

**OIML Member State**  
The Netherlands

Number R49/2013-A-NL1-21.02  
Project number 2564319  
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Issuing authority  
Person responsible: NMi Certin B.V.  
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Applicant  
Badger Meter, Inc.  
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Milwaukee, WI 53224  
United States of America

Manufacturer  
Badger Meter Europe 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 OIML Certificate is issued under scheme A.

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.

This certificate and supporting reports comply with the requirements of OIML-CS-PD-07 clause 6.2.

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Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**  
29 January 2021

#### Certification Board

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The conformity was established by the results of tests and examinations provided in the associated reports:

- 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. Tables 2 and 3 give 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 intended to measure reverse flow  |                                    |       |         |        |         |         |         |
| Pressure loss class               | $\Delta p$ 10 (0,10 bar)  |                                    |       |         |        |         |         |         |
| Power supply                      | AC version: 85 – 265 VAC (45 – 65 Hz)<br>or<br>DC version: 9 – 36 VDC (grounding mandatory) |                                    |       |         |        |         |         |         |
| Software identification           |   |                                    |       |         |        |         |         |         |
|                                   | Version   | Checksum for language English and: |       |         |        |         |         |         |
|                                   |   | German                             | Czech | Spanish | French | Russian | Swedish | Turkish |
|                                   | 1.15  | DBDE                               | A020  | 7909    | B8D6   | A351    | F370    | 477E    |
|                                   | 1.18  | 6B41                               | 6231  | 424E    | 83F6   | 74A1    | DC9F    | 30AB    |

**Table 2 General characteristics of the family of instruments**

| 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                    | 0,252                          | 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 <sup>3</sup> ] | Verification scale interval [m <sup>3</sup> ] |
|---------------------------------|------------------------------------|---|
| DN50                            | 99 999                             | 0,0001  |
| DN65; DN80; DN100; DN125; DN150 | 999 999                            | 0,001   |
| DN200; DN250; DN300             | 9 999 999                          | 0,01  |