

# Elcometer Material Thickness Gauge MTG Transducers

Elcometer NDT offer a state-of-the-art range of Ultrasonic Gauge transducers

The Elcometer range of Dual Element Transducers is designed to ultrasonically measure material thickness when access is only available to one side of the material under inspection.

Dual element material thickness transducers are ideal for inspecting metal substrates but can also measure thicknesses of other materials, such as plastic, composites or fibreglass.



## Dual Element

A dual element transducer consists of two crystal elements housed in the same casing, separated by an acoustic barrier. One crystal transmits sound energy whilst the other crystal receives any reflected sound energy.

## Frequency and Diameter Disks

Transducers can be selected by frequency and the size of crystal. Frequency of a transducer is determined by the type of material and expected thickness range. The choice of the crystal size is determined by the access, shape and surface finish of the object to be measured. Each ultrasonic transducer can be easily identified by the disk on the top.



## Dual Element Transducer Characteristics Explained

Dual Element Transducers denoted as HD/CT (Highly Damped Transducer/ Damped Coating Thickness Transducer) are necessary when using the Echo-Echo ThruPaint™ (E-E) measurement mode. Additionally, CT (Damped Coating Thickness Transducer) enables simultaneous coating thickness and material thickness measurement on selected gauge models.

Special transducers are available for taking thickness measurements on high temperature surfaces.

- SS

**Super Standard**

High power transducer for increased range and penetration through sound absorbing materials.
- HD

**High Damped**

Limiting the duration or decreasing the amplitude of vibrations. For use with EE (ThruPaint™) only.
- CPZT

**Composite**

High gain transducer for increased power and penetration.
- HR

**High Resolution**

Features increased near surface resolution, ideal for use on thin substrates
- CT

**Coating Thickness**

Utilising ThruPaint™ technology these transducers are capable of simultaneous measurement of coating and material thickness.

# Technical Specifications

Part Number	Probe Diameter	Probe Configuration	Damping	ThruPaint™	Connector Type		Suitable for measuring											
					Potted right angle	Microdot	Cast Iron	Plastics	Thin Plastics	Fibreglass	Thin Fibreglass	Steel	Glass	Aluminium	Titanium	MTG4	MTG6	MTG8
<b>1.00 MHz Dual Element Thickness Transducer</b>																		
TXC1M00EP-2	1/2"	Right Angle	S		•		•	•		•						•	•	•
<b>2.25MHz Dual Element Thickness Transducer</b>																		
TXC2M25CP-2	1/4"	Right Angle	S		•		•	•			•					•	•	•
TXC2M25EP-2	1/2"	Right Angle	S		•		•	•			•					•	•	•
<b>3.50MHz Dual Element Thickness Transducer</b>																		
TXC3M50EP-1	1/2"	Right Angle	S		•		•	•			•					•	•	•
<b>5.00MHz Dual Element Thickness Transducer</b>																		
TXC5M00BP-4	3/16"	Right Angle	S		•				•			•	•			•	•	•
TXC5M00CP-4	1/4"	Right Angle	S		•				•			•	•			•	•	•
TXC5M00CP-10 <sup>2</sup>	1/4"	Right Angle	H	•	•				•			•	•			•	•	•
TXC5M00CP-8	1/4"	Potted Top Entry	H		•				•			•	•			•	•	•
TXC5M00EP-3	1/2"	Right Angle	S		•				•			•	•			•	•	•
<b>7.50MHz Dual Element Thickness Transducer</b>																		
TXC7M50BP-3	3/16"	Right Angle	S		•				•			•	•	•		•	•	•
TXC7M50CP-4	1/4"	Right Angle	S		•				•			•	•	•		•	•	•
TXC7M50CP-6 <sup>2</sup>	1/4"	Right Angle	H	•	•				•			•	•	•		•	•	•
<b>10.0MHz Dual Element Thickness Transducer</b>																		
TXC10M0BP-1	3/16"	Right Angle	S		•							•		•	•	•	•	•
TXC10M0CP-4	1/4"	Right Angle	S		•							•		•	•	•	•	•

All transducers are supplied with a calibration certificate.  
<sup>2</sup>To be used for coatings with a thickness of up to 1mm  
 H = High Damping  
 S = Standard

