

OIML Member State
The Netherlands

Number R49/2013-NL1-16.01
Project number 13200198
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Issuing authority Person responsible: NMI Certin B.V.
C. Oosterman

Applicant and Manufacturer: Badger Meter Europa GmbH
Nürtinger Straße 76
72639 Neuffen
Germany

Identification of the certified type: An electromagnetic **water meter**
Type: M5000

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):

R 49-1 (2013) "Water meters intended for the metering of cold potable water and hot water"

Accuracy class: 1 and 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.

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

Issuing Authority: **NMI Certin B.V., OIML Issuing Authority NL1**
4 March 2016


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Head Certification Board

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This document is issued under the provision that no liability is accepted and that the applicant shall indemnify third-party liability.

The notification of NMI Certin B.V. as Issuing Authority can be verified at www.oiml.org

Parties concerned can lodge objection against this decision, within six weeks after the date of submission, to the general manager of NMI (see www.nmi.nl).



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

- No. NMI-13200198-01 dated 4 March 2016 that includes 77 pages;
- No. 130601023 / M5000 dated 19 February 2016 that includes 55 pages.

Characteristics of the measuring instrument

In Table 1 the general characteristics of the measuring instrument are presented.
Table 2 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. T10554-1.

Table 1 General characteristics

Measuring principle	Electromagnetic flow metering
Accuracy class	1 and 2
Environmental class	M1 / O (installed outdoors)
Electromagnetic environment	E2
Temperature range ambient	-25 °C / +55 °C
Water temperature class	T50 (+0,1 °C / +50 °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 sensor is not intended to measure reverse flow
Pressure loss class	Δp 10 (0,10 bar)
Power supply	Replaceable battery (2,9 – 3,7 V)
Software identification	Version number: 9.5.28 CRC Checksum OTP: bdFc CRC Checksum APP: 63b5

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Table 2 General characteristics of the family of instruments with accuracy class 1

Meter size	Ø in- and outlet [mm]	Flow rates [m ³ /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	1,6	250	312,5	250
DN125	125	1,6	2,56	400	500	250
DN150	150	3,9375	6,3	630	787,5	160
DN200	200	6,25	10	1000	1250	160
DN250	250	10	16	1600	2000	160
DN300	300	15,625	25	2500	3125	160

Table 3 General characteristics of the family of instruments with accuracy class 2

Meter size	Ø in- and outlet [mm]	Flow rates [m ³ /h]				Ratio Q3/Q1
		Minimum Q1	Transitional Q2	Permanent Q3	Overload Q4	
DN150	150	2,520	4,032	630	787,5	250
DN200	200	4,000	6,400	1000	1250	250

Table 4 General characteristics of the indicating device

Meter size	Indicating range [m ³]	Verification scale interval [m ³]
DN50	99.999	0,0001
DN65; DN80; DN100; DN125	999.999	0,001
DN150	999.999	0,01
DN200; DN250	9.999.999	0,01
DN300	9.999.999	0,1