

# **elcometer® 205, 206 and 206DL** **Ultrasonic Thickness Gauges**



Elcometer offers a range of Ultrasonic Thickness Gauges effective for many applications.

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, for example:

- \* Ships hulls
- \* Erosion in pipes
- \* Storage tank wall thickness
- \* Bottle and container walls

Many different materials can be measured such as steel, cast iron, plastic, epoxy resin and glass fibre

## Features

- Hand held and robust
- Comprehensive selection of transducers for different applications available
- Backlight display on all versions
- Data output available on 206 and 206DL versions
- Memory capacity of 1000 readings on 206DL version
- ElcoMaster™ and EDTS<sup>+</sup> Excel link software supplied free of charge with 206DL for report generation and archiving.

## Specifications

<b>Maximum Measurement Range:</b>	0.63 – 500mm (Dependent on transducer)
<b>Velocity Range:</b>	1250 – 10000m/s
<b>Accuracy:</b>	±0.01mm (Depends on material and conditions)
<b>Resolution:</b>	±0.01mm
<b>Operating Temperature:</b>	-20°C to 50°C
<b>Display:</b>	4 <sup>1</sup> / <sub>2</sub> Digit Liquid Crystal display with backlight
<b>Transducer:</b>	Select from Transducer Data Sheet
<b>Power:</b>	AA 1.5V Alkaline or 1.2V NiCad cell
<b>Battery Life:</b>	200 hrs Alkaline or 120hrs NiCad
<b>Units:</b>	mm and inches
<b>Weight:</b>	295g
<b>Size:</b>	63.5 x 120.6 x 31.75mm
<b>Case Type:</b>	Extruded aluminium
<b>Keypad Type:</b>	Sealed membrane

## Part Numbers

<b>C205----</b>	<b>Elcometer 205 Ultrasonic Thickness Gauge</b>	A transducer must be purchased to be used with the ultrasonic gauge. Please select the appropriate transducer from the data sheet attached.
<b>C206----</b>	<b>Elcometer 206 Ultrasonic Thickness Gauge</b>	
<b>C206DL----</b>	<b>Elcometer 206DL Ultrasonic Thickness Gauge</b>	

### Shipping List:

*Elcometer 205 & 206<sup>#</sup>:* Main unit, ultrasonic couplant, batteries, carry case and instruction manual.

*Elcometer 206DL:* As above plus EDTS<sup>+</sup> Excel<sup>®</sup> Link Software and data transfer cable.

<sup>#</sup> For the Elcometer 206, to allow data output to a computer, EDTS<sup>+</sup> Excel<sup>®</sup> Link can be downloaded from our website free of charge however, a data transfer must be purchased separately (T92015684).



Elcometer offers a complete range of transducer probes, allowing you to select the most appropriate one for your application.

1. Select the measurement range

2. Choose the required material

3. Select the probe type

Note : Part Numbers in bold are Ex Stock UK

Measurement Range in steel (mm)	Material								Probe Type						Part Number ( <b>Bold &amp; Highlighted</b> are Ex Stock UK)	Frequency (Mhz)	Colour Code	Crystal Diameter (mm)	Wearface Diameter (mm)
	Cast Iron	Plastic	Glass Fibre	Thin Glass Fibre	Steels	Glass	Thin Plastic	Aluminium	Potted	Straight Probe	Right Angle Probe	Microdot	High Temp. (650 deg C)	Extra Resolution					
3.8-50.8	• • • •	• • • •	• • • •						• • •	• • •	• • •	• • •				T92015620 T92015621 T92015622 T92015623	1 brown or yellow	12.7	15.88
1.5-101.6	• • • • • • •	• • • • • • •		• • • • • • •					• • • • •	• • • • •	• • • • •	• • • • •				T92015626 T92015627 T92015628 T92015629 T92015631 T92015632	2.25 red	6.35	9.53
1.5-127.0	• • • • • • •	• • • • • • •		• • • • • • •					• • • • •	• • • • •	• • • • •	• • • • •				T92015633 <b>T92015634</b> T92015635 T92015636 T92015637 T92015638	2.25 red	12.7	15.88
1.5-50.8					• • • • •	• • • • •	• • • • •		• • • • •	• • • • •	• • • • •	• • • • •				T92015641 T92015642 T92015644	5 green	4.76	6.35
1.02-152.4					• • • • • • •	• • • • • • •	• • • • • • •		• • • • •	• • • • •	• • • • •	• • • • •				T92015645 <b>T92015646</b> T92015647 T92015648 T92015655 T92015656	5 green	6.35	9.53
1.27-507.7					• • • • • • •	• • • • • • •	• • • • • • •		• • • • •	• • • • •	• • • • •	• • • • •				T92015657 <b>T92015658</b> T92015659 T92015660 T92015661 T92015662	2.25 green	12.7	15.88
1.02-152.4					• • • • • • •	• • • • • • •	• • • • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •				T92015663 <b>T92015664</b> T92015665 T92015666	7.5 grey or silver	6.35	9.53
0.635-152.4					• • • • • • •	• • • • • • •	• • • • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •				T92015667 <b>T92015668</b> T92015669 T92015670	7.5 blue	6.35	9.53
1.02-152.4				• • • • •				• • • • •	• • • • •	• • • • •	• • • • •	• • • • •				T92015671 T92015672 T92015673 T92015674	10 white	6.35	9.53
1.52-254.0				• • • • •				• • • • •	• • • • •	• • • • •	• • • • •	• • • • •				T92015676 T92015677 T92015678 T92015679	10 white	12.7	15.88



## 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 callipers or other non-destructive tests.

## The Elcometer Ultrasonic Thickness Gauge Features Explained

<b><i>Interface-to-Echo Mode</i></b>	In interface-to-echo mode, the gauge can take readings on thicker plastics and other materials between 1.65mm and 25.4mm
<b><i>Echo-to-Echo Mode</i></b>	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.
<b><i>High Speed Scan Mode</i></b>	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.
<b><i>PLAS Mode</i></b>	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.
<b><i>Differential Mode</i></b>	Displays the positive or negative difference between a pre-set nominal (target) thickness value and the actual measured value.
<b><i>Alarm Mode</i></b>	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.
<b><i>Data Output</i></b>	Allows the user to send data direct to a printer or PC.
<b><i>Data-Logging</i></b>	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.
<b><i>EDTS+ Excel link Software</i></b>	PC data transfer utility including generator of ASCII files and “data drop” add in for Microsoft Excel™ spreadsheets.
<b><i>EDCS+ Software</i></b>	Stand alone data management program with advance facilities for archiving, reporting, analysis and data export.

