Safety device with multiple function: **DGN**

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

The safety device DGN 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 brass 2.0401 / spring 1.4310

**Safety elements of the IBEDA safety device DGN:**

- 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</th>
<th>Propylene2) (H)</th>
<th>Natural Gas (Methane), (C)</th>
<th>Propane (M)</th>
<th>Ethylene2) (E)</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>0.40 MPa 4.0 bar</td>
<td>2.5 MPa 25 bar</td>
<td>2.5 MPa 25 bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cracking pressure:</td>
<td>50 to 70 mbar position-independent</td>
<td></td>
<td></td>
<td></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>
<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>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure and weight:</td>
<td>diameter:</td>
<td>22.0 mm</td>
<td>length:</td>
<td>87.0 mm</td>
<td>weight:</td>
<td>153.0 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applications:</td>
<td>Process:</td>
<td>welding</td>
<td>cutting</td>
<td>heating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>up to 30 mm</td>
<td>up to 200 mm</td>
<td>up to 100 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other materials, surface finishing, gas types and additional connections available on request.
The working pressures approved by the UL are different to what is stated above.
Further information in this regard can be provided on request.
2) These gas types are not covered by the BAM certification.
Type: DGN

Flow rates [air]:

\[ \begin{align*} 
\text{pv} &= \text{Primary pressure} \\
\text{ph} &= \text{Secondary pressure} \\
\Delta p &= \text{Primary pressure minus Secondary pressure} 
\end{align*} \]

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:

\[ QG = QD \times F \]

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

Certification / Technical Standards / Rules

BAM Federal Institute for Materials Research and Testing,
UL Underwriters Laboratories Inc., DGVU 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)