Safety device with multiple function: SR

Type SR for connecting at cylinder regulators and tapping points

The safety device SR according to DIN EN ISO 5175-1:

- avoids dangerous gas mixtures by a gas non-return valve (NV)
- stops flashback through flame arrestor (FA)
- every safety device is 100% tested
- all metal components in brass 2.0401 / spring 1.4310

Safety elements of the IBEDA Safety device SR:

- NV  Gas non-return valve
- FA  Flame arrestor

Maintenance:

The safety devices are to be tested by a qualified and authorised person at regular intervals according to country specific regulations. The safety device is to be tested for gas tightness, gas flow and gas return at least once a year.

We would be pleased to offer you the flashback arrestor testing unit model PVGD.

It is not allowed to open the safety devices.

**Technical Data:**

<table>
<thead>
<tr>
<th>Gas types:</th>
<th>Acetylene (A)</th>
<th>Hydrogen (H)</th>
<th>Natural Gas (M)</th>
<th>Oxygen (O)</th>
<th>Compressed Air (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working pressure:</td>
<td>0,15 MPa 1,5 bar</td>
<td>0,40 MPa 4,0 bar</td>
<td>0,40 MPa 4,0 bar</td>
<td>2,5 MPa 25,0 bar</td>
<td>2,5 MPa 25,0 bar</td>
</tr>
<tr>
<td>Cracking pressure:</td>
<td>50 to 70 mbar position-independent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas temperature:</td>
<td>-20°C up to +70°C (Oxygen -20°C up to +60°C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature:</td>
<td>-20°C up to +70°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure and weight:</td>
<td>diameter: 21,0 mm</td>
<td>length: 60,0 mm</td>
<td>weight: 91,0 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applications:</td>
<td>welding: up to 30 mm</td>
<td>cutting: up to 200 mm</td>
<td>heating: up to 30 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other materials, surface finishing, gas types and additional connections available on request.

The flashback arrestor meets the test criteria of the Australian standard AS4603:1999

The working pressures approved by the UL are different to what is stated above.

Further information in this regard can be provided on request.
Safety Device according to DIN EN ISO 5175-1

**Type:** SR

**Flow rates [air]:**

\[ pv = \text{Primary pressure} \]
\[ ph = \text{Secondary pressure} \]
\[ \Delta p = \text{Primary pressure minus Secondary pressure} \]

**Conversion Factors:**

- 0,1 MPa = 1 bar = 100 kpa = 14,504 psi
- 1 m³/h = 35,31 cu ft/h

<table>
<thead>
<tr>
<th>A</th>
<th>H</th>
<th>P</th>
<th>M</th>
<th>M</th>
<th>O</th>
<th>E</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>QG</td>
<td>C₂H₂</td>
<td>H₂</td>
<td>C₃H₈</td>
<td>CH₄+C</td>
<td>CH₄</td>
<td>O₂</td>
<td>C₂H₄</td>
</tr>
<tr>
<td>F</td>
<td>1,2</td>
<td>3,8*</td>
<td>0,90</td>
<td>1,25</td>
<td>1,4</td>
<td>0,95</td>
<td>1,02</td>
</tr>
</tbody>
</table>

* Conversion factor 2.5 for devices comprising a flame arrestor
  The conversion factor for free flow is 3.8.
  (Reference: BAM report 220, D. Lietze)

**Example:**

\[ QG = QD \times F \]

\[ QG = 6,4 \times 1,2 = 7,68 \text{ m}^3/\text{h} \text{ C}_2\text{H}_2 \]

\[ QG = \text{flow} / \text{gas type} \]
\[ F = \text{conversion factor} \]
\[ QD = \text{flow} / \text{air} \]

**Certification / Technical Standards / Rules**

- BAM Federal Institute for Materials Research and Testing
- UL Underwriters Laboratories Inc.
- DGUV employer’s liability insurance association rules and regulations
- DVS German Association for Welding, Cutting and Allied Processes
- TRBS German Technical rules for operation safety

**Standards / Approvals**

Company certified according to ISO 9001:2015 and ISO 14001:2015,
CE-marking according to: Pressure Equipment Directive 2014/68/EU

(Subject to change without notice)