

Safety pressure relief FRSBV

4.15

DUNGS[®]
Combustion Controls



Technical description

The DUNGS safety pressure relief valve, type FRSBV, is a spring-loaded safety blow-off device (SBV) with an adjustable response pressure.

The safety blow-off valve corresponds to DIN 33821.

- Inlet pressures up to 1.0 bar (100 kPa)
- Large flow rate
- Safety diaphragms
- Internal sensor for response pressure as standard
- Threaded connection Rp 1

Application

Safety pressure relief valve for gas burners and gas equipment.

Suitable for gases of gas families 1, 2, 3 and other neutral gaseous media.

Free of non-ferrous metals, suitable for gases up to max. 0.1 vol.% H₂S, dry.

Approval

EC type test approval as per EC Gas Appliance Directive:

FRSBV CE-0085 AS0461

EC type test approval as per EC Pressure Equipment Directive:

FRSBV CE0036

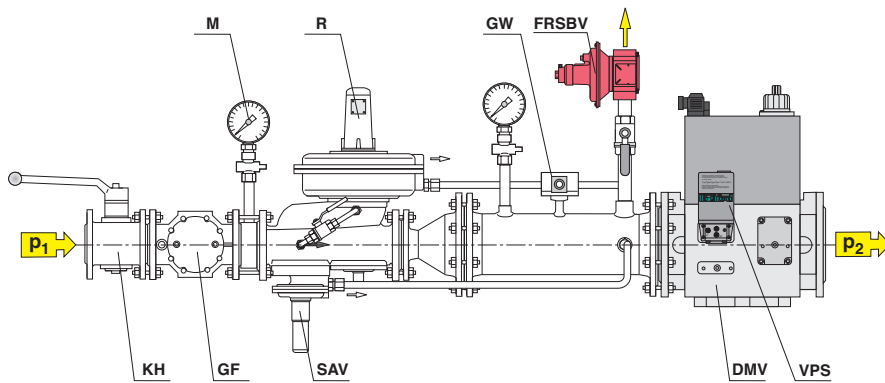
Approvals in other important gas consuming countries.

FRSBV Spring-loaded safety blow-off device with adjustable reference-value spring, internal tap of response pressure.

Specifications

Nominal diameters	DN 25
Pipe thread as per ISO 7/1	Rp 1
Max. operating pressure	up to 1.0 bar (100 kPa)
Safety pressure relief valve	Safety blow-off valve as per DIN 33821
Inlet pressure range	up to 1.0 bar (100 kPa)
Setting range, response pressure	20 mbar (2 kPa) up to 1000 mbar (100 kPa) depending on the adjustable reference value spring
Materials of gas-conveying parts	Housing: Aluminium, steel Seals and diaphragms: NBR
Ambient temperature	-15 °C to +70 °C
Installation position	Spring mandrel from horizontally lying to vertically standing
Test connections	G 1/4 ISO 228 on both sides in inlet range
Pulse connection	Internally in inlet range
Vent line	Vent line only necessary in special cases since safety diaphragms are installed. Connection: G 1/4 ISO 228

FRSBV application, example



Control line

KH	Ball valve
GF	Gas filter
M	Manometer
R	Gas pressure regulator
SAV	Safety slam-shut valve
GW	Gas pressure switch
FRSBV	Safety pressure relief valve
DMV	Double solenoid valve
VPS	Valve proving system

Selecting the spring

The response pressure results from the force of the installed setting spring and the weight of the moving parts.

The safety blow-off valve is equipped

with a yellow spring as standard. By replacing the reference value spring you can set other response pressures.

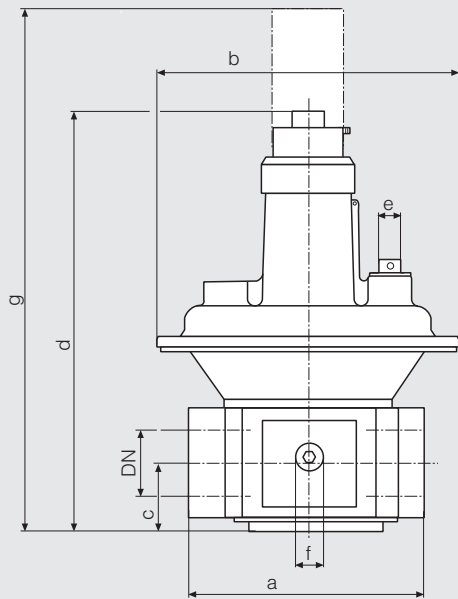
Reference value spring range [mbar]	20 ... 100	70 ... 350	300 ... 1000
Spring colour	Blue spring	Yellow spring Standard	Grey spring
Order No.	226 381	226 382	226 383

⚠ Do not route condensate from lines into safety blow-off valve.

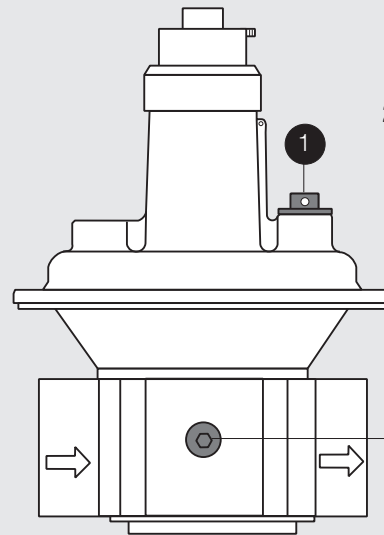
Protect the safety blow-off valve from contamination by using a proper dirt trap.

Do not apply burnable gas or burnable gas air mixtures to the installation space of the setting spring.

Dimensions



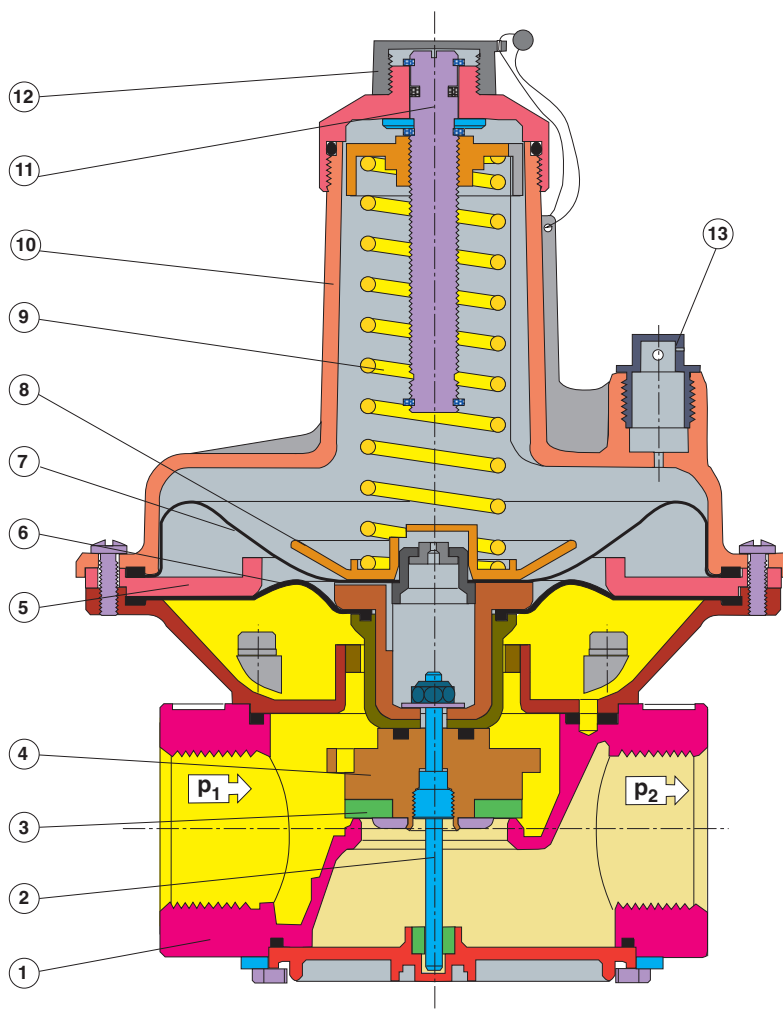
Pressure taps



1. Vent plug
G 1/4 ISO 228
2. Sealing plug
G 1/4 ISO 228
in inlet range on both sides

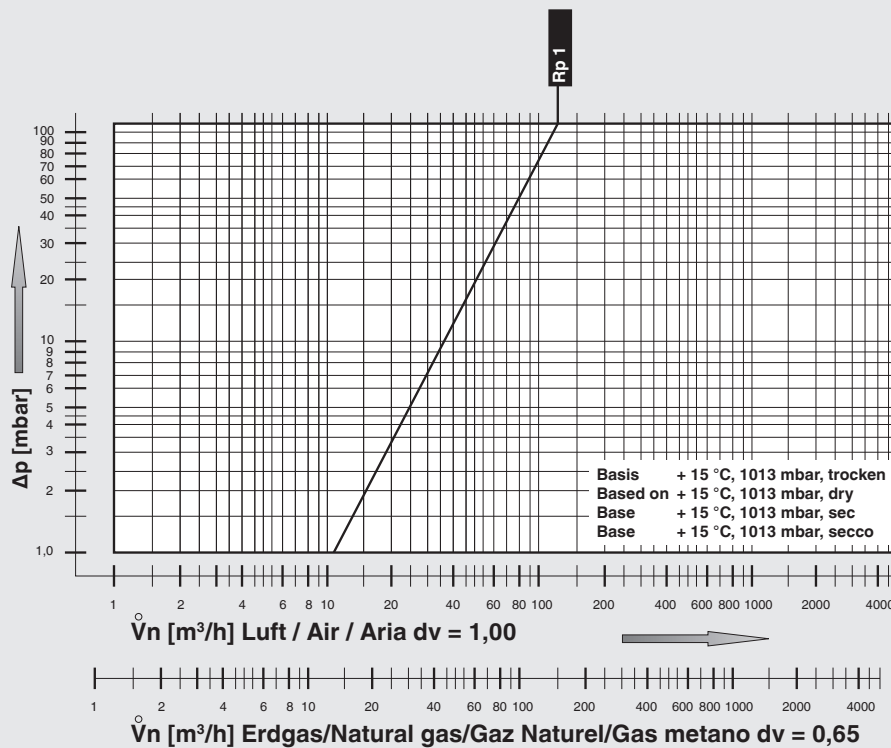
Type	Order No.	P _{max.} [bar]	Rp/DN	Dimensions [mm]							Weight [kg]
				a	b	c	d	e	f	g	
FRSBV 1010	226 284	1.0	Rp 1	110	145	33	190	G 1/4	G 1/4	310	1,20

Sectional drawing of FRSBV 1010 Safety pressure relief valve in closed position



- 1 Housing
- 2 Spindle
- 3 Sealing ring
- 4 Control disk
- 5 Intermediate disk
- 6 Operating diaphragms
- 7 Safety diaphragms
- 8 Diaphragm disk
- 9 Reference value spring
- 10 Cover
- 11 Adjuster
- 12 Protective cap
- 13 Vent plug

Flow diagram, mechanically open



$$\dot{V}_{\text{verwendetes Gas/gas used/ gaz utilisé/gas utilizzato}} = \dot{V}_{\text{Luft/air/air/aria}} \times f$$

$$f = \sqrt{\frac{\text{Dichte Luft / Spec. weight air / poids spécifique de l'air / peso specifico aria}}{\text{Dichte des verwendeten Gases / Spec. weight of gas used / poids spécifique du gaz utilisé / peso specifico del gas utilizzato}}}$$

Gasart Type of gas Type de gaz Tipo di gas	Dichte Density Densité Densità [kg/m³]	d_v	f
Erdgas/nat. Gas/ Gaz naturel/Gas metano	0.81	0.65	1.24
Stadtgas/City gas/ Gaz de ville/Gas città	0.58	0.47	1.46
Flüssiggas/LPG/ Gaz liquide/Gas liquido	2.08	1.67	0.77
Luft/Air/ Air/Aria	1.24	1.00	1.00

We reserve the right to make any changes in the interest of technical progress.

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