



Member state  
**Czech Republic**

OIML Certificate No.  
**R49/2013-CZ-16.01**  
Revision 2

## OIML BASIC CERTIFICATE OF CONFORMITY

### Issuing Authority

Name: Czech Metrology Institute  
Address: Okružní 31,  
638 00 Brno, CZ  
Person responsible: Jan Kalandra

### Applicant

Name: EUROMAG INTERNATIONAL S.r.l.  
Address: Via Torino 3, 35035 Mestrino (PD)  
Italy

### Manufacturer of the certified type

Name: EUROMAG INTERNATIONAL S.r.l.  
Address: Via Torino 3, 35035 Mestrino (PD)  
Italy

### Identification of the certified type

#### Water meter

**Type: MUT2200EL/MC608A**

For further characteristics see page 2 to 6

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

**R 49, edition 2013, for accuracy class 2**

This certificate relates only to the metrological and technical characteristics of the type of instrument covered by the relevant OIML Recommendation identified above.

This certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated Test report No. 6015-PT-P3004-16 from 22<sup>nd</sup> January 2016 that includes 78 pages including annexes, Test reports No. 8551-PT-E0209-15 from November 18<sup>th</sup>, 2015 that includes 49 pages including annexes and No. 8551-PT-E0237-15 from November 25<sup>th</sup>, 2015 that includes 45 pages including annexes and Test report No. 6015-PT-P3018-16 from July 11<sup>th</sup>, 2016 that includes 38 pages including annexes and Test reports No. 6015-PT-P3022-16 from January 17<sup>th</sup>, 2016 that includes 36 pages including annexes.

**Certificate history:**

Issue no.	Date	Description of the modification
Revision 1	18 August 2016	measuring of reverse flow with recording flow volume separately
Revision 2	6 February 2017	ebonite lining

**Measuring system description:**

The water meter type **MUT2200EL/MC608A** is induction water meter (compact version). The flow sensors type **MUT2200EL** are intended for metering cold potable water, based on an induction principle, with PTFE or ebonite lining, with straight inlet (5 times the diameter) and outlet (3 times the diameter) length, without flow conditioner. The water meters are equipped with an electronic calculating/indicating device type **MC608A**. The display shows the measurements in cubic meter volume and cubic meter per hour flow rate. The display is a digital type with four buttons and can show up to 3 lines. The meter is not designed to measure reverse flow. The meter does not require any extra-mechanical housing. The adjustment is made by setting calibration factor (KA factor).

The meter is intended for mount to the connecting horizontal pipework with the flow axis in the horizontal plane and with the indicating device positioned at the top.

The meter is designed to measure reverse flow with recording flow volume separately.



**The OIML Issuing Authority**  
Pavel Klenovský

6 February 2017

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated OIML Basic Type Evaluation Report (s) is not permitted, although either may be reproduced in full.

**Characteristics:**

Basic technical data of water meters type **MUT2200EL DN25 TO DN 100**

Manufacturer:	Euromag International S.r.l.						
Model number:	MUT2200EL/MC608A						
Type details:							
Orientation limitation:	horizontal (H), vertical (V) forward, reverse flow						
Nominal diameter (DN) [mm]:	25	32	40	50	65	80	100
Overload flow rate (Q <sub>4</sub> ) [m <sup>3</sup> /h]:	12.5	12.5	20	31.3	50	78.8	125
Permanent flow rate (Q <sub>3</sub> ) [m <sup>3</sup> /h]:	10	10	16	25	40	63	100
Transitional flow rate (Q <sub>2</sub> ) [m <sup>3</sup> /h]:	0.128	0.128	0.200	0.32	0.51	0.80	1.28
Minimum flow rate (Q <sub>1</sub> ) [m <sup>3</sup> /h]:	0.080	0.080	0.128	0.20	0.32	0.50	0.80
Ratio Q <sub>3</sub> / Q <sub>1</sub> :	125						
Ratio Q <sub>2</sub> / Q <sub>1</sub> :	1.6						
Ratio Q <sub>4</sub> / Q <sub>3</sub> :	1.25						
Measuring principle:	electromagnetic induction						
Accuracy class:	2						
Maximum permissible error for the lower flowrate zone (MPE1)	±5%						
Maximum permissible error for the upper flowrate zone (MPEu)	±2% for water having a temperature ≤ 30°C						
Temperature class:	T30						
Maximum admissible temperature [°C]:	30						
Maximum admissible pressure [bar]:	16						
Maximum pressure-loss [bar]:	0.10						
Environmental class:	B						
Electromagnetic class:	E2						
Resolution of the indicating device [m <sup>3</sup> ]:	0.00001			0.001			
Indicating range [m <sup>3</sup> ]:	99 999					999 999	
Length [mm]:	200						250
Software version	3.52						
EUT Testing requirements:							
Category:	Electromagnetic water meters						
Case:	B						
Installation details:							
Connection type:	flange						
Flow profile sensitivity classes	U5D3						
Flow conditioner (details if required):	No						
Power supply:							
Type	AC						
U	(90 – 260) V						
Frequency [Hz]:	50						
Type	DC						
U	(12 – 24) VDC						

Basic technical data of water meters type **MUT2200EL DN125 TO DN 400**

Manufacturer:	Euromag International S.r.l.						
Model number:	MUT2200EL/MC608A						
Type details:							
Orientation limitation:	horizontal (H), vertical (V) forward, reverse flow						
Nominal diameter (DN) [mm]:	125	150	200	250	300	350	400
Overload flow rate (Q <sub>4</sub> ) [m <sup>3</sup> /h]:	200	313	500	788	1250	2000	2000
Permanent flow rate (Q <sub>3</sub> ) [m <sup>3</sup> /h]: <sup>1</sup>	160	250	400	630	1000	1000	1600
Transitional flow rate (Q <sub>2</sub> ) [m <sup>3</sup> /h]:	2.05	3.2	5.1	8.0	12.8	20.5	20.5
Minimum flow rate (Q <sub>1</sub> ) [m <sup>3</sup> /h]:	1.28	2.0	3.2	5.0	8.0	12.8	12.8
Ratio Q <sub>3</sub> / Q <sub>1</sub> :	125						
Ratio Q <sub>2</sub> / Q <sub>1</sub> :	1.6						
Ratio Q <sub>4</sub> / Q <sub>3</sub> :	1.25						
Measuring principle:	electromagnetic induction						
Accuracy class:	2						
Maximum permissible error for the lower flowrate zone (MPE <sub>l</sub> )	±5%						
Maximum permissible error for the upper flowrate zone (MPE <sub>u</sub> )	±2% for water having a temperature ≤ 30°C						
Temperature class:	T30						
Maximum admissible temperature [°C]:	30						
Maximum admissible pressure [bar]:	16						
Maximum pressure-loss [bar]:	0.10						
Environmental class:	B						
Electromagnetic class:	E2						
Resolution of the indicating device [m <sup>3</sup> ]:	0.001	0.01					
Indicating range [m <sup>3</sup> ]:	999 999			9 999 999			
Length [mm]:	250	300	350	450	500	550	600
Software version	3.52						
EUT Testing requirements:							
Category:	Electromagnetic water meters						
Case:	B						
Installation details:							
Connection type:	flange						
Flow profile sensitivity classes	U5D3						
Flow conditioner (details if required):	No						
Power supply:							
Type	AC						
U	(90 – 260) V						
Frequency [Hz]:	50						
Type	DC						
U	(12 – 24) VDC						

### **Marking and inscriptions**

The water meters type **MUT2200EL** shall be clearly and indelibly marked with the following information:

- Unit of measurement ( $\text{m}^3$ )
- Numerical value  $Q_3$  in  $\text{m}^3/\text{h}$  ( $Q_3 \times .\times$ ) and the ratio  $Q_3 / Q_1$  (R 125)
- OIML certificate of conformity number
- Name of trademark of the manufacturer
- Year of manufacture, two last digits of the year of manufacture, or the month and year of manufacture and serial number (as near as possible to the indicating device)
- Direction of flow, by means of an arrow (shown on both sides of the body or on one side only provided the direction of flow arrow is easily visible under all circumstances)
- Maximum admissible pressure (MAP16)
- Letter H or V (horizontal or vertical position)
- The temperature class (T30)
- The pressure loss class ( $\Delta p$  10)
- The installation sensitivity class (U5D3)
- Climatic and electromagnetic environmental classes (B and E2)
- Power supply

These markings shall comply with the requirements of OIML R 49 and shall be visible without dismantling the water meter after the instrument has been placed on the market or put into use.

### **Security measures**

To prevent tampering with the water meter and its electronics, there is multi-level password. The third level password secure metrological parameters.

Positions of seals are shown on Figure 1.

Figure 1: Positions of metrological and utility seals

