

MEDENUS

Gas Pressure Regulation



Safety relief valve SL 10



Product Information

EN

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List of abbreviations and formula symbols

| | | | |
|------------|-------------------------------|----------|------------------------|
| AC | Accuracy class | BV | Breather valve |
| HDS | High-pressure spindle | SG | Closing pressure group |
| Q_{\max} | Maximum flow rate | t_u | Gas inlet temperature |
| PS | Maximum allowable pressure | VS | Valve seat |
| p_u | Response pressure | ρ_n | Gas density |
| Q_n | Standard volumetric flow rate | | |

Application, Characteristics, Technical Data

Application

Safety relief valve (SRV), direct-acting (operating without auxiliary power), for systems acc. to DVGW - work sheet G 491 (A) and G 600 (A) (TRGI)

Can be used as an equipment component on gas consumption facilities as defined in EC Directive (2009/142/EEC)

Can be used for the gases defined in DVGW - work sheet G 260 / G 262 and neutral non-aggressive gases.
(other gases on request)

Characteristics

- Integral pressure-tight version (IS)
- Class A
- Position-independent installation
- High level of response accuracy
- outdoor version as standard

Type of model (options)

- Oxygen model

Technical Data

| | |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type | SL 10 |
| Model | Integral pressure-tight (IS) |
| Max. allowable pressure PS | 8 bar |
| Max. inlet pressure $p_{u,max}$ | 3.5 bar |
| Nominal size | Rp 1" (DN 25), Rp 1½" (DN 40), Rp 2" (DN 50) (NPT thread on request) |
| Type of connection | Internal thread acc. to EN 10226-1 |
| Material | |
| Housing / actuator housing | Al - cast alloy* |
| Temperature range, Class 2 (operating/ambient temperature) | -20°C to +60°C |
| Accuracy class AC | 5 |
| Closing pressure group SG | 10 |
| Function, Strength and Tightness | DIN EN 33821 |
| CE mark acc. to PED/ PIN number | CE-0085-AQ0879 |
| Ex protection | The mechanical parts of the device do not have any potential ignition sources of their own and therefore do not fall within the scope of ATEX 95 (94/9/EC). Electrical components fitted to the device comply with the ATEX requirements. |

- *) Corrosivity category according to DIN EN ISO 12944-2.
The categories C1 to C5-I including guaranteed without additional coatings.
For the category C5-M a coating with epoxy resin is recommended.

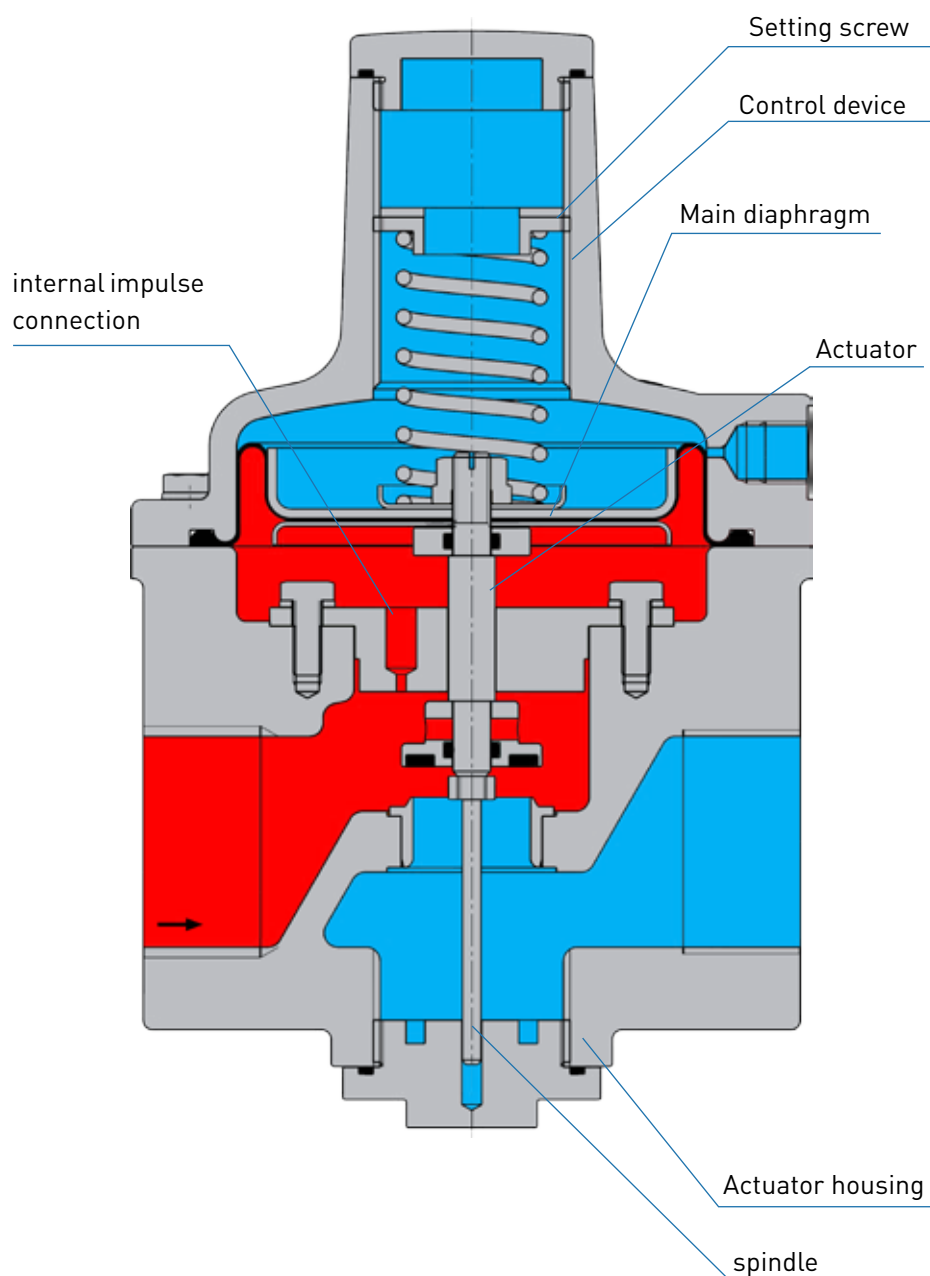


Application, Characteristics, Technical Data

Design and function

The spring-loaded safety relief valve SL 10 is used for reducing short-term pressure surges upstream of gas consumption systems or preventing an inadmissibly high pressure increase due to escaping gas, and is intended to protect downstream system components from excessive pressure levels.

The safety relief valve is composed of the actuator housing and the 'control device' functional unit. In the closed position, the gas flows into the actuator housing in the direction of the arrow. The internal measurement line port is used to pass the outlet pressure to be regulated to the bottom of the main diaphragm of the safety relief valve. It compares the actual value with the command variable preset by the force of the setpoint spring. The setpoint required in each case is set via the setting screw. When the setpoint is exceeded, the measuring movement will lift the actuator, allowing the gas to escape via the blow-off line. If the actual value falls below the setpoint, the measuring movement will close the actuator again automatically.



Application, Characteristics, Technical Data

Valve seat diameter, measuring movement diameter

| Nominal size | Connection | Valve seat Ø (mm) | maximum flow rate (Nm ³ /h) | control unit Ø (mm) |
|--------------|------------|-------------------|----------------------------------------|---------------------|
| DN 25 | Rp 1 | 20 | 100 | 145 |
| DN 40 | Rp 1½ | 25 | 300 | 145 |
| DN 50 | Rp 2 | 25 | 300 | 145 |

Control unit setpoint spring table

| control unit Ø (mm) | Spring data | |
|---------------------|-------------|--------------|
| | Spring no. | Colour [RAL] |
| 145 | | |
| 20 - 39 | FG100 | 9005 |
| 35 - 71 | FG101 | 5015 |
| 55 - 131 | FG102 | 6018 |
| 105 - 275 | FG103 | 3020 |
| 215 - 575 | FG104 | 5010 |
| 415 - 1050 | FG105* | 6010 |
| 900 - 1950 | FG106** | 7035 |
| 1750 - 3560 | FG107** | 1028 |

*) with high-pressure spring plate (HD1)

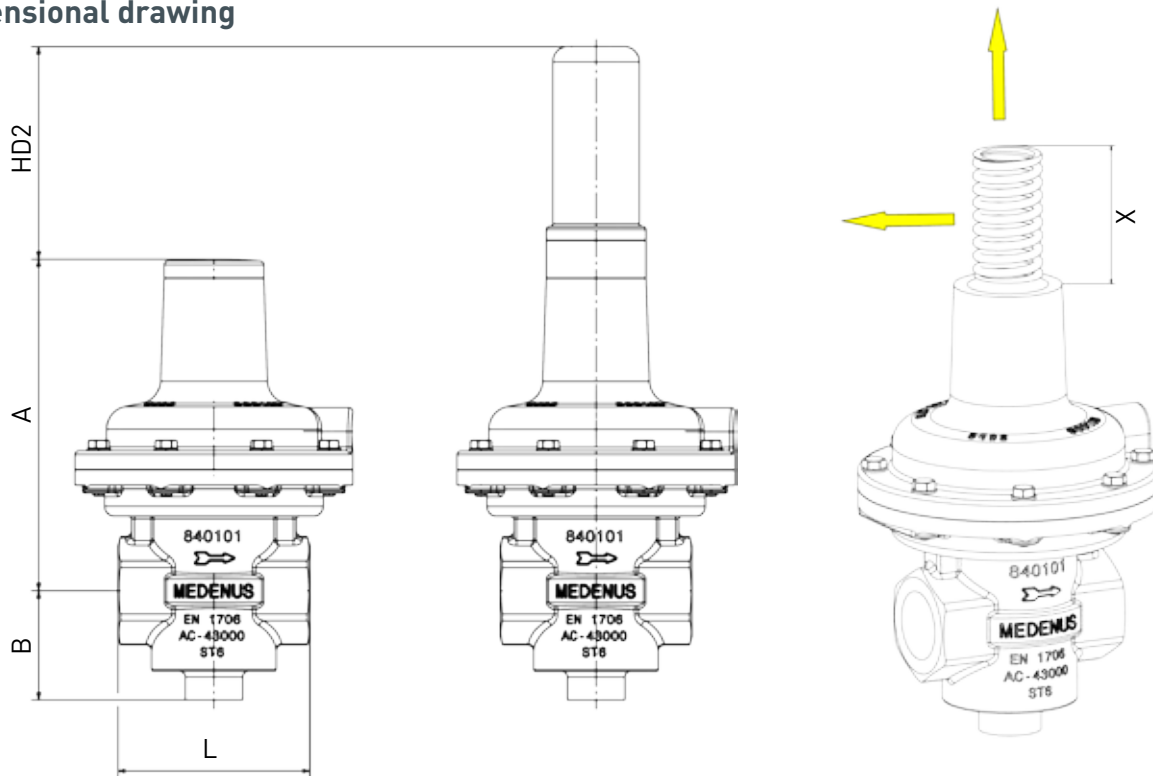
***) with high-pressure spindle (HD2)

Dimensions, Connection and Weight

Dimensions and weight

| Nominal size DN | Connection | control unit (mm) | A (mm) | B (mm) | L (mm) | HD2 (mm) | X (mm) | Weight (kg) | Weight HD2 (kg) |
|-----------------|------------|-------------------|--------|--------|--------|----------|--------|-------------|-----------------|
| 25 | Rp 1 | 145 | 173 | 57 | 100 | 112 | 180 | 2.5 | 0.4 |
| 40 | Rp 1½ | 145 | 173 | 61 | 140 | 112 | 180 | 3.5 | 0.4 |
| 50 | Rp 2 | 145 | 173 | 61 | 160 | 112 | 180 | 3.5 | 0.4 |

Dimensional drawing



Example:

SL10/Rp 1" with HD2

Weight (SRV + HD2): 2.5 kg + 0.4 kg = 2.9 kg

Dimensions (A + HD2): 173 mm + 112 mm = 285 mm

Connections

| Nominal size | Breather line |
|--------------|------------------|
| DN 25 | Connection* for: |
| DN 40 | Tube 10 x 1.5 |
| DN 50 | (thread G 1/4) |

Note

Observe the following publications in relation to installation, start-up and maintenance:

DVGW - work sheets G 491 and G 600

Operating and Maintenance Instructions SL 10

For all nominal sizes, the direction of flow is indicated by an arrow on the housing.

*) Threaded pipe connections to DIN EN ISO 8434-1 (DIN 2353)

Order data

Example:

| | | Safety relief valve: SL10/Rp1"/WAZ/So | | | |
|---------------------------------------------|-------------|---------------------------------------|------|-----|----|
| | | Order code: | | | |
| | | SL10 | Rp1" | WAZ | So |
| Order selection | Designation | | | | |
| Type | | | | | |
| SL10 | SL10 | SL10 | | | |
| DN - Nominal size | Table p. 8 | | Rp1" | | |
| Acceptance test certificate to EN 10204/3.1 | | | | | |
| without | - | | | | |
| with acceptance test certificate | WAZ | | | WAZ | |
| Special model | So* | | | | So |

DN - Nominal size

| Type | Rp 1" | Rp 1½" | Rp 2" |
|------|-------|--------|-------|
| SL10 | X | X | X |

We recommend, for systems with regulators
 up to DN 100 our SL10-Rp 1"
 up to DN 150 our SL10-Rp 1 ½"
 up to DN 200 our SL10-Rp 2"

- *] e.g.:
- Coating with epoxy resin in RAL colours
 - Oxygen model

In every selection group, there is only one option that can be selected.



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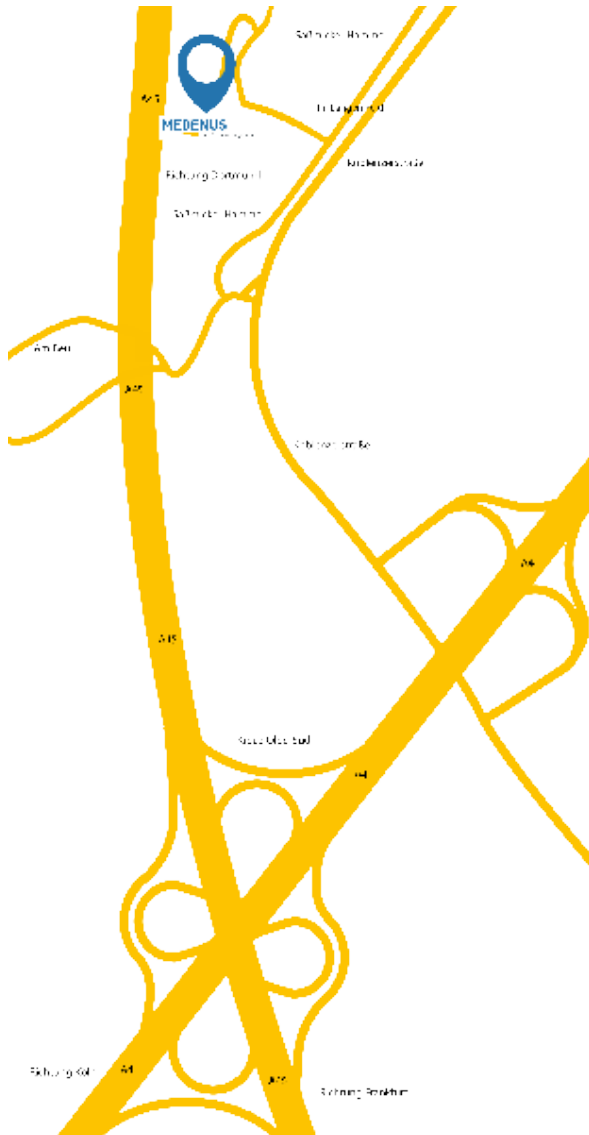
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