

Residential use

MVM PLUS C POSITIVE DISPLACEMENT WATER METER



Positive displacement magnetically driven water meter with composite material body

MVM PLUS C is Maddalena's latest range of positive displacement magnetically driven water meters with body in composite material developed to meet the strict requirements of Directive 2014/32/EU on measuring instruments and European Standard ISO 4064.

MVM PLUS C meters provide high metrological performance and extraordinary accuracy.

MVM PLUS C meters may be equipped with the ARROW MVM compact radio module for remote reading or FlowPulse and FlowPulse M-Bus inductive pulsers.

The MVM PLUS C product range is guaranteed by Maddalena: manufacturer of high quality measuring instruments for the past century.

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MVM PLUS C POSITIVE DISPLACEMENT WATER METER

The MVM PLUS C is a positive displacement rotary piston magnetically driven water meter with composite material body. The measuring chamber features a new hydraulic design. A side inlet port has been created in addition to the existing bottom inlet port and an additional bottom outlet port allows the water to flow out from the measuring chamber.

The result of this technological solution is improved linearity of the error curve and reduced wear over time.

Special high-grade compound polymer components manufactured with the latest injection technologies minimize the friction between the measuring chamber and the rotary piston and provide high metrological performance.

The measuring chamber's inlet strainer ensures operation even with debris present in water.

The MVM PLUS C series is certified in accordance with Directive 2014/32/EU - Annex MI-001, conformity assessment procedure B+D. The maximum measuring range Q_3/Q_1 (R) certified is R 800, and lower measuring range options

(R400, R320, R200, R160, etc.) are also available. Performance is ensured in any mounting position.

MVM PLUS C meters are extremely accurate also at low flow rates and provide low flow sensitivity (lower than 1 litre/hour).

The mechanical design ensures insensitivity to magnetic fields and exceeds the requirements of Directive 2014/32/EU.

Even the strongest magnets on the market (N52, 125 kg) won't affect MVM PLUS C meters.

MVM PLUS C meters may be retrofitted with a new generation bidirectional inductive pulser. The pulsed version retains

the standard meter features.

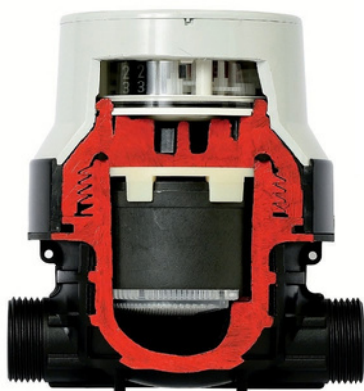
Besides the metrological certificate MVM PLUS C meters are also certified for use with potable water.



Measuring chamber

Technical and structural specifications

- The body is a composite material with a high percentage of fibreglass
- The measuring chamber is made of high performance self-lubricating materials with a high content of graphite. Materials are wear-resistant, non-magnetic and anti-scaling
- The piston is a special polymer designed for long service life and resistance to debris
- Insensitivity to external magnetic fields
- Hermetically sealed dial; IP68 rated version also available. Different arrangement options of black and red numbered drums are available
- Tamper detection
- Effective internal strainer
- Tubular inlet strainer available on request
- Nominal working pressure (PN): 16 bar
- Upstream or downstream straight lengths are not required
- Maximum water temperature: 50 °C
- The MID inscriptions are marked on the shroud. They are not exposed to water and are protected by a lid, therefore resulting always legible
- A bidimensional barcode representing the serial number may be marked on the dial
- Hydraulic tests are carried out at three flow rates (Q_1 , Q_2 , Q_3) on 100% of the production. Our testing benches comply with the ISO 4064/3 and ISO 4185 Standards and are certified by a European metrological body
- The meter may be provided with an optional non-return valve



HYDRAULIC PERFORMANCE

Size	mm	15
	in	½"
Module B no.	TCM 142/10-5200	
Module D no.	0119-SJ-A010-08	
Metrological class MID	R (Q3 / Q1) <_ 800	
Q3	m³/h	2.5
Q4	m3/h	3.2
R		400
Q1	l/h	6.2
Q2	l/h	10
R		200
Q ₁	l/h	12.5
Q ₂	l/h	20

Other R options available on request

TECHNICAL DATA

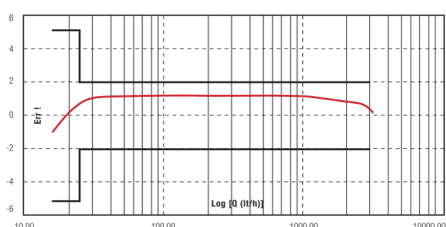
Thread	pollici	G ¾" B - G1" B
Maximum permissible error between Q1 and Q ₂ (excluded)		+/- 5%
Maximum permissible error between Q2 (included) and Q ₄		+/- 2% with water temperature <_ 30 °C +/- 3% with water temperature > 30 °C
Temperature class		T30 and T50
Flow profile sensitivity classes		U0 - D0 (upstream or downstream straight lengths not required)
Starting flow rate	l/h	0.5
Pressure loss class (R_{Δ} @ Q ₃) Nominal		ΔP 40
pressure	bar	16
Maximum reading	m³	10,000 100,000
Minimum reading	l	0.02/0.002
Volume cycle		58
Weight	kg	0.450

DIMENSIONS

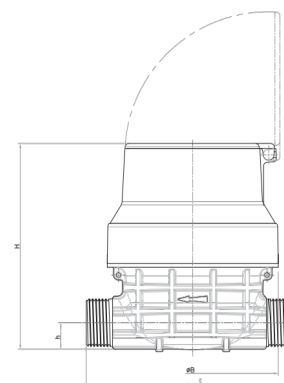
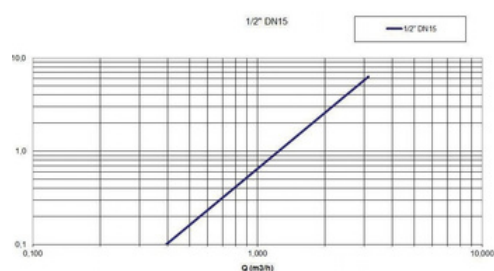
L *	mm	110-115 165-170
L with couplings	mm	190-195 165-170
H	mm	115
h	mm	16
B	mm	94

* Other length options available on request

Typical error curve



Head loss diagram



ACCESSORIES



ARROW^{WAN} MVM 169 MHz

Compact multi-protocol radiomodule with inductive sensor. Wireless M-Bus, AFNOR E17Z and LoRaTM compatible.



ARROW^{WAN} MVM 868 MHz

Compact multi-protocol radiomodule with inductive sensor. Wireless M-Bus, LoRaWANTM and SigFox compatible.



ARROW MVM

Compact radio module with built-in inductive sensor. Wireless M-Bus 868 MHz radio. It mounts on all meters of the MVM – MVM PLUS C series.



PULSER

FlowPulse: bidirectional inductive pulser with alarm management.

FlowPulse M-Bus: bidirectional inductive pulser with alarm management and direct M-Bus output.



SINGLE REED SWITCH PULSER

Designed for industrial batching.



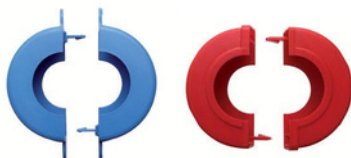
NON-RETURN VALVE

Mounted in the meter outlet to protect it from backflow.



COUPLING KIT

It comprises two brass nuts, two brass tail pieces and two gaskets.



SEALS

Designed to secure the water meter to the pipe.

For more information on the accessories please refer to the relevant data sheet.



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