M2M GEKKO®
State-of-the-art phased-array flaw detector with TFM
**SPECIFICATIONS**

### 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 65°C | 14°F to 113°F
- **Storage temperature range:** -10°C to 60°C | 14°F to 140°F with battery
- **Operating time:** 4h (hot swappable battery)
- **Shock resistance according to MIL-STD-810G**

### PHASED-ARRAY

- **Maximum active aperture:** 64 elements
- **Total number of channels:** 64
- **Linear, matrix, DLA and DMA probes**
- **Up to 6 probes | Up to 8 groups | Up to 2,048 delay-laws**
- **CIVA fueled phased-array calculator**
- **On-board focal law calculation on plate, cylinder, T & Y, nozzle**

### REAL-TIME TFM

- **Reconstruction channels:** up to 64 elements
- **Max number of points of the TFM image:** up to 1Mpi (post-processing)
- **Max refresh rate:** up to 80fps
- **Sound paths:** direct (L or S), indirect and converted modes
- **Real-time Adaptive TFM (ATFM) module**
- **4 resolution levels**
- **All calibration wizards (including TCG) available**

### PULSERS

- **Phased array channels:**
  - Negative square pulse, width: 35ns to 1250ns
  - HT voltage: from 12V to 100V (with IV step)
  - Max. PRF: up to 20kHz
- **UT-TOFD channels:**
  - Negative square pulse, width: 30ns to 1250ns
  - HT voltage: from 12V to 200V (with 1V step)
  - Max. PRF: up to 20kHz

### RECEIVERS

- **Phased array channels:**
  - Input impedance: 50 Ω
  - Frequency range: 0.4 to 20MHz
  - Max. input signal: 120Vpp
  - Gain: up to 120dB (0.1dB step)
  - Cross-talk between two channels < 50 dB
- **UT-TOFD channels:**
  - Input impedance: 50 Ω
  - Frequency range: 0.6 to 25MHz
  - Max. input signal: 1.4 Vpp
  - Gain: up to 120dB (0.1dB step)

### DIGITIZER

- **Digitalizing and real-time summation on 64 channels**
- **16bits amplitude resolution**
- **Max. sampling frequency:** 100 MHz
- **Real-time averaging up to x32**
- **Rectified, RF, envelope**
- **A-scan range or delay max 65k samples**

### WIZARDS

- **CAD overlay and 3D view**
- **Scanner resolution calibration**
- **Real-time phased array calculator**
- **Amplitude calibration (TCG, AC3, DAC, DGS)**
- **Base-time calibration for conventional UT & PA**
- **Probe design | Weld geometry design**
- **Wedge calibration (angle, height, velocity)**
- **Amplitude balancing, dead element check**
- **Specimen velocity calibration**
- **Part geometry with parametric shapes: plate, cylinder, T & Y, nozzle**

### ACQUISITION

- **Hardware acquisition gates (true-depth or soundpath)**
- **Max. data flow:** 150 MB/s on a 128Gb SSD (extendable up to 1 To)
- **A-Scan/Peak data recording**
- **FM recording**
- **Inspection data file size:** SSD limitation
- **Data frame loss indication**

### ANALYSIS

- **Capture™ software with analysis and reporting tools – Free PC Viewer**
- **Compatibility with CIVA analysis and Enlight™**
- **Part & weld overlay: plate, cylinder, T or Y section, nozzle**
- **Analysis gates**
- **TTOFD Lateral wave linearization and removal**
- **Customizable inspection report**
- **CIV data export**
- **Amplitude range:** up to 800%

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1 Standard: EN ISO 18563-1 for phased array channels
2 Standard: EN ISO 12668-1 for conventional channels

The information in this document is accurate as of its publication. Actual products may differ from those presented herein.

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