GEKKO
PHASED–ARRAY FLAW DETECTOR

PHASED–ARRAY FLAW DETECTOR FOR FIELD INSPECTIONS

PAUT flaw detector
64:64 parallel channels
+ 4 additional TOFD/
conventional UT channels
International code compliance:
ASME, AWS, API, ASTM, ISO–EN

Advanced features
Real–time and Adaptive TFM
Linear, Matrix and Dual Matrix arrays
3 axis management
3D imaging
Cylindrical reconstruction

User–friendly
All–level operators
Step–by–step application
Calibration wizards
Analysis and reporting tools

Field ready
10.4" Resistive touch screen
Dust & water resistant
Hot swap battery
Multi–group applications

2PA + TOFD inspection

A WIDE RANGE OF APPLICATION

Weld inspection . Pressure vessel inspection . Blistering characterization . Pipeline girth welds inspection
Small diameter pipes . Corrosion mapping . Nozzle inspection . Composite inspection . Cladded weld inspection
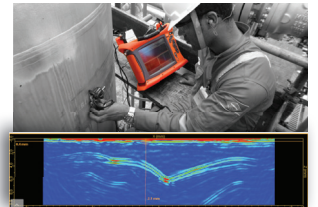

Weld inspection

Rail inspection
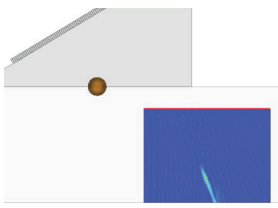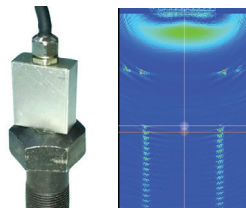

Aircraft wing inspection

Corrosion mapping

STATE–OF–THE ART PHASED–ARRAY TECHNOLOGY

Real–time Total Focusing Method (TFM)
TFM is a powerful technique that focuses at each point of
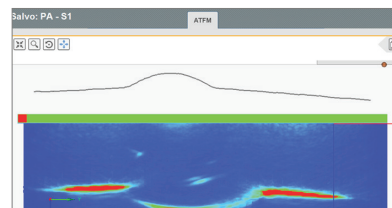a user–specified zone for accurate defect characterization
and high–resolution imaging.

Adaptive TFM
The Adaptive Total Focusing Method allows to make images
under a complex surface, using a phased–array probe and
a flexible wedge and/or an immersion technique.

Defect characterization

High resolution imaging

Adaptive Total Focusing Method

M 2 M

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general

L x W x H: 410mm x 284mm x 126mm	10.4'' high contrast resistive screen - resolution 1024x768 px
Operating temperature range: from -10°C to 45°C	Weight: 6kg (without battery) ; 0,480g /battery
Storage temperature range: -10 to 60°C with battery	IP66
3.5h batteries, hot swap	Shock resistance according to MIL-STD-810G

standard phased-array

Linear scanning (E-Scan), sectorial scanning (S-Scan)	Up to 2,048 delay-laws | Up to 8 groups
Multiple skewed sector scan for matrix and dual matrix array (DMA)	CIVA fueled phased-array calculator
Maximum number of active channels: 64	

real-time TFM

Max number of points of reconstructed image: 65K	Sound paths: direct, half skip, full skip
Max TFM frame rate: 80fps	Available modes: L, S and mode-converted paths

pulsers

64 phased-array channels*:	**4 conventional UT channels**:**
Negative square pulse, width: 35ns to 1,250ns	Negative square pulse, width: 35ns to 1,250ns
Voltage: 12V to 100V with 1V step	Voltage: 12V to 200V with 1V step
Max. PRF: 20kHz	Max. PRF: 20kHz

receivers

64 phased-array channels*:	**4 conventional UT channels**:**
Input impedance: 50 Ω	Input impedance: 50 Ω
Frequency range: 0.4 to 20MHz	Frequency range: 0.4 to 25MHz
Max. input signal: 1.2 Vpp | TCG – ACG calibration wizard | AVG	Max. input signal: 1.4Vpp
Gain: up to 120dB (0.1dB step)	TCG – DAC calibration wizard
Cross-talk between two channels < 50 dB	Gain: up to 120dB (0.1dB step)

digitizer

Digitizing and real-time summation on 64 channels	Summed data resolution: 16bits
FIR filters	Max. sampling frequency: 100 MHz
Real-time averaging up to 32x	Digitizing depth up to 16,384 points
Rectified, RF, envelope	A-scan range or delay max 65,536 points

acquisition

Hardware acquisition gates, synchronized gates	Max. data flow 50 MB/s on a 128Gb SSD (extensible up to 1 To)
Maximum number of acquisition gates: 16	Inspection data file size: up to 10Gb
A-Scan/Peak data recording	Acquisition trigger on time, event, encoder

analysis

Free Viewer	800% amplitude range
A-Scan, B-Scan, C-Scan, D-Scan, Echodynamic, 3D, side view	Customisable inspection report
Analysis and reporting tools	Compatibility with CIVA

I-O

1 IPEX connector for phased-array (can be upgraded to 2 with splitter)	4 LEMO 00 connectors for conventional UT
3 encoder inputs	1 external trigger
3 USB 2.0	Acquisition file transfer through Ethernet
	16 analog inputs

Indicated values may change without notice.   **Standard: EN ISO 18563-1 for phased array channels*
**Standard: EN ISO 12668-1 for conventional channels

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