EU TYPE EXAMINATION CERTIFICATE
No. PL-MI002-1450CP0014

Instytut Nafty i Gazu - Państwowy Instytut Badawczy (INiG - PIB) being the notified body under the number 1450 for the Directive 2014/32/EU hereby states that the measuring instruments:

Diaphragm gas meters

type: **UG G10 UG G16 UG G25**

being manufactured by: **APATOR METRIX S.A.**
ul. Grunwaldzka 14,
83-110 Tczew, Polska

in: **APATOR METRIX S.A.**
ul. Grunwaldzka 14,
83-110 Tczew, Polska

meets the essential requirements covered by the Directive 2014/32/UE of The European Parliament and of the Council of 26th February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (OJEU of 2014 L 96) on the basis of EU type examination according to Annex IV (MI-002) of Directive 2014/32/EU and at the same time the requirements of Regulation issued by Minister of Development of 2nd June 2016 on requirements for measuring instruments, Annex no. 2 (Polish Journal of Laws of 2016 item 815)

document of reference: **PN-EN 1359:2017-11 [EN 1359:2017]**

test reports: 25/GM/2024, 21/GM/2024, 24/GM/2023, 23/GM/2023, 22/GM/2023, 15/GM/2023, 14/GM/2023, 7/GM/2023, 38/GM/2022, 67/GM/2021, 62/GM/2021, 23/GM/2021, 12/GM/2021, 11/GM/2021, 48/GM/2020, 45/GM/2020, 25/GM/2020, 8/GM/2020P, 6/GM/2019P
issued by: Zespół Laboratoriów Badawczych Sieci, Instalacji i Urządzeń Gazowych Instytutu Nafty i Gazu – Państwowego Instytutu Badawczego

pages: **7**

certificate is valid: **29th September 2034**

Certification Office Manager

Magdalena Swat

Instytut Nafty i Gazu * Państwowy Instytut Badawczy * 4

Director of Instytut Nafty i Gazu - Państwowy Instytut Badawczy

Jacek Jaworski

Kraków, 22-10-2024

10th issue, replaces the 9th issue of 12-09-2024

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Appliance

Diaphragm gas meters

Models

UG G10 UG G16 UG G25

Design of the instrument

Diaphragm gas-meter type UG consists of three units: measurement (battery), case and index.

Measurement unit (battery) consists of case with two adjoining covers which creates two measuring chambers containing diaphragms, separating element – mirror and timing mechanism that consists of sliders coupled with gear wheels, paddle shifters, crankset, central wheel and bevel gear differential.

Case unit consists of upper part and lower part tightly connected by band clip. Bushing, magnetic clutch with external and internal magnet sub-assembly and driving pinion are placed in the upper part of the case.

Index unit is connected with measurement unit by three screws. It may be additionally protected with sealing when requested. The construction of index unit enables to install the low frequency impulse transmitter type NI-3 produced by "Apator Metrix" at any time during gas-meter use without breaking of legalization sealing.

Technical documentation – list of figures

No.	Gas meters	Fig no.	Remarks
1	Gas-meters UG G10 UG G16	MA000001	main assembly drawing
2	Gas-meters UG G25	MB000XXX.YY	main assembly drawing

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Technical data

Gas meter trade name	Gas meter size	Maximum flowrate Q_{max}	Minimum flowrate Q_{min}	Cyclic volume V	Distance between connections
-	-	m^3/h	m^3/h	dm^3	mm
1	2	3	4	5	6
UG G10	G10	16	0,1	5,6	000 152,4 250 280 or 300
UG G16	G16	25	0,16	5,6	000 152,4 250 280 or 300
UG G25	G25	40	0,25	11,2	280 335 or 400

Gas-meter class 1,5

Mechanical class M1

Electromagnetic environment class .. E1

Maximum operating pressure p_{max} ... 50 kPa (0,5 bar)

Ambient temperature range t_m ..... -25÷55°C

Gas temperature range t_g ..... -25÷55°C

Resistance to high ambient temperature ..... T (at 10kPa / 0,1 bar / according to EN 1359:2017)

Index measuring range ..... 999999,99 m^3

1 impulse value ..... 0,1 m^3

Nominal cyclic volume V ..... 5,6 dm^3 (G10, G16); 11,2 dm^3 (G25);

Distance between connections ..... G10, G16: 000 mm; 152,4 mm; 250 mm; 280 mm; 300 mm
G25: 280 mm, 335 mm, 400 mm

Nominal size of connections ..... DN25 – DN65

Membrane type ..... EFFBE - material 401617P

Weight ..... ~7 kg÷13,6 kg

Family of gases ..... Gaseous fuels: family 1,2 & 3 acc. to EN 437

Interfaces and compatibility conditions

Gas-meter may be connected to reed relay low frequency impulse transmitter type NI-3 produced by Apator Metrix. This transmitter may cooperate with gas-volume conversion devices or devices that record the flowrate corresponding to 1 impulse. 1 impulse value is 0,1 m^3.

Requirements on production, putting into use and utilisation

Production.

During production the following checks and inspections are being carried out:

- 100% inspection of incoming goods (the quantity inspection), statistical quality inspection;
- tests during production: dimensional check, 100% leak test, statistical check of torque and statistical check of bending moment,
- final tests: checking internal and external tightness, marking, checking the operation of meter (selection of change gears), calibration.

Final tests consists also of checking the permissible errors of indication and pressure absorption in accordance with paragraph A.2.1. of EN 1359:2017.

Installation, utilisation and repair.

Requirements concerning installation, utilisation and repair are described in operation and maintenance manual provided with the gas-meter.

Control of the measuring tasks of the instrument in use

Gas-meters are subject to conformity assessment according to directive 2014/32/EU (MID). In order to make a proof of performed conformity assessment the appropriate manufacturer's symbols are being stamped. Separate national legislation determine the date when gas-meter should be submitted to next legalization after completion of conformity assessment.

Security measures

Gas-meter UG may be secured by different means:

1) Through the index window.

   Down right on the transparent index window, the seal symbol "Mx" is printed before the index window is mounted. The index is locked by an index blockage when the index window is mounted. This locking can be released only if the index window is removed and thereby broken.

2) Securing by a seal.

   On the right side of the index, there is a possibility to apply a seal with manufacturer's symbol "Mx". This seal, too, prevents the opening of the index.

3) Securing through the index window and by a seal.

   It is possible to secure the appliance using both of a/m ways, but the manufacturer's symbol "Mx" is printed only on 1 seal.

For a special client's request Apator Metrix may carry out an additional calibration made by INiG-PIB Calibration Laboratory. Calibration is confirmed by seal with INiG-PIB's mark that is put on gas-meter's index.

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Marking requirements

Each meter shall be marked with at least the following information, either on the index or on a separate data plate.

a) The type approval mark and number (if appropriate),
b) The identification mark or manufacturer's name;
c) the serial number of the meter,
d) year of manufacture,
e) the maximum flowrate Q_{max} (m^3h^{-1});
f) the minimum flowrate Q_{min} (m^3h^{-1});
g) the maximum working pressure, p_{max} (bar);
h) the nominal cyclic volume, V (dm^3);
i) the number and date of the standard EN 1359:2017;
j) ambient temperature range, if greater than -10°C to 40°C;
k) gas temperature range, if different from ambient temperature range;
l) accuracy class of the meter,
m) any additional marking required by the annexes of the standard,
n) additional marking required by legislation, e.g. the number of type or design examination certificates and marking showing conformance with legislation;

If gas-meter is resistant to high ambient temperature it should be additionally mark with „T" symbol.

Marking should be visible and permanent in normal operating conditions of gas-meter.

If gas meter is intended to use outdoors, it should be additionally marked with the symbol H3.

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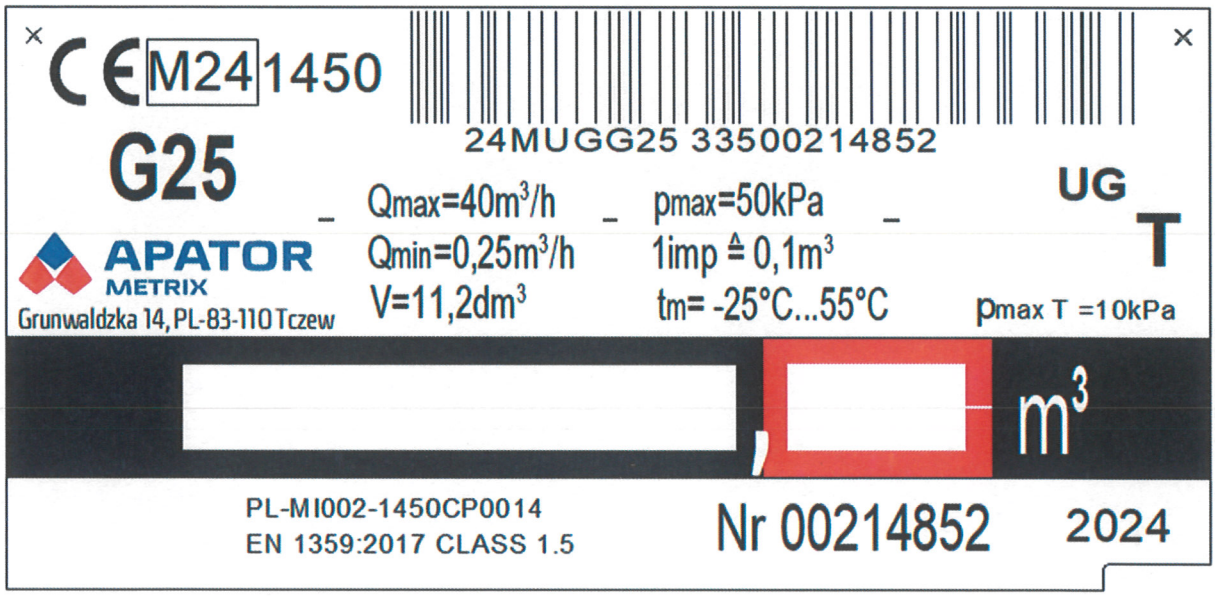
Labelling and inscriptions

Gas-meter marking example



Mx

Manufacturer's mark

Kraków, 22-10-2024

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Table of certificate's revisions PL-MI002-1450CP0014		
Issue No.	Description of introduces changes	Date
1	-----	30-09-2014
2	Merging certificates No. PL-MI002-1450CP0013 i PL-MI002-1450CP0014 into a single equivalent document	13-10-2014
3	Extension of the scope of certificate by the gas meter's case with distance between connections 250 mm. Change in cyclic volume from 6 dm^3 to 5.6 dm^3	17-04-2015
4	Extension of the scope of certificate by the gas meter's case with distance between connections 152,4 mm and 300 mm	17-12-2015
5	Extension of the scope of certificate by the new gas meter type G25	19-07-2016
6	Information on the electromagnetic class E1 added, removal of marking K2v and membrane type notation corrected	08-09-2022
7	Change of reference documents (harmonised standards) and adding the supplementary test reports on page 1	27-02-2023
8	Extension of the scope of certificate by EFFBE membrane and by the single-connection case - version for the G10 and G16 gas meters	29-05-2023
9	Certificate renewal for the next 10 years	12-09-2024
10	Supplementing this table with the following information regarding 9th Issue 9: update of the harmonized standard PN-EN 1359:2017-11, introduction of an alternative transmission design (new construction of the base of transmission gears assembly, new overmoulded central mandrel), the UG5.6 measurement unit bottom bracket and the update of laboratory test reports, as well as removing the record for SMI membrane (CSQ3 material)	22-10-2024