Sonatest

XEO

Faster Inspections.
Smarter Decisions.



Simplicity | Capability | Reliability

RCON NDT
Experienced and Independent

5605 Freitag Drive
Menomonie, WI 54751
PH: 715-235-7222

5031 Martin Luther King Jr. Fwy
Fort Worth, TX 76119
PH: 817-686-7222

news@rcon-ndt.com

Optimized for the future.

The Sonatest XEO offers the flexibility to help you leverage your industry techs and automation.

The true power of a high-end system in a portable instrument.



XEO



Smart and Intuitive

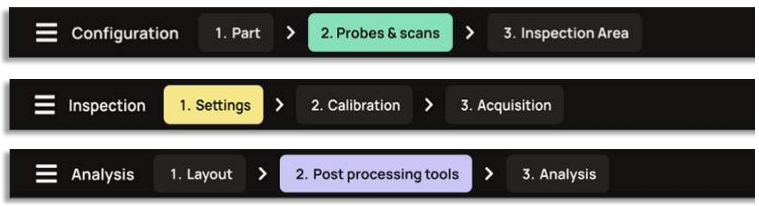
Advanced doesn't have to mean complicated.

Sonatest has surpassed expectations by setting a new baseline in ultrasonic inspections. Once again, Sonatest has committed to and designed a proven PAUT instrument that provides high-quality inspections and comprehensive data.





Our PA instrument stays remarkably simple to use, offering an intuitive configuration workflow that guides your parameter choices even in the most complex inspection scenarios.

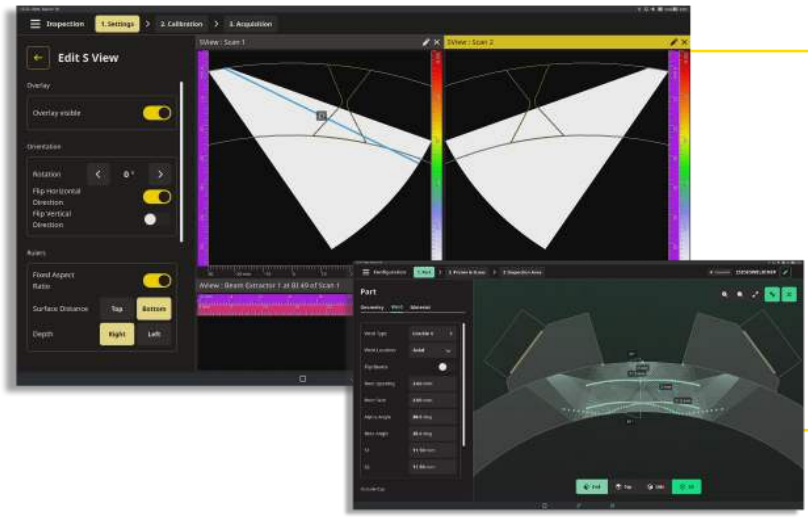


The XEO interface is the natural fit for all NDT inspectors. Easy navigation requires minimal training. The conceptualisation of phased array ultrasound is seamlessly built to tackle repetitive work and complex NDT data recording.

Fast in Any Application

Advanced Imaging and Inspection Technologies

The XEO ecosystem always leverages inspection across all geometric situations. Adding up meaningful scans creates an intuitive environment and solves your most pressing inspection challenges.



PHASED ARRAY

The instrument is capable of true geometry rendering with sectorial and linear scanning.

This allows a **comprehensive data reviewing**.

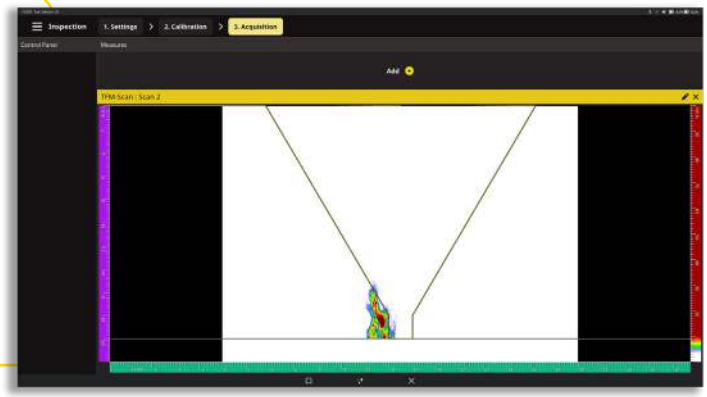
With our **3D ray tracing**, validate your configuration to ensure maximum coverage of your inspections.

TFM/TFMi

Get fast and live images from one or many of the 16 propagation modes available on flat and curved parts.

The defect profile fidelity is key to characterisation.

With up to 4 megapixels per image, you will never miss a thing.





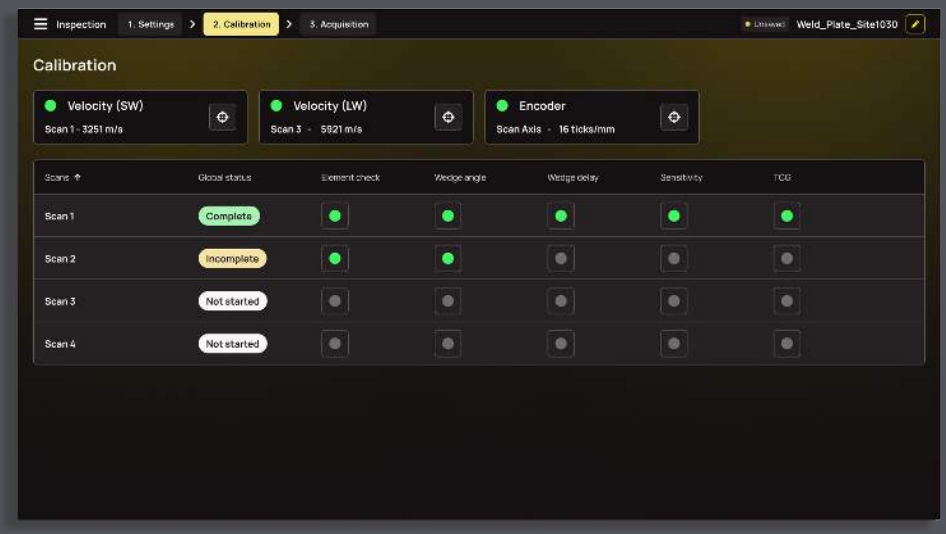
MULTIPLE TECHNIQUES

Using complementary techniques assures a **higher detection rate** of every defect.

With XEO, Phased array, TFM, TOFD; all techniques can be used in the same configuration.

For a complete inspection in only one scan, take advantage of the mini-dock flexibility.

Inspection Planning and Workflow Efficiency



When you work on the XEO, execution is simple and fast, and it keeps your focus on NDT tasks. Be even more efficient with the inspection instructions, minimize errors and explore with precision.

Rugged hardware. Proven reliability.

Engineered to perform wherever the job takes you.

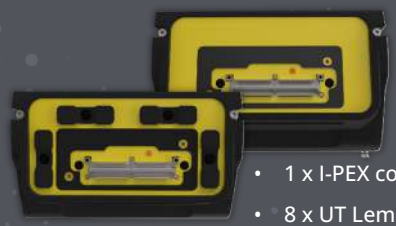
Long-lasting durability means lower lifetime cost and less downtime. It's an instrument built to withstand harsh conditions without compromising on performance.

- 5.2 kg with batteries
- 2 x hot-swappable batteries
- IP65 Certified
- 32 GB RAM
- Industrial grade 500 GB SSD @ 4 GB/s
- 2 x 10 GB/s USB-C with power delivery and DisplayPort alternate mode
- Mini-dock smart detection

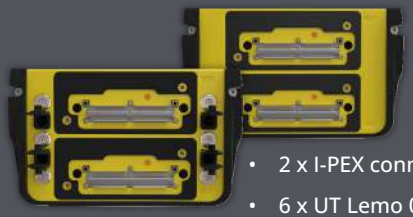


Always the right tool for the job.

Get more flexibility with our interchangeable mini-dock options :



- 1 x I-PEX connectors (128 elements)
- 8 x UT Lemo 00 connectors (option)



- 2 x I-PEX connectors (64 elements)
- 6 x UT Lemo 00 connectors (option)

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Specifications

Widescreen Work Platform | Connected PAUT-TFM | Linux KDE Plasma OS

GENERAL	PHASED ARRAY (64:128 PR)	UT-TOFD (2PR)	FMC-TFM (128 Elements)
Multi-scan Quantity	Up to 10 PA scans	Up to 8 UT Up to 4 TOFD	Up to 8 TFM and/or TFMi scans
Pulsers/Receivers	64:128PR (Option 32:128PR)	0, 6 or 8 (Depends on mini docking options)	Up to 128 elements probe
Gain Range	80 dB	80 dB	80 dB
Sampling Frequency	Up to 250 MHz @ 16-Bit (16-Bit processing with dynamic FSH 100 to 3200%)		
System Bandwidth	0.2 to 24 MHz	0.2 to 24 MHz	0.2 to 24 MHz
Max Pulse Rate Frequency	50 000 Hz	50 000 Hz	50 000 Hz
Pulse Voltage	Bipolar from ±25 to ±90V (up to 180 V peak to peak)		
Focusing Mode	Natural or Constant Depth/Path/ Offset/Resolution	N/A	Up to 128 elem. TFM TFMi™ product and keep max methods
Resolution	Up to 0.01°	N/A	4 megapixels (max. # of pixels)
L-Scan Resolution	1 element, double resolution, or custom element steps	N/A	TFM and TFMi resolution up to 0.1mm
Max PA Beams	PA or TFM focal laws up to 16 384 beams	N/A	TFM: 2048 pixel²
Measurement tools	Extraction box, 4 gates/ A-Scan, TCG, DAC, cartesian cursors, indication table	4 gates/A-Scan, TCG, DAC, indication table	Extraction box and all the standard PA tools, cartesian cursors, indication table

General Phased Array		General FMC/TFM Technique	
Max Points per A-Scan	Up to 16 384 points per A-Scan	Propagation mode	16 TFM algorithms; up to 4 modes per TFMi™
Data Storage & File Size	500 GB SSD PCIe; no file size limit	Fast TFM	Sparse Matrix Capture (SMC) and Hardware Accelerated

OPERATING SYSTEM		HARDWARE SPECIFICATIONS		
Onboard Reporting Tools	Save screenshots anytime Save recording and audio files Indication table export to CSV C-Scan data export to CSV	Mini Dock PA & UT Connectors' options	IX 128 channels	Dual IX 64-64 channels
			IX 128 channels + 8x LEMO 00	Dual IX 64-64 channels + 6x LEMO 00
Onboard 3D live rendering	On flat, curved and pipelines part with or without welds. T-joints and corner joints.	Environmental Rating	Certified IP65 - Vibration tested using MIL-STD 810H	
Multi-Task File Browser	Ability to load and read: PDFs, image files (.jpeg, .png, .gif), and audio files	Operating Temperature	-10°C to 45°C (14°F to 113°F) storage -20°C to 60°C (-4°F to 140°F)	
Communication Ports	Wi-Fi 6 – (802.11ax 2.4 GHz and 5 GHz) 2 USB-C with Power Delivery and DisplayPort Alternate Mode	Instrument Display	11.56" Diagonal 1920 x 1080 LED Backlight Screen, Projective Capacitive Touch Panel. Duplicated and extended display	
Remote Display Ports	Wi-Fi, Ethernet, HDMI or USB-C screen	Power Input	AC 110 V/240 V @ 50 Hz/60 Hz to USB-C 100 W at 20 V	
Data Transfer Ports	Wi-Fi, Ethernet or USB-C drive (FAT32, NTFS, ext3 & ext4 formats)	Operating Time	>5h (2 x 99.4 Wh hot-swappable batteries)	
Weight	5.2 kg (11.2 lb) with batteries, 0.46 kg (1 lb) /battery)	Calibration Standards	ISO 18563-1:2022 ISO 22232-1:2020	

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