

# MEDENUS

— Gas Pressure Regulation



## Safety relief valve SL 5

Product information

EN



## Table of contents

<b>Application, Characteristics, Technical Data</b>	<b>4</b>
Application	4
Characteristics	4
Type of model (options)	4
Technical data	5
Structure and function	6
Installation example	6
Sectional view	6
Measuring unit diameter	7
Diaphragm assembly setpoint spring table	7
Flow rate capacity	7
<b>Dimensions, Connection and Weight</b>	<b>8</b>
Dimensions and weight	8
Dimensional drawings	8
<b>Order data</b>	<b>9</b>
<b>Contact</b>	<b>11</b>
<b>Notes</b>	<b>13</b>



### NOTICE

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		response pressure	$w_u$	Inlet gas velocity
AG <sub>o</sub>	Upper response pressure group	$p_{ds\ o}$	Upper SSV response pressure	$W_{ds\ o}$	Upper adjustment range (SAV)
AG <sub>u</sub>	Lower response pressure group	$p_{ds\ u}$	Lower SSV response pressure	$W_{ds\ u}$	Lower adjustment range (SAV)
BV	Breather valve	$p_{f,max}$	Maximum closing pressure	$\Delta p_{wo}$	Min. re-engagement difference between upper response pressure and normal operating pressure
GPR system	Gas pressure regulation system	PS	Maximum allowable pressure		
HDS	High-pressure screw spindle	$p_u$	Inlet pressure	$\Delta p_{wu}$	Min. re-engagement difference between lower response pressure and normal operating pressure
K <sub>G</sub>	Valve flow rate coefficient	$Q_n$	Standard volumetric flow rate		
p	Pressure	RE	Diaphragm assembly		
p <sub>d</sub>	Outlet pressure	RSD	Throttle valve		
p <sub>df</sub>	SRV closing pressure	SSV	Safety shut-off valve		
p <sub>do</sub>	SRV opening pressure	SRV	Safety relief valve		
p <sub>ds</sub>	Setpoint of the	SG	Closing pressure group	$\rho_n$	Gas density
		$t_{Gas}$	Gas inlet temperature		
		VS	Valve seat		
		$w_d$	Outlet gas velocity		

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

## Characteristics

- Horizontal or vertical installation

## Type of model (options)

- Coating with epoxy resin in black colour
- NPT connection thread
- Biogas & coke oven gas version (max. 0.1% H<sub>2</sub>S)

## Technical data

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

# Application, Characteristics, Technical Data

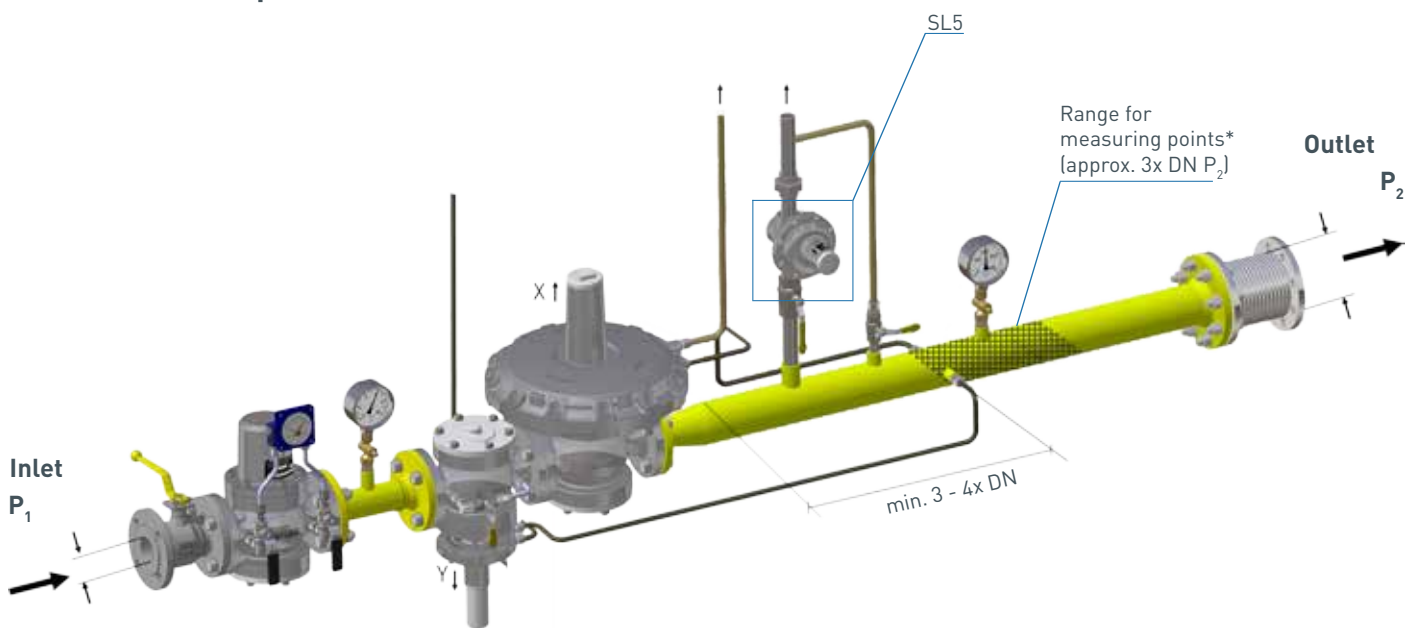
## Structure and function

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.

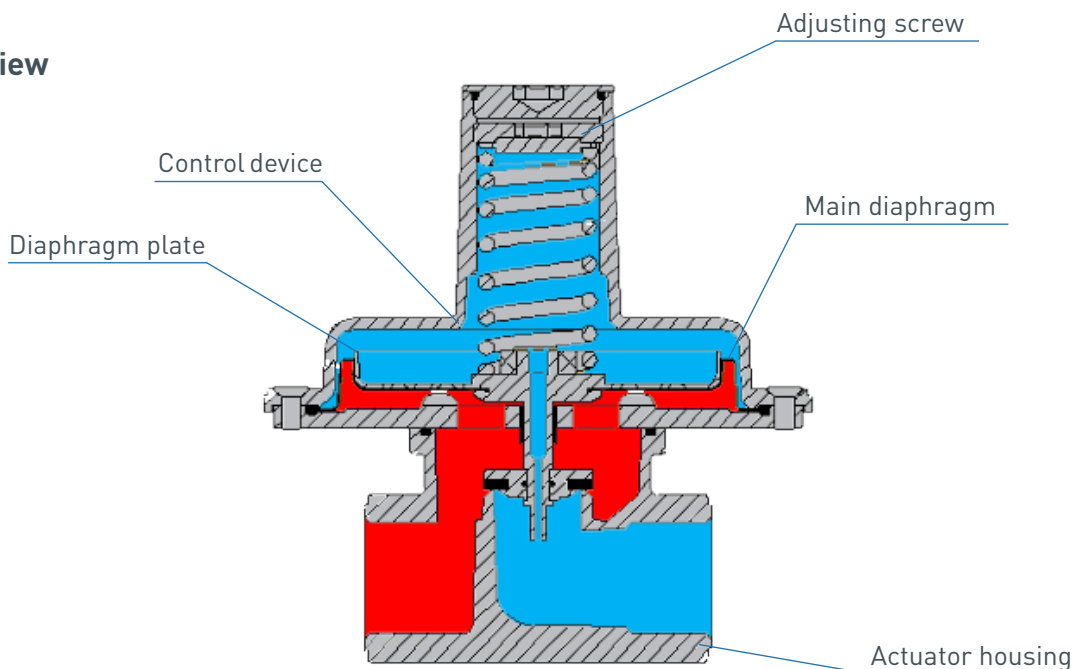
There the inlet pressure acts on the underside of the diaphragm, while the spring set with the adjusting screw acts against it. If the inlet pressure force is higher than the spring force, the diaphragm moves and the diaphragm plate opens releasing gas in the relief line. After releasing the pressure surge, the inlet pressure drops and the diaphragm plate 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 ∅ (mm)
DN 20	Rp 3/4"	150
DN 25	Rp 1"	150
DN 20	NPT 3/4"	150
DN 25	NPT 1"	150

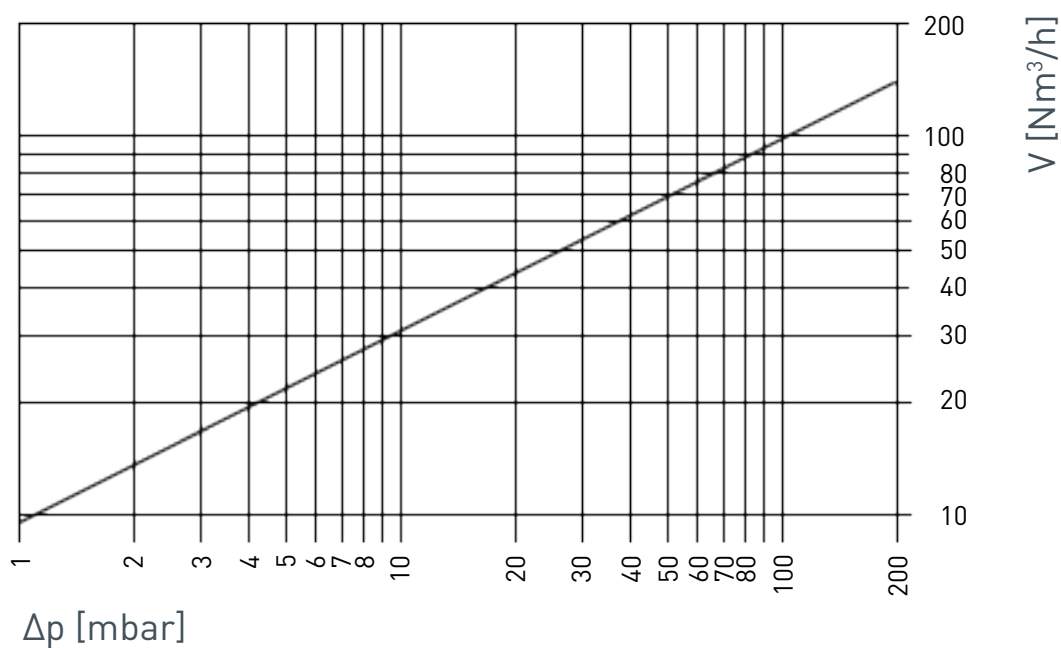
## Diaphragm assembly setpoint spring table

Pressure range (mbar)	Spring data	
	Spring no.	Colour [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)

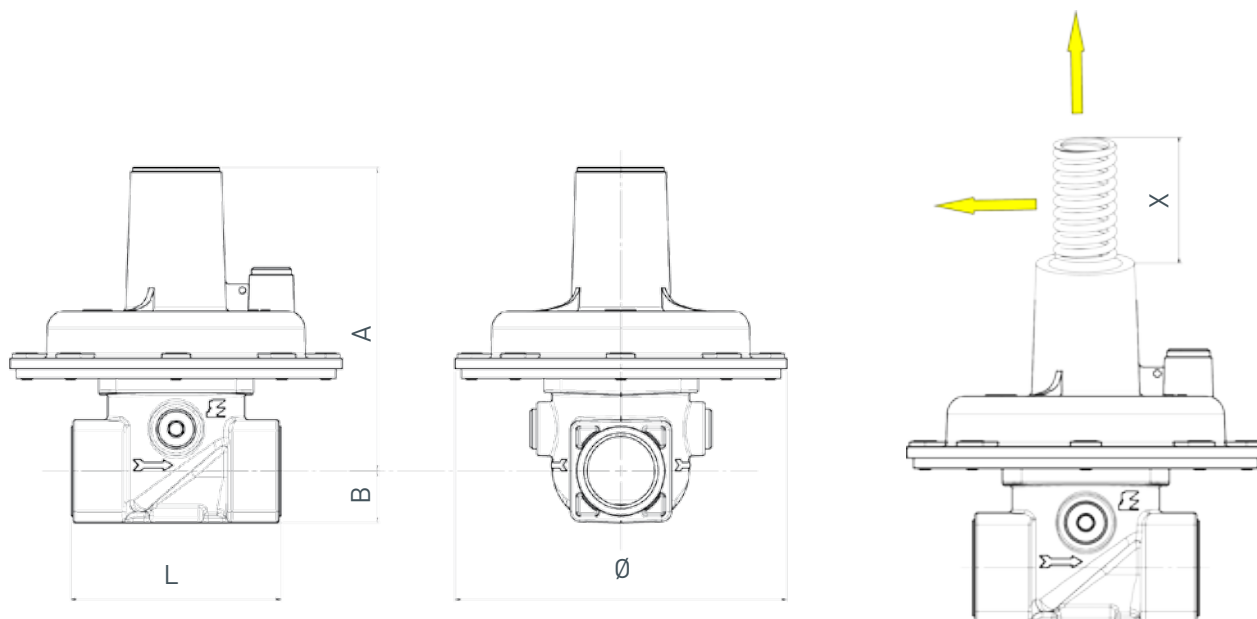


# Dimensions, Connection and Weight

## Dimensions and weight

Nominal width DN	Connection	Measuring movement $\emptyset$ (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

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

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



## Type of models / Options

### Epoxy resin coating in colour Black

To protect the safety relief valve from influences in aggressive atmosphere.



### Type of models

- Biogas & coke oven gas version
- NPT connection thread



### Order data

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

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



## THE MEDENUS PLUS

### 10 reasons for good business relations

1. Consultancy expertise and quality standards developed over decades
2. Broad and proven standard range of feedback controllers
3. Modern, fast and efficient production for series products and for individual orders
4. Customer-specific design of pressure regulators and vacuum regulators and special designs
5. Guaranteed deadline compliance with a delivery deadline guarantee
6. Fast response time in all matters
7. Sufficiently large parts storage for production and spare parts
8. Customer-specific theory & practice training courses
9. Modular design right across the entire product range to facilitate optimized handling of spare parts
10. 100% Made in Germany

## How to get there

If you want to know more about solutions from MEDENUS for the gas industry, please contact your local contact person or go to our internet site at [www.medenus.de](http://www.medenus.de)



**MEDENUS**  
Gas-Druckregeltechnik  
GmbH

Im Langen Feld 3

**In the download area of our homepage, this document is available in different languages. You can use the following QR codes and links to go directly to this document in your language.**







