



SYNERGY

INNOVATIVE DIVING EQUIPMENT TRADING LLC

INSPIRING • ENGINEERING • INNOVATION

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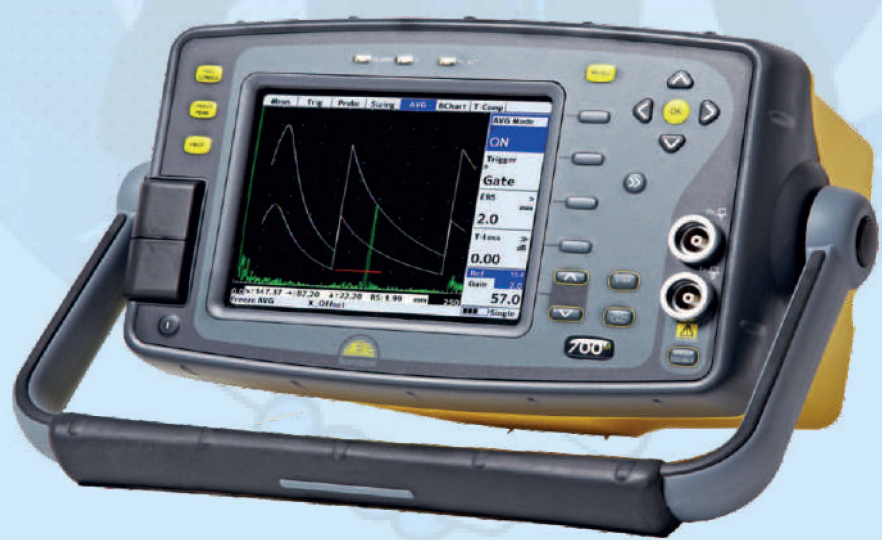


HIGH PERFORMANCE NARROW BAND DIGITAL ULTRASONIC FLAW DETECTORS

MASTERSCAN SERIES



PART NO : SY-FD-D70



7PART NO : SY-FD-700



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Masterscan Series

The choice is yours, customise your software.....

The Sonatest heritage in product design and Masterscan name has always assured the technician of robust instrument construction combined with exceptional performance. The Masterscan series carries the baton of all these desirable features, but now, thanks to innovative internal redesign, new features can be added and upgrades performed in the working environment, reducing downtime and increasing working flexibility. High levels of near surface resolution, penetrating power (450V pulser – square and spike) and excellent signal to noise ratio are key functions in the Masterscan range. Typical applications are Weld Fabrication, Corrosion Detection, Composite Inspection, Bond Testing, Forgings & Castings, Power Generation (including EMATS) and general UT inspection.

Masterscan Series Features

- Configurable on-board software.
- Customisable & Intuitive Menus
- Split DAC/AVG
- Angle Measurement Mode.
- Dryscan Capability
- Field Upgradeable.
- Encoded B-Scan
- A-Scan Fade.
- 4GByte on-board memory.
- USB Interface for PC import/export.



Masterscan D-70

DAC Curve functionality shown in Full Screen Mode

High Visibility Display

For any flaw detector the display is a crucial element. The Masterscan series has a colour transfective VGA display, providing high visibility in any lighting conditions. Maximum readability is achieved through adjustable brightness and the choice of 9 colour palettes, including a black on white LCD emulation mode. Simplicity reigns with the enhanced user interface and a full screen A-scan display is available at the touch of a button, so that every detail of the A-scan can be easily seen.

.....and choose your hardware.



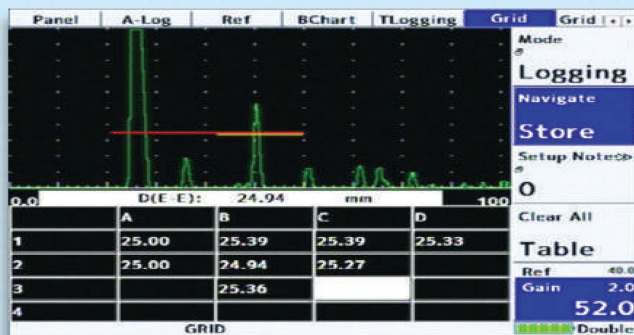
Masterscan 700M Dryscan Mode

3Rs - Reliable, Rugged & Robust

The ability to perform in harsh environments with proven reliability is an important aspect of flaw detector ownership. Maximum operational time is promoted by outstanding battery performance, up to 18 hours from full charge. The Masterscan's enclosure is constructed using automotive grade impact resistant materials and is designed to meet IP67 standards, offering excellent water resistance. Explosive Testing MIL810-G standards have been passed, together with environmental testing which has confirmed the instrument fully functioning at temperatures above 55°C.

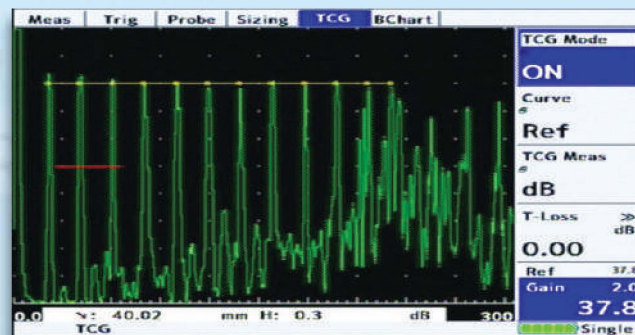
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Features



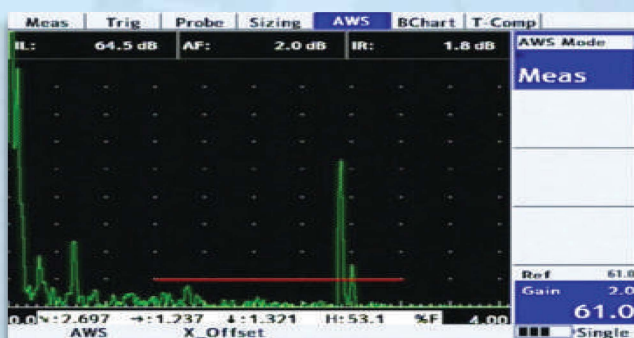
NEW - Corrosion Software Option

Thickness measurement is a major application of the Mastersan series and good data logging tools are essential to productivity. The popular Block/Location/Reading-Number format is available as standard. With the Corrosion Software option, users can create and populate two-dimensional grids of readings, with A-Logs, B-Scans, historical readings and notes optionally attached to each thickness log.



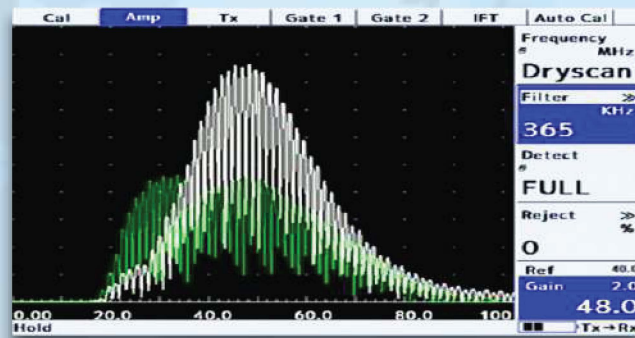
TCG

With the Time-Controlled Gain (TCG) option, the gain of the receiver can be varied along the beam path, to compensate for beam-spread and attenuation. This brings equivalent reflectors at different depths to equal heights on the A-scan and allows a simple gate to act as the reporting level for the inspection. TCG can be generated from reference echoes in the same way as DAC, or can be converted from a pre-existing DAC curve."



AWS

With this option enabled, measurements of Indication Level (IL), Attenuation Factor (AF), and Indication Rating (IR) are calculated and displayed in accordance with AWS D1.1



Dryscan Mode

The Dryscan option adds a tuned pre-amplifier to the received signal, allowing comparative transmission testing of composite materials which cannot be inspected using traditional techniques. Used in conjunction with soft-tip and roller probes, no couplant is required, so honeycomb structures or carbon fibre panels are easily assessed for delaminations and disbonds

UTLity Lite / UTLity Pro (Data Management Software)

UTLity Lite software provides everything you need to manage your inspection data. The Standard (Lite) version is FREE with every instrument and gives you the ability to view, move and manage Calibrations, A-Scans, B-Scans and Thickness Logs both on the instrument and on your PC. With UTLity Lite you can also create customised inspection report templates, cut and paste information to other applications, and create printable pdf documents.

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

UTLity Pro is the "professional" version and works in conjunction with the Corrosion Software option, 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.

- Set up Inspection plan (grid) templates, notes and labels.
- Import previous readings into an inspection plan
- Export Inspection plan data to spreadsheets and plant maintenance databases.

TECHNICAL DATA

Sizing Techniques & Software Options

| Sizing Technique | Description | Standard or Optional |
|---------------------------------|---|-----------------------------|
| DAC | Defined by up to 20 reference points or converted from TCG curve and digitally drawn on the screen. DAC curves meet the requirements of EN, ASME, JIS and many other standards. Custom DAC curves can be selected. DAC dynamic range can be extended by automatically adjusting the reference curve to match the reference gain. Scanning Gain and T-Loss available as separate controls. Amplitude readout is selectable between %FSH, % DAC or relative dB. | Standard |
| TCG | Time corrected or "Swept" gain, defined by up to 20 reference points or converted from a DAC curve. All points converted to 80% screen height. | Option |
| Backwall Echo (BEA) Attenuation | 0-40dB attenuation applied to the latter part of the time base, to improve the detectability of defects near the back wall and the loss of BWE due to porosity. | Option (requires TCG) |
| AWS | Built-in calculation and display of factors and parameters required by AWS D1.1 | Option |
| AVG/DGS | Enables the calculation of pseudo "DAC" curve and equivalent reflector size of UT indications, based on user input of transducer parameters. | Option |
| API | On-board flaw sizing method in accordance with API 5UE. | Option |
| Interface Trigger (IFT) | Unlocks the interface trigger gate controls, which hold off the A-Scan acquisition and display until an interface echo is detected within a specific range and amplitude. Used for the elimination of water-path. | Option |
| Corrosion Software Option | Enables complex inspection plans to be uploaded from a PC using the on board UTLity software. Features include 2 dimensional thickness logging, storing A-Logs and B-Logs with thickness values, taking multiple readings per location and note creation for each grid location. B-Scan option available to display bar-graph views of thickness readings taken by Gate 1 against distance or time. | Option (includes B-Scan) |
| Dryscan Function | Tuned low frequency pre amplifier for dry-coupled techniques such as bond checking and delaminations in composite materials. | Option |
| Split DAC & DGS/AVG | Adds up to 3 zones of added gain (+12dB, +24dB) to the DAC or DGS/AVG curve to enable single-pass scanning of large sections and attenuative materials. Conforms to EN583-2:2001. | Option |

Masterscan Standard Kit

Masterscan 700M or D-70 Digital Flaw Detector
 Battery, Charger, charger mains cable.
 User Guide & Calibration Certificate.
 Certificate of Conformance
 Carry Bag.
 UTility & USB cable.
 Display Window Cover.
 Ultrasonic Couplant.

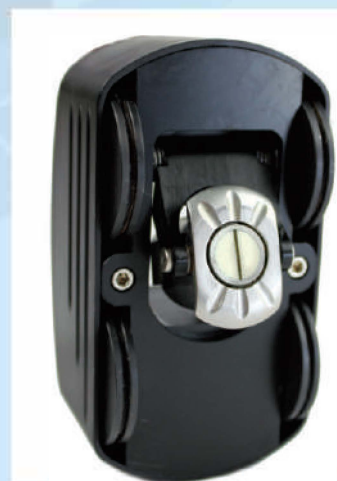
Site Pack Option (D-70 only)

Sitescan Standard Kit
 Rugged Shipping Case
 Airplane carry on size
 488 mm x 386 mm x 229mm
 19.2 in x 15.2 in x 9.0 in
 Centre of Gravity Bracket
 Webbing Bracket
 Magnetic Bracket
 Webbing/two Karabiners strap/hook

B-Scan Encoder Option

The Sonatest series of flaw detectors are suitable for Corrosion Mapping using linear encoded scanners like the EZ-scan 4 (as seen on the right).

Ideal applications include Storage Tank bottom and side walls, flat plates and pipes with a 10cm (4") or greater outside diameter.



Rubber Boot Accessory

Customised Rubber "shell" that fits around the instrument for extra protection and insulation. (D-70 only)

UTLity Pro (Advanced User Software)

Advanced user software, partners with the Corrosion Software Option enhancing data manipulation, presentation and analysis.

SYNERGY INFRASTRUCTURE





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