Take the Leap Towards

Home Utility Management

www.ripplemetering.com
Ripple gas meters G1.6/G2.5/G4 are gas volume measurement instruments for coal gas, natural gas, LPG and all non-corrosive gases. It is designed and developed according to world advance technology, based on our rich experience, with the merits of small size, light in weight, accurate measurement, high sensibility and low noise. This series gas meters are all certified by Chinese standards GB/T6968-1997 and international standard OIML R31.

Features
- Compact size, light weight.
- Stable accuracy and smooth operation.
- High metrological performance, low noise level.
- Low pressure loss.
- Inner rotary parts of self-lubricating materials.
- Case: Steel, inlet & outlet connection, digital display.
- Synthetic rubber for diaphragm with long service life.
- Equipped with anti-theft device to prevent reverse flow of gas through the meter.
- Magnetic transmission for volume indication keeps excellent air tight.
- Rotary valve operation type ensures long time stable, smooth operation & min wear.
- High quality plastic and stainless metal components, plastic coating inside & outside the cases ensure the meter’s long-life service.
- Pulse output (optional).

Application Standards
- GB/T 6968-1997  DIAPHRAGM GAS METER
- JJJG 577-2005  DIAPHRAGM GAS METER
- ISO9001: 2008  QUALITY CONTROL SYSTEM
- OIMOL R31
## Accuracy Curve

![Accuracy Curve](image)

## Meter Size

<table>
<thead>
<tr>
<th>Item</th>
<th>Measure</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F(Thread)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1.6</td>
<td>130(110)</td>
<td>227</td>
<td>214</td>
<td>164</td>
<td>70</td>
<td>M30X2</td>
<td></td>
</tr>
<tr>
<td>G2.5</td>
<td>130(110)</td>
<td>227</td>
<td>214</td>
<td>164</td>
<td>70</td>
<td>M30X2</td>
<td></td>
</tr>
<tr>
<td>G4</td>
<td>130(110)</td>
<td>227</td>
<td>214</td>
<td>164</td>
<td>70</td>
<td>M30X2</td>
<td></td>
</tr>
</tbody>
</table>

## Technical Parameter

<table>
<thead>
<tr>
<th>Description</th>
<th>G1.6</th>
<th>G2.5</th>
<th>G4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Flow Rate $q_n \text{m}^3/\text{h}$</td>
<td>1.6</td>
<td>2.5</td>
<td>4</td>
</tr>
<tr>
<td>Max. Flow Rate $q_{\text{max}} \text{m}^3/\text{h}$</td>
<td>2.5</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Min. Flow Rate $q_{\text{min}} \text{m}^3/\text{h}$</td>
<td>0.016</td>
<td>0.025</td>
<td>0.040</td>
</tr>
<tr>
<td>Permissible Error</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$q_{\text{min}} \leq q &lt; 0.1 \frac{q_{\text{max}}}{10}$</td>
<td>$\pm 3%$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$0.1 \frac{q_{\text{max}}}{10} \leq q \leq \frac{q_{\text{max}}}{10}$</td>
<td>$\pm 1.5%$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure Loss Pa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. Flow Rate $q_{\text{min}} \text{m}^3/\text{h}$</td>
<td>$\leq 50$</td>
<td>$\leq 110$</td>
<td>$\leq 170$</td>
</tr>
<tr>
<td>Working Pressure kPa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.5 - 50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycle Volume dm$^3$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Reading m$^3$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>99999.999</td>
<td></td>
<td></td>
</tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Ambient Temperature ºC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-20 - 50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Weight kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Product Description

• Ripple Gas Meter is a smart gas volumetric meter with prepayment function.
• It is designed based on our rich experience of smart payment meters.
• With this meter, Gas Company sells gas to consumer by IC Card through CMS.
• The consumer brings IC Card home and inserts IC Card into the meter once.
• The meter will record the bought gas amount and start auto calculating.
• The internal valve will close when there is a fraud attempt or lack of credit.
• Also, the total gas consumed amount and current left gas amount can be inquired and displayed on the LCD by pressing "Inquiry" button.

Application Standards

• GB/T17626.3-1998  DIAPHRAGM GAS METERS
• GB/T6968-1997  DIAPHRAGM GAS METERS
• GB3836.1-2000  ELECTRIC COMPONENTS
• OIML-R31  EN1359/MID
**Prepaid Gas Meter**

**Work Principle**

- **IC Card**
- **SCM**
- **Flowrate Single**
- **LCD**
- **Valve Control Circuit**
- **Valve**

**Meter Size**

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimention (mm)</th>
<th>CG-L-G1.6</th>
<th>CG-L-G2.5</th>
<th>CG-L-G4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>130/110</td>
<td>227</td>
<td>214</td>
<td>164</td>
<td>96.5</td>
</tr>
<tr>
<td>E(Thred)</td>
<td></td>
<td>M30X2</td>
<td></td>
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</tr>
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<td></td>
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<td>Pressure Loss Pa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. Flow Rate $q_{min}$, m$^3$/h</td>
<td>≤ 120</td>
<td>≤ 200</td>
<td>≤ 250</td>
</tr>
<tr>
<td>Working Pressure kPa</td>
<td>0.5 - 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Voltage V</td>
<td>5 - 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Current iA</td>
<td>&lt; 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Measurement Error m$^3$</td>
<td>≤ 0.01</td>
<td></td>
<td></td>
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<tr>
<td>Cyclic Volume dm$^3$</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Ambient Temperature °C</td>
<td>-20 + 50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Weight kg</td>
<td>2.4</td>
<td></td>
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AMR/AMI Gas Meter G1.6/G2.5/G4

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AMR / AMI Gas Meters

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Permissible Error

- $q_{min} \leq q < 0.1 q_{max}$: $\pm 3\%$
- $0.1 q_{max} \leq q \leq q_{max}$: $\pm 1.5\%$

Pressure Loss Pa

- $q_{min}$: $\leq 50$ Pa
- $110$ Pa
- $170$ Pa

Working Pressure kPa

- $0.5 - 50$

Cycle Volume dm$^3$

- $1.2$

Max. Reading m$^3$

- $99999.999$

Min. Reading dm$^3$

- $0.2$

Operating Ambient Temperature °C

- $-20 + 50$

Net Weight kg

- $2$
Valve Parameter

1. For natural gas or LPG use
2. Working temperature: -20°C to +65°C
3. Voltage range: DC3 ~ 6V
4. Motor resistance: 14±1Ω
5. Electrical inductance 11mH·
6. When the working voltage is DC3.0V:
   6.1 Working current: < 40mA
   6.2 Locked rotor current: < 230mA
   6.3 Motor valve open time <1.0S
7. Valve gas flow pipe diameter: Φ22
8. Valve Stroke: ≥4.5mm
9. Suitable Gas Meter: G1.6~G4
10. Valve Pressure loss:
    10.1 For gas meter G1.6 & G2.5 at 4m³/h ≤30pa
    10.2 For gas meter G4 at 6m³/h ≤50pa
11. Wire connection:
    11.1 Red wire connected with +, Black wire connected with – Valve close
    11.2 Red wire connected with -, Black wire connected with+ Valve open
12. Valve Usage Notice:
    12.1 Don’t expose the valve to the sun for long time.
    12.2 The valve maximum working voltage is DC7V, do not use voltage above DC7V.
    12.3 Do not let the valve moving above 2 seconds when it is blocked, otherwise the motor inside may be damaged.
Valve Dynamic Waveform

3.0V
Note: vertical coordinates one grid is 100mA
Abscissa one grid is 500mA

4.5V
Note: vertical coordinates one grid is 100mA
Abscissa one grid is 500mA

6.0V
Note: vertical coordinates one grid is 100mA
Abscissa one grid is 500mA
Advantages of an AMR/AMI System

- The Utility Meter readings will be recorded automatically without human effort.
- The Utility consumption can be monitored and recorded as frequently as every 15 mins, 1 hr, daily.
- Timely Billing with high accuracy resulting in fixed billing date and fast collection.
- Improvement in Work efficiency and safety because of AMR/AMI Home Utility Management at Gated Communities.
- The Utility consumption data is stored at a highly secured Cloud storage for Data Analysis.
- The Data analytics on recorded data will help us to report Unusual Events, Tamper Alarms, reduction of estimated usage readings along with faster resolution of billing disputes if any.
- Real Time diagnostics and maintenance details can be monitored through Consumer’s WEB and Mobile Portals.
- AMI enables consumers and utility providers to have a full control to operate utility meters allowing to remotely switch ON/OFF these meters individually.
- AMI Control feature will allow hourly billing of these Home Utilities.
- AMI allows Utility providers to bill the consumer in Pre-paid and Post-paid methods to consume these utilities.
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