Diaphragm Gas Meter

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1. Introduction

Diaphragm Gas Meters (Steel cases) can be used in calculating petro-gas, natural gas, oil-gas and other kind of gas.

The frame of diaphragm gas meter with steel case is founding of cold-rolled sheet; and the core is made of metal, rubber and engineering plastic which can resist acid and alkali some strong & hard antiseptic measures such as spraying plastic with static electricity and tin-plating are taken to process the inner & outer parts of the made-products. The Diaphragm is made of synthetic rubber, and the material of spud connection is steel. It has the features of accurate measurement, high sensitivity, stable performance, reliable safety and long service life.

The technical performance complies with the national standard GB/T6968-97 (class B) and OIML-R31.

2. Features & working principle

2.1 Features

2.1.1 Design for Wearing resistance

Put the middle object between the moving part and the bearing part or the jointing part to form the friction of the combination of rolling and sliding to reduce the moving friction and increase the service life of the transmission parts.

2.1.2 Automatically clear the partial swing valve structure.

Design the clearing groove on the contacting surface of the slide valve. When the slide valve moves, it can take the pollutants of the surface into the groove constantly by using the special slide valve material and achieve self-lubricating function.

2.1.3 Drive energy by rotating. The rotating capacity of the series gas meter is relatively large in the same specification, it shows that under the same pressure loss, it has larger capacity of driving, and has strong ability of sewage dredging, preventing naphthalene freezing and icing.

2.1.4 Add the system rigidity in the design so as that it can be used for long in the state of the big flux and even much bigger.

2.1.5 The unique design of the case and the surface treatment technology make the appearance more beautiful, easy to clean, lasting bright and convenient for installation and move.

2.2 Working principle:

The gas meter uses the positive displacement diaphragm principle. Its design consists of a twin-chamber diaphragm-measuring unit. The twin chambers are each fitted with a flexible and gastight diaphragm which move by the differential inlet and outlet

pressure. A transmission system with a rotating mono-valve, and a valve system, transfer the reciprocating motion, driving the mechanical retrofit table index. The whole measuring
system is contained in a robust gastight casing.

3. Application range

3.1 Media

This series gas meter is suitable for the gases which meet the various requirements of the medium GB50028-93--"town gas design specifications," in which natural gas meets GB17820-1999 standard, man-made gas meets GB/T13612-1992 standard and liquefied petroleum gas meets GB11174-1997 standards. This series gas meter can also be used to measure the non-corrosive combustible gas in low-pressure conditions.

3.2 Environmental condition

3.2.1 Environmental temperature-20℃~+50℃；

3.2.2 Relative humidity≤98%

3.3.3 Atmospheric pressure 86~106kPa

3.3 Other conditions should be fit for the relevant requirements.

4. Technical Specifications

Model Number		Unit	G1.6	G2.5	G4	G6	G10	G16	G25
Maximum Flow		m^3/h	2.5	4.0	6.0	10.0	16.0	25.0	40.0
Minimum Flow		m^3/h	0.016	0.025	0.04	0.06	0.10	0.16	0.25
Operating pressure range		Kpa	0.5～50						
Total Pressure Loss		pa	＜200						
Permissible Error	Qmin≤Q＜0.1Qmax	%	±3						
	0.1Qmax≤Q＜Qmax	%	±1.5						
Rangeability			100:1 (Min)						
Repeatability		%	±0.1%(Max)						
Connection Size		in	3/4"	3/4"	3/4"	3/4"	1"	2"	
			Can be adjusted according to the request of buyer						
Max. Index Reading		m^3	99999.999				99999.99		
Operating ambient temperature		℃	-20～+50						
Storage tempera rare		℃	-10～+50						
Service life		Year	＞10						
Relative Humidity		%	98%(30℃)						

5. Installation & usage

5.1Installation

5.1.1 While installing, pay attention to the direction of the gas flowing which is in line with the direction this meter shows

5.1.2 While installing the meter, it is better to use the supporting rack to remove the effect of the gravity.

5.1.3 The meter should be installed upright.

5.2 Usage

5.2.1 Before using the gas meter, check the air tightness of the connections (the leak checking with flame can't be used). While using, the valve should be opened slowly then to the position of completely open

5.2.2 Before getting through the gas, count the value of the initial record. While recording, the value of the counter should be paid attention to. It is composed by five (or six) integer and the three (or two) decimal fraction. The measuring unit of the integral part is cubic meter (m^3).

5.2.3 The amount of air flow (the user's amount) during the period after the installation and the value recording equals to the value of this time minus the value of last time

5.2.4 While in the process of using (running) the gas meter, if there are some abnormal sound or the abnormal counts, contact the maintenance personnel timely so as to eliminate the faults of the meter as soon as possible.

5.2.5 This meter shall be ensured seal integrity not only in the process of installation, but also in use. Users mustn't open the case and the seal of the meter.

6. Testing and Maintenance

6.1 Testing

The testing period of this series meter is two years; the nominal flux of our national standard is over 10 m^3/h and the longest testing period in not over three years.

6.2 Maintenance

The maintenance of the gas meters should be carried out by the person who got special training of the gas company.

7. Package, transportation, storage & documents

7.1 Package

Gas meter should be put into a fastness box (the meter that has middle or small diameter is used with foam and paper box), the meter should be motionless in box. The box should be conveyed with caution, not to be pushiness loading and unloading.

7.2 Transportation

No Rough Handling while the transportation.

7.3 Storage

Storage of the gas meter should meet the following conditions:

Avoiding rain and humidity

Avoiding mechanical vibration and shock

Temperature range: -30～+60℃

Relative humidity: 98%

No erosive gas in environment

7.4 Documents along with the gas meters

Product manual, packing list, test report.

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