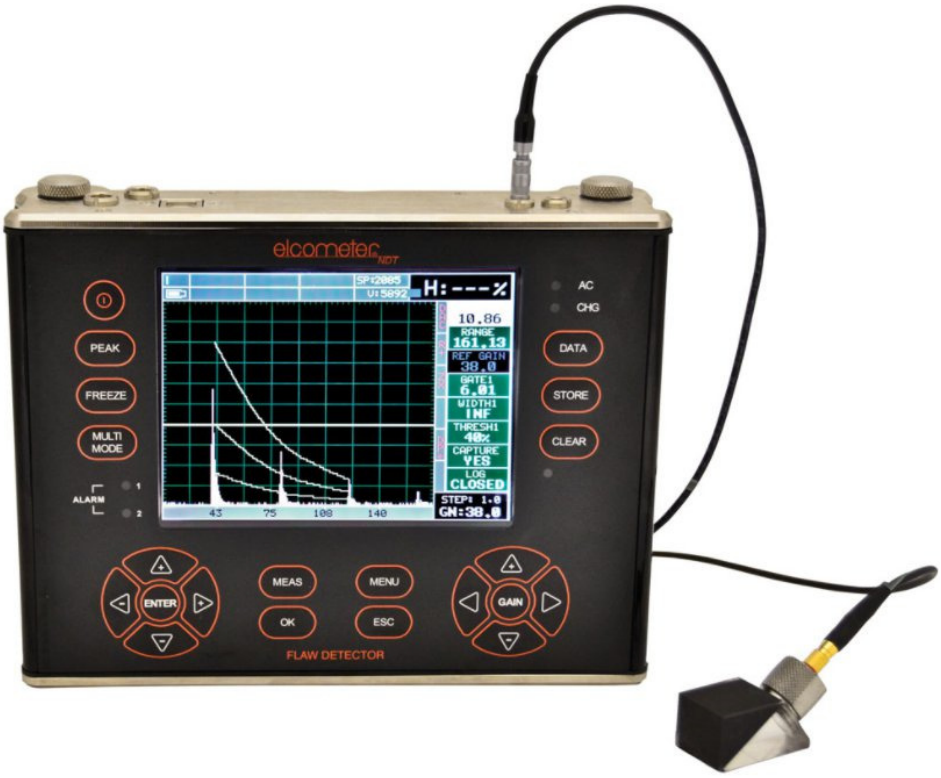
elcometer

Elcometer FD800 Bench Top Flaw Detectors



Designed for use in the laboratory these gauges are the tool you need for all your flaw detecting needs.

The Elcometer FD800 Bench Top Flaw Detector is available in two models: FD800DL and FD800DL+.

The time corrected gain (TCG) feature automatically compensates for sound attenuation through a material, further increasing the performance of the gauge.

Within the grid batching of the FD800DL+ the user has the capability to enter 'OBSTRUCT' on to the grid for easy identification of inaccessible locations to measure.

The FD800DL+ has a 6Gb internal memory and an external SD slot which allows up to 64Gb with full data logging via RS232 data output to ElcoMaster® data management software.

Features

- Blanview sunlight readable QVGA TFT colour display
- Sizing Toolkits: DAC, AWS, TCG, DGS
- Pulse Repetition Frequency: 8 to 333 Hz, adjustable
- Screen Refresh Rate: 60Hz
- Detection: Z-Cross, Flank & Peak
- Automatic: probe zero, probe recognition, and temperature compensation
- Measurement: Variety of modes to address a number of applications
- Large data storage: 6Gb internal & up to 64Gb external SD slot
- Multiple formats: Alpha numeric grid and sequential with auto identifier
- Up to 12 hours of battery life
- Download to ElcoMaster® data management software

P-E | E-E | PETP | PECT | EEV | CT | AGC | B-Scan | A-Scan

TRIG | DAC | AWS | AVG/DGS | TCG

BAMR (Pty) Ltd, 4 Palm Street, Newlands, 7700, Cape Town
Ph: 021 683 2100, WhatsApp: 079 998 6527
Email: sales@bamr.co.za, Web: www.bamr.co.za

Technical Specifications

Model & Part Number	**FD800DL & FD800DL+**
Material thickness digits display	■
B-Scan cross sectional display	■
B-Scan with digits display	■
Scan bar display	■
Coating thickness display	■
A-Scan display	+ Rectified, - Rectified, Full Waveform (RF)
Flaw detection modes	TRIG, DAC, AWS, TCG, Zero Crossing, Flank, Peak
Measurement Mode[1]	PE, PETP (Temp Compensation), EE (ThruPaint™), EEV, CT (Coating) & PECT
Measurement Rate (Thickness Mode)	
Manual:	4 readings per second
Scan mode	32 readings per second
Scan bar display	6 readings per second
Measuring Range2	PE: 0.63 - 30480mm PETP: 0.63 - 30480mm EE: 1.27 - 102mm EEV: 1.27 - 25.4mm PECT: 0.01 - 2.54mm PECT: 0.63 - 30480mm
Measurement Accuracy[2]	± 1% or ±0.1mm whichever is the greater
Measurement Resolution	0.01mm
Velocity Calibration Range	256 - 16,000m/s
Additional Features:	
High speed scan mode	■
Differential mode	■
Limit alarm mode	■
B-Scan display speed	adjustable display speed
Calibration setups	6 factory & 64 user-definable setups transferrable to and from a PC archive
Gates	3 fully adjustable gates: start, stop, width & threshold
Damping	adjustable; impedance matching for optimising transducer performance
Pulser type	FD800DL: two adjustable square wave pulsers. FD800DL+: two tone burst pulsers
Gain	manual, automatic gain control (AGC) with 110dB range with 0.2dB resolution
Timing	precision TCXO timing with single shot 100MHz 8bit ultra low power digitizer
Data logging	• 6Gb internal & up to 64Gb external SD slot • Bitmap graphic capture • sequential and grid logging • Alpha numeric batch identification • OBSTRUCT indicates inaccessible locations
Calibration Options	single, two point, velocity & material type
Transducer recognition	automatic
V-path / dual path error correction	automatic
Probe zero	automatic
Flaw Detection Mode Features	
Automatic	Longitudinal (straight),
Calibration:	or Shear (angle)
Probe Types:	Single Contact, Dual, Delay & Angle
Material Velocity Table:	Contains longitudinal and shear velocities for a variety of material types

TRIG	Trigonometric display of beam path, depth, surface distance, and curved surface correction. Used with angle beam transducers
DAC	Up to 8 points may be entered & used to digitally draw a DAC curve. Reference - 2, -6, -10, (-6/-12), (-6/-14), (-2/-6/-10) dB. Amplitude displayed in %DAC, dB, or %FSH
AWS	Automatic defect sizing in accordance with AWS D1.1 structural welding code.
AVG/DGS	Automatic defect sizing using probe data. Stores up to 64 custom setups
TCG	Time corrected gain. 50 dB dynamic range, 20 dB per microsecond, up to 8 points for curve definition
Detection Modes	Zero Crossing, Flank and Peak
Display Freeze	Hold current waveform on screen
Peak Memory	Captures peak signal amplitude.
PRF	8 to 2000Hz in selectable steps (8, 16, 32, 66, 125, 250, 333, 1000, 2000Hz)
Pulse Width	40 to 400 ns. Selectable step options 40, 80 & 400 ns (labeled spike, thin & wide)
Frequency Bands	FD800DL & FD800DL+: Broadband 1.8 - 19 MHz (-3dB). Four narrow bands at 1, 2, 5, 10MHz FD800DL+: Additional narrow bands at 5MHz, 15MHz
Horizontal Linearity	+/- 0.4% FSW
Vertical Linearity	+/- 1% FSH
Amplifier Linearity	+/- 1 dB
Amplitude Measurement	0 to 100% FSH, with 1% resolution
Delay	0 - 999in (25,375mm) at steel velocity
Display	Blanview sunlight readable QVGA TFT colour display. 115.2 x 86.4mm viewable screen
Display Refresh Rate	60Hz
Unit	mm
Backlight	adjustable brightness
Repeatability / Stability Indicator	■
Battery Type	6 x AA alkaline
Battery Life (approximate)	12 hours
Low Battery Indicator	■
Battery Save Mode	auto
Operating Temperature	-10 to 60ºC
Size (w x h x d)	216.0 x 165.0 x 70.0mm
Weight (including batteries)	2.04kg
Case Design	Aluminium case design with gasket sealed end caps, waterproof membrane keypad
Transducer Connector Type	LEMO
RS232 Interface	Bi-directional

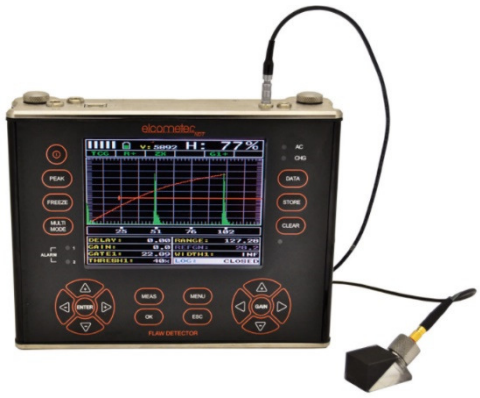
[1] PE: Pulse-Echo Mode, EE: Echo-Echo (ThruPaint™) Mode.
[2] Measuring range & accuracy depends on material, surface conditions and the transducer selected.

Packing List

Elcometer NDT FD800DL or FD800DL+ gauge
Couplant
Carry case
User manual
Test certificate
6 x AA batteries
ElcoMaster® software
Transfer cable

Accessories

Cables & Adaptors	
TL-24030-1	T/Cable: 4' Single Lemo 00 to BNC
TL-24030-2	T/Cable: 4' Single Lemo 00 to Lemo 00
TL-24030-3	T/Cable: 4' Single Lemo 00 to Microdot
TL-24030-5	T/Cable: 4' Dual Lemo 00 to BNC
TL-24030-6	T/Cable: 4' Dual Lemo to Lemo
TL-24030-7	T/Cable: 4' Dual Lemo to Microdot
TL-24030-8	T/Cable: 4' Dual Lemo to Microdot Single
TL-24031	RS232 Cable (6'); DB-9 to Lemo
TL-24032	USB to Serial Adapter
Couplant	
TC-24034-1	Couplant: Standard; 4oz Bottle (Material Safety Data Sheet)
TC-24034-2	Couplant: Standard; 12oz Bottle (Material Safety Data Sheet)
TC-24034-3	Couplant: Standard; 1 Gallon (Material Safety Data Sheet)
TC-24034-9	Couplant: Hi-Temp 510oC; 2oz Tube (Material Safety Data Sheet)
Delay Lines	
TD-24033-1	Cone Tip Delay Line: Acrylic; 1/8"
TD-24033-2	Cone Tip Delay Line: Acrylic; 3/16"
TD-24033-3	Cone Tip Delay Line: Graphite; 3/16"
TD-24033-4	Delay Tip (P): Acry; 1/16" Dia x 0.45" L
TD-24033-5	Delay Tip (P): Acry; 1/8" Dia x 0.45" L
TD-24033-6	Delay Tip: Acrylic; 1/4" Dia x 1/2" L
TD-24033-7	Delay Tip: Acrylic; 1/4" Dia x 3/8" L
TD-24033-8	Delay Tip: Graphite; 1/4"
Other Accessories	
TZ-24035	6" Ext Wand for S/E Microdot Transducers



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