OIML Certificate of Conformity

OIML Member State
The Netherlands

Number **R137/2012-NL1-15.01** revision 1
Project number SO15202424

Issuing authority	NMi Certin B.V. Person responsible: C. Oosterman
Applicant and manufacturer	Flow Meter Group B.V. Meniststraat 5c 7091 ZZ Dinxperlo The Netherlands
Identification of the certified type	A **rotary piston gas meter** Type: FMR and FMR-Dual
Characteristics	See page 2 and further

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Test Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 137-1 (2012) "Gas meters"

Accuracy class: See table 2 and 3.

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**
31 July 2015

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The conformity was established by the results of tests and examinations provided in the associated OIML Type Evaluation Reports:

- No. NMi-14200712-02 dated 30 January 2015 that includes 36 pages.

Characteristics of the gas meter:

Table 1 gives the general characteristics of both meter types. Table 2, 3 and 4 on the following pages specify in detail the characteristics and essential parts of the FMR and FMR-Dual rotary piston gas meters. The construction of the measuring instrument is recorded in the Documentation folder no.T10372-6.

Table 1: FMR and FMR-Dual

Destined for the measurement of	Gas volume
Mechanical class	M2
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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FMR

Volume* V [dm^3]	G-value	Qmax [m^3/h]	minimum Qmin [m^3/h]	Qt [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
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
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.

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Table 3: Essential characteristics FMR-Dual

Volume* V [dm³]	G-value	Q_{max} [m³/h]	minimum Q_{min} [m³/h]	Qt [m³/h]	maximum p_{max} [bar]**	Diameter D [mm]	Accuracy class
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
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

* 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.

All the registers are built up as follows:

meter size	Minimum number of drums		control-element
	before the comma	behind the comma	[m³]
G6	5	3	0,0002
G10 – G65	6	2	0,002
G100 – G650	7	1	0,02

Installation conditions:
For this rotary meter specific installation conditions are not applicable.

Certificate history:
This revision replaces the previous version.

Revision	Date	Description of the modification
Initial	30 January 2015	-
1	30 July 2015	FMR-Dual with a p_{max} of 101 bar added to document