

Bulk Meters

WMAP EVO WATER METER



Axial helix Woltmann meter with interchangeable mechanism

WMAP EVO is the advanced range of Maddalena Woltmann water meters.

This range of dry dial, interchangeable mechanism water meters has been developed in order to meet the strict requirements of the Directive 2014/32/EU (MID) and European Standard ISO 4064.

WMAP EVO meters can be equipped with a static pulser or a radio module maintaining the mechanical and metrological features and without affecting readability.

The radio modules available support various transmission technologies (wireless M-Bus, LoRaTM, Sigfox). The continuous improvement of hydraulic performance has made it possible to obtain a measuring range (Q_3/Q_1) of R250.

WMAP EVO meters are guaranteed by Maddalena: manufacturer of high quality measuring instruments for a century.

WMAP EVO WATER METER

WMAP EVO is an axial helix (the axis of the helix is coaxial to the axis of the pipe) Woltmann meter with removable mechanism. The magnetically driven register operates in a dry compartment: the helix is the only component in contact with the network water. The register is housed in a copper can and glass lens enclosure for waterproof protection (IP68).

WMAP EVO meters are pre-equipped for three pulse outputs (one inductive output and two reed switch outputs) as a standard. This allows the meters to be retrofitted with a pulser or radio module without affecting their functionality and design. The radio modules available support various transmission technologies (wireless M-Bus, LoRa™, Sigfox).

WMAP EVO meters can be installed both in horizontal and vertical position. Performance is unaffected by the installation conditions or the water characteristics.

WMAP EVO meters comply with the Directive 2014/32/EU (Annex MI-001) and have undergone conformity assessment procedure B+D.

The maximum measuring range (Q_3/Q_1) certified is 250. Lower measuring ranges are also available (R200, 160, 100, 80, etc.).

WMAP EVO meters are certified for use with potable water in accordance with Italian (Ministerial decree 6 April 2004 no. 174) and international regulations.

Structural and functional features

Copper can register and transparent mineral glass lens (IP68)

The register is housed in a dry compartment, which has no contact with the water, for continued readability

The serial number is printed on the dial both in numbers and in barcode format

The MID inscriptions are engraved on a metallic label applied on the flange

Direct read dial with 7 numbered drums for cubic meters (8 on DN 180 and DN 200 meters) and 2 pointers for decimals

Plastic cover and lid

Cast iron flanged body; internal and external epoxy powder coating

Steel pivot, synthetic sapphire bearing

Internal mechanism made of anhygroscopic, anti-scaling and hard-wearing plastic materials

The pulsed version retains the metrological seal and is protected by a cover

No upstream and downstream straight pipe requirements (U0-D0)

Maximum operating temperature: 50 °C

Nominal pressure (PN): 10 bar or 16 bar

Hydraulic tests are carried out at three flow rates (Q_1 , Q_2 , Q_3) on all the meters. Our testing benches comply with the Standards ISO 4064/3

and ISO 4185 (EN 14154/3) and are approved by a European notified body



WMAP EVO with
ARROW^{WAN} radio module

HYDRAULIC PERFORMANCE

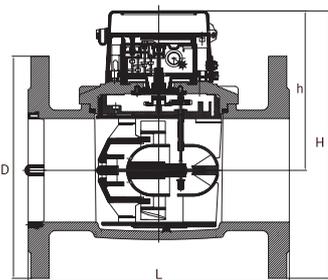
Size	mm	50	65	80	100	125	150	200
	in	2	2½	3	4	5	6	8
Module B no.	TCM 142/17-5473							
Module D no.	0119-SJ-A010-08							
MID metrological class	H \uparrow \leq 250						H \uparrow ; V \uparrow ; inclined \leq 250	
R Q ₃ / Q ₁	H \rightarrow ; V \uparrow ; V \downarrow inclined \leq 160						H \rightarrow ; V \downarrow ; \leq 125	
Performance in accordance with Directive 2014/32/EU								
Q ₃	m ³ /h	40	63	100	160	160	250	400
Q ₄	m ³ /h	50	78,8	125	200	200	312.5	500
R 250								
Q ₁	l/h	160	250	400	640	640	1,000	1,600
Q ₂	l/h	260	400	640	1020	1,020	1,600	2,560
R 100 (standard)								
Q ₁	l/h	400	630	1,000	1,600	1,600	2,500	4,000
Q ₂	l/h	500	788	1,250	2,000	2,000	3,125	5,000

TECHNICAL FEATURES

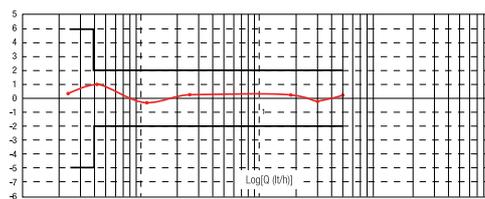
Maximum permissible error between Q ₁ and Q ₂ (excluded)	+/- 5%							
Maximum permissible error between Q ₂ (included) and Q ₄	+/- 2% with water temperature \leq 30° C +/- 3% with water temperature > 30° C							
Temperature class	T50							
Flow profile sensitivity classes	U0 - D0							
Starting flow rate	l/h	125	190	320	450	700	1200	1800
Head loss (ΔP @ Q ₃)		ΔP 25	ΔP 40	ΔP 25	ΔP 40	ΔP 40	ΔP 16	ΔP 40
Working pressure	bar	10/16	10/16	10/16	10/16	10/16	10/16	10/16
Maximum registration	m ³	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	100,000,000	100,000,000
Minimum registration	m ³	0.002	0.002	0.002	0.002	0.002	0.02	0.02
Turbine revolutions/litre		1.08	1.02	0.39	0.32	0.40	0.25	0.15
Weight	kg	10.0	11.2	15.2	17.2	22.4	29.0	42.6
Pulse options Reed switch pulser V max. \leq 24V; I max. 0.1A	l/pulse	10-1,000	10-1,000	10-1,000	10-1,000	10-1,000	100-10,000	100-10,000
Pulse options Inductive pulser V max. \leq 24V; I max. 0.1A	l/pulse	10	10	10	10	10	100	100

DIMENSIONS

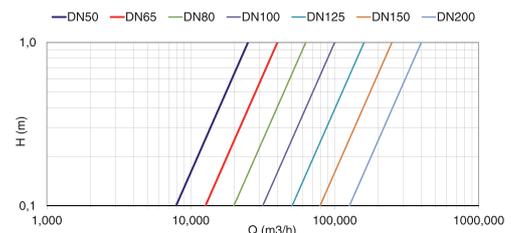
L	mm	200	200	225	250	250	300	350
H	mm	209	218	249	258	271	316	345
h	mm	132	132	154	154	154	183	183
D	mm	165	185	200	220	250	280	340



Typical error curve



Head loss



ACCESSORIES



ARROW^{WAN} WMAP 169 MHz

Compact radio module with inductive sensor.
Compatible with wireless M-Bus, AFNOR E17Z and LoRa™ systems.



ARROW^{WAN} WMAP 868 MHz

Compact radio module with inductive sensor.
Compatible with wireless M-Bus, LoRaWAN™ and Sigfox systems.



ARROW RADIO MODULE

Used in conjunction with a pulser for remote meter reading.



SINGLE REED SWITCH PULSER

Suitable for transmission of consumption data and industrial batching.



COUNTERFLANGE KIT

It consists of two flanges, two rubber gaskets and screws.



FLOW STRAIGHTENER

It allows the meter to be installed without straight pipe sections.
To be fitted upstream of the meter.

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