

Self-operated Pressure Regulators

Series 44

Type 44-7 · Excess Pressure Valve

Type 44-8 · Safety Excess Pressure Valve (SEV)
TÜV **typetested** – for water –



Application

Pressure regulators for set points from **0.1 to 11 bar** · Valve sizes **DN 15 to DN 50** · **PN 25** · Suitable for liquids up to **150 °C**, non-flammable gases up to **80 °C**

The valve **opens** when the upstream pressure rises

Type 44-8 Safety Excess Pressure Valve (SEV) to safeguard district heating plants.

Type 44-7 Excess Pressure Valve consists of a valve and actuator with an operating diaphragm. In contrast, the **Type 44-8 Safety Excess Pressure Valve** is designed with an actuator with two diaphragms.

The version with two independent diaphragms 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 K_{VS}) for DN 15
- Single-seated valve with balanced plug

Versions (Figs. 2 and 3)

Series 44 Pressure Regulators for set point ranges from 0.1 to 11 bar · Valves in nominal sizes DN 15 to DN 50 · With welding ends (special version with threaded ends) · With flanged valve body (DN 32, 40 and 50 only)

Type 44-7 Excess Pressure Valve with one operating diaphragm

Type 44-8 Safety Excess Pressure Valve (SEV) with two operating diaphragms

Special version

- Special K_{VS} coefficients for DN 15
- With oil-resistant internal parts
- ANSI version available on request

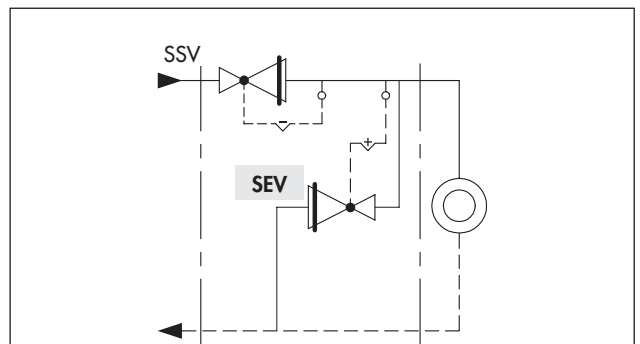


Fig. 1 · Protection of a house substation with SSV and SEV



Type 44-7 Excess Pressure Valve, DN 40, K_{VS} 16

Fig. 2 · Type 44-7 Excess Pressure Valve

Principle of operation

The pressure to be controlled is transmitted over a control line (11) to the operating diaphragm (6) 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).

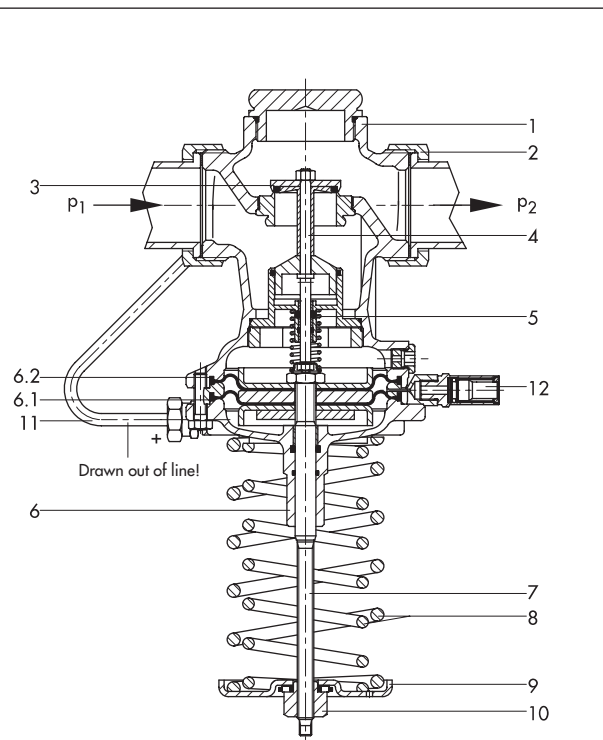
In the event that the operating diaphragm (6.1) ruptures, the safety diaphragm (6.2) of the SEV takes over its control function. To recognize a ruptured diaphragm, a diaphragm rupture indicator (12) is installed in the intermediate ring or optionally a pressure switch can be used to indicate the status, e.g. in a control room.

Typetesting

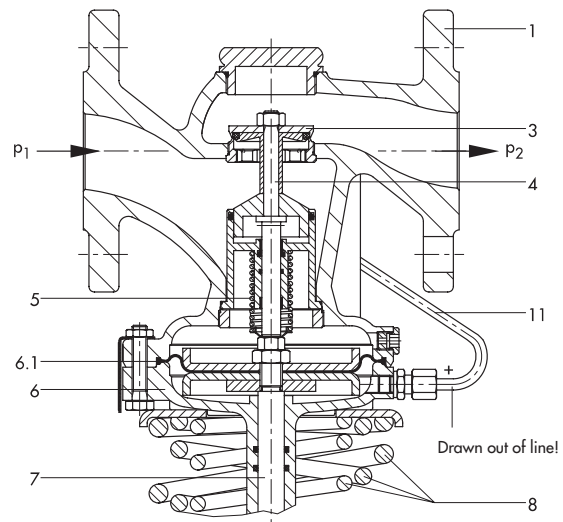
The Type 44-8 Safety Excess Pressure Valve has been typetested for water for K_{VS} 2.5 and larger coefficients by the German Technical Inspectorate, TÜV. The test mark is available on request.

Installation

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



Type 44-8 Safety Excess Pressure Valve (SEV)



Type 44-7 Excess Pressure Valve, DN 40
version with flanged valve body

1	Valve body	7	Actuator stem
1.1	Connection nut with seal	8	Spring assembly
3	Plug (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 Types 44-7/44-8

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	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. perm. differential pressure Δp		11 bar					
Max. perm. temperature		150 °C					
Leakage rate		≤ 0.05 % of K _{VS} ¹⁾					
Set point ranges, continuously adjustable ²⁾							
Type 44-7		0.1 to 1 bar ³⁾ · 0.5 to 2 bar · 1 to 4 bar · 2 to 4.4 bar · 2.4 to 6.6 bar · 6 to 11 bar					
Type 44-8 (SEV)		2 to 4.4 bar · 2.4 to 6.6 bar · 6 to 11 bar					

¹⁾ Leakage rate l/bubble-tight applies for EPDM/FPM soft sealing

²⁾ Other set point ranges on request

³⁾ For DN 32 to 50: 0.2 to 1 bar

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

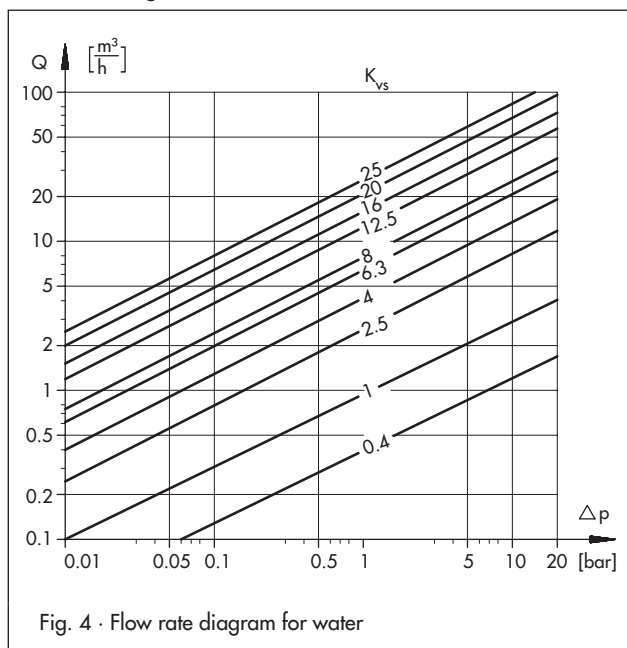
Type 44-7 Excess Pressure Valve · Type 44-8 Safety Excess Pressure Valve (SEV)	
Valve body	Red brass CC491K (G-CuSn5ZnPb; Rg 5) · Spheroidal graphite iron EN-JS 1049 (GGG-40.3) ¹⁾
Actuator housing/Intermediate ring	Red brass CC491K
Seat	Stainless steel 1.4305
Plug ²⁾	Brass 2.0402 (CuZn40Pb) and stainless 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

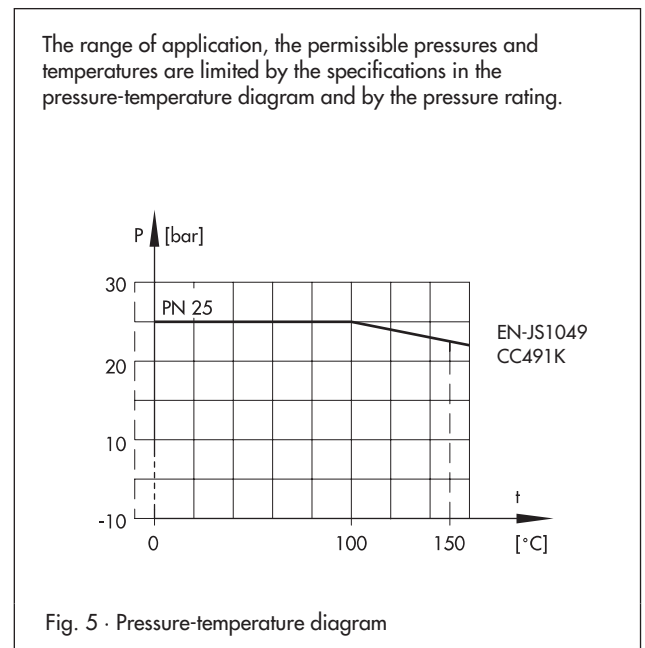
²⁾ K_{VS} 0.4: Stainless steel 1.4305

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

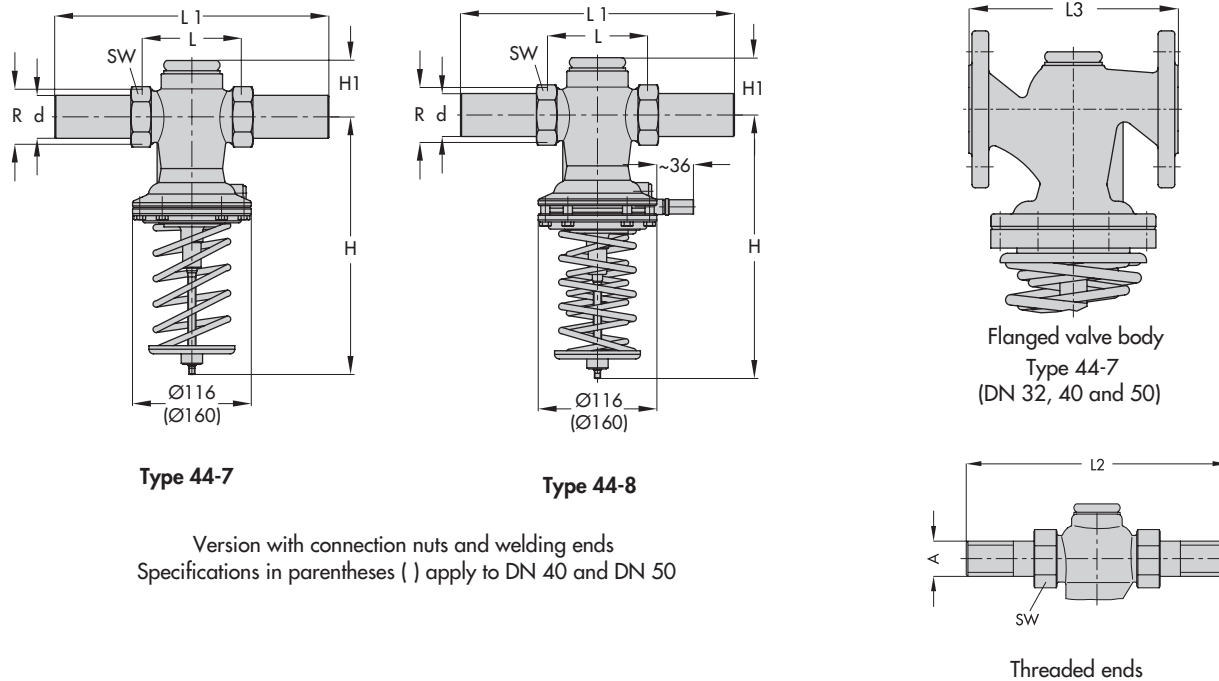
Flow rate diagram for water



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



Dimensions



Dimensions in mm and weights in kg

Nominal size	DN	15	20	25	32	40	50
Pipe \varnothing d		21.3	26.8	33.7	42	48	60
Thread connection R		G $\frac{3}{4}$	G 1	G $1\frac{1}{4}$	G $1\frac{3}{4}$	G 2	G $2\frac{1}{2}$
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
Height H	Type 44-7	230			250	380	
	Type 44-8	235			255	395	
Height H1	Type 44-7	41			58		
	Type 44-8						
Weight, approx. in kg		2.0	2.1	2.2	3.5	9.0	9.5
Special versions							
With threaded ends (male thread)							
Length L2		129	144	159	180	196	228
Male thread A		G $\frac{1}{2}$	G $\frac{3}{4}$	G 1	G $1\frac{1}{4}$	G $1\frac{1}{2}$	G 2
Weight, approx. in kg		2.0	2.1	2.2	8.5	9.0	9.5
With flanged valve body (DN 32, 40 and 50)							
Length L3		-			180	200	230
Weight, approx. in kg		-			11.7	13	14.5

Fig. 6 · Dimensions

Ordering text

Excess Pressure Valve **Type 44-7**

Safety Excess Pressure Valve **Type 44-8**

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

DN 32, 40 and 50 with flanged valve body

Set point range ... bar, optionally, special version

Specifications subject to change without notice.

