

**OIML Member State**  
The Netherlands

Number R49/2013-NL1-16.03 revision 1  
Project number 16200309  
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Issuing authority  
Person responsible: NMi Certin B.V.  
C. Oosterman

Applicant and  
Manufacturer: Euromag International S.r.l.  
Via della Tecnica 20  
35035 Mestrino (PD)  
Italy

Identification of the  
certified type: An electromagnetic **water meter**  
Type: MUT2300 and MUT2200EL with electronic converter MC406M

Characteristics: See page 2 and further

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

**R49-1 (2013)** "Water meters intended for the metering of cold potable water and hot water"

Accuracy class: 2

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above. This Certificate does not bestow any form of legal international approval.

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Issuing Authority: **NMi Certin B.V., OIML Issuing Authority NL1**  
14 November 2016

  
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The conformity was established by the results of tests and examinations provided in the associated report(s):

- No. NMI-15200444-01 dated 31 March 2016 that includes 39 pages;
- No. 150701670/ Euromag DN 50/ MC 406 dated 30 March 2016 that includes 42 pages;
- No. NMI-16200309-01 dated 14 November 2016 that includes 69 pages;
- No. 160600944/MUT 2200, DN 50, full bore dated 28 October 2016 that includes 31 pages;
- No. 160600948/MUT 2200, DN 65, full bore dated 28 October 2016 that includes 31 pages;
- No. 160600939/MUT 2300, DN 80, reduced bore dated 28 October 2016 that includes 34 pages.

### Characteristics of the measuring instrument

In Table 1 the general characteristics of the measuring instrument are presented.

The cylindrical measuring tube of the measurement sensor can have a reduced bore (type MUT2300) or a full bore (type MUT2200EL).

Table 2 and 3 gives an overview of the general characteristics of the family of instruments.

The construction of the measuring instrument is recorded in the Documentation folder no. T10713-2.

**Table 1 General characteristics**

Measuring principle	Electromagnetic
Accuracy class	2
Environmental class	M1 / O (installed outdoors)
Electromagnetic environment	E2
Temperature range ambient	-25 °C / +55 °C
Water temperature class	T30 (+0,1 °C / +30 °C)
Maximum admissible pressure (MAP)	1,6 MPa (16 bar)
Orientation	All positions (Horizontal, vertical or diagonal)
Flow profile sensitivity class	U0 and D0 (0 x DN upstream and 0 x DN downstream)
Reverse flow	The water meter is designed to measure reverse flow
Pressure loss class (MUT2200EL)	$\Delta p$ 10 (0,010 MPa or 0,10 bar) for all sizes
Pressure loss class (MUT2300)	$\Delta p$ 25 (0,025 MPa or 0,25 bar) for sizes < DN80 $\Delta p$ 40 (0,040 MPa or 0,40 bar) for sizes $\geq$ DN80
Power supply	Replaceable battery (2,9 – 3,7 V)
Software identification	Software 'Bootloader': Version : 01.00 Checksum: 63A2EDED  Software 'Legally relevant firmware': Version : 01.05 Checksum: CAA8A4C7

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**Table 2 General characteristics of the family of instruments - Reduced bore type MUT2300**

Meter size	Ø in- and outlet [mm]	Flow rates [m <sup>3</sup> /h]				Ratio Q3/Q1
		Minimum Q1	Transitional Q2	Permanent Q3	Overload Q4	
DN50	50	0,125	0,2	25	31,25	200
DN65	65	0,2	0,32	40	50	200
DN80	80	0,315	0,504	63	78,75	200
DN100	100	0,5	0,8	100	125	200
DN125	125	0,8	1,28	160	200	200
DN150	150	1,25	2	250	312,5	200
DN200	200	3,15	5,04	630	787,5	200
DN250	250	5	8	1000	1250	200
DN300	300	8	12,5	1000	1250	125

**Table 3 General characteristics of the family of instruments - Full bore type MUT2200EL**

Meter size	Ø in- and outlet [mm]	Flow rates [m <sup>3</sup> /h]				Ratio Q3/Q1
		Minimum Q1	Transitional Q2	Permanent Q3	Overload Q4	
DN50	50	0,315	0,504	63	78,75	200
DN65	65	0,5	0,8	100	125	200
DN80	80	0,8	1,28	160	200	200
DN100	100	1,25	2	250	312,5	200
DN125	125	2	3,2	400	500	200
DN150	150	3,15	5,04	630	787,5	200
DN200	200	5	8	1000	1250	200
DN250	250	8	12,8	1600	2000	200
DN300	300	10	16	1600	2000	160

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**Table 4 General characteristics of the indicating device - Reduced bore type MUT2300**

Meter size	Indicating range [m <sup>3</sup> ]	Verification scale interval [m <sup>3</sup> ]
DN50	9 999 999	0,0001
DN65, DN80, DN100, DN125, DN150	9 999 999	0,001
DN200, DN250, DN300	9 999 999	0,01

**Table 5 General characteristics of the indicating device - Full bore type MUT2200EL**

Meter size	Indicating range [m <sup>3</sup> ]	Verification scale interval [m <sup>3</sup> ]
DN50, DN65, DN80, DN100	9 999 999	0,001
DN125, DN150, DN200, DN250, DN300	9 999 999	0,01

**Certificate history:**

This revision replaces the previous version.

Revision	Date	Description of the modification
Initial	31 March 2016	-
1	14 November 2016	Addition of several sizes.