

# Ultrasonic Thickness Gauges

## ANY JOB GAUGE

## ETM 3 & ETM 3DL

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- Dual, single, delay line transducers
- Measuring range 0.8mm to 499mm
- Large LCD display with back light
- Raw material, finished components, shop floor, laboratory, site.

The New Ultrasonic Thickness Gauge Model ETM3/3DL is the most modern & unique thickness gauge in its category. The equipment is ideally suited for almost every Ultrasonic Thickness Gauge applications. The Models are compatible with a range of Single, Dual & Delay line Transducers. The versatile ETM3/3DL can be used for almost any application ranging from small profiles to highly attenuating jobs.

The ETM3 / 3DL comes in ergonomically designed industrial plastic casing to suit various environmental conditions. The Large LCD display with back light provides clear & comfortable readability in bright sunlight to darkness.

## EASY OPERATION

- Very simple and ergonomically designed keypad for left / right operation
- Easy accessible Transducer menu for probe selection.
- USB communication port option in ETM3DL.
- Data logging facility with 4000 readings in ETM3DL.

## COST EFFECTIVE PERFORMANCE

The ETM-3/3DL provides a very convenient & consistent performance using latest technology. The equipment incorporates basic thickness gauging functions and with its inbuilt software & hardware compatibility functions enables it to upgrades to other functions including small profiles, Corrosion, through coating, High Temperature, Highly attenuating jobs, Thin material etc. The above helps it to become the most cost effective solution in its category without going for new / separate equipment for these additional functions, also making it truly "Any Job Gauge".



## KEY FEATURES

- High speed digital circuit
- Stable, repeatable & accurate readings
- Single, dual & delay line transducer compatibility.
- Wide thickness range : 0.8mm (0.03 in.) to 499mm (19.65 in.)  
Against material & transducers used.
- Standard resolution of 0.01mm upto 200mm range and 0.1 Mm upto 499mm.
- Velocity measurements, 700 to 14000 m/sec.
- Corrosion thickness measurements.
- Through coat measurement capability using C - 410 probe.
- Easy one step calibration mode.
- Unique smart function "Optimize" for thin, thick & normal modes transducer use.
- Alarm mode i.e. High & Low selectable.
- Differential mode : for measuring changes from set value.
- Tough, light weight & durable industrial grade engineering plastic body.
- Simplest & direct key based functions.
- Most cost effective thickness application option in its category.
- USB & data logging facility upto 4000 readings in ETM3DL option.
- Choice of probes to suit various demanding applications.



High / low alarm



Differential mode



Optimize feature

## SUITABLE FOR

- Pipes, Tubes, Elbows
- Plates, Thin Strips
- Corroded Walls
- Shipping & Offshore
- Castings
- Components
- Non-Ferrous, Ferrous, Glass, Plastics, Composites  
Tanks, Vessels, Structures .....many more

## ONE GAUGE MEASURES

- Very thin to very thick jobs
- Corroded / Very rough to smooth surfaces
- Small Curvatures
- Through Coating
- Coarse Grain Material
- High Temperature

# PROBE SELECTION

Model	Type	Probe			Application	Optimize			Display Resolution
		Freq	Crystal	Tip Dia		Thin	Normal	Thick	
		Mhz	mm	mm		mm	mm	mm	mm
P. 81	Dual	6	8	11	General Purpose	1.5-50	2-100	5-200	0.01
P. 86	Dual	6	5	8	General Purpose, Small Contour	1.5-25	2-25	3-50	0.01
P. 45	Dual	4	10	16	General Purpose, High temperature (upto 350°C)	2-50	3-100	5-100	0.1
P. 46	Dual	6	8	11	General Purpose, Mid temperature Range	2-25	2-25	5-50	0.1
P. 21	Dual	2	10	16	High Penetration, Attenuating Material	3-50	3-100	5-100	0.1
P. 84	Single	6	10	16	General Purpose, Corrosion	2-50	2-100	4-100	0.1
C.124	Single	1	24	28.5	High Penetration, Coarse Gain Material	25-100	25-100	30-200	0.1
C. 224	Single	2	24	28.5	High Penetration, Attenuating Material	25-100	25-200	30-499	0.1
C. 410	Single	6	10	14.6	Through Coating	7-20	10-30	10-30	0.1
C 605	Single	6	10	14.6	General Purpose	8-20	10-50	10-100	0.1
C 610	Single	10	5	10	Thin Material, High Accuracy, Hard Surface	3-25	4-50	5-100	0.01
D 155	Delay Line	10	5	7.5	Thin Material, High Accuracy, Smooth Surface	0.8-10	2-15	3-15	0.01

- \* 'C & 'D' series probes require cable to be purchased extra.
- \* High Temperature is with intermittent contact only
- \* Measuring range specified is indicative only. Actual capability depends on material, surface condition & job profile

## ETM3/ETM3DL SPECIFICATIONS

Thickness Measuring Range	0.8mm - 499mm (0.030 to 19.96 inches) in steel @ Velocity 5890 M/Sec.
Velocity Range	700 M/Sec to 14000 M/Sec (0.0275 to 0.551 inches/ $\mu$ Sec.)
Measurement Rate	Two readings per second
Resolution	0.01mm (0.0004 inches) for less than 100mm & 0.1mm (0.004inches) for above 100mm (dependent on probe type).
Transducer Frequency Ranges	1MHz to 15MHz in Single. Dual & Delay line mode.
Other Measurements	Though coat, Thickness
Accuracy	$\pm$ 0.06mm (dependent on job probe type)
Units	Millimeter or Inches
Auto Off	120 seconds after last operation or low battery
Dimensions ( W x H x D)	Overall : 80mm x 125mm x 36mm (3.2in x 5in x 1.44in )
Weight	225gms
Key Pad	Sealed tactile Keys, Keyboard lock mode selectable
Operating Temperature Range	0 to 55°C
Calibration	Either using calibration block or Velocity entry or using known thickness block of required job material
Display	Graphic LCD, 55mm x 40mm x 40mm size, with Black light
Smart Functions	<ul style="list-style-type: none"> <li>- Differential Thickness (measures deviation from user defined reference value)</li> <li>- Alarm (when user defined high or low thickness, limits are crossed)</li> <li>- Optimize thin (suitable for lower thickness, factory set parameters )</li> <li>- Optimize thick (suitable for higher thickness, factory set parameters)</li> </ul>
Probe Type	Single probe, Dual probe or Delay Line Probe
Probe Connectors type	Mini Lemo connector, Microdot for D-155
Data Logging (ETM3DL)	Data Logger with memory for Thickness 4000 readings
PC Connectivity (ETM3DL)	USB port & Cable for easy connectivity & data transfer to PC
PC Transfer Software (ETM3DL)	Transfer Software included with Standard Kit
Power Supply	4, 'AAA' Alkaline cells or Optional Rechargeable batteries with Charger/Adapter (230VAC)
Battery Discharge Time	9 hrs. with back light
Standard Kit Contents	Instrument Protecting cover, Operating manual, SB-2 block & Carrying case
Optional Accessories	Probes of Various Types, Calibration Block, Couplants & probe cables.