

Application

Pressure adjustment in pneumatic systems

The remote adjuster is a precision pressure regulator which can be manually adjusted. It is designed for use in pneumatic control loops as either a set point adjuster or manual remote adjuster and can be used as an adjustable precision pressure regulator for measuring, calibration and testing equipment.

Special features

- Precise adjustment
- Constancy of the adjusted pressure value
- Large air delivery
- Small dimensions

Versions

The Type 3759 Remote Adjuster is available for the following pressure ranges: 0 to 0.6 bar, 0 to 1.6 bar, 0 to 4 bar and 0 to 6 bar. The max. supply pressure for all versions is 7 bar.

Standard version

Designed for panel mounting with adjustment screw which can be turned using a screwdriver.

The device can be equipped with the following parts (see Table 2):

- Rotary knob for manual adjustment
- Rotary knob and mounting plate with cover bushing
- Protective cover and mounting plate
- Equipment for panel or wall mounting with bracket and, if required, rotary knob for manual adjustment

Principle of operation

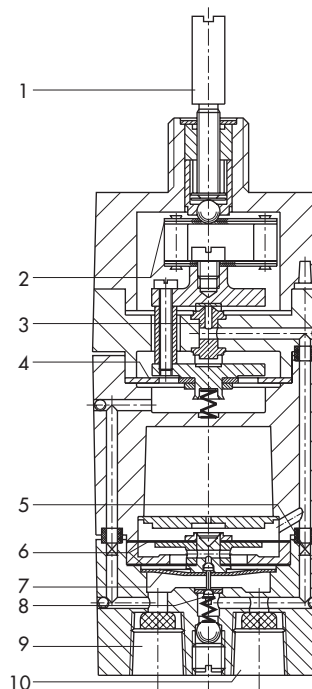
The force of the leaf spring (2), adjustable via the adjustment screw (1), is balanced by a counterforce generated by the output pressure acting on the diaphragm (4).

Increasing the spring force by means of the adjustment screw or lowering the output pressure causes the outlet nozzle (3) to be increasingly covered. As a result, the pressure produced by the pressure divider, made up of the nozzle (5) and the outlet nozzle (3), rises and is applied as intermediate pressure on the twin diaphragm (6). The diaphragm moves the twin plug (8) downward. More supply air flows to the output and into the chamber below the diaphragm (6). This pressure increase results in a new equilibrium.

If the spring force is decreased or the output pressure rises, the pressure acting on the twin diaphragm decreases, the twin diaphragm moves upward, and the air can escape through the outlet nozzle (3) until there is a new pressure balance.



Fig. 1 · Type 3759 Pneumatic Remote Adjuster



- | | |
|--------------------|----------------------|
| 1 Adjustment screw | 6 Twin diaphragm |
| 2 Leaf spring | 7 Return spring |
| 3 Outlet nozzle | 8 Twin plug |
| 4 Diaphragm | 9 Output connection |
| 5 Nozzle | 10 Supply connection |

Fig. 2 · Sectional drawing of Type 3759

Table 1 · Technical data

Output pressure	bar	0 ... 0.6	0 ... 1.6	0 ... 4	0 ... 6
Required supply pressure	bar	1.4 ... 7	2 ... 7	5 ... 7	7
Flow rate in l _n /h ¹⁾ (max. air delivery) at upstream pressure (bar)	2	2000			
	5	4000			
	7	5300			
Perm. ambient temperature		-20 ... +60 °C			
Air consumption l _n /h ¹⁾ in steady state at upstream pressure (bar)	2	70			
	5	110			
	7	130			
Dependence on upstream pressure		0.001 bar/ 0.1 bar pressure variation			
Influence of temperature °C (related to upper value)		0.035 %	0.02 %	0.035 %	
Reproducibility	bar	0.002			

1) Measured against ambient pressure with remote adjuster open to the maximum.

All pressures are effective pressures p_e in bar (gauge) unless specified otherwise.

Table 2 · Accessories

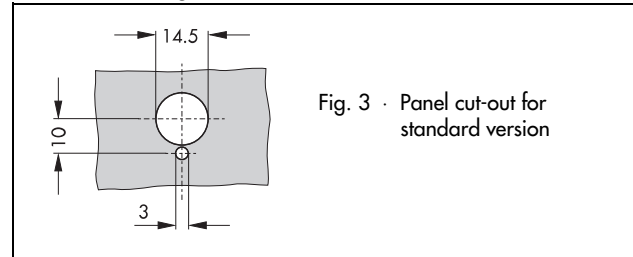
Mounting	Version with	Item no.
Panel mounting with mounting plate	Rotary knob	8442-0380
	Rotary knob and mounting plate	1400-5632
	Protective cover and mounting plate	1400-5631
Panel mounting w. bracket	Bracket	0300-0394
	Rotary knob and bracket	1400-5634

Mounting

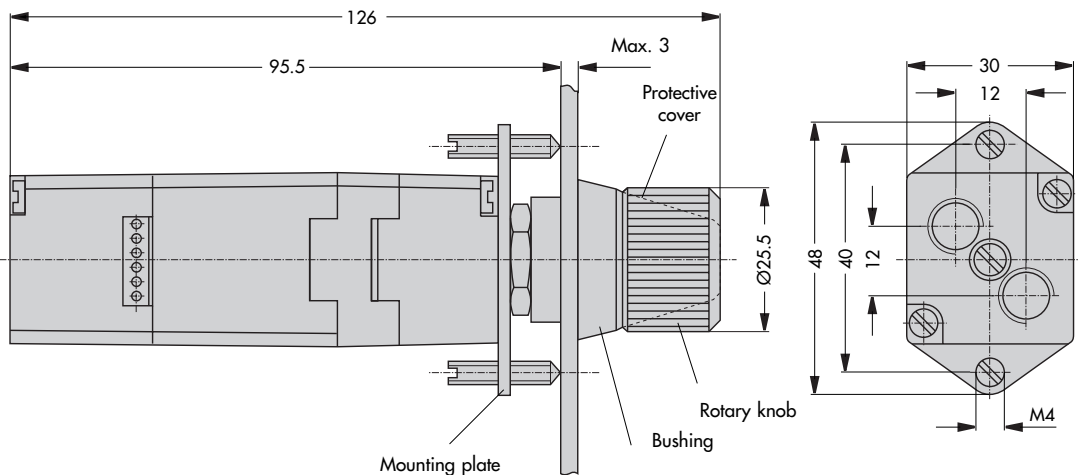
Panel mounting over mounting plate · For direct mounting of the standard version, a panel cut-out according to Fig. 3 needs to be made.

On using the mounting plate included in the accessories, a hole with 22 + 1 (mm) diameter is required.

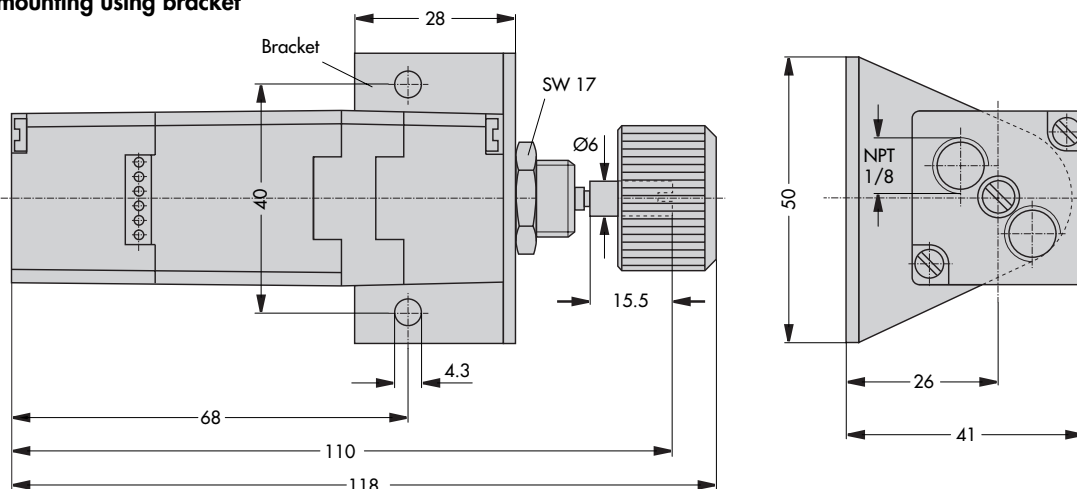
Panel mounting over bracket · The associated bracket must be fastened using two screws.



Panel mounting using mounting plate



Panel mounting using bracket



Specifications subject to change without notice.

