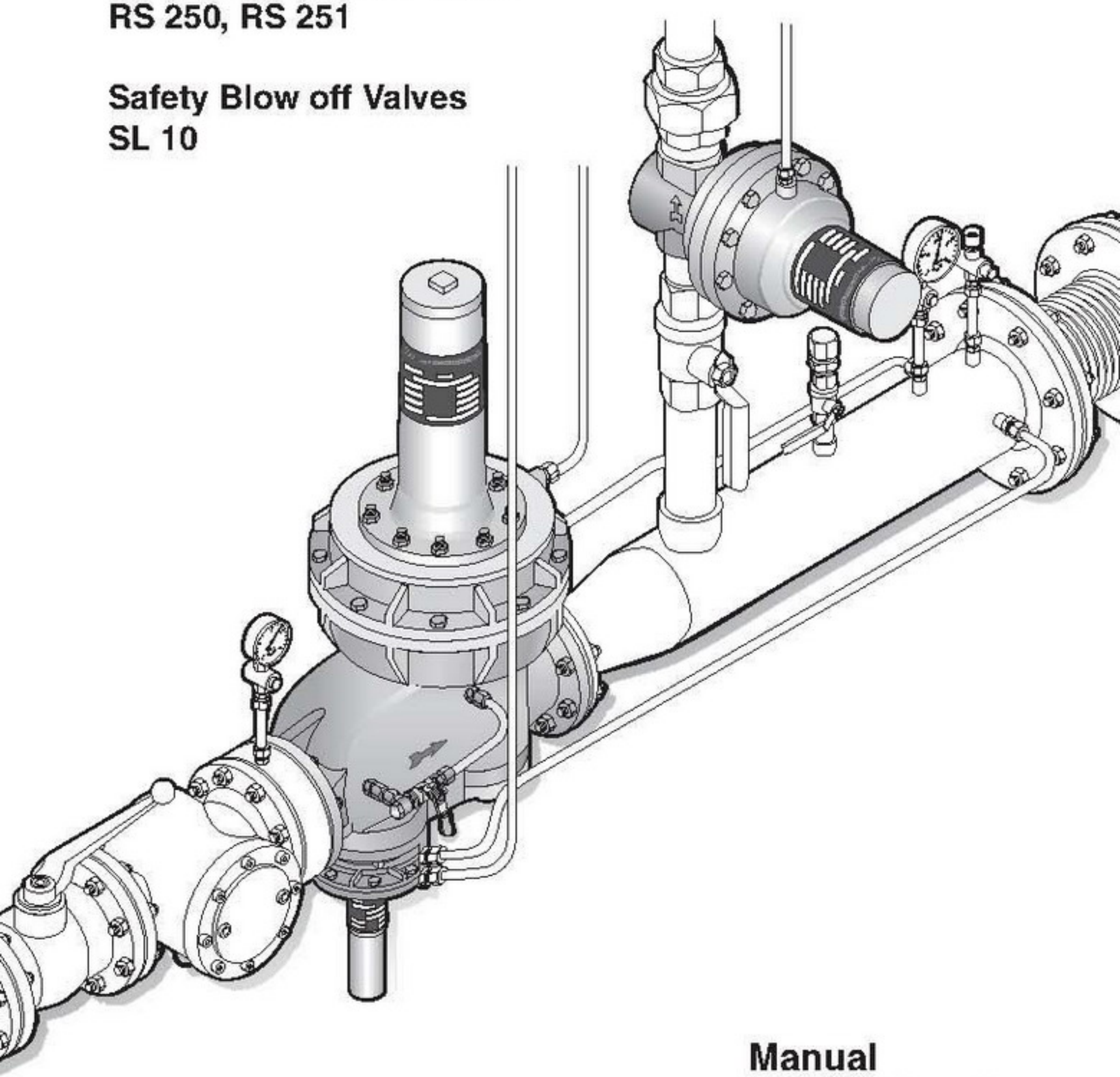
Gas Pressure Regulators with Safety Shutoff Valve RS 250, RS 251

Safety Blow off Valves SL 10



Manual

Technical Information
Installation and operation
Servicing
Spareparts

Conformity Certification
(summary)

certifies that the products:

RS 250, RS 251	Gas Pressure Regulator/Governor with built-in Savety Shutoff Valve
SL 10	Savety Blow off Valve

were submitted to an EC Type Examination and conform with the basic requirements of the directives

90/396/EC	EC Gas Appliances Directive

in its valid version.

For devices which are additionally marked with the CE sign a certification about the EC type examination is present referring to

97/23/EC	EC Pressure Equipment Directive

Test report: CE 0085 File Number 06-0474-GEU

Basis for the EC Type Examination are the harmonized European standards and/or national standards:

DIN 3380	Regulator Group RG 10
DIN 3381	Savety Shutoff Valve (SAV) shutoff group SG 10

Marking (PIN) according Gas Appliances Directive

CE-0085AQ0882	type **RS 250**
CE-0085AQ0883	type **RS 251**
CE-0085AQ0879	type **SL 10**

Marking according Pressure Equipment Directive

CE PG

The supervision of the quality assurance system is ensured by the DVGW.

Olpe-Saßmicke,
2006.07.14

Martin Clemens
Managing Director

Basic language for translation of the manual is in German.

Content

RS 250

RS 251

SL 10

1 Important instructions

The manual contains all information for authorized qualified personnel for correct assembly, commissioning, setting, servicing, fault finding and repairs.

It is an integral part of the equipment and must be kept permanently on site.

The notes and instructions must be followed at works with the equipment or the gas train.

1.1 Guarantee and liability

Liability or guarantee claims **will not be accepted**, for personal injury or damage to property arising as a result of **not paying attention to** one or more of the causes below:

- Use of the equipment as the intended conditions.
- Proper assembly, commissioning, setting, operation and servicing of the equipment.
- Operating the product only with correct installed and functioning safety and protection devices.
- The instructions of assembly and operation of the equipment with respect to the whole plant.
- The servicing instructions.
- Properly executed repairs.
- Use of correct fuel gas.
- No obstruction or damage of supply lines.
- Use of original MEDENUS spare parts or
- Force majuere.

Strictly forbidden

- Constructional alterations of the equipment.
- Continued use despite the occurrence of a fault.

1.2 Symbols, instructions

In the manual symbols mark safety instructions to inform which, if not followed, could result:

ATTENTION
Damage of the device, the destruction of the plant or environmental damage.

DANGER
Serious injury to health or death.

1.3 Abbrevations

Abbrevations are explained as follows:

P_1	Gas pressure on inlet of regulator/governor
P_2	Gas pressure on outlet of regulator/governor, controlled
V	Flow rate (normal volume V_N) m^3n/h
SSV	Safety shutoff Valve
SBV	Safety blow off Valve

2 Safety informations

2.1 Dangers when using the equipment

MEDENUS-products correspond to the relevant existing standards and guidelines and the recognised safety laws.
However, improper use of the devices could cause danger for the user or a third party, or result in damage of the device or plant.

Therefore the equipment is only to be used

- for its intended purpose
- under proper conditions
- with reference to the information of that installation and operating instruction as well as the inspection and servicing specifications which are valid for the effiency and safety of the whole plant.

Malfunctions or faults must be rectified immediately.

2.2 Personnel requirements

Installation of the equipment should only be made by competent personnel.
For setting and repairs only qualified persons are authorized.

2.3 local codes of practice

To local regulations and codes must be payed attention and observed, concerning

- Gas lines, installation of the gas plant
- Gas supply
- Works on the gas plant
- Safety guidelines.

2.4 Hand-over and operating instructions

The operating instruction shall be passed by the contractor to the operator of the gas plant prior to hand-over.
The operator is to be informed that the manual must be kept carefully.

2.5 Safety in operation

The equipment is only to be used under correct working order of all safety devices.
At least once a year the equipment should be checked by an agent of the contractor or qualified person for signs of visible damage and workability.
Depending to plant conditions more frequent safety checks may be required.

2.6 Actions when gas is smelt

- Close gas shutoff valve.
- Avoid open flame or spark generation by switching on electric units, lights, mobile phones etc.
- Open windows and doors.
- Warn all occupants and evacuate the building.
- The appropriate gas installer or gas supplier is to be informed from outside the building.

3 Technical descriptions

3.1 RS Construction and function

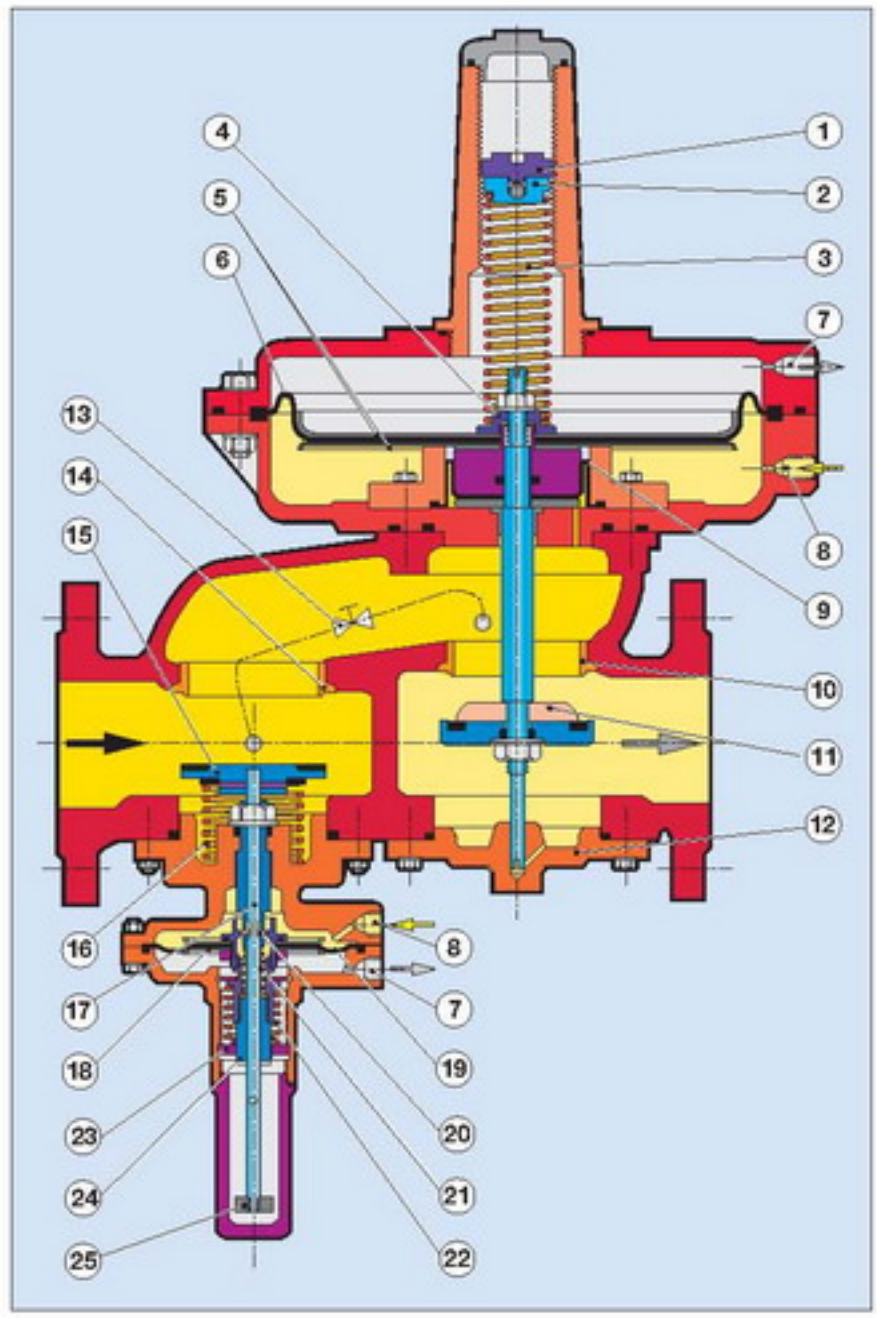
RS 250 and RS 251 are gas pressure regulators with built-in savety shutoff valve
Nominal diameters: DN 25, 50, 80, 100, 150, 200.

The gas flows through the regulator housing in arrow direction. The main diaphragm is actuated via an impulse line from the outlet side by pressure. The required outlet pressure is adjusted at the spring. The single seat valve is directly mounted and operates independant from the inlet pressure by the compensation diaphragm.

The savety shutoff valve (SSV) which is built into the same housing interrupts the gas flow at excess pressure or gas shortage.

The diaphragm of the safety shutoff valve is actuated via an impulse line from the outlet side.
When excess pressure or gas shortage lifts or drops the measure work the latch lever reacts and the closing spring presses the valve disc against the valve seat.

Housing:	Silumin casting
(special version	casting GGG 40)
Diaphragm cap:	Silumin casting
Internal parts:	stainless
Diaphragms:	50 NBR
Valve discs:	50 NBR, vulcanized
Connections DN 25-150	Flange PN 16 DIN 2533
Connection DN 200	Flange PN 10 DIN 2532



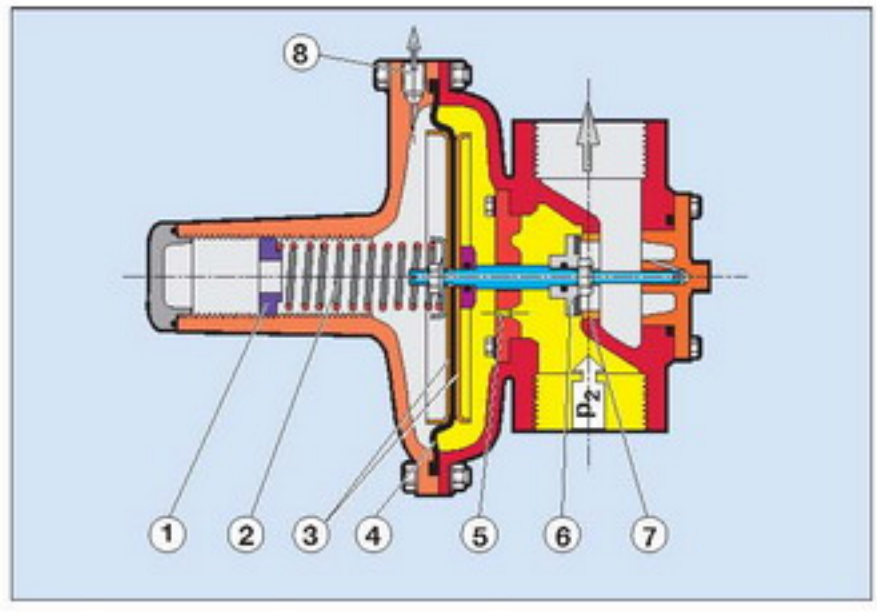
1 Pressure setting screw
2 Spring disc
3 Setting spring
4 Feet disc
5 Diaphragm disc
6 Regulator main diaphragm
7 Breathing connection
8 Impulse connection
9 Compensation diaphragm
10 Regulator valve seat
11 Single seat valve
12 Cover plate
13 Valve for pressure compensation
14 SSV valve seat
15 SSV disc
16 SSV closing spring
17 SSV spindle
18 Diaphragm disc
19 SSV diaphragm
20 Bearing
21 Minimum pressure spring
22 Maximum pressure spring
23 Setting „excess pressure“
24 Setting „low pressure“
25 Pull button

3.2 SL 10 Construction and function

SL 10 safety blow off valves (SBV) prevents short pressure peaks infront of gas appliances or to avoid inadmissable high increase of pressure caused by leakage gas.
Nominal diameters: Rp 1", 1½", 2"

The diaphragm of the SL 10 is actuated from down via an impulse bore by the inlet pressure.
At excess pressure the measurement set opens the valve and blows off gas via the blow off line.

Housing:	Silumin casting
Internal parts:	stainless
Diaphragm:	50 NBR
Valve discs:	50 NBR, vulcanized



1 Pressure setting screw
2 Setting spring
3 Diaphragm disc
4 SBV diaphragm
5 Impulse bore
6 Regulating valve
7 Valve seat, orifice V= ...
8 Breathing connection

3.3 Operating conditions

Inlet pressure		**P_1 max.**
RS 250	DN 25 - 150	6.0 bar
RS 250	DN 200	4.0 bar
RS 251	DN 50 - 100	4.0 bar
SL 10	R 1" - R 2"	3.0 bar

Outlet pressure	**P_2 max.**
RS 250	1.2 bar
RS 251	1.2 bar

Gas characteristics - suitable for gas of the gas families 1, 2, 3 and other neutral gaseous media.

Ambient temperature	-20…+60°C
Fitting position	any
Flow speed	30 m/secs.
(limit 60 m/secs.)	

Springs for RS regulator and SSV as well as for SL 10 are to be defined separately referring to the desired outlet resp. operating pressure P_2.

3.4 Product specification

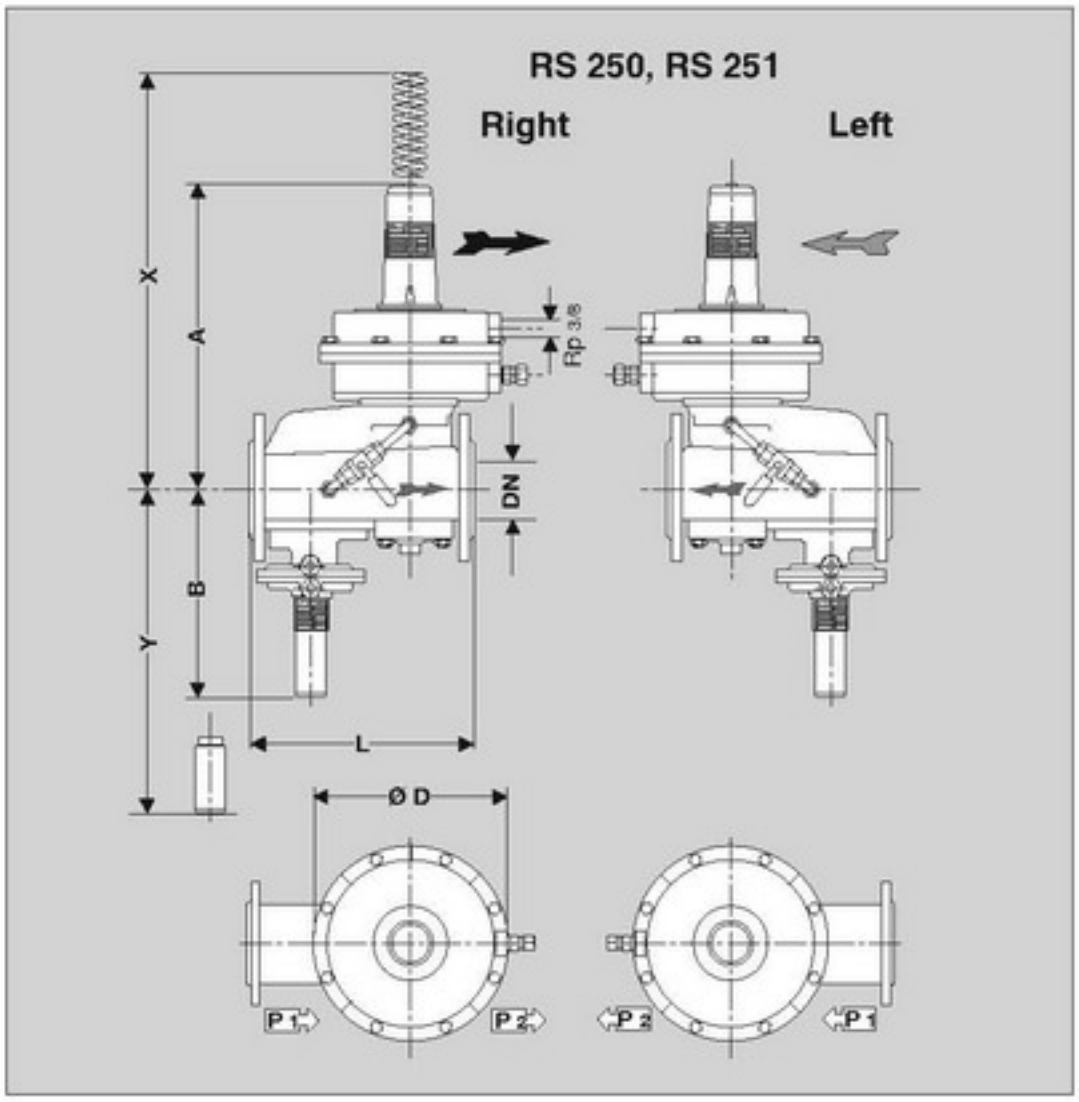
For dimensioning and construction the following operation data are required:

1. **Type of gas:** .....
   If not natural gas, characteristics are required
2. **Flow rate** (normal volume V_N)
   max. ..... V m^3n/h
   min. ..... V m^3n/h
   are to be converted into the volume of operating condition.
3. **Inlet pressure P_1**
   max..... P bar
   min. ..... P_1^1 bar
4. **Outlet pressure P_2**
   max. ..... P_2 bar
   min. ..... P_2 bar
5. **Closing pressure of the safety shutoff valve**
   $p_{max.}$ ..... bar
   $p_{min.}$ ..... bar
6. **Safety blow off pressure** (SL 10)
   $p_{max.}$ ..... bar
   $p_{min.}$ ..... bar
7. **Flow direction**
   right or left

3.5 RS-Types, Weights and Dimensions

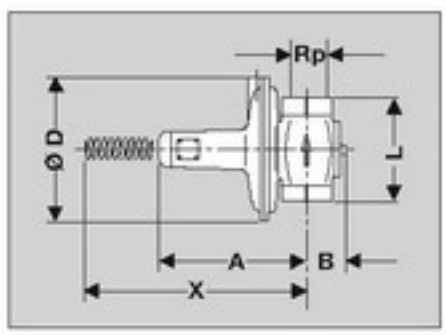
P_2			RS 250						RS 251		
mm	mbar		Weight kg of Regulator DN								
Ø D	**min.**	**max.**	**25**	**50**	**80**	**100**	**150**	**200**	**50**	**80**	**100**
160	46	4100	10.0	11.0							
205	30	1880	11.0	12.5	18.5	19.5			17.5		
275	22	975			20.0	21.0			19.5		
318*	6	750	14.0	15.5							
385	50	400			23.0	24.0			23.0		
275	45	1800					53.0	74.0		36.0	50.0
385	16	775					58.0	79.0		43.0	55.0
485	13	425					64.0	85.0			73.0
L	mm		230	230	310	350	480	600	310	410	480
A	mm		325	350	400	415	740	810	410	640	740
B	mm		275	280	300	320	425	450	310	310	425
X	mm		535	560	610	625	1150	1220	620	1050	1150
Y	mm		375	380	400	420	575	600	410	410	575

Ø D Diameter of regulator dome
318* Diaphragm-Ø 284



3.6 SL 10-Dimensions and Weights

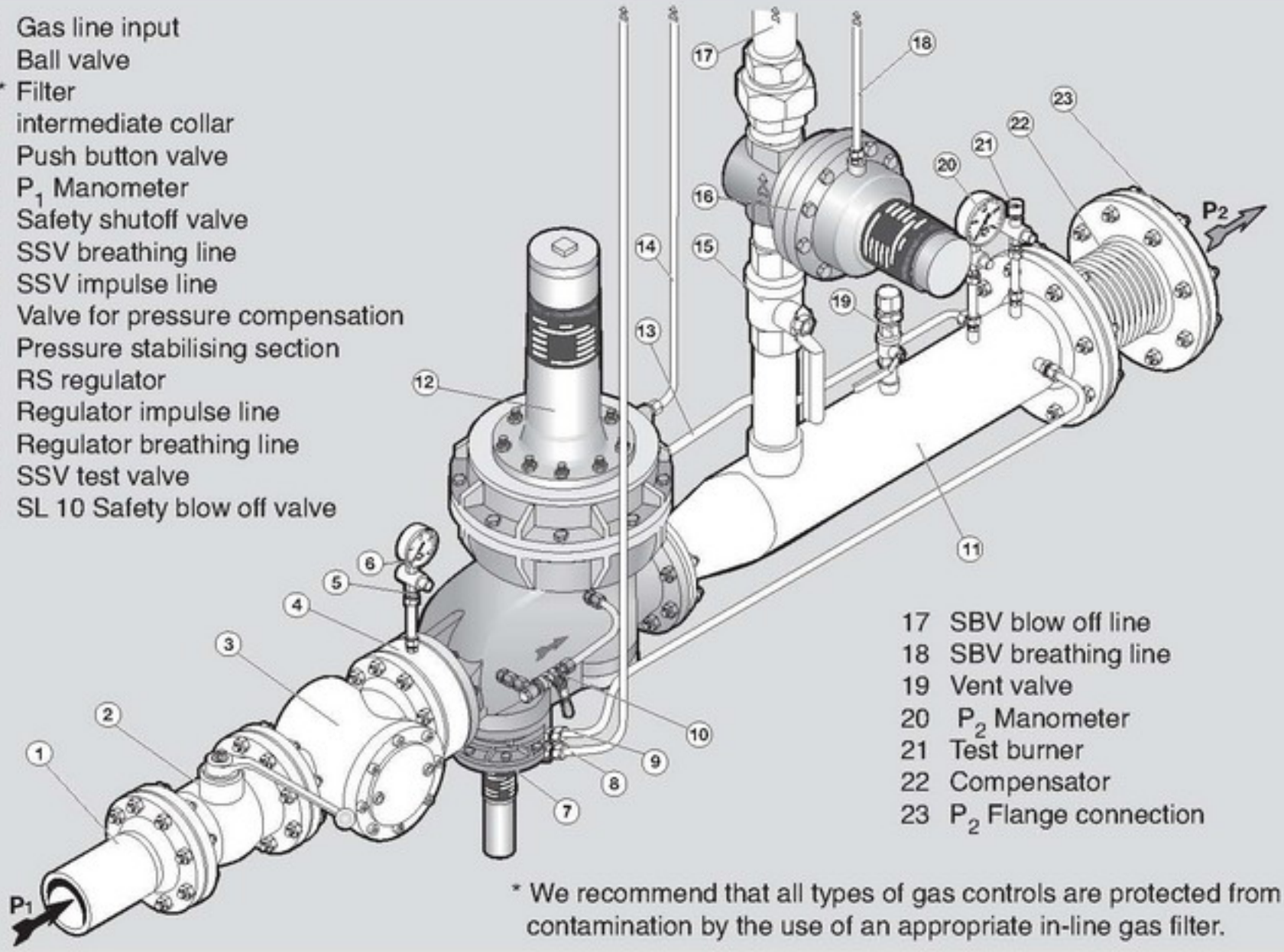
Rp	A	B	D	L	X	kg
1	180	50	145	100	280	2.5
1 ½	215	55	145	140	315	3.5
2	225	60	145	160	325	4.0



4 Installation RS 250/RS 251 and SL 10

4.1 Basic gas train installation

1 Gas line input
2 Ball valve
3* Filter
4 intermediate collar
5 Push button valve
6 P_1 Manometer
7 Safety shutoff valve
8 SSV breathing line
9 SSV impulse line
10 Valve for pressure compensation
11 Pressure stabilising section
12 RS regulator
13 Regulator impulse line
14 Regulator breathing line
15 SSV test valve
16 SL 10 Safety blow off valve

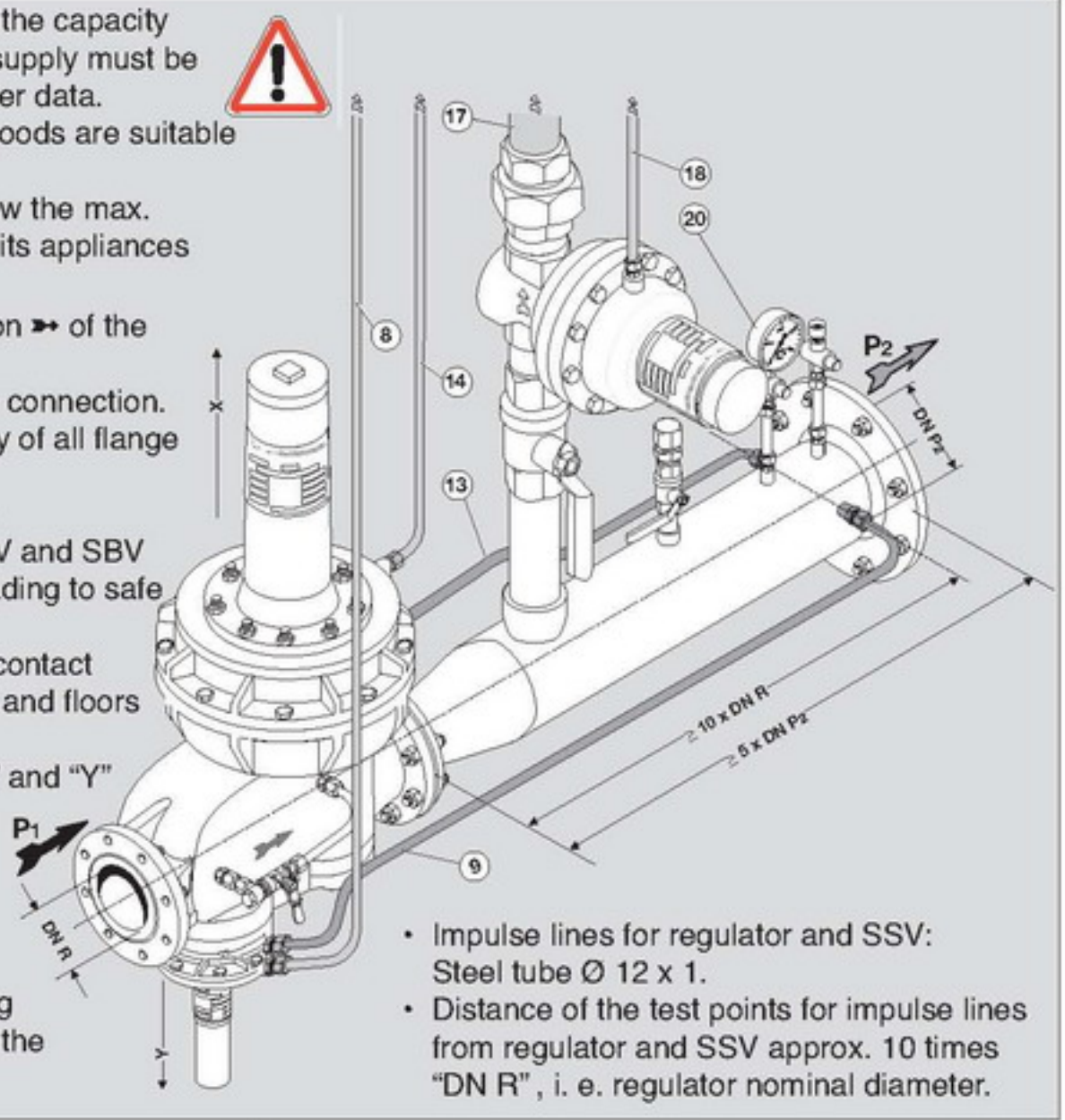


17 SBV blow off line
18 SBV breathing line
19 Vent valve
20 P_2 Manometer
21 Test burner
22 Compensator
23 P_2 Flange connection

* We recommend that all types of gas controls are protected from contamination by the use of an appropriate in-line gas filter.

4.2 RS Installation into the gas train

- Before installation of the equipment the capacity data (type plate) and the extend of supply must be checked and compared with the order data. Customers should ensure that the goods are suitable for their purpose.
- The gas inlet pressure must be below the max. permissible pressure of the RS and its appliances connected in series.
- Pay attention to the gas flow direction ➳ of the appliance.
- Remove the protection of the flange connection.
- Take notice of tension-free assembly of all flange connections and pipes.
- Tighten screws diagonally opposite.
- Breathing line lines of regulator, SSV and SBV must be installed separately and leading to safe open atmosphere.
- The gas train should not come into contact with curing masonry, concrete walls and floors are not admissible.
- Take care of minimum distances "X" and "Y" for regulator and SSV adjustment.
- Fit the gas train with suitable supports.



- The length of the pressure stabilising section shall be 5 times longer than the "DN P_2 " pipe diameter.

- Impulse lines for regulator and SSV: Steel tube Ø 12 x 1.
- Distance of the test points for impulse lines from regulator and SSV approx. 10 times "DN R" , i. e. regulator nominal diameter.

4.3 Works on the gas train

- In principle only well instructed personel is authoriced to work on the gas train.
- Never work on the appliance under gas pressure or under electrical power.
- Avoid open flames.
- Observe local safety regulations.
- Only tested and approved sealing material should be used.
  Take notice of the user instructions!
- Allways use new seals after removal or exchange of parts.
- Having finished works on the gas train:
  Check function and tightness.

Not following these instructions could result damages to persons, property or environment.

4.4 Soundness test

Before setting into operation or after service on appliances and fittings the complete gas train is to be soundness checked.

- Close the ball valve infront the gas train.
- Close following shut off devices (solenoid resp. pneumatic valves).
- If the test pressure exceeds the blow off pressure of the SL 10, close the line infront of the SL 10.
- Connect the test assembly to test points infront and behind the regulating device.
- Test with air:

- Test pressure	≥ P_2 x 1.5
- Waiting time for pressure equalisation	5 minutes
- Test duration	5 minutes
- max. permissible pressure loss	1 mbar

- Following the soundness test:
  Open the ball valve of the SL 10 line.

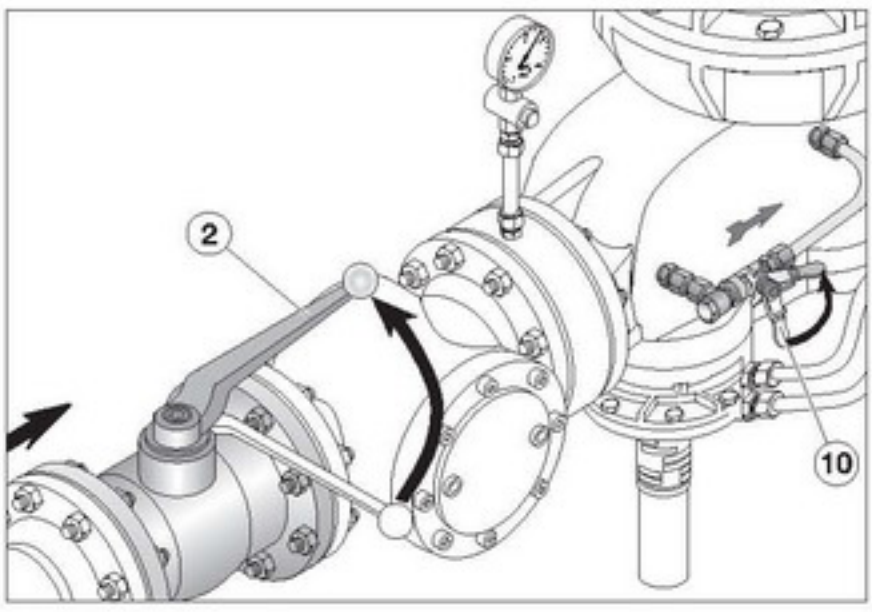
5 RS Commissioning and Operation

5.1 Gas line filling and venting

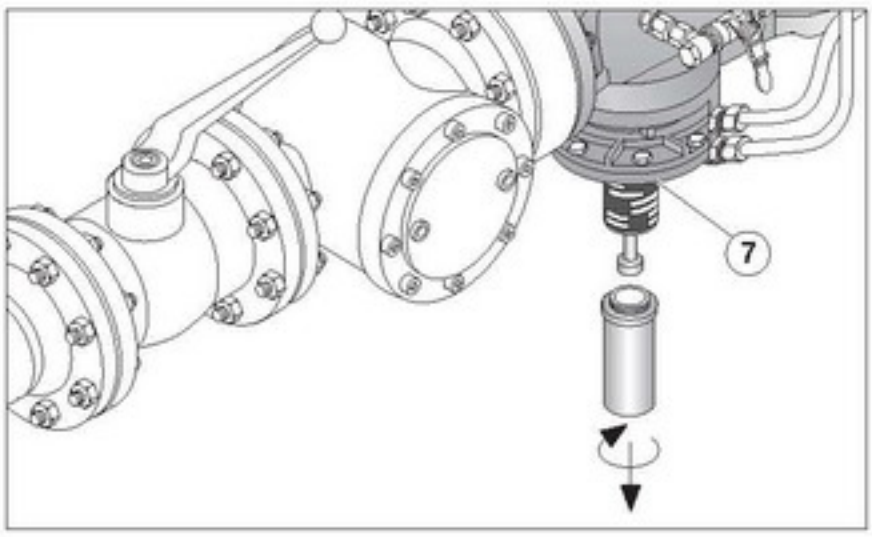
Prior to commissioning of the gas appliance the gas train must be purged/vented:

5.1.1 Open the ball valve ② in the gas supply (P_1) slowly.

5.1.2 Open the valve for pressure compensation ⑩ of the regulator to fill it and to set the gas train under pressure.

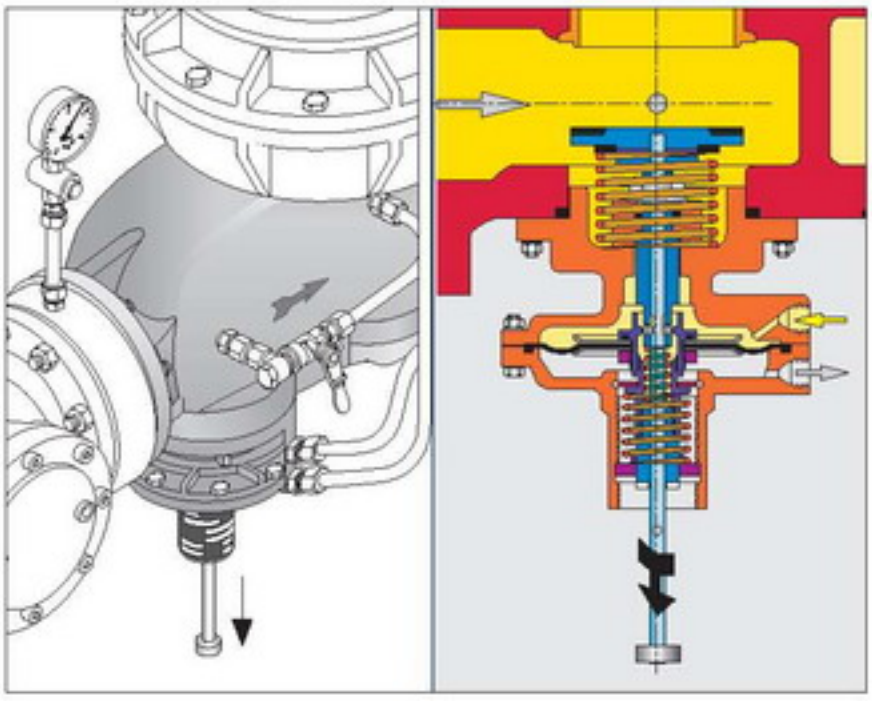


5.1.3 Remove the protection cap of the safety shutoff valve ⑦ (SSV).

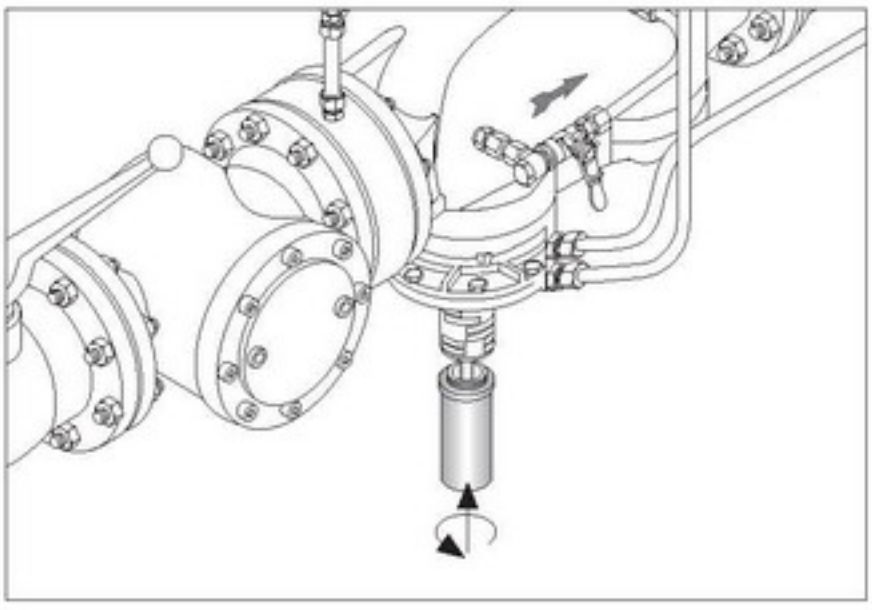


5.1.4 Close the the valve for pressure compensation ⑩ (return spring closes automatically).

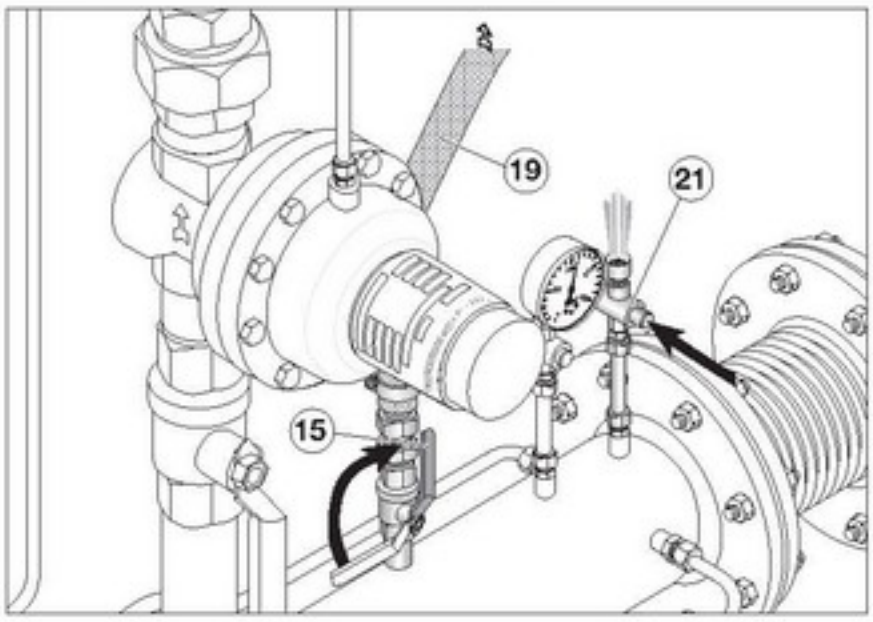
5.1.5 Reset the SSV by pulling the reset pull button.



5.1.6 Screw on the protection cap of the SSV.

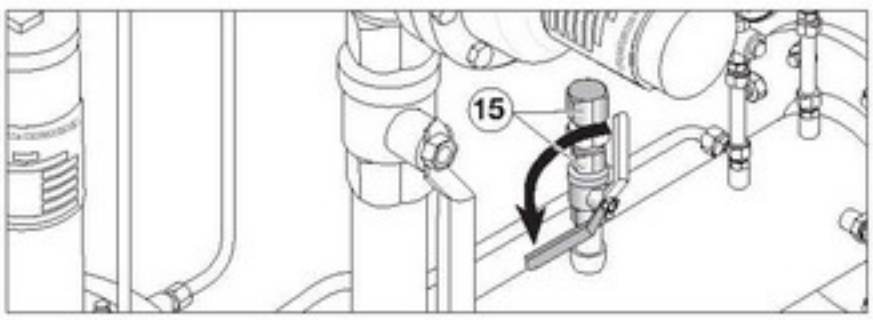


5.1.7 Vent the gas train via hose ⑲ to safe atmosphere and check by means of the test burner ㉑.
Dont use the test burner for venting!



Air or inert gas should be expelled fully and the gas train filled with gas.

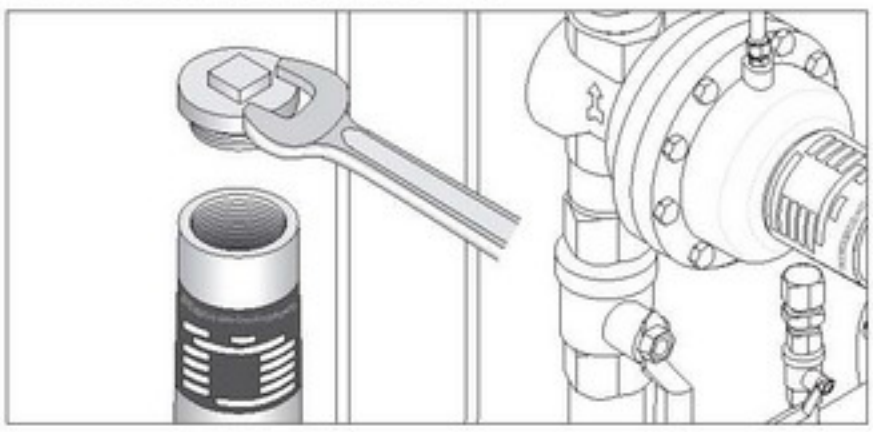
5.1.8 Close Vent valve ⑮ and refit cover cap.



5.2 Set regulator/governor

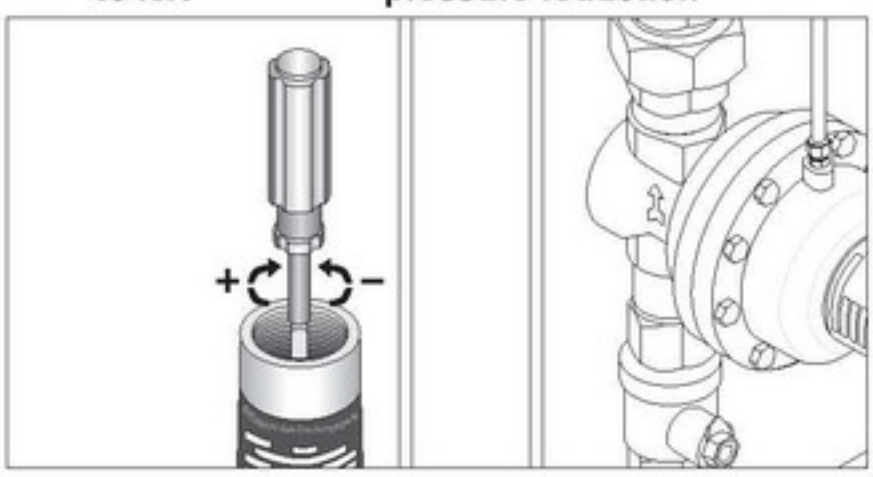
Prior to commissing use the the test burner to measure the available pressure and preset the regulator.
Set the regulator outlet pressure P_2 under maximum gas consumption during operation:

5.2.1 Remove the regulator cap.



5.2.2 Turn the setting screw with a screwdriver:

to right **pressure increase**
to left **pressure reduction**

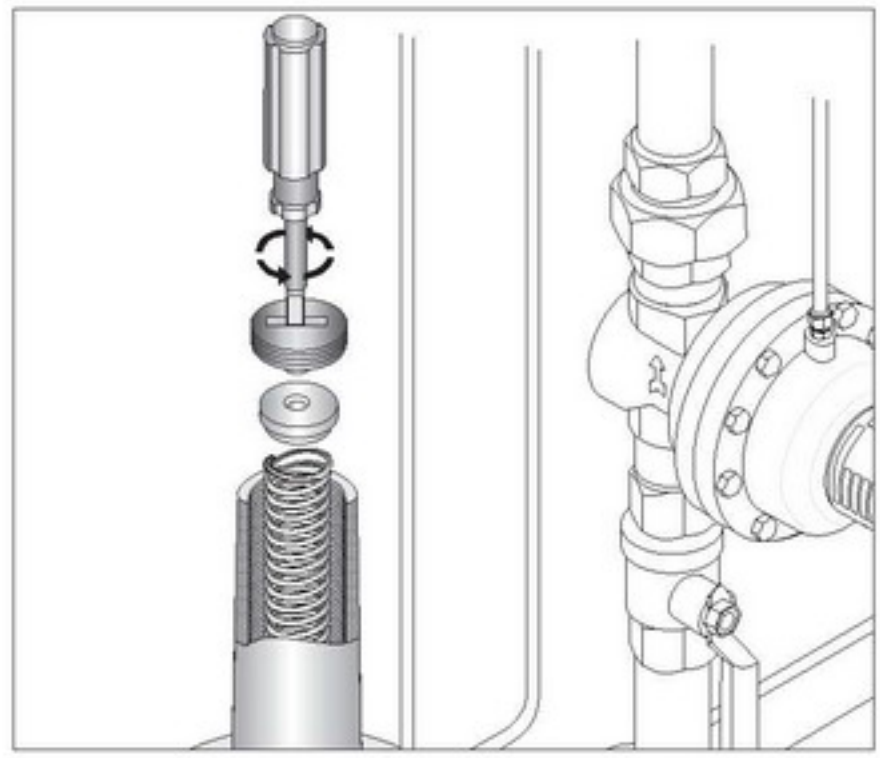


5.2.3 Screw on the regulator cap.

5.3 RS-Spring removing and fitting

If the setting of the required outlet pressure is not possible check the range of the spring and change the spring if necessary.

5.3.1 Remove the regulator cap,
turn out the setting screw,
pull out the setting disc with ball and spring,
exchange the spring for a suitable one.



5.3.2 Fit setting disc with ball and setting screw.

5.3.3 Adjust the required outlet/flow pressure.

5.3.4 Screw on the regulator cap.

5.4 Pressure checks

5.4.1 Measurement of the static pressure when the gas appliance is **switched off**

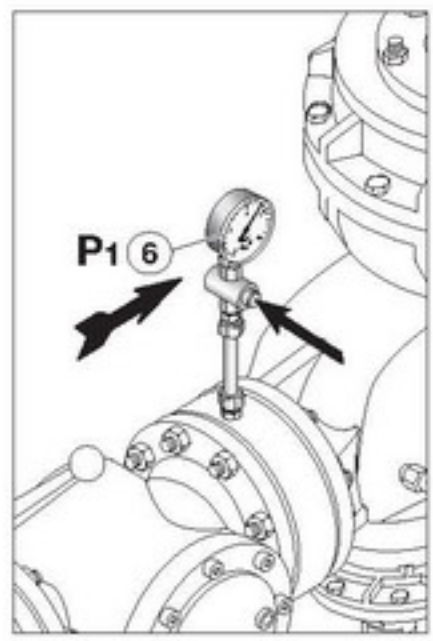
⑥ P_1 open the manometer on regulator inlet and note the pressure

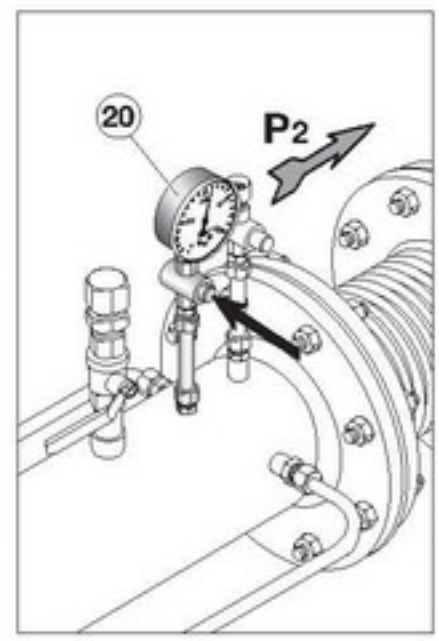
⑳ P_2 open the manometer on regulator outlet and note the pressure.

5.4.2 Measurement of the dynamic pressure **during operation - at Min.- and Max.-Load**

⑥ P_1 open the manometer on regulator inlet and note the pressure

⑳ P_2 open the manometer on regulator outlet and note the pressure.



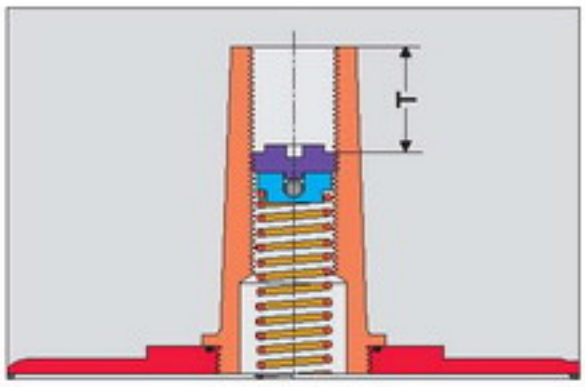


5.5 RS-Springs for outlet pressure P_2 -setting, spring data

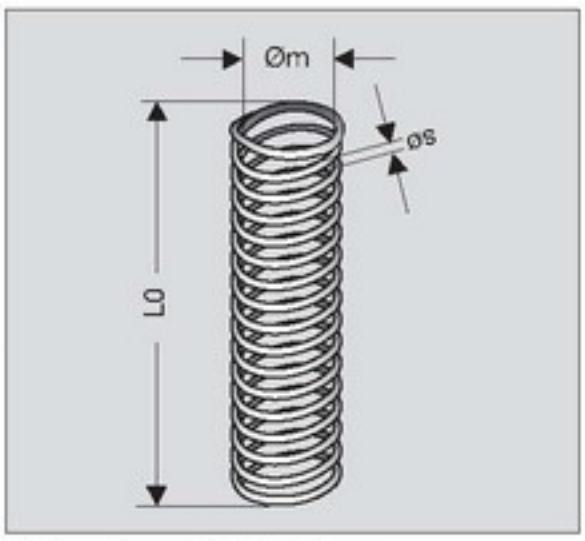
RS 250 - DN 25/50/80/100, RS 251 - DN 50	Diaphragm Diameter															Spring Data			
	D 160 Ø			D 205 Ø			D 275 Ø			D 318 Ø			D 385 Ø						
↻ x	10	20	30	10	20	30	10	20	30	10	20	30	10	20	30	L0	Øm	øs	Z
Spring	mbar			mbar			mbar			mbar			mbar			mm	mm	mm	
FA 01	46	52	60	30	36	38	22	23	25	6	7	8	10	11	12	200	40.0	2.5	37
FA 02	54	62	72	35	40	44	24	25	27	7	9	10	11	12	13	200	40.0	2.5	25
FA 03	60	70	83	40	46	52	26	28	32	9	11	13	12	13	15	205	40.0	2.5	17.3
FA 04	70	90	108	45	55	64	30	33	38	11	14	17	13	15	17	205	40.0	2.5	12.2
FA 05	90	120	150	50	62	76	34	40	47	14	19	24	15	19	21	205	40.0	3.5	26.3
FA 06	120	164	208	60	80	103	40	50	60	20	28	36	19	23	27	205	40.0	3.5	18.1
FA 07	160	220	290	76	108	140	52	67	82	27	38	50	23	29	35	205	40.0	3.5	12.6
FA 08	225	325	415	110	156	206	70	90	115	39	58	78	30	40	50	205	40.0	4.0	13.6
FA 09	325	473	620	147	222	302	90	123	160	55	82	110	36	50	65	205	40.0	5.0	19.5
FA 10	472	695	922	205	320	425	130	183	238	82	123	165	54	75	100	205	40.0	5.3	16.3
FA 11	700	1040	1385	300	450	634	185	265	345	123	187	255	80	110	145	205	40.0	6.0	16.4
FA 12	980	1489	2020	390	645	900	253	373	490	167	267	365	105	155	205	200	40.0	6.5	15.2
FA 13	1670	2435	3250	700	1070	1462	400	580	760	300	450	590	170	243	325	205	40.0	7.0	12.8
FA 14	1650	2800	4100	670	1250	1880	405	680	975	300	520	750	175	290	400	190	40.0	7.5	11.2

↻ x = number of right turns to increase the pressure up to … mbar

RS 250 - DN 150/200, RS 251 - DN 80/100	T = 80 - 130 mm *									
	Diaphragm Diameter						Spring Data			
Spring	D 275 Ø		D 385 Ø		D 485 Ø		L0	Øm	øs	Z
No.	mbar		mbar		mbar		mm	mm	mm	
F 70	45	50	16	25	13	15	400	62.5	3.5	13
F 71	50	80	20	30	15	20	400	62.5	4.0	13
F 711	80	110	30	44	20	28	400	64.0	5.0	15
F 72	110	160	44	68	28	42	400	64.0	6.0	16
F 73	140	240	58	90	36	54	400	64.0	6.0	12
F 73A	200	300	71	120	43	65	400	64.5	6.5	13
F 74	260	340	98	140	52	81	400	64.0	7.0	13
F 74A	300	400	111	178	65	101	400	64.0	7.5	13
F 742	400	500	138	223	79	126	400	64.0	8.0	13
F 742A	480	580	170	275	97	154	400	64.0	8.5	13
F 743	560	760	206	337	117	188	400	64.0	9.0	13
F 743A*	700	900	270	443	151	245	400	63.0	9.5	13
F 78*	880	1400	369	608	205	335	400	59.5	10.5	15
F 76A*	1150	1800	469	775	260	425	400	58.0	11.0	15



T * Screw-in depth in mm



L0 Length of spring
Øm Spring inside diameter
øs Spring wire diameter
Z Number of spring windings

* FA 12, FA 13, FA 14, F 78, F 76A
with high pressure screw spindle

5.6 SL 10 Safety blow off valve springs

Spring No.	Min. mbar	Max. mbar	L0 mm	Øm mm	øs mm	Z
F100 B	20	50	90	31	2.0	11/13
F101 B	25	80	90	32	2.5	12/14
F101	40	150	90	33	3.0	12/14
F102	60	330	90	34	3.5	11/13
F104	90	600	90	34	4.0	5.5/7
F105	450	1050	90	34	4.0	7/9
F106	700	1800	90	36	5.0	8/10

F 104 HD-design (high pressure) from 400 mbar

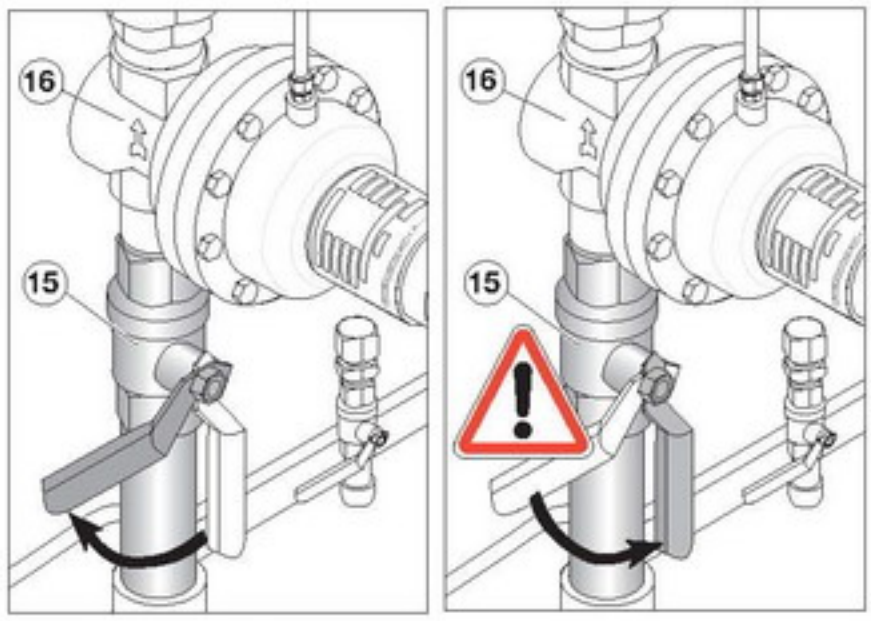
F 105 and F 106 HD-design for high pressure

5.7 SSV - High setting (safety shutoff)

The SSV ⑦ reacts immediately when the maximum permissable gas outlet pressure P_2 will be **exceeded**. The safety shutoff valve closes and interrupts the gas supply to the regulator.

5.7.1 **Test of the maximum shutoff pressure.**

- with switched off plant and
- the ball valve ⑮ of the SBV closed.
- increase the gas pressure on the regulator higher than P_2 until the SSV reacts.



After the test

- *open the SBV ball valve ⑮ again!*
- *readjust the pressure on the regulator to P_2.*

5.7.2 Correction of the **excess pressure setting** may be necessary when the presetting is too low or too high referring to the outlet pressure P_2 during operation.

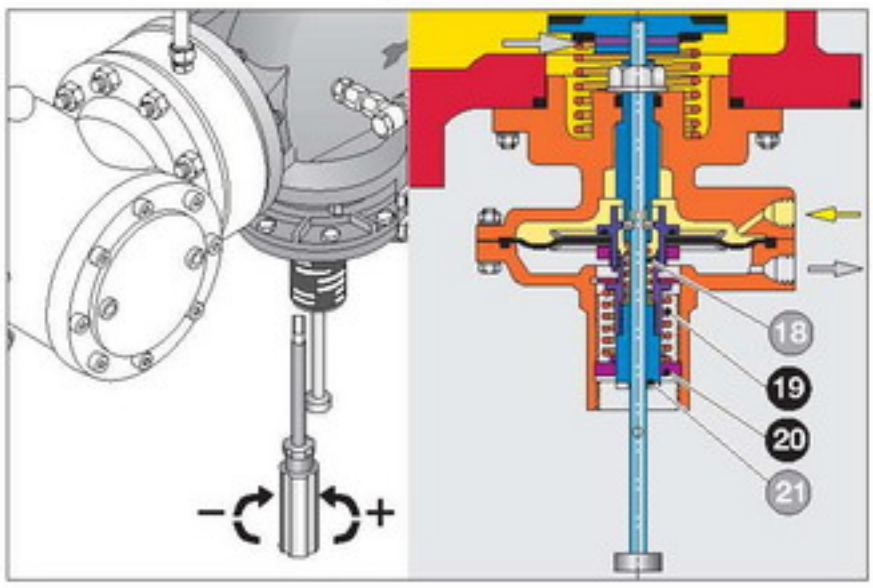
Recommended response pressures at

$P_2 \leq 100$ mbar	—> P_2	+ 50 mbar
$P_2 > 100 - 200$ mbar	—> P_2	+ 100 mbar
$P_2 > 200$ mbar	—> P_2	x 1.5

The shutoff pressure must be **below** the highest permissable operation pressure of the appliances connected in series.
The SSV should not react following a controlled shutdown or lockout of the gas plant.

5.7.3 Unscrew the cover cap of the SSV and set the **outer setting screw** ⑳ and spring ⑲ by means of a screwdriver with turning:

- *to right* *pressure increase*
- *to left* *pressure reduction*



5.8 SSV - Low setting

In case the RS device is equipped with a shutoff function at gas pressure fault, it is to be set in accordance to the operation conditions-
Minimum setting not below P_2 = 10 mbar.

5.8.1 Unscrew the cover cap of the SSV and set the **inner setting screw** ㉑ and spring ⑱ by means of a screwdriver with turning:

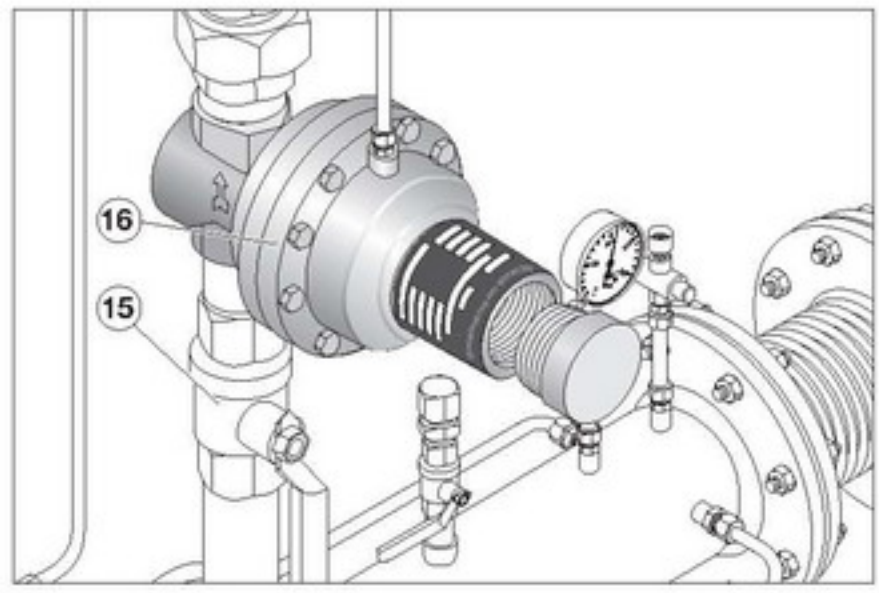
- *to right* *pressure increase*
- *to left* *pressure reduction*

Following to the setting of the SSV screw on the cover cap.

5.9 SL 10 setting

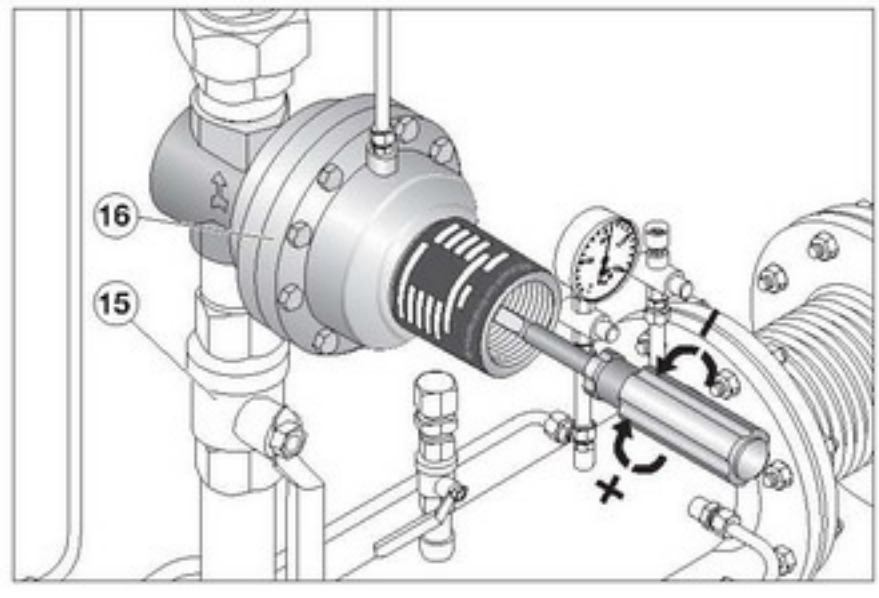
The blow off pressure of the SBV should be set approx. 20 % less than the SSV max.-setting. The SBV equalises shortterm pressure peaks or avoids inadmissable high increase of pressure caused by leakage gas.

5.9.1 Unscrew the cover cap of the SL 10 ⑯.



5.9.2 Set the setting screw and spring by means of a screwdriver with turning:

- *to right* *pressure increase*
- *to left* *pressure reduction*



Following to the setting of the SL 10 screw on the cover cap.

5.10 SAV Springs for RS 250-25/50/80/100, RS 251-50/80

GMB 135-7 MAXIMUM safety valve shutoff

Spring	SAV MD		SAV MD-R		Spring data			
T mm*	8	15	8	15				
No.	Min. mbar	Max. mbar	Min. mbar	Max. mbar	L0 mm	Øm mm	øs mm	Z
F 96	40	50			60	30.5	2.0	6/8
F 97	50	80			60	30.5	2.5	8/10
F 97 A	90	140	250	350	60	31.3	2.8	9/11
F 95	130	190	350	500	60	32.0	3.0	8/10
F 95 A	170	250	450	700	60	32.2	3.2	8/10
F 94	250	360	700	1000	60	32.5	3.5	8/10
F 94 A			1100	1500	60	34.0	4.0	8/10
F 94 AB			1250	2000	55	34.5	4.5	5/7

GMB 135-7 MINIMUM safety valve shutoff

Spring	SAV MD		SAV MD-R		Spring data			
↻ **	1	4	1	4				
No.	Min. mbar	Max. mbar	Min. mbar	Max. mbar	L0 mm	Øm mm	øs mm	Z
F 93	10	15	30	50	28	11.0	1.0	8/10
F 93 B	15	20	50	80	28	11.0	1.0	8/9
F 92 B	20	25	85	105	28	11.0	1.0	7/9
F 92 C	25	30	90	120	28	11.1	1.1	7/9
F 92	40	60	150	200	28	11.2	1.2	7/9
F 91	120	165	290	400	28	11.5	1.5	6/8

GMB 186 MAXIMUM safety valve shutoff

Spring			Spring data			
T mm*	8	19	8	15		
No.	Min. mbar	Max. mbar	Min. mbar	Max. mbar	L0 mm	Øm mm	øs mm	Z
F 96	10	20			60	30.5	2.0	6/8
F 97	17	38			60	30.5	2.5	8/10
F 97 A	38	65			60	31.3	2.8	9/11
F 95	50	96			60	32.0	3.0	8/10
F 95 A	70	125			60	32.2	3.2	8/10
F 94			100	150	60	32.5	3.5	8/10

GMB 186 MINIMUM safety valve shutoff

Spring			Spring data			
↻ **	1	4				
No.	Min. mbar	Max. mbar	L0 mm	Øm mm	øs mm	Z
F 93 B	5	8	28	11.0	1.0	8/10
F 92 B	10	15	28	11.0	1.0	7/9
F 92 C	10	15	28	11.1	1.1	7/9
F 92	15	25	28	11.2	1.2	7/9
F 91	52	75	28	11.5	1.5	6/8

5.11 SAV Springs for RS 250-150/200, RS 251-100

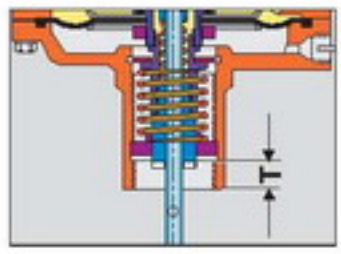
GMB 146 MAXIMUM safety valve shutoff

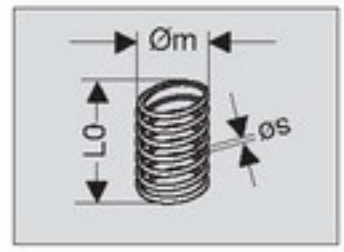
Spring	SAV MD		SAV MD-R		Spring data			
T mm*	8	23	8	23				
No.	Min. mbar	Max. mbar	Min. mbar	Max. mbar	L0 mm	Øm mm	øs mm	Z
F 38 B	15	50	90	210	65	33.5	2.5	5/7
F 38	25	90	150	380	65	34.0	3.0	5/7
F 39	45	135	200	540	65	34.0	3.5	6/8
F 40	70	260	290	980	65	35.0	4.0	5/7
F 41	120	335	450	1240	65	35.0	4.0	4/6

GMB 146 MINIMUM safety valve shutoff

Spring	SAV MD		SAV MD-R		Spring data			
↻ **	1	4	1	4				
No.	Min. mbar	Max. mbar	Min. mbar	Max. mbar	L0 mm	Øm mm	øs mm	Z
F 46	10	30	40	125	30	18.0	1.5	3/5
F 45	15	40	50	175	30	18.0	1.5	4/6
F 47	20	90	50	380	25	18.5	2.0	3/5
F 471	45	110	200	460	30	18.5	2.0	3/5
F 48	70	190	200	820	25	19.0	2.5	3/5

T mm* Screw-in depth ↻ ** Turns

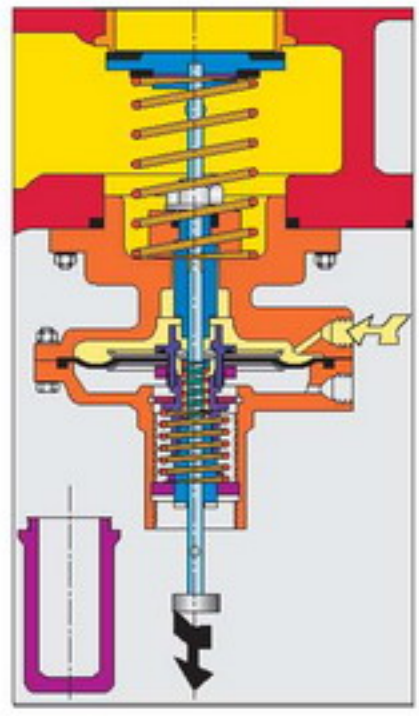




5.12 SSV Shutoff

Following to excessive (or falling below) permissable shutoff pressure the gas flow will be interrupted.

The SSV must be reset by hand.



5.12.1 Reset

as described on page 8:

5.1.2 Open the valve for pressure compensation of the regulator to fill it and to set the gas train under pressure.

5.1.3 Remove the protection cap of the SSV.

5.1.4 Close the the valve for pressure compensation ⑩ (return spring closes automatically).

5.1.5 Reset the SSV by pulling the reset pull button.

5.1.6 Screw on the protection cap of the SSV.

6 Faults

	possible causes and rectification
⊙ Extreme P_2 pressure drop when max. flow rate, full load capacity cannot be reached, P1 is constant	*Spring or size of regulator not correct. Check dimensions of spring and regulator, possibly exchange.*
⊙ Extreme P_2 pressure drop when max. flow rate, supply pressure P1 drops down	*Gas supply pressure is not sufficiant. Increase supply pressure. Pipe cross section too small (too much pressure loss in gas supply), check*
⊙ Heavy P_2 variations of pressure (pulsation)	*Setting of gas consumption appliance, check range of spring possibly size of regulator, impulse line.*
⊙ Loud gas flow noise	*Speed of gas too high, check size of regulator.*
⊙ Regulator does not work, blocks (does not open)	*Leakage of the compensation diaphragm, exchange.*
⊙ Regulator blows off during operation	*Main diaphragm, screwing in the regulator leakage, exchange.*
⊙ Noise of regulator	*Mechanical wear of the regulator spindle, exchange of the measure work.*
⊙ SSV shuts off often	*Setting of SSV too low resp. SBV too high, correction.*

7 Servicing and repairs

The servicing specifications of the installer of the plant as well as the safety guidelines given on page 2 of the manual should be observed.

RS regulator and SL 10 need no service except wear parts.

Diaphrams are to be checked for their condition. The side of the textile must be placed on the opposite side to the pressure side. Diagonal wrinkle of the diaphrams must be avoided.

Valve discs are to be checked for dirt and damage. When installing the regulator valve disc the spindle is to be secured from torsion.

In principle should be observed:

- Exchange of faulty components only with original MEDENUS parts.
- Seal joints on flange connections or screwings which were opened for service works, are to be cleaned prior to re-installation.
  Take care of correct connections.
- Replace damaged seals.
- Test tightness following service works and
- Check function and setting values!

8 Replacement of parts

8.1 Repairs

For replacement only persons fitted with the special qualification are authorized.

8.2 Order data for replacement parts

required data -refferring to type plate-

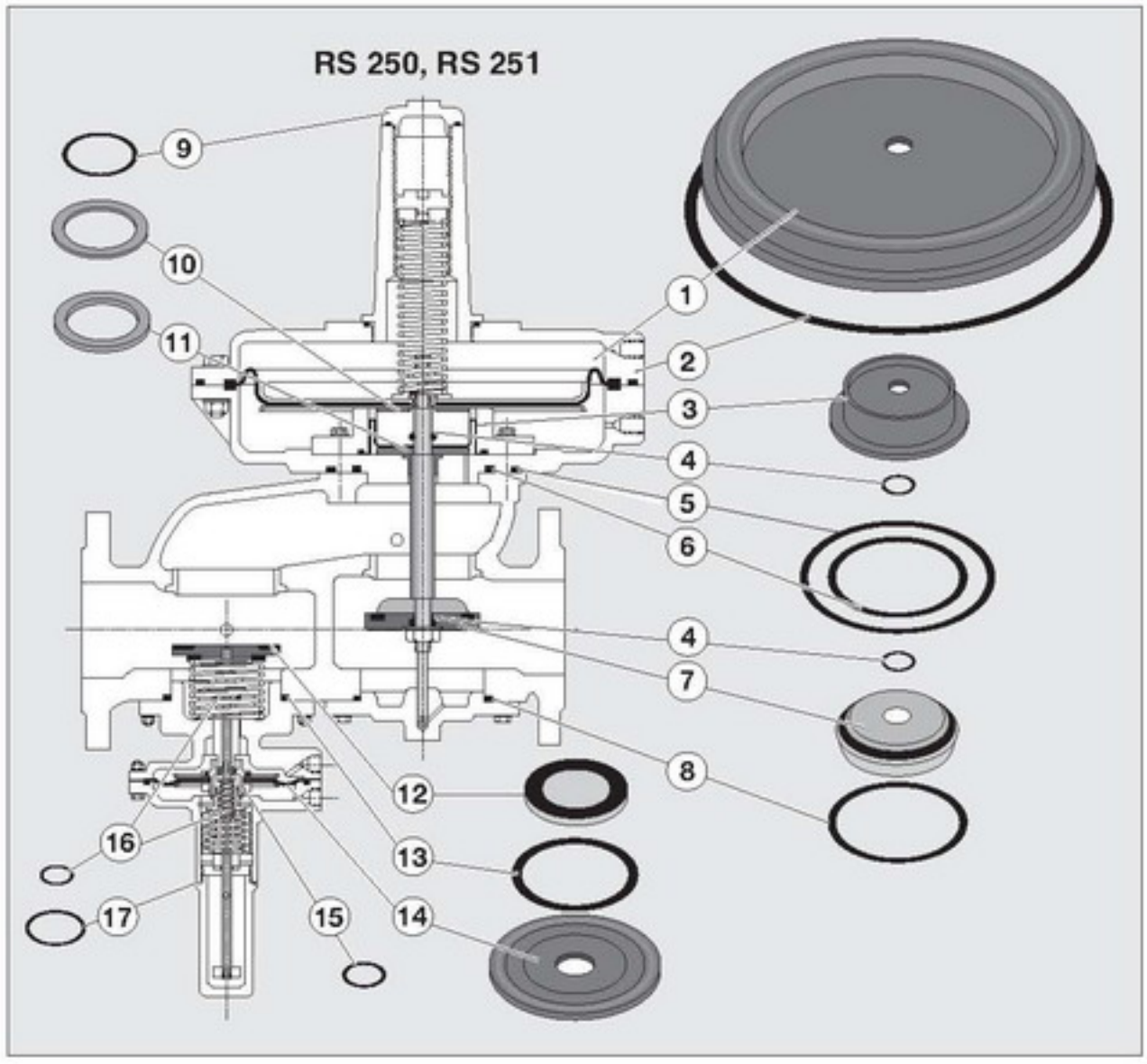
- Replacement part — Description (Pos. No.)
- Regulator-/SL 10-Type — RS 250/251/SL 10
- Nominal Diameter — DN
- Production-No. — No. ...
- Year of construction — .....
- Inlet pressure P_1 — bar
- Outlet pressure P_2 — mbar
- Type of gas — .....

8.3 Replacement parts

Pos. Description

RS 250, RS 251

① R main diaphragm
② O-Ring R-1
③ R Compensation diaphr.
④ O-Ring R-2
⑤ O-Ring R-3
⑥ O-Ring R-4
⑦ R valve disc
⑧ O-Ring R-5
⑨ O-Ring R-6
⑩ Gasket
⑪ Gasket
⑫ SAV valve disc
⑬ O-Ring-SSV
⑭ SSV diaphragm
⑮ O-Ring-SAV 2
⑯ O-Ring-SAV 3
⑰ O-Ring-SAV 4



SL 10

⑱ SL 10 diaphragm
⑲ SL 10 O-Ring 1
⑳ SL 10 valve disc
㉑ SL 10 O-Ring 2
㉒ SL 10 O-Ring 3