

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

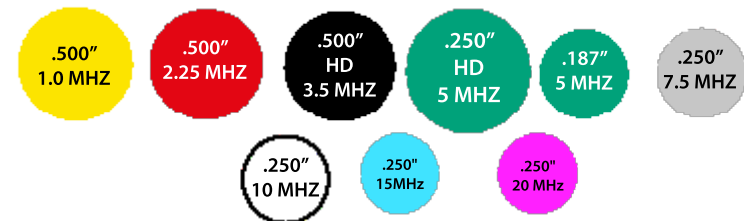
When selecting a transducer it is important to choose one which will meet the specific application's needs. The type of material to be tested, the measurement range, the shape of the substrate (curved or flat) and the size of the material should be considered when selecting the appropriate transducer.



**Single Element**  
Single element transducers feature a single crystal that sends and receives the pulse and are made for high frequency use.



**Dual Element**  
A dual element transducer consists of two crystal elements housed in the same case, separated by an acoustic barrier.



**Choosing the right frequency and diameter**

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.

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.

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.

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.

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.

**What connection does it have?**

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

**Microdot:** The transducer is attached using two small screw type connectors, 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.

CT = Coating Thickness  
HD = High Damping  
S = Standard

**Dual & Single Element Transducers**

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	MTG2	MTG4	MTG6
<b>1.00 MHz Dual Element Thickness Transducer</b>																		
TXC1M00EP-2	1/2"	Right Angle	S				•	•	•	•	•	•	•	•	•	•	•	•
<b>2.25 MHz Dual Element Thickness Transducer</b>																		
TXC2M25CP-2	1/4"	Right Angle	S				•	•	•	•	•	•	•	•	•	•	•	•
TXC2M25EP-2	1/2"	Right Angle	S				•	•	•	•	•	•	•	•	•	•	•	•
<b>3.50 MHz Dual Element Thickness Transducer</b>																		
TXC3M50EP-1	1/2"	Right Angle	CT, HD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>5.00 MHz Dual Element Thickness Transducer</b>																		
TXC5M00BP-4	3/16"	Right Angle	CT, HD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC5M00CP-4	1/4"	Right Angle	S	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC5M00CP-6	1/4"	Right Angle	CT, HD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC5M00CP-8	1/4"	Hi Temp	HD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC5M00EP-3	1/2"	Right Angle	S	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC5M00EP-4	1/2"	Right Angle	CT, HD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>7.50 MHz Dual Element Thickness Transducer</b>																		
TXC7M50BP-3	3/16"	Right Angle	CT, HD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC7M50CP-4	1/4"	Right Angle	S	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC7M50CP-5	1/4"	Right Angle	CT, HD	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>10.0 MHz Dual Element Thickness Transducer</b>																		
TXC10M0BP-1	3/16"	Right Angle	S	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TXC10M0CP-4	1/4"	Right Angle	S	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>15.0 MHz Single Element Transducer</b>																		
TXC15M0CM	1/4"	Right Angle	S	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>20.0 MHz Single Element Transducer</b>																		
TXC20M0CM	1/4"	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; 1/4 Dia x 9mm
T92016529	Acrylic Delay Line; 1/4 Dia x 12mm
T92023853-4	Graphite Delay Line; 1/4 Dia x 3/8"

All transducers are supplied with a calibration certificate

- HD - Highly damped Transducer
- CT - Damped Coating Thickness Transducer
- S - Standard undamped Transducer

To select another transducer from the one supplied with the gauge please remove TXC from the part number