EU TYPE EXAMINATION CERTIFICATE
No. PL-MI002-1450CL0001

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 instrument:

Diaphragm gas meters

type:	**UG G1,6; UG G2,5; UG G4; UG G6, UG G40, UG G65**
being manufactured by:	**APATOR METRIX S.A.** **ul. Grunwaldzka 14, 83-110 Tczew, Polska**
manufacturing sites:	**mentioned on 2nd page**

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]** **OIML R 137 1&2:2012** (gas-meters in version UG-FP & UG-FL, UG-FL2 and UG G40, UG G65 outside the scope of OIML)
test reports:	25/GM/2022, 6/GM/2022, 6/GM/2020, 7/GM/2020, 8/GM/2020/P, 9/GM/2020, 3167-3/3, 6/GM/2019/P, 26/GM/2017, 34/GM/2023, 52/GM/2023, 1/GM/2024, 2/GM/2024, 3/GM/2024, 4/GM/2024, 47/GM/2025 issued by: Zespół Laboratoriów Badawczych Sieci, Instalacji i Urządzeń Gazowych Instytutu Nafty i Gazu – Państwowego Instytutu Badawczego
pages:	**9**
certificate is valid until:	**9th February 2030**

Certification Office Manager
Magdalena Swat

Instytut Nafty i Gazu * Państwowy Instytut Badawczy * 4

Director of Instytut Nafty i Gazu Państwowy Instytut Badawczy
Jan Brożek

Kraków, 09.01.2026

13th issue, replaces 12th issue of 11-04-2024

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Appliance

Diaphragm gas meter

Measuring series / case version

UG G 1,6	UG G 2,5	UG G4	UG G6	UG G40	UG G65
in case /version:	in case /version:	in case /version:	in case /version:	in case /version:	in case /version:
UG-F; UG-NL UG-EN; UG-ALU UG-DE; UG-FP UG-MG	UG-F; UG-NL UG-EN; UG-ALU UG-DE; UG-FP UG-MG	UG-F; UG-NL UG-EN; UG-ALU UG-DE; UG-FP UG-MG	UG-FL UG-FL2	335-2½" 335-DN65 430-DN65 510-DN65 430-DN80 500- DN80 510-DN80 570-DN80 640-DN80 680-DN80 680-DN100 720-DN100	335-2½" 335-DN65 430-DN65 510-DN65 430-DN80 500- DN80 510-DN80 570-DN80 640-DN80 680-DN80 680-DN100 720-DN100

Manufacturing places:

Main production place:

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

Alternative localisation of manufacturing of gas-meters for case version UG-F (110 mm; 130 mm) and UG-FP (110 mm, 130 mm):

METRIKS GAZ VE SU ARMATÜRLERI SAN. VE TIC. LTD. ŞTI
75. Yil Mahallesi EOSB, 17.nci Cadde, No. 1, Eskişehir, Turkey

Design of the instrument

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

Measurement unit body (battery) consists of measuring chambers protected by walls, each chamber operates moving diaphragms (bellows) that are connected from both sides of the body by the distribution duct with separate inlets and a common outlet duct. In the body there are two shafts coupled with diaphragm discs, and at the opposite side with a crank set, timing mechanism and an outlet bevel differential for the magnetic drive.

Case unit comprises of two individually shaped upper and lower deep drawn vessels, when cross-sectioned resemble a rectangular form. The vessels have flanges, which are mated together and tightly connected by band clip creating a sealed unit, or in the case of UG G40 and UG G65 gas meters tightened tightly with screws. Connectors are placed securely within the upper part and the outlet connector of the battery is fitted securely to the outlet connector inside the upper part. The magnetic clutch sub-assembly is placed inside the front face of the upper part and the body of index units bevel differential (gearing) is then with magnetic drive.

Index unit has a body with two shafts for number drums and pinions. The initial number drum is coupled with a gear train drive transmission which rotates the number drums. In addition, a fascia plate is mounted to the body and an index window is secured over the fascia plate and body. The Index window allows the usage reading from number drums.

Technical data

Technical documentation - list of figures

No.	Gas meter	Fig no. *for ratio 3:4* *for ratio 1:1*	Remarks
1.	Gas-meter UG G1,6 in case UG-F	SQ000000 SQ000001	main assembly drawing
2.	Gas-meter UG G2,5 in case UG-F	SO000000 SO000001	main assembly drawing
3.	Gas-meter UG G4 in case UG-F	SN000000 SN000001.1	main assembly drawing
4.	Gas-meter UG G1,6 in case UG-NL	SX000000.NL SX000001.NL	main assembly drawing
5.	Gas-meter UG G2,5 in case UG-NL	SW000000.NL SW000001.NL	main assembly drawing
6.	Gas-meter UG G4 in case UG-NL	SU000000.NL SU000001.NL1	main assembly drawing
7.	Gas-meter UG G1,6 in case UG-EN-000	SX000000.M SX000001.M	main assembly drawing
8.	Gas-meter UG G2,5 in case UG-EN-000	SW000000.M SW000001.M	main assembly drawing
9.	Gas-meter UG G4 in case UG-EN-000	SU000000.M SU000001.M	main assembly drawing
10.	Gas-meter UG G1,6 in case UG-EN-130	SX000000.PL SX000001.PL	main assembly drawing
11.	Gas-meter UG G2,5 in case UG-EN-130	SW000000.PL SW000001.PL	main assembly drawing
12.	Gas-meter UG G4 in case UG-EN-130	SU000000.PL SU000001.PL	main assembly drawing
13.	Gas-meter UG G1,6 in case UG-EN-152	SX000000.EN SX000011.EN	main assembly drawing
14.	Gas-meter UG G2,5 in case UG-EN-152	SW000000.EN SW000011.EN	main assembly drawing
15.	Gas-meter UG G4 in case UG-EN-152	SU000000.EN SU000011.EN	main assembly drawing
16.	Gas-meter UG G1,6 in case UG-EN-160	SX000000.ES SX000001.ES	main assembly drawing
17.	Gas-meter UG G2,5 in case UG-EN-160	SW000000.ES SW000001.ES	main assembly drawing
18.	Gas-meter UG G4 in case UG-EN-160	SU000000.ES SU000001.ES	main assembly drawing
19.	Gas-meter UG G1,6 in case UG-ALU	AA000000 AA000001	main assembly drawing
20.	Gas-meter UG G2,5 in case UG-ALU	AB000000 AB000001	main assembly drawing
21.	Gas-meter UG G4 in case UG-ALU	AC000000 AC000001	main assembly drawing
22.	Gas-meter UG G1,6 in case UG-DE	SX000000.DE SX000001.DE2	main assembly drawing
23.	Gas-meter UG G2,5 in case UG-DE	SW000000.DE SW000001.DE2	main assembly drawing
24.	Gas-meter UG G4 in case UG-DE	SU000000.DE SU000001.DE2	main assembly drawing
25.	Gas-meter UG G1,6 in case UG-FP	SQ000000.P SQ000001.P	main assembly drawing
26.	Gas-meter UG G2,5 in case UG-FP	SO000000.P SO000001.P	main assembly drawing

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Technical data

Technical documentation - list of figures con			
No.	Gas meter	Fig no. *for ratio 3:4* *for ratio 1:1*	Remarks
27.	Gas-meter UG G4 in case UG-FP	SN000000.P SN000001.P2	main assembly drawing
28.	Gas-meter UG G1,6 in case UG-MG	MHX000XXX MH1000XXX	main assembly drawing
29.	Gas-meter UG G2,5 in case UG-MG	MFX00XXX MF100XXX	main assembly drawing
30.	Gas-meter UG G4 in case UG-MG	MGX00XXX MG100XXX	main assembly drawing
31.	Gas-meter UG G6 in case UG-FL	MS0000FL.1	main assembly drawing
32.	Gas-meter UG G6 in case UG-FL2	MS0000FL2.1	main assembly drawing
33.	Gas-meter UG G40	H1100000	main assembly drawing
34.	Gas-meter UG G65	K1100000	main assembly drawing

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 G1,6	G1,6	2,5	0,016	1,2	0 ÷ 250
UG G2,5	G2,5	4	0,025 or 0,016	1,2	0 ÷ 250
UG G4	G4	6	0,040 or 0,025 or 0,016	1,2	0 ÷ 250
UG G6	G6	10	0,06	2,4	0
UG G40	G40	65	0,4	16,8	335, 430, 500, 510, 570, 640, 680, 720
UG G65	G65	100	0,65	22,4	335, 430, 500, 510, 570, 640, 680, 720

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Gas-meter class	1,5	
Mechanical Class	M1	
Electromagnetic Environment Class	E1	
Maximum operating pressure p_{max} ..	50 kPa (0,5 bar); 200kPa (2 bar) for UG-ALU	
Ambient temperature range t_m	-25÷55°C	
Gas temperature range t_g	-25÷55°C	
Resistance to high ambient temperature	T (at 10 kPa / 0,1 bar according to EN 1359:2017)	
Index measuring range	99999,999 m^3 for all the gas meters except UG G40 & UG G65 999999,99 m^3 for gas meters UG G40 & UG G65	
1 impulse value	0,01 m^3 for all the gas meters except UG G40 & UG G65 0,1 m^3 for gas meters UG G40 & UG G65	
Nominal cyclic volume V	1,2 dm^3 for UG G1,6; UG G 2,5; UG G4 2,4 dm^3 for UG G6 16,8 dm^3 for UG G40 22,4 dm^3 for UG G65	
Distance between connections.....	UG-F:	0 mm or 100 mm or 110 mm or 130 mm
	UG-NL:	220 mm
	UG-EN:	0 mm or 130 mm or 160 or (6") 152,4 mm
	UG-ALU:	100 mm or 110 mm
	UG-DE :	220mm or 250 mm
	UG-FP*:	100 mm or 110 mm or 130 mm
	UG-MG:	110 mm or 130 mm or 160 or (6") 152,4 mm
	UG-FL:	0 mm
	UG-FL2:	0 mm
	UG G40	335 mm or 430 mm or 500 mm or 510 mm or 570 mm or 640 mm or 680 mm or 720 mm
	UG G65	335 mm or 430 mm or 500 mm or 510 mm or 570 mm or 640 mm or 680 mm or 720 mm
Size of connection.....	DN20÷DN25; DN65; DN80; DN100	
Membrane type	EFFBE (material 401617P) or SMI (material CSQ3) for all the gas meters except UG G40 & UG G65 SMI (material CSQ3) for gas meters UG G40 & UG G65	
Family of gases	Gaseous fuels: family 1,2 & 3 acc. to EN 437	
The UG G4 gas meters (except for the UG-FP version) meet the requirements of Assessment Criteria No. KO-05-23 and can be can be used to measure 100% hydrogen		
Gas-meters equipped with devices that prevent the registration of reverse flow	UG G1,6; UG G2,5; UG G4; UG G40, UG G65	

* Gas-meters version UG-FP (gas inlet from right side)

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 0,01 m^3, for all the gas meters except UG G40 & UG G65; for gas meters UG G40 & UG G65 it 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: measurement 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. 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. 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.

   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.

3) The UG G40 and UGG65 gas meters are secured by two seals on the bolts twisting the two halves of the gas meter and by a seal on the index which prevents opening the index.

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Marking requirements

Each gas-meter should bear a marking plate on index or as a separate plate having at least the following information:

a) identification mark or manufacturer's name;

b) CE mark, additional metrology marking, identifying number of notified body

c) accuracy class of the meter;

d) meter's serial number and year of production;

e) maximum flowrate Q_{max} (m^3/h);

f) minimum flowrate Q_{min} (m^3/h);

g) maximum working pressure, p_{max} (bar) (or kPa);

h) nominal cyclic volume, V (dm^3);

i) number and issue year of standard of object;

j) ambient temperature range, if higher than -10°C to 40°C;

k) gas temperature range, if different from ambient temperature range;

l) additional marking required by legislation, e.g. the number of type examination certificate;

Requirements according OIML:

m) transition flow rate Q_t

n) gas temperature range for which the errors of the gas meter shall be within the limits of the maximum permissible error $t_{min} – t_{max}$;

o) gas pressure range for which the errors of the gas meter shall be within the limits of the maximum permissible error $p_{min} – p_{max}$;

p) character V or H, as applicable, if the meter can be operated only in the vertical or horizontal position;

q) indication of the flow direction;

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

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

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

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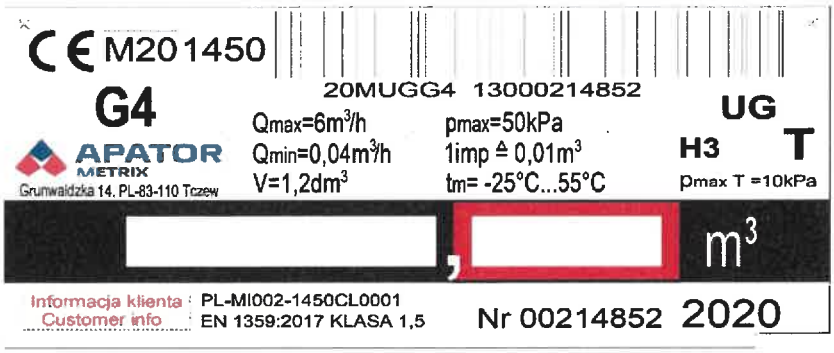
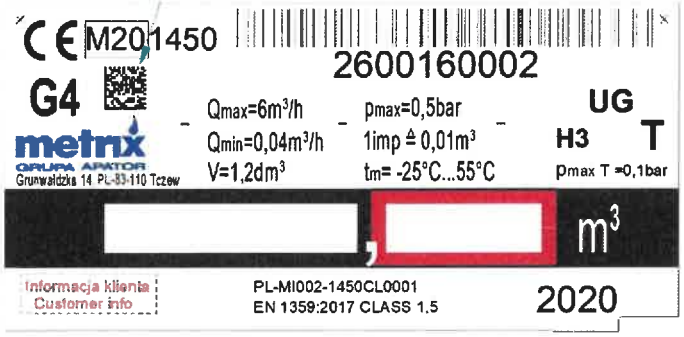
Labelling and inscriptions

Gas-meter marking example



Apator Metrix

Kod Data Matrix wg ISO/IEC 16022 schemat Code ECC 200
Informacja zawarta w kodzie: **Made by Metriks LTD. STI**



Metriks LTD. STI
Alternative production site

Manufacturer's mark

Kraków, 09-01-2026

Certification Office Manager
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Table of certificate's revisions PL-MI002-1450CL0001		
Issue No.	Description of introduces changes	Date
1	-----	09-02-2010
Annex No. 1	Extension of the scope of certificate by the case versions UG-F, UG-NL, UG-EN	31-08-2010
Annex No. 2	Extension of the scope of certificate by new manufacturing place in Turkey	21-06-2011
Annex No. 3	Extension of the scope of certificate by the distances between connections for cases versions: UG-EN, UG-F and by new case version UG-ALU	06-10-2011
Annex No. 4	Extension of the scope of certificate by the case version UG-DE	23-03-2012
2	Extension of the scope of certificate by gas-meters designed to use outside (marked H3) and by SMI membrane for gas-meters UG G4	10-10-2014
3	Correction of values of Q_{min} for gas-meters UG G2,5 & UG G4	19-01-2015
4	Extension of the scope of certificate by SMI membrane for the whole gas-meter series and by the new cases version UG-MG & UG-FP	08-05-2015
5	Update of production site in Turkey	04-02-2016
6	Extension of the scope of certificate by the requirements of OIML R 137 1 & 2:2012	22-09-2017
7	Renewal of certificate with extension of the scope by adding gas-meter UG G6	10-02-2020
8	Extension of the scope of certificate by the new case version UG-FL2	25-06-2021
9	Extension of the scope of certificate by the new gas-meter's UG G40 & UG G65	31-05-2022
10	Delete entry on page 5 "excluding gas meters UG G40 and UG G65" in point determining the resistance to high ambient temperature, addition of report numbers and 335 mm distance between connections for the UG G65 gas meter, completion of the list of construction documents for 1:1 ratio gas meters	23-09-2022
11	Extension of the scope of certificate by the distances between connections 430 mm and 510 mm for gas meters UG G40 and UG G65, correction of the construction documents numbers in items 3, 6, 22-24, 27 and 31	09-10-2023
12	Extension of the scope of the certificate by the distances between connections: 335-DN65; 500-DN80; 570-DN80; 640-DN80 and 680-DN80 for UG G40 and UG G65 gas meters and adding compliance with the requirements of Assessment Criteria No. KO-05-23 for the UG G4 gas meter for measuring 100% hydrogen	11-04-2024
13	Extension of the scope of certificate by the distances between connections 430-DN65, 510-DN65 and 680-DN100 for gas meters UG G40 and UG G65	09-01-2026