CERTYFIKAT BADANIA TYPU UE

EU TYPE EXAMINATION CERTIFICATE

Nr PL-MI002-1450CQ0003

CE 1450

Certification Office of INiG-PIB hereby states that the:

Diaphragm gas meters

measuring series: **UG G1,6** **UG G2,5** **UG G4**

being manufactured by: **METRIX ITALIA S.r.l.**
Via Nona Strada, 53
35129 Padova Italy

in: **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 1359:2004 [EN 1359:1998]**
PN-EN 1359:2004/A1:2006 [EN 1359:1998/A1:2006]
OIML R 137 1&2:2012

test reports: 10/GM/2009+A1:2010; 11/GM/2009, 2/GM/2010, 31/GM/2010, 12/GM/2011, 25/GM/2011, 26/GM/2011, 11/GM/2014, 39/GM/2014, 26/GM/2017

pages: **7**

certificate is valid until: **17th December 2025**

Deputy of
Certification Office Manager
Magdalena Zaręba

Instytut Nafty i Gazu * Państwowy Instytut Badawczy * 4

Director of Instytut Nafty i Gazu
- Państwowy Instytut Badawczy
Maria Ciechanowska

Kraków, 28-05-2018

3rd edition, replaces the 2nd edition of 18-01-2016

INSTYTUT NAFTY I GAZU – Państwowy Instytut Badawczy
PL 31-503 Kraków, ul. Lubicz 25 A
tel.: +48 12 421 00 33 www.inig.pl office@inig.pl

BIURO CERTYFIKACJI
tel.: +48 12 430 38 64 e-mail:
swat@inig.pl

PCA Polskie Centrum Akredytacji – Certyfikacja Wyrobów
AC 010

INSTYTUT NAFTY I GAZU – Państwowy Instytut Badawczy
PL 31-503 Kraków, ul. Lubicz 25 A
tel.: +48 12 421 00 33
www.inig.pl office@inig.pl

BIURO CERTYFIKACJI
tel.: +48 12 430 38 64
e-mail: swat@inig.pl

Appliance
Diaphragm gas meter
Manufacturing sites
1) APATOR METRIX S.A. **ul. Grunwaldzka 14,** **83-110 Tczew, Polska** **2) METRIKS GAZ VE SU ARMATÜRLERI SANAYI VE TICARET LIMITED ŞIRKETI** **EOSB, 17.nci Cadde, No. 1 Eskişehir, Turkey**
Measuring series
UG G1,6 **UG G2,5** **UG G4**
Case version
UG-ALU

Design of the instrument

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

Measuring unit
It contains two measuring chambers including diaphragm, distributing duet and control mechanism including valves and sliders, rocking levers, connecting rods, crank and crankshaft. The measuring unit is equipped with the a device to prevent the registration of reverse flow acc. to the norm EN1359.

Gas meter case
It consists two subassemblies, i.e. top case and bottom case. These units are joint hermetically by means of a case hoop (band). The following parts belong to the top case: magnetic drive with internal and external magnet subassembly and a driving pinion.

Index
It is connected to the top case with screws and is protected from outside by the index housing, which can be locked by a lead seal or the index blockade. The index is also equipped with an additional device to prevent the registration of the reverse flow acc. to EN 1359.

Technical documentation - list of figures

No.	*Gas meters*	*Fig no.*	*Remarks*
1	*Gas-meter UG G1,6 in UG-ALU case*	*AA000000*	*main assembly drawing*
2	*Gas-meter UG G2,5 in UG-ALU case*	*AB000000*	*main assembly drawing*
3	*Gas-meter UG G4 in UG-ALU case*	*AC000000*	*main assembly drawing*

INSTYTUT NAFTY I GAZU – Państwowy Instytut Badawczy
PL 31-503 Kraków, ul. Lubicz 25 A
tel.: +48 12 421 00 33
www.inig.pl office@inig.pl

BIURO CERTYFIKACJI
tel.: +48 12 430 38 64
e-mail: swat@inig.pl

Technical data

Gas-meter trade name	gas-meter size	Maximum flowrate Q_{max}	Minimum flowrate Q_{min}	cyclic volume V	Distance between connections	Finishing
-	-	m^3/h	m^3/h	dm^3	mm	-
1	2	3	4	5	6	7
UG G1,6	G1,6	2,5	0,016	1,2	100, 110	K2v
UG G2,5	G2,5	4	0,025 or 0,016	1,2	100, 110	K2v
UG G4	G4	6	0,040 or 0,025 or 0,016	1,2	100, 110	K2v
K2v – gas-meter with vertical axis connections						

Gas-meter class	1,5
Mechanical Class	M1
Maximum operating pressure p_{max} ..	200kPa (2 bar)
Ambient temperature range t_m	-25÷55°C
Gas temperature range t_g	-25÷55°C
Index measuring range	99999,999 m^3
1 impulse value	0,01 m^3
Nominal cyclic volume V	1,2 dm^3
Distance between connections	UG-ALU : 100 mm or 110 mm
Nominal size of connections	DN20÷DN32
Membrane type	EFFBE or SMI
Weight	~2 kg
Family of gases	Gaseous fuels: family 1,2 & 3 acc. to EN 437:2003 +A1:2009

INSTYTUT NAFTY I GAZU – Państwowy Instytut Badawczy
PL 31-503 Kraków, ul. Lubicz 25 A
tel.: +48 12 421 00 33
www.inig.pl office@inig.pl

BIURO CERTYFIKACJI
tel.: +48 12 430 38 64
e-mail: swat@inig.pl

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.

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 1359:1998/A1:2006.

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 2004/22/EC (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.

   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.

INSTYTUT NAFTY I GAZU – Państwowy Instytut Badawczy
PL 31-503 Kraków, ul. Lubicz 25 A
tel.: +48 12 421 00 33
www.inig.pl office@inig.pl

BIURO CERTYFIKACJI
tel.: +48 12 430 38 64
e-mail: swat@inig.pl

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);*
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;*

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.

INSTYTUT NAFTY I GAZU – Państwowy Instytut Badawczy
PL 31-503 Kraków, ul. Lubicz 25 A
tel.: +48 12 421 00 33
www.inig.pl office@inig.pl

BIURO CERTYFIKACJI
tel.: +48 12 430 38 64
e-mail: swat@inig.pl

Labelling and inscriptions

Gas-meter marking example

Manufacturer's mark

Kraków, dnia 28-05-2018 r.

Deputy of
Certification Office Manager
Magdalena Zaręba

INSTYTUT NAFTY I GAZU – Państwowy Instytut Badawczy
PL 31-503 Kraków, ul. Lubicz 25 A
tel.: +48 12 421 00 33
www.inig.pl office@inig.pl

BIURO CERTYFIKACJI
tel.: +48 12 430 38 64
e-mail: swat@inig.pl

Table of certificate's revisions PL-MI002-1450CQ0003		
Issue No.	*Description of introduces changes*	*Date*
1	-	18.12.2015
2	*Change of the address of the production site*	18.01.2016
3	*Change of the address of the manufacturer, new reference document: OIML R 137 1&2:2012*	15.03.2018