

## Safety device with multiple function: **DG91N-VA**

### Type DG91N-VA for protection of single cylinder and tapping points

The safety device DG91N-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 IBEDA safety device DG91N-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:                      |  |                                    |  |  |                    |
|--------------------------------------|--|------------------------------------|--|--|--------------------|
| <b>Gas types:</b>                    | Acetylene (A)  | Hydrogen (H)<br>Industrial gas (C) | Natural Gas (Methane) (M)<br>Propane (P) | Oxygen (O)   | Compressed Air (D) |
| <b>Working pressure:</b>             | 0,15 MPa<br>1,5 bar  | 0,40 MPa<br>4,0 bar                | 0,50 MPa<br>5,0 bar                      | 2,5 MPa<br>25 bar  | 2,5 MPa<br>25 bar  |
| <b>Cracking pressure:</b>            | 50 mbar position-independent   |                                    |  |  |                    |
| <b>Gas temperature:</b>              | -20°C up to +70°C ( Oxygen -20°C up to +60°C)  |                                    |  |  |                    |
| <b>Ambient temperature:</b>          | -20°C up to +70°C  |                                    |  |  |                    |
| <b>Threads:</b><br>ANSI/ASME B1.20.1 | 1/4NPT F/F <sup>3)</sup><br>1/4NPT F/M <sup>3)</sup><br>1/4NPT M/F <sup>3)</sup><br>3/8NPT F/F <sup>3)</sup> |                                    |  | 1/4NPT F/F <sup>3)</sup><br>1/4NPT F/M <sup>3)</sup><br>1/4NPT M/F <sup>3)</sup><br>3/8NPT F/F <sup>3)</sup> |                    |
| <b>Measure and weight:</b>           | diameter:  | length:                            |  | weight:  |                    |
|                                      | 32,0 mm  | 103 mm                             |  | 370,0 g  |                    |
| Applications:                        |  |                                    |  |  |                    |
| <b>Process:</b>                      | welding  | cutting                            |  | heating  |                    |
|                                      | up to 30 mm  | up to 700 mm                       |  | > 100 mm   |                    |

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

<sup>3)</sup> F = Female, M = Male

## Type: DG91N-VA

### Flow rates [air]:

pv = Primary pressure

ph = Secondary pressure

$\Delta p$  = Primary pressure minus Secondary pressure

### Conversion Factors:

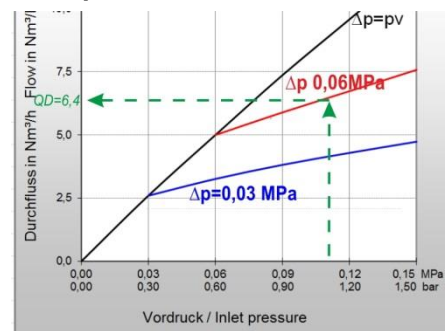
0,1 MPa = 1 bar = 100 kpa = 14,504 psi

1 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)

