

Self-operated Pressure Regulators

Type 2375 Excess Pressure Valve for corrosive media



Application

Pressure regulators for set points from **0.8 to 16 bar** · Valve nominal sizes **DN 15 to 50¹⁾** · Nominal pressure **PN 40** · Suitable for gases and liquids up to **80 °C**

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



The Type 2375 Excess Pressure Valve regulates the upstream pressure to the adjusted set point within the range from 0.8 to 16 bar.

Special features

- Low-maintenance proportional regulators requiring no auxiliary energy
- All wetted parts free of non-ferrous metal
- Wide set point range and convenient set point adjustment using a nut
- Soft-seated plug for high shut-off requirements

Versions

Type 2375 Excess Pressure Valve, consisting of:
Nominal size DN 15, 20, 25, 32, 40, and 50 · Actuator with rolling diaphragm made of EPDM, FPM or NBR · Valve with body made of corrosion-resistant steel 1.4470

ANSI version

Special version

With special materials for applications involving sea water:
1.4538, duplex steel 1.4469 · Nickel-base alloy: 9.4610
Flanges in higher pressure ratings · Other special materials on request · With metal cover (to protect the set point springs)

Accessories

Screw fitting for control line connection · Control line kit available for tapping the pressure directly at the valve body

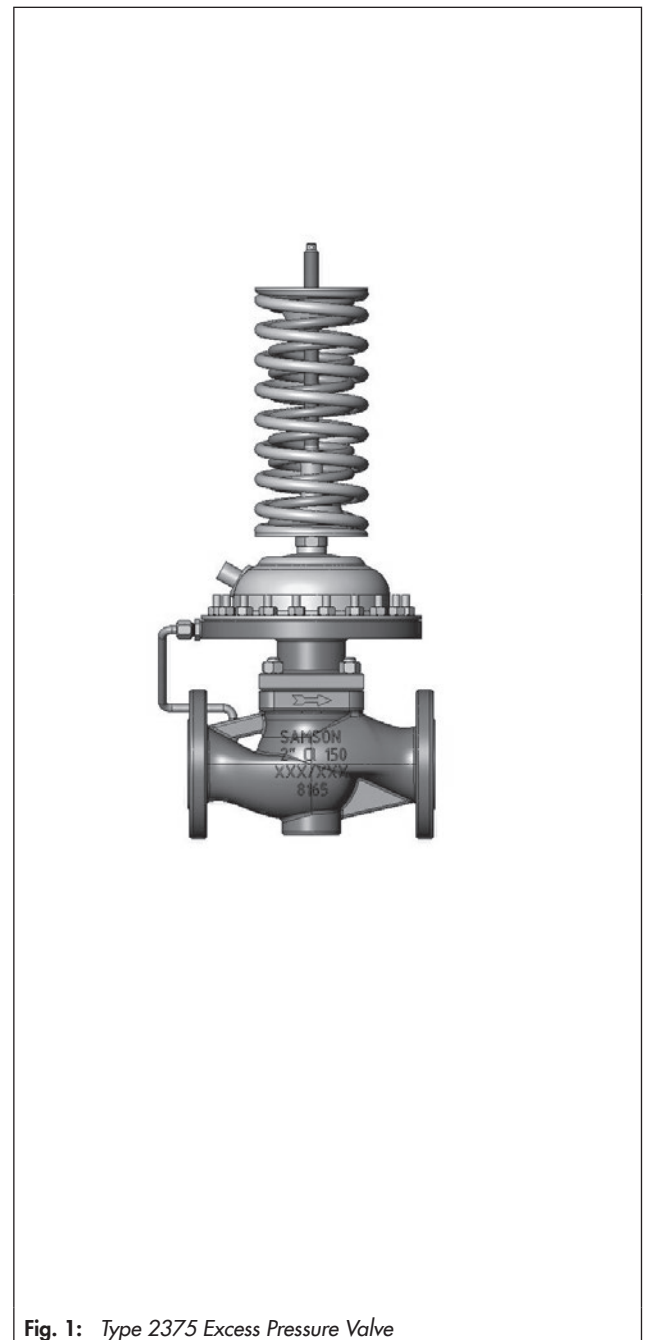


Fig. 1: Type 2375 Excess Pressure Valve

¹⁾ Larger valve sizes on request

Principle of operation

The medium flows through the valve (1) as indicated by the arrow. The position of the plug (3) determines the flow rate across the area released between plug and valve seat (2).

The set point springs (7) are loaded by the set point adjuster (6). When relieved of pressure ($p_1 = p_2$), the valve is closed by the force of the set point springs.

The upstream pressure p_1 to be controlled is tapped upstream of the valve and transmitted over the control line (14) to the operating diaphragm (12) where it is converted into a positioning force. This force is used to move the valve plug (3) according to the force of the set point springs (7). The plug stem (5) with the plug is connected to the actuator stem (11) of the actuator (10).

The spring force is adjustable at the set point screw (6). When the force resulting from the upstream pressure p_1 rises above the adjusted set point, the valve opens proportionally to the change in pressure.

Installation of the regulators

Normally, the valve is installed with the actuator on top. Install pipelines horizontally.

For further details on installation refer to Mounting and Operating Instructions ► EB 2536.

The following points must be observed:

- The direction of flow must match the arrow on the valve body.
- Install a strainer (e.g. SAMSON Type 2 NI) upstream of the valve.

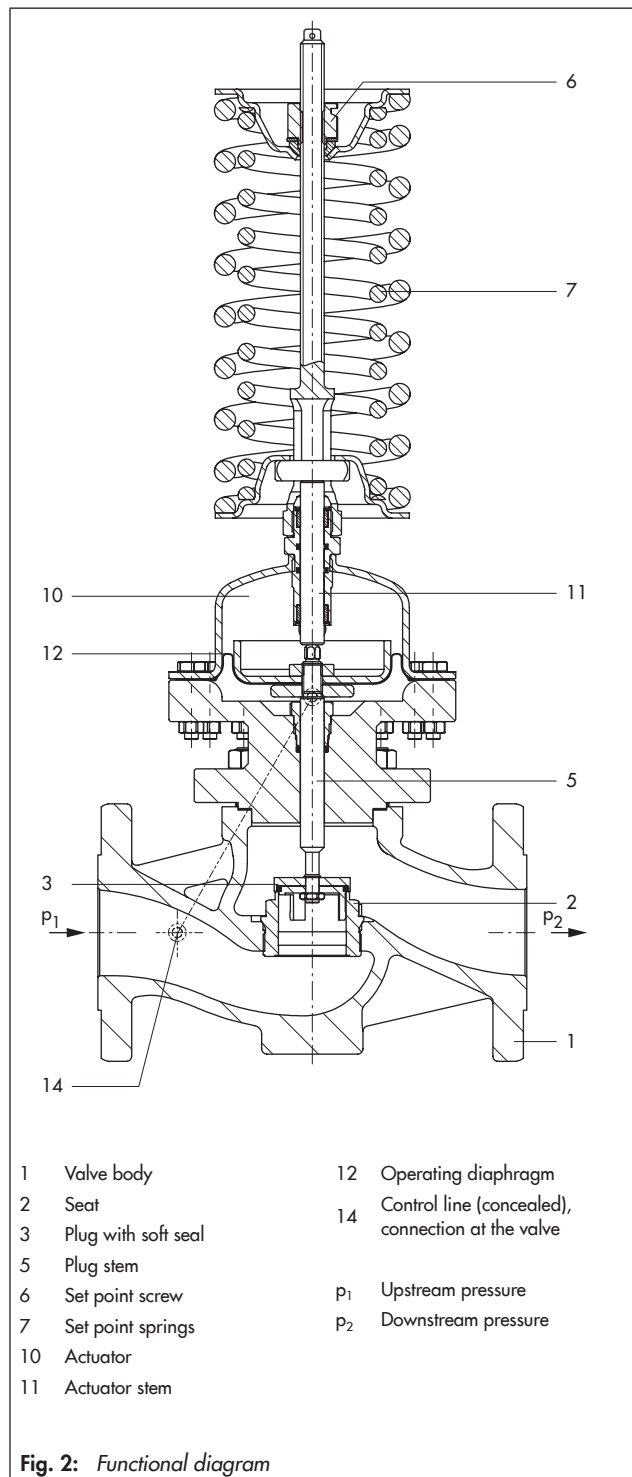


Fig. 2: Functional diagram

Table 1: Technical data · All pressure stated as gauge pressure**Type 2375 Excess Pressure Valve**

| | |
|---|--|
| Nominal size | DN 15 to 50¹⁾ |
| Nominal pressure | PN 40 |
| Max. permissible temperature | 80 °C ²⁾ |
| Max. permissible differential pressure Δp | See Table 3 |
| Leakage class according to IEC 60534-4 | |
| Metal seal | ≤ 0.05 % of K_{VS} coefficient (Class I) |
| Soft seal | ≤ 0.01 % of K_{VS} coefficient (Class IV) |
| Compliance | CE · EAC |
| Actuator | |
| Set point ranges | 0.8 to 2.5 bar · 2 to 5 bar · 2.4 to 6.3 bar · 4.5 to 10 bar · 8 to 16 bar |
| Actuator area | See Table 4 |
| Max. perm. pressure at actuator | |
| 40 cm ² 6 in ² | 20 bar 290 psi |
| 80 cm ² 12 in ² | 12 bar 175 psi |
| 160 cm ² 25 in ² | 7.5 bar 110 psi |

¹⁾ Larger valve sizes on request

²⁾ 20 °C for sea water (approx. 3.5 % salt content) with duplex 1.4462/1.4470 or 40 °C with super duplex 1.4410/1.4469

Table 2: Materials · Material numbers according to DIN EN

| | |
|-----------------|-----------------------------|
| Valve | |
| Valve body | Cast stainless steel 1.4470 |
| Seat and plug | Stainless steel |
| Soft seal | EPDM, FPM, NBR or PTFE |
| Seal | Graphite on metal core |
| Actuator | |
| Diaphragm case | 1.4301 |
| Diaphragm | EPDM, FPM or NBR |

Table 3: K_{VS} coefficients and max. permissible differential pressures Δp

| Nominal size | K_{VS} coefficients | | Max. permissible differential pressures Δp | |
|--------------|-----------------------|-----------------|--|-----------------|
| | Standard version | Special version | Standard version | Special version |
| DN 15 | 4 | 1 · 2.5 | 10 bar | 14 bar |
| DN 20 | 6.3 | | | |
| DN 25 | 8 | | | |
| DN 32 | 16 | 10 | 4 bar | 10 bar |
| DN 40 | 20 | | | |
| DN 50 | 32 | 16 | | 8 bar |

Dimensions

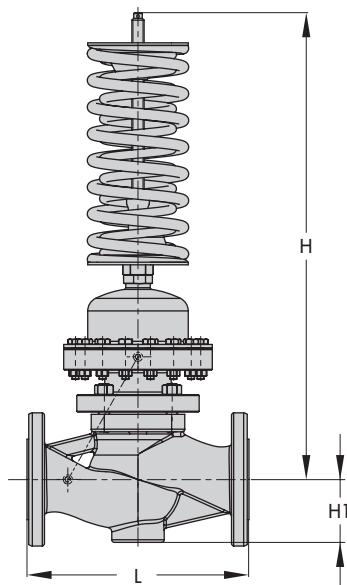


Fig. 3: Dimensions of Type 2375

Table 4: Dimensions in mm and weights in kg

| Type 2375 Excess Pressure Valve | | | | | | | | |
|---------------------------------|----------------|------------------|--------------------------------------|--------|--------|--------|--------|--------|
| Nominal size | | DN | 15 | 20 | 25 | 32 | 40 | 50 |
| Valve dimensions | Length L | | 130 mm | 150 mm | 160 mm | 180 mm | 200 mm | 230 mm |
| | Height H1 | | 55 mm | | | 72 mm | | |
| Set point ranges | 0.8 to 2.5 bar | Height H | 560 mm | | | 575 mm | | |
| | | Actuator housing | ØD = 225 mm, A = 160 cm ² | | | | | |
| | 2 to 5 bar | Height H | 560 mm | | | 575 mm | | |
| | | Actuator housing | ØD = 170 mm, A = 160 cm ² | | | | | |
| | 2.4 to 6.3 bar | Height H | 560 mm | | | 575 mm | | |
| | | Actuator housing | ØD = 170 mm, A = 80 cm ² | | | | | |
| | 4.5 to 10 bar | Height H | 560 mm | | | 575 mm | | |
| | | Actuator housing | ØD = 170 mm, A = 80 cm ² | | | | | |
| | 8 to 16 bar | Height H | 560 mm | | | 575 mm | | |
| | | Actuator housing | ØD = 170 mm, A = 40 cm ² | | | | | |
| Weight ¹⁾ , approx. | | | 19 kg | 20 kg | 20 kg | 23 kg | 26 kg | 29 kg |

¹⁾ The weights are based on the weight of the regulator with actuator area A = 80 cm². Add 4 kg for A = 160 cm².

Ordering text

Type 2375 Excess Pressure Valve

DN ..., PN ...

Set point range ... bar

Optionally, accessories ...

Special version ...

Specifications subject to change without notice



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