Self-operated Pressure Regulators

Pressure Reducing Valve Type 50 ES and 50 EM

Application

Pressure regulators for set points from **0.2** to **10 bar** · Valve sizes **G** ⅜ and **G** ½ · Nominal pressure **PN 16** · Suitable for water and other liquids, air and non-flammable gases up to **50 °C**

Note!
Typetested pressure reducing valves
Type 50 ES and Type 50 EM Pressure Reducing Valves are available typetested for oil acc. to DIN 4736, Part 2.

The valve closes when the downstream pressure rises.

The regulators consist of a valve, a spring-loaded operating diaphragm and a set point adjuster.

Special features

- Low-maintenance proportional regulators requiring no auxiliary energy
- Wide set point range and easy set point adjustment
- Tight-closing, spring-loaded, single-seated valve, which can be used for upstream pressures up to 16 bar
- Suitable for media that do not affect the operating diaphragm and do not cause the materials used to corrode

Versions

Type 50 ES (Fig. 1) · Suitable for water, air and other liquids and gases · With valve in G ⅜ or G ½ · Set point ranges 0.2 to 4, 2.5 to 6 or 4 to 10 bar.

Type 50 EM (Fig. 2) · Design same as Type 50 ES, but with connections for attaching a pressure gauge (Ø 63 mm housing, G ¼ connection) to indicate the downstream pressure.

Accessories · Pressure gauge with G ¼ connection and Ø 63 mm housing, scale division for ranges of 0 to 4, 0 to 6, 0 to 16 bar.

Special version · Operating diaphragm made of nitrile rubber (NBR) for handling heating oil.

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

Type	**50 ES and 50 EM**	
Thread size	G ⅜	G ½
K_{VS} coefficient	0.93	
Max. perm. upstream pressure	16 bar	
Max. perm. temperature	50 °C	
Set point range in bar	Continously adjustable 0.2 to 4; 2.5 to 6; 4 to 10	
Materials · Material numbers acc. to DIN EN		
Body, seat	CW617N (brass)	
Plug	Stainless steel 1.4104 with NBR soft sealing	
Diaphragm	CR [1]	

[1] With special version for oils (ASTM I, II, III): NBR

Fig. 1 · Type 50 ES

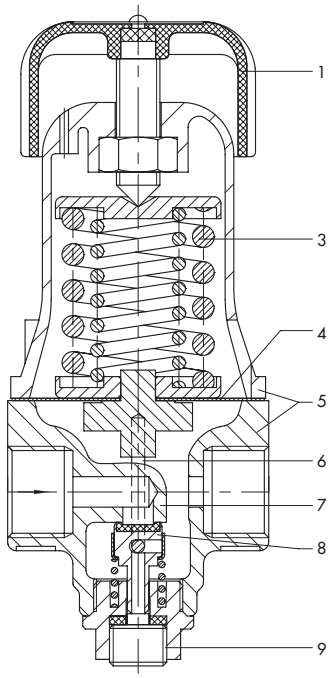
Fig. 2 · Options for pressure gauge attachment with Type 50 EM

Principle of operation

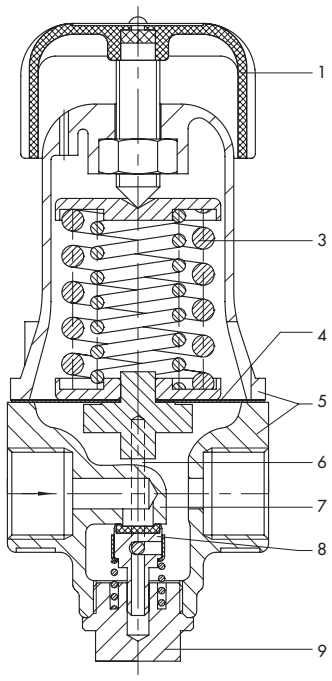
The plug connection link (6) connects the operating diaphragm (4) and the valve plug (8). The downstream pressure to be maintained at a constant pressure produces a force on the operating diaphragm (4), which is used to adjust the valve plug (8) as a function of the adjusted set point.

Installation

- The valves may be installed in any desired position
- Direction of flow as indicated by the arrow on the valve body



Type 50 EM



Type 50 ES

1 Set point adjuster
3 Compression spring
4 Operating diaphgram
5 Body
6 Plug connection link
7 Seat
8 Valve plug with soft sealing
9 Stopper or connection for pressure gauge

Fig. 3 · Type 50 ES/50 EM Pressure Reducing Valve, sectional view

Table 2 · Dimensions in mm and weights

Type	50 ES and 50 EM	
Thread size	G ⅜	G ½
Length L	60	
Height H1	113	
Height H2	37	
Weight, approx. in kg	0.7	

Ordering text

Pressure Reducing Valves Type 50 ES or Type 50 EM
G ..., set point range ... bar
Optionally, special version …
Optionally, accessories ...

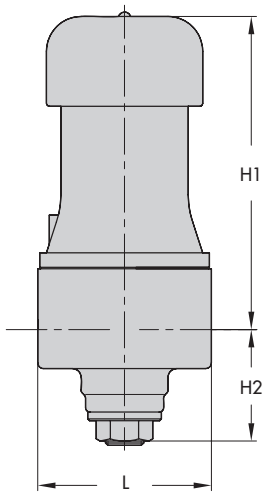


Fig. 4 · Dimensions of Type 50 ES/50 EM

Specifications subject to change without notice.

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