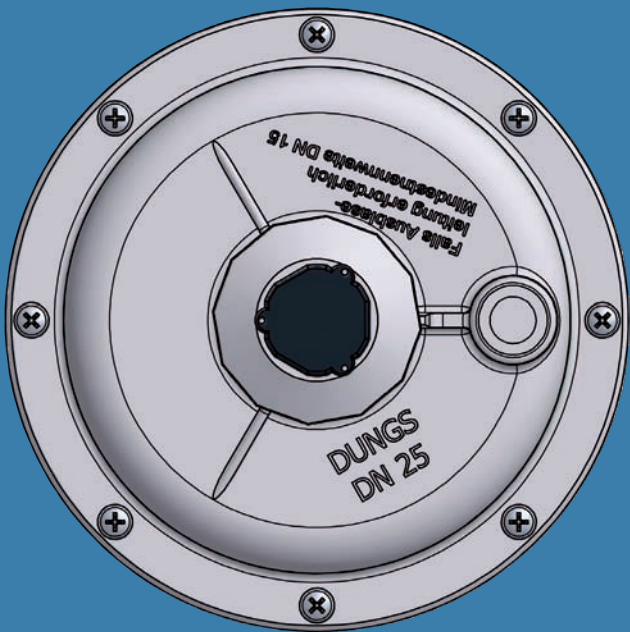


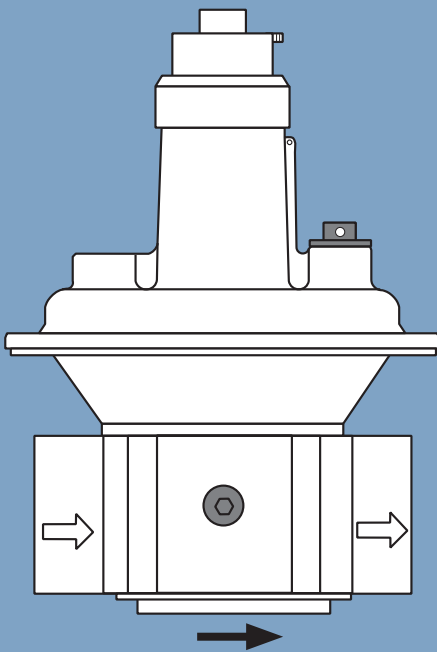
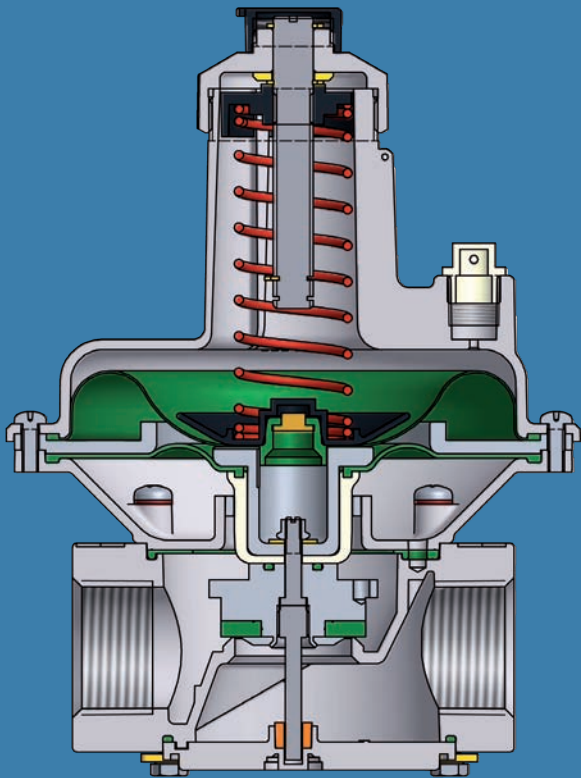
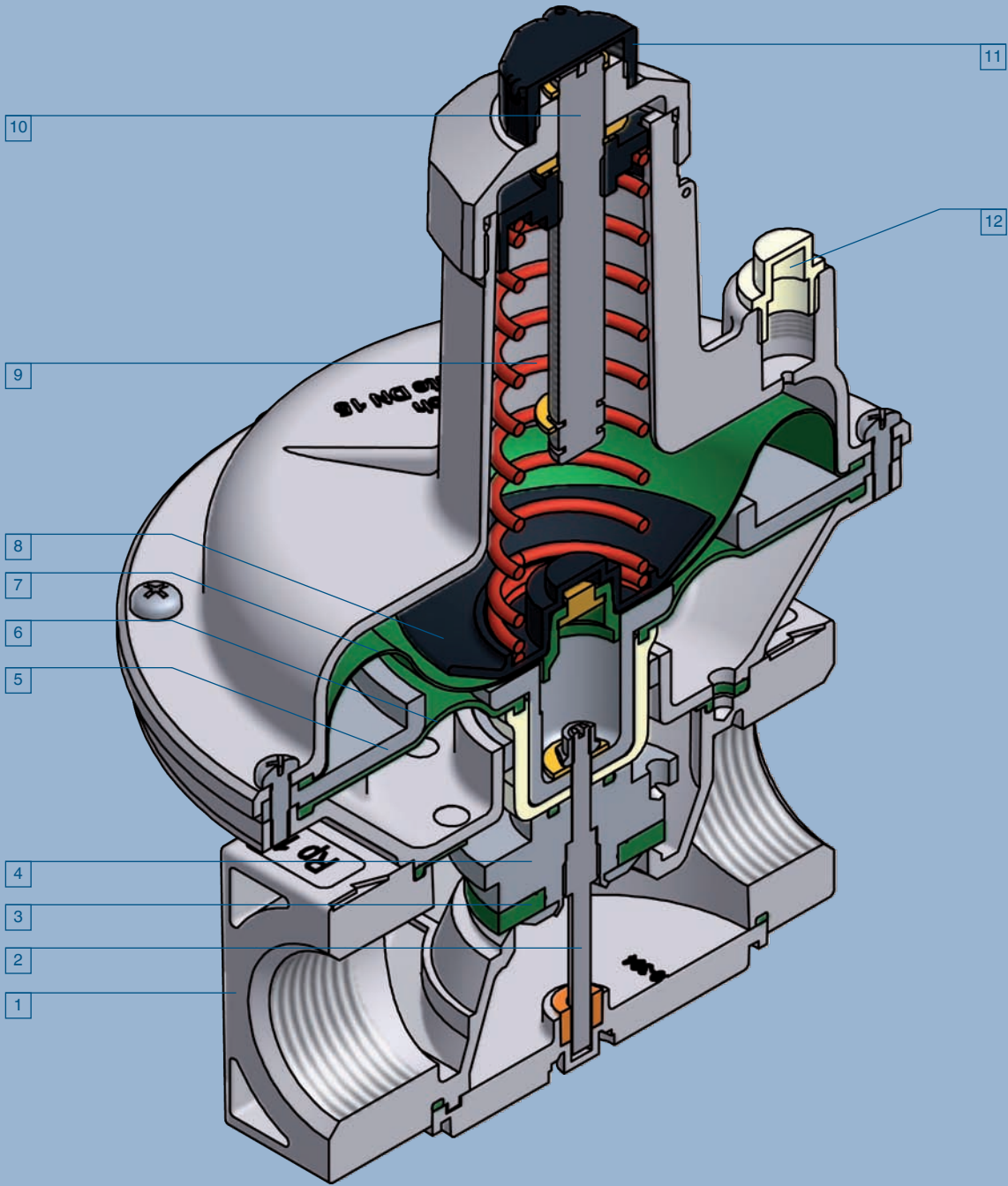
# FRSBV

## DIN 3381

Sicherheits-Abblaseventil    Safety pressure relief    Soupape de décharge    Valvola di sfiato di sicurezza



|                     |                   |                               |                                   |    |
|---------------------|-------------------|-------------------------------|-----------------------------------|----|
| Gehäuse             | Housing           | Corps                         | Corpo                             | 1  |
| Spindel             | Spindle           | Broche                        | Perno                             | 2  |
| Dichtring           | Sealing ring      | Bague d'étanchéité            | Anello di tenuta                  | 3  |
| Regelteller         | Regulating cup    | Clapet                        | Piatto di regolazione             | 4  |
| Zwischenscheibe     | Intermediate disk | Rondelle intermédiaire        | Disco intermedio                  | 5  |
| Arbeitsmembrane     | Working diaphragm | Membrane de travail           | Membrana di lavoro                | 6  |
| Sicherheitsmembrane | Safety diaphragm  | Membrane de sécurité          | Membrana di sicurezza             | 7  |
| Membranteller       | Diaphragm disk    | Disque à membrane             | Piatto della membrana             | 8  |
| Sollwertfeder       | Setpoint spring   | Ressort de réglage            | Molla di taratura valore nominale | 9  |
| Verstelleinrichtung | Adjustment device | Dispositif de réglage         | Dispositivo di regolazione        | 10 |
| Schutzkappe         | Protective cap    | Capuchon                      | Cappuccio di protezione           | 11 |
| Atmungsstopfen      | Breathing plug    | Bouchon de mise à l'air libre | Tappo di sfiato                   | 12 |



MOP 1 bar (100 kPa)  
Rp 1

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# 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.% H<sub>2</sub>S, 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

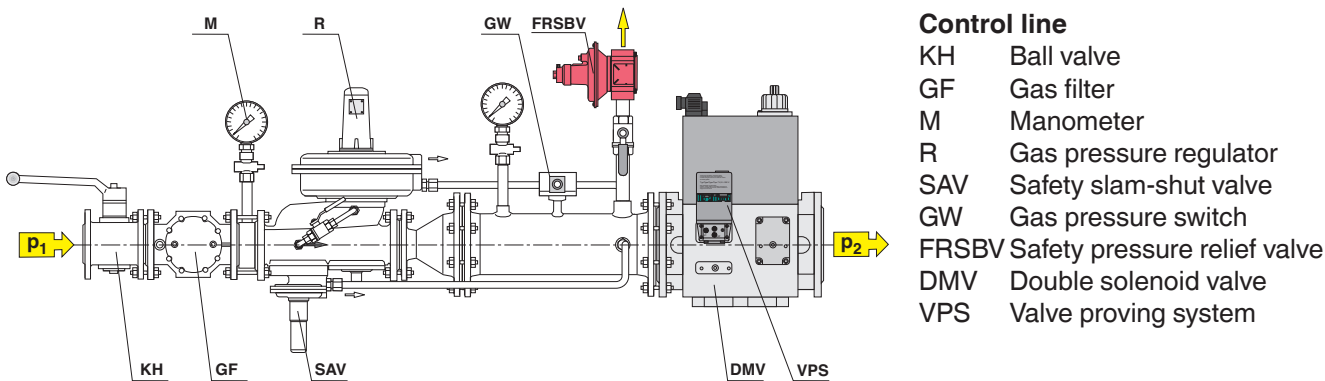
Approvals in other important gas consuming countries.

|              |                                                                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------|
| <b>FRSBV</b> | 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<br>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.<br>Connection: G 1/4 ISO 228 |

FRSBV application, example



Selecting the spring

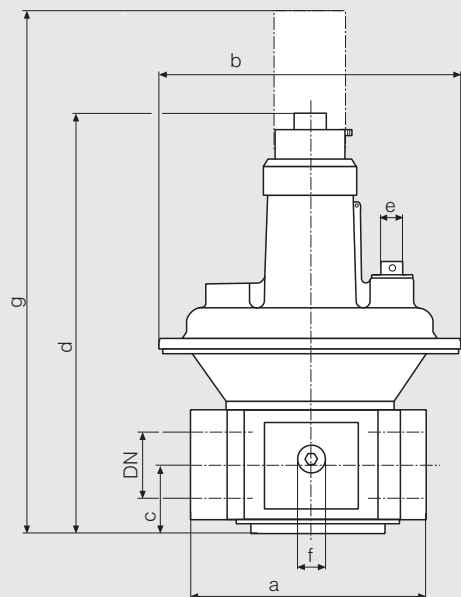
The response pressure results from the force of the installed setting spring and the weight of the moving parts. The safety blow-off valve is equipped

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

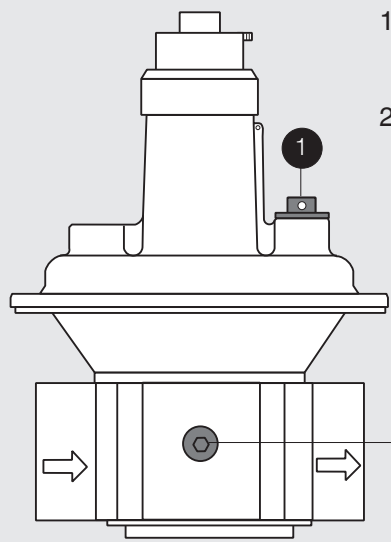
|                                     |             |                           |              |
|-------------------------------------|-------------|---------------------------|--------------|
| Reference value spring range [mbar] | 20 ... 100  | 70 ... 350                | 300 ... 1000 |
| Spring colour                       | Blue spring | Yellow spring<br>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



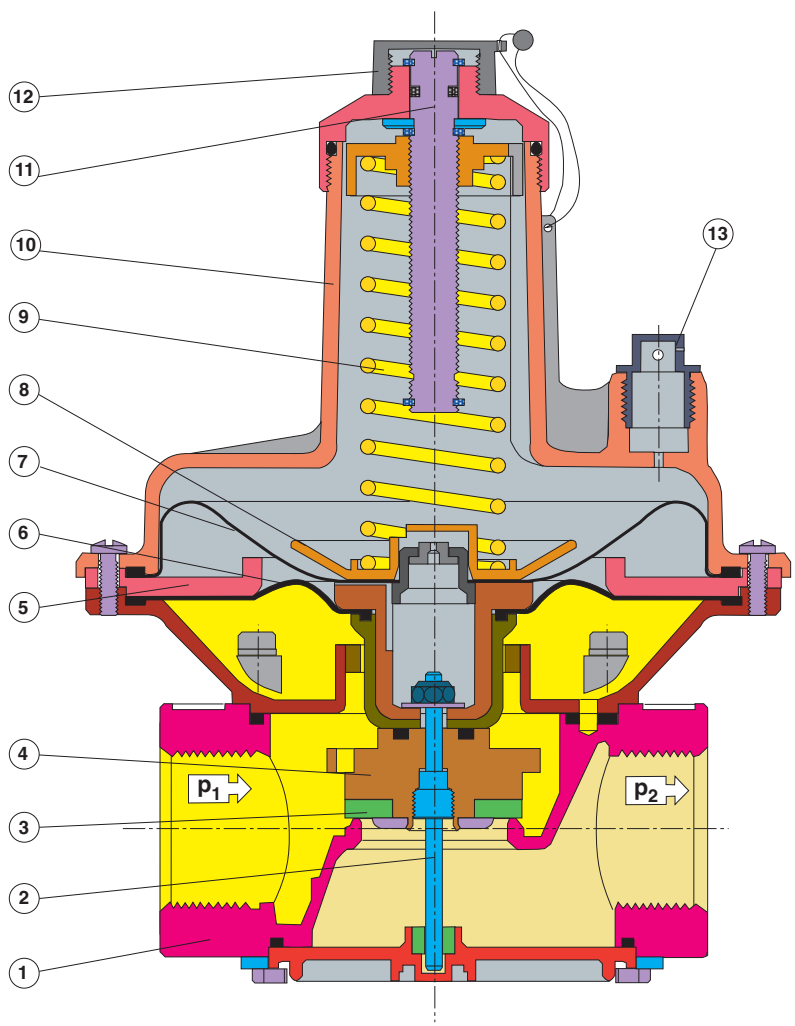
### Pressure taps



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

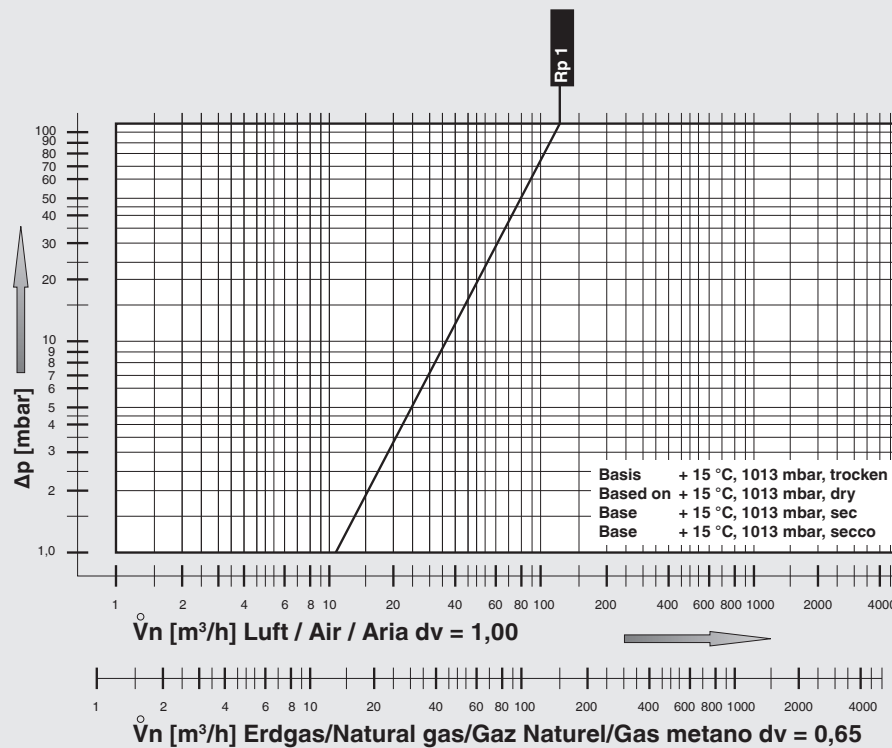
| Type       | Order No. | P <sub>max.</sub><br>[bar] | Rp/DN | Dimensions [mm] |     |    |     |       |       |     | Weight<br>[kg] |
|------------|-----------|----------------------------|-------|-----------------|-----|----|-----|-------|-------|-----|----------------|
|            |           |                            |       | 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<br>Type of gas<br>Type de gaz<br>Tipo di gas | Dichte<br>Density<br>Densité<br>Densità<br>[kg/m³] | dv   | f    |
|-----------------------------------------------------|----------------------------------------------------|------|------|
| Erdgas/nat. Gas/<br>Gaz naturel/Gas metano          | 0.81                                               | 0.65 | 1.24 |
| Stadtgas/City gas/<br>Gaz de ville/Gas città        | 0.58                                               | 0.47 | 1.46 |
| Flüssiggas/LPG/<br>Gaz liquide/Gas liquido          | 2.08                                               | 1.67 | 0.77 |
| Luft/Air/<br>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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