DANAK
PROD Reg.No. 7025

FORCE Certification

EC-Type Examination Certificate

Measuring Instrument Directive

Certificate number: DK-0200-MI002-025

Issued by FORCE Certification A/S, Denmark
EC-notified body number 0200

In accordance with The Danish Safety Technology Authority's statutory order no. 436 of 16th May 2006 with later amendments which implements the Directive 2004/22/EC of the European Parliament and Council of March 31st, 2004 and amendment on measuring instruments (MID).

Issued to: **APATOR METRIX SA**
ul. Piaskowa 3
83-110 Tczew
Poland

Reference No.:	80.976-176/10
Type of instrument:	Diaphragm Gas Meter with temperature conversion
Type designation:	Uniflo G6S
Valid until:	July 24, 2019
Number of pages:	6, including appendix
Date of issue:	June 06, 2011
Version:	Original

Approved by

Hans Falster
Director

Processed by

Kurt Rasmussen
Certification Manager

The conformity markings may only be affixed to the above type approved equipment. The manufacturer's Declaration of Conformity may only be issued and the notified body identification number may only be affixed on the instrument when the production/product assessment module (D or F) of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

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Appendix to
EC-Type Examination Certificate
Measuring Instrument Directive

Certificate no. DK-0200-MI002-025

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Applied standards and documents:

EN 1359:1998/A1:2006. Gas meters – Diaphragm gas meters. Pressure absorption with integrated valve (option V) exceeds the initial permissible values in table 3.
EN 12405-1:2005/A1:2006. Gas meters – Conversion devices – Part 1. Volume conversion.
WELMEC Guide 7.2, Issue 4, may 2008. Software Guide (Measuring Instruments Directive 2004/22/EC).

The software fulfils the basic requirements for type P and specific requirements I2
The software fulfils the requirements for extension S and D.

The instrument shall correspond to the following specifications:

Type designation

Uniflo G6S

Description

Uniflo G6S is a diaphragm gas meter with electronic index. The mechanical measuring unit is mounted in steel plate housing with either two-pipe or co-axial connections. The measuring unit includes a mechanical blockage which prevents registering of more than 50 cyclic volumes in case of reverse flow through the meter.

The measuring unit's movements are transmitted via an optical scanning to the electronic index. The gas meter converts the measured volume to volume at base condition (converted volume). The conversion is based on measured temperatures, a fixed set value of gas pressure and a fixed set conversion constant.

The calculator in the index registers the measured gas volume and calculates a volume corrected for the meter error determined during calibration. The calculator is fitted with a display showing the corrected volume, or the converted accumulated volume in m^3 at base condition.

The meter is available with the following options:

T	temperature conversion
M	M-bus output
V	integrated valve
R	radio communication
(blank)	without any of the above options

Functional errors activate a warning triangle on the display.

The calculator is supplied with a IR communication interface which may be used for remote reading and coding of the calculator. Coding can only be made with a special configuration software after an electrical connection (jumper) has been mounted on the printed circuit board.

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The printed circuit board is protected by the metrologic cover, which again is secured by a verification seal. The software used in the calculator has version number 012400XX-YY, where XX and YY are of no significance to the measurement or in any other way may change the properties of the meter according to this EC-type examination certificate.

On start-up of the meter the index will show an abbreviated version of the software version number: 01 XX YY.

The meter is resistant to high ambient temperature and suitable for differential temperature and intermittent operation.

Technical documentation

FORCE Certification A/S File no. 80.976-085/09 (electronic index)

FORCE Certification A/S File no. 80.976-176/10 (gas meter)

Technical data

Instrument type:		Diaphragm gas meter	
Accuracy class:		1,5	
Environment class:		M1, E2	
Climatic class:		-25°C to +55°C, condensing, closed outdoor location.	
Volume indication:		m^3 at base condition or actual conditions	
Maximum flow rate:	Q_{max}	10	m^3/h
Minimum flow rate:	Q_{min}	0,06	m^3/h
Transitional flow rate:	Q_t	1	m^3/h
Overload flow rate:	Q_r	12	m^3/h
Cyclic volume	V_c	2,2 dm^3	
Gas family:		Fuel gasses of 1st, 2nd and 3rd family (EN 437:2003)	
Maximum pressure:	p_{max}	0,5 barg	
Gas temperature range:	t_m	-25 °C to +55 °C	
Base gas temperature:	$T_{b,i}$	0 to 20 °C	
Base pressure:	p_b	1013 mbar	
Base volume:	V_b	0 – 99999.9999 m^3	
Specified temperature:	t_{sp}	20 °C	

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Power supply	3 or 3.6 V Lithium battery, AA, double AA or C-cell, ER 6 / ER20 according to IEC 86-1, "Primary batteries"

High ambient temperature resistant

The meter is supplied with different connections:

Two-pipe, with centre distance 110 to 250 mm, threads from 1/2" to 5/4"

Mono-pipe (coaxial) 2"

Software

Version no.:	012400XX-YY
	01 is the version no. for the approved legal part of the software
	2400 is the type no.
	XX is the application no.
	YY refers to the hardware.
Display:	In the display is shown 01 XX YY on start-up
Checksum:	Legal software ver. 01 has the checksum 10799
Main PCB	6024800-01-0001: For wired M-bus
	6024801-01-0001: For option board

Verification

Errors

Maximum permissible errors (MPE) according to Directive 2004/22/EC of the European Parliament and Council of March 31st, 2004 on measuring instruments (MID), Annex MI-002.

Ambient temperature t_{am}: -25 °C to +55 °C

Maximum permissible errors

For t_{am}: +5 °C to +35 °C

±3 % for $Q_{min} \leq Q < Q_t$

±1,5 % for $Q_t \leq Q < Q_{max}$

The gas meter shall not exploit the MPEs or systematically favour any party.

If the meter is supplied with option T (temperature conversion) an additional increase of 0,5 % to MPE is permitted for each interval of 10 °C for t_{am} below 5 °C and above 35 °C.

Procedure

Verification is carried out at laboratory conditions. It is permitted to use air as verification gas.

The verification is valid only for the display reading of converted volume V_b or corrected volume V_c.

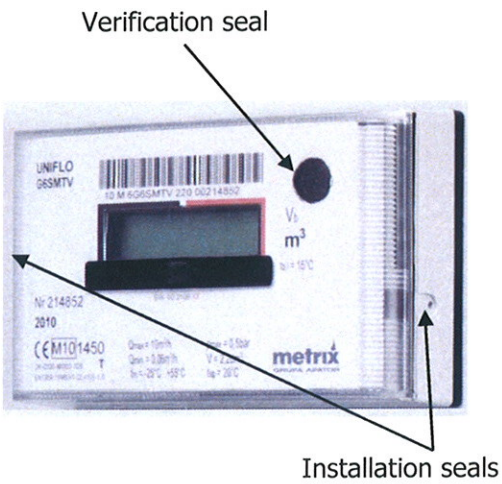
Sealing

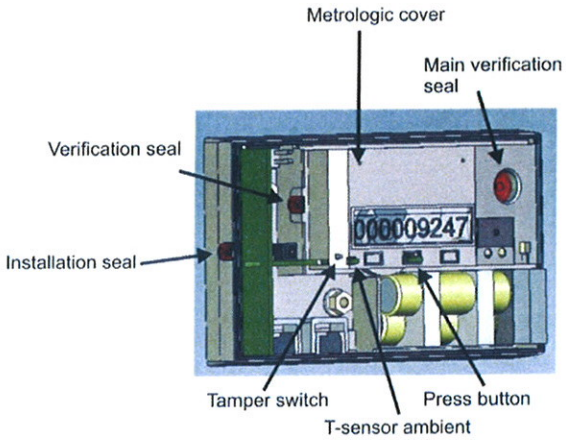
Verification sealing

The main verification seal is placed in the metrologic cover. The main verification seal locks the index to the meter body, and the front label to the index. The metrologic cover is sealed with the main verification seal, and a secondary seal. The main verification seal consists of two shaped letters "Mx" encircled in a serrated octagon.

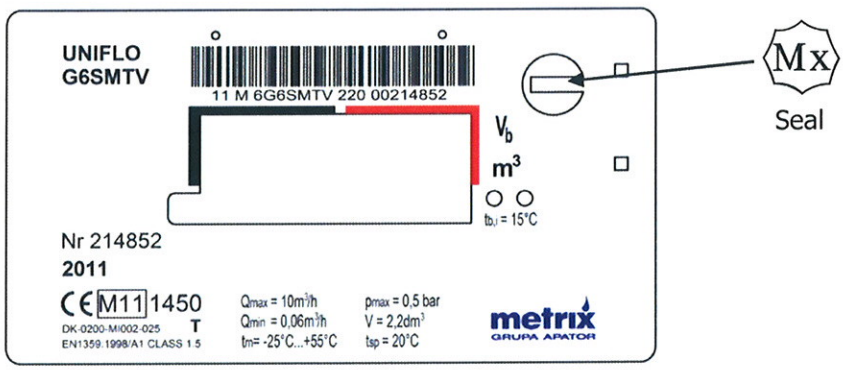
Installation sealing

The transparent front cover is secured by two installation seals, one on each side of the index. The installation seals are small plastic caps which are pressed and locked into a hole in the cover and index. The seals are marked with the year of sealing.





Labelling and inscriptions



Conformity marking (CE + M + Year of affixing + NB no.)
EC-type examination certificate number
Manufacturer designation or logo
Type, production year and serial number

Applied European Standard		:	EN 1359:1998/A1:2006
Class		:	1,5
Maximum flow rate:	Q_{max}	:	10 m^3/h
Minimum flow rate:	Q_{min}	:	0,06 m^3/h
Ambient and gas temperature:	t_m	:	-25 °C ... +55 °C
Base gas temperature:	$t_{b,i}$	:	0 to 20 °C
Specified temperature:	t_{sp}	:	20 °C
Maximum working pressure:	p_{max}	:	0,5 barg
Volume:	V_b or V_c	:	m^3
Cyclic volume:	V_c	:	2,2 dm^3
High ambient temperature resistant		:	T

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Accompanying information

Rated operating conditions not included on the label:

- Transition flow rate: Q_t = 1m^3/h
- Overload flow rate: Q_r = 12 m^3/h
- Climatic class: condensing, closed outdoor location
- Mechanical and electromagnetic environment classes: M1, E2
- Gas family: Fuel gasses of 1st, 2nd and 3rd family (EN 437:2003)
- Power supply: Lithium battery, 3 or 3.6 V DC
- Software version number: 012400XX-YY
- Legal software checksum: 10799

Suitable for significantly different ambient and gas temperatures.

Instructions for installation, maintenance, repairs, permissible adjustments

Instructions for correct operation and any special conditions of use

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