Safety Device according to DIN EN ISO 5175-1

Type DGN-VA for protection of cylinder regulators, tapping points and distribution lines

The safety device DGN-VA according to DIN EN ISO 5175-1:
- avoids dangerous gas mixtures by a gas non-return valve (NV)
- stops flashback through flame arrestor (FA)
- a temperature-sensitive cut-off valve stops the gas flow when a predetermined temperature is exceeded (TV)
- a dust filter protects the gas non-return valve against contamination
- every safety device is 100% tested
- all metal components in stainless steel 1.4305 / spring 1.4310

Safety elements of the IBERDA Safety Device DGN-VA:
- NV  Gas non-return valve
- FA  Flame arrestor
- TV  Temperature-sensitive cut-off valve

Additional features:
- DF  Dust filter

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 Industrial gas (H) (C)</th>
<th>Natural Gas (Methane) Propane (M) (P)</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>0,35 MPa 3,5 bar</td>
<td>0,50 MPa 5,0 bar</td>
<td>2,5 MPa 25 bar</td>
<td>2,5 MPa 25 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>Threads: ANSI/ASME B1.20.1</td>
<td>1/4NPT F/F&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>1/4NPT F/M&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>1/4NPT M/F&lt;sup&gt;3)&lt;/sup&gt;</td>
<td>3/8NPT F/F&lt;sup&gt;3)&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Measure and weight:</td>
<td>diameter: 23,0 mm</td>
<td>length: 92,0 mm</td>
<td>weight: 211,0 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applications:</td>
<td>Process: welding</td>
<td>cutting</td>
<td>heating</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>up to 30 mm</td>
<td>up to 200 mm</td>
<td>up to 100 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

<sup>3)</sup> F = Female, M = Male
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**Type:** DGN-VA

**Flow rates [air]:**
- \( pv \) = Primary pressure
- \( ph \) = Secondary pressure
- \( \Delta p \) = 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:**

\[
QG = QD \times F
\]

- \( QG = 6.4 \times 1.2 = 7.68 \text{ m}^3/\text{h} \) C₂H₂

- \( QG = \text{flow} / \text{gas type} \)
- \( F = \text{conversion factor} \)
- \( QD = \text{flow} / \text{air} \)

**Certification/Technical Standards/Rules**

TRBS German Technical rules for operation safety, DVS German Association for Welding, Cutting and Allied Processes, DGUV German Employer’s liability insurance association rules and regulations.

**Standards/Approvals**


(Subject to change without notice)