



## MG2 Series Corrosion Thickness Gages

### MEASUREMENTS FROM ONE SIDE!

Ultrasonic thickness gages make instant digital measurements by transmitting sound into a material from one side, making it unnecessary to cut the corroded part.

### LIGHTWEIGHT AND POCKET-SIZE

These handheld gages are small enough to fit in a toolbox or inside your pocket. They are ideal for quick inspections in hard-to-reach areas.

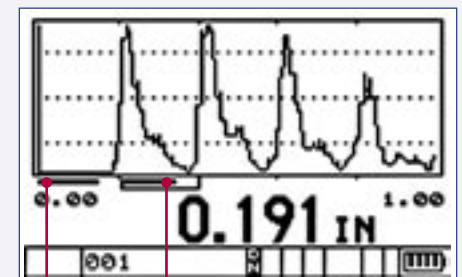
### INTUITIVE, COLOR-CODED KEYPAD

You can directly access many important measurement features for time-saving operation. Strategically located keys are grouped together by color for easy operation.

### LARGE LCD WITH BACKLIGHT

The large numerals make it easy to read thickness measurements. In addition, you can easily view the electroluminescent backlit display from total darkness to bright sunshine.

### MG2-XT and MG2-DL are available with THRU-COAT® and an optional Live A-scan with Waveform Adjust



Manual Echo-to-Echo measurement with adjustable gain and blanks.

### MG2, MG2-XT, AND MG2-DL

These small affordable ultrasonic thickness gages are primarily designed for inspectors and maintenance engineers responsible for measuring the remaining thickness of internally corroded pipes, tanks, and other metal structures. Lightweight and ergonomically designed for easy one-hand operation, these gages provide cost-effective measurement solutions in many applications that require quick inspection of materials suspected of metal wall thinning.

We are known worldwide as a manufacturer of innovative, state-of-the-art ultrasonic testing products. We

also believe that our customers deserve thickness gages that truly combine quality, accuracy, and ease of operation at affordable prices. We have accomplished this with three rugged models: the MG2, MG2-XT, and MG2-DL. Each offers a range of practical measurement features to solve a wide variety of thickness gaging problems. Even better, they all have in common being manufactured by a company that takes pride in having the best customer support network in the industry.

# CHOOSE FROM THREE UNITS!!!

## MG2

The MG2 offers many basic features such as Min/Max Mode that measures and recalls the minimum thickness at a fast 20 readings per second, Freeze Mode to instantly capture critical thickness, and Zero Compensation to ensure optimal transducer performance. Various other features make this handheld gage an affordable unit for quick spot measurements.

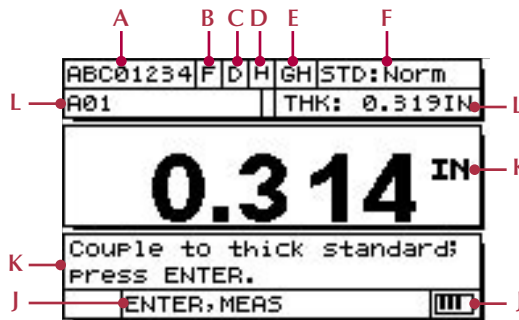
## MG2-XT

The MG2-XT has all of the features of the MG2 plus much more! Gain Adjust, Auto Sensitivity Optimizations, Echo-to-Echo, Thru-Coat, Differential Mode, Hi-Low Alarm, and the optional live A-scan are added features to provide you with more measurement capabilities in tough applications. This gage is ideal when you make thickness measurements on coated or painted surfaces.

## MG2-DL

The MG2-DL is the most advanced unit of our new MG2 Series gages. It includes all of the features found in the MG2-XT plus a versatile file-based alphanumeric data logger that employs incremental, sequential, and 2-D grid file formats. Using the optional GageView Interface Program you can transfer your data bi-directionally to and from your PC and gage. The MG2-DL is the answer if you're looking for an affordable gage with unique measurement capabilities such as Thru-Coat and Gain Adjust.

COMPARISON CHART	MG2-DL	MG2-XT	MG2
Thickness Range .020"-25.00" (0.50-635.0 mm)	✓	✓	✓
Thickness Display Resolution up to 0.001" (0.01 mm)	✓	✓	✓
Automatic Probe Recognition	✓	✓	✓
High Temperature Capabilities	✓	✓	✓
Fast Measurement Rate of 20 per second	✓	✓	✓
Min/Max Mode	✓	✓	✓
Freeze Mode	✓	✓	✓
Zero Compensation Mode	✓	✓	✓
Display Hold/Blank	✓	✓	✓
Inches/Millimeters Mode	✓	✓	✓
Live A-scan with Waveform Adjust (optional)	✓	✓	
Gain Adjust	✓	✓	-
Auto Sensitivity Gain Optimization	✓	✓	-
Differential Mode	✓	✓	-
Hi-Low Alarm	✓	✓	-
Thru-Coat	✓	✓	-
Echo-to-Echo	✓	✓	-
Internal Datalogger	✓	-	-
GageView PC Interface Program	✓	-	-



- A. File Name<sup>2</sup>
- B. Freeze Mode
- C. Differential Mode<sup>1</sup>
- D. Hi-Low Alarm<sup>1</sup>
- E. Gain Adjust<sup>1</sup>
- F. Measurement Rates<sup>2</sup>
- G. Previous Thickness<sup>2</sup>
- H. Current Measurement
- I. Battery Life
- J. Available Keys
- K. User Help
- L. ID#<sup>2</sup>

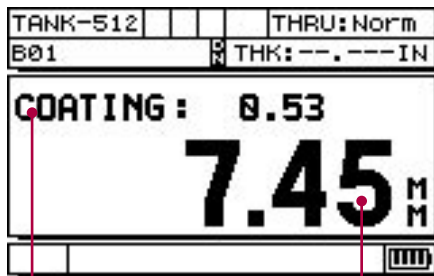
<sup>1</sup> Features provided with the MG2-XT and MG2-DL  
<sup>2</sup> Features provided with the MG2-DL



# MG2-XT AND MG2-DL

## THRU-COAT®

With this patented technology, the gage simultaneously displays the thickness of the coating and the true metal thickness, using a single backwall echo. Each measurement is adjusted for their calibrated material sound velocity. Thru-Coat measurements use the D7906-SM and D7908 transducers.



THRU-COAT Thickness      Metal Thickness

## LIVE A-SCAN WITH WAVEFORM ADJUST

This optional live A-scan mode allows the user to view the ultrasound waveform (or A-scan) directly on the gage's display, verify the thickness reading, or make manual adjustments to gain and blanking settings to maximize measurement performance for challenging applications. This helpful option has the following features: Manual Gain Adjust, Extended Blanking, Echo Blank Range and Delay.

## GAIN ADJUST

This feature is very helpful when making measurements on sound-attenuating materials such as cast metals:

- Preset Gain Adjust to High, Low, or Standard
- Manual Gain Adjust can be set in 1 dB increments (Live A-scan mode only)

## EXTENDED BLANKING

Allows blanking of unwanted echoes due to material surface "noise" from rough or irregular surfaces (Live A-scan mode only).

## ECHO-TO-ECHO

The gage displays the true metal thickness and ignores the thickness of the coating layer, using multiple backwall echoes:

- Auto Echo-to-Echo
- Manual Echo-to-Echo (Live A-scan mode only) that allows:
  - Gain Adjust
  - Extended Blanking
  - Echo Blanking

## TRANSDUCERS WITH AUTOMATIC PROBE RECOGNITION

Each MG2 series gage is compatible with our complete line of easy interchangeable dual element transducers that vary in frequencies, diameters, and temperature capabilities to deal with virtually every application.

PROBE	MHZ	CABLE	CONN	TIP DIA	RANGE (steel)*	TEMP RANGE**
D790		Potted	Straight	.434"	0.040"-20"	-5° – 932°F
D790-SM	5.0	LCMD-316-5B†	Straight	(11.0 mm)	(1-500 mm)	(-20° – 500°C)
D790-RL		LCLD-316-5G†	Rt. Angle			
D790-SL		LCLD-316-5H	Straight			
D791	5.0	Potted	Rt. Angle	.434"	0.040"-20"	-5° – 932°F
				(11.0 mm)	(1-500 mm)	(-20° – 500°C)
D791-RM	5.0	LCMD-316-5C	Rt. Angle	.434"	0.040"-20"	-5° – 752°F
				(11.0 mm)	(1-500 mm)	(-20° – 400°C)
D792	10	Potted	Straight	.283"	0.020"-1"	32° – 122°F
D793		Potted	Rt. Angle	(7.2 mm)	(0.5-25 mm)	(0° – 50°C)
D794	5.0	Potted	Straight	.283"	0.030"-2"	32° – 122°F
D795		Potted	Rt. Angle	(7.2 mm)	(0.75-50 mm)	(0° – 50°C)
D797	2.0	Potted	Rt. Angle	.900"	0.150"-25.00"	-5° – 752°F
D797-SM		LCMD-316-5D	Straight	(22.9 mm)	(3.8-635 mm)	(-20° – 400°C)
D7226	7.5	Potted	Rt. Angle	.350"	0.028"-4"	-5° – 300°F
D798-LF				(8.9 mm)	(0.71-100 mm)	(-20° – 150°C)
D798	7.5	Potted	Rt. Angle	.283"	0.028"-4"	-5° – 300°F
D798-SM		LCMD-316-5J	Straight	(7.2 mm)	(0.71-100 mm)	(-20° – 150°C)
D799	5.0	Potted	Rt. Angle	.434"	0.040"-20"	-5° – 300°F
				(11.0 mm)	(1-500 mm)	(-20° – 150°C)
D7906-SM††	5.0	LCMD-316-5L	Straight	.434"	0.040"-2.0"	32° – 122°F
				(11.0 mm)	(1-50 mm)	(0° – 50°C)
D7908††	7.5	Potted	Rt. Angle	.283"	0.028"-1.5"	
				(7.2 mm)	(0.71-37 mm)	
MTD705	5.0	LCLPD-78-5	Rt. Angle	.200"	0.040"-0.75"	32° – 122°F
				(5.1 mm)	(1.0-19 mm)	(0° – 50°C)

\* Dependent on material, transducer type, surface condition, and temperature

\*\* Maximum temperature is with intermittent contact only

† Stainless steel cable available; consult us for part numbers

†† Transducers used for Thru-Coat technology



# MG2 SERIES SPECIFICATIONS\*

## MEASUREMENTS

**Measurement Mode:** Pulse echo with dual element transducers

**Thickness Measurement Range:** 0.020 to 25.00 inch (0.50 to 635.0 mm)

*Thickness range depends on material, transducer, surface condition, temperature*

**Material Velocity Calibration Range:**  
0.0200-0.7362 in/μsec  
(0.508- 18.699 mm/μsec).

**Thickness Display Resolution:**

LOW: 0.01" 0.1 mm  
STANDARD: 0.001" 0.01 mm

**Measurement Rates:**

Standard Rate: 4 per second.  
Fast Rate: 20 per second.

**Min/Max Mode:** Measures and recalls minimum or maximum thickness at 20 measurements per second.

**Freeze Mode:** Freezes display to instantly capture critical thickness. Minimizes transducer couplant lift-off error and facilitates High Temperature measurements.

**Automatic Probe Recognition:** Automatically recognizes the listed Panametrics-NDT transducer types. Adjusts internal parameters and corrects V-path error.

**Zero Compensation:** Compensates for transducer temperature and zero offset.

## DISPLAY

**Display Hold/Blank Mode:** Display holds or blanks after measurement.

**Electroluminescent Display Back**

**Lighting:** Selectable as "On" or "Auto On"

**Receiver Bandwidth:** 1-18 MHz (-3 dB)

**Metric/English Mode:** Metric or English

## POWER SUPPLY

**Battery:** 3 AA alkaline batteries

**Operating Time:** 150 hours typical battery life, 30 hours continuous with backlight on

**Low Battery Indicator:** Continuously indicates battery status

**Battery Saver:**

Auto Power Off/Continuous On

## GENERAL

**Environmental IP-65 Compliant:**

Splash-proof, impact-resistant case. Sealed, color-coded keypad with tactile and audible feedback.

**Operating Temperature Range:**  
-10°C to +50°C, +14°F to 122°F.

**Size:** 3.31" W x 6.0" L x 1.56" H  
(84 x 152.4 x 39.6 mm)

**Weight:** 12 oz. (0.34 kg)

## MG2-XT AND MG2-DL ADDITIONAL SPECIFICATIONS

**Thru-Coat® Measurement:** Measurement of true metal and coating thickness using a single backwall echo (with D7906-SM and D7908 transducers)

**Thru-Paint Echo-to-Echo:** Displays the true metal thickness and ignores the thickness of the coating layer, using multiple backwall echoes.

- Auto Echo-to-Echo
- Manual Echo-to-Echo (Live A-scan mode only) that allows:
  - Gain Adjust
  - Extended Blanking
  - Echo Blanking

**Gain Adjust:**

- Preset Gain Adjust to High, Low or Standard
- Manual Gain Adjust can be set in 1 dB increments (Live A-Scan mode only).

**Extended Blanking:** Allows blanking of unwanted echoes due to material surface "noise" from rough or irregular surfaces (Live A-scan mode only).

**Auto Sensitivity Gain Optimization:**

Allows the normal measurement sensitivity to be automatically increased or decreased depending on the thickness and material noise level.

**Alarm Mode:** Programmable Hi-Low set points with audible and visual indicators

**Differential Mode:** Displays the difference between the actual thickness measurement and a user-set reference value.

**Live A-scan with Waveform Adjust:**

Optional live A-scan mode allows the user to view the ultrasound waveform (or A-scan) directly on the gage's display. Has the following features; Manual Gain Adjust, Extended Blanking, Echo Blank Range and Delay.

## MG2-DL INTERNAL DATALOGGER

**Datalogger:** The MG2-DL will identify, store, recall, clear, and transmit thickness readings and gage setup information via the USB Port.

**Max. # of Stored Values:** Over 8,000 thickness readings or 350 waveforms with thickness readings (with Waveform option)

**Stored Data Documentation:** Each saved thickness reading is fully documented with measurement status flags and a setup number that identifies parameters such as velocity, transducer, etc.

**File Name Length:** 8 alphanumeric characters

**Identification Codes:** 10 character alphanumeric Identification Code system identifies or locates stored data.

**4 File Templates:** Incremental, Sequential, 2D Grid, and Manual from PC

## STANDARD INCLUSIONS

Model MG2 Digital Ultrasonic Thickness Gage, Wrist Strap, Test Bar, Couplant, Instruction Manual and a Two Year Limited Warranty. Standard packages include a dual element transducer.

## OPTIONAL ACCESSORIES

**2214E** 5-Step Test Block, English units

**2214M** 5-Step Test Block, Metric units

**MG/EW** Extended Warranty

**MG2/RPC** Protective rubber boot

**GageView** PC interface program for the MG2-DL

**MG2/XTRETRO** Convert a MG2 into a MG2XT

**MG2XT/DLRETRO** Convert a MG2XT into a MG2DL

**MG2/DLRETRO** Convert a MG2 into a MG2DL

**MG2/WF** Live A-scan with Waveform Adjust for MG2XT and MG2DL only (not available for MG2).

**USB/ADP-115** AC-115 Power Supply

**USB/ADP-230** AC-230 Power Supply

For additional accessories such as holders, wands, and couplants, please consult us.

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