

27MG

Ultrasonic Thickness Gage



- Dual element corrosion gaging
- Large backlit LCD display
- Rugged handheld design

27MG

Ultrasonic Thickness Gage

The Olympus 27MG instrument is an affordable ultrasonic thickness gage designed to make accurate measurements from one side on internally corroded or eroded metal pipes, tanks, and other equipment. It weighs only 12 oz. (340 g) and is ergonomically designed for easy one-handed operation. Despite its compact size, the 27MG thickness gage has many innovative measurement features utilizing the same technologies that are available on our more advanced thickness gages. The durable, rugged 27MG gage is battery-operated and features a large, backlit LCD with easy-to-read numerals and an intuitive color-coded keypad with direct access to many key features.

Standard features include Automatic Probe Recognition to help ensure optimal transducer performance, Auto Zero compensation to enhance the accuracy of measurements on hot surfaces, Gain Adjust to improve measurements on sound-attenuating materials such as cast metals, Differential mode, Hi-Low Alarm settings, and a Min./Max. mode that captures the minimum or maximum thickness at 20 measurements per second.

The 27MG gage is designed for inspectors and maintenance engineers that need to monitor the wall thickness in metal pipes, tanks, beams, and structural supports that are susceptible to corrosion on the inside surface. An ultrasonic thickness gage provides a quick, cost-effective solution by transmitting sound into the material from the outside, making it unnecessary to damage the part.

Transducers

The 27MG thickness gages comes standard with the low-cost D7910 dual element transducer that enables you to make thickness measurements for many basic corrosion applications. For measurements on very thin or thick materials, or small diameter pipes, Olympus has a full line of dual element transducers. Olympus transducers compatible with the 27MG gage feature Automatic Probe Recognition that optimizes transducer performance by automatically recalling the default V-path correction.



The D7910 transducer offers great performance at an affordable price.



Transducers with Automatic Probe Recognition

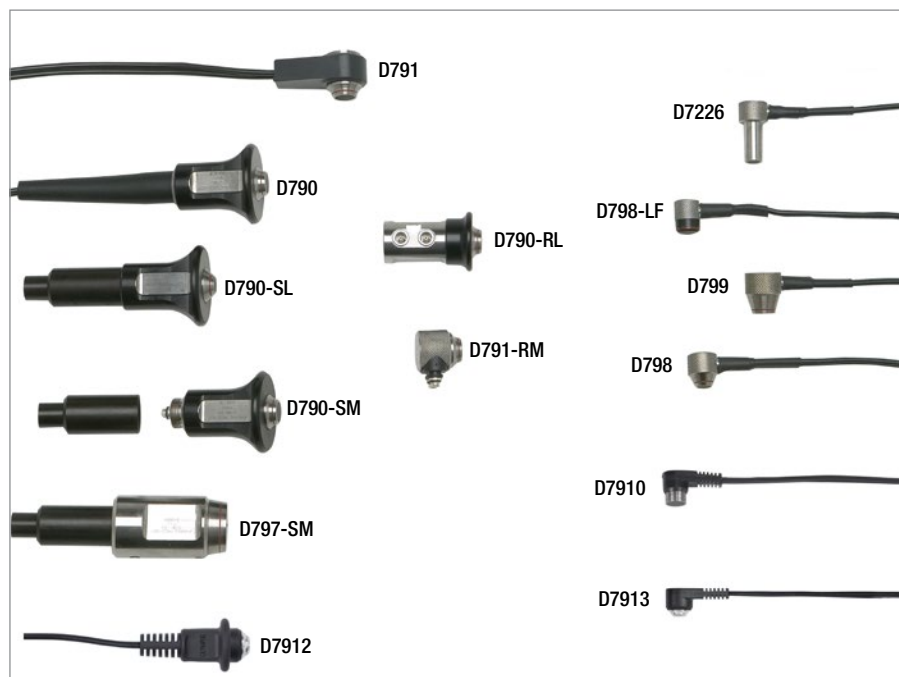
The 27MG thickness gage is compatible with our complete line of easy interchangeable dual element transducers that vary in frequencies, diameters, and temperature capabilities to deal with virtually every application.

| Transducer | Item Number | Freq. (MHz) | Connector | Tip Dia. mm (in.) | Range (Steel)* mm (in.) | Temp. Range** °C (°F) | Cable | Item Number |
|------------|-------------|-------------|-----------|-------------------|----------------------------------|------------------------|--------------|-------------|
| D7910 | U8454038 | 5.0 | 90° | 12.7 (0.500) | 1.00 to 254 (0.040 to 10.000) | 0 to 50 (32 to 122) | Potted | — |
| D790 | U8450002 | 5.0 | Straight | 11.00 (0.434) | 1.00 to 500.00 (0.040 to 20.000) | -20 to 500 (-5 to 932) | Potted | — |
| D790-SM | U8450009 | | Straight | | | | LCMD-316-5B† | U8800353 |
| D790-RL | U8450007 | | 90° | | | | LCLD-316-5G† | U8800330 |
| D790-SL | U8450008 | | Straight | | | | LCLD-316-5H | U8800331 |
| D791 | U8450010 | 5.0 | 90° | 11.00 (0.434) | 1.00 to 500.00 (0.040 to 20.000) | -20 to 500 (-5 to 932) | Potted | — |
| D791-RM | U8450011 | 5.0 | 90° | 11.00 (0.434) | 1.00 to 500.00 (0.040 to 20.000) | -20 to 400 (-5 to 752) | LCMD-316-5C | U8800354 |
| D7912 | Q4530005 | 10.0 | Straight | 7.50 (0.295) | 0.50 to 25.00 (0.020 to 1.000) | 0 to 50 (32 to 122) | Potted | — |
| D7913 | Q4530006 | | 90° | | | | | |
| D797 | U8450016 | 2.0 | 90° | 22.90 (0.900) | 3.80 to 635.00 (0.150 to 25.000) | -20 to 400 (-5 to 752) | Potted | — |
| D797-SM | U8450017 | | Straight | | | | LCMD-316-5D | U8800355 |
| D7226 | U8454013 | 7.5 | 90° | 8.90 (0.350) | 0.71 to 50.00 (0.028 to 2.000) | -20 to 150 (-5 to 300) | Potted | — |
| D798-LF | U8450019 | | | | | | | |
| D798 | U8450018 | 7.5 | 90° | 7.20 (0.283) | 0.71 to 50.00 (0.028 to 2.000) | -20 to 150 (-5 to 300) | Potted | — |
| D798-SM | U8450020 | | Straight | | | | LCMD-316-5J | U8800357 |
| D799 | U8450021 | 5.0 | 90° | 11.00 (0.434) | 1.00 to 500.00 (0.040 to 20.000) | -20 to 150 (-5 to 300) | Potted | — |

* Dependent on material, transducer type, surface conditions, and temperature.
Full range may require Gain adjustment.

† Stainless steel cable available; consult Olympus for details.

** Maximum temperature with intermittent contact only.



27MG Specifications*

Measurements

| | |
|---|--|
| Dual element transducer measurement mode | Time interval from a precision delay after the excitation pulse to the first echo |
| Thickness range | 0.50 mm to 635 mm (0.020 in. to 25.0 in.) depending on material, transducer, surface conditions, temperature |
| Material velocity range | 0.508 mm/μs to 18.699 mm/μs (0.020 in./μs to 0.7362 in./μs) |
| Resolution (selectable) | Low: 0.1 mm (0.01 in.) Standard: 0.01 mm (0.001 in.) |
| Transducer frequency range | 2.25 MHz to 10 MHz (−3 dB) |

General

| | |
|------------------------------------|--|
| Operating temperature range | −10 °C to 50 °C (14 °F to 122 °F) |
| Keypad | Sealed, color-coded keypad with tactile and audible feedback |
| Case | Impact-resistant and water-resistant, gasketed case with sealed connectors. Designed for IP65. |
| Dimensions (W x H x D) | 84.0 mm x 152.4 mm x 39.6 mm (3.31 in. x 6.0 in. x 1.56 in.) |
| Weight | 340 g (12 oz) |
| Power supply | 3 AA alkaline batteries |
| Battery life operating time | 150 h of typical battery life, 30 h continuous use with backlight |
| Explosive Atmosphere | Tested using MIL-STD-810F 511.4 Procedure I |
| Standards | Designed for EN15317 |
| Alarm mode | Programmable Hi/Low set points with audible and visual indicators |

Display

| | |
|--------------------------------|---|
| Display Hold/Blank mode | Holds or blanks the display after measurements |
| Backlight | Electroluminescent backlight, Selectable as On or Auto On |
| Receiver bandwidth | 1 MHz to 18 MHz (−3 dB) |
| Metric/English mode | Metric or English units |
| Display languages | English, French, German, Spanish, Italian, Portuguese, Russian, Polish, and Swedish |

Optional Accessories

- **2214E (U8880014):** 5-step test block, English units
- **2214M (U8880016):** 5-step test block, metric units
- **27MG/RPC (U8780343):** Protective rubber boot with Neck Strap and Gage Stand

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

Standard Package

- 27MG digital ultrasonic thickness gage
- Dual element transducer
- AA alkaline batteries
- Test block and couplant
- Carrying case
- Wrist strap
- User's manual on CD
- Getting started guide
- **Measurement features:** Min./Max. mode, Differential mode, Gain Adjust, Freeze mode, Automatic Probe Recognition, Zero Compensation

Standard inclusions may vary depending on your location. Contact your local distributor.



27MG with the optional Protective Rubber Boot with Neck Strap and Gage Stand