

OIML Member State
The Netherlands

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Project number 2562635
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Issuing authority NMI Certin B.V.
Person responsible: M.Ph.D. Schmidt

Applicant and Manufacturer Shanghai China Weise Instrument Co., Ltd.
No. 1, Lane 733, Pengfeng Road
Xiaokunshan Town, Songjiang District
201614 Shanghai
China

Identification of the certified type **A ultrasonic gas meter**
Manufacturers mark: Shanghai China Weise Instrument Co., Ltd.
Type: CL-1-4S

Characteristics See following page(s)

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 137-1:2012 "Gas meters"

Accuracy class 0,5

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**
23 September 2024

Certification Board

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

- No. NMI-2562635-01 dated 23 September 2024 that includes 47 pages.

Characteristics of the measuring instrument

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

In Table 2 the characteristics of the family of instruments are presented.

The construction of the measuring instrument is recorded in the Documentation folder no. R137-2012-A-NL1-24.08-1.

Table 1 General characteristics

Destined for the measurement of	Gas volume
Minimum – maximum flow rate	See table 2; uni-directional
Working pressure range	1,5...100 bar(g)
Mechanical class/Environmental classes	M2 / E2
Ambient temperature range	-40 ... +70 °C; condensing humidity
Gas temperature range	-40 ... +70 °C
Orientation	All orientations
Power supply voltage	18...28 V DC
Transducer type	USM nominal size \leq DN350": Type X-I05XX USM nominal size \geq DN350": Type X-I09XX
Software identification	Version number: 5.2.3.6 Checksum: 3E6E23C0

Table 2 General characteristics of the family of instruments

4 Path Ultrasonic gas meter											
Nominal size [-]	Diameter		V _{max} [m/s]	V _t [m/s]	V _{min} [m/s]	Q _{max}	Q _t	Q _{min}	Q _{max}	Q _t	Q _{min}
	Minimum Inner diameter ^[1] [mm]	Maximum Inner diameter ^[2] [mm]				Based on minimum inner diameter ^[1]			Based on maximum inner diameter ^[2]		
						[m ³ /h]	[m ³ /h]	[m ³ /h]	[m ³ /h]	[m ³ /h]	[m ³ /h]
3"/DN80	70	80	33	3,3	0,6	457	46	8	597	60	11
4"/DN100	80	105	33	3,3	0,6	597	60	11	1029	103	19
6"/DN150	130	155	30	3	0,5	1434	143	24	2038	204	34
8"/DN200	180	210	30	3	0,4	2748	275	37	3741	374	50
10"/DN250	230	260	30	3	0,375	4487	449	56	5734	573	72
12"/DN300	270	310	30	3	0,375	6184	618	77	8151	815	102
14"/DN350	300	340	30	3	0,3	7634	763	76	9806	981	98
16"/DN400	340	390	30	3	0,3	9806	981	98	12902	1290	129

Remark [1] and [2]: the flow rates in m³/h, as stated on the type plate, are calculated based on the actual inner diameter of the ultrasonic gas meter. The corresponding flow rates in m³/h can be calculated as follows:

$$Q = v \cdot \frac{1}{4} \cdot \pi \cdot D^2 \cdot 3600$$

Where:

Q = flow rate [m³/h]

v = velocity [m/s]

D = internal diameter [m]

Higher values of Q_{min} and lower values of Q_{max} are allowed on condition that Q_{min} ≤ 0,05 Q_{max} and Q_{max} / Q_t ≥ 5.

Installation conditions:

The meter needs to be installed according to the following configuration for mild and severe flow disturbance for accuracy class 0,5:

Mild and Severe flow disturbance:

- Upstream: 10D + Zanker + 5D of straight pipe.
- Downstream a minimum of 5D straight pipes.
- The flow conditioner shall be a Zanker compliant design.

The detailed installation requirements and construction can be located in the EU-Type examination certificate T12483.

The calibration of the meters shall be performed as follows:

- When the working pressure range (p_{min} ... p_{max}) is within 52 bar, one calibration on one pressure (p_{test}) suffices.
- When the working pressure range is >52 bar, two calibrations shall be performed at the minimum (p_{min}) and maximum (p_{max}) operating pressure. Where $p_{max, test}$ is limited to around 60 bar since all traceable high pressure natural gas test locations are world wide limited to this maximum test pressure.

Production location

The measuring instrument is produced at the following production location:
Shanghai China Weise Instrument Co., Ltd
No. 1, Lane 733, Pengfeng Road
Xiaokunshan Town, Songjiang District
201614 Shanghai
China

Certificate history:

Revision	Date	Description of the modification
Initial	23 September 2024	Initial Issue