

FEATURES

- Rotary piston positive displacement.
- MEA15 : NPN Opto 1000 pulses/Litre (1ml / 1pulse)
- MEA15R : Reed Switch 122 pulses/Litre (8.2 mls/pulse)
- High pulse rate for flowrate & precision batching.
- Designed for low flow measurement.
- Accuracy : $\pm 1.5\%$ flow curve.
Repeatability: $\pm 0.15\%$
- Junction entry electrical connection.
- Coupling connectors supplied.



The MEA15 15mm pulse output, rotary piston, positive displacement flowmeter is designed for use in low-dose/low-quantity batching of water-based liquids. With 1000 pulses/Litre output, the MEA15 flowmeter is ideal for precision batching and flowrate indication applications. The MEA15 will accurately measure down to 4 mls/sec (0.25 Litres/min). Ideal for use with *ManuFlo* Batch Controllers, reset counters, flowrate indicators or interface cards.

The meter can be used with a range of construction chemical additives and other liquids. The chamber parts used are dense thermoplastics with a isotropic magnet, resisting temperatures up to 60°C. The expected working life of the measuring chamber should exceed 15 years.

SPECIFICATIONS

Size	15mm port, ½" BSP(male) threaded connectors			
Flowranges	Litres/hour	Litres/minute	Litres/second	
Qmin	15.0	0.250	0.004	Qmin = minimum accurate flow
Qt	22.5	0.375	0.006	Qt = transitional very accurate flow
Qn	1500.0	25.000	0.416	Qn = nominal flow (maximum continuous)
Qmax	2400.0	40.000	0.666	Qmax = maximum flow (intermittant runs)
Accuracy	+/- 1.5% Qt to Qmax, repeatability better than 0.2%			
Pulse Output	1ml/1pulse (1000ppi) NPN sink pulse 5 to 25VDC supply, square wave 50% duty cycle			
Elect. Connection	Junction box cable gland entry to IP65, 3 wire connection pulse/+/0v via terminal.			
Reed Pulse	122 pulses/Litre contact closure 5-25VDC, 2-wire connection square junction box.			
Pipe Connection	Body thread ends ¾" BSP(male), coupling connectors taper to ½" BSP(male).			
Max. pressure	16 bar operating, Max.pressure loss at Qmax = 1 bar.			
Max. temp.	60 °C			
EEC approval No.	F9001399			
Dimmensions (mm)	145 H, 95 W, 190 L (including connectors)			
Weight	1.1 kg (including connectors)			

INSTALLATION

MEA15

1. Consider an accessible area for future service of chamber. Before installing flowmeter, flush out pipes thoroughly.
2. Install the meter under a cover, as the pulsehead is rated to IP55 (splash proof only).
3. Due to the fine tolerances of the measuring chamber, an Amiad filter of 300 micron or smaller should be fitted prior to meter. This will eliminate blockages to the meter chamber.
4. MEA15 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.
5. A pair of connector couplings are supplied tapering to 1/2" BSP(male) thread. The body of the meter has 3/4" BSP(male) threads.
6. 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

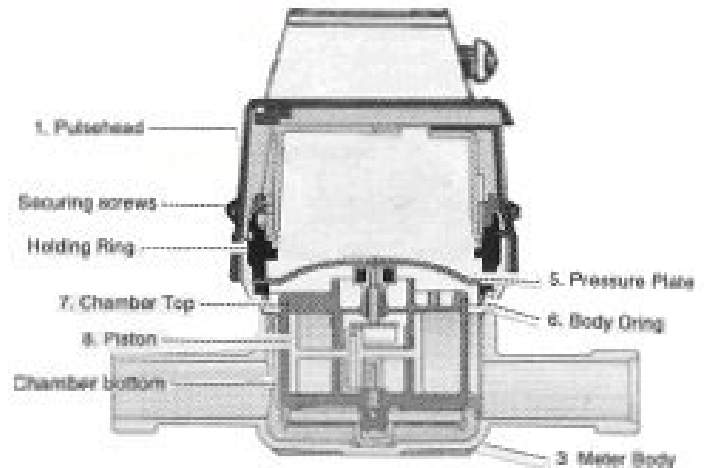
MAINTENANCE

If flow becomes excessively restricted, or meter is out of calibration, or a cessation of pulse signals is detected, then:

1. Check voltage supply and cable connections at junction terminal. Remove the two screws securing the pulsehead to the main meter body. Hold the pulsehead and shake it in a left-right motion - this should generate pulses on whatever counter you have connected the flowmeter to. If all is OK, then proceed to step 2.
2. To access the measuring chamber, remove the black lock ring, then unscrew anti-clockwise the plastic holding ring. Remove the stainless steel pressure plate. Chamber is now in view.
3. Remove the body O-ring sitting above the chamber. With a pair of pliers, remove the complete chamber body. Pry open the chamber's top plate, then clean parts as required with warm water or dilute acid, or replace chamber as required.
4. Reassemble in reverse order, noting the chamber assembly alignment notch.

ELECTRICAL CONNECTION and PULSE SPECS.

- The pulsehead is a NPN transistor with 1000 pulses/Litre output, sinking 5-25 VDC up to 150mA load, up to 900 metres transmission distance.
- An optional pulse divider can be internally fitted with 10, 20, 50, 100 mls per pulse options, 5-15 VDC only.
- For 24-240VAC pulse switching or pulse scaling, use the UIC/A interface card.
- Reed pulse: 122 pulse/Litre contact closure 2-wire connection.
- To connect to meter, remove the blue housing cover, unscrew junction cover. Pass the two core shielded signal cable through the IP67 entry gland, and connect to the terminal strip connector. Note the Pulse, +, 0V(shield) connections. Tighten gland and refit junction lid and housing cover. ■ Loop the cable downwards from the flowmeter, so that water cannot run down the cable and enter the junction box through the gland.



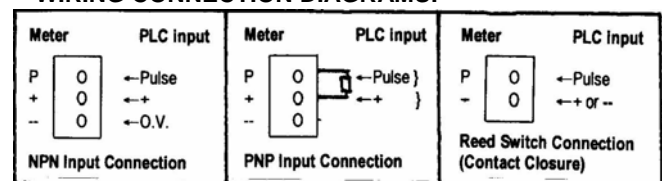
MATERIAL SPECIFICATIONS

- | | |
|--------------------|-------------------|
| 1. Pulsehead | - ABS & PVC |
| 2. Securing screws | - Stainless steel |
| 3. Meter Body | - Brass/gunmetal |
| 4. Holding ring | - Polyhsulfone |
| 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 |

WIRING CONNECTION DIAGRAMS:



For **PNP input** (12-24 VDC) fit a 1.5 to 1.8K resistor.
(Value depends on input impedance).
Re-transmission distance up to 900 metres.

ORDER CODE	Description	Pulses/Litre
MEA15	Transistor pulse output	1000
MEA15R	Reed Switch pulse output	122

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

ManuFlo®™

Flow Measurement & Control Products

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