

OIML Member State
The Netherlands

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Issuing authority NMI Certin B.V.
Person responsible: C. Oosterman

Applicant Flow Meter Group B.V.
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7091 ZZ Dinxperlo
The Netherlands

Manufacturer Flow Meter Group B.V.
Meniststraat 5c
7091 ZZ Dinxperlo
The Netherlands

Identification of the certified type **A turbine gas meter**
Type: FMT-L, FMT-S and FMT-Lx

Characteristics See page 2 up to and including page 5.

This certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Reports) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 137-1 (2012) "Gas meters"

Accuracy class 1

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**
24 December 2014



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This document is issued under the provision that no liability is accepted and that the applicant shall indemnify third-party liability.

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

Parties concerned can lodge objection against this decision, within six weeks after the date of submission, to the general manager of NMI (see www.nmi.nl).





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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-14200702-01 dated 18 December 2014 that includes 13 pages;
- No. NMI-14200104-01 dated 15 September 2014 that includes 14 pages;
- No. NMI-14200712-02 dated 23 December 2014 that includes 35 pages.

Characteristics of the gas meter:

Table 1 gives the general characteristics of all three turbine meter types. Table 2 and 3 on the following pages specify in detail the characteristics and essential parts of the turbine meters.

Destined for the measurement of	Gas volume
Mechanical class	M2
Electromagnetic class	Not applicable (the meter has no electronics)
Ambient temperature range	-40 °C / +70 °C
Gas temperature range	-40 °C / +70 °C
Orientation	Horizontal / Vertical up / Vertical down (all orientations)
Flow direction	Uni-directional (indicated with arrow)



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Table 2

Main characteristics			1.2 Essential characteristics						1.4 Conditional parts		1.1 Essential parts					
Type	DN body	DN cartr.	G-value	Qmax	Qt	Qmin			Number of drums <i>Before and after comma</i>	Control element	Blade angle	Blade qty	Bearing dimensions <i>Inside diameter x Outside diameter x Width in mm</i>			
						MR 1:20 0..101 bar(g)	MR 1:30 4..101 bar(g)	MR 1:50 8..101 bar(g)					standard bearings 0..101 bar(g)		Optional bearings 4...101 bar(g)	
-	mm	mm	-	m ³ /h	m ³ /h	m ³ /h	m ³ /h	m ³ /h	-	m ³ /h	degree	-	front	rear	front	rear
FMT-Lx	50	80	100	160	32	8	5	3	7 / 1	0,02	55	12	3x6x3	2x5x2	3x8x4	3x6x3
			160	250	50	12,5	8	5								
			250	400	80	20	12,5	8								
FMT-L, FMT-S, or FMT-Lx	80	80	100	160	32	8	5	3	7 / 1	0,02	55	12	3x6x3	2x5x2	3x8x4	3x6x3
			160	250	50	12,5	8	5								
			250	400	80	20	12,5	8								
FMT-Lx	80	100	160	250	50	12,5	8	5	7 / 1	0,02	55	12	3x8x4	3x6x3	5x10x3	3x6x3
			250	400	80	20	12,5	8								
			400	650	130	32,5	20	12,5								
FMT-Lx	100	80	100	160	32	8	5	3	7 / 1	0,02	55	12	3x6x3	2x5x2	3x8x4	3x6x3
			160	250	50	12,5	8	5								
			250	400	80	20	12,5	8								
FMT-L, FMT-S, or FMT-Lx	100	100	160	250	50	12,5	8	5	7 / 1	0,02	55	12	3x8x4	3x6x3	5x10x3	3x6x3
			250	400	80	20	12,5	8								
			400	650	130	32,5	20	12,5								
FMT-Lx	100	150	400	650	130	32,5	20	12,5	7 / 1	0,02	55	12	5x11x5	5x11x5	5x16x5	5x11x5
			650	1000	200	50	32	20								
			1000	1600	320	80	50	32								
FMT-Lx	150	100	160	250	50	12,5	8	5	7 / 1	0,02	55	12	3x8x4	3x6x3	5x10x3	3x6x3
			250	400	80	20	12,5	8								
			400	650	130	32,5	20	12,5								
FMT-L, FMT-S, or FMT-Lx	150	150	400	650	130	32,5	20	12,5	7 / 1	0,02	55	12	5x11x5	5x11x5	5x16x5	5x11x5
			650	1000	200	50	32	20								
			1000	1600	320	80	50	32								
FMT-Lx	150	200	650	1000	200	50	32	20	7 / 1	0,02	55	12	5x16x5	5x16x5	8x22x7	5x16x5
			1000	1600	320	80	50	32								
			1600	2500	500	125	80	50								
FMT-Lx	200	150	400	650	130	32,5	20	12,5	7 / 1	0,02	55	12	5x11x5	5x11x5	5x16x5	5x11x5
			650	1000	200	50	32	20								
			1000	1600	320	80	50	32								
FMT-L, FMT-S, or FMT-Lx	200	200	650	1000	200	50	32	20	7 / 1	0,02	55	12	5x16x5	5x16x5	8x22x7	5x16x5
			1000	1600	320	80	50	32								
			1600	2500	500	125	80	50								
FMT-Lx	250	200	650	1000	200	50	32	20	7 / 1	0,02	55	12	5x16x5	5x16x5	8x22x7	5x16x5
			1000	1600	320	80	50	32								
			1600	2500	500	125	80	50								



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Table 3

Main characteristics			1.2 Essential characteristics					1.4 Conditional parts		1.1 Essential parts					
Type	DN body	DN cartr.	G-value	Qmax	Qt	Qmin		Number of drums <i>Before and after comma</i>	Control element	Blade angle	Blade qty	Bearing dimensions <i>Inside diameter x Outside diameter x Width in mm</i>			
						0..101 bar(g)	4..101 bar(g)					0..101 bar(g)			
						MR 1:30	MR 1:50					standard bearings		Optional bearings	
-	mm	mm	-	m ³ /h	m ³ /h	m ³ /h	m ³ /h	-	m ³ /h	degree	-	front	rear	front	rear
FMT-Lx	200	250	1000	1600	320	50	32	8 / 0	0,2	45	24	10x26x8	6x16x5	12x28x8	6x19x6
			1600	2500	500	80	50								
			2500	4000	800	125	80								
FMT-S, or FMT-Lx	250	250	1000	1600	320	50	32	8 / 0	0,2	45	24	10x26x8	6x16x5	12x28x8	6x19x6
			1600	2500	500	80	50								
			2500	4000	800	125	80								
FMT-Lx	250	300	1600	2500	500	80	50	8 / 0	0,2	45	24	12x28x8	6x19x6	17x40x12	8x22x7
			2500	4000	800	125	80								
			4000	6500	1300	216	130								
FMT-Lx	300	250	1000	1600	320	50	32	8 / 0	0,2	45	24	10x26x8	6x16x5	12x28x8	6x19x6
			1600	2500	500	80	50								
			2500	4000	800	125	80								
FMT-S FMT-Lx	300	300	1600	2500	500	80	50	8 / 0	0,2	45	24	12x28x8	6x19x6	17x40x12	8x22x7
			2500	4000	800	125	80								
			4000	6500	1300	216	130								
FMT-Lx	300	400	2500	4000	800	133	80	8 / 0	0,2	45	24	15x35x11	8x22x7	17x40x12	8x22x7
			4000	6500	1300	216	130								
			6500	10000	2000	333	200								
FMT-Lx	400	300	1600	2500	500	80	50	8 / 0	0,2	45	24	12x28x8	6x19x6	17x40x12	8x22x7
			2500	4000	800	125	80								
			4000	6500	1300	216	130								
FMT-S, or FMT-Lx	400	400	2500	4000	800	133	80	8 / 0	0,2	45	24	15x35x11	8x22x7	17x40x12	8x22x7
			4000	6500	1300	216	130								
			6500	10000	2000	333	200								
FMT-Lx	400	500	4000	6500	1300	216	130	8 / 0	0,2	45	24	20x47x14	10x26x8	20x47x20	10x26x8
			6500	10000	2000	333	200								
			10000	16000	3200	533	320								
FMT-Lx	500	400	2500	4000	800	133	80	8 / 0	0,2	45	24	15x35x11	8x22x7	17x40x12	8x22x7
			4000	6500	1300	216	130								
			6500	10000	2000	333	200								
FMT-S, or FMT-Lx	500	500	4000	6500	1300	216	130	8 / 0	0,2	45	24	20x47x14	10x26x8	20x47x20	10x26x8
			6500	10000	2000	333	200								
			10000	16000	3200	533	320								
FMT-Lx	500	600	6500	10000	2000	333	200	8 / 0	0,2	45	24	20x47x20	10x26x8	20x47x20	10x26x8
			10000	16000	3200	533	320								
			-	-	-	-	-								
FMT-Lx	600	500	4000	6500	1300	216	130	8 / 0	0,2	45	24	20x47x14	10x26x8	20x47x20	10x26x8
			6500	10000	2000	333	200								
			10000	16000	3200	533	320								
FMT-S, or FMT-Lx	600	600	6500	10000	2000	333	200	8 / 0	0,2	45	24	20x47x20	10x26x8	20x47x20	10x26x8
			10000	16000	3200	533	320								
			-	-	-	-	-								



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Installation conditions:

The FMT-L meter can be equipped with two different flow straighteners. When the large one is installed a straight inlet pipe of 1xDN is applicable. With the small one installed a straight inlet pipe of 5xDN shall be applied.

The FMT-S can only be equipped with the large flow straightener, and therefore needs a minimum of 1xDN straight pipe length in front of the inlet.

The FMT-Lx meter has no installation requirements concerning straight inlet tubing. The inlet flow straightener is identical to the FMT-S configuration due to the fact that the FMT-Lx and FMT-S have identical cartridges.

The necessary straight pipe length is stated on the name plate of the meter.

Any components which could affect the gas flow must be avoided within the prescribed inlet pipe length. The inlet pipe must be designed as a straight pipe section of the same nominal diameter as the gas meter.