

The safety device (non-return valve / flashback resistant) **GRS50:**

Type GRS50 for protection of pipelines, tapping points and equipment

The safety device GRS50:

- 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 GRS50:

- NV Gas non-return valve

Additional features:

- DF Dust filter

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.

The dust filter may be replaced by a qualified person.



DG-4390CQ0061

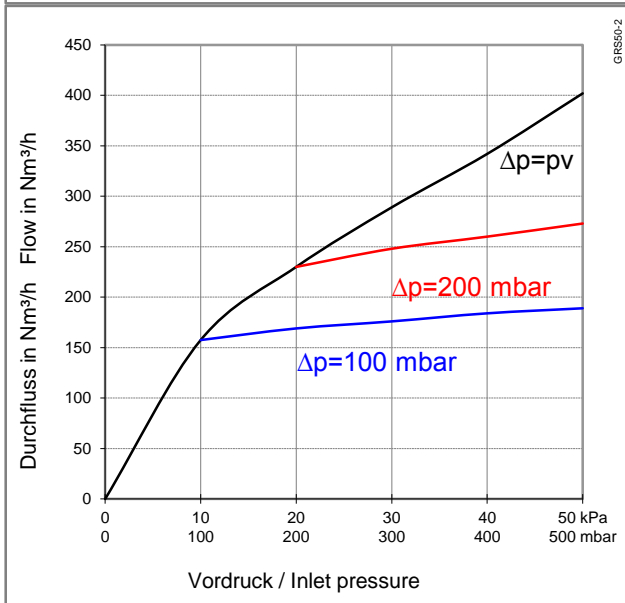
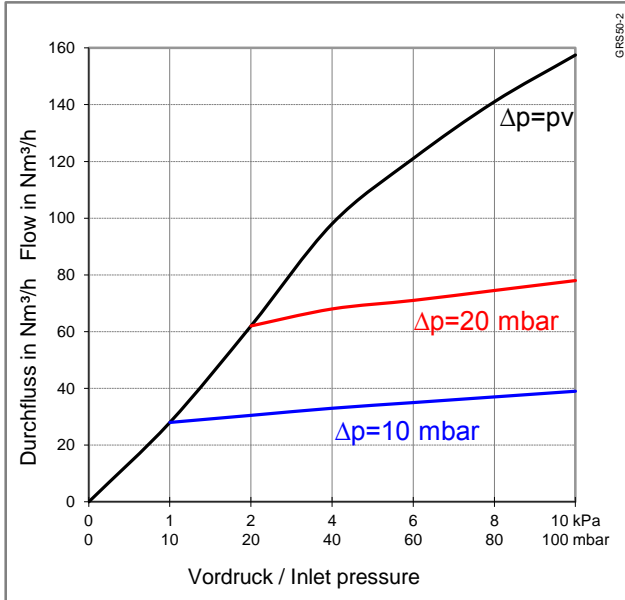
Technical Data:

**Safety device GRS according to DIN EN ISO 5175-2:
Flashback resistant if compressed air is used as oxidant.**

Gas types :	Industrial gas C	Hydrogen (H)	Natural Gas (Methane) (M)	Propane (P)	cleaned Bio gas (M)
Working pressure:	0.1 MPa 1.0 bar		0.5 MPa 5 bar		0.5 MPa 5 bar
Cracking pressure:	4 to 6 mbar position-independent				
Gas temperature:	-20°C up to +70°C (Oxygen -20°C up to +50°C)				
Ambient temperature:	-20°C up to +70°C				
Threads: DIN ISO 228 ANSI/ASME B1.20.1	G2RH F/F ³⁾ G1 1/2RH F/F ³⁾ 2 NPT F/F ³⁾ 1 1/2 NPT F/F ³⁾				
Flange connection: EN 1092-1 Type 04	DN40 DN50				
Measure and weight:	diameter:		length:		weight:
Thread G1 1/2 – 1 1/2NPT:	94 mm		175 mm		6.0 kg
Flange DN40:	150 mm		367 mm		12.0 kg
Thread G2 – 2NPT:	94 mm		176 mm		6.5 kg
Flange DN50:	160 mm		367 mm		12.0 kg
Application:	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.

³⁾ F = Female, M = Male



Example flow rate type: GRS50 G2RH 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

Safety devices in accordance with DIN EN ISO 5175-2 for combustible or oxidising gases (group 1), Model GRV, are subject to the conformity assessment procedure pursuant to Pressure Equipment Directive 2014/68/EU, Category I, Module A.

Type: GRS50

Flow rates [air]:

pv = Primary pressure

ph = Secondary pressure

Δp = Primary pressure minus Secondary pressure

Conversion Factors:

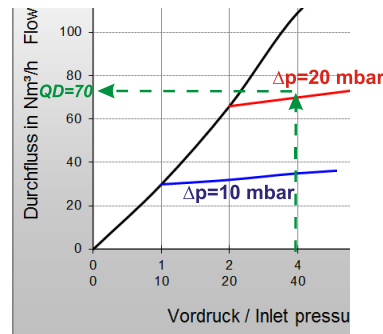
10 kPa = 100 mbar = 0.01 MPa = 0.1 bar = 1.45

psi 1 m³/h = 35.31 cu ft/h

	H	P	L	M	M	O
QG ▶	H ₂	C ₃ H ₈	C ₃ H ₆	CH ₄ +C	CH ₄	O ₂
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

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)