

**Safety device (with dust filter): ESF-50**
**Type ESF-50 for protection of Tapping Points and Distribution Lines**

The safety device ESF-50 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-50:**

- 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.

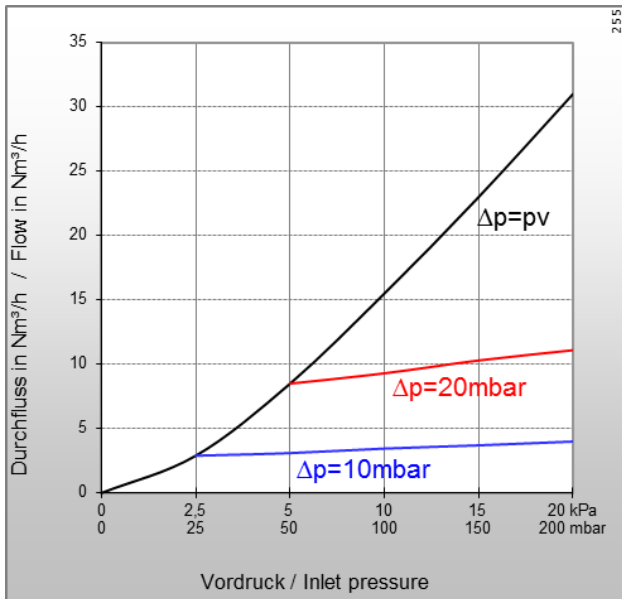
It is not allowed to open the safety devices.

| Technical Data:                              |  |          |            |
|--|--|----------|------------|
| <b>Gas types:</b>                            | Natural Gas (Methane) (M)<br>Propane (P)                                 |          |            |
| <b>Working pressure:</b>                     | 0,015 MPa<br>0,15 bar  |          |            |
| <b>Cracking pressure:</b>                    | 4 to 6 mbar position-independent   |          |            |
| <b>Gas temperature:</b>                      | -20°C up to +70°C ( Oxygen -20°C up to +50°C)                            |          |            |
| <b>Ambient temperature:</b>                  | -20°C up to +70°C  |          |            |
| <b>Threads:</b><br>EN 560,<br>ISO / TR 28821 | G1/2RH F <sup>3)</sup><br>G3/4RH F <sup>3)</sup><br>G1RH F <sup>3)</sup> |          |            |
| <b>Measure and weight:</b>                   | diameter:  | length:  | weight:    |
| G1/2RH F:                                    | 54,5 mm  | 132,5 mm | ca. 1380 g |
| G3/4RH F:                                    | 54,5 mm  | 132,5 mm | ca. 1330 g |
| G1 RH F:                                     | 54,5 mm  | 132,5 mm | ca. 1255 g |
| Applications:                                |  |          |            |
| <b>Process:</b>                              | welding  | cutting  | heating    |
|  | up to 30 mm  | > 700 mm | > 100 mm   |

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



## Type: ESF-50

### Flow rates [air]:

pv = Primary pressure

ph = Secondary pressure

$\Delta p$  = Primary pressure minus Secondary pressure

### Conversion Factors:

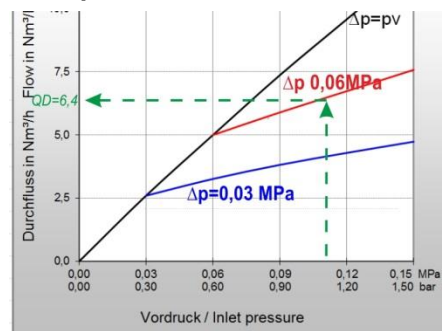
0,1 MPa = 1 bar = 100 kpa = 14,504 psi

1 m<sup>3</sup>/h = 35,31 cu ft/h

|      | A                             | H              | P                             | M                  | M               | O              | E                             | L                             |
|------|-------------------------------|----------------|-------------------------------|--------------------|-----------------|----------------|-------------------------------|-------------------------------|
| QG ▶ | C <sub>2</sub> H <sub>2</sub> | H <sub>2</sub> | C <sub>3</sub> H <sub>8</sub> | CH <sub>4</sub> +C | CH <sub>4</sub> | O <sub>2</sub> | C <sub>2</sub> H <sub>4</sub> | C <sub>3</sub> H <sub>6</sub> |
| F    | 1,2                           | 3,8*           | 0,90                          | 1,25               | 1,4             | 0,95           | 1,02                          | 0,92                          |

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

### Example:



$$QG = QD \times F$$

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

QG = flow / gas type

F = conversion factor

QD = flow / 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

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)