

# MEA15MR

## Mechanical register totaliser flowmeter with contact closure high rate pulse output

### FEATURES

- Volumetric rotary piston positive displacement measurement principle, measures accurately in any position.
- Running (non-resettable) mechanical totaliser display with Reed Switch 120 pulse/Litre pulse output.
- 1.5 metre cable lead.
- Ideal for precision data collection applications
- Accuracy :  $\pm 1.5\%$  flow curve.  
Repeatability:  $\pm 0.15\%$   
Designed for low flow measurement.
- Coupling connectors supplied.



The MEA15-MR 15mm water meter is suitable for measurement of water upto 90°C with a working pressure upto 1500 kPa. The meter offers great accuracy and a long operating life for domestic drinking water applications.

The mechanical counter register is positioned for easy reading and displays from 0.1 Litres. The precision engineered rotary piston measuring chamber ensures accurate measurement even at very low starting flow rates. Meters can be installed in any position without affecting accuracy. An inline filter element prevents blockages and an internal check valve stops backflows.

The flowmeters are fitted with a high resolution reed switch contact closure output. At the request of various water authorities, with Manuflo technology, 120 pulses per Litre output signal is achieved, which is the highest amount of pulses per Litre for a domestic water meter (whilst retaining the mechanical register). This allows capture of precision water measurement information to data-loggers and to other data collection devices. Very accurate data can then be obtained for water usage totals and flowrate habits of consumers. Electrical connection is via a 1.5 metre 2-core shielded cable.

All meters are supplied with a gasket seat coupling connection kit. MEA15-MR flowmeters are manufactured from high quality materials to meet E.E.C approval F-04-G-297 with Class C in all positions.

### SPECIFICATIONS

Floweranges	Litres/hour	Litres/minute	
Starting flowrate	3.0	0.05	Start Flow @ +/-5%
Qmin	10.0	0.167	Qmin = minimum accurate flow
Qt	15.0	0.250	Qt = transitional very accurate flow
Qn	1500.0	25.000	Qn = nominal flow (maximum continuous)
Qmax	2700.0	45.000	Qmax = maximum flow (intermittant runs)
Accuracy	+/- 1.5% Qt to Qmax, repeatability better than 0.2%		
Mech. Register	0.1 litre upto 99999 m3		
Elect. Connection	2 wire connection pulse and 0.V. via 1.5 metre cable length.		
Pulse Output	<ul style="list-style-type: none"><li>• Reed Switch, 120 pulses/Litre contact closure (@ Qn), 0 - 24VDC,</li><li>• Max. switching current: 100mA. Fitted with internal 470Ω current limiting resistor.</li><li>• 2-wire connection via IP64 gasket outlet.</li></ul>		
Pipe Connection	Body thread ends ¾" BSP(male), coupling connectors taper to ½" BSP(male).		
Max. pressure	15 bar operating, Max.pressure loss at Qmax = 1 bar.		
Max. temp.	90 °C		
EEC approval No.	F9001399		
Dimmensions (mm)	115 H, 85 W, 190 L (including connectors)		
Weight	1.1 kg (including connectors)		

## INSTALLATION

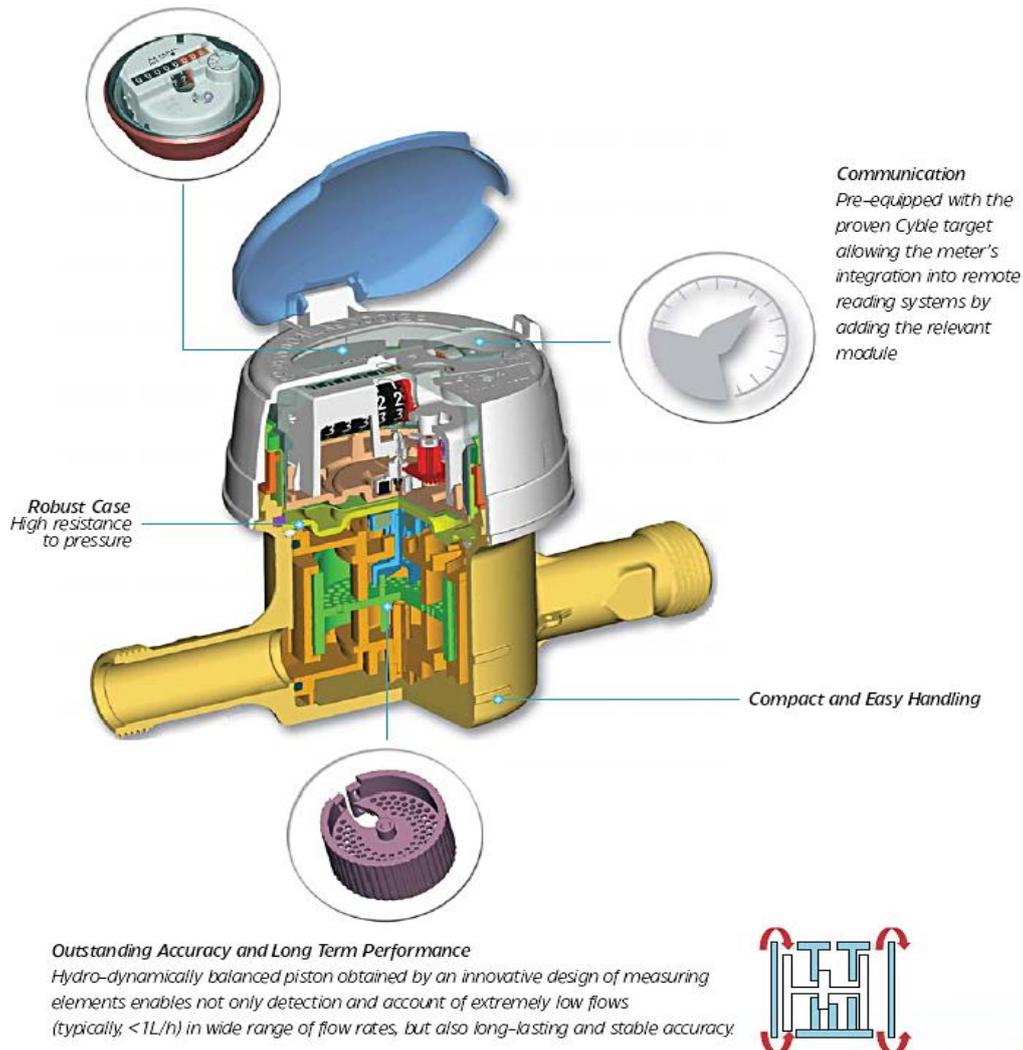
**MEA15MR**

1. Consider an accessible area for future reading of display. Before installing flowmeter, flush out pipes thoroughly.
2. Although the flowmeter has an internal strainer, if fluid has impurities install a 100 micron filter prior to meter.
3. Flowmeters may be installed in any position without affecting accuracy (horizontal position for optimum results). Ensure arrow on meter body coincides with forward flow direction. Meter must only measure in a full pipe flow.
4. A pair of connector couplings are supplied tapering to ½" BSP(male) thread. The body of the meter has ¾" BSP(male) threads.
5. Never exceed the rated maximum flow of the meter flow range, as this may cause damage to the measuring chamber and/or cause overdosing of liquid.

## ELECTRICAL CONNECTION and PULSE SPECS.

- Although the cable gasket is sealed, Loop the cable downwards from the flowmeter so that water cannot run down the cable and enter the meter readout through the gasket cable outlet.

Typically 50% duty cycle pulse (equal on/off state). At Qmax 0.75LPS x 120p/ltr = 90 Hz max possible output to collection device. Contact closure reed switch pulse V.max:24V, I-max:50mA. Life upto 10,000,000,000 contact cycles. (With some input devices to avoid bounce install a 450pF capacitor across input).



## MATERIAL SPECIFICATIONS

- |                    |                   |
|--------------------|-------------------|
| 1. Register        | - Thermoplastics  |
| 2. Securing screws | - Stainless steel |
| 3. Meter Body      | - Brass/gunmetal  |
| 4. Holding ring    | - Polysulfone     |
| 5. Pressure plate  | - Stainless steel |
| 6. Body Oring      | - Nitrile         |

## Measuring chamber parts:

- |                   |                               |
|-------------------|-------------------------------|
| 7. Chamber top    | - Graphited Polystyrene       |
| + Magnet          | - Hardened Ferrite & Polyamid |
| 8. Piston         | - Graphited Polystyrene       |
| 9. Chamber bottom | - Graphited Polystyrene       |
| + Oring           | - Ethylene Propylene          |
| 10. Couplings     | - Brass, Nitrile washers      |

Due to continuous product improvement, specifications may change without notice.

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