



## OIML Certificate



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Issuing authority

NMi Certin B.V.

Person responsible: M.Ph.D. Schmidt

Applicant and Manufacturer

Tancy Instrument Group Co., Ltd.

No. 198, Hualian Road, Cangnan Industrial Zone

Wenzhou City, Zhejiang Province

P.R. China

Identification of the certified type

**Turbine gas meter** 

Type: TBQM

Characteristics

See page 2 and further 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

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.

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Issuing Authority

NMi Certin B.V., OIML Issuing Authority NL1

28 September 2021

Certification Board

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The Netherlands

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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).

#### **Table 1 General characteristics**

Destined for the measurement of	Gas volume
Environmental classes	M1
Accuracy class	1,0
Maximum pressure	See tables 2 and 4
Ambient temperature range	-10 +55 °C
Gas temperature range	-10 +55 °C
Designed for	Condensing humidity
Orientation	Horizontal / vertical up / 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 mm²/s at 40 °C and 58,48 mm²/s at -40 °C 0,818 kg/m³











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

Diameter	G-value	Impeller diameter			Blade angle	Number of blades
[mm]		[mm]	[mm]	[mm]	[degrees]	
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** 

Diameter	Bearing characteristics							
	Main shaft		Dynamic load rating C <sub>r</sub>		Static load rating C <sub>or</sub>		Maximum operating pressure	
[mm]	[mm]		[N]		[N]			
	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	4	1339	644	488	215		
150	5	5	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		



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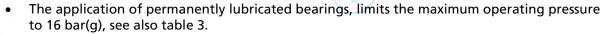


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Table 4 General characteristics of the family of instruments - Essential characteristics

)	Diameter	G-value	Maximum Q <sub>max</sub>	Maximum Qt		Minimum e specified	Q <sub>min</sub> [m³/h]   pressure range	
					MR 1:20		MR 1:30	
	[mm]		[m³/h]	[m³/h]	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	250 400	50 80	12,5 20	-	8,3 13,3	-
	100	160	250	50	-	12,5	-	8,3
		250 400	400 650	80 130	20 32,5	-	13,3 21,7	-
	150	400	650	130	-	32,5	-	21,7
		650 1000	1000 1600	200 320	50 80	-	33,3 53,3	-
	200	650	1000	200	-	50	-	33,3
		1000 1600	1600 2500	320 500	80 125	-	53,3 83,3	-
	250	1000	1600	320	-	80	-	53,3
		1600 2500	2500 4000	500 800	125 200	- -	83,3 133,3	-
	300	1600	2500	500	-	125	-	83,3
		2500 4000	4000 6500	800 1300	200 325	-	133,3 216,7	-

### Remarks regarding table 4:



• MR = measuring range ( $Q_{max} / Q_{min} = 1:20 \text{ or } 1:30$ ).















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**Table 5 Verification scale interval** 

Tymo	Number	Control element	
Туре	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.









