OIML Certificate

OIML Member State
The Netherlands

Number R137/2012-A-NL1-20.14 revision 10
Project number 4071956

Issuing authority	NMi Certin B.V. Person responsible: M.Ph.D. Schmidt
Applicant and Manufacturer	Micro Motion, Inc. 7070 Winchester Circle Boulder, CO 80301 United States of America
Identification of the certified type	An **Ultrasonic gas meter** Manufacturers mark: Rosemount Type: 3414 / 3415 / 3416 / 3417 / 3418 GUSM or Senior Sonic
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.

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**
2 October 2026

Certification Board

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The notification of NMi Certin B.V. as Issuing Authority can be verified at www.oiml.org

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

- NMi-15200438-01 dated 3 November 2015 that includes 47 pages;
- NMi-15200787-01 dated 25 February 2016 that includes 50 pages;
- NMi-16200416-01 dated 19 August 2016 that includes 11 pages;
- NMi-16200582-02 dated 3 November 2016 that includes 7 pages;
- NMi-1902613-01 dated 23 August 2018 that includes 51 pages;
- NMi-1902374-01 dated 16 November 2018 that includes 19 pages;
- NMi-2282746-01 dated 3 May 2019 that includes 13 pages;
- NMi-2282746-02 dated 3 May 2019 that includes 26 pages;
- NMi-3934569-01 dated 22 July 2025 that includes 14 pages;
- NMi-4071956-01 dated 2 October 2026 that includes 43 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. T11159-7.

The ultrasonic gas meter is produced at the following production locations:
- F-R Tecnologias De Flujo, S.A. de C.V., Ave. Miguel de Cervantes 111, Chihuahua 31136, Mexico.
- Emerson SRL, Emerson street no. 4, 400461 Cluj-Napoca, Romania.

This measuring instrument was previously placed on the market by manufacturer “Daniel Measurement and Control, Inc.”.
The current manufacturer “Micro Motion, Inc.”, has changed the mark to “Rosemount”.

Gas meter configuration

Model 3414 — Model 3414 is equipped with 4 measuring paths in a horizontal configuration.

Model 3415 — Model 3415 contains a model 3414 path layout and electronics. The model 3415 is additionally equipped with one check path which is connected to a separate set of electronics.

Model 3416 — Model 3416 contains a model 3414 path layout and electronics. The model 3416 is additionally equipped with one check path and one diagnostic path which are connected to a separate set of electronics.

Model 3417 — Model 3417 is composed of two model 3414 electronics and transducers built into a model 3417 spool piece. The meter can be used in the following configurations:
1. Two separate gas meters
2. Pay / check configuration

Model 3418 — Model 3418 is equipped with 8 measuring paths in a horizontal configuration.

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Table 1 General characteristics

Destined for the measurement of	Gas volume
Environmental classes	M2 / E2
Accuracy class	0.5
Operating pressure range for meters equipped with standard mounts	The spool piece and transducers may be used at a pressure between 7 and 425 bar(g). For this pressure range the flow characteristics as mentioned in table 2 are applicable. If the minimum pressure is between 3,5 and 7 bar(g), the values for Q_{max} have to be reduced to 50% of the values indicated in table 2. For T32 transducers only: if the minimum pressure is between 7 and 10 bar(g), the values for Q_{max} have to be reduced to 80% of the values indicated in table 2. If the minimum pressure is between 3,5 and 7 bar(g), the values for Q_{max} have to be reduced to 50% of the values indicated in table 2. The measuring range shall be 1:20 minimally.
Operating pressure range for meters equipped with Isolated Mounts on Chordal paths	The spool piece and transducers may be used at a pressure between: - 0 and 105 bar(g) for meter size 4 to 12 inch. - 8 and 105 bar(g) for meter size 14 to 42 inch. For these pressure ranges, the flow characteristics as mentioned in table 2 are applicable. If T200 transducers are used, they are always installed with their dedicated T200 isolated mounts for meter size 4 to 42 inch with a pressure range of 0 up to and including 259 bar. The flow characteristics as mentioned in table 2 are applicable.
Gas temperature range depending on transducer type Txxx	T11, T12, T21: -20 °C / +55 °C T22, T32: -40 °C / +55 °C T41: -50 °C / +100 °C T200: -50 °C / +125 °C
Ambient temperature range	-40 °C / +70 °C
Designed for	condensing humidity
Orientation	all orientations
Power supply voltage	10 – 36 V DC

Software identification (version and checksum) for 3414, 3415, 3416, 3417	1.13 1.22 1.24 1.27 1.30 1.31 1.35	0386726438 3499386616 1869761847 2717395331 2620208593 3367318398 1438734832
Software identification (version and checksum) for 3414, 3415, 3416, 3417, 3418	1.41 1.42 1.44 1.45 1.50 1.60 1.61 1.70	2979557838 3866406840 1021246235 0046001849 0499641914 0658881759 2757327892 2751984833

Table 2 General characteristics of the family of instruments

The meter has the following characteristics:

Meter type	Diameter size			Maximum v_{max} [m/s]	Minimum v_t [m/s]	Minimum v_{min} [m/s]
	Inch	DN	Typical ranges [mm]			
3414, 3415, 3416, 3417,	4	100	80 ~ 108	30,5	1/10 v_{max}	0,3
	6	150	124 ~ 161			
3414, 3415, 3416, 3417, 3418	8	200	173 ~ 212	30,5	1/10 v_{max}	0,3
	10	250	216 ~ 265			
	12	300	257 ~ 315			
	14	350	284 ~ 343			
	16	400	325 ~ 394			
	18	450	367 ~ 445			
	20	500	408 ~ 495	32,5		
	24	600	491 ~ 597	30,5		
	30	750	730 ~ 749	26		
	36	900	876 ~ 899	23		
	42	1050	1029 ~ 1048	21		

Notes:
- If higher values are chosen for v_{min} and/or lower values for v_{max} it has to be taken into account that $v_{min} \leq 0{,}05\ v_{max}$ and $v_t \leq 0{,}2\ v_{max}$.
- The flow rates 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], and D = diameter [m]

- Meter type 3414, 3415, 3416 and 3417 can be manufactured from 4 – 42 inch.
- Meter type 3418 can be manufactured from 8 – 42 inch.

Installation conditions:

Inlet piping and flow straightener.
The meter is used, with the indicated minimum piping lengths, in one of the following configurations:

- Meter types 3414 / 3415 / 3416 / 3417:
  - *For mild disturbances:*
    5D piping followed by a CPA 50E or NOVA 50E compliant design straightener followed by 10D piping at the inlet of the meter.
  - *For mild and severe disturbances:*
    5D piping followed by a CPA 55E straightener followed by 10D piping at the inlet of the meter.
- Meter type 3418:
  - *For mild and severe disturbances:*
    5D piping at the inlet of the meter.

Maintenance
A transducer path pair and the main electronics can be exchanged without affecting metrological performance. After putting into use national legislation is applicable.

Certificate history:
This revision replaces the previous version.

Revision	Date	Description of the modification
Initial	29 September 2020	-
1	27 September 2021	Addition of SW update v1.50
2	30 September 2021	Correction of Applicant and Manufacturer name and address
3	18 July 2022	Change to brand name from “Daniel” to “Rosemount”. Change to manufacturer location
4	16 March 2023	Addition of SW update 1.60
5	6 April 2023	Installations conditions corrected to the same text as in the initial version
6	17 October 2023	Addition of alternative flow conditioner NOVA 50E
7	6 March 2024	Updated software version to 1.61
8	10 March 2025	Updated software version to 1.7
9	22 July 2025	Added maintenance section
10	2 October 2026	Lowering minimum $V_{min\ \&}$ Add M2