OIML Certificate

OIML Member State
The Netherlands

Number R 137/2012-B-NL1-19.14
Project number 2301193

Issuing authority	NMi Certin B.V. Person responsible: F. van Booma - de Smit
Applicant and Manufacturer	Tokyo Keiso Co., Ltd. Shiba Toho Bldg 1-7-24 Shibakoen 105-8558 Minato-ku Japan
Identification of the certified type	An **ultrasonic gas meter** Type: UGT-1000
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 0,5

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.

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**
20 December 2019

Certification Board

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

OIML Certificate

OIML Member State
The Netherlands

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

- No. NMi-2301193-01 dated 20 December 2019 that includes 45 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.

Table 1 General characteristics

Destined for the measurement of	Gas volume
Environmental classes	M2 / E2
Accuracy class	0,5
Minimum and maximum pressure	4 … 16 bar(a)
Gas, ambient and transducer temperature range	-40 … +55 °C [1]
Designed for	Condensing humidity
Orientation	All orientations
Power supply voltage	20 – 30 V DC
Software identification	Version number: 1.0.2.3

Note [1]: the maximum temperature tests are performed at +60 °C. The instrument fully complied with the requirements at +60 °C. However, OIML R 137 section 5.1, limits this temperature to four specific values, in this case +55 °C.

Table 2 General characteristics of the family of instruments[2]

Diameter size		Maximum Q_{max}	Minimum Q_t	Minimum Q_{min}
Inch	DN	m^3/h	m^3/h	m^3/h
6	150	2000	200	65
8	200	3600	360	120
10	250	5600	560	180

Note [2]: if higher values are chosen for Q_{min} or Q_t and/or lower values for Q_{max}, it has to be taken into account that the ratio $Q_{max} / Q_{min} \geq 20$ and ratio $Q_{max} / Q_t \geq 5$.

Installation conditions:
Any components which could affect the gas flow must be avoided within the prescribed inlet pipe length for mild and severe flow disturbances as specified below. The inlet pipe must be designed as a straight pipe section of the same nominal diameter as the gas meter. The meters hall be equipped with at least 5DN straight outlet pipe and the following installation conditions apply:

- Mild disturbance: 10D straight inlet pipe;
- Mild and severe disturbance: 20D straight inlet pipe;
- Mild and severe disturbance: 5D+FC+5D straight inlet pipe.

Flow conditioner (FC) type: Spearman. See type evaluation report NMi-2301193-01 for further details regarding the Spearman flow conditioner (drawing and dimensions).