

T 2546-3 EN

Type 36-4 Safety Shut-off Valve (SSV) with Pressure Reducing Valve Self-operated Pressure Regulators



Typetested by TÜV
(for water)

Application

Pressure regulators for set points from **2.4 to 10.0 bar** · Valve sizes **DN 40 to 80** · Pressure rating **PN 16 to 40** · Suitable for water and liquids **up to 150 °C**

Special features

- Low-maintenance proportional regulators requiring no auxiliary energy
- Spring-loaded, single-seated valve with balanced plug
- Frictionless plug stem seal with stainless steel bellows
- Actuator with two diaphragms working independently from each other In the event of a ruptured operating diaphragm in the actuator, the regulator closes. An indicator at the actuator shows that the actuator is damaged.
- The regulator complies with requirements of FW 504 published by AGFW (German District Heating Association).

Versions

Safety shut-off valve (SSV) with integrated pressure reducing valve (Fig. 1) · The regulator controls the downstream pressure p_2 to the adjusted set point · The regulator closes in the event of an operating diaphragm rupture · **Typetested according to AGFW document FW 504**

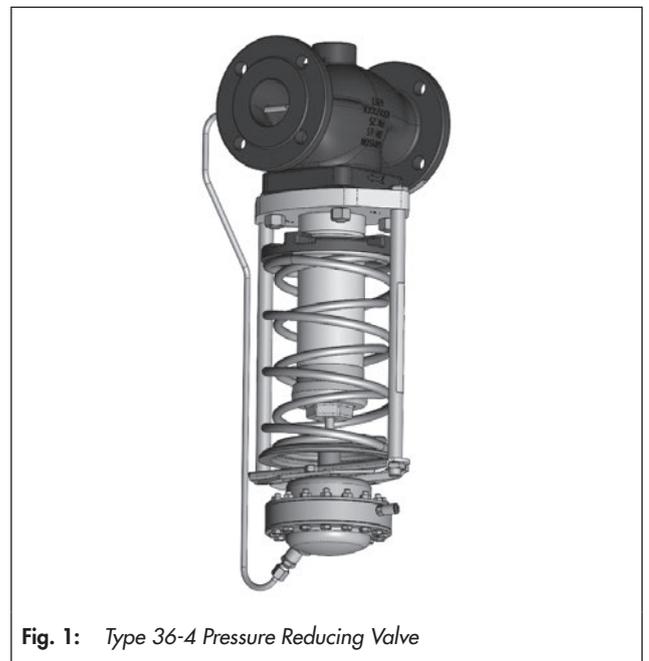


Fig. 1: Type 36-4 Pressure Reducing Valve

Ordering text

Type 36-4 Safety Shut-off Valve (SSV) with Pressure Reducing Valve

DN ...

Body material ...

PN ...

Set point range ... bar

Principle of operation

The medium flows through the valve in the direction indicated by the arrow. The position of the plug determines the flow rate across the area released between plug (3) and seat (2).

The pressure to be controlled is transmitted to the operating diaphragm (13.1) over a control line (18) and converted into a positioning force. This force moves the plug stem (4) and the valve plug (3) with it, opposing the force of the set point springs (20). The spring force (pressure set point) can be adjusted at the set point adjuster (23).

The plug (3) is pressure-balanced by a piston.

The regulators are equipped with two independent operating diaphragms: one operating diaphragm (13.1) and a backup diaphragm (13.2).

In the event of a ruptured operating diaphragm (13.1) in the actuator, the regulator closes.

A diaphragm rupture indicator (13.3) is installed in the intermediate ring (13.4). A red mark indicates a diaphragm rupture.

Type test

The regulators are typetested for water by the German technical surveillance association TÜV. The test mark is available on request.

Installation

Install the regulator in horizontal pipelines.

The following points must be observed:

- The direction of flow must match the direction indicated by the arrow on the body.
- The actuator must be suspended downwards.



Further details can be found in:

Type 36-4 Safety shut-off valve (SSV) with integrated pressure reducing valve ▶ EB 2546-3

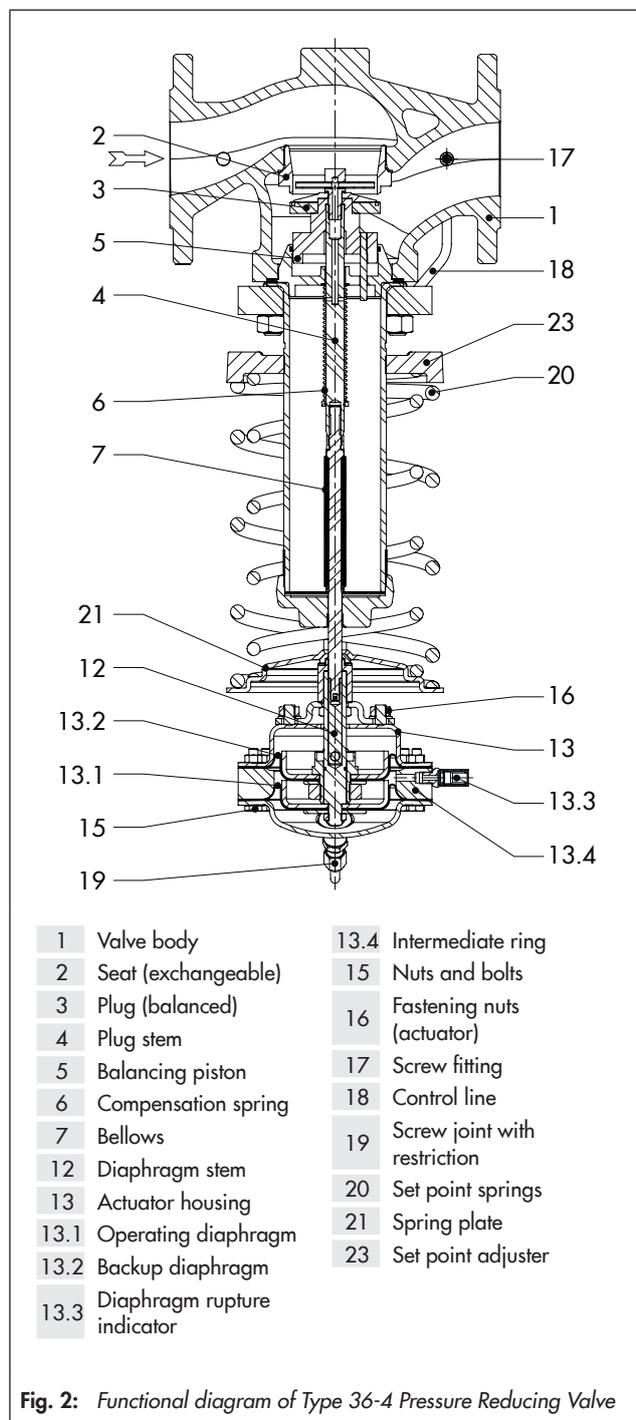


Fig. 2: Functional diagram of Type 36-4 Pressure Reducing Valve

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

Valve size	DN	40	50	65	80
K_{VS} coefficient		20	32	50	80
x_{FZ} value		0.50	0.45	0.40	0.35
Pressure rating		PN 16, 25 or 40			
Max. permissible differential pressure Δp across the valve		25 bar		20 bar	16 bar
Max. permissible temperature		150 °C			
Max. permissible ambient temperature		80 °C			
Set point ranges		2.4 to 6.3 bar · 6.0 to 10.0 bar			
Minimum downstream pressure p_2 to close the backup diaphragm	2.4 to 6.3 bar	0.6 bar		0.8 bar	
	6.0 to 10.0 bar	1.0 bar		1.5 bar	
Leakage class according to IEC 60534-4		Class IV (≤ 0.01 % of K_{VS} coefficient)			
Conformity					

Table 2: Materials · Material numbers according to DIN EN

Valve			
Body	Cast iron EN-GJL-250	Spheroidal graphite iron EN-GJS-400-18-LT	Cast steel 1.0619
Pressure rating	PN 16	PN 25	PN 40
Seat	Stainless steel		
Plug with PTFE soft seal	Stainless steel		
Actuator			
Diaphragm cases	Sheet steel S235JR (St 37-2)		
Diaphragm	EPDM with fabric reinforcement		

Table 3: Dimensions in mm · Weights in kg

Valve size		DN 40	DN 50	DN 65	DN 80
Overall length	L	200	230	290	310
Height	Set point from 2.4 to 6.3 bar	495		607	
	Set point from 6.0 to 10.0 bar	520		632	
Height	Forged steel	92	98	–	128
	Other materials	72		98	
Diaphragm housing	ØD	170 mm, A = 80 cm ²			
Diaphragm rupture indicator	L _M	40 mm			
Weight for PN 16 ¹⁾ in kg (approx.)		26.5	30.0	43.0	50.0

¹⁾ +10 % for spheroidal graphite iron EN-GJS-400-18-LT (PN 25) and cast steel 1.0619 (PN 40)

Dimensions in mm

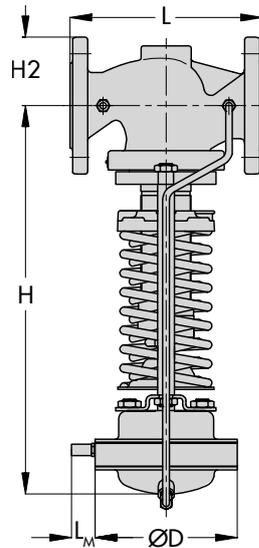


Fig. 3: Dimensions · Type 36-4 Safety Shut-off Valve (SSV) with integrated pressure reducing valve