OIML Certificate

OIML Member State
The Netherlands

Number R49/2013-A-NL1-22.02
Project number 2678029

Issuing authority Person responsible:	NMi Certin B.V. M.Ph.D. Schmidt
Applicant and Manufacturer	Viewshine Metering Ltd. Building 6, Moganshan Road 1418-41 Hangzhou China
Identification of the certified type	An ultrasonic **water meter** Type: U-WR Series
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.

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

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
8 March 2022

Certification Board

NMi Certin B.V.
Thijsseweg 11
2629 JA Delft
The Netherlands
T +31 88 636 2332
certin@nmi.nl
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-1900855-01 dated 11 August 2017 that includes 35 pages;
- No. 170301928 / DN 15 / Q3 2,5 dated 11 August 2017 that includes 55 pages;
- No. NMi-2678029-01 dated 8 March 2022 that includes 36 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. T11059-2.

Table 1 General characteristics

Measuring principle	Ultrasonic flow metering
Accuracy class	2
Environmental class	M1 / O (installed outdoors)
Electromagnetic environment	E1
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	U0S and D0 (flow straightener + 0 x DN upstream and 0 x DN downstream)
Reverse flow	The sensor is not intended to measure reverse flow
Pressure loss class	Δp 63 (0,63 bar)
Power supply	Non-replaceable battery (3,0 – 3,7 V)
Software identification	Version: V2.2 Checksum: 37244 Displayed on water meter as 22 37244

Table 2 General characteristics of the family of instruments

Meter size	Ø in- and outlet [mm]	Flow rates [m³/h]				Ratio Q3/Q1
		Minimum Q1	Transitional Q2	Permanent Q3	Overload Q4	
DN15	19	0,00625	0,01	2,5	3,125	400

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Meter size	Ø in- and outlet [mm]	Flow rates [m³/h]				Ratio Q3/Q1
		Minimum Q1	Transitional Q2	Permanent Q3	Overload Q4	
DN20	24	0,01	0,016	4	5	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.

Table 3 General characteristics of the indicating device

Meter size	Indicating range (minimum value) [m³]	Verification scale interval (minimum resolution) [m³]
DN15; DN20	99999,999	0,000001