

EU TYPE EXAMINATION CERTIFICATE

No. PL-MI002-1450DL0002

Certification Office of INiG-PIB hereby states that the measuring instrument:

Diaphragm gas meters

Type (models): **UG G1,6; UG G2,5; UG G4**

Produced for: **Raychem RPG Pvt. Ltd,
Waghjainagar Industrial Association
GAT no. 357/97, Waghjai Nagar, Off Chakan Talegaon Road,
Chakan, Taluka-Khed, Dist - Pune 410501 INDIA**

Manufacturing site: **APATOR METRIX S.A.
83-110 Tczew ul. Grunwaldzka 14, Poland**

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: **EN 1359:2017**

test reports: **6/GM/2020, 7/GM/2020, 8/GM/2020**

pages: **5**

certificate is valid until: **23rd June 2030**

Certification Office Manager



Magdalena Swat



Director of Instytut Nafty i Gazu
Państwowy Instytut Badawczy



Maria Ciechanowska

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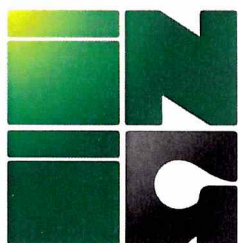


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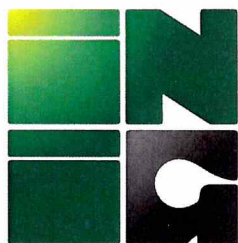


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Appliance					
Diaphragm gas meter					
Type (models)					
UG G1,6		UG G2,5		UG G4	
Case version					
UG-F					
Design of the instrument					
<p>Diaphragm gas-meter type UG consists of three units: measurement (battery), case and index.</p> <p>Measurement 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.</p> <p>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. 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.</p> <p>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.</p>					
Technical data					
Technical documentation - list of figures					
1.	Gas-meter UG G1,6-G4 in case UG-F		SN000000.2P1	main assembly drawing	
Type (models)	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	100 or 110 or 130
UG G2,5	G2,5	4	0,025 or 0,016	1,2	100 or 110 or 130
UG G4	G4	6	0,040 or 0,025 or 0,016	1,2	100 or 110 or 130



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Gas-meter class	1,5
Mechanical Environment 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 10 kPa / 0,1 bar according to EN 1359:2017)
Index measuring range	99999,999 m ³
1 impulse value	0,01 m ³
Nominal cyclic volume V	1,2 dm ³ for UG G1,6; UG G 2,5; UG G4
Distance between connections.....	100 mm or 110 mm or 130 mm
Size of connectors.....	DN20÷DN32
Membrane type	EFFBE or SMI
Weight	1,8 kg
Family of gases	Gaseous fuels: family 1, 2 & 3 acc. to EN 437
Gas-meters equipped with devices that prevent the registration of reverse flow	UG G1,6; UG G2,5; UG G4

Interfaces and compatibility conditions

Gas-meter may be connected to reed relay low frequency impulse transmitter type NI-3 produced by Apator Metrix S.A. 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 m³.

Requirements on production, putting into use and utilisation

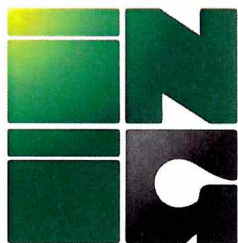
Production.

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

- 100 % inspection of incoming goods (the quantity inspection), statistical quality inspection,
- 100 % checking torque on bosses,
- 100 % external leakage,
- 100 % error of indication,
- 100 % pressure absorption,
- 100 % markings.

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 sealed by two different means:

1) Through the index window.

Down right on the transparent index window, the seal symbol "Mx" is pressed from inside. 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 physical (metal or plastic) 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 visible (marked) only on 1 seal.

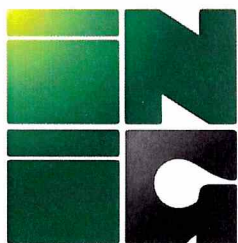
Marking requirements

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

- identification mark or manufacturer's name;
- CE mark, additional metrology marking, identifying number of notified body
- accuracy class of the meter;
- meter's serial number and year of production;
- maximum flowrate Q_{\max} (m^3/h);
- minimum flowrate Q_{\min} (m^3/h);
- maximum working pressure, p_{\max} (bar or kPa);
- nominal cyclic volume, V (dm^3);
- number and issuance year of harmonised standard;
- ambient temperature range;
- gas temperature range, if different from ambient temperature range;
- such additional marking as is required by legislation, e.g. the number of type examination certificate and marking showing conformance with legislation.

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

All markings shall be in a clearly visible position and shall be durable under the normal conditions of the meter.



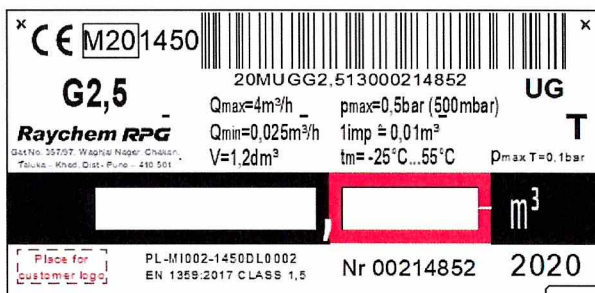
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Labelling and inscriptions

Gas-meter marking example



Legal metrological
control's mark

Certification Office
Manager

Magdalena Swat