

Residential Use



# DS TRP MID WATER METER



## Sealed register permanently protected dial multi-jet meter

DS TRP MID is the latest range of sealed register permanently protected dry dial multi-jets by Maddalena designed to meet the strict requirements of the Directive 2004/22/EC on measuring instruments and of European Standard EN 14154.

DS TRP MID combines high performance at low flow rates and maximum resistance to high flow rates and pressure. DS TRP MID is designed for remote communication: it may be equipped with a pulse emitter of the latest generation and a radio module maintaining the mechanical and metrological characteristics and without affecting readability. DS TRP MID is guaranteed by Maddalena: manufacturer of high quality measuring instruments for the past century.

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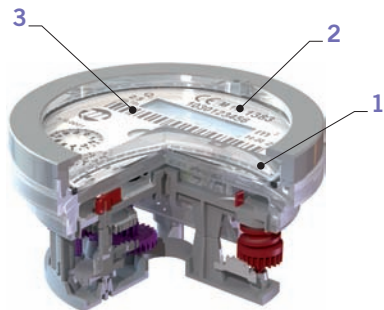
www.maddalena.it

## DS TRP MID WATER METER

**DS TRP MID multi-jet water meters feature a sealed register and permanently protected dial design.** The plate showing the measurement and the MID inscriptions does not come into contact with the flowing water. As a result it remains perfectly clear ensuring reading with scaling and ferrous water and suspended particles contained in water. Readability is also ensured by the mineral tempered glass lens which has a flat and smooth surface and, unlike plastic lenses, is scratch resistant and does not turn opaque. DS TRP MID meters are unaffected by external magnetic interference and are tamper proof. Performance is unaffected by the installation conditions and the water characteristics. DS TRP MID water meters may be equipped with a new generation bidirectional static pulse emitter. The pulse emitter may also be retrofitted in **pre-equipped water meters** maintaining the meter characteristics, the design and **the mineral glass lens**.

DS TRP MID water meters are certified in accordance with the Directive 2004/22/EC (Annex MI-001) and have undergone conformity assessment procedure B + D. **The maximum measuring range Q3/Q1 (R) certified is 200** which allows to obtain water meters with lower R values (160, 125, 100, etc.)

DS TRP MID water meters are also certified for use with potable water in accordance with the Italian decree D.M. 6 April 2004 no. 174 and international regulations.



### Technical specifications

- **Tempered mineral glass lens** of adequate thickness **(1)**
- **The numbered drums, the cubic meter fractions, the MID inscriptions and the serial number are in the sealed register and do not come into contact with water ensuring continued readability (2)**
- The pulse emitter pre-equipped meter maintains both **the mineral glass lens** and the standard inscriptions
- **The serial number is marked on the dial both in digits and in barcode form. It is also marked on the closing ring (3)**
- No upstream or downstream straight pipe requirements
- Installation in vertical pipes available on DN 13 and DN 20 meters (see relevant data sheet)
- PiiP certification mark available upon request on Q3 2.5 water meters (certificate no. 01/325/2003)
- Hydraulic tests are carried out at three flow rates (Q1, Q2, Q3) on 100% of the production. Our testing benches comply with the standards ISO 4064/3 and ISO 4185 (EN 14154/3) and are approved by a European notified body.
- Cast brass body
- Hot forged brass closing ring
- Internal and external epoxy powder coating
- Stainless steel numbered drums' shaft
- Inlet strainer with wide straining area
- Non-return valve available upon request
- Internal components made of anhygroscopic, anti-scaling and wear resistant plastic materials
- Maximum water temperature: 50 °C
- Nominal working pressure: 16 bar



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**HYDRAULIC PERFORMANCE**

<b>Size</b>	<b>mm</b>	15	20	25	30	40	50
	<b>inches</b>	½	¾	1"	1¼	1. ½	2"
<b>Module B no.</b>	TCM 142/08-4604						
<b>Module D no.</b>	0119-SJ-A010-08						
<b>Metrological class MID</b>	<b>R (Q3 / Q1) ≤ 200</b>						
<b>Performance in accordance with Directive 2004/22/EC</b>							
<b>Q<sub>3</sub></b>	<b>m³/h</b>	2.5	4.0	6.3	10.0	16.0	25.0
<b>Q<sub>4</sub></b>	<b>m³/h</b>	3.13	5.0	7.9	12.5	20.0	31.0
<b>R160</b>							
<b>Q<sub>1</sub></b>	<b>l/h</b>	15.6	25	39.4	62.5	100	156.2
<b>Q<sub>2</sub></b>	<b>l/h</b>	25	40	63	100	160	250
<b>R100</b>							
<b>Q<sub>1</sub></b>	<b>l/h</b>	25	40	63	100	160	250
<b>Q<sub>2</sub></b>	<b>l/h</b>	40	64	100.8	160	256	400

Other R options available upon request

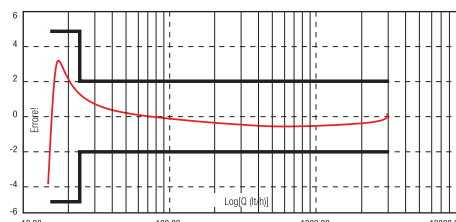
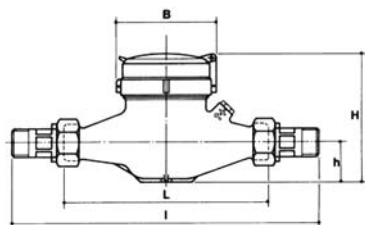
**TECHNICAL DATA**

<b>Maximum permissible error between Q<sub>1</sub> and Q<sub>2</sub> (excluded)</b>	+/- 5%						
<b>Maximum permissible error between Q<sub>2</sub> (included) and Q<sub>4</sub></b>	+/- 2% with water temperature ≤ 30 °C +/- 3% with water temperature > 30 °C						
<b>Temperature class</b>	T30 and T50						
<b>Flow profile</b>	U0 - D0						
<b>sensitivity classes</b>	(no upstream or downstream straight lengths requirements)						
<b>Starting flow rate</b>	<b>l/h</b>	4-5	7-9	16-18	22-24	28-30	28-30
<b>Pressure loss class (ΔP at Q<sub>3</sub>)</b>	<b>bar</b>	ΔP 63					
<b>Nominal pressure</b>	<b>bar</b>	16	16	16	16	16	16
<b>Maximum reading</b>	<b>m³</b>	100,000	100,000	100,000	100,000	100,000,000	1,000,000
<b>Minimum reading</b>	<b>l</b>	0.05	0,05	0,05	0,05	0,05	0.05
<b>Turbine revolutions per litre</b>		25.31	19,41	11,22	8,14	4,4	3.16
<b>Weight</b>	<b>kg</b>	1.450 (L=145mm)	1,610 (L=190mm)	2,300	2,400	4,500	9.500 Threaded design 14.000 Flanged design
<b>Pulse options</b>	<b>l/pulse</b>	1-10 (Quadruplus); 1-10-100-1000 (Reed)					

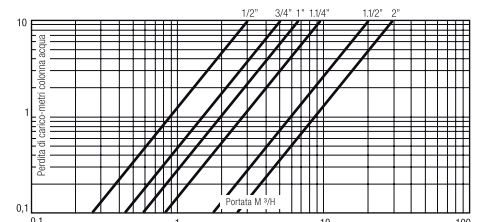
**DIMENSIONS**

<b>L</b>	<b>mm</b>	105(V)-110-130 145-160-165 170-190	160-190	220-260	220-260	300	300
<b>Length with couplings</b>	<b>mm</b>	205(V)-210-225 240-245-250	258-288	338-378	338-378	438	461 (Flanged design 300)
<b>H</b>	<b>mm</b>	114	114	123	123	163	175
<b>h</b>	<b>mm</b>	36.5	36.5	43	43	64.5	77
<b>B</b>	<b>mm</b>	97.5	97.5	97.5	97.5	130	154

**Typical error curve**



**Head loss diagram**



## ACCESSORIES



### SINGLE REED SWITCH PULSE EMITTER

Suitable for industrial batching.



### QUADRAPLUS PULSE EMITTER

**Static** bidirectional pulse emitter; equipped with false pulse detection device; battery-powered.



### ARROW RADIO MODULE

In combination with Quadraplus static pulse emitter it enables the remote reading of water meters.



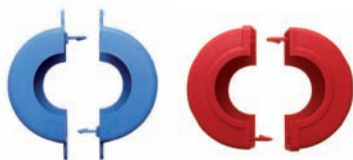
### NON-RETURN VALVE

Fitted in the water meter coupling it prevents flow return that may damage the water meter.



### COUPLING KIT

It includes two nuts, two tail pieces and two gaskets.



### SEALS

Designed to secure the water meter to the pipe.

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

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For more information, please contact your sales representative:



ISO 9001 - Cert. n° 0773/5