Safety Device according to DIN EN ISO 5175-1

Safety device (with dust filter): **ESF-3**

**Type ESF-3 for protection of Tapping Points and Distribution Lines**

The safety device ESF-3 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 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 ESF-3:**

- NV  Gas non-return valve
- FA  Flame arrestor

**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>0.30 MPa 3.0 bar</td>
<td>0.40 MPa 4.0 bar</td>
<td>2.0 MPa 20.0 bar</td>
<td>2.0 MPa 20.0 bar</td>
</tr>
<tr>
<td>Cracking pressure:</td>
<td></td>
<td>4 to 6 mbar position-independent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas temperature:</td>
<td></td>
<td>-20°C up to +70°C (Oxygen -20°C up to +50°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature:</td>
<td></td>
<td>-20°C up to +70°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threads:</td>
<td></td>
<td>G1/2RH F&lt;sup&gt;3)&lt;/sup&gt; G3/4RH F&lt;sup&gt;3)&lt;/sup&gt; G1RH F&lt;sup&gt;3)&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure and weight:</td>
<td></td>
<td>diameter:</td>
<td>length:</td>
<td>weight:</td>
<td></td>
</tr>
<tr>
<td>G1/2RH F:</td>
<td>54,5 mm</td>
<td>132,5 mm</td>
<td>ca. 1380 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G3/4RH F:</td>
<td>54,5 mm</td>
<td>132,5 mm</td>
<td>ca. 1330 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G1 RH F:</td>
<td>54,5 mm</td>
<td>132,5 mm</td>
<td>ca. 1255 g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applications:</td>
<td></td>
<td>welding</td>
<td>cutting</td>
<td>heating</td>
<td></td>
</tr>
<tr>
<td>Process:</td>
<td></td>
<td>up to 30 mm</td>
<td>&gt; 700 mm</td>
<td>&gt; 100 mm</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

<sup>3)</sup> F = Female, M = Male
Safety Device according to DIN EN ISO 5175-1

**Type:** ESF-3

**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

**Example:**

\[
QG = QD \times F
\]

\[
QG = A \times 6.4 \times 1.2 = 7.68 \text{ m}^3/\text{h} \text{ C}_2\text{H}_2
\]

**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)