800423 Power Supply (LEMO)
- 147394 Prisma Quick Start
- 147395 Prisma User Guide
- 195193 Carry strap Veo+
- 195208 Prisma Storm Case
- UTstudio+: UTstudio+ standard version (1 license)

**Software Options**
- SW-PRISMA-PA16: PRISMA Software 16:16 PA
- SW-PRISMA-PA64: Upgrade to 16:64 PA
- SW PRISMA TOFD: Upgrade to TOFD
- SW-PRISMA CSV: Export view data to CSV file
- SW-PRISMA-CLOUD: SW Option: Xpair Cloud Remote
- UTstudio+: UTstudio+ single license
- UTMap: UTMap: Single license
- Xpair: Xpair: single license

**Universal Encoders**
- JX-1004 Single Universal Encoder 2.5m
- JX-1007 Single Universal 5m

**Section**
Flaw Detectors & Accessories

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SIMPLICITY | CAPABILITY | RELIABILITY
## Accessories and Spares for Prisma

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>195193</td>
<td>Carry Strap Veo+/Prisma</td>
</tr>
<tr>
<td>195208</td>
<td>Prisma Storm Case with Insert</td>
</tr>
<tr>
<td>242171</td>
<td>Lithium Battery</td>
</tr>
<tr>
<td>800423</td>
<td>Power Supply (LEMO)</td>
</tr>
<tr>
<td>800424</td>
<td>Single Bay Battery Charger</td>
</tr>
<tr>
<td>800422</td>
<td>Dual Bay Battery Charger</td>
</tr>
<tr>
<td>196100</td>
<td>Waterproof Mouse</td>
</tr>
<tr>
<td>196101</td>
<td>Waterproof Keyboard</td>
</tr>
</tbody>
</table>

### Also Available:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>145512</td>
<td>Micro 8Gb USB</td>
</tr>
<tr>
<td>152273</td>
<td>Portable Wi-Fi Router Kit</td>
</tr>
<tr>
<td>165281</td>
<td>Compact USB Wi-Fi Router</td>
</tr>
<tr>
<td>196102</td>
<td>7Lt Portable Hand Spray Kit</td>
</tr>
<tr>
<td>145513</td>
<td>Prisma Window Protector</td>
</tr>
<tr>
<td>147395</td>
<td>User Guide</td>
</tr>
<tr>
<td>147394</td>
<td>QS guide</td>
</tr>
<tr>
<td>165264</td>
<td>Prisma Encoder Y-Splitter</td>
</tr>
<tr>
<td>T-09</td>
<td>125 ml bottle Couplant</td>
</tr>
</tbody>
</table>
PA Probes & Wedges

X-Series
The X-Series range offers a broader choice in transducer specifications (frequency and element size) together with the assurance of industry standard configurations.

All X-Series transducers are now delivered with an integral 2.5 m or 5 m cable and a quick I-PEX latch connector including an adapter bracket that is compatible with any standard I-PEX instrument. Other length and connector options are available upon request.

Please visit www.sonatest.com for full specifications and further information on our Transducer Range.

X0 – Low Profile
These probes have a low profile design to fit in between pipes and the elements are mechanically focused to optimise detection of defects into the welds of small-diameter pipes. Paired with Sonatest low profile scanners, it makes the ultimate scanning solution for phased array inspection of circumferential welds in small bore pipeworks.

Frequent applications:
- Bore pipe
- Small diameter tube inspection
- Fits on most low profile scanners.

X1 – Miniature
These probes are very compact, making them suitable for applications in limited access area or where a minimal footprint is required. Aerospace is a key industry for Sonatest X1 series, especially for Scribe Line inspection solution.

Frequent Applications:
- Scribe lines
- Automotive parts
- Machined parts
- White metal sheets

X2 – Compact Sectorial Scan
These probes are designed to perform sectorial scan (SScan) within a compact footprint. This makes the X2 series the perfect choice for manual or encoded weld inspection solutions and for inspection of simple to complex geometry parts using up to 32E steering and focussing capabilities.

Frequent Applications:
- General & critical welds (butt, T and corner joints)
- Castings
- Flanges
- Automotive parts
- Machined parts

X3 – Sectorial Scan or Linear Scan
With similar acoustic specifications as the X2 series but with more elements (up to 64E), the X3 series is optimum to perform both sectorial (SScan) and linear scan (LScan or electronic scan) within the same probe. This makes the X3 series the perfect choice for thick weld inspection solutions or to perform a fairly large linear scan at 0° for applications such as composite inspections, blistering and corrosion mapping solutions.

Frequent applications:
- Aerospace parts (composite)
- Aluminium plates (delaminations)
- Corrosion, blistering & thickness mapping
- General & critical welds (butt, T and corner joints)
- Castings

X3 – Glider – Compact Composite Linear Scan
With an acoustic array packing up to 64 elements, the X3-Glider series is optimum to perform ultrasonic linear scan (LScan or electronic scan) over a small to large area. Thanks to its soft and replaceable rubber wedge construction, it will also conform to irregular surfaces making the XGlider 3 series the perfect choice for composite inspection applications.

Frequent applications:
- Aerospace
- Aerospace parts (composite)
- Aluminium plates (delaminations)
- Corrosion, blistering & thickness mapping

X4 – Small Integral Wedge of Sectorial Scan
With an integral wedge and acoustic design that match European standards for shear wave probes (refer to Sonatest SIRIUS range), the X4 series is a good choice to replace conventional UT inspection methods and gains benefits of the phased array technology within a very compact angle beam probe solution.

Frequent applications:
- General manual welds (butt, T and corner joints)
- Castings
- Flanges
- Automotive parts
- Machined parts

X5 – Deep Penetration (AWS & HT)
These high energy probes are intended to provide fairly deep penetration of ultrasounds into attenuative materials or parts of large dimension like for casting and forging inspection solutions. These are also compatible with the standard Sonatest shearwave wedges including the “AWS Snail” and the high temperature versions (SW62 & SNW62 range).

Frequent applications:
- Structural component (large pins)
- Shaft
- Casting, bars & billets
- Critical large weld inspection
X6 – Large Linear Scan
With similar acoustic specifications as the X2 series but with 128 elements, these probes have the capabilities to generate very large linear scan (LScan or electronic scan), making the X6 series ideal for composite inspections, blistering and corrosion mapping solutions because it can cover a large area very quickly. Also, with a fine element pitch and aperture up to 32E, it offers a very high resolution capabilities for better defect sizing, material penetration and signal to noise ratio performances.
- Aerospace parts (large composite)
- Large aluminium plates (delaminations)
- Corrosion, blistering & thickness mapping

DAAH
Recognised for its high quality and performance for more than 10 years, the DAAH (Detachable Active Array Head) range provides a unique phased array transducer solution by splitting the array from the cable. This concept also yields advantages in cost at purchase but also for maintenance in the long run as a cable is much less expensive to repair than replacing a phased array probe.

Please visit www.sonatest.com for full specifications and further information on our Transducer Range.

D1A – High Performance
Being compact but with a fairly large elevation design, the D1 series offers deep penetration, high signal-to-noise ratio (SNR), large steering and precise focusing performances to solve the most demanding inspection challenges.

Frequent applications:
- General & critical welds (butt, T and corner joints)
- Castings, bars & billets
- Structural component (large pins)
- Shaft, castin, bars & billets
- Flanges
- Automotive parts
- Machined parts

D1B – Dual Linear Array for Stainless Steel
Sharing the exact same quality design as the D1 series but packaged in a Dual Linear Array enclosure, the D1 series is particularly effective to inspect critical and attenuative components like stainless steel and dissimilar welds.

Frequent applications:
- General & critical welds (butt, T and corner joints)
- Austenitic stainless steel alloys
- Dissimilar welds
- Pressure vessels
- Very attenuative material

D1Z – High Performance Integral Wedge for S-Scan
These probes offer the high performances of the DAAH series but packaged within a compact enclosure making it the ideal choice for a manual or encoded weld inspection solutions. The other advantages of a phased array integral wedge design are zero wedge mounting procedures nor probe-couplant variation over time and a smaller footprint to get near the weld or for thinner plates.

Frequent applications:
- General & critical welds (butt, T and corner joints)
- Castings, bars & billets
- Structural component (large pins)
- Shaft, casting, bars & billets
- Flanges
- Automotive parts
- Machined parts

D5A – High Performance Linear Scan
With a similar acoustic design to D1 series but with 64 elements, these probes have the capabilities to generate larger linear scan (LScan or electronic scan) to cover a fairly larger area for applications such as composite inspections, blistering and corrosion mapping solutions. The D5 series will especially stand out on material penetration and signal-to-noise ratio performances.

Frequent applications:
- Aerospace parts (large composite)
- Large aluminium plates (delaminations)
- Corrosion, blistering & thickness mapping
- Critical welds of thick material

DAAH PA CABLES

DAAH 1 High Performance
- D1-CABLE-001
- D1-CABLE-S-QX2
- D1-CABLE-002
- D1-CABLE-S-QX5
- D1-CABLE-003
- D1-CABLE-D-QX2
- D1-CABLE-004
- D1-CABLE-D-QX5
- D1-CABLE-005
- D1-CABLE-S-QX2-AR
- D1-CABLE-006
- D1-CABLE-S-QX5-AR
- D1-CABLE-007
- D1-CABLE-D-QX2-AR
- D1-CABLE-008
- D1-CABLE-D-QX5-AR

DAAH 5 High Performance
- D5-CABLE-001
- D5-CABLE-S-QX2
- D5-CABLE-002
- D5-CABLE-S-QX5
- D5-CABLE-003
- D5-CABLE-S-QX2-AR
- D5-CABLE-004
- D5-CABLE-S-QX5-AR
PC Software Suites

**Xpair**
Xpair opens the doors of true mobility in the NDT market. It is a PC-based software application solution to manage data transfer and remote control of instruments in the field wherever a network connection is available. Moreover, with the Xpair Cloud option, a user can access and remotely pilot the instrument of a colleague located 1000s of km away using a mobile or wired internal connection.

**UTLity**
Compatible with Sonatest Masterscan and Sitescan instruments, UTLity is a PC-based software providing everything you need to manage your inspection data as well as your instruments.

**UTview**
Loaded with a comprehensive user interface, UTview is the FREE VIEWER version of its powerful UTstudio+ brother. Since it can be downloaded from the Sonatest website anytime. Inspection data and results are now freely accessible to anyone who wants to review them.

**UTmap**
UTmap unlocks the possibilities of UT linear scanning. Its interface and set of tools are designed to process single line C-Scan efficiently and merge into a T-Scan to generate a larger and precise picture of the inspected part.

On T-Scan, UTmap offers all the analysis tools properly measure and report the presence of a defective area.

**UTstudio+**
Compatible with Sonatest Veo+ and Prisma instruments, UTstudio+ is PC-based software application useful to design inspection configurations, analyse data and produce reports.

**UTmap is compatible with:**
- Prisma
- Veo+
- RSflite

**UTview**
Suitable for FMC-TFM, phased array and conventional ultrasonic technologies, UTview is able to accomplish amazing things along the side of UTstudio+.

**UTLity MS SS**
UTLity is a PC-based software providing everything you need to manage your inspection data as well as your instruments.

**UTLity**
Is a FREE version which gives the technician the ability to view, move and manage Calibrations, A-Scans, B-Scans and Thickness Logs both on the instrument and on the PC. With this version, it is also possible to create customised inspection report templates, cut and paste information to other applications and create printable pdf documents.

**Main functionalities include:**
- Load, store, manage files both on the PC and on a connected flaw detector;
- Save, analyse, colour code and export Thickness logging data to spreadsheets/asset management software;
- Update the Flaw Detector Software and Firmware as and when updates become available on our website.

**UTLity Pro MS SS**
Is the “professional” option and works in conjunction with the Corrosion Software option of an instrument providing the end user with the ability to create and manage inspection plans, location notes, historical thickness readings and other asset management information as required.

**Main functionalities include:**
- Set up inspection plan (grid) templates, notes and labels;
- Import previous readings into an inspection plan;
- Export inspection plan data to a spreadsheets or to plant maintenance databases.
Adapters, PA Adaptors & PA Test Blocks

**Adapters**
- ADAP-001: ENC-ADAP- veo 1 to MX
- ADAP-002: ENC-ADAP- SX-MX2 to Veo 1
- ADAP-003: veo 2 Axis to Prisma 2 Axis
- ADAP-011: ENC-ADAP-MX to veo
- ADAP-012: ENC-ADAP- veo 1 to SX-MX2
- ADAP-015: ENC-ADAP- RS+ & RS2 to veo 1
- WP2-ADAP-101: GPIO-ENC-ADAPT- veo to MX
- WP2-ADAP-102: GPIO-ENC-ADAPT- veo to SX-MX2

**PA Adaptors**
- ADAP-005: PA Splitter IX64 to IX32:32
- ADAP-006: PA Splitter IX128 to IX64:64
- ADAP-007: PA-Splitter- QX64 to Lemo00x8
- ADAP-008: PA-ADAP- GZ64 to QX64
- ADAP-009: PA-ADAP- CN64 to QX64
- ADAP-010: PA-ADAP- QX64 to CN64
- ADAP-013: PA-Splitter- IX64 to BNCx32
- ADAP-014: PA-Splitter- IX64 to BNCx64

**PA Test Blocks**
- 149342: PA Calibration Block (MS)
- 149118: AMK/MPAUT Block (MS)
- 149352: Type A PA Block (MS)
- TST-0007: Type B PA Block (MS)
- TST-0008: Type B PA Block (A)
Scanners

STIX – Upgradable Weld Scanner
This exclusive modular approach starts from a simple and functional STIX 2 wedge magnetic scanner that can be upgraded to fit any required configurations by adding one of the modular options.
Any Sonatest Phased Array and TOFD wedges can be accommodated and the integrated latch allows easy PCS (Probe Centre Spacing) adjustments and scanner installation.
A Park brake is provided to hold the scanner in any desired location. All the wheels (magnetic or not) are coated with urethane to prevent foreign debris from hindering smooth rolling of the scanner.
Each STIX system includes a spring loaded module to ensure accurate positioning. The encoder output is fully compatible with Sonatest instruments.

JX-1001 Basic 2 probes magnetic scanner (TOFD or PA)
JX-1002 Module adding 2 (total 4) probes (TOFD or PA)
JX-Chain 4-12/24/38 Module adding a pipe chain scanner (circumferential weld)
JX-1006 (Chain required) Module adding 2 independent probes (TOFD & PA)

Rotix
The ROTIX – Chain Weld Scanner kit is designed to provide encoded position of probes circumferentially around piping for weld inspection on ferrous or non-ferrous inspection services. It is completely configurable for phased array, TOFD and conventional UT with single or multiple probes.
Since this package includes a set of 8 magnetic wheels, this scanner can also perform inspection without the chain on ferrous materials like a standard magnetic scanner.

JX-KIT-4-12/24/38 Complete 4 probes chain scanner kit
JX-1006 Module adding 2 (total 6) prob holders (TOFD & PA)

MultiMag
This manually-operated magnetic scanner is ideal for weld inspection of steel pipes using multiple probes including phased array, TOFD and pulse echo.
The MultiMag can be used on 3” pipes up to flat plate. The compact scanner is highly versatile and can carry up to four ultrasonic probes.
The MultiMag can operate with any multi-channel flaw detection system. It includes a sprung-loaded wheel encoder that is wired to suit the customer’s instrumentation.

PX-MULTIMAG-2-VEO VEO Multi Mag 2 (PA / TOFD) G8
PX-MULTIMAG-4-VEO VEO Multi Mag 4 (PA / TOFD)

MagMan Scanner
This manually operated magnetic wheeled scanner is ideal of weld inspection of pipes using multiple probes including phased array, TOFD and pulse echo. The MagMan can be used on 1.5” pipes up to flat plate. This robust scanner can carry up to twelve ultrasonic probes.

PX-MAGMAN-2-VEO VEO Magman 2 (PA / TOFD)
PX-MAGMAN-4-VEO VEO Magman 4 (PA / TOFD)
PX-MAGMAN-6-VEO VEO Magman 6 (PA / TOFD)
PX-MAGMAN-8-VEO VEO Magman 8 (PA / TOFD)
PX-MAGMAN 4 TOFD/PE VEO Magman 4 TOFD/PE
Odi

The Odi encoder is used to provide encoded position of a probe along the scan axis. The small size of the Odi makes it a perfect tool for hard to access areas or where space is limited.

The Odi has a clamp system so it can be used with any manufacturer's wedge and probe combination. This also allows it to be clamped to a scanning frame to provide encoded position.

JX-1004/1007

Odi-II

The Odi-II is used to provide encoded position of two probes along the scan axis and its small size makes it a perfect tool for manual TOFD scanning.

The Odi-II uses Jireh's standard probe holder arms, which are compatible with most manufacturer's wedge and probe combinations. It is also available with a variety of encoder output cable options, making it compatible with most major UT instruments. The Odi-II is the perfect solution to carry out manual TOFD scans.

JX-1005

For further information on scanners, please visit sonatest.com/products/scanners
The **Masterscan D-70** is a leading flaw detector in its class. This instrument offers the inspector a fully capable and functional set of tools and software for inspection across all applications. Capabilities include encoded B-Scan, Advanced Thickness logging and Dryscan capability in a portable enclosure.

**Specification:**
- **Battery Life:** Lithium Ion 14.4V Battery Pack gives up to 12 hours usage
- **Case:** Environmental case sealed to IP67
- **Dimensions (HxWxD):** 172 x 238 x 70 mm (6.77 x 9.37 x 2.75 inches)
- **Weight:** 1.7 Kg (3.7 lbs) with battery
- **Connection:** USB socket, for connection to printers, keyboards and PCs
- **Language:** Supports multiple languages

The **Sitescan D-50** offers the end user an entry level broadband flaw detector in the popular and portable casing of the established D-series; with a full VGA display, a 50nS (Spike) 200V, a Pulser 0.5dB gain resolution and an optional rubber boot.

**Specification:**
- **Battery Life:** Lithium Ion 14.4V Battery Pack gives up to 12 hours usage
- **Case:** Environmental case sealed to IP67
- **Dimensions (HxWxD):** 172 x 238 x 70 mm (6.77 x 9.37 x 2.75 inches)
- **Weight:** 1.7 Kg (3.7 lbs) with battery
- **Connection:** USB socket, for connection to printers, keyboards and PCs
- **Language:** Supports multiple languages

### Standard Kits

**D-70BKIT** D-70 BNC Kit  |  **D-70LKIT** D-70 LEMO Kit  |  **D-50BKIT** D-50 BNC Kit  |  **D-50LKIT** D-50 BNC Kit

<table>
<thead>
<tr>
<th>Standard Kit Content</th>
<th>Software Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Flaw Detector</td>
<td>SW-API Activate API Functions</td>
</tr>
<tr>
<td>242173 D-Series Battery Pack</td>
<td>SW-AWS Activate AWS Functions</td>
</tr>
<tr>
<td>800208 CH 700 Battery Charger</td>
<td>SW-BEA Activate BEA Functions</td>
</tr>
<tr>
<td>147396 D-70/50/UTLity User/Quick Start Guide</td>
<td>SW-CORROSION Activate T-Log &amp; B-Chart Functions</td>
</tr>
<tr>
<td>195163 Carry Bag</td>
<td>SW-DGS Activate DGS Functions</td>
</tr>
<tr>
<td>165028 USB Type ‘A’ Male Cable Assembly</td>
<td>SW-DRY Activate Dryscan Functions (D70 only)</td>
</tr>
<tr>
<td>145324 Display Window Cover (Fitted)</td>
<td>SW-IFT Activate IFT Functions</td>
</tr>
<tr>
<td>195191 Set Strap Yellow</td>
<td>SW-SPDAC Activate Split DAC Functions</td>
</tr>
<tr>
<td>T-09 125ml bottle couplant Calibration / conformance Certificate</td>
<td>SW-TCG Activate TCG Functions</td>
</tr>
<tr>
<td></td>
<td>UTILITY PRO 1 License UTLity Pro Software</td>
</tr>
</tbody>
</table>
Accessories and Spares

800208
CH700 Battery Charger

242173
D-Series Battery Pack

195167
D-Series Storm Case

195194
Economy D-Series Storm Case

195123
D-Series Protective Sleeve

165027
RCA Video Output Cable

195163
Carry Bag DFD

KMA-KIT1
Standard Support Pack
Magnetic Bracket Assembly
Magnetic Hook Assembly
Magnetic Harness Bracket Assembly

Also Available:

136168
BNC to BNC 50 ohm

136169
BNC Female to LEMO1 Male

136171
LEMO1 (M) to LEMO 00 (F)

145324
Display Window Cover

152018
BNC(M) to LEMO(F) Adapter

152120
Cable DFD to PC

165028
USB Type ‘A’ Male Cable Assembly

165040
Proportional Output Lead

195170
Sacci Body Hook Harness

T-09
125 ml Bottle

D-SERIES-SITE-PACK
Site Pack Option:
- Yellow in Site packing case
- 32mm dia Hook Magnet 34KG pull
- COG Cracket Assy
- Magnetic Bracket Assembly
- Restraining Lanyard 1m with Karabiners
- T-09 125ml bottle

FIND YOUR SOLUTIONS AT SONATEST.COM
Masterscan 700M & Sitescan 500s

The Masterscan 700M offers the end user a high end narrowband flaw detector with a full VGA display, sync and proportional outputs, sync input and a Spike and Square Pulser.

**Specification:**
- Battery Life: Lithium Ion 14.4V Battery Pack gives up to 16 hours usage
- Case: Environmental case sealed to IP67
- Dimensions (HxWxD): 145 x 255 x 145 mm (5.7 x 10 x 5.7 inches)
- Weight: 2.5 Kg (5.5 lbs) with battery
- Connection: USB socket on front, for connection to printers, keyboards and PCs
- Language: Supports multiple languages

The Sitescan 500S offers the end user an entry level broad band flaw detector with full VGA display, sync and proportional outputs and a 50nS (Spike) 200V Pulser.

**Specification:**
- Battery Life: Lithium Ion 14.4V Battery Pack gives up to 16 hours usage
- Case: Environmental case sealed to IP67
- Dimensions (HxWxD): 145 x 255 x 145 mm (5.7 x 10 x 5.7 inches)
- Weight: 2.5 Kg (5.5 lbs) with battery
- Connection: USB socket on front, for connection to printers, keyboards and PCs
- Language: Supports multiple languages

---

**Standard Kits**

<table>
<thead>
<tr>
<th>MS700KIT</th>
<th>MS700 BNC Kit</th>
<th>MS700LKIT</th>
<th>MS700 LEMO Kit</th>
<th>SS500BKIT</th>
<th>SS500 BNC Kit</th>
<th>SS500LKIT</th>
<th>SS500LEMO Kit</th>
</tr>
</thead>
</table>

**Standard Kit Content**

- Digital Flaw Detector
- 242174 SS/MS Battery Pack
- 800208 CH700 Battery Charger
- 195121 Carry Bag DFD Lite
- 165028 USB Type “A” Male Cable Assembly
- 145324 Display Window Cover (Fitted)
- 147396 MS700/SS500/UTLity User Guides
- T-09 125ml bottle couplant Calibration / Conformance certificate

**Software Options**

<table>
<thead>
<tr>
<th>SW-AP</th>
<th>SW-API</th>
<th>Activate API Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW-AWS</td>
<td>SW-AWS</td>
<td>Activate AWS Functions</td>
</tr>
<tr>
<td>SW-BEA</td>
<td>SW-BEA</td>
<td>Activate BEA Functions</td>
</tr>
<tr>
<td>SW-CORROSION</td>
<td>SW-CORROSION</td>
<td>Activate T-Log &amp; B-Chart Functions</td>
</tr>
<tr>
<td>SW-DGS</td>
<td>SW-DGS</td>
<td>Activate DGS Functions</td>
</tr>
<tr>
<td>SW-DRY</td>
<td>SW-DRY</td>
<td>Activate Dryscan Functions (MS700 only)</td>
</tr>
<tr>
<td>SW-IFT</td>
<td>SW-IFT</td>
<td>Activate IFT Functions</td>
</tr>
<tr>
<td>SW-SPDAC</td>
<td>SW-SPDAC</td>
<td>Activate Split DAC Functions</td>
</tr>
<tr>
<td>SW-TCG</td>
<td>SW-TCG</td>
<td>Activate TCG Functions</td>
</tr>
<tr>
<td>UTILITY PRO</td>
<td>UTILITY PRO</td>
<td>1 License UTLity Pro Software</td>
</tr>
</tbody>
</table>
Accessories and Spares

800208
CH700 Battery Charger

242174
SS/MS Battery Pack

195154
DFD Storm Case

165027
RCA Video Output Cable

195121
Carry Bag DFD Lite

MPS-701EU / MPS-701UK / MPS-701US
Flaw Detector Mains Pack

Also Available:

136168  BNC To BNC 50 Ohm
136169  BNC Female to LEMO1 Male
136171  LEMO1 (M) to LEMO 00 (F)
145324  Display Window Cover

152018  BNC(M) to LEMO(F) Adapter
152120  Cable DFD to PC
165028  USB Type “A” Male Cable Assembly
165040  Proportional Output Lead

FIND YOUR SOLUTIONS AT SONATEST.COM
RSflite Portable Composite Inspection Solution

Save time. Be more efficient.

Boosted by impressive recording speed, the RSflite lightweight battery-operated equipment is two times faster than the previous generation. Handling small to large probes and with almost no file size limitation, it can rapidly cover large surfaces and spare precious inspection hours down the production line or at the maintenance site. The RSflite responsive touchscreen user interface is also specifically optimised to operate linear scan; saving significant training costs and time often associated with unnecessary advanced Phased Array ultrasonic (PAUT) concepts.

Please refer to page 32 for more information on the WheelProbe 2.

Key features
- Light reinforced frame
- Patented rubber wheel
- Best acoustics on market

Advantages
- Portability with immersion quality A-Scan data
- Ease of use with a lightweight and ergonomic design
- Great near surface resolution

RSflite Key Specifications

<table>
<thead>
<tr>
<th></th>
<th>LINEAR SCANNING</th>
<th>CONVENTIONAL UT</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Bandwidth</td>
<td>0.2 to 23 MHz</td>
<td>0.2 to 18 MHz</td>
</tr>
<tr>
<td>Pulse Voltage</td>
<td>100V - 50V ActiveEdge©</td>
<td>400V - 100V ActiveEdge©</td>
</tr>
<tr>
<td>Channels</td>
<td>128 channels</td>
<td>2 channels</td>
</tr>
<tr>
<td>Gain Range</td>
<td>80dB</td>
<td>100dB</td>
</tr>
<tr>
<td>Max PRF</td>
<td>50 000 Hz</td>
<td>20 000 Hz</td>
</tr>
<tr>
<td>L-Scan Resolution</td>
<td>1,2,3... element step &amp; double res.</td>
<td>–</td>
</tr>
<tr>
<td>Data Throughput and Storage</td>
<td>155 MB/sec and 128 GB SSD (no file size limit)</td>
<td>–</td>
</tr>
<tr>
<td>Instrument Display</td>
<td>TOUCH 10.4” wide, LED-backlit LCD, 1024 x 600 resolution</td>
<td>–</td>
</tr>
<tr>
<td>Communication Ports</td>
<td>WiFi 802.11n, Ethernet Gigabits &amp; 3 master USB2</td>
<td>–</td>
</tr>
<tr>
<td>Calibration Standards</td>
<td>ISO18563 (EN16392) &amp; EN12668</td>
<td>–</td>
</tr>
<tr>
<td>Operating Time</td>
<td>6.6h (hot swapable batteries)</td>
<td>–</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-10°C to 40°C (14°F to 104°F)</td>
<td>–</td>
</tr>
<tr>
<td>Unit Dimensions</td>
<td>115 x 220 x 335 mm (4.52 x 8.66 x 13.19 in)</td>
<td>–</td>
</tr>
<tr>
<td>Weight</td>
<td>4.80 kg (10.5 lb) no battery, 460 g (1 lb)/battery</td>
<td>–</td>
</tr>
<tr>
<td>Analysis Software</td>
<td>UTmap for Windows® 7-8-10 &amp; 64-bit OS</td>
<td>–</td>
</tr>
<tr>
<td>Remote Control Software</td>
<td>Xpair for Windows® 7-8-10 OS</td>
<td>–</td>
</tr>
</tbody>
</table>
**Complete Solution Packages**

**Standard Package RSflite**

**Composite Solution**

- **RSFLITE BNC/LEMO**: RSflite 128 channel L-scan instrument
- **WP2-5 MHz-64E**: WP2 5 MHz 64 Element Buggy
- **WP2-PACK2**: WP2 Composite Pack
- **WP2-CABLE-111**: WP2-CABLE-veo-QX5
- **WP2-ACC-0501**: Horizontal Handle
- **WP2-ADV-KIT2**: Advanced Kit Two
- **UTMAP**: UTMAP: single license
- **XPAIR**: Xpair: single license

**WP2 key specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coupling wheel</td>
<td>Patented rubber - optimal acoustic performances</td>
</tr>
<tr>
<td>Near surface resolution</td>
<td>Up to 0.8 mm (0.032 in)</td>
</tr>
<tr>
<td>Probe frequency</td>
<td>2 MHz, 3.5 MHz, 5 MHz or 10 MHz</td>
</tr>
<tr>
<td>Probe array specs</td>
<td>64 elements, pitch 0.8mm</td>
</tr>
<tr>
<td>Probe active length</td>
<td>51 mm (2 in)</td>
</tr>
<tr>
<td>Detachable cable</td>
<td>Standard 2.5m and 5m or custom order</td>
</tr>
<tr>
<td>Weight</td>
<td>1.06 Kg (2.34 lb) lightweight polymer frame</td>
</tr>
<tr>
<td>Dimensions (H x L x W)</td>
<td>125 x 150 x 155 mm (4.9 x 5.9 x 6.1 in)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>10 to 50°C (50 to 122°F)</td>
</tr>
</tbody>
</table>

**UTmap key specifications**

<table>
<thead>
<tr>
<th>Tools</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-acquisition tools</td>
<td>T-Scan stitching for precise positionning of C-Scan</td>
</tr>
<tr>
<td></td>
<td>T-Scan overlapping for precise data adjustment</td>
</tr>
<tr>
<td></td>
<td>C-Scan re-gating (individually or synchronise all)</td>
</tr>
<tr>
<td></td>
<td>Individual C-Scan software gain fine adjustment</td>
</tr>
<tr>
<td>Analysis tools</td>
<td>Industry standard and custom colour palettes</td>
</tr>
<tr>
<td></td>
<td>Automatic defect measurements and statistics</td>
</tr>
<tr>
<td></td>
<td>Real-time defective zone contouring</td>
</tr>
<tr>
<td></td>
<td>Conditional defect criteria (depth and amplitude)</td>
</tr>
<tr>
<td>Reporting tools</td>
<td>CAD and image part overlay</td>
</tr>
<tr>
<td></td>
<td>Geometric and freehand cursors</td>
</tr>
<tr>
<td></td>
<td>Automatic PDF report generation</td>
</tr>
<tr>
<td></td>
<td>Customised measurement selection</td>
</tr>
<tr>
<td></td>
<td>Advanced reporting (CSV export)</td>
</tr>
<tr>
<td>File format</td>
<td>Sonatest .UTDATA and .TSCAN formats</td>
</tr>
<tr>
<td>Operating system</td>
<td>Windows® 7-8-10 &amp; 64-bit OS</td>
</tr>
</tbody>
</table>

**Standard Package + Option**

**X-Glider for Compact Scans**

Add a compact and flexible scanning capability to your kit and inspect rapidly different shapes or restricted area using the X-Glider rubber linear scanning solution.

- **X3A-003**: X3A-5M64E-0.6x10-SQX2.5
- **X3AG-001**: X3AG-OLW25
- **JX-1004**: Single Universal Encoder 2.5 m

**Standard Package + Option**

**for Extended Applications**

Add extended scanning capability to your kit with an extra WP2-Buggy frequency and inspect thick resin structures with a 2 MHz probe or very thin CFRP layers with the 10 MHz one.

Select one from the list below:

- **WP2-2 MHz-64E**: WP2 2 MHz 64 Element Buggy
- **WP2-3.5 MHz-64E**: WP2 3.5 MHz 64 Element Buggy
- **WP2-5 MHz-64E**: WP2 5 MHz 64 Element Buggy
- **WP2-10 MHz-64E**: WP2 10 MHz 64 Element Buggy

Promotion: receive a WP2 test and demonstration plate (WP2-ACC-0518) FREE OF CHARGE with this option.
The new Sonatest Railscan 125+ flaw detector delivers a higher level of near-surface resolution and penetrating power into a portable and rugged enclosure. It also offers more measuring capabilities than its predecessors for rail applications such as:

- rail walking stick inspection solutions
- rail manual defect sizing
- rail bottom depth measurements

**Specification:**

- Frequency Range: 2.5 MHz and 5.0 MHz
- System Linearity: Vertical = 1% Full Screen height (FSH) with amplifier accuracy ±0.1 dB. Horizontal ±0.4% Full Screen Width (FSW)
- Gate Monitor: 3 fully independent gates for echo monitoring and thickness measurement. Gates are adjustable over the full range (amplitudes from 0%-100% FSH).
- Memory: All A-Scans and Panels are automatically deleted after 24 hours of creation. (Applies to Network Rail approved software version.)
- Rail-Thickness Log: Encoder triggered rail thickness log stored in a CVS file. Data accessible by a computer using the USB cable provided.
- Power: Lithium-Ion battery pack 14.4V / 5.0 ampere-hours. (up to 16 hours duration from a fully charged pack, recharge time 3-4 hrs.)

**Standard Kit Contents:**

- Railscan 125+
- Li-ion Battery and Battery Charger
- Carry Bag and USB Cable
- Calibration Certificate
- Instruction Manual

**UT-Lity Data Management Software**

UT-Lity software provides everything you need to manage your inspection data, configuration files and software updates.

- Load, store, manage files both on the PC and on a connected flaw detector.
- Save, analyse, colour code and export thickness logging data to spreadsheets/asset management software.
- Update the Flaw Detector Firmware as and when updates become available on Sonatest website

**Accessories and Spares**

800208
CH700 Battery Charger

242174
SS/MS Battery Pack

195154
DFD Storm Case

165027
RCA Video Output Cable

195121
Carry Bag DFD Lite

**Also Available:**

136168
BNC To BNC 50 Ohm

152178
BNC(M) to LEMO(F) Adapter

165028
USB Type “A” Male Cable Assembly

152018
BNC Female to LEMO1 Male

152120
Cable DFD to PC

152154
DFD Storm Case

145324
Protective Window Sticker

165040
Proportional Output Lead

136171
LEMO1 (M) to LEMO 00 (F)
This Single Element WheelProbe (SEWP) uses Sonatest rubber technology for near-dry Ultrasonic coupling. Using a single element 15 mm immersion probe, the Single Element WheelProbe is designed to operate between 1 MHz and 10 MHz and is available with a low pressure 38 mm tyre. It is complete with an optical position encoder and can be connected to any conventional flaw detector such as the Sonatest MasterScan and PRISMA UT.

**Specification:**
- Sensor Frequency: 1 MHz to 10 MHz
- Number Of Probe Elements: Single element
- Sensor Resolution: N/A
- Active Area: 15 mm diameter probe
- Recommended Apertures: N/A
- Encoder Resolution: 1/16th mm
- Encoder Connection: 4w LEMO
- Maximum Cable Length: 10 m

**Single Element WheelProbe**
- SEWP-B-38-02-15-05  SEWP 2 MHz 0 Degree 5 m Cable
- SEWP-B-38-05-15-02  SEWP 5 MHz 0 Degree 2 m Cable
- SEWP-B-38-05-15-05  SEWP 5 MHz 0 Degree 5 m Cable
- SEWP-B-38-10-15-05  SEWP 10 MHz 0 Degree 5 m Cable
Continuing the proven success of Sonatest's WheelProbe range, the new WheelProbe 2 is proving to be unrivalled in the field of composite inspection and corrosion monitoring in terms of speed and ease of use, in addition to achieving excellent results. Typical applications include Corrosion Mapping, Marine Inspection, Aerospace Fuselage, Aerospace Large Area Scanning and Automotive Testing.

**Speciation:**
- Weight: 1.06 Kg (2.34 lb)
- Dimensions (HxLxW): 125 x 150 x 155 mm (4.9 x 5.9 x 6.1 inches)
- Operating Temperature: 10°C to 50°C (50°F to 122°F)
- Centre Frequency Options: 2 MHz, 3.5 MHz, 5 MHz, and 10 MHz ± 10%
- Number of Elements: 64
- Total Active Length: 51.1 mm
- Sensitivity Homogeneity: ± 3db

### Accessory Kits

**WP2-PACK1**
- **WP2 Corrosion Pack**
  - Horizontal Handle
  - Back Profiled Roller
  - Filling Equipment
  - Maintenance Tools and Manual
  - Rugged Transportation Case

**WP2-PACK2**
- **WP2 Composite Pack**
  - Vertical Handle
  - Back Flat Roller
  - Filling Equipment
  - Maintenance Tools and Manual
  - Rugged Transportation Case

**WP2-ADV-KIT1**
- **Advance Kit One**
  - Flat Front Roller x2
  - Profiled Front Roller x2
  - Precision Front Roller x2
  - Remote
  - Front Roller Assembly

**WP2-ADV-KIT2**
- **Advanced Kit Two**
  - Flat Front Roller x2
  - Remote
  - Front Roller Assembly
  - Laser Guidance Kit
  - Phone Display Kit

**Cables:**
- WP2-CABLE-101 WP2-CABLE-veo-QX2.5
- WP2-CABLE-102 WP2-CABLE-SX-MX2-QX2.5
- WP2-CABLE-103 WP2-CABLE-MX-QX2.5
- WP2-CABLE-111 WP2-CABLE-veo-QX5
- WP2-CABLE-112 WP2-CABLE-SX-MX2-QX5
- WP2-CABLE-113 WP2-CABLE-MX-QX5

Custom length cables available – Please call one of the Sonatest Team for assistance.
Handles & Rollers

- WP2-ACC-0501 Horizontal Handle
- WP2-ACC-0502 Vertical Handle
- WP2-ACC-0503 Profled Roller Kit Front & Back
- WP2-ACC-0504 Flat Roller Kit Front & Back
- WP2-ACC-0505 Precision Roller Kit Front & Back
- WP2-ACC-0506 Front Profled Roller Assembly Kit
- WP2-ACC-0507 Front Flat Roller Assembly Kit
- WP2-ACC-0508 Front Precision Roller Assembly Kit
- WP2-ACC-0509 Profled Roller only
- WP2-ACC-0510 Flat Roller only
- WP2-ACC-0511 Precision Roller only

Accessories and Spares

- WP2-ACC-0512 Remote Control
- WP2-ACC-0513 Laser Guidance Kit
- WP2-ACC-0514 Phone Display Kit
- WP2-ACC-0515 Basic User Kit
- WP2-ACC-0516 Rugged Transportation Case
- WP2-ACC-0518 Demo Plate for WheelProbe 2
- WP2-ADAP-101 veo+/Prisma to MX Adaptor
- WP2-ADAP-102 veo+/Prisma to MX2/SX Adaptor
- WP2-TOOL Hex Key
The AlphaGage+ series is a range of hand-held ultrasonic thickness gauges available for corrosion, precision or combined for both. The Sonatest AlphaGage+ series is definitely a key asset for inspectors, maintenance operators or QA technicians looking to measure essentially any engineering material thickness as it combines years of ultrasonic design and knowhow.

Packaged in an extremely rugged and ergonomic hand held enclosure, the AlphaGage+ is a versatile piece of equipment as it can be used to perform integrity assessment of metal steelworks affected by erosion or corrosion processes as well as measure precisely the thickness of critical pieces of equipment which have very strict quality control requirements.

Software options available on all models:
- DL = Corrosion Data Logging
- W = A-Scan Waveform Display
- OS = Boiler Tube Oxide Scale Measures

---

Corrosion AlphaGage+

Standard AlphaGage+ C kit includes:
- Echo-to-Echo functionalities
- 2 GB microSD card
- AC power adapter & USB cable
- Standard 3.7V Li-ion internally rechargeable battery
- Plastic carrying case
- One couplant bottle
- CD with manual
- Data XLS interface program to export saved readings to PC (Microsoft Excel)
- NIST traceable calibration certificate

Software options and accessories included:
- Access to dual and single element probe database
- One DKS-537 transducer (5 MHz .375” diameter transducer with potted cable.)

Feature Software options:
AlphaGage+ CDL with Data Logging software feature including:
- Datalogger functionalities
- B-Scan (time based)
- Temperature correction

AlphaGage+ CW with Waveform software feature including:
- Live A-Scan
- Positive/Negative/Full signal rectification

Adjustable range
- Temperature correction
- Coating thickness

AlphaGage+ CDLW including:
- All of the above
- Rubber Boot with Neck Strap
PRECISION AlphaGage+

Standard AlphaGage+ P kit includes:
• Echo-to-Echo functionalities
• 2 GB microSD card
• AC power adapter & USB cable
• Standard 3.7V Li-ion internally rechargeable battery
• Plastic carrying case
• One couplant bottle
• CD with manual
• Data XLS interface program to export saved readings to PC. (Microsoft Excel)
• NIST traceable calibration certificate

AlphaGage+ PDLW including:
• All of the above
• Rubber Boot with Neck Strap

AlphaGage+ PDLWOS with Oxide Scale software feature including:
• All of the above
• Simultaneous display of the boiler tube wall thickness as well as the internal oxide scale thickness
  *Oxide Scale feature is available only if Precision mode, Data Logging and Waveform software options are activated.

Software options and accessories included:
• Access to single element probe database.
• One DLK1025 transducer (10 MHz, 0.25" diameter with Lemo to Microdot cable 6’).

Feature Software options:
AlphaGage+ PDL with Data Logging software feature including:
• Datalogger functionalities
• B-Scan (time based)
• Temperature correction

AlphaGage+ PW with Waveform software feature including:
• Live A-Scan
• Positive/Negative/Full signal rectification
• Adjustable range
• Temperature correction
• Coating thickness

Software options and accessories included:

Probes & Accessories

<table>
<thead>
<tr>
<th>Corrosion Probes</th>
<th>Precision Probes</th>
<th>Oxide Probes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC250</td>
<td>DLK1025</td>
<td>DLK2025</td>
</tr>
<tr>
<td>DC525</td>
<td>DLK-1225 PP RM</td>
<td>DCK20125</td>
</tr>
<tr>
<td>DC550</td>
<td>DLK-1225 PP SM</td>
<td>DLK20125</td>
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<tr>
<td>DC537</td>
<td>DLK-1225 PP RM</td>
<td>DLRT-25-1</td>
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<td>DK250</td>
<td>DLK-1225 PP RM</td>
<td>DLRT-25-10</td>
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<td>DK525</td>
<td>DLK-1225 PP RM</td>
<td>DLRT-25-1</td>
</tr>
<tr>
<td>DK550</td>
<td>DLK-1225 PP RM</td>
<td>DLRT-25-10</td>
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<td>DK537</td>
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<td>DLK-1225 PP RM</td>
<td>DLRT-25-10</td>
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</table>

Accessories

| 149103 | Plastic Carry Case  |
| 149104 | Li-ion Battery Pack |
| 149105 | Rubber Boot and Neck Strap |
| 149106 | Alkaline Battery Pack |
| 149107 | Charger with USB    |
| 149108 | Magnetic Ball Head  |
| 149109 | Neck Strap          |
| USB-09-6 | Mini USB cable, 6 foot |
**T-Gage V Series**

Offering the latest technologies to support general thickness inspection in the roughest of industry conditions.

Velocity ranges to accommodate multiple material needs.
One and two point calibration, 4.5 LCD, 0.500inch numerical display, 0.01 resolution. Use for thickness measurement of metal plates, pipes, plastics and Glass. Corrosion and Pitting, Tube and Pipe, Tanks and Boilers, Pressure Vessels, Storage tanks, Ships Hulls, 0.63mm to 500mm (0.25 to 19.999 inch), twin crystal probes, 5mhz as standard, (1-10Mhz Probes are available) 200Hours Battery

See [www.sonatest.com](http://www.sonatest.com) for full specification.

**Specifications**

- Resolution: 0.01, (0.001 Inch)
- Operating Temperature: -20 to 50°C (-4 to 122°F)
- Bandwidth: 0.5 to 20 MHz,
- Material Velocity: 0.508-18.699 mm/usec (0.200-0.736 in/sec)
- Vibration alarms, Illuminating Pads
- 2 x AA Battery (40 hours / 15Hours with backlight)
- Hold Mode
- Freeze Mode
- Loss of Signal (LOS)
- Gain
- Differential
- Stored Set Ups
- Languages – English, French, German, Spanish, Russian, Finnish, Czech Republic, others possible please ask.
- Auto Zero on Start-up, ideal for delay line wear/curvature
- Numerical Display
- Colour Screen – 220x170 TFT Display

**Standard T-Gage V Kit includes:**

- Ultrasonic Corrosion Thickness Gauge
- Echo-to-Echo functionalities • Operator Manual
- DKS-537 twin crystal 5.0 MHz, 0.375/9.52 mm dia potted probe
- Couplant • Cable • Carry Case

**T-Gage Probes**

- **DK250** Dual, K85 2.25 MHz, .5 inch potted cable
- **DK525** Dual, K85 5 MHz, .25 inch potted cable
- **DK550** Dual, K85 5 MHz, .5 inch potted cable
- **DK537EE** Dual, K85 5.0 MHz, .375 inch for Echo to Echo with potted cable
- **DK718EE** Dual, K85, 7 MHz, .187 inch, for Echo to Echo with potted cable
- **DK1025** Dual, K85 10.0 MHz, .25 inch potted cable
- **DHT537** Dual, K85 5.0 MHz, .375 inch potted cable High Temperature

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**Sonagage IV**

The Sonagage IV is ideal for operators that test a few different materials regularly and contains 8 velocities of common materials and two velocities that the user can set using a simple software program.

See [www.sonatest.com](http://www.sonatest.com) for full specification.

**Standard Sonagage IV Kit**

- Ultrasonic Thickness Gauge
- DKS-537 twin crystal 5.0 MHz, 0.375/9.52 mm dia potted probe
- Operator Manual
- Couplant
- Cable
- Carry Case
Corrosion Gauges

SteelGage II

The Steelgage II is the perfect choice for testing steel day after day. The Steelgage II is set with a single material velocity, simply turn it on and measure.

See www.sonatest.com for full specification.

<table>
<thead>
<tr>
<th>Probes and Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG-1 1/4” x 5.0 MHz standard with integral cable</td>
</tr>
<tr>
<td>SG-2 1/2” X 2.25 MHz high penetration with integral cable</td>
</tr>
</tbody>
</table>

Steelgage II

STEELGAGE II Ultrasonic Thickness Gauge – for use on Carbon steel only

Microgage III

Designed with the user in mind, the Microgage III utilises state of the art digital technology to produce fast and accurate precision thickness readings.

The Microgage III has a clear colour 220 X 170 colour TFT Numerical display in a Splash proof IP 54 high impact plastic case. Illuminating keypads enable go/no go alarm measurements.

The measurement range is 0.1mm to 508mm (0.004-20 inches) depending on transducer selection and material temperature.

The Microgage III offers Echo to Echo ability for to enable thickness measurement without the need to remove the paint or coating.

Specification:

- Resolution 0.001, (0.0001 Inch)
- Operating Temperature -20 to 50°C (-4 to 122°F)
- Bandwidth 30 MHz,
- Material Velocity 0.508-18.699 mm/usec (0.200-0.736 in/sec)
- Vibration alarms,
- 2 x AA Battery (40 hours / 15 with backlight)
- Hold Mode
- Freeze Mode
- Gain
- Differential
- Stared Set Ups
- Languages – English, French, German, Spanish, Russian, Finnish, Czech Republic, others possible please ask.
- Auto Zero on Start up, ideal for delay line wear/curvature
- Numerical Display

Standard Microgage III Series Kit includes:

- Microgage III
- 10 MHz Transducer with cable
- Operator manual
- Cable
- Couplant
- Carry case
- Data XL:S software available with DL versions only

Probes and Accessories

| DLK1025 | Delay Line, K85, 10.0 MHz, .25 inch Right Angle Microdot |
| DLK-1225 PP SM | Pencil probe, 12 MHz, focused delay line TR, 0.188 ele dia, 0.350” dia housing, 0.060 tip |
| DLK2025 | Delay Line, K85, 20 MHz, .25 inch right angle microdot – OXIDE Probes |
| DLK20125 | Delay Line, K85, 20 MHz, .125 inch right angle microdot |
| DLRT-2520-1 | .25” delay line replacement tip for 20 MHz transducer – 1 tip |
| DLRT-2520-10 | .25” delay line replacement tip for 20 MHz transducer – 10 tips |
| DLRT-125-1 | .125” delay line replacement tip for 20 MHz transducer – 1 tip |
| DLRT-125-10 | .125” delay line replacement tip for 20 MHz transducer – 10 tips |
Ultrasonic Transducer Range

Contact
Applied directly to the flat surfaces of the test material or object, this range of single element transducers are commonly used to measure thickness and to detect flaws on plates, bars, forgings, casting and extrusions. Standard ranges of single compression transducers are available with different frequencies and damping specifications to fit the purpose of the application. The crystal and casing dimensions are also important, per example a smaller diameter can be applied to test slightly curved surfaces and the inclusion of a magnet can hold the transducer to ferrous surfaces.

Twin Crystal
A twin compression transducer is a mix between a contact and a delay line because both crystals (P&C) sit on two very thin, slightly angulated wedges facing each other. These are primarily used to measure thickness, detect flaws and corrosion in thin materials, especially where near surface resolution is required. This range is also ideal for use in general and critical weld inspection.

Delay Line
Delay Line transducers transmit and receive sound waves with one element, coupled to the surface as with compression transducers. The crystal is held off from the test piece surface by a delay block, allowing the inspection to be carried out very close to the test piece surface.

Immersion
Immersion transducers are mainly used for mechanised or automatic systems and in principle, operate in the same way as standard contact compression transducers. Immersion applications take place in immersion tanks filled with water, where the test object is placed on a turntable or roller system so that the object is moved at a constant speed past the transducer. Applications include flaw detection in metal or composite parts inspecting bond testing or online thickness gauging, C-scan or B-scan imaging of components.

Sonatest offers a wide range of Ultrasonic transducers. Please see www.sonatest.com for further information.
Couplants

The Sonagel range is designed for use on all types of metallic surface and is especially suited to solving the problems of rough, pitted, uneven surfaces allowing smooth probe movement during testing. The thixotropic properties of this couplant give excellent wetting and acoustic transmission and do not allow the product to flow all over the test area. This makes it very economical to use as you only cover the working area and not the whole piece, and is especially suitable for vertical and overhead surfaces.

Sonagel incorporates chemicals, which allow very slow drying even at elevated temperatures, whilst being free of VOC’s and other hazardous materials. However, it does contain a special tracer dye to enable areas to be checked for coverage but the couplant is still very easily removed with gentle water washing or solvent wipes.

Sonagel W Sonagel W is a stable clear yellow water based couplant gel specifically designed for ultrasonic inspection. It is non-toxic and safe for the environment and is available in easy to use 125ml applicator bottles, 250ml bottles, as well as in plastic 1 litre, 5 litre and 25 litre bulk containers (with suitable carrying handles).

*NB: this product operates within a temperature range of -10°C - 60°C and has a flash point of 160°C (PM) when used for long periods at elevated temperatures.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Container Type</th>
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<tbody>
<tr>
<td>T-09</td>
<td>125 ml Bottle</td>
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<tr>
<td>Sonagel W1</td>
<td>1 Litre Tub</td>
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<tr>
<td>Sonagel W1/T</td>
<td>1 Litre Bottle</td>
</tr>
<tr>
<td>Sonagel W5</td>
<td>5 Litre Tub</td>
</tr>
<tr>
<td>Sonagel W25</td>
<td>25 Litre Tub</td>
</tr>
</tbody>
</table>

Sonagel D1 is a bright yellow fine powder that when mixed with water, forms a stable clear yellow gel specifically designed for ultrasonic inspection. 1 kilo of D1 powder makes 20 litres of couplant when mixed with water. This product is specifically designed for ‘on site’ spot tests where it is impractical to carry or deliver ready to use couplant in bulk.

Sonagel D1 I KG - mixes to 20 litres

Sonagel O is a stable pink/orange oil based couplant gel intended for use as a replacement for mineral oils and greases, within NDT environment. Hydrocarbon based, and retains a gel state without causing corrosion or drying on the test surface. The gel has a flash point of 175° (PM) and operates within the temperature range of -10°C - 75°C.

Sonagel O is available in easy to use 125ml applicator bottles as well as in plastic 1 litre, 5 litre and 25 litre bulk containers (with suitable carrying handles).

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Container Type</th>
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<tbody>
<tr>
<td>T-08</td>
<td>125 ml Bottle</td>
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<td>Sonagel 01</td>
<td>1 Litre Tub</td>
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<td>Sonagel 05</td>
<td>5 Litre</td>
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<tr>
<td>Sonagel 025</td>
<td>25 Litre</td>
</tr>
</tbody>
</table>

Sonagel LTHT is a thick translucent couplant paste specifically designed for ultrasonic inspection at temperatures up to 250°C and is non-toxic and safe for the environment and is easily removed with solvents such as Alcohol, Acetone or Hydrocarbon distillates. Hazardous decomposition does not occur at elevated temperatures, the product will start to liquify as temperatures increase up to 300°C.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Container Type</th>
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</thead>
<tbody>
<tr>
<td>Sonagel-LTHT</td>
<td>1 Litre Tub</td>
</tr>
</tbody>
</table>

All products meet the sulphur and halogen requirements of nuclear and industrial specifications.

Please contact nic@sonatest.com for further details
## AWS Resolution Block

**Also called an RC block, the AWS Resolution Reference Block is used for checking resolution capabilities of angle beam transducers.**

Contains three sets of .0625 diameter through-holes for 45°, 60° and 70°. In accordance with AWS Welding Highway and Railway Bridges specification D2.0, and Structural Welding Code ANSI/AWS D1.1. Made from 1018 Steel, Nickel-plated.

- **Dimensions:** 6.000 x 3.000 x 1.000
  (152.4 mm x 76.2 mm x 25.4 mm)
- **AWS does not specify a separate metric version of the AWS Resolution block. The metric block in AWS shows only the metric equivalents to the standard design. Therefore, this one block can be used for both inch and metric requirements.
- **Fitted wooden storage case optional.**

## DSC Test Block

*(Imperial & Metric version available)*

AWS-type block used for shear wave distance and sensitivity calibration. Contains a 1.0” radius opposite a 3.0 radius. The 3.0 radius includes a .375 deep x .032 wide radiussed slot. Also contains a 0° reference point for checking exit point on wedge, and a .125 diameter through hole and corresponding markings at 45°, 60°, and 70° for measuring actual refracted angle. In accordance with ASTM E164 and AWS 6.16.1B.

**Special DSC blocks with radiussed scanning surfaces for NPS sizes also offered.**

- **Dimensions:** 1 “ Thick
- **Fitted wooden storage case optional**

## Navships Block

This special Phased Array version of the popular NAVSHIPS block solves the problem of too many holes interfering with one another.

The block contains four holes at 3/64 diameter drilled through the 1.250 width.

The holes are located at .250, .750, 1.250, 1.750, 2.250, and 2.750.

- **Dimensions:** 1.250 wide x 3.000 tall x 12.00 long
- **Alloy:** 1018 Steel, nickel-plated

## Steel Step Wedge (VW)

Used for checking the sensitivity of twin transducers on thin sections when using flaw detectors, thickness and linearity calibration.

- 1 mm to 8 mm in 1 mm steps.
- Each “step” is 20 mm x 20 mm, (0.75” x 0.75”)
- **Specification ASTM E797.**
- **Fitted wooden storage case optional.**

## Test and Calibration Blocks

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>149093</td>
<td>CBU Metric Test Block</td>
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<tr>
<td>149095</td>
<td>Cal Block No. 1 (V1)</td>
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<tr>
<td>149097</td>
<td>CBM Test Block (Thickness)</td>
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<td>149098</td>
<td>CBI Test Block (Thickness)</td>
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<td>149099</td>
<td>8-Step Test Block (VW)</td>
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<td>149118</td>
<td>AMK/MPAUT Block</td>
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<td>149205</td>
<td>Cal Block No. 2 (12.5mm) V2</td>
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<td>149273</td>
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<td>149279</td>
<td>DAC Calibration Block</td>
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<td>149289</td>
<td>Universal Test Block</td>
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<td>TST-0007</td>
<td>Carbon Steel PA Test Block</td>
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<tr>
<td>TST-0008</td>
<td>Aluminium PA Test Block</td>
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</table>
Calibration Blocks

V1/5 (A2) Calibration Block (V1)
For calibrating ultrasonic flaw detection equipment in both laboratory and on-site conditions. Used for calibration of shear and longitudinal transducers, determination of shear wave emission point, refracted angle.

Includes a 100 mm radius, 1.5 mm and 50.0 mm holes, engraved reference mark scales, and slots at the zero point which provide calibrating signals at intervals of 100 mm range. Used for calibrating in accordance with British Standard BS 2704 Block A2 Mod. 1, EN 12223, German Standard DIN 54-120, Australian Standard AS 2803, and ISO 2400. Also meets the requirements of the Dassault Aviation Falcon 10 Mandatory. Service Bulletin #294 dated March 20, 2002.

IIW TYPE 2 BLOCK
A modified version of the original IIW-Type 1 design. Includes a 2.0" radius x .250" deep cut-out superposed on the 4.0" radius for distance calibration. Also includes numbers 3, 5 and 8 through holes (3/64", 5/64" AND 8/64" diameter) and distance calibration marks to the 2.0" hole. In accordance with International Institute of Welding, ASTM E164 and U.S. Air Force NDI Manual T.O. 33B-1-1 specifications.

• Dimensions: 12.0" x 4.0" x 1.0" • 4340 Steel, Nickel-plated.
• Fitted wooden storage case or Cordura shoulder case optional.

V2 (A4) Calibration Block (V2)
12.5 mm thick small, carbon steel, calibration block for on-site checking of miniature shear wave probe index, time base, beam angle and gain. Includes a 25 mm and 50 mm radius, 1.5 mm hole (or 5mm), engraved reference mark scales from 35° to 75°.

In accordance with British Standard BS 2704 block A4, Fig. 4, and AS 2083.

• Dimensions: 75mm x 43mm x 12.5mm
• Also available in 20 mm and 25 mm thicknesses for calibration of non-miniature probes.
• Fitted wooden storage case optional.

Universal CBU Calibration Block
For the calibration of small shear wave and longitudinal transducers, determination of shear wave emission point, refracted angle and measurement of sensitivity and depth resolution.

• 50 mm radius.

SteelPipe Wedge (PW)
Made from 50 mm diameter pipe with thickness steps of 10, 8, 6, 4, and 2 mm. The pipe wedge simulates steam boiler tubes in power stations and is used to calibrate flaw detectors for thin tube inspections.

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## Cables

<table>
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<tr>
<th>Cable Type</th>
<th>Part Number</th>
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*Waterproof