OIML Certificate

OIML Member State
The Netherlands

Number R137/2012-A-NL1-23.01 revision 0
Project number 2477621

Issuing authority Person responsible:	NMi Certin B.V. M.Ph.D. Schmidt
Applicant and Manufacturer	Tancy Instrument Group Co., Ltd. No. 198, Hualian d, Cangnan Industrial Park Wenzhou, Zhejiang Prov. China
Identification of the certified type	A **measuring instrument** Type: TUS; iSonic
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 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.

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
12 January 2023

Certification Board

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The conformity was established by the results of tests and examinations provided in the associated report(s):
- Number NMi-2477621-01, dated 29 December 2022 that includes 53 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.

Table 1 General characteristics

Destined for the measurement of	Gas volume
Accuracy class	0.5
Intended for the measurement of	Natural gas
Minimum – maximum pressure	8 – 255 bar
Ambient temperature range	-40 – +55 °C
Gas temperature range	-40 – +55 °C
Designed for	Condensing humidity
Orientation	All orientations
Flow direction	Bi-directional
Path configuration	6 horizontal direct measuring paths 4 + 2 paths in an X-shape
Path angle	62,5°
Sound frequency	200 kHz
Inlet pipe	5D – FC – 5D
Outlet pipe	5D
Power supply voltage	18 – 30 VDC

Software identification

Part	Version	Checksum	Remarks
MCU	3.1.1.8	F2E09A6A	
APU	1.0.0.34	D9C2A05A	
FPGA	0.0.1.55	DE04FF99	

Table 2 General characteristics of the family of instruments

Nominal Diameter	Maximum Qmax Mild disturbance	Maximum Qmax Severe disturbance	Minimum Qt	Minimum Qmin
	[m^3/h]	[m^3/h]	[m^3/h]	[m^3/h]
4 (100 mm)	919	766	38,3	15,3
6 (150 mm)	1995	1663	83,1	33,3
8 (200 mm)	3484	2903	145,2	58,1
10 (250 mm)	5621	4684	234,2	93,7
12 (300 mm)	7420	6184	309,2	123,7
14 (350 mm)	9782	8151	407,6	163,0
16 (400 mm)	12828	10690	534,5	213,8

Remarks regarding table 2:
- Higher values for Qmin and Qt and/or lower values for Qmax can be chosen, under the condition that:
  - If ratio $5 \leq$ Qmax:Qmin < 50 then ratio Qmax:Qt $\geq$ 5
  - If ratio Qmax:Qmin ≥ 50 then ratio Qmax:Qt ≥ 10

Installation conditions:

Installation requirements
Any components which could affect the gas flow must be avoided within the prescribed inlet pipe length of 10 DN for mild and severe flow disturbances. The inlet pipe must be designed as a straight pipe section of the same nominal diameter as the gas meter.

Working pressure
The gas meter shall be calibrated on the minimum and maximum pressure stated on the nameplate of the gas meter. The gas meter shall comply with the accuracy requirements without intermediate adjustment over its full flow range.

Bi-directional flow
The gas meter shall be calibrated in the flow directions the meter going to be used. The gas meter shall comply with the accuracy requirements without intermediate adjustment over its full flow range.

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Certificate history:

Revision	Date	Description of the modification
0	12 January 2023	Initial issue