

ELECTRONIC VOLUMETRIC COLD WATER METER MID R400 ELECTO MVM LORA

ElecTo MVM is a rotary piston meter for domestic water, featuring an innovative multiprotocol radio electronic register. Robust, durable, suitable for the most challenging environments and types of installation. Its low starting flow rate and its wide measuring range provide excellent consumption accounting. Its large LCD display makes it very easy to read, while providing additional information to both users and operators. ElecTo MVM offers the maximum short and long distance data communication flexibility, and can be used with both mobile and fixed reading systems. Horizontal or vertical position without straight length upstream and downstream needed (U0/D0).



Size : DN15 to DN20
Connection : Male BSP
Min Temperature : +0°C
Max Temperature : +50°C
Max Pressure : 16 Bars
Specifications : Electronic volumetric meter
 Rotating dial
 With lid
 LoRa WAN and Wireless M-BUS

Materials : Brass body CW617N-4MS according to EN 12165 or composite

LoRaWAN® is a trademark of SEMTECH

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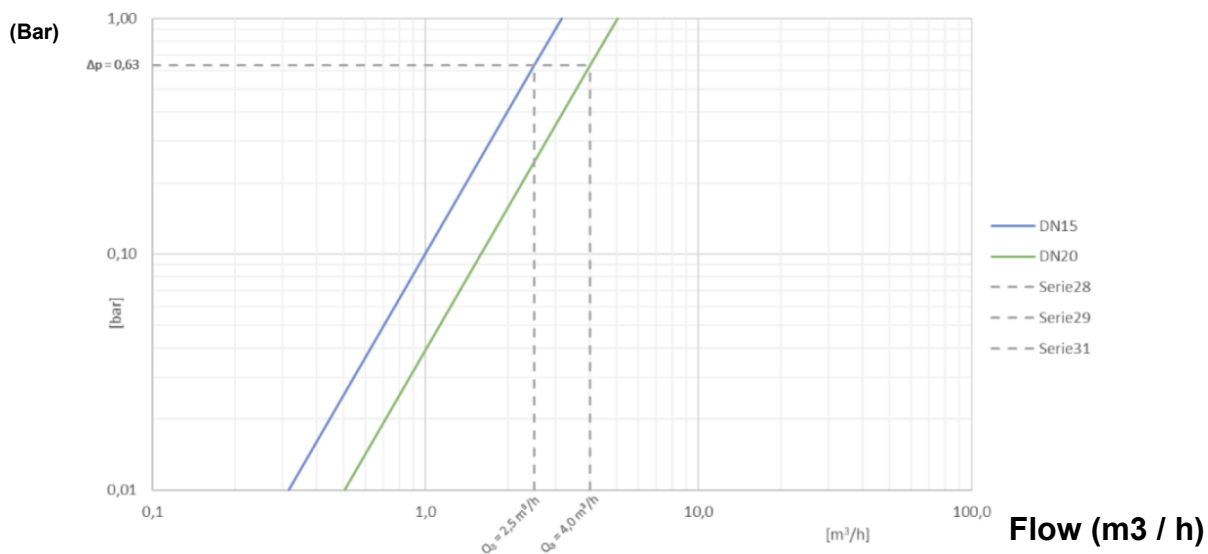
SPECIFICATIONS :

- Electronic volumetric meter
- LoRaWAN and Wireless radio MBUS
- **MID R400** (respect the flow direction indicated by the arrow)
- Electronic rotating dial
- IP68 protection
- Long time lithium battery up to 13 years with factory settings
- Fault detection : loss, overconsumption, reverse flow, blocked meter and reversed meter
- More than 11000 values can be saved
- All positions without straight length needed (U0D0)
- Optimized antenna for maximum radio range
- With cover
- 4MS brass body or composite

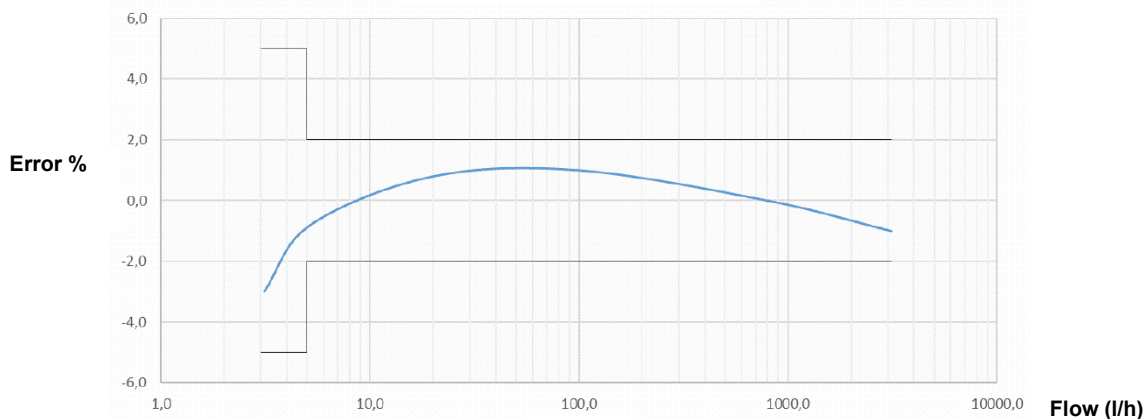
USE :

- Water distribution
- Min and max temperature Ts : +0°C to +50°C
- Max Pressure Ps : 16 bars

HEAD LOSS GRAPH :



TYPICAL ERROR CURVE :



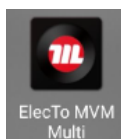
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RANGE :

DN	15				20	
Body material	Brass		Composite		Brass	Composite
Length	110	170	110	170	130	130
Ref.	2778215MP	2778015MP	2778115MP	2778116MP	2778020MP	2778120MP

ACCESSORIES :

LORAWAN :



- Application ELECTO MVM available on Playstore to modify the radio setting

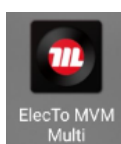
WIRELESS MBUS :



- RADIO transceiver UNICO with external antenna (USB or Bluetooth connection) **Ref.2749024B**
UNICO is needed for the ANDROID application on the Playstore



- RADIO ARROW MOBILE software
Ref.2749014



- Application ELECTO MVM available on Playstore to modify the radio setting

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ACCESSORIES :



- Galvanized steel water meter stand with fixed and sliding fitting
 - For water meter DN15 to DN20 **Ref. 9851000 to 9851002**



- Water meter stand with straight valve, sliding fitting and long EA no pollution check valve DN15 to 20 **Ref. 9851150 to 9851157**



- Free nut water meter union with hole for filling on nut – Male BSP
 - DN15 F3/4"- M1/2" **Ref. 9811054**
 - DN15 F3/4"- M3/4" **Ref. 9811094**
 - DN20 F1" – M3/4" **Ref. 9811065**



- Plastic antifraud seal
 - DN15 **Ref. 9811040**
 - DN20 **Ref. 9811041**



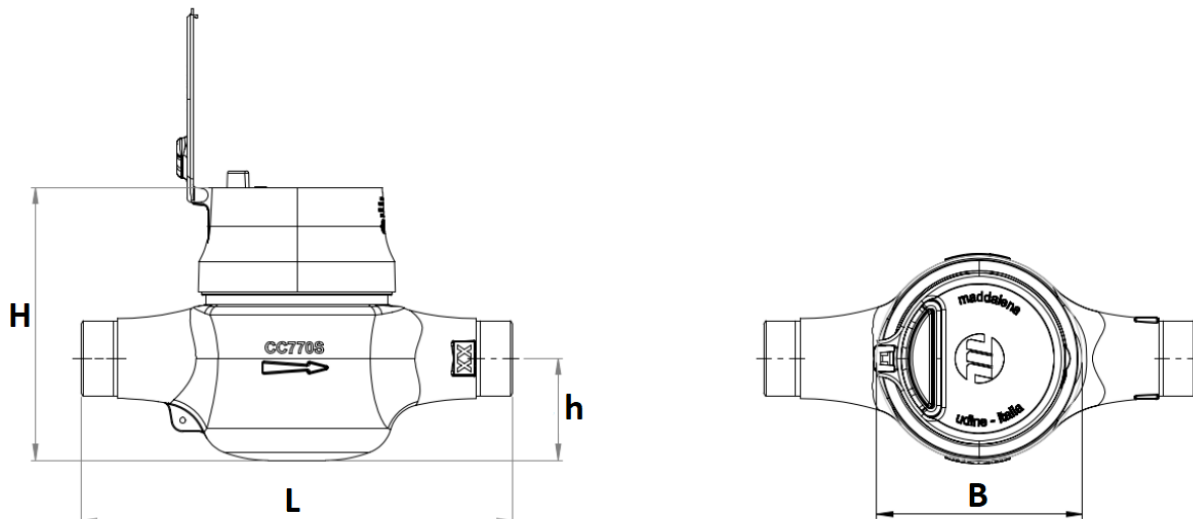
- Nylon + 30% glass fiber pipe male BSP threaded
 - DN15 length 110 **Ref. 9811053**
 - DN15 length 170 **Ref. 9811067**
 - DN20 length 130 **Ref. 9811055**



- Brass pipe male BSP threaded
 - For water meter DN15 length 110 **Ref. 9811045**
 - For water meter DN15 length 170 **Ref. 9811046**

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SIZE (in mm) :



Bore	15				20	
DN	3/4"				1"	
L	110		170		130	
Ø B	89				92	
H	120				126	
H	37				44	
Body materials	Brass	Composite	Brass	Composite	Brass	Composite
Weight (in Kg)	0.75	0.45	0.9	0.6	1.1	0.9

SPECIFICATIONS :

DN	15	20
Max flow Q4 (m3/h)	3.13	5
Nominal flow Q3 (m3/h)	2.5	4
Transitional flow MID R400 Q2 with $\pm 2\%$ error (l/h) ($\pm 3\%$ error with hot water)	10	16
Min flow MID R400 Q1 with $\pm 5\%$ error (l/h)	6.25	10
Starting flow (l/h)	0.5	1
Head loss (ΔP @ Q3)	ΔP 63	
Min reading (L)	1	
Max reading (m3)	999.999	

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RADIO SPECIFICATIONS :

Features	Description
Status radio	Activation by passage of water (10 L)
Local configuration	Via optional settings kit
Communication standard	Radio Wireless M-Bus, OMS and LoRaWAN v.1.03 class A
Modes	wMBus T1, C1 and LoRa SF7-12, BW125-500, CR=4/5
Operating frequency range	863 to 870 MHz
Radiated power	14 dBm max
Transmission distance*	Up to 15Km in LoRaWAN and up to 500m in wM-Bus*
Device class	Radio class 1
Data sent wM-Bus (OMS)	<ul style="list-style-type: none"> - Tiny frame (default): current volume, date and time, volume on billing date, billing date, errors - Short frame: current volume, volume on billing date, meter serial number, alarms - Long frame (n C1 mode only): same as short frame with the addition of values from the last 12 months
Data sent LoRaWAN (OTAA)	<ul style="list-style-type: none"> - measurement data transmission (alarms, hourly/ daily consumption) twice a day - supervision data transmission (alarms, device status information) once a week

*in line of sight

For the maintenance, use the transceiver UNICO (2749024B) with the application Android Maddalena ELECTO MVM available on the Playstore

FACTORY CONFIGURATION :

Specifications	Description	
	Radio wM-Bus	LoRaWAN
Data sent	Tiny Frame C1: current volume, date and time, volume on billing date, billing date, errors	Date and time, daily consumption up to 7 previous days, alarms
Transmission time	8h-18h	0h-24h
Transmission frequency	30 seconds	2 per day
Encryption	Active	Native
Alarms (default)	backflow (100 litres), suspected leak (observation frequency 15 min / observation period 48 hours), max flow rate (disabled)	
Battery Duration	13 years	

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ALARMS :

Alarms	Description	Possible status	Default
Suspected leak	Continuous flow rate detected	ON/OFF	ON
Backflow	Reverse flow rate for a preset threshold	ON/OFF	ON
Over-consumption	Flow rate exceeds a threshold for a preset period	ON/OFF	OFF
No consumption	The meter detects no consumption for a preset period	ON/OFF	ON
Reversed meter	Constant negative consumption for more than 10 days	ON/OFF	ON
Verification period expiry	The meter has exceed the verification period	ON/OFF	OFF
Low battery voltage	Battery voltage is too low	Always ON	ON
Low battery charge	Battery is flat	ON/OFF	ON
Metrological checksum error	The firmware (flash memory) is corrupted	Always ON	ON

STANDARDS :

- Manufacturer certified ISO 9001 : 2015 and ISO 14001 :2015
- DIRECTIVE 2014/68/EU : Products excluded from directive (article 1, § 2b)
- Water Meters according to directive **2014/32/EU MID Class O M1/E2**
- Designing according to **EN 14154 and ISO 4064**
- French water agreement **A.C.S. N° 23 ACC NY 288** for brass types DN15
- French water agreement **A.C.S. N° 23 ACC NY 289** for brass type DN20
- French water agreement **A.C.S. N° 24 ACC LY 163** for composite types
- Male BSP cylindrical threading according to ISO 228-1

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 The customer must check the right choice of the products with the real service conditions.