Quantometer Q

Short Pattern Turbine
Gas Flow Meters

Applications

- **Media:**
  - natural gas, methane, city gas
  - oxygen (up to 10 bar*), non-aggressive gases, further gases on request

- **Branches:**
  - gas industry, chemicals, foodstuffs, industry, district heating, power plants, petrochemicals

- **Functions:**
  - controlling, regulation, registration, analysis, monitoring, examining, evaluation

  *special version

Operation

Elster Q quantometers are flow meters for gaseous media which display actual volume. The measurement is made with the help of a turbine wheel, whose revolutions are proportional to the actual volume flowing through the meter (or the volume at actual operating conditions). The revolutions of the turbine wheel are reduced by a gear. The volume is then displayed on an 8-digit mechanical roller counter.

Brief information

The Q series of quantometers is well known in the field of industry and commerce as a robust and accurate turbine meter. It has a low price and is particularly suitable for highly-accurate and reliable metering, also in higher flow and pressure ranges. The Q quantometer meets the highest industrial standards in terms of quality. Depending on the size of the meter and the conditions of application, the quantometer has self-lubricating, maintenance-free bearings or is lubricated by pressure oil (oil pump). It is possible to equip the quantometer with additional devices such as volume correctors or external pulsers.

The Q quantometer can be used in hazardous areas up to zone 1. It is easy to install in a pipeline and is capable of registering, monitoring and transferring measurement data. With a Q quantometer, volume (m³) in production processes can be measured exactly. By constantly controlling and monitoring the gas flow, the use of energy in a production process, for example, can be optimized. The flow meters can be combined with an Elster DS-/DL-data storage device or EK210, EK230 and EK260 volume correctors if required.

Installation tips

Up to a diameter of DN 150, the quantometer can be installed in any position. From a diameter of DN 200 upwards we recommend a horizontal installation. The flow direction in the quantometer is marked by an arrow on the housing.

Main features

- Low cost gas flow meter
- Meter sizes Q 65 - Q 16 000
- Flow ranges 5 - 25 000 m³/h
- Rangeability up to 1:20, for higher pressure up to 1:100
- Nominal width DN 50 - DN 500
- Pressure rates up to 100 bar
- Flange connections according to DIN or ANSI
- Length 1.5 DN
- Housing made of spheroidal graphite cast iron, cast steel or welded steel
- Suitable for outdoor installation (IP 67)
- Two low frequency pulsers standard
- Approved by German DVGW
**Product group Q**

<table>
<thead>
<tr>
<th>Metering</th>
<th>Measuring range m³/h</th>
<th>65</th>
<th>100/160/250</th>
<th>250/400</th>
<th>400/650/1000</th>
<th>1000/1600</th>
<th>1600/2500/</th>
<th>4000 to 16000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q</strong></td>
<td>6 to 100</td>
<td>Q 100: 10 to 160</td>
<td>Q 160: 13 to 250</td>
<td>Q 250: 20 to 400</td>
<td>Q 400: 32 to 650</td>
<td>Q 650: 50 to 1000</td>
<td>Q 1000: 80 to 1600</td>
<td>Q 1600: 130 to 2500</td>
</tr>
<tr>
<td><strong>Accuracy in flow range</strong></td>
<td><strong>Q&lt;sub&gt;min&lt;/sub&gt;</strong> = 0.2 Q&lt;sub&gt;max&lt;/sub&gt;</td>
<td>&lt; 3 % from measured value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Accuracy in flow range</strong></td>
<td>0.2 Q&lt;sub&gt;max&lt;/sub&gt; - Q&lt;sub&gt;min&lt;/sub&gt;</td>
<td>&lt; 1.5 % from measured value</td>
<td></td>
<td></td>
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<tr>
<td><strong>Gas temperature</strong></td>
<td>Ambient temperature</td>
<td>-20°C to +60°C (for GGG-40, welded steel DN 250 and up, or DN 200 ANSI 600). -20°C to +60°C (for cast steel)</td>
<td></td>
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</tbody>
</table>

### Metering

**Standard version:** IN-S10 with a 2.5 m open-ended 6-wire cable.

- **IN-S11:** with a 6-pin flange plug and a connector socket (Binder 423 system).
- **IN-S12:** with two 6-pin flange plugs and two connector sockets (Binder 423 system).

**Options:**
- **IN-S11:** with a 6-pin flange plug and a connector socket (Binder 423 system).
- **IN-S12:** with two 6-pin flange plugs and two connector sockets (Binder 423 system).

**(outputs/pulse values (imp/m³))**

<table>
<thead>
<tr>
<th>LF E1</th>
<th>Reed switch</th>
<th>HP A1R</th>
<th>Proximity switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF E1</td>
<td>Reed switch</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>HP A1R</td>
<td>Proximity switch</td>
<td>28500</td>
<td>10500</td>
</tr>
</tbody>
</table>

**Pin assignment**

**Low-frequency pulser**

1. **E1:** white - brown
2. **E2:** green - yellow
3. **PCM:** gray - pink

**View of soldered side of connector socket (female)**

**High-frequency pulser**

- **E1:** grey - pink

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**Q EN02**

A20021119

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**Subject to change without prior notice**

**11/2002 – Be 1.0**