OIML Certificate

OIML Member State
The Netherlands

Number R137/2012-NL1-26.05 revision 0
Project number 4147563

Issuing authority	NMi Certin B.V. Person responsible: M.Ph.D. Schmidt
Manufacturer	Metreg Technologies GmbH Neckaraue 9 71686 Remseck Germany
Identification of the certified type	A **Turbine Gas Meter** Type: MTM
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 1,0

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**
9 October 2026

Certification Board

NMi Certin B.V.
Thijsseweg 11
2629 JA Delft
the Netherlands
T +31 88 636 2332
certin@nmi.nl
www.nmi.nl

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

- No. NMi-12200520-02 dated 22 September 2014 that includes 39 pages;
- No. NMi-2514194-02 dated 5 January 2021 that includes 10 pages.

Characteristics of the measuring instrument
In Table 1 the general characteristics of the measuring instrument are presented.

Table 2 up to and including table 5 give an overview of the general characteristics of the family of instruments (measuring part, bearings and essential characteristics).
The construction of the measuring instrument is recorded in the Documentation folder no. T10660-1.

Table 1 General characteristics

Destined for the measurement of	Gas volume
Mechanical class	M1
Electromagnetic class	Not applicable (the meter has no electronics)
Accuracy class	1,0
Maximum pressure	See tables 2 and 4
Ambient temperature range	-10 °C / +55 °C
Gas temperature range	-10 °C / +55 °C
Designed for humidity conditions	Condensing humidity
Orientation	Horizontal, vertical up and vertical down (all orientations)
Lubrication, oil to be applied - Pour point - Kinematic viscosity - Density	Mineral base oil, type “XZbase 100 A” -80 °C 2,5 mm^2/s at 40 °C and 58,48 mm^2/s at -40 °C 0,818 kg/m^3

The measuring part consists of a cartridge including all metrological essential parts such as turbine wheel, bearings, shafts, primary gears and inlet flow straighteners. The number of blades, the appertaining angle of the blades and other essential dimensions of the turbine wheel are given below.

Table 2 General characteristics of the family of instruments - Measuring part

Diameter [mm]	Type (G-value)	Impeller diameter [mm]	Blade height [mm]	Vane thickness [mm]	Blade angle [degrees]	Number of blades
50	65	51	5	15,5	45	12
80	100 160 250	83	12	22	45	14
100	160 250 400	103	15	28	45	14
150	400 650 1000	154	22	27	45	16
200	650 1000 1600	198	40	27	45	18
250	1000 1600 2500	246	32	30	45	20
300	1600 2500 4000	296	35,5	30	45	22

Table 3 General characteristics of the family of instruments - Bearings

The characteristics of the deep groove ball bearings, including their lubrication method in the applicable operating pressure range, are given in the table below.

Diameter [mm]	Main shaft [mm]		Dynamic load rating C_r [N]		Static load rating C_{or} [N]		Maximum operating pressure	
	inlet	outlet	inlet	outlet	inlet	outlet	16 bar(g)	100 bar(g)
50	2	2	286	286	90	90	permanently lubricated bearings, double shielded	external oil pump lubricated bearings, single or double shielded
80	3	3	644	644	215	215		
100	4	3	1339	644	488	215		
150	5	4	1646	1339	663	488		
200	6	6	2522	2522	1057	1057	-	
250	8	8	3369	3369	1363	1363		
300	10	10	6100	6100	2600	2600		

Table 4 General characteristics of the family of instruments - Essential characteristics

DN [mm]	Type (G-value)	Maximum Q_{max} [m^3/h]	Maximum Q_t [m^3/h]	Minimum Q_{min} [m^3/h] for the specified pressure range			
				MR 1:20		MR 1:30	
				0..100 bar(g)	8..100 bar(g)	8..100 bar(g)	16..100 bar(g)
50	65	100	20	5	-	3,3	-
80	100	160	32	-	8	-	5,3
	160	250	50	12,5	-	8,3	-
	250	400	80	20	-	13,3	-
100	160	250	50	-	12,5	-	8,3
	250	400	80	20	-	13,3	-
	400	650	130	32,5	-	21,7	-
150	400	650	130	-	32,5	-	21,7
	650	1000	200	50	-	33,3	-
	1000	1600	320	80	-	53,3	-
200	650	1000	200	-	50	-	33,3
	1000	1600	320	80	-	53,3	-
	1600	2500	500	125	-	83,3	-
250	1000	1600	320	-	80	-	53,3
	1600	2500	500	125	-	83,3	-
	2500	4000	800	200	-	133,3	-
300	1600	2500	500	-	125	-	83,3
	2500	4000	800	200	-	133,3	-
	4000	6500	1300	325	-	216,7	-

Remarks regarding table 4:
- The application of permanently lubricated bearings limits the maximum operating pressure to 16 bar(g), see also table 3.
- MR = measuring range (Q_{max}/Q_{min} = 1:20 or 1:30).

Table 5 Verification scale interval

Type (G-value)	number of drums		control-element
	before the comma	behind the comma	[m3]
G65	6	2	0,002
G100 … G1600	7	1	0,02
G2000 … G4000	8	0	0,2

Installation conditions:
The meter can operate in the following positions: horizontal flow, vertical flow up and vertical flow down.

Any components, which cause severe flow disturbances and could affect the gas flow, must be avoided within the prescribed inlet pipe length, which is 2 DN. The inlet pipe must be designed as a straight pipe section of the same nominal diameter as the gas meter. For mild flow disturbances, there is no prescribed inlet pipe length. The necessary straight pipe length is stated on the name plate of the meter.

Certificate history:

Revision	Date	Description of the modification
Initial	9 October 2026	Parallel of R137-2012-A-NL1-21.06. Scheme B to A.