MEDENUS

Gas Pressure Regulation

Safety Relief Valve SL 5

Product information

EN

Table of contents

ATTENTION 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 5

List of abbreviations and formula symbols

AC	Accuracy class
AG_o	Upper response pressure group
AG_u	Lower response pressure group
BV	Breather valve
GPR	Gas pressure regulator
HDS	High-pressure spindle
K_G	Valve flow rate coefficient
p	Pressure
p_d	Outlet pressure
p_{df}	SRV closing pressure
p_{do}	SRV opening pressure
p_{ds}	Setpoint of the response pressure
$p_{ds\,o}$	Upper SSV response pressure
$p_{ds\,u}$	Lower SSV response pressure
$p_{f,max}$	Maximum closing pressure
PS	Maximum allowable pressure
p_u	Inlet pressure
Q_n	Standard volumetric flow rate
RE	Diaphragm assembly
RSD2	Throttle valve
SSV	Safety shut-off valve
SRV	Safety relief valve
SG	Closing pressure group
t_{Gas}	Gas inlet temperature
VS	Valve seat
w_d	Outlet gas velocity
w_u	Inlet gas velocity
$W_{ds\,o}$	Upper spring adjustment range (SSV)
$W_{ds\,u}$	Lower spring adjustment range (SSV)
Δp	Pressure difference from inlet pressure to outlet pressure
Δp_{wo}	Min. re-engagement difference between upper response pressure and normal operating pressure
Δp_{wu}	Min. re-engagement difference between lower response pressure and normal operating pressure
ρ_n	Gas density

Application, characteristics, technical data

Application

Safety relief valve (SRV), direct-acting (operating without auxiliary power), for systems acc. to
DVGW Code of Practice G 491 (A) and G 600 (A) (TRGI)
Can be used for the gases defined in DVGW Code of Practice G 260 / G 262 and neutral non-aggressive gases.
(other gases on request)

Characteristics

- Horizontal or vertical installation

Type of model / Options (see page 9)

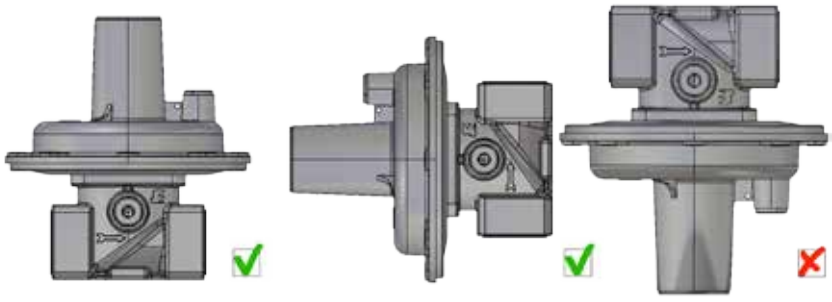
- Black epoxy resin coating
- NPT connection thread
- Biogas & coke oven gas version (max. 0.1% H2S)

Technical data

Type	SL 5
Max. allowable pressure PS	3 bar
Nominal width	Rp ¾“, Rp 1“
Type of connection	Internal thread acc. to EN 10226-1 (NPT thread optional)
Material Housing / actuator housing/	Die-cast aluminum
Temperature range, Class 2 (operating/ambient temperature)	-15°C to +60°C
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.

Preferred installation position

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



Overhead installation position only after consultation with Medenus GmbH

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

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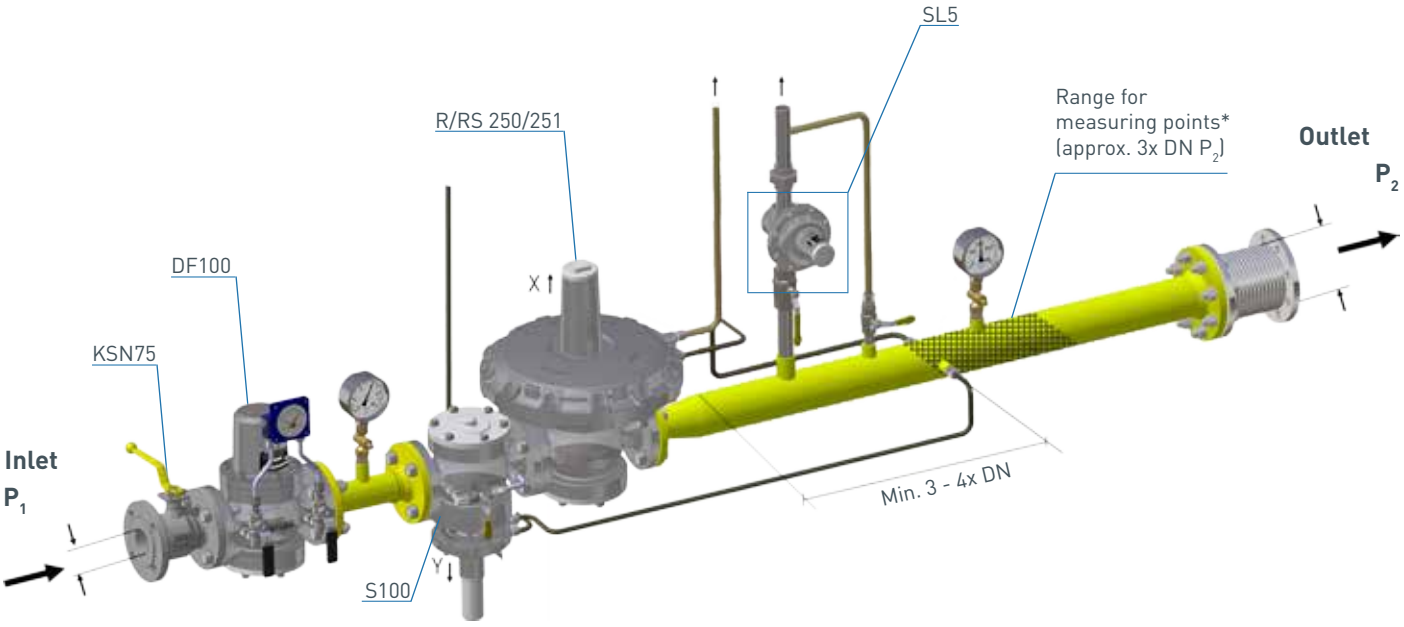
- Operating and Maintenance Instructions SL 5

Application, characteristics, technical data

Structure and function

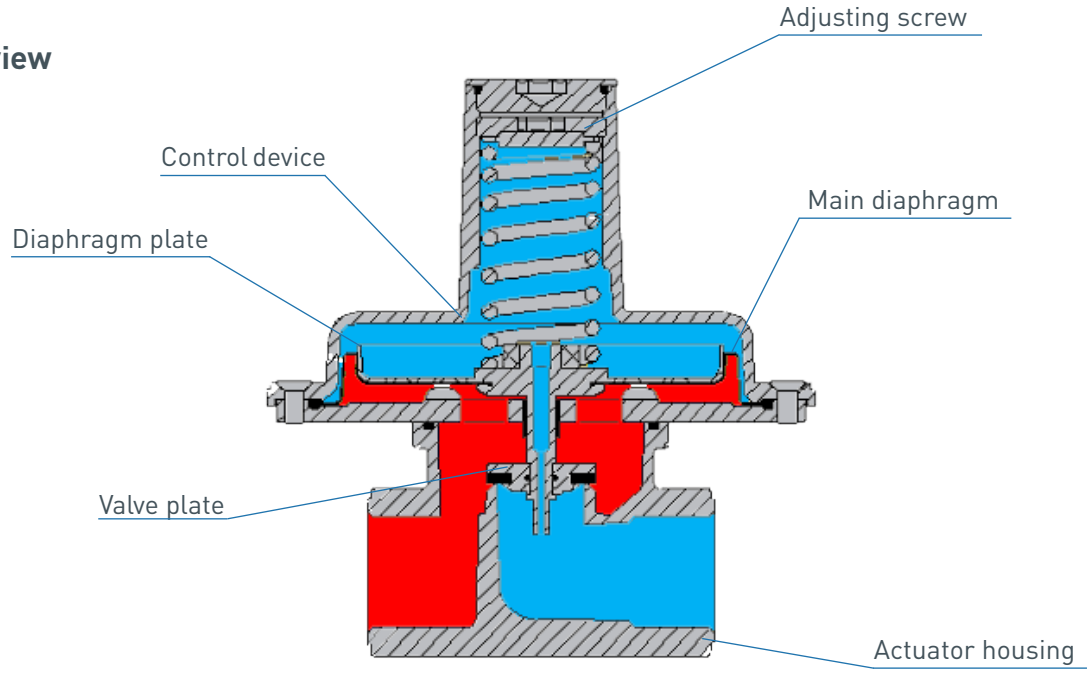
The spring-loaded safety relief valve SL 5 is used for reducing short-term pressure surges upstream of gas consumption systems or preventing an inadmissibly high pressure increase due to escaping gas, and is intended to protect downstream system components from excessive pressure levels.
The safety relief 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.
There the inlet pressure acts on the underside of the diaphragm, while the spring set with the adjusting screw acts against it. If the inlet pressure force is higher than the spring force, the diaphragm lifts, the valve opens releasing gas into the discharge line. After releasing the pressure surge, the inlet pressure drops and the valve closes again.

Installation example



*) Recommended max. velocity at the measurement line port 25 m/s

Sectional view



Application, characteristics, technical data

Measuring unit diameter

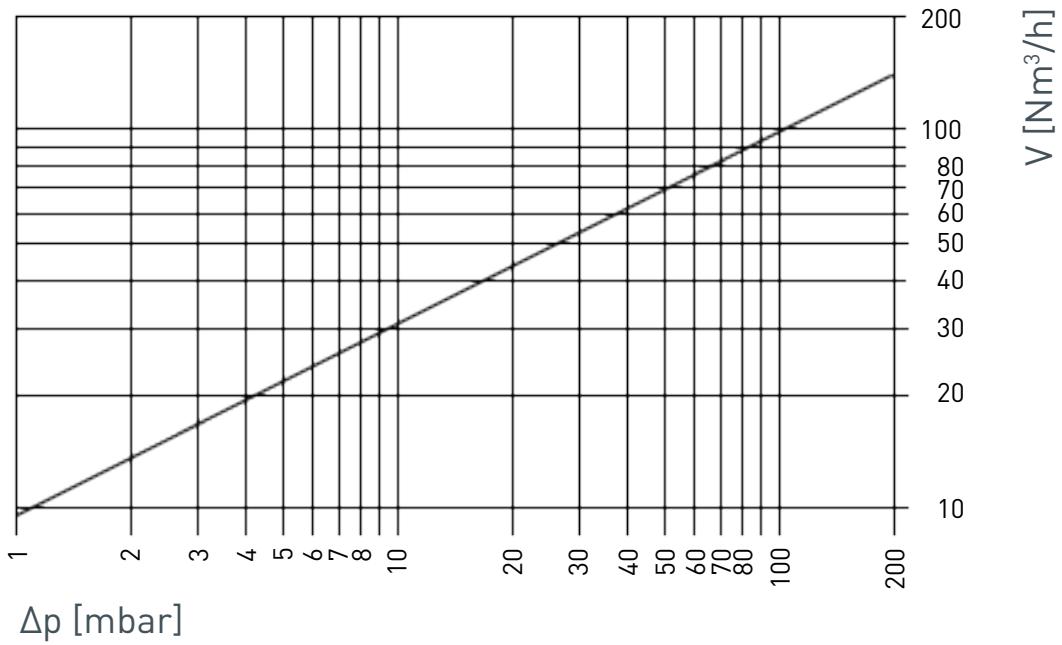
Nominal width	Connection	Measuring movement Ø (mm)
DN 20	Rp 3/4“	150
DN 25	Rp 1“	150
DN 20	NPT 3/4“	150
DN 25	NPT 1“	150

Setpoint spring table

Pressure range (mbar)	Spring data	
	Spring no.	Color [RAL]
45 - 150	A1	9005
85 - 190	A2	5015
150 - 450	B	6018
400 - 1000	C*	3020

*) Not for biogas version

Flow rate capacity
(with an inlet pressure of 115% of the set pressure)

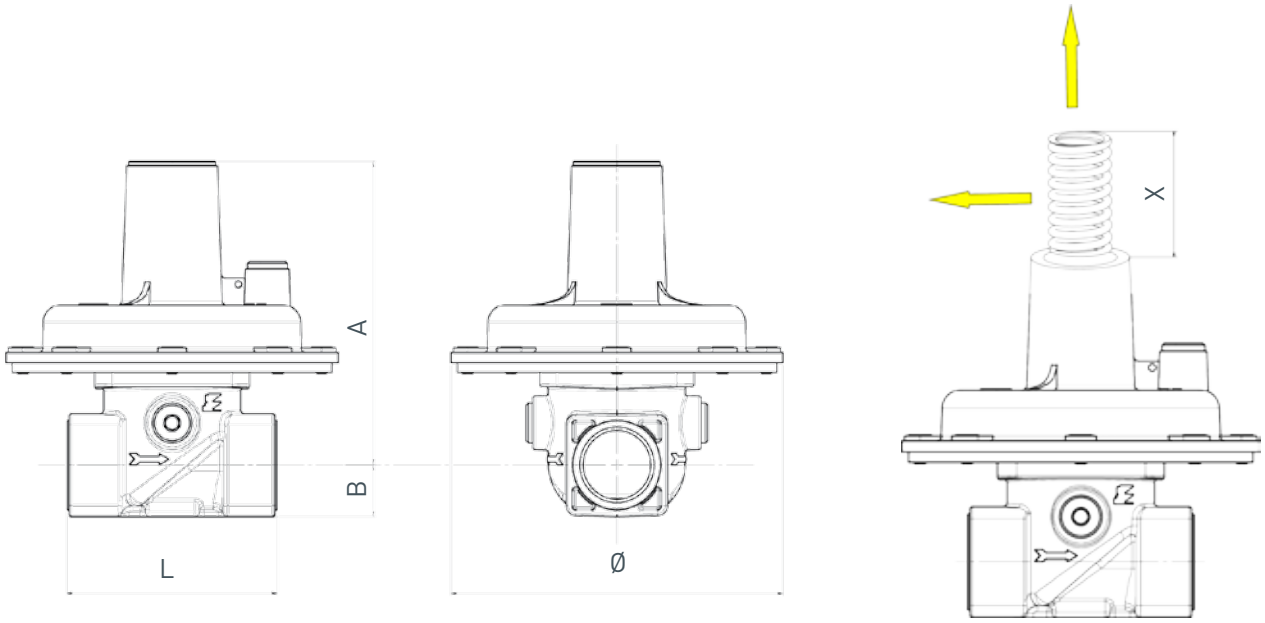


Dimensions, connection, and weight

Dimensions and weight

Nominal width DN	Connection	Measuring movement Ø (mm)	A (mm)	B (mm)	L (mm)	X (mm)	Weight (kg)
DN 20	Rp 3/4	150	138	23	95	85	1.3
DN 25	Rp 1	150	138	23	95	85	1.3

Dimensional drawing



Note

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

Types of models / Options

Black epoxy resin coating

To protect the safety relief valves from influences in aggressive atmospheres.

Types of models

- Version for biogas & coke oven gas
- NPT connection thread

Order data

Example:

	Safety relief valve:	SL5/Rp1"/WAZ/So			
	Order code:	SL5	Rp1"	WAZ	So
Order selection	**Designation**				
Type					
SL5	SL5	SL5			
DN - Nominal width	Table p. 8		Rp1"		
Acceptance test certificate to EN 10204/3.1					
without acceptance test certificate	-			-	
with acceptance test certificate	WAZ			WAZ	
Special model	So				So
- Black epoxy resin coating - Version for biogas & coke oven gas					

In every selection group, only one option can be selected in each case.

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