**Flow Limit Safety Shutoff Valves**

**Model 1**

Model 1 Series flow limit safety shutoff valves automatically shutoff all flow from the cylinder when flow exceeds a factory preset level. The Model 1 is normally installed between the cylinder outlet and the inlet of the pressure regulator. It senses flow as a pressure drop across the preset internal orifice; when the preset differential pressure limit is reached, the valve closes with a snap action for a leak-tight seal.

The quarter turn actuating knob is used to reset this device. Reset is required at startup, opening of the cylinder valve, during purging, and after correction of any process flow problem or excess flow demand causing the Model 1 to shut off. The reset knob is designed to indicate clearly the operating position: Open (Reset) or Auto Shutoff.

Six flow ranges are available. The actual flow shutoff value for each range is dependent upon the operating pressure. The graph to the right shows the relationship between operating pressure and actual flow shutoff for each range. It is suggested that the range selected provides shutoff at six to ten times the anticipated actual process flowrate to allow for short term flow surges not connected with catastrophic line failure.

Model 1 Series flow limit valves range A through D have a 4 psi (0.3 bar) nominal operating differential pressure. Ranges E and F have a 12 psi (0.8 bar) nominal operating differential pressure. The operating differential pressure is created by a small spring. This device is not affected by the mounting altitude. It works in any mounting position independent of gravity.

### Specifications

- **Inlet Pressure:** 10 to 3500 psi (0.7 to 241 bar)
- **Operating Differential Pressure:**
  - Q1-01-A to D: 4 psi (0.3 bar) nominal
  - Q1-01-E and F: 12 psi (0.8 bar) nominal
- **Flow Limit Value:** See ordering information
- **Stability/Repeatability:** ±10%
- **Operating Temperature:** -10°F to 150°F (-23°C to 65°C)

### Materials of Construction

- **Body:** 316L Stainless Steel
- **Diaphragm:** Elgiloy® or equivalent
- **Seat:** PCTFE
- **Poppet:** 316L Stainless Steel
- **Cap:** 316L Stainless Steel
- **Knob:** Anodized aluminum

### Nominal Flow Limit Values

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Nominal Flow Limit Value at 30 psig (2 bar) Inlet</th>
<th>Nominal Flow Limit Value at 1000 psig (69 bar) Inlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-01-A(*)</td>
<td>0.4 LPM</td>
<td>5 LPM</td>
</tr>
<tr>
<td>Q1-01-B(*)</td>
<td>2 LPM</td>
<td>9 LPM</td>
</tr>
<tr>
<td>Q1-01-C(*)</td>
<td>4 LPM</td>
<td>22 LPM</td>
</tr>
<tr>
<td>Q1-01-D(*)</td>
<td>9 LPM</td>
<td>40 LPM</td>
</tr>
<tr>
<td>Q1-01-E(*)</td>
<td>14 LPM</td>
<td>72 LPM</td>
</tr>
<tr>
<td>Q1-01-F(*)</td>
<td>23 LPM</td>
<td>121 LPM</td>
</tr>
</tbody>
</table>

* Specify CGA. Other cylinder connections are available – please contact your Air Liquide representative.