IBEDA®
SOLUTIONS FOR GASES

## Safety device with multiple function: DGNK

### Type DGNK for connecting at cylinder regulators and tapping points



The safety device DGNK 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)
- safe interruption of gas flow by automatic gas cut-off when disconnecting
- 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 DGNK:

- NV Gas non-return valve
- FA Flame arrestor
- TV Temperature-sensitive cut-off valve
- SV Shut-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.

Couplings are wearing parts and have to be tested by a qualified and authorised person (at least once a year). The tests have to be performed when the couplings are connected as well as disconnected.
Leakage tests are to be performed with inert gas or air (free from oil and grease) or the operating gas.

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:

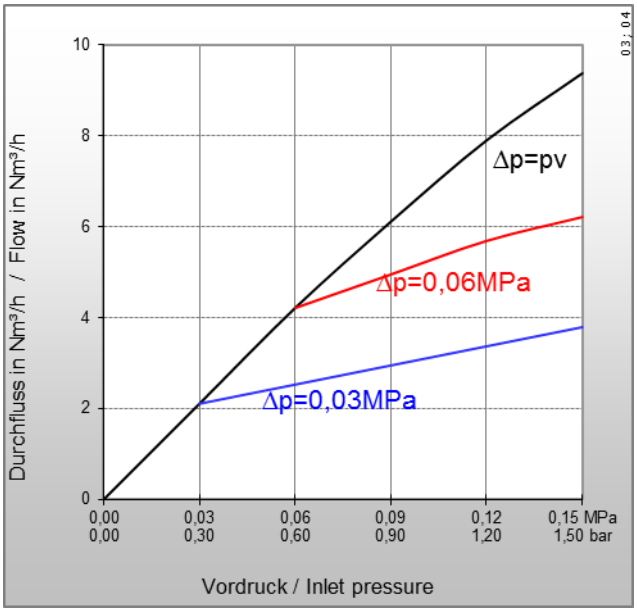
| **Gas types:** | Acetylene (A) | Hydrogen (H)<br>Industrial gas (C) | Natural Gas (M)<br>(Methane)<br>Propane (P) | Oxygen (O) |
|---|---|---|---|---|
| **Working pressure:** | 0,15 MPa<br>1,5 bar | 0,35 MPa<br>3,5 bar | 0,50 MPa<br>5,0 bar | 2,0MPa<br>20 bar |
| **Cracking pressure:** | 50 to 70 mbar position-independent | | | |
| **Gas temperature:** | -20°C up to +70°C ( Oxygen -20°C up to +60°C) | | | |
| **Ambient temperature:** | -20°C up to +70°C | | | |
| **Threads:**<br>EN 560<br>ISO/ TR 28821 | G3/8LH<br>M16x1,5LH<br>UNF9/16-18LH<br>UNF5/8-18LH | | | G1/4RH<br>G3/8RH<br>M16x1,5RH<br>UNF9/16-18RH<br>UNF5/8-18RH |
| **Outlet:** | IBEDA-coupling series N | | | |

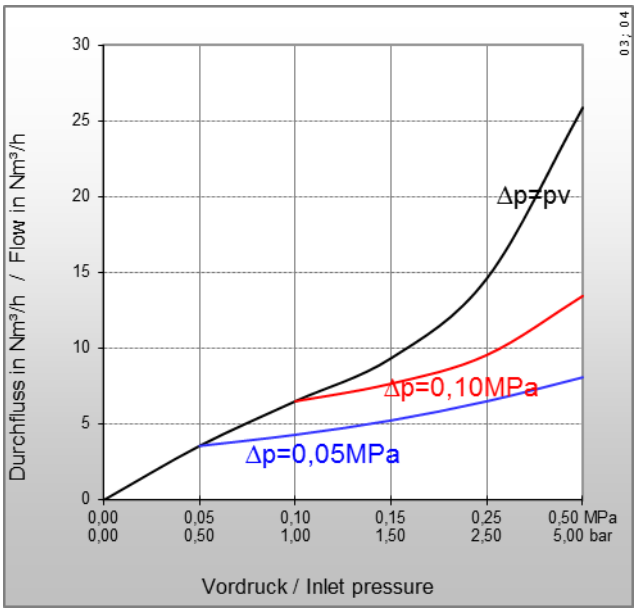
| **Measure and weight:** | diameter: | length: | weight: |
|---|---|---|---|
| | 22,0 mm | 115,0 mm | 221,0 g |

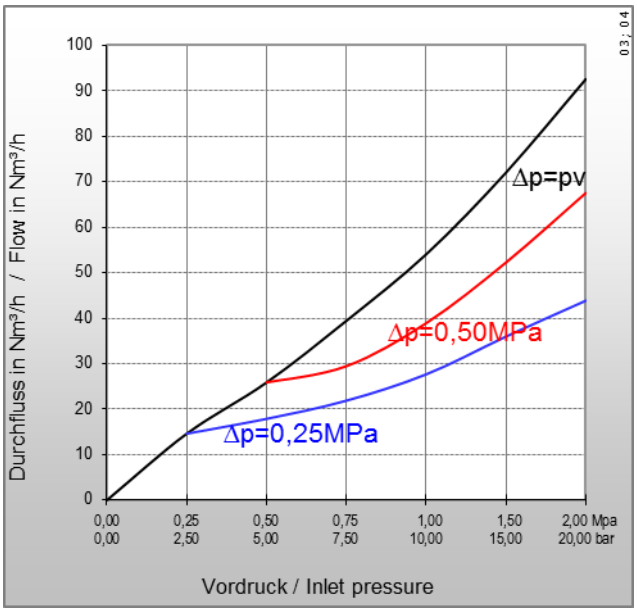
| **Applications:** | | | |
|---|---|---|---|
| **Process:** | welding | cutting | heating |
| | up to 30 mm | up to 200 mm | up to 100 mm |

| **Compatible with:** |
|---|
| Coupling pin N1 and N2 |

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




# Type: **DGNK**

**Flow rates [air]:**

pv = Primary pressure
ph = Secondary pressure
Δp = Primary pressure minus Secondary pressure

**Conversion Factors:**

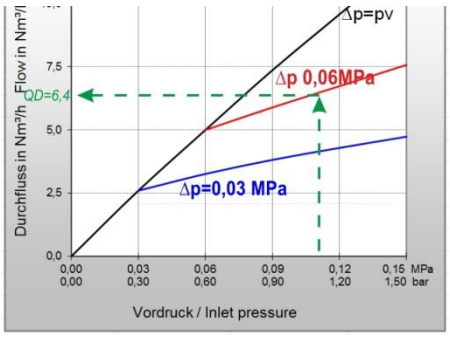
0,1 MPa = 1 bar = 100 kpa = 14,504 psi

1 $m^3$/h = 35,31 cu ft/h

| | A | H | P | M | M | O | E | L |
|---|---|---|---|---|---|---|---|---|
| QG ► | $C_2H_2$ | $H_2$ | $C_3H_8$ | $CH_4$+C | $CH_4$ | $O_2$ | $C_2H_4$ | $C_3H_6$ |
| 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 arrestor
The conversion factor for free flow is 3.8.
(Reference: BAM report 220, D. Lietze)

**Example:**




QG = QD x F

QG ► A = 6,4 x 1,2 = 7,68 m³/h $C_2H_2$

QG = flow / gas type
F = conversion factor
QD = flow / air

**Certification / Technical Standards / Rules**

BAM Federal Institute for Materials Research and Testing, DGUV German 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)