

OIML Member State
The Netherlands

Number R 137/2012-B-NL1-18.04
Project number 1901860
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Issuing authority NMI Certin B.V.
Person responsible: C. Oosterman

Applicant and Manufacturer Flow Meter Group B.V.
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The Netherlands

Identification of the certified type A **rotary piston gas meter**
Type: FMR and FMR-Dual

Characteristics See page 2 and further

This OIML Certificate is issued under scheme B

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 1,0 and/or 1,5

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.

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Issuing Authority **NMI Certin B.V., OIML Issuing Authority NL1**
24 September 2018



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

- No. NMI-14200712-02 dated 30 January 2015 that includes 36 pages;
- No. NMI-16200610-01 dated 29 September 2016 that includes 3 pages;
- No. NMI-1901860-01 dated 26 April 2018 that includes 4 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 registers are built up as given in table 3.

The construction of the measuring instrument is recorded in the Documentation folder no. T10372-8.

Table 1 General characteristics

Destined for the measurement of	Gas volume
Mechanical class	M1
Electromagnetic class	Not applicable (the meter has no electronics)
Ambient temperature range	-25 °C / +55 °C
Gas temperature range	-25 °C / +55 °C
Orientation	Horizontal / Vertical up / Vertical down (all orientations)
Flow direction	Uni-directional (indicated with arrow)

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Table 2 General characteristics of the family of instruments (FMR and FMR-Dual)

<i>FMR</i>							
Volume* V [dm ³]	G-value	Q _{max} [m ³ /h]	minimum Q _{min} [m ³ /h]	Q _t [m ³ /h]	maximum p _{max} [bar]	Diameter D [mm]	Accuracy class
0,25	G6	10	0,25	0,5	101	Threaded	1,0
	G10	16	0,25	0,8	101	Threaded	1,0
	G16	25	0,25	1,25	101	Threaded	1,0
	G25	40	0,25	2	101	Threaded	1,0 or 1,5
0,39	G10	16	0,25	0,8	101	40 or 50	1,0
	G16	25	0,25	1,25	101	40 or 50	1,0
	G25	40	0,25	2	101	40 or 50	1,0 or 1,5
	G40	65	0,25	3,2	101	40 or 50	1,0 or 1,5
0,61	G16	25	0,25	1,25	101	40 or 50	1,0
	G25	40	0,25	2	101	40 or 50	1,0 or 1,5
	G40	65	0,25	3,2	101	40 or 50	1,0 or 1,5
	G65	100	0,25	5	101	40 or 50	1,0 or 1,5
0,73	G16	25	0,2	1,25	101	40 or 50	1,0
	G25	40	0,2	2	101	40 or 50	1,0 or 1,5
	G40	65	0,2	3,2	101	40 or 50	1,0 or 1,5
	G65	100	0,2	5	101	40 or 50	1,0 or 1,5
	G100	160	0,4	8	12	50 or 80	1,0 or 1,5
0,85	G25	40	1	2	101	50 or 80	1,0
	G40	65	1	3,2	101	50 or 80	1,0
	G65	100	1	5	101	50 or 80	1,0
	G100	160	1	8	12	50 or 80	1,0 or 1,5
0,99	G25	40	1	2	101	50 or 80	1,0
	G40	65	1	3,2	101	50 or 80	1,0
	G65	100	1	5	101	50 or 80	1,0
	G100	160	1	8	101	50 or 80	1,0 or 1,5
1,16	G40	65	0,4	3,2	101	50 or 80	1,0 or 1,5
	G65	100	0,4	5	101	50 or 80	1,0 or 1,5
	G100	160	0,4	8	101	50 or 80	1,0 or 1,5
	G160	250	0,65	12,5	12	50 or 80	1,0 or 1,5
1,45	G65	100	0,6	5	101	80 or 100	1,0 or 1,5
	G100	160	0,6	8	101	80 or 100	1,0 or 1,5
	G160	250	0,6	12,5	101	80 or 100	1,0 or 1,5
1,81	G65	100	0,6	5	101	80 or 100	1,0 or 1,5
	G100	160	0,6	8	101	80 or 100	1,0 or 1,5
	G160	250	0,6	12,5	101	80 or 100	1,0 or 1,5
	G250	400	1	20	12	80 or 100	1,0 or 1,5
1,98	G100	160	1	8	101	80 or 100	1,0 or 1,5
	G160	250	1	12,5	101	80 or 100	1,0 or 1,5
	G250	400	2,5	20	12	80 or 100	1,0 or 1,5
3,17	G160	250	1,6	12,5	101	80 or 100	1,0 or 1,5
	G250	400	1,6	20	101	80 or 100	1,0 or 1,5
	G400	650	2,5	32	12	80 or 100	1,0 or 1,5
3,96	G250	400	2,5	20	101	100 or 150	1,0 or 1,5
	G400	650	4	32	101	100 or 150	1,0 or 1,5
	G650	1000	4	32	12	150 or 200	1,0 or 1,5
5,15	G250	400	2,5	20	101	100 or 150	1,0 or 1,5
	G400	650	2,5	32	101	100 or 150	1,0 or 1,5
	G650	1000	6,25	50	12	100 or 150	1,0 or 1,5

* See remark on next page.

Table 2 Continued, FMG-Dual

FMR-Dual							
Volume* V [dm ³]	G-value	Q _{max} [m ³ /h]	minimum Q _{min} [m ³ /h]	Q _t [m ³ /h]	maximum p _{max} [bar]**	Diameter D [mm]	Accuracy class
0,50	G40	65	0,4	3,2	21 / 101	50 or 80	1,0 or 1,5
	G65	100	0,65	5	21 / 101	50 or 80	1,0 or 1,5
0,78	G65	100	0,65	5	21 / 101	50 or 80	1,0 or 1,5
	G100	160	1	8	21 / 101	80 or 100	1,0 or 1,5
1,22	G100	160	1	8	21 / 101	80 or 100	1,0 or 1,5
	G160	250	1,6	12,5	21 / 101	80 or 100	1,0 or 1,5
1,98	G160	250	1,6	12,5	21 / 101	80 or 100	1,0 or 1,5
	G250	400	2,5	20	21 / 101	80 or 100 or 150	1,0 or 1,5
1,46	G100	160	1	8	21 / 101	80 or 100	1,0 or 1,5
	G160	250	1,6	12,5	21 / 101	80 or 100	1,0 or 1,5
2,32	G160	250	2,5	12,5	21 / 101	80 or 100	1,0 or 1,5
	G250	400	4	20	21 / 101	80 or 100 or 150	1,0 or 1,5
2,41	160	250	1	12,5	21 / 101	80 or 100	1,0 or 1,5
	250	400	2,5	20	21 / 101	80 or 100	1,0 or 1,5
2,90	G250	400	2,5	20	21 / 101	80 or 100 or 150	1,0 or 1,5
	G400	650	4	32	21 / 101	100 or 150	1,0 or 1,5
3,96	250	400	2,5	20	21 / 101	100 or 150	1,0 or 1,5
	400	650	4	32	21 / 101	100 or 150	1,0 or 1,5
	650	1000	4	32	21 / 101	150 or 200	1,0 or 1,5
6,34	400	650	4	32	21 / 101	150 or 200	1,0 or 1,5
	650	1000	6,5	50	21 / 101	150 or 200	1,0 or 1,5
10,3	G650	1000	6,5	50	21 / 101	150 or 200	1,0 or 1,5
	G1000	1600	10	80	21 / 101	150 or 200	1,0 or 1,5

- * On the name plate of the rotary meter the cyclic volume can be given in two possible formats:
1. with two digits behind the comma as stated in table 2 and 3, or
 2. with a number containing 6 significant digits. In this case a HF pulse value can be accurately derived from the spinning rotors with an optical sensor.

** The FMR-Dual can be delivered as a low pressure (P_{max} = 21 bar) or a high pressure (P_{max} = 101 bar) variant.



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Table 3 Register

meter size	Minimum number of drums		control-element [m ³]
	before the comma	behind the comma	
G6	5	3	0,0002
G10 – G65	6	2	0,002
G100 – G650	7	1	0,02

Interchangeable components:

The mechanical index, equipped with a reed contact, Wiegand or encoder, is an interchangeable component.

Installation conditions:

For this rotary meter specific installation conditions are not applicable.