

Elcometer 205 & 206 Ultrasonic Thickness Gauges



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At a glance

- Simple to use robust, rugged thickness gauges to measure material thickness.
- Wide range of probes to choose including high temperature transducers.
- Gauges range from a low cost basic version to full statistics and memory.

Elcometer 205 & 206 Ultrasonic Thickness Gauges

These robust, hand held instruments are used for measuring the thickness of materials where access to only one side of the test piece is available.

Many different materials can be measured including steel, cast iron, plastic, epoxy resin and glass fibre, etc.

- Three calibration options – Single Point Calibration, Two Point Calibration, Speed of Sound
- Hand held and robust
- Backlight display on all versions
- Data output available on the Elcometer 206 and 206DL. ElcoMaster™ and EDTS+ Excel Link software supplied free of charge with the Elcometer 206DL
- Memory capacity of 1000 readings on 206DL

Material Thickness

The thickness of materials cannot always be determined by direct measurement as access to both sides is not always possible.

The effects of corrosion and erosion at the back of a metal panel may reduce its thickness significantly yet not affect the front surface. Pipelines, for example, may appear corrosion free on the outside but can be eroded by the flow of material on the inside.

Machined or cast items may have thin walls that cannot be determined by calipers or other not-destructive tests.

Maximum Measurement Range	0.63 - 500mm (0.025 - 19.999") (dependent on transducer and material)		
Velocity Range	1250 - 10000m/s (0.0492 - 0.3930 in/μs)		
Accuracy	±0.01mm (0.001") (Depends on material and conditions)		
Resolution	0.01mm (0.001")		
Units	millimetres and inches		
Operating Temperature	-20 to 50°C (-4 to 122°F)		
Keypad type	Sealed Membrane		
Display	4½ Digit Liquid Crystal Display with Backlight		
Transducer	Select from Transducer Data Sheet		
Power	AA 1.5V Alkaline or 1.2V NiCad cell		
Battery Life	200hrs Alkaline (120hrs NiCad)		
Weight	295g (10oz)		
Size	63.5 x 120.6 x 31.75mm (2.5 x 4.75 x 1.25")		
Case Type	Extruded aluminium		

	Elcometer 205	Elcometer 206	Elcometer 206DL
High Speed Scan Mode	•	•	•
Differential Mode		•	•
Alarm Mode		•	•
Data Output		•	•
Data-Logging`			•
EDTS+ Excel Link Software		o	•
ElcoMaster™ Software		o	•
Part Numbers	C205----1	C206----1	C206DL----1
Accessories	Ultrasonic Couplant (120ml / 4oz)		T92015701
	High Temperature Ultrasonic Couplant (60ml / 2oz)		T92015874
	Test Wedge 2 – 25mm		T9205243-
	Test Wedge 30 – 100mm		T9205270-

• = Included o = Optional

ULTRASONIC TRANSDUCER SELECTION TABLE FOR ELCOMETER 205, 206, 206DL, 208, 208DL

Measurement Range (in steel)	Material								Probe Type						Part Number	Frequency MHz (Colour Code)	Crystal Diameter		Wearface Diameter		
	mm	inches	Cast Iron	Plastic	Glass Fibre	Thin Glass Fibre	Steels	Glass	Thin Plastic	Aluminium	Potted	Straight Probe	Right Angle Probe	Microdot			High Temp (340°C/650°F)	Extra Resolution	Exxon Specification	mm	inches
3.8 – 50.8			•	•	•						•	•						T92015620	1.0	12.7	15.88
			•	•	•						•		•					T92015621			
0.15 – 2.0			•	•	•							•		•				T92015622	(brown)	½	⅝
			•	•	•							•	•					T92015623			
1.5 – 101.6			•	•		•					•	•						T92015626	2.25	6.35	9.53
			•	•		•					•		•					T92015627			
0.06 – 4.0			•	•		•						•	•					T92015628	(red)	¼	⅜
			•	•		•					•	•						T92015629			
1.5 – 127.0			•	•		•					•	•						T92015631	2.25	12.7	15.88
			•	•		•					•		•					T92015632			
0.06 – 5.0			•	•		•					•	•						T92015633	(red)	½	⅝
			•	•		•					•		•					T92015634			
1.5 – 50.8						•	•	•			•	•						T92015635	5.0	4.76	6.35
						•	•	•			•		•					T92015641			
1.02 – 152.4						•	•	•			•	•						T92015642	5.0	3 ¹ / ₁₆	9.53
						•	•	•			•		•					T92015644			
0.04 – 6.0						•	•	•			•	•						T92015645	(green)	¼	⅜
						•	•	•			•		•					T92015646			
1.27 – 507.7						•	•	•			•	•						T92015647	5.0	12.7	15.88
						•	•	•			•		•					T92015648			
0.05 – 19.99						•	•	•			•	•						T92015649	(green)	½	⅝
						•	•	•			•		•					T92015650			
1.02 – 152.4						•	•	•	•		•	•					•	T92015651	7.5	6.35	9.53
						•	•	•	•		•		•				•	T92015652			
0.04 – 6.0						•	•	•			•	•					•	T92015653	(grey)	¼	⅜
						•	•	•			•		•				•	T92015654			
0.635 – 152.4						•	•	•	•		•	•					•	T92015655	7.5	6.35	9.53
						•	•	•	•		•		•				•	T92015656			
0.025 – 6.0						•	•	•			•	•					•	T92015657	(blue)	¼	⅜
						•	•	•			•		•				•	T92015658			
1.02 – 152.4						•	•	•			•	•						T92015659	10.0	6.35	9.35
						•	•	•			•		•					T92015660			
0.04 – 6.0						•	•	•			•	•						T92015661	(white)	¼	⅜
						•	•	•			•		•					T92015662			
1.52 – 254.0						•	•	•	•		•	•						T92015663	10.0	12.7	15.88
						•	•	•	•		•		•					T92015664			
0.06 – 10.0						•	•	•			•	•						T92015665	(white)	½	⅝
						•	•	•			•		•					T92015666			

The Elcometer Ultrasonic Thickness Gauge Features Explained

Interface-to-Echo Mode	In interface-to-echo mode, the gauge can take readings on thicker plastics and other materials between 1.65mm and 25.4mm (0.065" to 1")
Echo-to-Echo Mode	Measurements can be taken on materials as thin as 0.15mm (0.006 inches). In echo-to-echo mode, the user can take measurements on pre-coated materials without having to remove the coating prior to measurement i.e. the gauge ignores the coating thickness.
High Speed Scan Mode	Identifies the minimum thickness point over a large area by moving the transducer over the surface. While the transducer is in contact with the material being measured the smallest value is held in memory and displayed when scanning is complete.
PLAS Mode	Specifically for use when measuring thin plastics. Please note that to use this mode, a special Graphite Delay Line must be purchased, Part Number T92016871.
Differential Mode	Displays the positive or negative difference between a pre-set nominal (target) thickness value and the actual measured value.
Alarm Mode	Allows the user to set a target so that an audible and visual alarm operates when taking measurements. If the measurement falls below a pre-set nominal (target) value a red LED will light and the bleeper sounds. A green LED will light to indicate an acceptable thickness.
Data Output	Allows the user to send data direct to a printer or PC.
Data-Logging	A storage capacity of 1000 measurements – 10 files consisting of 100 sequential storage locations. Allows the user to send data direct to a printer or PC.
EDTS⁺ Excel link Software	PC data transfer utility including generator of ASCII files and “data drop” add in for Microsoft Excel™ spreadsheets.
ElcoMaster™ Software	Stand alone data management program with advance facilities for archiving, reporting, analysis and data export.

Related products



Elcometer 204

The Elcometer 204 Steel Ultrasonic Thickness gauge is a handheld gauge providing fast and accurate measurements of the thickness of steel. The principal advantage of ultrasonic measurement over traditional methods is that ultrasonic measurements can be performed with access to only one side of the material being measured.



Elcometer 208/208DL

The Elcometer 208 and 208DL are simple to use hand held Ultrasonic Thickness Gauges with the capability to measure material thickness whilst eliminating the thickness of the coating (on metal substrates only) making these the ideal gauges for measuring the thickness of the metal substrate without worrying about taking into account the thickness of the coating in your measurement.



Elcometer 207

Elcometer's series of precision ultrasonic thickness gauges are designed to provide accurate measurements on thin materials. Using the latest transducer designs the Elcometer 207 gauges will measure thin materials in one mode and then automatically switch to another mode when measuring thicker materials and plastics.

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