

Self-operated Pressure Regulators

Series 44



Type 44-2 · Pressure Reducing Valve

Type 44-3 · Safety Shut-off Valve (SSV) with integrated pressure reducing valve
TÜV-typetested – for water –

Application

Pressure regulators for set points from **0.2 to 10.5 bar** · Valves sizes **DN 15 to DN 50** · **PN 25** · Suitable for liquids up to **150 °C**, non-flammable gases up to **80 °C**

The valve **closes** when the downstream pressure rises

Pressure reducing valve and safety shut-off valve (SSV) for safeguarding district heating plants.

The **Type 44-2 Pressure Reducing Valve** consists of a valve and actuator with one operating diaphragm.

The **Type 44-3 Safety Shut-off Valve** is equipped with an actuator and two diaphragms. The version with two independent operating diaphragm complies with AGFW (German District Heating Association) regulations concerning components in house substations. The regulator can continue to operate if one operating diaphragm ruptures.

Special features

- Suitable for water and other liquids, provided they do not cause the materials used to corrode
- Special version for oil
- Restricted flow cross-section (smaller Kvs) for DN 15
- Single-seated valve with balanced plug

Versions (Figs. 2 and 3)

Series 44 Pressure Regulators for set point ranges from 0.2 to 10.5 bar · Valves in nominal sizes DN 15 to DN 50 · With welding ends (special version with threaded ends) · DN 32, 40 and 50 also available with flanged valve body

Type 44-2 Pressure Reducing Valve with one operating diaphragm

Type 44-3 Safety Shut-off Valve (SSV) with an integrated pressure reducing valve and **two** operating diaphragms

Special version

- Special Kvs for DN 15
- With oil-resistant internal parts
- ANSI version available on request

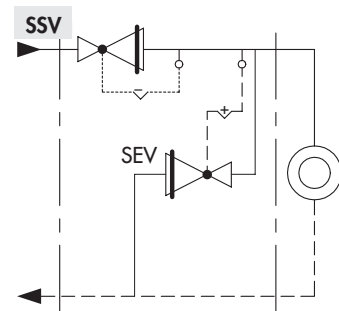


Fig. 1 · Protection of a house substation with SSV and SEV



Fig. 2 · Type 44-3 Safety Shut-off Valve, version with welding ends

Principle of operation

The pressure to be controlled is transmitted over the attached control line (11) to the operating diaphragm (6.1) where it is converted into a positioning force. This force moves the valve plug depending on the force of spring assembly (8) which can be adjusted at the set point adjuster (10).

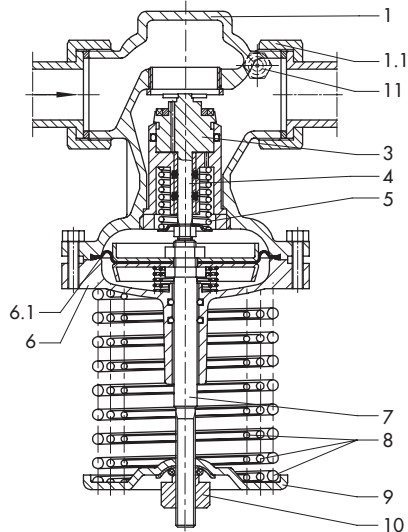
In the event that the operating diaphragm (6.1) ruptures, the Type 44-3 Safety Shut-off Valve (SSV) continues to function as the safety diaphragm (6.2) takes on the control task. To recognize a ruptured diaphragm, a diaphragm rupture indicator (12) is installed in the intermediate ring or optionally, a pressure switch can be used to issue a signal, for example, to a control room.

Typetesting

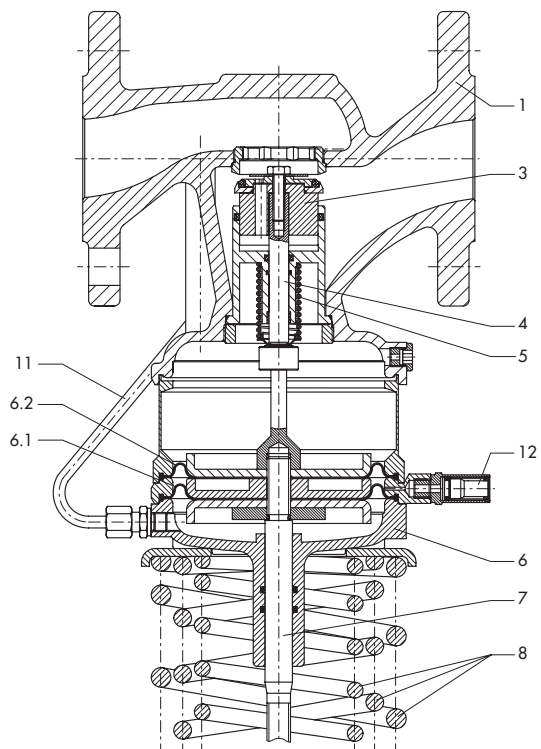
The Type 44-3 Safety Shut-off Valve (SSV) has been typetested for water by the German Technical Inspectorate for a valve coefficient K_{VS} 2.5 and higher. The test mark is available on request.

Installation

- The direction of flow must correspond with the arrow on the valve body.
- The valve body, including the actuator, must be vertically suspended (see photo).



Type 44-2 Pressure Reducing Valve with welding ends



Type 44-3 Safety Shut-off Valve (SSV),
flanged body version (DN 40)

1	Valve body	7	Actuator stem
1.1	Connection nut with seal	8	Spring assembly
3	Plug (pressure-balanced)	9	Spring plate
4	Plug stem	10	Set point adjuster
5	Plug spring	11	Control line
6	Actuator	12	Diaphragm rupture indicator
6.1	Operating diaphragm		
6.2	Safety diaphragm		

Fig. 3 · Functional diagrams of Series 44 Regulators

Table 1 · Technical data · All pressures in bar (gauge)

Nominal size	DN	15	20	25	32	40	50
K _{Vs}	Standard version	4	6.3	8	12.5	16	20
	Special versions	0.4 ¹⁾ · 1 · 2.5	–	–	–	–	–
	Flanged body version	–	–	–	12.5	20	25
z value		0.6	0.6	0.55	0.55	0.5	0.45
Nominal pressure		PN 25					
Max. permissible differential pressure Δp		20 bar				12 bar	
Max. permissible temperature		150 °C					
Leakage rate (Type 44-2)		≤ 0.05 % of K _{Vs}					
Set point ranges, continuously adjustable ²⁾							
Type 44-2		0.5 to 2 bar · 1 to 4 bar · 2 to 4.2 bar · 2.4 to 6.3 bar · 6 to 10.5 bar					
Type 44-3 (SSV)		(0.2 to 1 bar · 0.4 to 1 bar · 0.5 to 2 bar · 1 to 4 bar) ¹⁾ 2 to 4.2 bar · 2.4 to 6.3 bar · 6 to 10.5 bar					

¹⁾ Without typetesting

²⁾ Other set point ranges available on request

Table 2 · Materials · Material number acc. to DIN EN

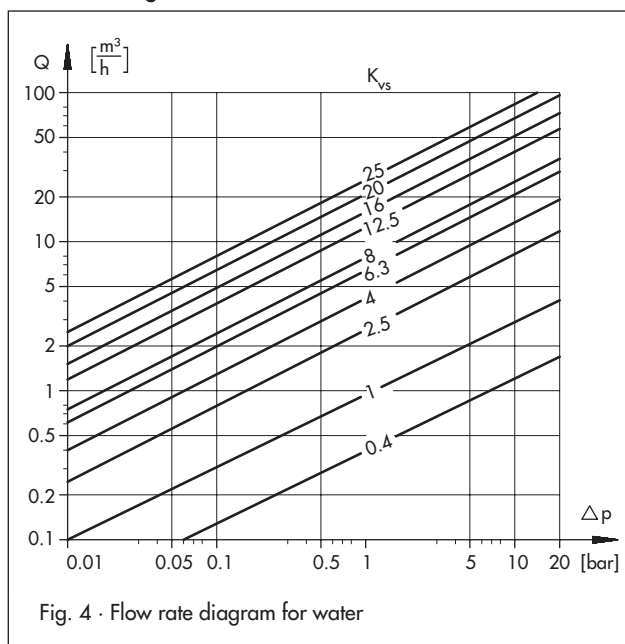
Type 44-2 · Type 44-3 (SSV)	
Valve body	Red brass CC491K or CC499K · Spheroidal graphite iron EN-JS 1049 (GGG-40.3) ¹⁾
Actuator housing/Intermediate ring	Red brass CC491K or CC499K
Seat	Stainless steel 1.4305
Plug ²⁾	Brass 2.0402 (CuZn40Pb) and stainless steel 1.4305 with EPDM soft sealing ³⁾
Valve spring	Stainless steel 1.4310
Operating diaphragm	EPDM with fabric reinforcement ³⁾
Sealing rings	EPDM ³⁾ (ethyl propylene diene methylene rubber)

¹⁾ Additional version for DN 32, 40 and 50: Valve with flanged body made of spheroidal graphite iron

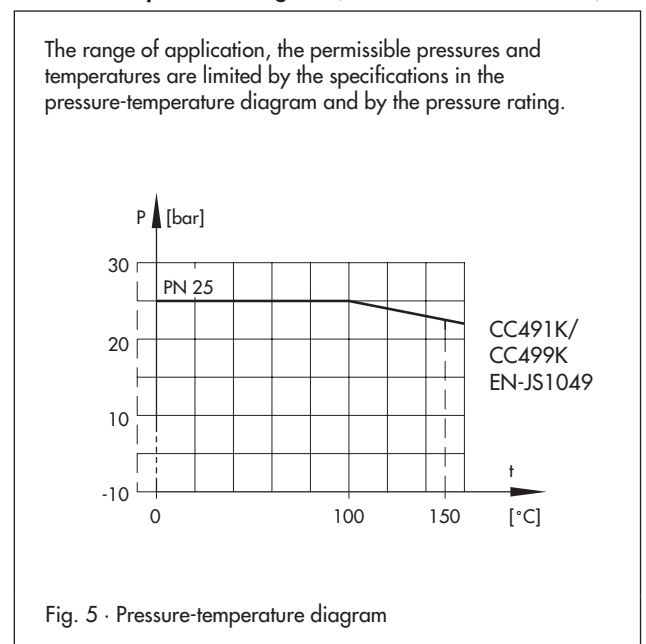
²⁾ K_{Vs} 0.4: Stainless steel 1.4305

³⁾ Special version for oil (ASTM I, II, III): FPM (FKM)

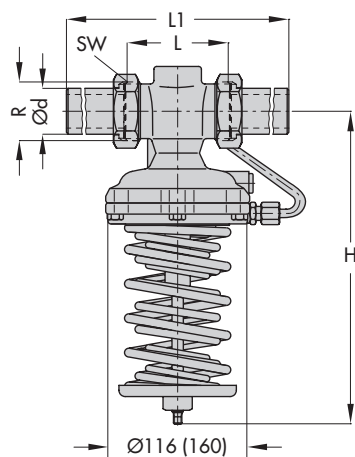
Flow rate diagram for water



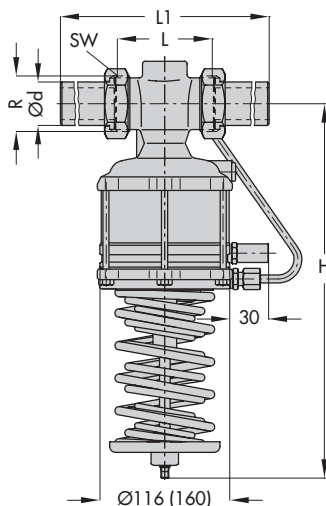
Pressure-temperature diagram (acc. to DIN EN 12516-1)



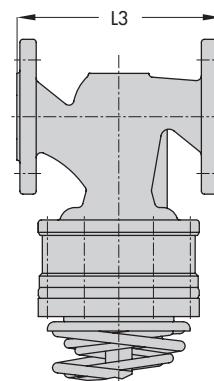
Dimensional diagrams



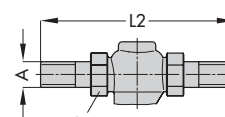
Type 44-2, with connection nuts and welding ends



Type 44-3, with connection nuts and welding ends



Type 44-3 with flanged body (DN 32, 40, 50 only)



Version with threaded ends

Specifications in parentheses () apply to DN 40 and DN 50

Dimensions in mm and weights in kg

Nominal size	DN	15	20	25	32	40	50
Pipe Ø		21.3	26.8	33.7	42	48	60
Threaded connection R		G ¾	G 1	G 1¼	G 1¾	G 2	G 2½
Width across flats SW		30	36	46	59	65	82
Length L		65	70	75	100	110	130
L1 with welding ends		210	234	244	268	294	330
Dimension H	Type 44-2	230			250	380	
	Type 44-3	285 ¹⁾			443		
Weight, approx. in kg		2.0	2.1	2.2	8.5	9.0	9.5
With flanged body (DN 32, 40 and 50)							
Length L3		-			180	200	230
Weight, approx. in kg		-			11.7	13	14.5
Special version							
With threaded ends (male thread)							
Length L2		129	144	159	180	196	228
Male thread A		G ½	G ¾	G 1	G 1¼	G 1½	G 2
Weight, approx. in kg		2.0	2.1	2.2	8.5	9.0	9.5

¹⁾ Set point range 6 to 10.5 bar: 310 mm

Fig. 6 · Dimensions

Ordering text

Pressure Reducing Valve **Type 44-2/44-3**

DN ... with connection nuts and welding ends/threaded ends

DN 32, 40 and 50 also available with flanged body

Set point range... bar

Special version ...

Specifications subject to change without notice.

