

OIML Member State
The Netherlands

Number R49/2013-A-NL1-21.05 revision 2
Project number 2543079
Page 1 of 4

Issuing authority
Person responsible: NMi Certin B.V.
M.Ph.D. Schmidt

Applicant and
Manufacturer Aichi Tokei Denki Co., Ltd.
2-70 Chitose, 1-Chome
Atsuta-Ku, Nagoya
Japan

Identification of the
certified type An electromagnetic **water meter**
Type: SU, SU-KF, SU-KR, SU-KS, SU- MF, Q4000, Q4000B

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 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**
13 August 2021

Certification Board

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OIML Member State
The Netherlands

Number R49/2013-A-NL1-21.05 revision 2
Project number 2543079
Page 2 of 4

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

- No. NMI-2543079-01 dated 13 August 2021 that includes 150 pages;
- No. NMI-2543079-02 dated 13 August 2021 that includes 17 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. T12202-1.

Table 1 General characteristics

Measuring principle	electromagnetic
Accuracy class	2
Environmental class	M1 / O (installed outdoors)
Electromagnetic environment	E2 (E2 includes E1)
Temperature range ambient	-25 °C / +55 °C
Water temperature class	T30 (+0,1 °C / +30 °C) T50 (+0,1 °C / +50 °C)
Maximum admissible pressure (MAP)	1,6 MPa (16 bar) (1,6 MPa includes 1,0 MPa (10bar))
Orientation	All positions (Horizontal, vertical or diagonal)
Flow profile sensitivity class	U0 and D0 (0 x DN upstream and 0 x DN downstream) (U0 and D0 includes U5 and D3 (5 x DN upstream and 3 x DN downstream))
Reverse flow	The sensor is also intended to measure reverse flow
Pressure loss class full bore	Δp 10 (0,10 bar) (Δp 10 includes Δp 16, Δp 25, Δp 40 and Δp 63)
Pressure loss class reduced bore	Δp 25 (0,25 bar) (Δp 25 includes Δp 40 and Δp 63)
Power supply	(Non-)replaceable battery (3.0 – 3.7 V)
Software identification	Version number: 20200830 with checksum 7560B151 20200831 with checksum 3053DC1D

Table 2 General characteristics of the family of instruments

Flow characteristics full bore

Meter size	Ø in- and outlet [mm]	Flow rates [m ³ /h]				Max. ratio Q3/Q1
		Minimum Q1	Transitional Q2	Permanent Q3	Overload Q4	
DN40	40	0,1	0,16	25	31,3	250
				40	50	400
DN50	50	0,158	0,252	63	78,8	400
DN65	65	0,25	0,4	100	125	400
DN80	80	0,4	0,64	160	200	400
DN100	100	0,625	1	250	313	400
DN125	125	1	1,6	400	500	400
DN150	150	1,58	2,52	630	788	400
DN200	200	2,5	4	1000	1250	400

Please note that the flow rates Q1, Q2, Q3 and Q4 can be freely chosen as long as:

- Values Q3 and ratio Q3/Q1 are selected from paragraph 4.1 of OIML R49-1: 2013(E);
- Values mentioned for Q1 and Q2 are minimum values and the ratio Q2/Q1 = 1,6;
- Values mentioned for Q3 and Q4 are maximum values and the ratio Q4/Q3 = 1,25;
- The ratio Q3/Q1 is at least 40.

Flow characteristics reduced bore

Meter size	Ø in- and outlet [mm]	Flow rates [m ³ /h]				Max. ratio Q3/Q1
		Minimum Q1	Transitional Q2	Permanent Q3	Overload Q4	
DN50	50	0,1	0,16	40	50	400
DN65	65	0,158	0,252	63	78,8	400
DN80	80	0,25	0,4	100	125	400
DN100	100	0,4	0,64	160	200	400
DN125	125	0,625	1	250	313	400
DN150	150	1	1,6	400	500	400
DN200	200	1,58	2,52	630	788	400
DN250	250	2,5	4	1000	1250	400
DN300	300	2,5	4	1000	1250	400

Please note that the flow rates Q1, Q2, Q3 and Q4 can be freely chosen as long as:

- Values Q3 and ratio Q3/Q1 are selected from paragraph 4.1 of OIML R49-1: 2013(E);

OIML Member State
The Netherlands

Number R49/2013-A-NL1-21.05 revision 2
Project number 2543079
Page 4 of 4

- Values mentioned for Q1 and Q2 are minimum values and the ratio $Q2/Q1 = 1,6$;
- Values mentioned for Q3 and Q4 are maximum values and the ratio $Q4/Q3 = 1,25$;
- The ratio $Q3/Q1$ is at least 40.

Table 3 General characteristics of the indicating device

Meter size	Indicating range (minimum value) [m ³]	Verification scale interval (minimum resolution) [m ³]
DN40 up to DN100 for full bore DN50 up to DN125 for reduced bore	999999,9999	0,0001
DN125 up to DN200 for full bore DN150 up to DN300for reduced bore	9999999,999	0,001

Certificate history:

This revision replaces the previous version.

Revision	Date	Description of the modification
Initial	25 May 2021	-
1	23 June 2021	Additional information added to the certificate and administrative changes.
2	13 August 2021	Administrational changes.