

**The safety device (non-return valve / flashback resistant) GRS25:**

**Type GRS25 for protection of pipelines, tapping points and equipment** The safety device GRS25:

- avoids dangerous gas mixtures by a gas non-return valve (NV)
- flashback-resistant if compressed air is used as oxidant
- 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 non-return valve GRS25:**

- NV Gas non-return valve

**Additional features:**

- DF Dust filter



DG-4390CQ0061

**Maintenance:**

The safety devices are to be tested by a qualified and authorized person at regular intervals according to country specific regulations. The safety device is to be tested for gas tightness and gas return at least once a year.

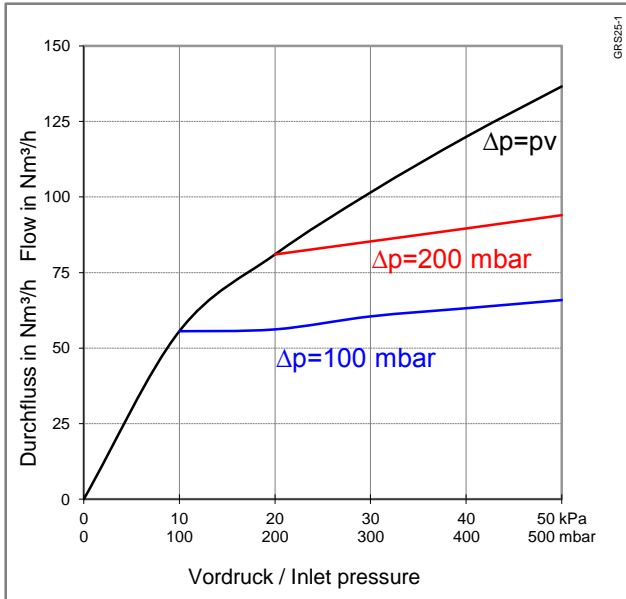
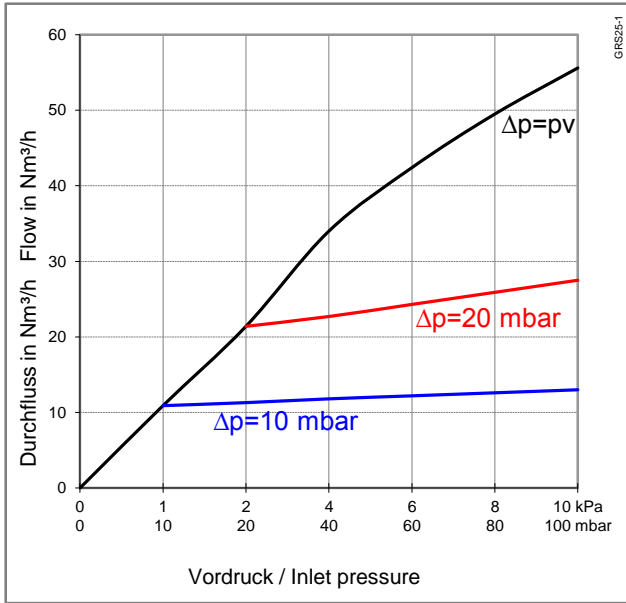
It is not allowed to open the safety devices.

For the female connection sizes G1RH F/F and 1NPT F/F the dust filter may be replaced by a qualified person.

Technical Data:						
<b>Safety device GRS according to DIN EN ISO 5175-2: Flashback resistant if compressed air is used as oxidant.</b>						
<b>Gas types :</b>	Industrial gas C	Hydrogen (H)	Natural Gas (Methane) (M)	Propane (P)	cleaned Bio gas (M)	
<b>Working pressure:</b>	0.15 MPa 1.5 bar		0.5 MPa 5 bar		0.5 MPa 5 bar	
<b>Cracking pressure:</b>	4 to 6 mbar position-independent					
<b>Gas temperature:</b>	-20°C up to +70°C ( Oxygen and Compressed Air -20°C up to +50°C)					
<b>Ambient temperature:</b>	-20°C up to +70°C					
<b>Threads:</b> DIN ISO 228 ANSI/ASME B1.20.1	G1RH F/F <sup>3)</sup> G3/4RH F/F <sup>3)</sup> G1/2RH F/F <sup>3)</sup> 1NPT F/F <sup>3)</sup> 3/4NPT F/F <sup>3)</sup> 1/2NPT F/F <sup>3)</sup>					
<b>Measure and weight:</b>	diameter:		length:		weight:	
G1 - 1NPT:	55 mm		108 mm		1.1 kg	
G3/4 - 3/4NPT:	55 mm		121 mm		1.2 kg	
G1/2 - 1/2NPT:	55 mm		103 mm		1.1 kg	
<b>Application:</b>	Heating burner, gas mixing- and control systems, applications according to EN 746-2					

Other materials, surface finishing, gas types and additional connections available on request.

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



## Type: GRS25

### Flow rates [air]:

pv = Primary pressure

ph = Secondary pressure

$\Delta p$  = Primary pressure minus Secondary pressure

### Conversion Factors:

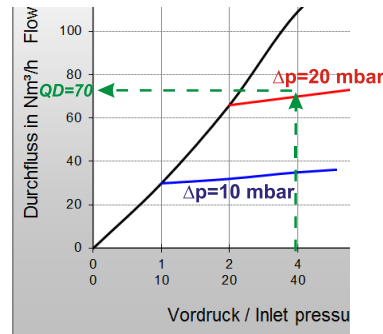
10 kPa = 100 mbar = 0.01 MPa = 0.1 bar = 1.45

psi 1 m<sup>3</sup>/h = 35.31 cu ft/h

	H	P	L	M	M	O
QG ▶	H <sub>2</sub>	C <sub>3</sub> H <sub>8</sub>	C <sub>3</sub> H <sub>6</sub>	CH <sub>4</sub> +C	CH <sub>4</sub>	O <sub>2</sub>
F	3.8*	0.90	0.92	1.25	1.4	0.95

\* 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:



$$QG = QD \times F$$

$$QG \blacktriangleright P = 70 \times 0,9 = 63 \text{ m}^3/\text{h C}_3\text{H}_8$$

QG = flow / gas type

F = conversion factor

QD = flow / air

Example flow rate type: GRS25 G1RH F/F.

Values for other connections on request.

### Declaration of conformity

We, the manufacturer, hereby declare that the safety devices in accordance with the requirement of the following directives and standards

Directive: 2014/68/EU Pressure Equipment Directive

Standard: DIN EN ISO 5175 Part 2

As per Pressure Equipment Directive 2014/68/EU, the safety devices in accordance with EN 730-2 for other inert gases (group 2), Model GRV, are subject to Article 4 Para. 3, Article 5 Para. 1 (Good engineer practice and knowledge).

The manufacturer of these products is neither allowed to issue an EU-conformity declaration nor to provide CE-marking on the product.

### Certification / Technical Standards / Rules

BAM Federal Institute for Materials Research and Testing, DVGW German Technical and Scientific Association for Gas and Water, DGUV German Health and Safety 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)