EU-type examination certificate

Number **T10382** revision 8
Project number 4042672

Issued by

NMi Certin B.V.,
designated and notified by the Netherlands to perform tasks with respect to conformity assessment procedures mentioned in article 17 of Directive 2014/32/EU, after having established that the measuring instrument meets the applicable requirements of Directive 2014/32/EU, to:

Manufacturer

Apator Metrix S.A.
Grunwaldzka 14
83-110 Tczew
Poland

Measuring instrument

Diaphragm gas meter

Type	:	UG T UG T HybridSmart
Manufacturer's mark or name	:	Apator Metrix S.A.
Destined for the measurement of	:	Gas volume
Accuracy class	:	Class 1,5
Environment classes	:	M1 / E1
Temperature range	:	- 25 °C / +55 °C
Gas temperature range	:	- 25 °C / +40 °C
Location	:	Closed

Further properties are described in the annexes:
- Description T10382 revision 8;
- Documentation folder T10382-7.

Valid until

9 September 2031

Initially issued

9 September 2011

Remarks

This revision replaces the earlier versions, including its documentation folder.

Issuing Authority

NMi Certin B.V., Notified Body number 0122
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Certification Board

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Description

1 General information about the gas meter

All properties of the gas meter, whether mentioned or not, shall not be in conflict with the legislation.

The gas meter is executed as follows:

- A gas meter with an mechanical register, indicating the volume at base conditions only, conform paragraph 2.2 of ANNEX IV (MI-002).

This certificate contains references to other certificates, see section 1.1. The properties mentioned in these certificates shall be observed in addition to the properties mentioned in this certificate.

1.1 Essential parts

Description	Documentation	Remarks
Construction - 1,15 dm^3 - 1,2 dm^3 - 1,9 dm^3	 10382/6-01 10382/6-01 10382/6-01	
Diaphragm - 1,15 dm^3 and 1,2 dm^3 - 1,9 dm^3	 10382/6-02 10382/6-03	Material 401615P or 401617P, manufacturer EFFBE. Material 0P3NV/205, manufacturer SMI (type CSQ3).
Valve and valve seat - valve - valve seat	 10382/6-04 10382/6-05	Material Delgra 90 and Delgra 100, manufacturer Elchi. Slider rods material brass or plastic (PBT). Coupling sleeve material brass or stainless steel.
Temperature compensation - 1,15 dm^3 - 1,2 dm^3 - 1,9 dm^3 - 2,0 dm^3	 10382/6-07 10382/6-08 10382/6-09 10382/7-01 and 10382/7-02	

1.2 Essential characteristics

1.2.1 Approved meter types : UG T and UG T HybridSmart

G-value	Maximum Q_{max} [m^3/h]	Minimum Q_{min} [m^3/h]	Minimum Q_t [m^3/h]	Cyclic Volume [dm^3]
4	6	0,040	0,6	1,15 or 1,20 or 1,90 or 2,0
2,5	4	0,025	0,4	1,15 or 1,20 or 1,90
1,6	2,5	0,016	0,25	

If higher values are chosen for Q_{min} and/or lower values for Q_{max}, it has to be taken into account that $Q_{max} / Q_{min} \geq 150$. For Q_t it has to be taken in account that the minimum value is not lower than the minimum value as indicated in the table above and that $Q_t \leq 0{,}1\ Q_{max}$.

1.2.2 maximum p_{max} Steel housing : 0,5 bar
Aluminium housing : 2 bar

1.2.3 Indicated converted volume (optional)
The volume is converted through the following formula;

$$V_b = V_a * \frac{T_b}{T}$$

With T_b and T in Kelvin.

1.3 Essential shapes

1.3.1 The nameplate is bearing at least, good legible, the following information:
- CE marking including the supplementary metrological marking (M + last 2 digits of the year in which the instrument has been put into use);
- Notified Body identification number, following the supplementary metrological marking;
- type examination certificate no. T10382;
- manufacturer's name, registered trade name or registered trade mark;
- manufacturer's postal address;
- serial number of the meter and year of manufacture;
- Q_{max}, Q_t and Q_{min};
- cyclic volume;
- maximum working pressure p_{max};
- ambient temperature range;
- gas temperature range;
- accuracy class;
- base temperature (t_b);
- specific centre temperature (t_{sp});
- resistance to high temperatures, marked with a 'T' (optional);

The following may be stated on either the nameplate or in the user manual:
- mechanical environment class;
- electromagnetic environment class.

The following may be stated on either the nameplate or on the meter housing:
- indication of the flow direction, e.g. an arrow.

Examples of the markings are shown in document no. 10382/6-10 and 10382/7-03.

1.3.2 Sealing: see chapter 2.

1.4 Conditional parts

1.4.1 Housing
The gas meter has a housing, which has sufficient tensile strength.
The cover is made of steel sheet, the lower and upper case are connected with each other by a clamp or the cover is made of aluminum alloy, the lower and upper case are connected with each other by screws. Examples of the different housing combinations are stated on drawings no. 10382/6-11, 10382/6-12 and 10382/6-13.
The counter case is also connected to the upper case by screws. Examples of the bottom housing are depicted on drawings no. 10382/6-14, 10382/6-15, 10382/6-16, 10382/6-17, 10382/6-18 and 10382/6-19.
Examples of the top housings are depicted in drawings no. 10382/6-20, 10382/6-21, 10382/6-22, 10382/6-23, 10382/6-24, 10382/6-25 and 10382/6-26.

1.4.2 Transmission
The transmission between the measuring part and the register is executed via a fixed mechanical coupling.

1.4.3 Register
The indication takes place in m3, by at least 5 drums before the comma and 3 drums after the comma. In drawings no. 10382/6-27 (UG T) ,10382/8-01 and 10382/6-28 (UG T HybridSmart) examples of the counters are presented.
The counter is adjustable via an adjusting wheel, see drawing no. 10382/6-29, 10382/6-30, 10382/6-31,10382/4-09,10382/8-02 and 10382/8-03.

1.4.4 Shut-off valve (optional)
The meter can be equipped with a shut-off valve which is mounted in the outlet of the meter. A drawing of the valve can be found in document number 10382/6-06.

1.5 Conditional shapes

1.5.1 Connection
The meter is executed with a double pipe connection. The diameter of the connections is at least 20 mm. The distance between the middle of the in- and outlet connection is 250 mm maximally.

The diameter of the single pipe connection is at least DN25.

1.6 Non-essential parts

1.6.1 Reverse stop for preventing registration in reversed flow direction

1.6.2 Pulse generator

1.6.3 Hybrid Smart (optional)
External encoder type “GWFcoder” connected to the output shaft on the mechanical index.
See document 10382/6-28.

1.6.4 Radio module (HybridSmart only).

2 Seals

The following items of the meter are sealed:

- The entrance to the measuring part is sealed with one or more seals.
- The entrance to the register is sealed with one or more seals.

See drawing no. 10382/6-33 for an example of the sealing.