elcometer®

elcometer®

ndt inspection equipment

elcometer®

Divisions of Elcometer

Blast Equipment

The Elcometer range of high performance abrasive blast machines, media valves, air handling, blast hose, blast nozzles, personal protective equipment and blast inspection & test equipment is engineered to be tough, safe and incredibly durable.

Spray Equipment

To meet the needs of the automotive refinishing, industrial finishing and refinishing markets the Elcometer Spray Equipment range of spray guns, fluid application & filtration systems and personal protective equipment ensures a fast and efficient high quality finish.

Coatings Inspection

Ever since our first coating thickness gauge in 1947, Elcometer has been a world leader in the design, manufacture & supply of inspection equipment to the coatings inspection industry, building a global network in 170 countries to meet the needs of the protective & industrial coatings industries.

NDT Equipment

Accurate and easy to use, Elcometer's NDT inspection equipment is ideal for measuring material thickness, sound velocity and detecting a wide range of flaws in a variety of materials, perfect for corrosion assessment in a broad range of industry applications.

ultrasonic NDT inspection equipment

From offshore platforms to shipyards, bridges to wind farms, **Elcometer's** comprehensive range of **ultrasonic NDT inspection equipment** meets the needs of the inspection industry - whatever and wherever they may be.

Contents

elcometer®

With a range of products specifically developed to meet the needs of the NDT inspection industry, **Elcometer** is well positioned to provide you with **the solution to your inspection requirements,** whatever and wherever they might be.

For more than seventy years Elcometer has been a world leader in the design, manufacture and supply of inspection equipment to the coatings, concrete and NDT industry.

Ever since the first Elcometer gauge was manufactured in 1947, our philosophy has been to provide industry leading, innovative, high quality products; supported by a best-in-class customer experience at a competitive price. By concentrating on these core values, Elcometer has grown into a global network with representation in over 170 countries.
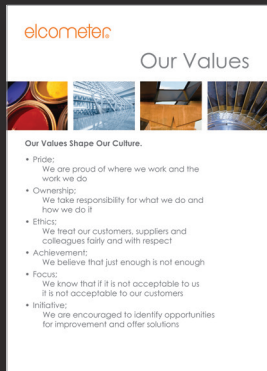
Concentrating on accuracy, reliability and ease of use, Elcometer has supplied ultrasonic NDT inspection equipment to its global network for over a decade.

For more information on Elcometer's range of ultrasonic NDT inspection equipment, visit www.elcometer.com.

Our Values

Pride;	We are proud of where we work and the work we do
Ownership;	We take responsibility for what we do and how we do it
Ethics;	We treat our customers, suppliers and colleagues fairly and with respect
Achievement;	We believe that just enough is not enough
Focus;	We know that if it is not acceptable to us it is not acceptable to our customers
Initiative;	We are encouraged to identify opportunities for improvement and offer solutions

NDT Inspection Equipment

Quality is part of our culture

Elcometer's commitment to quality is reflected in our ISO 9001 Quality and ISO 14001 Environmental certifications.

It is the Company philosophy to integrate quality into all aspects of the product - whether it be the initial product design, the manufacture or our commitment to our customers.

We are committed to meet or exceed the expectations of our customers and stakeholders by aligning our quality objectives for product, sales and service performance and delivery.

Elcometer is committed to reducing its impact on the environment, including product manufacture, packaging, catalogue production and our zero to landfill waste management. All our products are lead and mercury free and, where required, CE and RoHS compliant.

To view all our Company Policies and ISO certifications, visit www.elcometer.com

Service and Support

Elcometer has a dedicated distribution network all comprehensively trained on our NDT products, providing a full after sales service and support within your region.

With the widest range of own manufactured products, Elcometer can provide a complete solution to all your inspection requirements.

Training

Elcometer offers first class training on all its products to all our customers either at your facility or at our state of the art training facilities in England, Germany, United Arab Emirates or the USA. For more information please contact Elcometer.

Fit for Purpose

All Elcometer products are designed to comply with National and International Standards. We have a team of experts working with Standards bodies around the world, ensuring we have products fit for purpose, exceeding the demands of our customers.

In this catalogue, we have identified the latest National and International Standards - those in Orange are current and those in Grey have been superseded but are still recognised in some industries.

We continuously review our products against current and new Standards. For the most up to date list of Standards, visit our online catalogue which provides the latest information on all new, current and superseded Standards which our products can be used in accordance with.

Product Innovation

Elcometer continues to be a leader in product innovation for the Inspection Industries in both hardware and software design with a team of specialists dedicated to product development.

We are committed to continuously push the boundaries through our new product development programmes.

There are a wide range of measurement modes available within the **Elcometer NDT range**, the number of modes available vary between the models.

PE

Pulsed-Echo

The standard method for measuring material thicknesses.

Transducer: Dual

Gauges:
Elcometer MTG,
Elcometer CG70,
Elcometer CG100,
Elcometer UG20DL,
Elcometer FD700
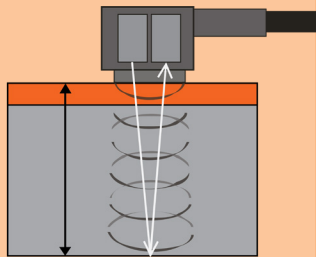
EE

Echo Echo ThruPaint™

The coating thickness is ignored and the material thickness from the top surface of the material to the back-wall is measured.

Transducer: Dual

Gauges:
Elcometer MTG,
Elcometer CG70,
Elcometer CG100,
Elcometer UG20DL,
Elcometer FD700
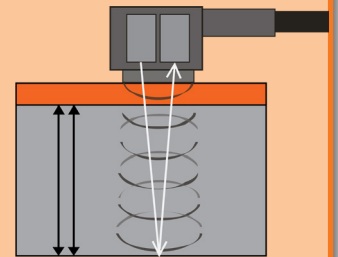
EEV

Echo Echo Verify

Also known as Triple Echo. Compares the values between 3 reflections. Ideal for eliminating errors from surface coatings and for measuring multiple layered materials.

Transducer: Dual

Gauges:
Elcometer CG100,
Elcometer UG20DL,
Elcometer FD700
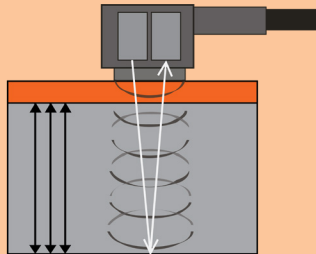
PETP

Pulse Echo Temp Comp

Similar to the PE mode, PETP takes into account and compensates for the variations in measurement caused by temperature variations.

Transducer: Dual

Gauges:
Elcometer CG100,
Elcometer FD700
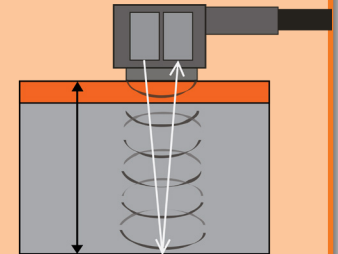
For the full range of Elcometer transducers, see page 5-4

PECT

Pulse Echo Coating

Displays both the material thickness (PE) and the coating thickness (CT) at the same time.

Transducer: Dual

Gauges:
Elcometer CG100,
Elcometer UG20DL,
Elcometer FD700
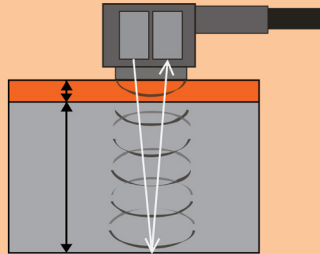
CT

Coating Only

Displays the thickness of the coating applied to the material.

Transducer: Dual

Gauges:
Elcometer CG100,
Elcometer FD700
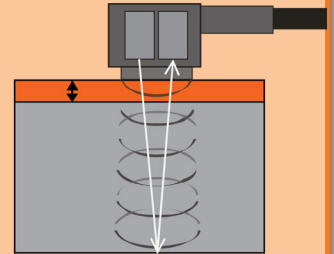
VM

Velocity

Measures the speed of sound of materials and is ideal for determining the homogeneity of a material/alloy.

Transducer: Dual

Gauges:
Elcometer MTG
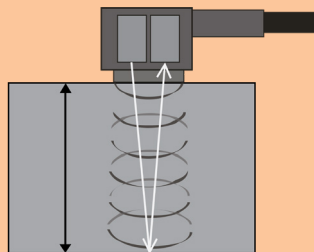
IE

Interface Echo

A highly accurate measurement mode, Interface Echo displays the total thickness from the top surface to the back-wall.

Transducer: Single

Gauges:
Elcometer PTG,
Elcometer PG70ABDL
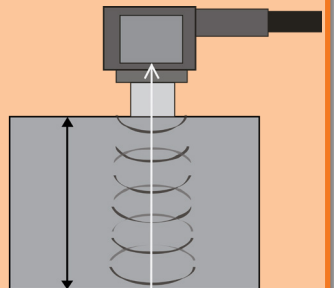
IEE

Interface Echo Echo

Interface to Echo-Echo verification. Unique to Precision Gauges (in EE mode) for increased measurement accuracy on extremely thin materials with no coating.

Transducer: Single

Gauges:
Elcometer PTG,
Elcometer PG70ABDL
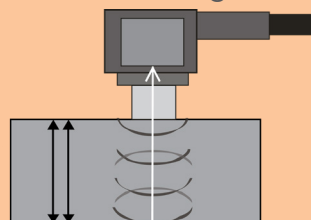
PLAS

Plastic

A mode specifically used for measuring very thin plastics. A special graphite delay line accessory is required for this mode.

Transducer: Single
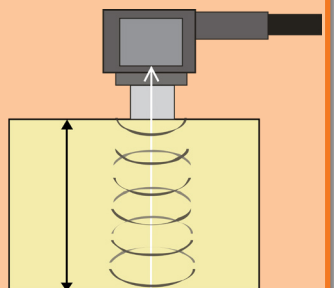
Gauges:
Elcometer PTG,
Elcometer PG70ABDL

Elcometer MTG

Ultrasonic Material Thickness Gauge

The **Elcometer MTG range** has all the features and functionality necessary for measuring material thickness and velocity on virtually any material - for a wide range of applications.

Auto recognition, ensures correct probe is identified when transducer is changed

Scan Mode at 16Hz, ideal for measuring a large surface area

User selectable reading resolution; 0.1mm (0.01") or 0.01mm (0.001")

Pulse Echo (PE), Echo Echo ThruPaint™ & Velocity (VM) measurement modes

Hi & Lo limit indicators provides indication of problem areas

Some MTG gauges are supplied as a gauge only. Transducers must be ordered separately.

(Wide range of transducers available - see page 5-4)

Integrated zero disc, ensures maximum accuracy

Stores up to 100,000 readings in up to 1,000 sequential batches

Selectable reading rate of 4, 8, 16Hz (4, 8, 16 readings per second)

STANDARDS:
ASTM E 797, EN 14127, EN 15317

Bluetooth® wireless technology

compatible with **ElcoMaster®**

etv video available elcometer.tv

Elcometer MTG

Ultrasonic Material Thickness Gauge

Easy to use and minimum set up required

Accurate

A range of calibration options for accuracy and efficiency

The MTG gauges have a range of calibration options including the 1-Point calibration method. Users can also select one of 39 pre-set materials stored within the gauge or store up to three calibrations into the memory.

Coatings up to 2mm (80mils) can be ignored

Versatile

Measures uncoated & coated surfaces

Flexible & easy to use, the Elcometer MTG range doesn't just measure uncoated surfaces but can also measure coated surfaces. Using Echo Echo ThruPaint™ Mode (EE), coatings up to 2mm (80mils) are ignored.

Customisable reading display

Customisable

Choose & customise the reading display

The Elcometer MTG range has a choice of display modes allowing the user to select the most appropriate for their needs; Readings, Selected Statistics, Bar Graph, Run Chart, B-Scan & Differential Mode.

Set user definable limits for audible and visual pass/fail warnings

Intelligent

User definable limits for pass/fail indication

Users are able to set upper and lower limits with audible and visual pass/fail warnings. Limits can be set for individual readings or for each batch.

Connect the gauge via Bluetooth® or USB to a mobile device

Wireless Connectivity

Seamlessly connect to any PC, Android™ or iOS mobile device

Compatible with both ElcoMaster® PC and ElcoMaster® Mobile App, readings can be downloaded via USB or Bluetooth® to PC, iOS or Android™ devices for further analysis and reporting.

Elcometer MTG — Ultrasonic Material Thickness Gauge

User Definable Upper and Lower Limits

The MTG gauges have user definable upper and lower limits with audible and visual pass/fail warnings allowing the user to compare readings to pre-defined values. The MTG8 can store up to 40 pre-programmed limits which can be set for individual readings or for each batch.

If a measurement is taken which falls outside set limits, the reading value and the limit icon turn red, the red LED flashes and the alarm beeps providing immediate indication of problem areas.

A Range of Calibration Methods

1 Point; after setting the zero point a reading is taken and adjusted on an uncoated sample piece of test material of a known thickness. Once the thickness has been entered and confirmed, the derived sound velocity is displayed.

2 Point; readings are taken and adjusted on two uncoated sample pieces of test material with known thicknesses. Once the second thickness has been entered and confirmed, the derived sound velocity is displayed.

Material; calibration using the sound velocity of a material, selected from a pre-defined list of materials stored in the gauge.

Velocity; calibration using the known sound velocity of the material under test.

Thickness Set; calibration is performed using the known thickness of the material under test. Up to three calibrations can also be saved in the gauge memory. Once saved, the user can select the calibration memory - without the need to re-calibrate the gauge.

Scan Mode
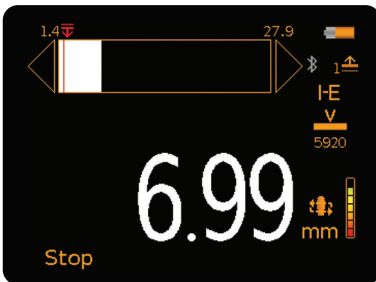
When enabled, users can slide the transducer over a large surface area whilst the gauge takes readings at a rate of 16Hz (16 readings per second). During each scan, the live thickness is displayed together with an analogue bar graph showing the thickness relative to the set nominal value and any user defined limits, with audible and visual warnings if any readings fall outside the set limits.

When the transducer is lifted off the surface, the average, lowest and highest thickness value is displayed making scan mode ideal for checking a sample's overall uniformity.

Elcometer MTG — Ultrasonic Material Thickness Gauge

Sequential or Grid Batching

Individual readings can be stored in up to 1,000 sequential or grid type, alpha-numeric batches, together with date and time stamp and reading location*. Users have the option to view batch readings, statistics and a graph of all readings stored within the batch.

The obstruction feature (Obst), allows the user to record areas of obstruction on the grid where measurements could not be taken.

B-Scan Reading
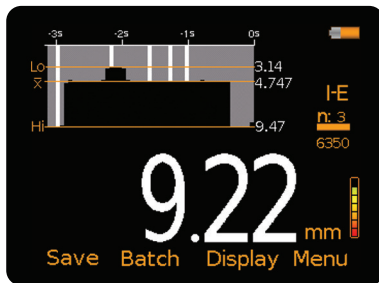
A time based, cross sectional 2 dimensional B-Scan provides a graphical view of the material under test, ideal for relative depth analysis.

The zoom of the B-Scan reading can either be set to automatic or can be defined by the user to focus on areas of interest.

Differential Mode

Once a user defined nominal thickness value has been set, the gauge displays the measured thickness together with the variation from the set nominal value thus indicating areas of the material which are thinner or thicker than expected.

Velocity Mode

Velocity mode measures the speed of sound of materials and is ideal for determining the homogeneity of a material/alloy and the correct velocity of a material for calibration.

* Grid batches only

Elcometer MTG **Ultrasonic Material Thickness Gauge**

A choice of display and measurement modes

Readings

The reading value is displayed.
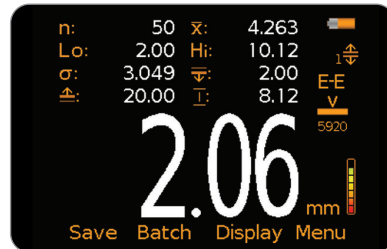
Selected Statistics

Up to 8 statistical values can be displayed as defined by the user.

Run Chart

A line trend graph of the last 20 measurements which is updated after each reading.

Bar Graph

An analogue representation of the current measurement value together with the highest (Hi), lowest (Lo) and average (x̄) reading.

Readings & Differential

The last reading is displayed together with the variation from the nominal value (if set).

B-Scan

A cross-sectional view of the material being tested is displayed along with readings taken, saved readings, highest (Hi), lowest (Lo) and average (x̄) reading and upper/lower limit values (if set).

Measurement Modes

Pulse Echo (PE); the total thickness from the base of the transducer to the material density boundary (typically the back-wall) is measured. Suitable for measurement of materials between 0.63mm and 500mm (0.025" to 20") thick.

Echo Echo ThruPaint™ (EE); a coating of up to 2.0mm (0.08") thick is ignored and the material thickness from the top surface of the material to the material density boundary (typically the back-wall) is measured. Suitable for measurement of materials between 2.54mm and 20mm (0.1" to 0.787") thick.

Velocity Mode (VM); measures the speed of sound of the material. Ideal for measuring the homogeneity of a material/alloy.
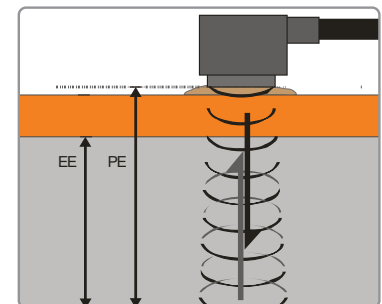
Elcometer MTG **Ultrasonic Material Thickness Gauge**

Product Features

Model Number	MTG2	MTG4	MTG6	MTG8
Easy to use menu structure in multiple languages	■	■	■	■
Tough, impact, waterproof and dust resistant equivalent to IP54	■	■	■	■
Bright colour screen with permanent backlight	■	■	■	■
Ambient light sensor, with adjustable brightness	■	■	■	■
Scratch and solvent resistant display; 2.4" (6cm) TFT	■	■	■	■
Large positive feedback buttons	■	■	■	■
USB power supply via PC	■	■	■	■
Gauge software updates[1] via ElcoMaster® Software	■	■	■	■
2 year gauge warranty[2]	■	■	■	■
Limits: 40 definable audible & visual pass/fail warnings				■
Measurement Mode				
Pulse Echo (PE)	■	■	■	■
Echo Echo ThruPaint™ (EE)		■	■	■
Velocity Mode (VM)			■	■
Measurement Rate				
4, 8, 16Hz	4Hz	4Hz	4, 8, 16Hz[3]	4, 8, 16Hz[3]
Thickness Range[4]				
PE 0.63-500mm (0.025-19.999")	■	■	■	■
EE 2.54 - 25.4mm (0.100-1.0")		■	■	■
Measurement Units				
mm or inches	■	■	■	■
m/s, inch/µs			■	■
Repeatability / Stability Indicator	■	■	■	■
Display Mode				
Reading	■	■	■	■
Selected statistics			■	■
Scan thickness bar graph			■	■
Run Chart			■	■
Readings and Differential				■
B-Scan cross sectional display				■
Selectable Reading Resolution				
Lo; 0.1mm, 0.01 Inch, 10m/s, or 0.001 in/µs	■	■	■	■
Hi; 0.01mm, 0.001 Inch, 1m/s, or 0.0001 in/µs			■	■

[1] Internet connection required

[2] The Elcometer MTG range is supplied with a 1 year warranty against manufacturing defects. The warranty can be extended free of charge to 2 years within 60 days of purchase via www.elcometer.com.

[3] User selectable default setting in Scan Mode is 16Hz

[4] Dependent on the material being measured and the transducer being used

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Elcometer MTG **Ultrasonic Material Thickness Gauge**

Product Features

Model Number	MTG2	MTG4	MTG6	MTG8
Statistics				
Number of readings,n; Mean average, $\overline{x}$; Standard deviation, σ.			■	■
Lowest reading, Lo; Highest reading, Hi			■	■
Low / high limit value				■
Reading Range Value I				■
Nominal Value				■
Number of readings below the low limit				■
Number of readings above the high limit				■
Calibration Options				
Zero (using the integral zero disc)	■	■	■	■
1 - point		■	■	■
2 - point			■	■
Material selection; 39 preset materials*		■	■	■
Factory; resets to the factory calibration		■	■	■
Velocity (speed of sound)			■	■
Known thickness value			■	■
Calibration Features				
Calibration lock; with optional PIN Lock			■	■
Test calibration feature			■	■
Calibration memories: 3 programmable memories				■
Measurement outside calibration warning				■
Data Logging				
Number of readings			1,500	100,000
Number of batches			1	1,000
Sequential batching			■	■
Grid batching				■
Fixed Batch Size Mode; with batch linking				■
Obstruct entry; add 'obst' into grid location				■
Delete last reading			■	■
Date & time stamp			■	■
Review, clear & delete batches			■	■
Alpha numeric batch names; user definable				■
Batch review graph				■
Data Output				
USB to PC	■	■	■	■
Bluetooth® to PC, Android™ & iOS devices			■	■
ElcoMaster® software			■	■
Transducer Probe Type				
Dual Element	■	■	■	■
Auto transducer recognition	■	■	■	■
Auto V-path correction	■	■	■	■

* See page 5-23 for lists of preset materials

Elcometer MTG   **Ultrasonic Material Thickness Gauge**

Technical Specification

Part Number Gauge Only	Complete with 5MHz ¼" right angle dual element transducer	Description	Certificate
	MTG2-TXC	Elcometer MTG2 Ultrasonic Material Thickness Gauge	●
MTG4	MTG4-TXC	Elcometer MTG4 Ultrasonic Material Thickness Gauge	●
MTG6DL	MTG6DL-TXC	Elcometer MTG6DL Ultrasonic Material Thickness Gauge	●
MTG8BDL	MTG8BDL-TXC	Elcometer MTG8BDL Ultrasonic Material Thickness Gauge	●

Model Number	MTG2	MTG4	MTG6	MTG8
Measurement Range[1]				
Pulse Echo (PE)	0.63 - 500mm (0.025 - 19.999")	0.63 - 500mm (0.025 - 19.999")	0.63 - 500mm (0.025 - 19.999")	0.63 - 500mm (0.025 - 19.999")
Echo Echo ThruPaint™ (EE)		2.54 - 25.4mm (0.100-1.0")	2.54 - 25.4mm (0.100-1.0")	2.54 - 25.4mm (0.100-1.0")
Velocity Mode (VM)		1,250-10,000m/s (0.0492 - 0.3937in/μs)	1,250-10,000m/s (0.0492 - 0.3937in/μs)	1,250-10,000m/s (0.0492 - 0.3937in/μs)
Measurement Accuracy[2]				
Pulse Echo (PE)	±0.1mm (0.63-19.99mm) ±0.5% (20.00-500.00mm)	±0.1mm (0.63-19.99mm) ±0.5% (20.00-500.00mm)	±0.05mm (0.63-9.99mm) ±0.5% (10.00-500.00mm) ±0.004" (0.025-0.393) ±0.5% (0.394-20.00")	
Echo Echo ThruPaint™ (EE)		±0.1mm (2.54-25.4mm)	±0.05mm (2.54-9.99mm) ±0.5% (10.00-25.4mm) ±0.004" (0.100-0.393") ±0.5% (0.394-1.0")	

Operating Temperature	-10 to 50°C (14 to 122°F)
Power Supply	2 x AA batteries
Battery Life[3]	Alkaline: 15 hours Lithium: 28 hours
Gauge Weight	210g (7.4oz) - including batteries, without transducer
Gauge Dimensions	145 x 73 x 37mm (5.7 x 2.84 x 1.46"), without transducer
Packing Lists	Elcometer MTG2 Ultrasonic Material Thickness Gauge, 5MHz ¼" right angle dual element transducer, ultrasonic couplant, carry pouch, screen protector, wrist harness, 2 x AA batteries, operating instructions, test certificate & 2 year warranty extension card
	Elcometer MTG4 Ultrasonic Material Thickness Gauge, 5MHz ¼" right angle dual element transducer (MTG4-TXC only), ultrasonic couplant, carry pouch, screen protector, wrist harness, 2 x AA batteries, operating instructions, test certificate & 2 year warranty extension card
	Elcometer MTG6 Ultrasonic Material Thickness Gauge, 5MHz ¼" right angle dual element transducer (MTG6DL-TXC only), ultrasonic couplant, plastic transit case, 3 x screen protectors, wrist harness, 2 x AA batteries, operating instructions, calibration certificate, ElcoMaster® software CD & USB cable
	Elcometer MTG8 Ultrasonic Material Thickness Gauge, 5MHz ¼" right angle dual element transducer (MTG8BDL-TXC only), ultrasonic couplant, plastic transit case, 3 x screen protectors, wrist harness, 2 x AA batteries, operating instructions, calibration certificate, ElcoMaster® software CD & USB cable

● Calibration Certificate supplied as standard.   [1] Dependent on material being measured & transducer being used.

[2] On steel.   [3] Approximate battery life, when in Continuous Reading Mode at a reading rate of 4Hz. Rechargeable batteries may differ.

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Elcometer MTG

Material Thickness Transducers

Suitable for:
MTG4
MTG6
MTG8

The **MTG Transducer range** has intelligent automatic transducer recognition ensuring correct probe identification even when the transducer is changed.

Disk	Part Number	Probe Diameter	Probe Configuration	Damping*	ThruPaint™	Connector Type		Suitable for measuring										Suitable for			Mode	
						Potted right angle	Microdot	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	MTG4	MTG6	MTG8	PE	EE
1.00 MHz Dual Element Thickness Transducer																					
🟡	TXC1M00EP-2	½"	Right Angle	S		•		•	•	•							•	•	•	•	
2.25MHz Dual Element Thickness Transducer																					
🔴	TXC2M25CP-2	¼"	Right Angle	S		•		•	•			•					•	•	•	•	
🔴	TXC2M25EP-2	½"	Right Angle	S		•		•	•			•					•	•	•	•	
3.50MHz Dual Element Thickness Transducer																					
⚫	TXC3M50EP-1	½"	Right Angle	S		•		•	•			•					•	•	•	•	•
5.00MHz Dual Element Thickness Transducer																					
🟢	TXC5M00BP-4	³⁄₁₆"	Right Angle	S		•				•			•	•			•	•	•	•	
🟢	TXC5M00CP-4	¼"	Right Angle	S		•				•			•	•			•	•	•	•	
🟢	TXC5M00CP-10	¼"	Right Angle	H	•	•				•			•	•			•	•	•	•	
🟢	TXC5M00CP-8	¼"	Hi Temp	H		•				•			•	•			•	•	•	•	•
🟢	TXC5M00EP-3	½"	Right Angle	S		•				•			•	•			•	•	•	•	
7.50MHz Dual Element Thickness Transducer																					
⚪	TXC7M50BP-3	³⁄₁₆"	Right Angle	S		•				•			•	•	•		•	•	•	•	
⚪	TXC7M50CP-4	¼"	Right Angle	S		•				•			•	•	•		•	•	•	•	
⚪	TXC7M50CP-6	¼"	Right Angle	H	•	•				•			•	•	•		•	•	•	•	•
10.0MHz Dual Element Thickness Transducer																					
○	TXC10M0BP-1	³⁄₁₆"	Right Angle	S		•							•		•	•	•	•	•	•	
○	TXC10M0CP-4	¼"	Right Angle	S		•							•		•	•	•	•	•	•	

* Damping: **S** - Standard undamped Transducer, **H** - Highly Damped Transducer   All transducers are supplied with a calibration certificate
To select another transducer from the one supplied with the gauge please remove TXC from the part number

Elcometer CG70   Corrosion Thickness Gauge

The **Elcometer CG70** range of corrosion thickness gauges with its large, easy to read display, provides users with A and B-Scan options for accurate interpretation of measurements.

STANDARDS:
ASTM E 797, EN 14127, EN 15317

Range of display & measurement options: Pulse Echo, Echo Echo ThruPaint™ technology

4GB internal memory

Compatible with ElcoMaster® PC for instant report generation and firmware updates

Wide range of transducers available - see page 5-6

High speed scan: 250 readings per second

64 User definable setups

Manual or AGC gain with 50dB gain range

Multiple calibration and material selection options

compatible with ElcoMaster®

Elcometer CG70

Corrosion Thickness Gauge

Coatings up to 2mm (80mils) can be ignored

Versatile

Measures uncoated & coated surfaces

Flexible & easy to use, the Elcometer CG70 range doesn't just measure uncoated surfaces but can also measure coated surfaces. Using Echo Echo ThruPaint™ Mode (EE), coatings up to 2mm (80mils) are ignored.

Up to 4GB of readings can be saved into the gauge memory

Powerful

Store up to 4GB of readings and waveforms or B-Scans

Taking 250 readings per second in scan mode, the internal data logger stores up to 4GB of readings together with their waveforms.

Customisable reading display

Customisable

Choose & customise the reading display

The Elcometer CG70 range has a choice of display modes allowing the user to select the most appropriate for their needs; Readings, B-Scan, B-Scan combined with readings, Scan bar & the A-Scan on the CG70ABDL.

Measurements transmitted via USB for instant report generation
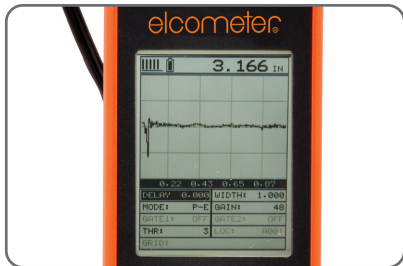
Data Output to PC

Easily connect to any PC

USB output to ElcoMaster® Software allows ease of analysis and professional reporting.

Elcometer CG70 Corrosion Thickness Gauge

Product Features

Model	CG70BDL	CG70ABDL
Measurement Mode	PE & EE (ThruPaint™)	PE & EE (ThruPaint™)
Calibration Options		
1 - point	■	■
2 - point	■	■
Material selection	■	■
Velocity (speed of sound)	■	■
Display Mode		
Material thickness digits display	■	■
B-Scan cross sectional display	■	■
Combined B-Scan and digits display	■	■
Scan bar display	■	■
A-Scan display		+ Rectified, - Rectified, Full Waveform (RF)
Measurement Rate		
Manual	8 readings per second	8 readings per second
Scan Mode	250 readings per second	250 readings per second
Scan bar display	10 readings per second	10 readings per second
Measurement Resolution	0.01mm (0.001")	0.01mm (0.001")
Velocity Calibration Range	309.88 - 18,542m/s (0.0122 - 0.7300in/μs)	309.88 - 18,542m/s (0.0122 - 0.7300in/μs)
Additional Features		
High Speed Scan Mode	■	■
Differential Mode	■	■
Limit Alarm Mode	■	■
B-Scan display speed	10 to 200 readings per second	10 to 200 readings per second
Calibration Setups	64 user-definable setups transferrable to and from a PC archive	64 user-definable setups transferrable to and from a PC archive
Gates		• PE: 1 gate; EE: 2 gates, 1 gate with hold off • Adjustable threshold
Pulser Type	Square wave pulser, Pulse repetition frequency up to 250 Hz	Square wave pulser with adjustable pulse width (spike, thin, wide) Pulse repetition frequency up to 250 Hz
Gain	Manual or automatic gain control (AGC) with 50dB range (depending on mode selected)	Manual or automatic gain control (AGC) with 50dB range (depending on mode selected)
Timing	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer
Memory and Data Logging	• 4GB internal memory • Sequential and grid logging • Alpha numeric batch identification • OBSTRUCT indicates inaccessible locations • Bitmap graphic capture and capture viewer	• 4GB internal memory • Sequential and grid logging • Alpha numeric batch identification • OBSTRUCT indicates inaccessible locations • Bitmap graphic capture and capture viewer
Transducer Probe Type	Dual element	Dual element
Transducer Frequency Range	1 - 10MHz	1 - 10MHz
Transducer Recognition	Manual - selectable from a list	Manual - selectable from a list
V-path / dual path error correction	Automatic	Automatic
Probe Zero	Manual (via integrated probe disk)	Manual (via integrated probe disk)
Display	⅛ VGA (greyscale) 62 x 45.7mm (2.4 x 1.8") viewable area	⅛ VGA (greyscale) 62 x 45.7mm (2.4 x 1.8") viewable area
Display Refresh Rate	25Hz	25Hz
Units (selectable)	mm or inches	mm or inches
LED Backlight	on / off / auto	on / off / auto
Repeatability / Stability Indicator	■	■

Elcometer CG70   **Corrosion Thickness Gauge**

Technical Specification

Part Number	Description	Certificate
CG70BDL	Elcometer CG70BDL Corrosion Thickness Gauge	○
CG70ABDL	Elcometer CG70ABDL Corrosion Thickness Gauge	○
Transducer Probe Type	Dual Element	
Measurement Range[1]		
Pulse Echo (PE)	0.63 - 30,480mm (0.025 - 1200")	
Echo Echo ThruPaint™ (EE)	2.54 - 152.4mm (0.100 - 6.0")	
Measurement Accuracy[1]	0.01mm (0.001")	
Resolution	0.01mm (0.001")	
Memory	4GB internal memory	
Operating Temperature	-10 to 60ºC (14 to 140ºF)	
Data Output	USB	
Power Supply	3 x AA batteries and via USB	
Battery Life[2]	Alkaline – 35 hrs, Nicad – 10 hrs and NI-MH – 35 hrs	
Gauge Weight	383g (13.5oz) - including batteries	
Gauge Dimensions	63.5 x 165 x 31.5mm (2.5 x 6.5 x 1.24")	
Packing List	Elcometer NDT CG70 gauge, couplant, carry case, user manual, test certificate, 3 x AA batteries, ElcoMaster® software, transfer cable	

For a range of transducers to meet your specific application, see page 5-6 or visit www.elcometer.com
For couplant for Elcometer Transducers see page 5-20

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

[2] Approximate battery life, when in continuous measurement mode.

○ Test Certificate supplied as standard.

Elcometer CG100   Corrosion Thickness Gauge

Top of the range and easy to use, the **Elcometer CG100** provides inspectors with all the features necessary to measure the material and coating thickness at the same time.

Manual or AGC gain control with 110dB range

64 User definable setups

Multiple calibration and material selection options

Wide range of transducers available - see page 5-6

Range of display & measurement options

Compatible with ElcoMaster® PC for instant report generation and firmware updates

High Speed Scan Mode

A-Scan portrait & landscape views (CG100ABDL+ only)

4GB internal memory

STANDARDS:
ASTM E 797, EN 14127, EN 15317

compatible with
ElcoMaster®

Elcometer CG100

Corrosion Thickness Gauge

Measures the material and coating thickness at the same time

Versatile

Able to measure coating and material thickness

The Elcometer CG100 has the ability to measure coatings and material thickness simultaneously while maintaining the ability to locate pits, flaws and defects in the material.
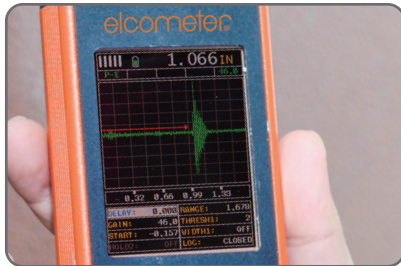
Set up to 64 user definable limits

Intelligent

User definable limits for pass/fail indication

Set limits for pass/fail indication on individual reading or for each batch with audible & visual warnings.

Up to 4GB of readings can be saved into the gauge memory

Powerful

Store each measurement for further analysis

Up to 4GB of readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster® Software for further analysis and reporting.

Customisable reading display

Customisable

Choose & customise the reading display

The Elcometer CG100 range has a choice of display modes allowing the user to select the most appropriate for their needs; Readings, B-Scan, B-Scan combined with readings, Scan bar & the A-Scan on the CG100ABDL and CG100ABDL+.
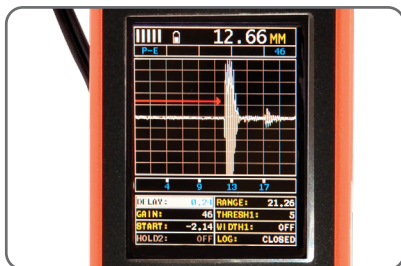
Elcometer CG100	**Corrosion Thickness Gauge**

Technical Specification

Part Number	Description	Certificate
CG100B	Elcometer CG100B Corrosion Thickness Gauge	○
CG100BDL	Elcometer CG100BDL Corrosion Thickness Gauge	○
CG100ABDL	Elcometer CG100ABDL Corrosion Thickness Gauge	○
CG100ABDL+	Elcometer CG100ABDL+ Corrosion Thickness Gauge	○
Transducer Probe Type	Dual Element	
Measurement Accuracy[1]	0.01mm (0.001")	
Memory	4GB internal memory	
Operating Temperature	-10 to 60ºC (14 to 140ºF)	
Data Output	USB	
Power Supply	3 x AA batteries and via USB	
Battery Life[2]	Alkaline: greyscale 35 hrs, colour 12 hrs Nicad: greyscale 10 hrs, colour 5 hrs NI-MH: greyscale 35 hrs, colour 12 hrs	
Gauge Weight	383g (13.5oz) - including batteries	
Gauge Dimensions	63.5 x 165 x 31.5mm (2.5 x 6.5 x 1.24")	
Packing List	Elcometer NDT CG100 gauge, couplant, carry case, opperating instructions, test certificate, 3 x AA batteries, ElcoMaster® software, transfer cable	

**For a range of transducers to meet your specific application,
see page 5-4 or visit www.elcometer.com
For couplant for Elcometer Transducers see page 5-20**

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

[2] Approximate battery life, when in continuous measurement mode.

○ Test Certificate supplied as standard.

Elcometer CG100 — Corrosion Thickness Gauge

Product Features

Model & Part Number	CG100B	CG100BDL
Display Mode		
Material thickness digits display	■	■
B-Scan cross sectional display	■	■
Combined B-Scan and digits display	■	■
Scan bar display	■	■
Coating thickness display	■	■
A-Scan display		
Measurement Range[1]	PE: 0.63 - 1219.2mm (0.025 - 48") PETP: 0.63 - 1219.2mm (0.025 - 48") EE: 2.54 - 152.4mm (0.100 - 6.0") EEV: 2.54 - 25.4mm (0.100 - 1.0") CT: 0.01 - 2.54mm (0.0005 - 0.100") PECT: 0.63 - 1219.2mm (0.025 - 48")	PE: 0.63 - 1219.2mm (0.025 - 48") PETP: 0.63 - 1219.2mm (0.025 - 48") EE: 2.54 - 152.4mm (0.100 - 6.0") EEV: 2.54 - 25.4mm (0.100 - 1.0") CT: 0.01 - 2.54mm (0.0005 - 0.100") PECT: 0.63 - 1219.2mm (0.025 - 48")
Measurement Rate		
Manual	8 readings per second	8 readings per second
Scan Mode	250 readings per second	250 readings per second
Scan bar display	10 readings per second	10 readings per second
Measurement Resolution	0.01mm (0.001")	0.01mm (0.001")
Velocity Calibration Range	309.88 - 18,542m/s (0.0122 - 0.7300in/µs)	309.88 - 18,542m/s (0.0122 - 0.7300in/µs)
Additional Features:		
High Speed Scan Mode	■	■
Differential Mode	■	■
Limit Alarm Mode	■	■
B-Scan display speed	10 to 200 readings per second	10 to 200 readings per second
Flaw Mode		
Calibration Setups	64 user-definable setups transferrable to and from a PC archive	64 user-definable setups transferrable to and from a PC archive
Gates		
Damping		
Pulser Type	Dual square wave pulsers Pulse repetition frequency up to 250Hz	Dual square wave pulsers Pulse repetition frequency up to 250Hz
Gain	Manual or automatic gain control (AGC) with 110dB range (limited)	Manual or automatic gain control (AGC) with 110dB range (limited)
Timing	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

Elcometer CG100   Corrosion Thickness Gauge

Product Features

Model & Part Number	CG100ABDL	CG100ABDL+
Display Mode		
Material thickness digits display	■	■
B-Scan cross sectional display	■	■
Combined B-Scan and digits display	■	■
Scan bar display	■	■
Coating thickness display	■	■
A-Scan display	+ Rectified, - Rectified, Full Waveform (RF)	+ Rectified, - Rectified, Full Waveform (RF) Portrait & Landscape Views
Measurement Range	PE: 0.63 - 30,480mm (0.025 - 1200") PETP: 0.63 - 30,480mm (0.025 - 1200") EE: 2.54 - 152.4mm (0.100 - 6.0") EEV: 2.54 - 25.4mm (0.100 - 1.0") CT: 0.0127 - 2.54mm (0.0005 - 0.100") PECT: 0.63 - 30,480mm (0.025 - 1200") PE**CT**: 0.01 - 2.54mm (0.001 - 0.100")	PE: 0.63 - 30,480mm (0.025 - 1200") PETP: 0.63 - 30,480mm (0.025 - 1200") EE: 2.54 - 152.4mm (0.100 - 6.0") EEV: 2.54 - 25.4mm (0.100 - 1.0") CT: 0.0127 - 2.54mm (0.0005 - 0.100") PECT: 0.63 - 30,480mm (0.025 - 1200") PE**CT**: 0.01 - 2.54mm (0.001 - 0.100")
Measurement Rate		
Manual	8 readings per second	8 readings per second
Scan Mode	50 readings per second	50 readings per second
Scan bar display	10 readings per second	10 readings per second
Measurement Resolution	0.01mm (0.001"), 0.001mm (0.0001") selectable	0.01mm (0.001"), 0.001mm (0.0001") selectable
Velocity Calibration Range	309.88 - 18,542m/s (0.0122 - 0.7300in/µs)	309.88 - 18,542m/s (0.0122 - 0.7300in/µs)
Additional Features:		
High Speed Scan Mode	■	■
Differential Mode	■	■
Limit Alarm Mode	■	■
B-Scan display speed	10 to 200 readings per second	10 to 200 readings per second
Flaw Mode	Basic prove-up flaw detection using single element angle beam transducers	Basic prove-up flaw detection using single element angle beam transducers
Calibration Setups	64 user-definable setups transferrable to and from a PC archive	64 user-definable setups transferrable to and from a PC archive
Gates	3 fully adjustable gates: start, stop, width & threshold	3 fully adjustable gates: start, stop, width & threshold
Damping	Adjustable damping (50 - 1500ohms)	Adjustable damping (50 - 1500ohms)
Pulser Type	Dual square wave pulsers Pulse repetition frequency up to 250Hz	Dual square wave pulsers Pulse repetition frequency up to 250Hz
Gain	Manual, automatic gain control (AGC) with 110dB range (limited) Linear time dependent gain (TDG) with adjustable slope	Manual, automatic gain control (AGC) with 110dB range (limited) Linear time dependent gain (TDG) with adjustable slope
Timing	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

Elcometer CG100 — Corrosion Thickness Gauge

Product Features

Model & Part Number	CG100B	CG100BDL
Memory and Data logging		• 4GB internal memory • Sequential and grid logging • Alpha numeric batch identification • OBSTRUCT indicates inaccessible locations • Bitmap graphic capture and capture viewer
Calibration Options		
1 - point	■	■
2 - point	■	■
Material selection	■	■
Velocity (speed of sound)	■	■
Transducer Probe Type	Dual element	Dual element
Transducer Frequency Range	1 - 10MHz	1 - 10MHz
Transducer Recognition	Automatic & manual - selectable from a list	Automatic & manual - selectable from a list
V-path / dual path error correction	Automatic	Automatic
Probe Zero	Automatic & manual (via integrated probe disk)	Automatic & manual (via integrated probe disk)
Display	⅛ VGA (greyscale) 62 x 45.7mm (2.4 x 1.8") viewable area	⅛ VGA (greyscale) 62 x 45.7mm (2.4 x 1.8") viewable area
Display Refresh Rate	25Hz	25Hz
Units (selectable)	mm or inches	mm or inches
Backlight	on / off / auto	on / off / auto
Repeatability / Stability Indicator	■	■
Battery Save Mode	Auto	Auto

Elcometer CG100 — Corrosion Thickness Gauge

Product Features

Model & Part Number	CG100ABDL	CG100ABDL+
Memory and Data logging	• 4GB internal memory • Sequential and grid logging • Alpha numeric batch identification • OBSTRUCT indicates inaccessible locations • Bitmap graphic capture and capture viewer	• 4GB internal memory • Sequential and grid logging • Alpha numeric batch identification • OBSTRUCT indicates inaccessible locations • Bitmap graphic capture and capture viewer
Calibration Options		
1 - point	■	■
2 - point	■	■
Material selection	■	■
Velocity (speed of sound)	■	■
Transducer Probe Type	Dual Element, Single Element (1 - 20Mhz), Contact, Matching Layer, Delay Line and Pencil	Dual Element, Single Element (1 - 20Mhz), Contact, Matching Layer, Delay Line and Pencil
Transducer Frequency Range	1 - 20MHz	1 - 20MHz
Transducer Recognition	Automatic & manual - selectable from a list	Automatic & manual - selectable from a list
V-path / dual path error correction	Automatic	Automatic
Probe Zero	Automatic & manual (via integrated probe disk)	Automatic & manual (via integrated probe disk)
Display	⅛ VGA (greyscale) 62 x 45.7mm (2.4 x 1.8") viewable area	¼ VGA AMOLED colour display 57.6 x 43.2mm (2.27 x 1.78") viewable area Landscape Mode
Display Refresh Rate	25Hz	60Hz
Units (selectable)	mm or inches	mm or inches
Backlight	on / off / auto	Adjustable brightness
Repeatability / Stability Indicator	■	■
Battery Save Mode	Auto	Auto

For a range of transducers to meet your specific application, see page 5-6 or visit www.elcometer.com

elcometer®

Elcometer CG — Corrosion Thickness Gauge Transducers

Suitable for:
CG70
CG100

Elcometer offer a complete range of dual element **thickness transducers** for use with the **corrosion thickness** gauges.

Disk	Part Number	Probe Diameter	Probe Characteristic	Damping[1]	ThruPaint™	Potted	Microdot	Lemo	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	CG70	CG100	FD700	PE	EE (HD)
						Connector Type						Suitable for measuring									Suitable for				Mode
1.00MHz Dual Element Thickness Transducer																									
● (yellow)	TX1M00EP-2	½"	Standard	S		●				●		●	●	●	●						●	●	●	●	
● (yellow)	TX1M00EP-3	½"	Composite	S		●				●		●	●	●	●						●	●	●	●	
2.25MHz Dual Element Thickness Transducer																									
● (red)	TX2M25CP-2	¼"	Standard	S		●				●		●	●				●				●	●	●	●	
● (red)	TX2M25CM-2	¼"	Standard	S			●			●		●	●				●				●	●	●	●	
● (red)	TX2M25EP-2	½"	Standard	S		●				●	●	●	●				●				●	●	●	●	
5.00MHz Dual Element Thickness Transducer																									
● (green)	TX5M00BP-4	³⁄₁₆"	Coating Thickness	CT	●	●				●				●			●	●			●	●	●	●	●
● (green)	TX5M00CP-4	¼"	Standard	S		●				●				●			●	●			●	●	●	●	
● (green)	TX5M00CP-10	¼"	Standard	H	●	●				●				●			●	●			●	●	●	●	●
● (green)	TX5M00CP-6	¼"	Coating Thickness	CT	●	●				●				●			●	●			●	●	●	●	●
● (green)	TX5M00CM-3	¼"	Coating Thickness	CT	●		●			●				●			●	●			●	●	●	●	●
● (green)	TX5M00CM-4	¼"	Hi Temp[2]	H	●		●	●						●			●	●			●	●	●	●	●
● (green)	TX5M00EP-3	½"	Standard	S		●				●				●			●	●			●	●	●	●	
	TF5M00F	10mm	Short Focus	S				●				●													
7.50MHz Dual Element Thickness Transducer																									
● (grey)	TX7M50BP-3	³⁄₁₆"	Coating Thickness	CT	●	●				●				●			●	●	●		●	●	●	●	●
● (grey)	TX7M50CP-5	¼"	Coating Thickness	CT	●	●				●				●			●	●	●		●	●	●	●	●
10.0MHz Dual Element Thickness Transducer																									
○	TX10M0CP-4	¼"	Standard	S		●				●									●	●	●	●	●	●	

[1] Damping: **S** - Standard undamped Transducer, **CT** - Damped Coating Thickness Transducer, **H** - Highly Damped Transducer
[2] High temperature probes suitable for measuring 482°C (900°F)

Elcometer UG20DL   Underwater Thickness Gauge

Waterproof to a depth of 300 metres (1,000 feet), the **Elcometer UG20DL** is an underwater material and coating thickness gauge ideal for offshore inspections.

300 metre (1000ft.) depth rating

Pulse Echo, Pulse Echo Coating, Echo-Echo Verify

Automatic probe recognition & zero function

Data Storage: Alpha Numeric & Sequential w/ID

Compatible with ElcoMaster® Software for PC for instant report generation

Single membrane & dual element probe transducers (Wide range of transducers available - see page 5-8)

STANDARDS:
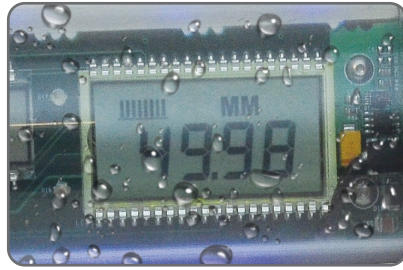
ASTM E 797, EN 14127, EN 15317

compatible with **ElcoMaster®**

Elcometer UG20DL

Underwater Thickness Gauge

Measures coatings and material thickness simultaneously

Versatile

Able to measure coatings and material thickness

The UG20DL has the ability to measure coatings and material thickness simultaneously while maintaining the ability to locate pits, flaws and defects in the material. The UG20DL also allows you to switch between single and dual element transducers. Based on the same operating principles as SONAR, the UG20DL is capable of measuring the thickness of various materials with accuracy as high as 0.01mm (0.001").

Product Features

Model & Part Number	**UG20DL**
Display Mode	
Material thickness digits display	■
Measurement Mode	Dual Element: PE, EE (ThruPaint™), PECT Single Element: EEV (ThruPaint™)
Measurement Rate	
Manual	4 readings per second
Additional Features	
A-Scan	Stored in memory with each reading for review on PC
Calibration setups	1 user programmable & 8 pre-calibrated velocities for: aluminium, cast iron, iron, PVC, polyurethane, polystyrene, stainless steel & steel
Waterproof - depth rating	Maximum depth 300 metres (1,000 feet) - equivalent to IP68
Pulser Type	Dual square wave pulsers
Gain	Manual or automatic gain control (AGC) with 100dB range, or selectable gain: vlow, low, medium, hi or vhi
Timing	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer
Data Logging	5,000 with A-scan image & gauge settings in one batch sequential and grid logging alpha numeric batch identification
Calibration Options	Velocity & material type
Transducer Probe Type	Dual and single element
Transducer Frequency Range	1 - 10MHz
Transducer Recognition	Custom automatic (dual transducers) & manual - selectable from a list
V-path / dual path error correction	Automatic
Probe Zero	Automatic (dual transducers) & manual (via integrated probe disk)
Display	12.7mm (1/2") 4.5 digit LCD
Display Refresh Rate	25Hz
Units (selectable)	mm or inches
Backlight	on / off / auto
Repeatability / Stability Indicator	■
Low Battery Indicator	■
Battery Save Mode	Auto

Elcometer UG20DL

Underwater Thickness Gauge

Powerful

Store each measurement for further analysis

Up to 5,000 readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster® for further analysis and reporting.

Up to 5,000 readings can be saved into the gauge memory and downloaded

Technical Specification

Part Number	Description
UG20DL	Elcometer UG20DL Underwater Thickness Gauge
Transducer Probe Type	Single & Dual Element
Measurement Range[1]	
Pulse Echo (PE)	0.63 - 508mm (0.025 - 19.999")
Echo Echo ThruPaint™ (EE)	2.54 - 102mm (0.100 - 4.000")
Echo Echo Verify (EEV)	1.00 - 152mm (0.040 - 6.000")
Pulse Echo Coating Thickness (**PE**CT)	0.63 - 508mm (0.025 - 19.999")
Pulse Echo Coating Thickness (PE**CT**)	0.01 - 2.54mm (0.001 - 0.100")
Measurement Accuracy[1]	0.01mm (0.001")
Resolution	0.01mm (0.001")
Velocity Calibration Range	1250 to 13995 m/sec (0.0492 to 0.5510 in/µs)
Operating Temperature	-29 to 60ºC (-20 to 140ºF)
Data Output	RS232
Power Supply	3 x AA batteries
Battery Life[2]	50 hours on alkaline and 20 hours on NiCad (backlight off) 15 hours on alkaline and 8 hours on NiCad (backlight on)
Gauge Weight	680g (24.0oz) - including batteries
Gauge Dimensions	229.0 x 60.33mm (9.0 x 2.4")
Packing List	Elcometer NDT UG20DL gauge, couplant, carry case, opperating instructions, test certificate, 3 x AA batteries, ElcoMaster® software, transfer cable, spare gaskets and lubrication set

For a range of transducers to meet your specific application, see page 5-8 or visit www.elcometer.com

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

[2] Approximate battery life, when in continuous measurement mode.

Elcometer UG — Underwater Transducers

Suitable for:
UG20DL

Elcometer offer a range of **underwater material and coating thickness transducers** with dual elements, ideal for offshore inspections.

Disk	Part Number	Probe Diameter	Element Type	Probe Characteristic	Damping[1]	ThruPaint™	Potted	Microdot	Lemo - UW[2]	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	UG20DL
										Connector Type			Suitable for measuring									
●	TX3M50EP-3	½"	Dual	Underwater	H	•	•			•				•		•						•
●	TX5M00EP-8	½"	Dual	Underwater	CT		•			•							•	•	•	•	•	•
●	TX5M00EP-9	½"	Dual	Underwater - 15m (50ft)	S		•			•							•	•	•	•	•	•

Each transducer can be easily identified by the disk on the top.
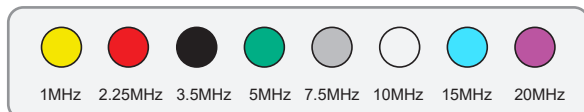
| 1MHz | 2.25MHz | 3.5MHz | 5MHz | 7.5MHz | 10MHz | 15MHz | 20MHz |

For couplant for Elcometer Transducers see page 5-20

[1] Damping: **S** - Standard undamped Transducer, **CT** - Damped Coating Thickness Transducer, **H** - Highly Damped Transducer   [2] Lemo UW - Lemo Underwater Connection
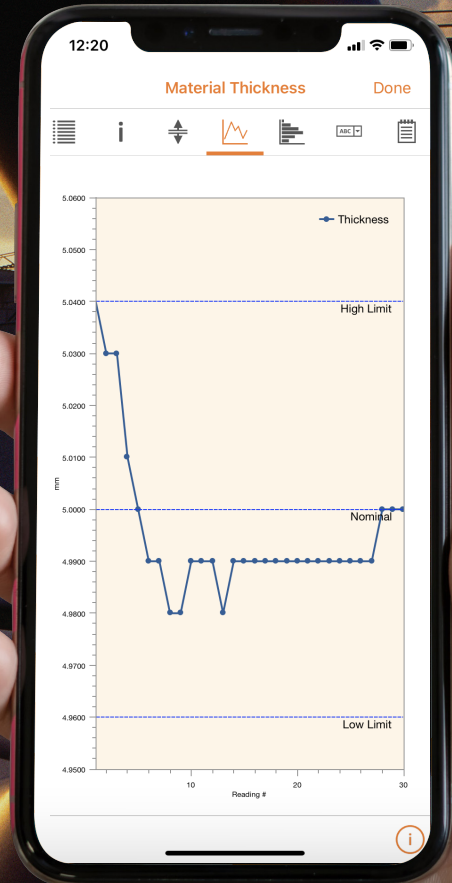
Generate **professional reports** at the click of a button - with the **ElcoMaster® App** your office is now wherever you are.

elcometer®

Elcometer PTG — Ultrasonic Precision Thickness Gauge

The **Elcometer PTG range** comes with all the features and functionality necessary for precisely measuring material thickness on virtually any material.

STANDARDS:
EN 14127, EN 15317

Selectable reading rate of 4, 8, 16Hz (4, 8, 16 readings per second)

2-Point, 1-Point, Material, Velocity, Thickness Set & Factory calibration options, allows accurate measurements of a wide range of materials

Intelligent transducer attached with auto recognition, ensures correct probe is identified when transducer is changed

The Elcometer PTG8 is supplied with or without a 15MHz ¼" Microdot Right Angle Single Element Thickness Transducer.

(Wide range of transducers available - see page 5-10)

Hi & Lo limit indicators provides indication of problem areas

Save up to 3 calibration methods in memory

Scan Mode at 16Hz, ideal for measuring a large surface area

Bluetooth® wireless technology

compatible with **ElcoMaster®**

etv video available elcometer.tv

Elcometer PTG

±1% accuracy across three measurement modes

Customisable reading display

Up to 100,000 readings can be saved into the gauge memory

Connect the gauge via Bluetooth® or USB to a mobile device

Ultrasonic Precision Thickness Gauge

Accurate
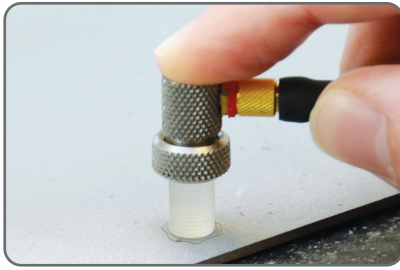
Measures thin materials with pinpoint accuracy

Flexible & easy to use, the Elcometer PTG gauges have a measurement range from 0.15mm (0.006") to 25.40mm (1.000") with up to ±1% accuracy, across three measurement modes; Interface Echo (IE), Echo Echo (EE) & Plastic mode (PLAS).

Customisable

Choose & customise the reading display

The Elcometer PTG range has a choice of display modes allowing the user to select the most appropriate for their needs; Readings, Selected Statistics, Bar Graph, Run Chart & Differential Mode.

Powerful

Store each measurement for further analysis

Up to 100,000 readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster® Software for further analysis and reporting.

Wireless Connectivity
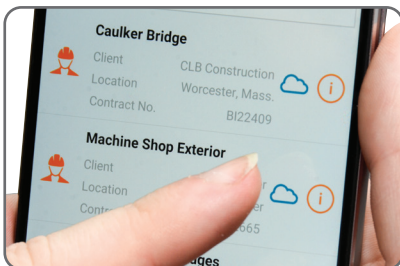
Seamlessly connect to any PC, Android™ or iOS mobile device

Connect the Elcometer PTG8 via Bluetooth® or USB to a PC, Android™ or iOS mobile device & download the data into an inspection application or into ElcoMaster® Software for instant report generation.

Elcometer PTG — Ultrasonic Precision Thickness Gauge

Measurement Modes

Interface Echo (IE); The total thickness from the top of any coating through to the material density boundary (typically the back-wall) is measured. Suitable for measurement of materials between 1.65mm and 25.4mm (0.065" to 1") thick.

Echo Echo (EE); ideal for measuring thin materials, the material thickness from the top surface of the material to the material density boundary (typically the backwall) is measured. Suitable for measurement of materials between 0.15mm and 10.15mm (0.006" to 0.4") thick.

Plastic Mode (PLAS); specifically used for measuring very thin plastics between 0.15mm and 5mm (0.006" to 0.197") thick. A graphite delay line is required when using this mode.

User Definable Upper and Lower Limits

The PTG gauges have user definable upper and lower limits with audible and visual pass/fail warnings allowing the user to compare readings to predefined values. The PTG8 can store up to 40 pre-programmed limits which can be set for individual readings or for each batch.

If a measurement is taken which falls outside set limits, the reading value and the limit icon turn red, the red LED flashes and the alarm beeps providing immediate indication of problem areas.

Calibration Options

The PTG gauges have a number of calibration options including the 1-Point & 2-Point method and Velocity. Alternatively, the user can select one of 39 pre-set materials stored within the gauge including; aluminium, steel, stainless steel, cast iron, plexiglass, PVC, polystyrene and polyurethane.

The PTG8 allows users to store into memory up to three calibrations. Once saved the user can select a calibration without the need to re-calibrate the gauge. Using the gauge's alpha-numeric function, calibration memories can be re-named to suit the calibration setting.

Elcometer PTG   **Ultrasonic Precision Thickness Gauge**

A choice of display modes

Readings

The reading value is displayed.
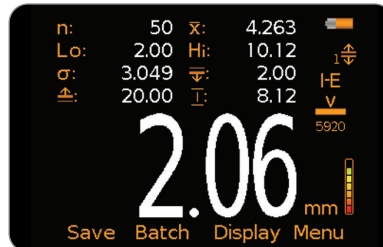
Selected Statistics

Up to 8 statistical values can be displayed as defined by the user.

Run Chart

A line trend graph of the last 20 measurements which is updated after each reading.

Bar Graph

An analogue representation of the current measurement value together with the highest (Hi), lowest (Lo) and average ($\bar{x}$) reading.

Readings & Differential

The last reading is displayed together with the variation from the nominal value (if set).

B-Scan

A cross-sectional view of the material being tested is displayed along with readings taken, saved readings, highest (Hi), lowest (Lo) and average ($\bar{x}$) reading and upper/lower limit values (if set).

For a range of transducers to meet your specific application, see page 5-10 or visit www.elcometer.com

Elcometer PTG — Ultrasonic Precision Thickness Gauge

Product Features

Model Number	PTG6	PTG8
Easy to use menu structure in multiple languages	▪	▪
Tough, impact, waterproof and dust resistant equivalent to IP54	▪	▪
Bright colour screen with permanent backlight	▪	▪
Ambient light sensor, with adjustable brightness	▪	▪
Scratch and solvent resistant display; 2.4" (6cm) TFT	▪	▪
Large positive feedback buttons	▪	▪
USB power supply via PC	▪	▪
Gauge software updates[1] via ElcoMaster® Software	▪	▪
2 year gauge warranty[2]	▪	▪
Limits: 40 definable audible & visual pass/fail warnings		▪
Measurement Mode		
Echo Echo (E-E)	▪	▪
Interface Echo (I-E)	▪	▪
Plastic Mode (PLAS)	▪	▪
Measurement Rate		
4, 8, 16Hz	4, 8, 16Hz[3]	4, 8, 16Hz[3]
Thickness Range[4]		
E-E 0.15 - 10.15mm (0.006-0.400")	▪	▪
I-E 1.65 - 25.40mm (0.065-1.000")	▪	▪
PLAS 0.15 - 5.00mm (0.006-0.197")	▪	▪
Measurement Units		
mm or inches	▪	▪
m/s, inch/µs		
Repeatability / Stability Indicator	▪	▪
Display Mode		
Reading	▪	▪
Selected statistics		▪
Scan thickness bar graph		▪
Run Chart		▪
Readings and Differential		▪
B-Scan cross sectional display		▪
Selectable Reading Resolution		
Lo; 0.1mm, 0.01 Inch, 10m/s, or 0.001 in/µs	▪	▪
Hi; 0.01mm, 0.001 Inch, 1m/s, or 0.0001 in/µs	▪	▪

[1] Internet connection required

[2] The Elcometer PTG range is extendable within 60 days from date of purchase, free of charge to two years via www.elcometer.com

[3] User selectable default setting in Scan Mode is 16Hz

[4] Dependent on the material being measured and the transducer being used

Elcometer PTG — Ultrasonic Precision Thickness Gauge

Product Features

Model Number	PTG6	PTG8
Statistics		
Number of readings,n; Mean average, $\bar{x}$; Standard deviation, σ.		■
Lowest reading, Lo; Highest reading, Hi		■
Low / high limit value		■
Reading Range Value		■
Nominal Value		■
Number of readings below low limit		■
Number of readings above high limit		■
Calibration Options		
Zero (using the integral zero disc)	■	■
1 - point	■	■
2 - point	■	■
Material selection; 39 preset materials*	■	■
Factory; resets to the factory calibration	■	■
Velocity (speed of sound)	■	■
Known thickness value		
Calibration Features		
Calibration lock; with optional PIN Lock	■	■
Test calibration feature	■	■
Calibration memories: 3 programmable memories		■
Measurement outside calibration warning		■
Data Logging		
Number of readings		100,000
Number of batches		1,000
Sequential batching		■
Grid batching		■
Fixed Batch Size Mode; with batch linking		■
Obstruct entry; add 'obst' into grid location		■
Delete last reading		■
Date & time stamp		■
Review, clear & delete batches		■
Alpha numeric batch names; user definable		■
Batch review graph		■
Data Output		
USB to PC	■	■
Bluetooth® to PC, Android™ & iOS devices		■
ElcoMaster® software	■	■
Transducer Probe Type		
Single Element	■	■
Auto transducer recognition	■	■

* See page 5-23 for lists of preset materials

Elcometer PTG — Ultrasonic Precision Thickness Gauge

Technical Specification

Part Number Gauge Only	Complete with 15MHz ¼" right angle single element transducer	Description	Certificate
PTG6	PTG6-TXC	Elcometer PTG6 Ultrasonic Precision Thickness Gauge	●
PTG8BDL	PTG8BDL-TXC	Elcometer PTG8BDL Ultrasonic Material Thickness Gauge	●

Model Number	PTG6 & PTG8	
Measurement Range[1]		
Interface Echo (IE)	1.65 - 25.40mm (0.065 - 1.00")	
Echo Echo (EE)	0.15 - 10.15mm (0.006 - 0.400")	
Plastic Mode (PLAS)	0.15 - 5.00mm (0.006 - 0.197")	
Measurement Accuracy[2]		
Interface Echo (IE)	±0.015mm (1.65-2.99mm) ±0.5%(3.00-25.4mm)	±0.0006" (0.065 0.117") ±0.5% (0.118-1.000")
Plastic Mode (PLAS)	±0.015mm (0.15-2.99mm) ±0.5% (3.00-5.00mm)	±0.0006" (0.006-0.117") ±0.5% (0.118-0.197")

Operating Temperature	-10 to 50°C (14 to 122°F)
Power Supply	2 x AA batteries
Battery Life[3]	Alkaline: 15 hours Lithium: 28 hours
Gauge Weight	210g (7.4oz) - including batteries, without transducer
Gauge Dimensions	145 x 73 x 37mm (5.7 x 2.84 x 1.46"), without transducer
Packing Lists	Elcometer PTG6 Ultrasonic Precision Thickness Gauge, 15MHz transducer (PTG6-TXC only), ultrasonic couplant, 3 x screen protectors, wrist harness, 2 x AA batteries, plastic transit case, calibration certificate, 2 year warranty extension card, operating instructions
	Elcometer PTG8 Ultrasonic Precision Thickness Gauge, 15MHz transducer (PTG8BDL-TXC only), ultrasonic couplant, 3 x screen protectors, wrist harness, 2 x AA batteries, plastic transit case, calibration certificate, USB cable, ElcoMaster® Software, 2 year warranty extension card, operating instructions

[1] Dependent on material being measured & transducer being used.   [2] On steel.

[3] Approximate battery life, when in Continuous Reading Mode at a reading rate of 4Hz. Rechargeable batteries may differ.

● Calibration Certificate supplied as standard.

Elcometer PTG

Ultrasonic Precision Thickness Gauge

Suitable for:
PTG6
PTG8

When pinpoint accuracy is the key, the Elcometer **Precision Thickness Transducers** allow users to measure with precision.

Disk	Part Number	Probe Diameter	Probe Configuration	Damping*	ThruPaint™	Potted right angle	Microdot	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	PTG6	PTG8
						Connector Type				Suitable for measuring							Suitable for	
15.0MHz Single Element Transducer																		
●	TXC15M0CM	¼"	Right Angle	S			●		●		●		●		●	●	●	●
20.0MHz Single Element Transducer																		
●	TXC20M0CM	¼"	Right Angle	S			●		●		●		●		●	●	●	●

Delay Lines

Each single element transducer is supplied complete with 9mm and 12mm acrylic delay lines suitable for measuring on steel, aluminium and titanium. If measuring on thin plastics using Plastic Mode (PLAS), a graphite delay line must be used. These are available to purchase as optional accessories.

Part Number	Description
T92016528	Acrylic Delay Line; ¼ Dia x 9mm
T92016529	Acrylic Delay Line; ¼ Dia x 12mm
T92023853-4	Graphite Delay Line; ¼ Dia x ⅜"

Each transducer can be easily identified by the disk on the top.

● 1MHz ● 2.25MHz ● 3.5MHz ● 5MHz ● 7.5MHz ● 10MHz ● 15MHz ● 20MHz

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

* Damping: **S** - Standard undamped Transducer

elcometer®

Precision Thickness

Elcometer PG70ABDL   **Ultrasonic Precision Thickness Gauge**

The **Elcometer PG70ABDL** can display the thickness value with A and B-Scan displays, allowing users to accurately assess a wide range of materials.

Range of display options: A-Scan, B-Scan, Pulse Echo, Echo Echo

64 custom user-definable setups

4GB internal memory

High speed scan: 250 readings per second

A selectable resolution of either 0.01mm or 0.001mm

A range of calibration options allows accurate measurements of a wide range of materials

STANDARDS:
ASTM E 797, EN 14127, EN 15317

compatible with
ElcoMaster®

Elcometer PG70ABDL

Ultrasonic Precision Thickness Gauge
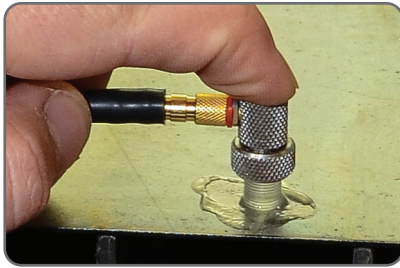
Pinpoint accuracy at the thinnest point

Set limits for audible and visual pass/fail indication

Up to 4GB of readings can be saved into the gauge memory

Customisable reading display

Accuracy

Measures thin materials with pinpoint accuracy

Flexible & easy to use, the Elcometer PG70ABDL is able to measure the thinnest point of the substrate with maximum precision.

Intelligent

User definable limits for pass/fail indication

Limits can be set on the Elcometer PG70ABDL for individual readings or for each batch with audible & visual alarms.

Powerful

Store each measurement for further analysis

Up to 4GB of readings and waveforms can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster® Software for further analysis and reporting.

Customisable

Choose & customise the reading display

With a choice of display modes, the user can select the most appropriate option for their needs; Readings, Selected Statistics, Bar Graph, Run Chart & Differential Mode.

Elcometer PG70ABDL — Ultrasonic Precision Thickness Gauge

Product Features

Model & Part Number	**PG70ABDL**
Display Mode	
Material thickness digits display	■
B-Scan cross sectional display	■
Combined B-Scan and digits display	■
Scan bar display	■
A-Scan display	+ Rectified, - Rectified, Full Waveform (RF)
Measurement Mode	PE, IE, EE, EEV & IEE
Measurement Rate:	
Manual	8 readings per second
Scan Mode	250 readings per second
Scan bar display	10 to 33 readings per second
Additional Features:	
High speed scan mode	■
Differential Mode	■
Limit Alarm Mode	■
Selectable resolution	■
B-Scan display speed	10 to 200 readings per second
Calibration setups	64 custom user-definable setups, transferrable to and from a PC archive
Gates	• 3 adjustable gates, depending on measure mode selected • Adjustable threshold
Pulser Type	Square wave pulser with adjustable pulse width (spike, thin, wide) Adjustable 200 volt pulser: 100, 150 & 200 volts Pulse repetition frequency up to 250Hz
Gain	Manual or Automatic Gain Control (AGC) with 110dB range, varies with mode selected Time Dependent Gain (TDG), with variable start and slope Adjustable damping (35, 50, 75, 300, 600 & 1500ohms)
Timing	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer
Memory and Data Logging	• 4GB internal memory • Sequential and grid logging • Alpha numeric batch identification • OBSTRUCT indicates inaccessible locations • Bitmap graphic capture and capture viewer
Calibration Options	Single, two point, velocity and material type
Transducer Probe Type	Single element with delay tip, pencil with delay tip and contact probes
Transducer Frequency Range	1 - 25MHz
Transducer Recognition	manual - selectable from a list
Display	⅛" VGA (greyscale), 62 x 45.7mm (2.4 x 1.8") viewable area
Display Refresh Rate	25Hz
Units (selectable)	mm or inches
LED Backlight	on / off / auto
Repeatability / Stability Indicator	■
Low Battery Indicator	■
Battery Save Mode	Auto
Transducer Connector Type	LEMO
Interface	USB

Elcometer PG70ABDL — Ultrasonic Precision Thickness Gauge

Technical Specification

Part Number	Description	Certificate
PG70ABDL	Elcometer PG70ABDL Precision Thickness Gauge	○
Transducer Probe Type	Single element with delay tip, pencil with delay tip and contact probes	
Measurement Range[1]		
Interface Echo (IE) on steel	1.27 - 25.4mm (0.050 - 1.0")	
Interface Echo (IE) on plastic	0 - 0.127mm (0.005")	
Echo Echo (contact) (EE) on steel	2.54 - 91.4mm (0.100 - 36")	
Pulse Echo (contact) (PE) on steel	1 - 9,140mm (0.040 - 360")	
Echo Echo Verified (EEV) on steel	2.54 - 152.4mm (0.100 - 6.0")	
Interface Echo Echo (IEE) on steel	0.152 - 12.7mm (0.006 - 0.500")	
Measurement Accuracy[1]	0.001mm (0.0001")	
Resolution	0.01mm (0.001"), 0.001mm (0.0001") selectable	
Velocity Calibration Range	309.88 - 18,542 m/s (0.0122 - 0.7300 in/µs)	
Memory	4GB internal memory	
Operating Temperature	-10 to 60ºC (14 to 140ºF)	
Data Output	USB	
Power Supply	3 x AA batteries and via USB	
Battery Life[2]	Alkaline – 35 hrs Nicad – 10 hrs NI-MH – 35hrs	
Gauge Weight	383g (13.5oz) - including batteries	
Gauge Dimensions	63.5 x 165 x 31.5mm (2.5 x 6.5 x 1.24")	
Packing List	Elcometer NDT PG70ABDL gauge, couplant, carry case, opperating instructions, test certificate, 3 x AA batteries, ElcoMaster® software, transfer cable	

For a range of transducers to meet your specific application, see page 5-10 or visit www.elcometer.com

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

[2] Approximate battery life, when in continuous measurement mode.

○ Test Certificate supplied as standard.

Elcometer — Precision Thickness Transducers
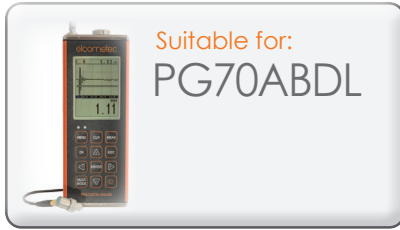
Suitable for: PG70ABDL

When pinpoint accuracy is the key, the Elcometer **Precision Thickness Transducers** allow users to measure with precision.

Disk	Part Number	Probe Diameter	Element Type	Probe Characteristic	Damping*	ThruPaint™	Potted	Microdot	Lemo	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	PG70ABDL
								Connector Type					**Suitable for measuring**									
	10.00MHz Single Element Precision Transducer																					
O	TX10M0BM-1	³⁄₁₆"	Si/El D/Line Pencil	¹⁄₁₆" Tip	S			•	•						•			•		•	•	•
	15.00MHz Single Element Precision Transducer																					
●	TX15M0CM	¼"	Si/El Delay Line	Standard	S			•			•				•			•		•	•	•

Delay Lines

Each single element transducer is supplied complete with 9mm and 12mm acrylic delay lines suitable for measuring on steel, aluminium and titanium. If measuring on thin plastics using Plastic Mode (PLAS), a graphite delay line must be used. These are available to purchase as optional accessories.

Part Number	Description
TD-24033-1	Cone Tip Delay Line: Acrylic; ⅛"
TD-24033-2	Cone Tip Delay Line: Acrylic; ³⁄₁₆"
TD-24033-3	Cone Tip Delay Line: Graphite; ³⁄₁₆"
TD-24033-4	Delay Line Tip (Pencil): Acrylic; ¹⁄₁₆" Dia x 0.45" L
TD-24033-5	Delay Line Tip (Pencil): Acrylic; ⅛" Dia x 0.45" L
TD-24033-6	Delay Line Tip: Acrylic; ¼" Dia x ½" L
TD-24033-7	Delay Line Tip: Acrylic; ¼" Dia x ⅜" L
TD-24033-8	Delay Line Tip: Graphite; ¼"

Each transducer can be easily identified by the disk on the top.

1MHz · 2.25MHz · 3.5MHz · 5MHz · 7.5MHz · 10MHz · 15MHz · 20MHz

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

¹ Damping: **S** - Standard undamped Transducer

Whether you're looking to **find out more** about an Elcometer product, its **application** or learn more about **optimal use** of an instrument, **Elcometer's videos** provide a quick and simple guide.

For our full video library visit **elcometer.tv**

Elcometer products with a video will show the '**video available**' symbol

Flaw Detection

3

Elcometer FD700   Mini Flaw Detector

The hand-held **Elcometer FD700** flaw detector range combines state-of-the-art flaw detection with advanced material thickness capabilities.

Automatic: probe zero, probe recognition, and temperature compensation

Large data storage with multiple formats: Alpha numeric grid and sequential with auto identifier

Compatible with ElcoMaster® PC for instant report generation and firmware updates

Measurement: Variety of modes to address a number of applications

Sizing Toolkits: DAC, AWS, TCG, DGS

Pulse Repetition Frequency: 8 to 2000Hz, adjustable

compatible with ElcoMaster®

STANDARDS:
ASTM E 797, EN 14127, EN 15317

Elcometer FD700   Mini Flaw Detector

Versatile

Two gauges in one

The FD700 series has two functions, a thickness gauge and a flaw detector. When the FD700 is set to thickness gauge it has the ability to measure coatings and material thickness simultaneously. When set to flaw detector the gauge has the ability to detect the size and position of flaws and to differentiate between flaw types in various materials and welded joints.

Intelligent

User definable limits for pass/fail indication

Set hi/lo limits for pass/fail indication with audible warnings and built-in differential mode for quality control inspections.

Powerful

Store each measurement for further analysis

Up to 4GB of readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster® Software for further analysis and reporting.

Customisable

Customistable tool kits and reading display

The FD700 has a choice of display modes allowing the user to select the most appropriate for their needs; from A & B-Scan displays to flaw detection modes such as TRIG, DAC, TCG, Flank and Peak.

Detection Methods
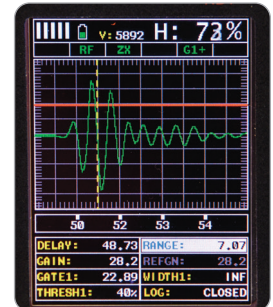
Zero Crossing
The gate detects the flank of the pulse, but the measurement is taken at the next crossing of the x axis. This is the most common type of detect in ultrasonic measurement.
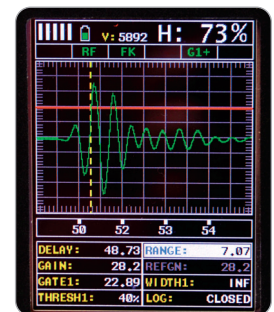
Flank
The gate is triggered by the flank (or side) of the pulse on the graph and the measurement taken at this exact point.
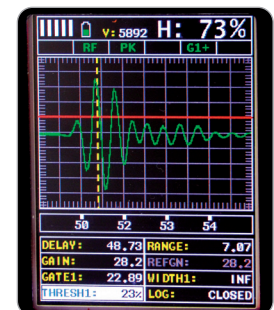
Peak
The gate is triggered by the intersection with the A-scan pulse and the detection is taken from the next peak in the signal (when it stops rising and starts falling).

elcometer®

Elcometer FD700 · Mini Flaw Detector

Material Thickness Product Features

Model & Part Number	FD700+ & FD700DL+
Display Mode	
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, AVG/DGS, TCG
Measurement Mode	PE, PETP (Temp Compensation), EE (ThruPaint™), EEV, CT (Coating) & PECT
Measurement Rate (Thickness Mode)	
Manual	8 readings per second
Scan Mode	50 readings per second
Scan bar display	10 readings per second
Additional Features:	
High Speed Scan Mode	■
Differential Mode	■
Limit Alarm Mode	■
B-Scan display speed	Adjustable display speed
Calibration Setups	64 user-definable setups transferrable to and from a PC archive
Gates	2 (flaw) and 3 (thickness) adjustable gates: start, stop, width & threshold
Damping	50, 75, 100, 300, 600, & 1500ohms
Pulser Type	Two adjustable square wave pulsers and receivers
Gain	Manual, automatic gain control (AGC) with 110dB range with 0.2dB resolution
Timing	Precision TCXO timing with single shot 100MHz 8 bit ultra-low power digitizer
Memory and Data Logging	4GB internal memory Sequential and grid logging Alpha numeric batch identification OBSTRUCT indicates inaccessible locations Bitmap graphic capture
Calibration Options	Single, two point, velocity & material type
Transducer Recognition	Automatic
V-path / dual path error correction	Automatic
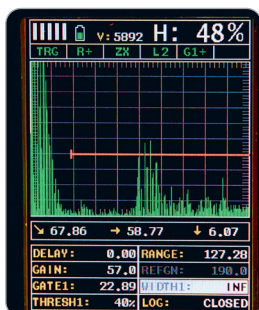
TRIG
TRIG enabling location of flaws in both surface distance and depth. Trigonometric display of beam path, depth, surface distance, and curved surface correction. Used with angle beam transducers.
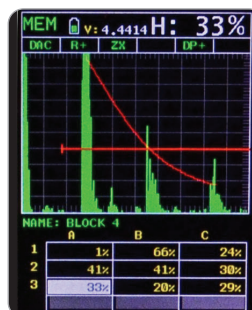
DAC
Distance amplitude correction for the creation of DAC curves which are used to inform the operator of the size of any given flaw at any depth.

| Elcometer FD700 | **Mini Flaw Detector** |

Flaw Detection Product Features

Automatic Calibration:	Longitudinal (straight), 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 and 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)
Skip Bar	Displays skip legs in the waveform area
Pulse Width	40 to 400 ns. Selectable step options 40, 80 & 400 ns (labeled spike, thin & wide)
Frequency Bands	FD700+ & FD700DL+: Broadband 1.8 - 19MHz (-3dB). FD700DL+: Three narrow bands at 2MHz, 5MHz, 10MHz
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	1/4 VGA AMOLED colour display 57.6 x 43.2mm (2.27 x 1.78") viewable area
Display Refresh Rate	60Hz
Units (selectable)	mm or inches
Backlight	adjustable brightness
Repeatability / Stability Indicator	■
Low Battery Indicator	■
Battery Save Mode	auto

AWS
The American Weld Standard function provides automatic defect sizing in accordance with AWS D1.1 structural welding code.
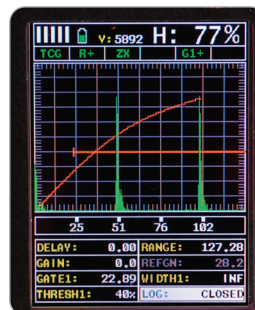
TCG
Time corrected gain increases gain as distance increases, in order to achieve an over all level of sensitivity for the same flaw/reflector at different distances.

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Elcometer FD700 — Mini Flaw Detector
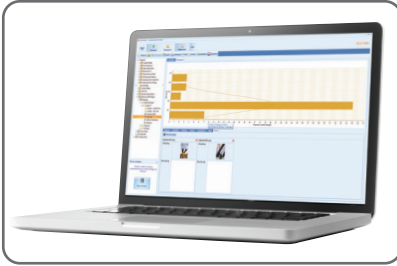
Download to ElcoMaster® Software

Powerful

Store each measurement for further analysis

Up to 4GB of readings can be saved into the gauge memory as each measurement is taken, which can be downloaded later into an inspection application or into ElcoMaster® Software for further analysis and reporting.

## Technical Specification

Part Number	Description	Certificate
FD700+	Elcometer FD700+ Mini Flaw Detector	○
FD700DL+	Elcometer FD700DL+ Mini Flaw Detector	○
Transducer Probe Type	Single & Dual Element	
Thickness Gauge: Measurement Range[1]		
Pulse Echo (PE)	0.63 - 2,440mm (0.025 – 96")	
Pulse Echo (single contact)	1.0 - 30,480mm (0.040 - 1200")	
Echo Echo ThruPaint™ (EE)	1.27 - 102mm (0.050 - 4.0")	
Echo Echo (single delay line)	0.178 - 25.4mm (0.007 -1.00")	
Echo Echo (single contact)	1.0 - 3,050mm (0.040 - 120")	
Echo Echo Verify (EEV)	1.27 - 25.4mm (0.050 - 1.0")	
Pulse Echo Temp Comp (PETP)	0.63 - 2,440mm (0.025 – 96")	
Coating Thickness (CT)	0.0127 - 2.54mm (0.0005 - 0.100")	
Pulse Echo Coating Thickness (**PE**CT)	0.63 - 2,440mm (0.025 – 96")	
Pulse Echo Coating Thickness (PE**CT**)	0.01 - 2.54mm (0.001 - 0.100")	
Measurement Accuracy[1]	0.01mm (0.001")	
Resolution	0.01mm (0.001"), 0.001mm (0.0001")	
Memory	4GB internal memory	
Operating Temperature	-10 to 60ºC (14 to 140ºF)	
Data Output	USB	
Power Supply	3 x AA batteries and via USB	
Battery Life[2]	Alkaline (12hrs), Nicad (5hrs), and NI-MH (12hrs)	
Gauge Weight	397g (14oz) - including batteries	
Gauge Dimensions	63.5 x 165 x 31.5mm (2.5 x 6.5 x 1.24")	
Packing List	Elcometer NDT FD700 gauge, couplant, carry case, opperating instructions, test certificate, 3 x AA batteries, ElcoMaster® Software, transfer cable	

For a range of transducers to meet your specific application, see page 5-12 or visit www.elcometer.com

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

[2] Approximate battery life, when in continuous measurement mode.

○ Test Certificate supplied as standard.

Elcometer FD — Single Element Transducers

Suitable for:
FD700+
FD700DL+

Single Element Transducers are the common 0° transducers and are ideal for inspecting large, simple geometry materials.

Disk	Part Number	Probe Diameter	Probe Characteristic	Damping*	Microdot	Lemo	BNC	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	All Metals	Common Metals	Rough Surfaces	Castings	Billets	Extruded Parts	Weld Inspection	Weld Inspection (Tight Areas)	Immersion & Bubbler Inspections	FD700+	FD700DL+
	Connector Type →										**Suitable for measuring** →																			
1.00MHz Single Element Contact Transducers																														
🟡	TF1M00C-1	¼"	Finger Tip Composite	S	●				●		●	●	●	●							●		●	●	●				●	●
🟡	TF1M00E-1	½"	Finger Tip Composite	S	●				●		●	●	●	●							●		●	●	●				●	●
3.50MHz Single Element Contact Transducers																														
⚫	TF3M50E-1	½"	Finger Tip Composite	S	●				●			●				●					●								●	●
5.00MHz Single Element Contact Transducers																														
🟢	TF5M00CG-1	¼"	Finger Tip	HG	●				●									●	●		●								●	●
🟢	TF5M00EG-1	½"	Finger Tip	HG	●				●									●	●		●								●	●
10.00MHz Single Element Contact Transducers																														
⚪	TF10M0CG-1	¼"	Finger Tip	HG	●				●										●	●	●								●	●
15.00MHz Single Element Contact Transducers																														
🔵	TF15M0AH-1	⅛"	Finger Tip Slim Line	H	●				●										●	●									●	●
20.00MHz Single Element Contact Transducers																														
🟣	TF20M0AH-1	⅛"	Finger Tip Slim Line	H	●				●										●	●	●								●	●

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

* **Damping:** **S** - Standard undamped Transducer, **H** - Highly Damped Transducer, **HG** - High Gain Damping Transducers

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Elcometer FD

Shear Wave Transducers

Suitable for:
FD700+
FD700DL+

Shear Wave Transducers are designed to be used with angle beam wedges for a powerful flaw detection solution. The transducer is secured to the wedge with screws.

For standard and dual shear wave transducers visit www.elcometer.com.

Disk	Part Number	Probe Diameter	Probe Characteristic	Damping*	Microdot	Lemo	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	All Metals	Common Metals	Corrosion Prove Up	Castings	Billets	Extruded Parts	Weld Inspection	Weld Inspection (Tight Areas)	Immersion & Bubbler Inspections	FD700+	FD700DL+
1.00MHz Shear Wave - Quick Change Transducers																										
●	TF1M00CG	¼"	Composite	HG	•		•					•					•	•	•			•			•	•
●	TF1M00CR	¼"	Composite	R	•		•					•					•	•	•			•			•	•
●	TF1M00ER	½"	Composite	R	•		•					•					•	•	•			•			•	•
2.25MHz Shear Wave - Quick Change Transducers																										
●	TF2M25CG-4	¼"	Standard	HG	•		•					•					•	•	•			•			•	•
●	TF2M25CR-4	¼"	Standard	R	•		•					•					•	•	•			•			•	•
4.00MHz Shear Wave - Quick Change Transducers																										
	TF4M0045	10mm	45 Degree	S		•						•					•	•	•			•			•	•
	TF4M0060	10mm	60 Degree	S		•						•					•	•	•			•			•	•
	TF4M0070	10mm	70 Degree	S		•						•					•	•	•			•			•	•
5.00MHz Shear Wave - Quick Change Transducers																										
●	TF5M00CG-4	¼"	Standard	HG	•							•					•		•			•			•	•
●	TF5M00EG-5	½"	Standard	HG	•							•					•		•			•			•	•
●	TF5M00CR-4	¼"	Standard	R	•							•					•		•			•			•	•
●	TF5M00ER-4	½"	Standard	R	•							•					•		•			•			•	•
10.00MHz Shear Wave - Quick Change Transducers																										
O	TF10M0CG-4	¼"	Standard	HG	•									•	•		•		•			•			•	•
O	TF10M0CR-4	¼"	Standard	R	•									•	•		•		•			•			•	•

Suitable for measuring

* Damping: **S** - Standard undamped Transducer, **HG** - High Gain Damping Transducers, **R** - Resolution Transducer

Elcometer FD   **Transducer Wedges**

A range of versatile **wedges** available in 45°, 60° and 70° angles for use with Elcometer **shear wave quick change transducers**.

For transducer wedges suitable for standard and dual shear wave transducers visit www.elcometer.com.

Wedges - Standard Quick Change Transducers

Part Number	Probe Diameter	Angle	Suitable for	
			FD700+	FD700DL+
Wedge - Standard Quick Change Transducers				
TF9999C45-2	¼"	45°	●	●
TF9999E45-2	½"	45°	●	●
TF9999C60-2	¼"	60°	●	●
TF9999E60-2	½"	60°	●	●
TF9999C70-2	¼"	70°	●	●
TF9999E70-2	½"	70°	●	●

Shear Wave Contact Transducers

Part Number	Probe Diameter	Angle	Suitable for	
			FD700+	FD700DL+
4.00 MHz Shear Wave Contact Transducers				
TF4M0045	⅖" (10mm)	45°	●	●
TF4M0060	⅖" (10mm)	60°	●	●
TF4M0070	⅖" (10mm)	70°	●	●

For couplant for Elcometer Transducers see page 5-12

Visit www.elcometer.com for the full range of Elcometer Transducers

Cables & Adaptors

Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80DL	BG80TDL
									Suitable for						
TL-24030-2	T/Cable: 1.2m (4') Single Lemo 00 to Lemo 00					●	●	●	●		●	●	●		
TL-24030-3	T/Cable: 1.2m (4') Single Lemo 00 to Microdot					●	●	●	●		●	●	●	●	●
TL-24030-9	T/Cable: 1.2m (4') Dual Lemo to M/dot, HT Armoured			●	●										
TL-24030-10	T/Cable: 3m (10') Single Lemo to Microdot													●	●
TL-24030-11	T/Cable: 6m (20') Single Lemo to Microdot Single													●	●

Elcometer BG80TDL Bolt Tension Monitor

The **Elcometer BG80TDL** accurately measures elongation allowing the gauges to accurately measure time (nanoseconds), elongation, load, stress, and %strain of the bolt.

Temperature compensation to counteract measurement irregularity caused by temperature change

4GB internal memory

Auto Set feature automatically optimizes detection and adjusts display

Range of display & measurement options: Elongation, Load, Stress, and %Strain, RF, Rectified, Large Digits with Limits Bar

Hi/Lo Alarm tolerance limits work in conjunction with the data port

STANDARDS:
ASTM E 797, EN 14127, EN 15317

Elcometer BG80TDL   Bolt Tension Monitor

The BG80TDL Bolt Tension Monitor measures the change in length of a fastener when a load is applied to the fastener.

Within the elastic limit of the fastener, the change of length is proportional to the load applied, and therefore by measuring the change of length and knowing the physical properties of the fastener, the load on the fastener can be calculated.

Up to 4GB of readings can be saved into the gauge memory

Intelligent

User definable limits for pass/fail indication

Set limits for pass/fail indication on individual reading or for each batch with audible & visual warnings.
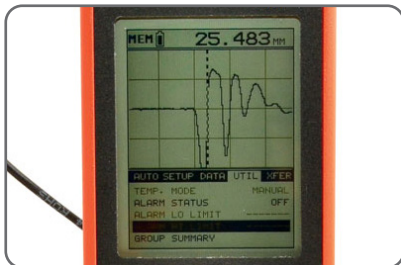
Set limits for audible and visual pass/fail indication

Customisable

Choose & customise the reading display

With a choice of display and measurement modes, the user can select the most appropriate option for their needs; Elongation, Load, Stress, and %Strain, RF, Rectified, Large Digits with Limits Bar.

How do Bolt Tension Monitors work?

As a fastener is tightened it stretches (elongates) in length.

Manual torque wrenches measure the force applied when tightening a fastener, the accuracy can be affected by temperature, friction and resistance.

As the BG80TDL ultrasonically measures the change in length accurately determining the applied load of a fastener as it is tightened, they are not affected by these factors.
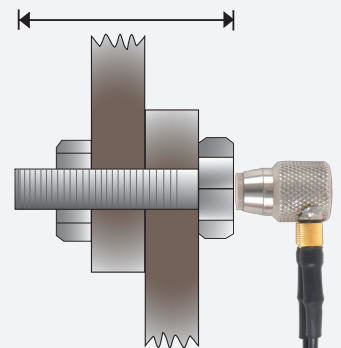
elcometer®

Elcometer BG80TDL	**Bolt Tension Monitor**

Product Features

Model & Part Number	BG80TDL
Display Mode	
Material thickness digits display	■
Measurement Mode	PE
Measurement Rate	
Manual	8 readings per second
Velocity Calibration Range	1250 - 13,995m/s (0.0492 - 0.5510 in/µs)
Temperature Compensation	■
Limit Alarm Mode	■
Memory and Data Logging	4GB internal memory Sequential and grid batching Bitmap graphic capture and capture viewer
Calibration Options	Automatic, fixed, single and two-point
Transducer Probe Type	Single element
Transducer Frequency Range	1 - 10MHz
Display	⅛" VGA greyscale display (240 x 160 pixels) Viewable area 62 x 45.7mm (2.4 x 1.8")
Units (selectable)	mm or inches
LED Backlight	on / off / auto
Repeatability / Stability Indicator	■
Low Battery Indicator	■
Battery Save Mode	Auto
Transducer Connector Type	LEMO
USB Interface	■
Temperature Sensor	5 pin LEMO 1
Screen Refresh Rate	30 Hz
Timing	Precision TCXO timing with single shot 100MHz 8bit ultra-low power digitizer
Pulser Type	Square Wave. Selectable 100, 150 and 200 volts. Selectable options Spike, Thin, and Wide. 80 to 400ns
Damping	50, 75, 100, 300, 600, & 1500ohms
Frequency Band	Broadband 1.8 - 19 MHz (-3dB) filter
Horizontal Linearity	+/- 0.4% FSW
Vertical Linearity	+/- 1% FSH
Amplifier Linearity	+/- 1 dB
Amplitude Measurement	0 to 100% FSH, with 1% resolution
Delay	25,400 mm (0 - 999.9") at steel velocity
Measurement Gate	One gate with audible and visual alarm. Amplitude 5-95%, 1% steps
Setups	64 custom user defined setups; factory setups can also be edited by the user
Auto Set	Automates the detection, scope, and display setting process for each individual bolt
Alarm Limits	Adjustable Hi/Low tolerances with visual LEDs and audible beeper
Field Calibration	Vector or Regression correction curve for increased accuracy using Load & Stress
A-Scan	Rectified +/- (half wave view), or RF (full waveform view)

Elcometer BG80TDL   Bolt Tension Monitor

Product Features

Model & Part Number	BG80TDL
Large Digits	Digital display only
Alarm Limits Bar	Hi & Lo alarm limits for displaying an acceptable tolerance range
Units	in/mm, µs, °F/°C
Detection	Zero Crossing
Time	Nanoseconds
Elongation	Change in length (in/mm)
Load	Force load applied (pounds KIP, or megapascals MPa)
Stress	Force for unit area stress applied (inches per inch or millimeters per millimeter)
%Strain	Ratio of elongation to effective length
Bolt Materials	Select types from a preset or custom list
Glue-On	Available for short bolts with minimal/short elongations to eliminate transducer placement errors

Technical Specification

Part Number	Description	Certificate
BG80TDL	Elcometer BG80TDL Bolt Tension Monitor	o
Transducer Probe Type	Single Element	
Measurement Range[1]		
Pulsed Echo (PE)	25.4 - 15,240mm (1 - 600")	
Resolution	0.001mm (0.0001") or 0.0001mm (0.00001") switchable	
Memory	4GB internal memory	
Operating Temperature	-10 to 60ºC (14 to 140ºF)	
Data Output	USB	
Power Supply	3 x AA batteries and via USB	
Battery Life[1]	Alkaline 35 hrs, Nicad 10 hrs, NI-MH 35 hrs	
Gauge Weight	383g (13.5oz) - including batteries	
Gauge Dimensions	63.5 x 165 x 31.5mm (2.5 x 6.5 x 1.24")	
Packing List	Elcometer NDT BG80TDL gauge, couplant, carry case, opperating instructions, test certificate, 3 x AA batteries, DakView software, USB transfer cable	

[1] Measuring range & accuracy depends on material, surface conditions and the transducer selected

[2] Approximate battery life, when in continuous measurement mode.

o Test Certificate supplied as standard.

Elcometer BG80TDL — Bolt Tension Monitor Transducers

Suitable for:
BG80TDL

Elcometer offer a full range of **Bolt Tension Monitor Transducers** to ultrasonically measure the actual elongation produced by tightening a threaded fastener.

Disk	Part Number	Probe Diameter	Element Type	Probe Characteristic	Damping*	Potted	Microdot	Lemo	Top	Side	End	All Metals	Common Metals	Rough Surfaces	Castings	Billets	Extruded Parts	Weld Inspection	Weld Inspection (Tight Areas)	Immersion & Bubbler Inspections	BG80DL	BG80TDL
								Connector Type						**Suitable for measuring**							**Suitable for**	
5.00MHz Bolt Gauge Transducers																						
●	TX5M00AM-3	⅛"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00CM-8	¼"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00DM	⅜"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00GM	¾"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00EM-7	½"	Si/El Magnetic	Standard	S		●	●				●									●	●
10.00MHz Bolt Gauge Transducers																						
O	TX10M0AM-3	⅛"	Si/El Magnetic	Standard	S		●	●				●									●	●
O	TX10M0CM-5	¼"	Si/El Magnetic	Standard	S		●	●				●									●	●

Calibration Standards

Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80TDL
								Suitable for						
TW-24028	Glass Calibration Block, 1", 2" and 3"													●
TW-24029-S1	Calibration Bar, 3", Steel													●
TW-24029-S2	Calibration Bar, 3" and 6", Steel													●

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

* Damping: **S** - Standard undamped Transducer

Transducers, Couplants & Calibration Blocks

5

Elcometer — **Ultrasonic NDT Transducers**

Elcometer NDT offer a state-of-the-art range of **Ultrasonic Gauge transducers** to meet your application's specific needs.

When selecting a transducer it is important to choose one which will meet the specific application's needs. The type of material to be tested, the measurement range, the shape of the substrate (curved or flat) and the size of the material should be considered when selecting the appropriate transducer.

Single Element

Single element transducers feature a single crystal that sends and receives the pulse.
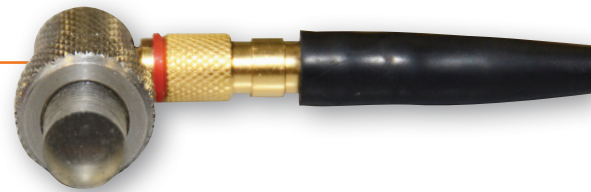
Dual Element

A dual element transducer consists of two crystals housed in the same case, separated by an acoustic barrier.

What connection does it have?

Potted: The transducer is strongly secured to the cable at the factory.

Microdot: The transducer is attached using a small screw type connector, enabling replacement of the cable in case of accidental damage or wear.

All transducers are intelligent; when connected to the MTG or PTG range, the gauge instantly recognises what transducer has been attached.

Selecting the right transducer
Selecting the right transducer for your application is essential to maximise performance.

Elcometer   ## Ultrasonic NDT Transducers

Different materials have different acoustic properties. In some a sound wave can travel easily, in others it is absorbed so achieving an accurate measurement can be difficult. To overcome this it is essential to choose the right frequency and diameter for your material.
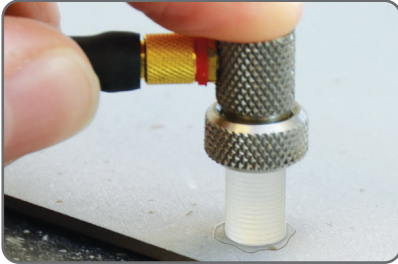
Available in a number of measurement frequencies

High Frequency Transducers

Ideal for precision measurement

High frequency transducers are ideal for precision measurement because the pulse they emit is highly focused, reducing the risk of return echoes outside of the measurement area. The high frequency and shorter wavelength also lends itself to measuring thin materials.
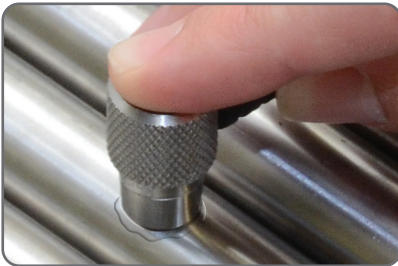
Diameters and connection types to meet almost all applications

Low Frequency Transducers

Designed for materials that absorb sound

Low frequency transducers are designed for materials that absorb sound like plastics or composites. The pulse penetrates deeply into the material ensuring a strong return echo and therefore a measurement. This high penetration also means that they are suitable for high material thicknesses.

Designed to measure material thickness when access is restricted

Larger Diameter Transducers

Precise results with better penetration characteristics

Larger diameter probes feature larger crystals which transmit and receive the sound wave. A large crystal transmitter will produce a larger sound wave and a larger receiving crystal will be more sensitive. As a result, larger transducers tend to have better penetration characteristics than the smaller ones.

Dual and single element transducers available

Smaller Diameter Transducers

Ideal for hard to reach areas

If this extended range is not required, the smaller transducers can be placed more precisely and in hard to reach areas such as narrow grooves in a material.

elcometer®

Elcometer MTG — Material Thickness Transducers

Suitable for:
MTG4
MTG6
MTG8

The **MTG Transducer range** has intelligent automatic transducer recognition ensuring correct probe identification even when the transducer is changed.

Disk	Part Number	Probe Diameter	Probe Configuration	Damping*	ThruPaint™	Connector Type		Suitable for measuring									Suitable for		
						Potted right angle	Microdot	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	MTG4	MTG6	MTG8
1.00 MHz Dual Element Thickness Transducer																			
●	TXC1M00EP-2	½"	Right Angle	S		•		•	•		•						•	•	•
2.25MHz Dual Element Thickness Transducer																			
●	TXC2M25CP-2	¼"	Right Angle	S		•		•	•			•					•	•	•
●	TXC2M25EP-2	½"	Right Angle	S		•		•	•			•					•	•	•
3.50MHz Dual Element Thickness Transducer																			
●	TXC3M50EP-1	½"	Right Angle	S		•		•	•								•	•	•
5.00MHz Dual Element Thickness Transducer																			
●	TXC5M00BP-4	³⁄₁₆"	Right Angle	S		•				•			•	•			•	•	•
●	TXC5M00CP-4	¼"	Right Angle	S		•				•			•	•			•	•	•
●	TXC5M00CP-10[1]	¼"	Right Angle	H	•	•				•			•	•			•	•	•
●	TXC5M00CP-8	¼"	Hi Temp	H		•				•			•	•			•	•	•
●	TXC5M00EP-3	½"	Right Angle	S		•											•	•	•
7.50MHz Dual Element Thickness Transducer																			
●	TXC7M50BP-3	³⁄₁₆"	Right Angle	S		•				•			•	•	•		•	•	•
●	TXC7M50CP-4	¼"	Right Angle	S		•				•			•	•	•		•	•	•
●	TXC7M50CP-6[1]	¼"	Right Angle	H	•	•				•			•	•	•		•	•	•
10.0MHz Dual Element Thickness Transducer																			
O	TXC10M0BP-1	³⁄₁₆"	Right Angle	S		•							•	•	•	•	•	•	•
O	TXC10M0CP-4	¼"	Right Angle	S		•							•	•	•	•	•	•	•

* Damping: **S** - Standard undamped Transducer, **H** - Highly Damped Transducer
All transducers are supplied with a calibration certificate

[1] To be used for coatings with a thickness of up to 1mm
To select another transducer from the one supplied with the gauge please remove TXC from the part number

Elcometer MTG — Material Thickness Transducers

Each transducer can be easily identified by the disk on the top. Visit www.elcometer.com to view the full range of dual element thickness transducers for use with the material thickness gauges.

	1MHz	2.25MHz	3.5MHz	5MHz
	7.5MHz	10MHz	15MHz	20MHz

Mode		Typical Measurement Range^						
PE	EE	PVC 2395m/s (0.092in/µs)	Composite 3000m/s (0.117in/µs)	Cast Iron 4200m/s (0.190in/µs)	Steel 5960m/s (0.235in/µs)	Aluminium (2014A) 6350m/s (0.250in/µs)	Part Number	Disk
1.00 MHz Dual Element Thickness Transducer								
●		5.00 - 40.00mm (0.196 - 1.574")	5.00 - 40.00mm (0.196 - 1.574")	5.00 - 60.00mm (0.196 - 2.362")	5.00 - 150.00mm (0.196 - 5.906")	N/A	TXC1M00EP-2	● (yellow)
2.25MHz Dual Element Thickness Transducer								
●		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 30.00mm (0.078 - 1.281")	2.00 - 100.00mm (0.078 - 3.937")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TXC2M25CP-2	● (red)
●		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 30.00mm (0.078 - 1.281")	5.00 - 200.00mm (0.196 - 7.874")	5.00 - 500.00mm (0.196 - 19.690")	5.00 - 500.00mm (0.196 - 19.690")	TXC2M25EP-2	● (red)
3.50MHz Dual Element Thickness Transducer								
●	●	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 30.00mm (0.078 - 1.281")	2.00 - 100.00mm (0.078 - 3.937")	2.50 - 500.00mm (0.098 - 19.690")	2.50 - 500.00mm (0.098 - 19.690")	TXC3M50EP-1	● (black)
5.00MHz Dual Element Thickness Transducer								
●		1.00 - 15.00mm (0.039 - 0.590")	1.00 - 15.00mm (0.039 - 0.590")	1.00 - 50.00mm (0.039 - 1.968")	1.00 - 50.00mm (0.039 - 1.968")	1.00 - 150.00mm (0.039 - 5.905")	TXC5M00BP-4	● (green)
●		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TXC5M00CP-4	● (green)
●		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TXC5M00CP-10	● (green)
●	●	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TXC5M00CP-8	● (green)
●		2.00 - 30.00mm (0.078 - 1.281")	2.00 - 30.00mm (0.078 - 1.281")	2.00 - 100.00mm (0.078 - 3.937")	2.00 - 500.00mm (0.078 - 19.685")	2.00 - 500.00mm (0.078 - 19.685")	TXC5M00EP-3	● (green)
7.50MHz Dual Element Thickness Transducer								
●		N/A	2.00 - 25.00mm (0.078 - 0.984")	0.64 - 50.00mm (0.025 - 1.968")	0.64 - 50.00mm (0.025 - 1.968")	0.64 - 50.00mm (0.025 - 1.968")	TXC7M50BP-3	● (grey)
●		N/A	2.00 - 25.00mm (0.078 - 0.984")	1.00 - 50.00mm (0.039 - 1.968")	1.00 - 150.00mm (0.039 - 5.906")	1.00 - 150.00mm (0.039 - 5.906")	TXC7M50CP-4	● (grey)
●	●	N/A	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	1.00 - 150.00mm (0.039 - 5.906")	1.00 - 150.00mm (0.039 - 5.906")	TXC7M50CP-6	● (grey)
10.0MHz Dual Element Thickness Transducer								
●		N/A	N/A	N/A	1.00 - 50.00mm (0.039 - 1.968")	1.00 - 50.00mm (0.039 - 1.968")	TXC10M0BP-1	○ (white)
●		N/A	N/A	N/A	2.00 - 150.00mm (0.078 - 5.906")	2.00 - 150mm (0.078 - 5.906")	TXC10M0CP-4	○ (white)

^ Quoted ranges are only typical. Exact range can be affected by a number of factors including: exact material type; smoothness of interfaces; and operating temperature.

elcometer®

Elcometer CG/FD — Corrosion Detection Transducers

Suitable for: CG70 CG100 FD700

Elcometer offer a wide range of **dual element transducers** from 1MHz to 10MHz frequency and ³⁄₁₆" to ½" diameter to meet your application needs.

Disk	Part Number	Probe Diameter	Probe Characteristic	Damping[1]	ThruPaint™	Potted	Microdot	Lemo	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	CG70	CG100	FD700
1.00MHz Dual Element Thickness Transducer																							
🟡	TX1M00EP-2	½"	Standard	S		•				•		•	•	•			•				•	•	•
🟡	TX1M00EP-3	½"	Composite	S		•				•		•	•	•			•				•	•	•
2.25MHz Dual Element Thickness Transducer																							
🔴	TX2M25CP-2	¼"	Standard	S		•				•		•	•			•					•	•	•
🔴	TX2M25CM-2	¼"	Standard	S			•			•		•	•			•					•	•	•
🔴	TX2M25EP-2	½"	Standard	S		•				•		•	•			•					•	•	•
5.00MHz Dual Element Thickness Transducer																							
🟢	TX5M00BP-4	³⁄₁₆"	Coating Thickness	CT	•	•				•				•			•	•			•	•	•
🟢	TX5M00CP-4	¼"	Standard	S		•				•				•			•	•			•	•	•
🟢	TX5M00CP-10	¼"	Standard	H	•					•				•			•	•			•	•	•
🟢	TX5M00CP-6	¼"	Coating Thickness	CT	•	•				•				•			•	•			•	•	•
🟢	TX5M00CM-3	¼"	Coating Thickness	CT	•		•			•				•			•	•			•	•	•
🟢	TX5M00CM-4	¼"	Hi Temp[2]	H	•		•	•		•				•			•	•			•	•	•
🟢	TX5M00EP-3	½"	Standard	S		•				•				•			•	•			•	•	•
	TF5M00F	10mm	Short Focus	S					•		•												
7.50MHz Dual Element Thickness Transducer																							
⚫	TX7M50BP-3	³⁄₁₆"	Coating Thickness	CT	•	•				•				•			•	•	•		•	•	•
⚫	TX7M50CP-5	¼"	Coating Thickness	CT	•	•				•				•			•	•	•		•	•	•
10.0MHz Dual Element Thickness Transducer																							
⚪	TX10M0CP-4	¼"	Standard	S		•				•							•	•	•	•	•	•	•

[1] Damping: **S** - Standard undamped Transducer, **CT** - Damped Coating Thickness Transducer, **H** - Highly Damped Transducer
[2] High temperature probes suitable for measuring 482°C (900°F)

NDT Inspection Equipment

Elcometer CG/FD   Corrosion Detection Transducers

Each transducer can be easily identified by the disk on the top. Visit www.elcometer.com to view the full range of dual element thickness transducers for use with the corrosion and flaw detection gauges.

| 1MHz | 2.25MHz | 3.5MHz | 5MHz |
| 7.5MHz | 10MHz | 15MHz | 20MHz |

Mode		Typical Measurement Range^						
PE	EE (HD)	PVC 2395m/s (0.092in/µs)	Composite 3000m/s (0.117in/µs)	Cast Iron 4200m/s (0.190in/µs)	Steel 5960m/s (0.235in/µs)	Aluminium (2014A) 6350m/s (0.250in/µs)	Part Number	Disk
		1.00MHz Dual Element Thickness Transducer						
•		5.00 - 40.00mm (0.196 - 1.574")	5.00 - 40.00mm (0.196 - 1.574")	5.00 - 60.00mm (0.196 - 2.362")	5.00 - 150.00mm (0.196 - 5.906")	N/A	TX1M00EP-2	🟡
•		5.00 - 40.00mm (0.196 - 1.574")	5.00 - 40.00mm (0.196 - 1.574")	5.00 - 60.00mm (0.196 - 2.362")	5.00 - 150.00mm (0.196 - 5.906")	N/A	TX1M00EP-3	🟡
		2.25MHz Dual Element Thickness Transducer						
•		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 30.00mm (0.078 - 1.281")	2.00 - 100.00mm (0.078 - 3.937")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TX2M25CP-2	🔴
•		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 30.00mm (0.078 - 1.281")	2.00 - 100.00mm (0.078 - 3.937")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TX2M25CM-2	🔴
•		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 30.00mm (0.078 - 1.281")	5.00 - 200.00mm (0.196 - 7.874")	5.00 - 500.00mm (0.196 - 19.690")	5.00 - 500.00mm (0.196 - 19.690")	TX2M25EP-2	🔴
		5.00MHz Dual Element Thickness Transducer						
•	•	1.00 - 15.00mm (0.039 - 0.590")	1.00 - 15.00mm (0.039 - 0.590")	1.00 - 50.00mm (0.039 - 1.968")	1.00 - 50.00mm (0.039 - 1.968")	1.00 - 50.00mm (0.039 - 1.968")	TX5M00BP-4	🟢
•		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TX5M00CP-4	🟢
•	•	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TX5M00CP-10	🟢
•	•	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TX5M00CP-6	🟢
•	•	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TX5M00CM-3	🟢
•		2.00 - 25.00mm (0.078 - 0.984")	2.00 - 25.00mm (0.078 - 0.984")	2.00 - 60.00mm (0.078 - 2.362")	2.00 - 200.00mm (0.078 - 7.874")	2.00 - 200.00mm (0.078 - 7.874")	TX5M00CM-4	🟢
•		2.00 - 30.00mm (0.078 - 1.281")	2.00 - 30.00mm (0.078 - 1.281")	2.00 - 100.00mm (0.078 - 3.937")	2.00 - 500.00mm (0.078 - 19.690")	2.00 - 500.00mm (0.078 - 19.690")	TX5M00EP-3	🟢
							TF5M00F	
		7.50MHz Dual Element Thickness Transducer						
•	•	N/A	2.00 - 25.00mm (0.078 - 0.984")	0.64 - 50.00mm (0.039 - 1.968")	0.64 - 50.00mm (0.039 - 1.968")	0.64 - 50.00mm (0.039 - 1.968")	TX7M50BP-3	⚪
•	•	N/A	2.00 - 25.00mm (0.078 - 0.984")	1.00 - 50.00mm (0.039 - 1.968")	1.00 - 150.00mm (0.039 - 5.906")	1.00 - 150.00mm (0.039 - 5.906")	TX7M50CP-5	⚪
		10.0MHz Dual Element Thickness Transducer						
•		N/A	N/A	N/A	2.00 - 150.00mm (0.078 - 5.95")	2.00 - 150.00mm (0.078 - 5.95")	TX10M0CP-4	⚪

^ Quoted ranges are only typical. Exact range can be affected by a number of factors including: exact material type; smoothness of interfaces; and operating temperature.

Elcometer UG — Underwater Transducers

Suitable for: UG20DL

Elcometer offer a range of **underwater material and coating thickness transducers** with dual elements, ideal for offshore inspections.

Disk	Part Number	Probe Diameter	Element Type	Probe Characteristic	Damping[1]	ThruPaint™	Potted	Microdot	Lemo - UW[2]	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	UG20DL
						Connector Type							Suitable for measuring									
3.50MHz Underwater Transducer																						
●	TX3M50EP-3	½"	Dual	Underwater	H	●	●		●					●		●						●
5.00MHz Underwater Transducer																						
●	TX5M00EP-8	½"	Dual	Underwater	CT		●		●						●		●	●	●	●	●	●
●	TX5M00EP-9	½"	Dual	Underwater - 15m (50ft)	S		●		●						●		●	●	●	●	●	●

Underwater Gasket Lubricant

TC-24034-6   Underwater Gasket Lubricant, 6g (0.21oz)

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

[1] Damping: **S** - Standard undamped Transducer, **CT** - Damped Coating Thickness Transducer, **H** - Highly Damped Transducer
[2] Lemo UW - Lemo Underwater Connection

Elcometer UG   Underwater Transducers

Each transducer can be easily identified by the disk on the top. Visit www.elcometer.com to view the full range of dual element coating thickness transducers for use with the underwater gauges.

| 1MHz | 2.25MHz | 3.5MHz | 5MHz |
| 7.5MHz | 10MHz | 15MHz | 20MHz |

Typical Measurement Range^				
PVC 2395m/s (0.092in/µs)	**Steel** 5960m/s (0.235in/µs)	**Aluminium (2014A)** 6350m/s (0.250in/µs)	Part Number	Disk
3.50MHz Underwater Transducer				
2.00 - 25.00mm (0.078 - 0.984")	2.50 - 500.00mm (0.098 - 19.690")		TX3M50EP-3	●
5.00MHz Underwater Transducer				
	2.00 - 500.00mm (0.078 - 19.690")	2.00 - 500.00mm (0.078 - 19.690")	TX5M00EP-8	●
	2.00 - 500.00mm (0.078 - 19.690")	2.00 - 500.00mm (0.078 - 19.690")	TX5M00EP-9	●

^ Quoted ranges are only typical. Exact range can be affected by a number of factors including: exact material type; smoothness of interfaces; and operating temperature.

Elcometer — Precision Thickness Transducers

Suitable for:
PTG6
PTG8

When pinpoint accuracy is the key, the Elcometer **Precision Thickness Transducers** allow users to measure with precision.

Disk	Part Number	Probe Diameter	Probe Configuration	Damping*	ThruPaint™	Connector Type – Potted right angle	Microdot	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	PTG6	PTG8
15.0MHz Single Element Transducer																		
●	TXC15M0CM	¼"	Right Angle	S			•		•				•	•	•		•	•
20.0MHz Single Element Transducer																		
●	TXC20M0CM	¼"	Right Angle	S			•		•				•	•	•	•		•

Suitable for:
PG70ABDL
FD700

A full range of **delay lines** to suit Elcometer **Precision Thickness Transducers** is available on page 5-22.

Disk	Part Number	Probe Diameter	Element Type	Probe Characteristic	Damping*	ThruPaint™	Potted	Microdot	Lemo	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	PG70ABDL	FD700
10.00MHz Single Element Precision Transducer																							
○	TX10M0BM-1	³⁄₁₆"	Si/El D/Line Pencil	¹⁄₁₆" Tip	S			•		•					•			•		•	•	•	
15.00MHz Single Element Precision Transducer																							
●	TX15M0CM	¼"	Si/El Delay Line	Standard	S			•		•					•			•		•	•	•	•

* Damping: **S** - Standard undamped Transducer

Elcometer — Precision Thickness Transducers

Each transducer can be easily identified by the disk on the top. Visit www.elcometer.com to view the full range of precision thickness transducers for use with the precision thickness gauges.

	1MHz	2.25MHz	3.5MHz	5MHz
	7.5MHz	10MHz	15MHz	20MHz

Removable Delay Line	Mode IE	Mode IEE	PVC 2395m/s (0.092in/µs)	Composite 3000m/s (0.117in/µs)	Steel IE Mode 5960m/s (0.235in/µs)	Steel IEE Mode 5960m/s (0.235in/µs)	Aluminium (2014A) 6350m/s (0.250in/µs)	Part Number	Disk
15.0MHz Single Element Transducer									
9mm	●	●		1.65 - 10.00mm (0.065 - 0.394")	1.65 - 20.00mm (0.065 - 0.787")	0.15 - 10.00mm (0.0059 - 0.394"	2.00 - 25.00mm (0.078 - 0.984")		
12mm	●	●		1.65 - 13.00mm (0.065 - 0.526")	1.65 - 25.00mm (0.065 - 0.984")	0.15 - 10.00mm (0.0059 - 0.394")	2.00 - 25.00mm (0.078 - 0.984")	TXC15M0CM	●
9mm Graphite		●	0.15 - 5.00mm (0.0059 - 0.196")						
20.0MHz Single Element Transducer									
9mm	●	●		1.65 - 10.00mm (0.065 - 0.394")	1.65 - 20.00mm (0.065 - 0.787")	0.15 - 10.00mm (0.0059 - 0.394")	2.00 - 25.00mm (0.078 - 0.984")		
12mm	●	●		1.65 - 13.00mm (0.065 - 0.526")	1.65 - 25.00mm (0.065 - 0.984")	0.15 - 10.00mm (0.0059 - 0.394")	2.00 - 25.00mm (0.078 - 0.984")	TXC20M0CM	●
9mm Graphite		●	0.15 - 5.00mm (0.0059 - 0.196")						

Composite 3000m/s (0.117in/µs)	Steel IE Mode 5960m/s (0.235in/µs)	Steel IEE Mode 5960m/s (0.235in/µs)	Part Number	Disk
10.00MHz Single Element Precision Transducer				
1.65 - 10.00mm (0.065 - 0.394")	1.65 - 20.00mm (0.065 - 0.787")	0.15 - 10.00mm (0.0059 - 0.394")	TX10M0BM-1	O
15.00MHz Single Element Precision Transducer				
1.65 - 13.00mm (0.065 - 0.526")	1.65 - 25.00mm (0.065 - 0.984")	0.15 - 10.00mm (0.0059 - 0.394")	TX15M0CM	●

^ Quoted ranges are only typical. Exact range can be affected by a number of factors including: exact material type; smoothness of interfaces; and operating temperature.
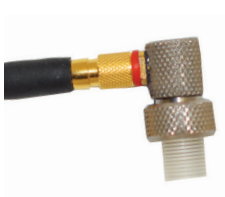
Elcometer FD — Single Element Transducers

Suitable for:
FD700+
FD700DL+

Single Element Contact Transducers are the common 0° transducers and are ideal for inspecting large, simple geometry materials.

Disk	Part Number	Probe Diameter	Probe Characteristic	Damping*	Microdot	Lemo	BNC	Top	Side	End	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	All Metals	Common Metals	Rough Surfaces	Castings	Billets	Extruded Parts	Weld Inspection	Weld Inspection (Tight Areas)	Immersion & Bubbler Inspections	FD700+	FD700DL+
							Connector Type							**Suitable for measuring**																
1.00MHz Single Element Contact Transducers																														
🟡	TF1M00C - 1	¼"	Finger Tip Composite	S	•				•	•	•	•	•									•	•	•	•				•	•
🟡	TF1M00E - 1	½"	Finger Tip Composite	S	•				•	•	•	•	•								•	•	•	•				•	•
3.50MHz Single Element Contact Transducers																														
⚫	TF3M50E - 1	½"	Finger Tip Composite	S	•				•			•				•					•							•	•
5.00MHz Single Element Contact Transducers																														
🟢	TF5M00CG - 1	¼"	Finger Tip	HG	•				•							•	•				•		•					•	•
🟢	TF5M00EG - 1	½"	Finger Tip	HG	•				•							•	•				•		•					•	•
10.00MHz Single Element Contact Transducers																														
⚪	TF10M0CG - 1	¼"	Finger Tip	HG	•				•									•	•		•							•	•
15.00MHz Single Element Contact Transducers																														
🔵	TF15M0AH - 1	⅛"	Finger Tip Slim Line	H	•				•									•	•		•							•	•
20.00MHz Single Element Contact Transducers																														
🟣	TF20M0AH - 1	⅛"	Finger Tip Slim Line	H	•				•									•	•		•							•	•

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

* Damping: **S** - Standard undamped Transducer, **H** - Highly Damped Transducer, **HG** - High Gain Damping Transducers

Elcometer FD   **Single Element Transducers**

Each transducer can be easily identified by the disk on the top. Visit www.elcometer.com to view the full range of single element transducers for use with the flaw detection gauges.

1MHz 2.25MHz 3.5MHz 5MHz
7.5MHz 10MHz 15MHz 20MHz

Theoretical Measurement Range^			Part Number	Disk
Composite 3000m/s (0.117in/µs)	**Cast Iron** 4200m/s (0.190in/µs)	**Steel** 5960m/s (0.235in/µs)		
1.00MHz Single Element Contact Transducers				
5.00 - 25.00mm (0.196 - 0.984")	5.00 - 25.00mm (0.196 - 0.984")	5.00 - 25.00mm (0.196 - 0.984")	TF1M00C - 1	🟡
15.00 - 50.00mm (0.590 - 1.968")	10.00 - 50.00mm (0.394 - 1.968")	10.00 - 50.00mm (0.394 - 1.968")	TF1M00E - 1	🟡
3.50MHz Single Element Contact Transducers				
50.00 - 200mm (1.968 - 7.874")	30.00 - 200mm (1.281 - 7.874")	25.00 - 115.00mm (0.984 - 4.527")	TF3M50E - 1	⚫
5.00MHz Single Element Contact Transducers				
17.00 - 60.00mm (0.668 - 2.362")	17.00 - 60.00mm (0.668 - 2.362")	10.00 - 60.00mm (0.394 - 2.362")	TF5M00CG - 1	🟢
60.00 - 200mm (2.362 - 7.874")	50 - 200mm (1.968 - 7.874")	34.00 - 200.00mm (1.477 - 7.874")	TF5M00EG - 1	🟢
10.00MHz Single Element Contact Transducers				
N/A	N/A	17.00 - 50.00mm (0.668 - 1.968")	TF10M0CG - 1	⚪
15.00MHz Single Element Contact Transducers				
N/A	N/A	15.00 - 50.00mm (0.590 - 1.968")	TF15M0AH - 1	🔵
20.00MHz Single Element Contact Transducers				
N/A	N/A	17.00 - 50.00mm (0.668 - 1.968")	TF20M0AH - 1	🟣

^ The ranges provided are based on theoretical near field calculations ranging from 1 to 5 near fields approximately. The ranges expressed do not take into account material properties, surface condition, or the instrument used. Ranges are not guaranteed to be correct and end-users must validate measurement ranges with a known calibration sample.

Elcometer FD

Shear Wave Transducers

Suitable for:
FD700+
FD700DL+

Shear Wave Transducers are designed to be used with angle beam wedges for a powerful flaw detection solution.

Disk	Part Number	Probe Diameter	Probe Characteristic	Damping*	Microdot	Lemo	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	All Metals	Common Metals	Corrosion Prove Up	Castings	Billets	Extruded Parts	Weld Inspection	Weld Inspection (Tight Areas)	Immersion & Bubbler Inspections	FD700+	FD700DL+
1.00MHz Shear Wave - Quick Change Transducers																										
●	TF1M00CG	¼"	Composite	HG	•		•					•					•	•	•			•			•	•
●	TF1M00CR	¼"	Composite	R	•		•					•					•	•	•			•			•	•
●	TF1M00ER	½"	Composite	R	•		•					•					•	•	•			•			•	•
2.25MHz Shear Wave - Quick Change Transducers																										
●	TF2M25CG-4	¼"	Standard	HG	•		•					•					•	•	•			•			•	•
●	TF2M25CR-4	¼"	Standard	R	•		•					•					•	•	•			•			•	•
5.00MHz Shear Wave - Quick Change Transducers																										
●	TF5M00CG-4	¼"	Standard	HG	•							•					•	•	•	•		•			•	•
●	TF5M00EG-5	½"	Standard	HG	•							•					•	•	•	•		•			•	•
●	TF5M00CR-4	¼"	Standard	R	•							•					•	•	•	•		•			•	•
●	TF5M00ER-4	½"	Standard	R	•							•					•	•	•	•		•			•	•
10.00MHz Shear Wave - Quick Change Transducers																										
O	TF10M0CG-4	¼"	Standard	HG	•									•	•		•		•	•		•			•	•
O	TF10M0CR-4	¼"	Standard	R	•									•	•	•	•		•	•		•			•	•

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

* Damping: **S** - Standard undamped Transducer, **HG** - High Gain Damping Transducers, **R** - Resolution Transducer

Elcometer FD

Transducer Wedges

Suitable for:
FD700+
FD700DL+

A range of versatile **wedges** available in 45°, 60° and 70° angles for use with Elcometer **shear wave quick change transducers**.

For transducer wedges suitable for standard and dual shear wave transducers visit www.elcometer.com.

Wedges - Standard Quick Change Transducers

Part Number	Probe Diameter	Angle	Suitable for	
			FD700+	FD700DL+
Wedge - Standard Quick Change Transducers				
TF9999C45-2	¼"	45°	●	●
TF9999E45-2	½"	45°	●	●
TF9999C60-2	¼"	60°	●	●
TF9999E60-2	½"	60°	●	●
TF9999C70-2	¼"	70°	●	●
TF9999E70-2	½"	70°	●	●

Cables & Adaptors

Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80DL	BG80TDL
TL-24030-2	T/Cable: 1.2m (4') Single Lemo 00 to Lemo 00					●	●	●	●		●	●	●		
TL-24030-3	T/Cable: 1.2m (4') Single Lemo 00 to Microdot					●	●	●	●		●	●	●	●	●
TL-24030-9	T/Cable: 1.2m (4') Dual Lemo to M/dot, HT Armoured			●	●										
TL-24030-10	T/Cable: 3m (10') Single Lemo to Microdot													●	●
TL-24030-11	T/Cable: 6m (20') Single Lemo to Microdot Single													●	●

Suitable for (header spanning MTG...BG80TDL columns)

Elcometer FD

Shear Wave Contact Transducers

Suitable for:
FD700+
FD700DL+

Shear Wave Contact Transducers available in a variety of angles, including 45°, 60° or 70°, for producing the required shear waves.

Used in conjunction with the "Trigonometry" function of the gauge.

Shear Wave Contact Transducers

Part Number	Probe Diameter	Angle	Suitable for FD700+	Suitable for FD700DL+
4.00 MHz Shear Wave Contact Transducers				
TF4M0045	⅖" (10mm)	45°	●	●
TF4M0060	⅖" (10mm)	60°	●	●
TF4M0070	⅖" (10mm)	70°	●	●

Suitable for measuring

Disk	Part Number	Probe Diameter	Probe Characteristic	Damping*	Microdot	Lemo	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	All Metals	Common Metals	Corrosion Prove Up	Castings	Billets	Extruded Parts	Weld Inspection	Weld Inspection (Tight Areas)	Immersion & Bubbler Inspections	FD700+	FD700DL+
	4.00MHz Shear Wave - Fixed Transducers																									
🟡	TF4M0045	10mm	45 Degree	S		●						●					●	●	●			●			●	●
🟡	TF4M0060	10mm	60 Degree	S		●						●					●	●	●			●			●	●
🟡	TF4M0070	10mm	70 Degree	S		●						●					●	●	●			●			●	●
	5.00MHz 0 Degree Compression Twin Short Focus Transducer																									
🔴	TF5M00F	10mm	0 Degree Twin	S		●						●					●	●	●			●			●	●

For couplant for Elcometer Transducers see page 5-20

Visit www.elcometer.com for the full range of Elcometer Transducers

* Damping: **S** - Standard undamped Transducer

Elcometer BG80TDL Bolt Tension Monitor Transducers

Suitable for:
BG80TDL

Elcometer offer a full range of **Bolt Tension Monitor Transducers** to ultrasonically measure the actual elongation produced by tightening a threaded fastener.

| Disk | Part Number | Probe Diameter | Element Type | Probe Characteristic | Damping* | Connector Type | | | | | | Suitable for measuring | | | | | | | | Suitable for | |
						Potted	Microdot	Lemo	Top	Side	End	All Metals	Common Metals	Rough Surfaces	Castings	Billets	Extruded Parts	Weld Inspection	Weld Inspection (Tight Areas)	Immersion & Bubbler Inspections	BG80DL	BG80TDL
5.00MHz Bolt Gauge Transducers																						
●	TX5M00AM-3	⅛"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00CM-8	¼"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00DM	⅜"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00GM	¾"	Si/El Magnetic	Standard	S		●	●				●									●	●
●	TX5M00EM-7	½"	Si/El Magnetic	Standard	S		●	●				●									●	●
10.00MHz Bolt Gauge Transducers																						
○	TX10M0AM-3	⅛"	Si/El Magnetic	Standard	S		●	●				●									●	●
○	TX10M0CM-5	¼"	Si/El Magnetic	Standard	S		●	●				●									●	●

Calibration Standards

Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80TDL
														Suitable for
TW-24028	Glass Calibration Block, 1", 2" and 3"													●
TW-24029-S1	Calibration Bar, 3", Steel													●
TW-24029-S2	Calibration Bar, 3" and 6", Steel													●

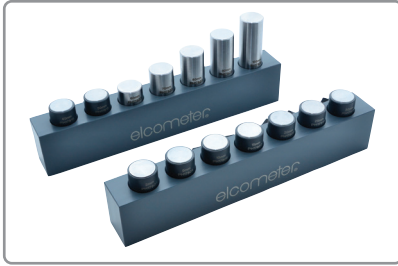**For couplant for Elcometer Transducers see page 5-20**

Visit www.elcometer.com for the full range of Elcometer Transducers

* Damping: **S** - Standard undamped Transducer

elcometer®

Calibration Standards

Calibration standards are available as a set or individually, allowing users to select the most appropriate thickness for their application. Elcometer calibration standards are manufactured from 4340 steel to a tolerance of ± 0.1% of the nominal thickness and are supplied complete with calibration certificates.

Technical Specification

Part Number	Description
T920CALSTD-SET1	Calibration standard set; Nominal Thickness 2-30mm (0.08-1.18")* Comprising of; 2, 5, 10, 15, 20, 25 & 30mm (0.08, 0.20, 0.39, 0.59, 0.79, 0.98 & 1.18"), complete with holder & calibration certificate.
T920CALSTD-SET2	Calibration standard set; Nominal Thickness 40-100mm (1.57-3.94")* Comprising of; 40, 50, 60, 70, 80, 90 & 100mm (1.57, 1.97, 2.36, 2.76, 3.15, 3.54 & 3.94"), complete with holder & calibration certificate.
T920CALSTD-HLD	Calibration Holder; for thicknesses up to 100mm (3.94").
T920CALSTD-2	Individual Calibration Standard, Nominal Thickness 2mm (0.078")*
T920CALSTD-5	Individual Calibration Standard, Nominal Thickness 5mm (0.196")*
T920CALSTD-10	Individual Calibration Standard, Nominal Thickness 10mm (0.393")*
T920CALSTD-15	Individual Calibration Standard, Nominal Thickness 15mm (0.590")*
T920CALSTD-20	Individual Calibration Standard, Nominal Thickness 20mm (0.787")*
T920CALSTD-25	Individual Calibration Standard, Nominal Thickness 25mm (0.984")*
T920CALSTD-30	Individual Calibration Standard, Nominal Thickness 30mm (1.181")*
T920CALSTD-40	Individual Calibration Standard, Nominal Thickness 40mm (1.574")*
T920CALSTD-50	Individual Calibration Standard, Nominal Thickness 50mm (1.966")*
T920CALSTD-60	Individual Calibration Standard, Nominal Thickness 60mm (2.362")*
T920CALSTD-70	Individual Calibration Standard, Nominal Thickness 70mm (2.755")*
T920CALSTD-80	Individual Calibration Standard, Nominal Thickness 80mm (3.149")*
T920CALSTD-90	Individual Calibration Standard, Nominal Thickness 90mm (3.543")*
T920CALSTD-100	Individual Calibration Standard, Nominal Thickness 100mm (3.937")*

* Imperial values for information purposes only. Calibration standards are manufactured and measured in millimetres.

Elcometer NDT

Calibration Blocks
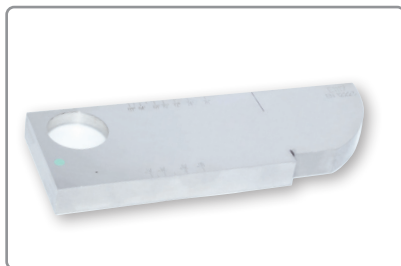
Elcometer NDT offer a comprehensive range of calibration blocks to suit a wide range of applications and standards.

Selecting the correct calibration block for your application is essential to ensure accurate evaluation. The form, shape and material of the calibration block should be appropriate for the material being inspected. Any artificially induced flaw should closely resemble that of the actual flaw being tested for.

Technical Specification

Description	Part Number			
Block Type	Steel	Aluminium	Stainless Steel	Titanium
4 Step Block 0.04 - 0.25"	TW-24001-S1018	TW-24001-A	TW-24001-SS	TW-24001-T
4 Step Block 0.25 - 1.00"	TW-24004-S4340	TW-24004-A	TW-24004-SS	TW-24004-T
5 Step Block 0.10 - 0.5"	TW-24002-S4340	TW-24002-A	TW-24002-SS	TW-24002-T
8 Step Block 1 - 8mm	TW-24005-S1018	TW-24005-A	TW-24005-SS	TW-24005-T
10 Step Block 0.1 - 1.0"	TW-24003-S1018	TW-24003-A	TW-24003-SS	TW-24003-T
10 Step Block 2 - 20mm	TW-24006-S1018	TW-24006-A	TW-24006-SS	TW-24006-T
10 Step Block 2.5 - 25mm	TW-24007-S1018	TW-24007-A	TW-24007-SS	TW-24007-T
IIW V-1 (Metric BS 2704)	TW-24010-S	TW-24010-A	TW-24010-SS	TW-24010-T
IIW Type 1 (IIW, ASTM E-164 & MIL-STD-2154)	TW-24008-S	TW-24008-A	TW-24008-SS	TW-24008-T
IIW Type 2 (IIW & USAFTO 33 B1-1-1 (6-1-84)	TW-24009-S	TW-24009-A	TW-24009-SS	TW-24009-T
Mini IIW	TW-24009-S-2	TW-24009-A-2	TW-24009-SS2	TW-24009-T-2
Angle Beam V-2 20mm & 5mm	TW-24015-S205	TW-24015-A205	TW-24015-SS205	TW-24015-T205
Angle Beam V-2 20mm & 1.5mm	TW-24016-S201	TW-24016-A201	TW-24016-SS201	TW-24016-T201
Angle Beam V-2 12.5mm & 1.5mm	TW-24017-S121	TW-24017-A121	TW-24017-SS121	TW-24017-T121
Angle Beam V-2 12.5mm & 5mm	TW-24018-S125	TW-24018-A125	TW-24018-SS125	TW-24018-T125
Angle Beam ROMPAS (ASTM E-164 & USAFTO 33 B-1-1)	TW-24014-S	TW-24014-A	TW-24014-SS	TW-24014-T
DSC (AWS & ASTM E-164)	TW-24012-S	TW-24012-A	TW-24012-SS	TW-24012-T
DS (ANSI & AWS)	TW-24013-S4340	TW-24013-A	TW-24013-SS	TW-24013-T
ANSI/AWS Resolution - RC	TW-24019-S	TW-24019-A	TW-24019-SS	TW-24019-T
SC (AWS & ASTM E-164)	TW-24020-S	TW-24020-A	TW-24020-SS	TW-24020-T
DC (AWS & ASTM E-164)	TW-24021-S	TW-24021-A	TW-24021-SS	TW-24021-T
IOW Beam Profile (BS2704)	TW-24022-S	TW-24022-A	TW-24022-SS	TW-24022-T
NAVSHIPS (NAVSEA T 9074-AS-GIB-010/271)	TW-24023-S	TW-24023-A	TW-24023-SS	TW-24023-T
ASME ref.block 0"-1" (ASME SEC V Article 23 T-534.2.1)	TW-24024-S	TW-24024-A	TW-24024-SS	TW-24024-T
ASME ref.block 1"-2" (ASME SEC V Article 23 T-534.2.1)	TW-24025-S	TW-24025-A	TW-24025-SS	TW-24025-T
ASME ref.block 2"-4" (ASME SEC V Article 23 T-534.2.1)	TW-24026-S	TW-24026-A	TW-24026-SS	TW-24026-T
ASME-N-625 ref. plate (ASME 1275N B.P., Section 3, Nuclear Vessels)	TW-24027-S	TW-24027-A	TW-24027-SS	TW-24027-T

Elcometer NDT **Ultrasonic Couplant**

Elcometer Ultrasonic Couplant works on both horizontal and vertical surfaces, forming a layer between the transducer and the substrate.

Regular couplant has a temperature range of -15 to 104°C (5 to 220°F)

Eliminates air between the transducer and substrate, enabling the sound to transmit into the substrate

High temperature couplant has a range of up to 398°C (750°F) for use with high temperature transducers

elcometer®

Ultrasonic Couplant

Volume: 300ml (10fl oz)
Temperature Range:
-15° to 104°C (5° to 220°F)
Part Number: T92024034-7

Non-Flammable
Environmentally Friendly
Material Safety Data Sheet
available from
www.elcometer.com

www.elcometer.com

elcometer®

Ultrasonic Couplant

Volume: 120ml (4fl oz)
Temperature Range:
-15° to 104°C (5° to 220°F)
Part Number: T92015701

Non-Flammable
Environmentally Friendly
Material Safety Data Sheet
available from
www.elcometer.com

www.elcometer.com

elcometer®

Ultrasonic Couplant

Volume: 500ml (17fl oz)
Temperature Range:
-15° to 104°C (5° to 220°F)
Part Number: T92024034-8

Non-Flammable
Environmentally Friendly
Material Safety Data Sheet
available from
www.elcometer.com

www.elcometer.com

Elcometer NDT   ## Ultrasonic Couplant

Technical Specification

								Suitable for							
Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80DL	BG80TDL
T92015701	Ultrasonic Couplant; 120ml (4fl oz) bottle	●	●	●	●	●	●	●	●		●	●	●	●	●
T92015701-5	Ultrasonic Couplant; 120ml (4fl oz) bottle, pack of 5	●	●	●	●	●	●	●	●		●	●	●	●	●
T92024034-7	Ultrasonic Couplant; 300ml (10fl oz) bottle	●	●	●	●	●	●	●	●		●	●	●	●	●
T92024034-8	Ultrasonic Couplant; 500ml (17fl oz) bottle	●	●	●	●	●	●	●	●		●	●	●	●	●
T92024034-3	Ultrasonic Couplant; 3.8l (1 US Gallon)	●	●	●	●	●	●	●	●		●	●	●	●	●

Elcometer NDT   ## High Temperature Ultrasonic Couplant

The Elcometer high temperature gel has a range of up to 398°C (750°F) for use with high temperature transducers, ideal for measuring coatings in high temperature environments where regular couplant would 'melt'.

Technical Specification

								Suitable for							
Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80DL	BG80TDL
T92024034-9	Ultrasonic Couplant - high temperature[1]; 60ml (2fl oz)	●	●	●	●	●	●	●	●		●	●	●		
T92024034-10	Ultrasonic Couplant - high temperature[1]; 60ml (2fl oz), pack of 2	●	●	●	●	●	●	●	●		●	●	●		

Elcometer NDT   ## Underwater Gasket Lubricant

Technical Specification

TC-24034-6	Underwater Gasket Lubricant, 6g (0.21oz)

[1] For use with high temperature transducers up to 398°C (750°F)

Elcometer NDT | **Accessories**

Delay Lines

Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80DL	BG80TDL
												Suitable for			
T92016528	Acrylic Delay Line; ¼ Dia x 9mm		●												
T92016529	Acrylic Delay Line; ¼ Dia x 12mm		●												
T92023853-4	Graphite Delay Line; ¼ Dia x ⅜"		●												
TD-24033-1	Cone Tip Delay Line: Acrylic; ⅛"										●	●	●		
TD-24033-2	Cone Tip Delay Line: Acrylic; ³⁄₁₆"										●	●	●		
TD-24033-3	Cone Tip Delay Line: Graphite; ³⁄₁₆"										●	●	●		
TD-24033-4	Delay Line Tip (Pencil): Acrylic; ¹⁄₁₆" Dia x 0.45" L										●	●	●		
TD-24033-5	Delay Line Tip (Pencil): Acrylic; ⅛" Dia x 0.45" L										●	●	●		
TD-24033-6	Delay Line Tip: Acrylic; ¼" Dia x ½" L										●	●	●		
TD-24033-7	Delay Line Tip: Acrylic; ¼" Dia x ⅜" L										●	●	●		
TD-24033-8	Delay Line Tip: Graphite; ¼"										●	●	●		

Cables & Adaptors

Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80DL	BG80TDL
												Suitable for			
T92024911	Dual Element Transducer Adaptor[1]	●													
T92025657	Single Element Transducer Adaptor[2]		●												
TL-24030-2	T/Cable: 1.2m (4') Single Lemo 00 to Lemo 00					●	●	●	●		●	●	●		
TL-24030-3	T/Cable: 1.2m (4') Single Lemo 00 to Microdot					●	●	●	●		●	●	●	●	●
TL-24030-9	T/Cable: 1.2m (4') Dual Lemo to M/dot, HT Armoured			●	●										
TL-24030-10	T/Cable: 3m (10') Single Lemo to Microdot													●	●
TL-24030-11	T/Cable: 6m (20') Single Lemo to Microdot Single													●	●
TL-24031	RS232 Cable 1.8m (6'); DB-9 to Lemo			●	●	●	●	●	●	●	●	●	●	●	●
TL-24032	USB to Serial Converter			●	●	●	●	●	●	●	●	●	●	●	●
T99921325	USB Cable	●	●												

Accessories

Part Number	Description	MTG	PTG	CG70BDL	CG70ABDL	CG100B	CG100BDL	CG100ABDL	CG100ABDL+	UG20DL	PG70ABDL	FD700+	FD700DL+	BG80DL	BG80TDL
												Suitable for			
TZ-24036	Temperature Sensor with 1.8m (6') Cable													●	●

[1] This adaptor allows dual element, 'non-intelligent' and other transducers with Lemo Connectors from Elcometer and other manufacturers to be used with the MTG product range. See website for the full list of transducers www.elcometer.com.

[2] This adaptor allows single element, 'non-intelligent' and other transducers with Lemo Connectors from Elcometer and other manufacturers to be used with the PTG product range. See website for the full list of transducers www.elcometer.com

Elcometer MTG, PTG   **Material & Precision Thickness Gauges**

Velocity Chart for the preset choice of 39 materials in the Elcometer MTG & PTG

Elcometer Material Number	Material Description (Chemical Symbol/ Grouping)	Material Name	Sound Velocity (m/sec)	Sound Velocity (in/µsec)	Source of Value NPL = National Physics Laboratory ASNT = The American Society for Non destructive Testing Industry = Industry knowledge
1	Fe	Iron (soft)	5960	0.235	NPL
2	Fe	Iron Cast	4990	0.196	NPL
3	Al	Aluminium (7075-T6)	6350	0.250	ASNT
4	Ti	Titanium	6100	0.240	ASNT
5	Mg	Magnesium	5790	0.228	ASNT
6	Ni	Nickel	5630	0.222	ASNT
7	W	Tungsten	5180	0.204	ASNT
8	Cu	Copper	4660	0.183	ASNT
9	Zn	Zinc	4190	0.165	NPL
10	Ag	Silver	3600	0.142	Industry
11	Sn	Tin	3380	0.133	NPL
12	Pt	Platinum	3260	0.128	NPL
13	Au	Gold	3240	0.128	NPL
14	Cd	Cadmium	2780	0.109	NPL
15	Bi	Bismuth	2180	0.086	Industry
16	Pb	Lead	2160	0.085	ASNT
17	Cobalt-chromium Alloy	Stellite	6990	0.275	Industry
18	Iron Alloy	Steel (Carbon 1018)	5920	0.233	Industry
19	Iron Alloy	Steel (Alloy 4340)	5850	0.230	Industry
20	Nickel-chromium Alloy	Inconel (625)	5820	0.229	Industry
21	Silver Alloy	Stainless Steel, (Austenitic 304)	5660	0.233	ASNT
22	Copper Alloy	Constantan	5180	0.204	NPL
23	Copper-nickel Alloy	German Silver	4760	0.187	Industry
24	Copper-zinc Alloy	Brass (Naval)	4430	0.174	ASNT
25	Non-metal	Glass (Quartz)	5930	0.233	ASNT
26	Non-metal	Glass (Crown)	5660	0.223	NPL
27	Non-metal	Glass (Flint)	5260	0.207	NPL
28	Non-metal	Porcelain	5840	0.230	Industry
29	Non-metal	Plexiglas	2760	0.109	Industry
30	Non-metal	Glass Fibre	2740	0.108	Industry
31	Non-metal	Nylon	2680	0.106	NPL
32	Non-metal	Epoxy Resin	2540	0.100	Industry
33	Non-metal	Polystyrene	2350	0.093	NPL
34	Non-metal	PVC	2330	0.092	NPL
35	Non-metal	Rubber (Butyl)	1830	0.072	Industry
36	Non-metal	Rubber (Natural)	1600	0.063	NPL
37	Non-metal	Polyurethane	1780	0.070	Industry
38	Non-metal	Teflon	1400	0.055	NPL
39	Non-metal	Water	1490	0.059	ASNT

Data Management Software

6

ElcoMaster® Software- as easy as 1, 2, 3!
From inspection to professional reports at the click of a button.

1. Take Readings

It's not all about taking readings, but what you do with the collected data that matters. ElcoMaster® Software is a fast, easy to use software and mobile app for all your data management, reporting and quality assurance needs.

2. Send to ElcoMaster® Software

ElcoMaster® Software transfers measurement data direct from Elcometer's Bluetooth® or USB enabled inspection gauges direct to your PC, mobile or tablet.

3. Create Professional Inspection Reports

Inspectors can spend up to 30% of their working week producing reports. ElcoMaster® Software saves time and money by producing professional bespoke reports - even when out on site.

What products are compatible with ElcoMaster® Software?

ElcoMaster® Software is compatible with the following gauges:

- MTG range
- CG70
- CG100
- PTG range
- UG20DL
- PG70ABDL
- FD700
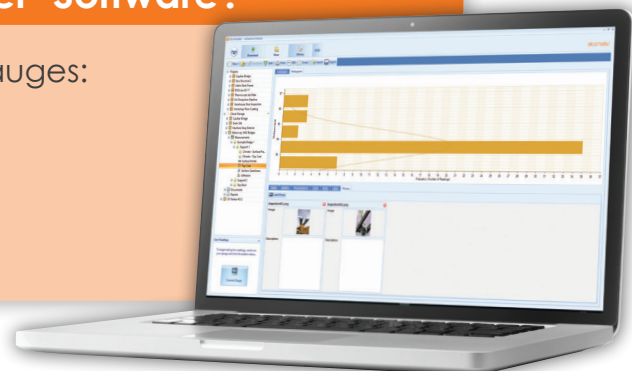
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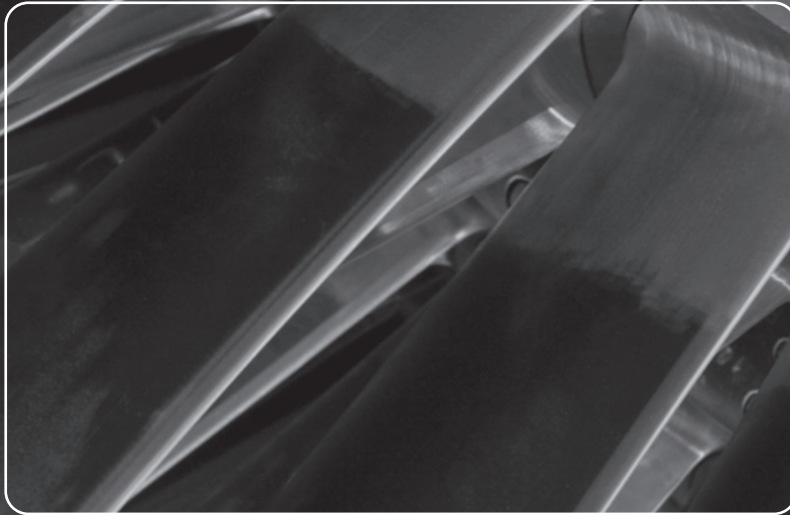+971 4 280 3526
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