

Safety pressure relief FRSBV

4.15

DUNGS®



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 3381.

- Inlet pressures up to 1.0 bar
- 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

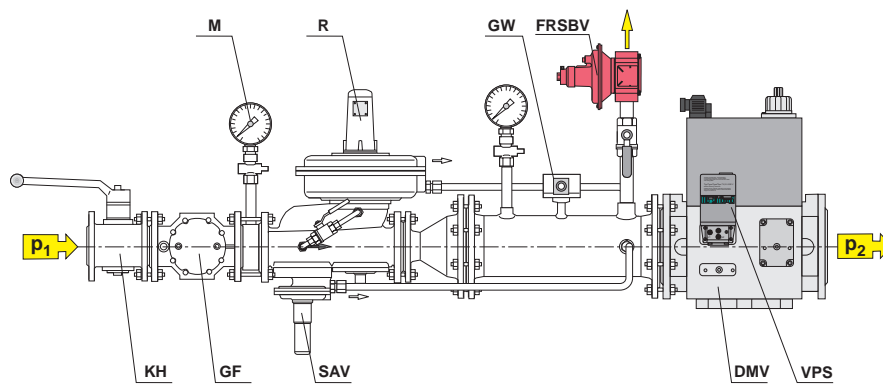
Approvals in other important gas consuming countries.

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 3381
Inlet pressure range	up to 1.0 bar
Pressure stage	PN 1
Setting range, response pressure	20 mbar up to 1000 mbar 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.

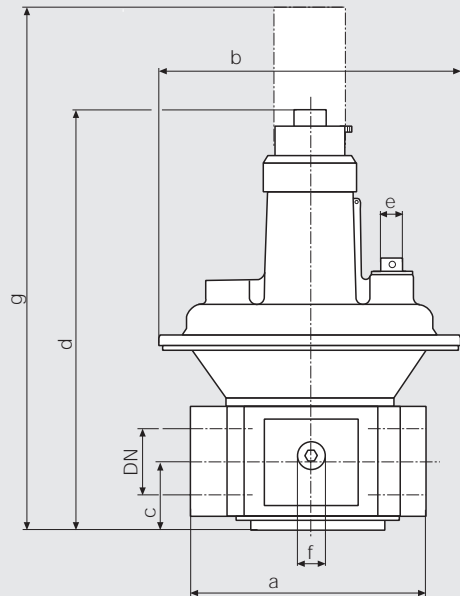
Reference value spring range [mbar]	20 ... 100	70 ... 350	300 ... 1000
Spring colour	Blue spring	Yellow spring Standard	Grey spring
Order No.	226 381	226 382	226 383

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

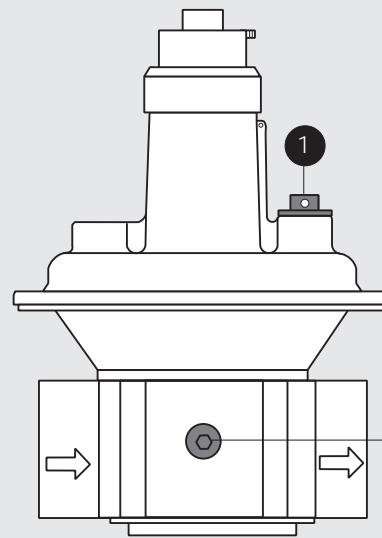
Protect the safety blow-off valve from contamination by using a proper dirt trap.

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

Dimensions



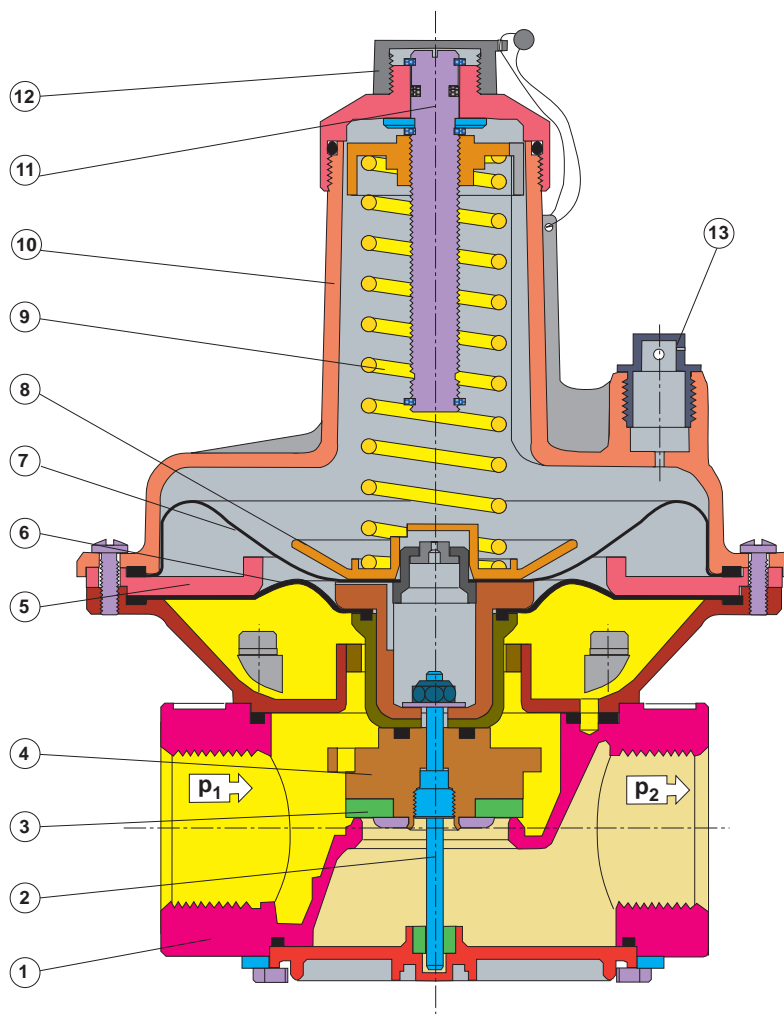
Pressure taps



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

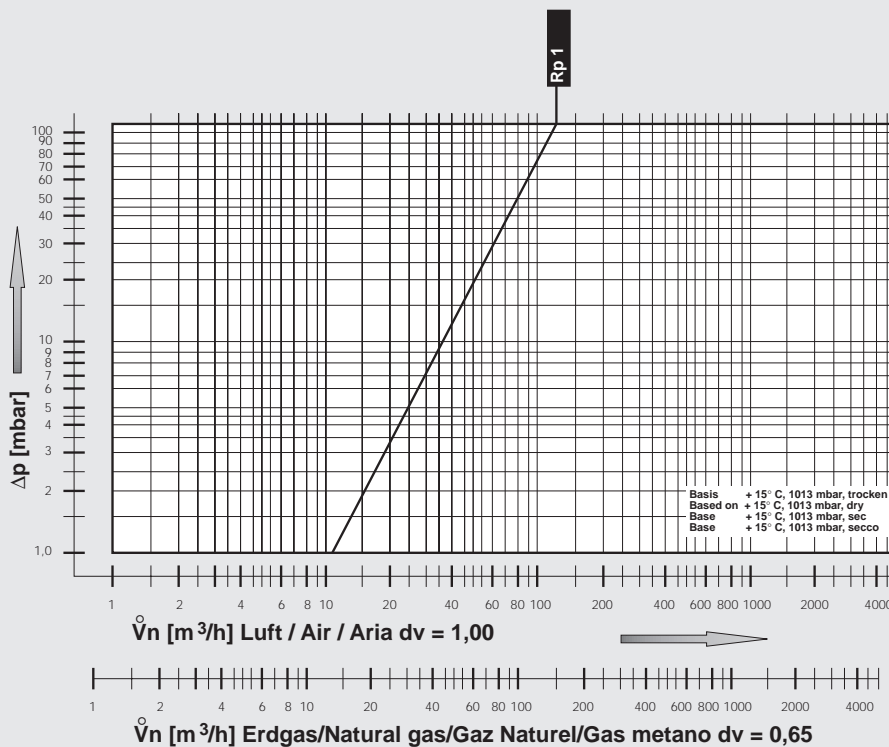
Type	Order No.	P _{max.} [bar]	Rp/DN	Dimensions [mm]							Weight [kg]
				a	b	c	d	e	f	g	
FRSBV 1010	226 284	1.0	Rp 1	110	145	33	190	G 1/4	G 1/4	310	1,20

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



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

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

Gasart Type of gas Type de gaz Tipo di gas	Dichte Density Densité Densità [kg/m ³]	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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