

OIML Member State
The Netherlands

Number R49/2013-NL1-16.02
Project number 13200483
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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: M2000

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

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**
24 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-13200483-01 dated 24 November 2016 that includes 96 pages;
- No. 140901822 / M2000 dated 5 March 2016 that includes 58 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. T10970-1.

Table 1 General characteristics

Measuring principle	Electromagnetic flow metering
Accuracy class	1
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 also designed to measure reverse flow.
Pressure loss class	Δp 10 (0,10 bar)
Power supply	AC version: 85 – 265 VAC (45 – 65 Hz) or DC version: 9 – 36 VDC (grounding mandatory)
Software identification	Version number: 1.15 Checksum for language English / German: DBDE Checksum for language English / Czech: A020 Checksum for language English / Spanish: 7909 Checksum for language English / French: B8D6 Checksum for language English / Russian: A351 Checksum for language English / Swedish: F370 Checksum for language English / Turkish: 477E

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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	0,252	0,4032	63	78,75	250
DN65	65	0,4	0,64	100	125	250
DN80	80	0,64	1,024	160	200	250
DN100	100	1	1,6	250	312,5	250
DN125	125	1,6	2,56	400	500	250
DN150	150	2,52	4,032	630	787,5	250
DN200	200	4	6,4	1000	1250	250
DN250	250	6,4	10,24	1600	2000	250
DN300	300	10	16	2500	3125	250

Table 3 General characteristics of the indicating device

Meter size	Indicating range [m ³]	Verification scale interval [m ³]
DN50	99999	0,0001
DN65; DN80; DN100; DN125; DN150	999999	0,001
DN200; DN250; DN300	9999999	0,01