



Application

Pressure adjustment in pneumatic systems

The remote adjuster is a precision pressure regulator which can be adjusted manually. 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
- Consistency of adjusted pressure value
- High air delivery
- Small size

Versions

The Type 3759 Pneumatic Remote Adjuster is designed 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 maximum supply pressure for all versions is 7 bar.

Standard version

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

The following accessories (Table 2) can be fitted to the remote adjuster:

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

Principle of operation

The force of the leaf spring (2), which can be adjusted by the adjustment screw (1), is balanced by a counter force generated by the output pressure acting on the diaphragm (4). The outlet nozzle (3) is increasingly closed as the spring force rises or the output pressure falls. As a result, the pressure generated at the pressure divider (consisting of the restriction (5) and outlet nozzle) rises and is applied as an intermediate pressure on the diaphragm (6). The diaphragm pushes the double plug

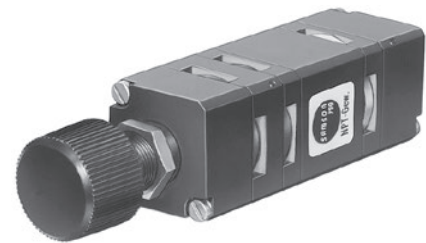
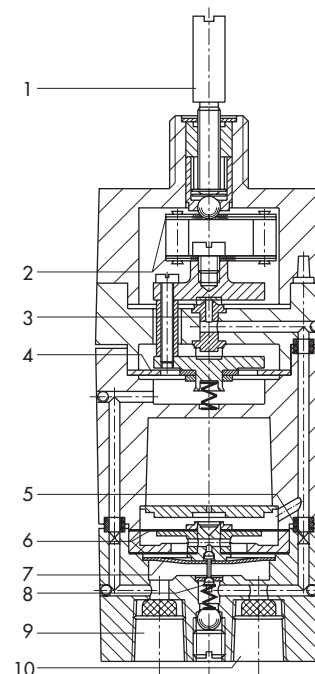


Fig. 1: Type 3759 Pneumatic Remote Adjuster



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|---|------------------|----|-----------------------|
| 1 | Adjustment screw | 6 | Two diaphragms |
| 2 | Leaf spring | 7 | Return spring |
| 3 | Outlet nozzle | 8 | Double plug |
| 4 | Diaphragm | 9 | Output connection |
| 5 | Restriction | 10 | Supply air connection |

Fig. 2: Sectional drawing of Type 3759

(8) downwards. This causes more supply air to reach the output and into the chamber below the diaphragm. The rise in pressure results in a new equilibrium.

As the force of the spring decreases or the output pressure rises, the pressure generated by the pressure divider falls and the diaphragm moves upwards. This allows air to escape over the outlet nozzle (3) into the atmosphere until a new equilibrium is achieved.

Table 1: Technical data

Output pressure	bar	0 to 0.6	0 to 1.6	0 to 4	0 to 6
Required supply pressure	bar	1.4 to 7	2 to 7	5 to 7	7
Flow rate in l_n/h ¹⁾ (max. air output capacity) with upstream pressure (bar)	2	2000			
	5	4000			
	7	5300			
Perm. ambient temperature		-20 to +60 °C			
Air consumption in l_n/h ¹⁾ in steady state with upstream pressure (bar)	2	70			
	5	110			
	7	130			
Dependence on upstream pressure		0.001 bar/0.1 bar on pressure change			
Effect of temperature per °C (based on upper range value)		0.035 %	0.02 %	0.035 %	
Reproducibility	bar	0.002			

¹⁾ Measured at ambient pressure with a maximally opened remote adjuster.

All pressure specifications are effective pressure in p_e in bar (gauge), unless stated otherwise.

Table 2: Accessories

Mounting	Version with	Item number
Panel mounting (inserted into the panel)	Rotary knob	8442-0380
	Rotary knob and mounting plate	1400-5632
	Protective cap and mounting plate	1400-5631
Panel mounting (on the panel)	Bracket	0300-0394
	Rotary knob and bracket	1400-5634

Mounting

Panel mounting (inserted into the panel) · A panel cut-out (see Fig. 3) must be made to directly mount the standard version.

On using the mounting plate included in the accessories, a borehole with 22^{+1} mm diameter is required.

Panel mounting (on the panel) · The bracket must be fastened using two screws.

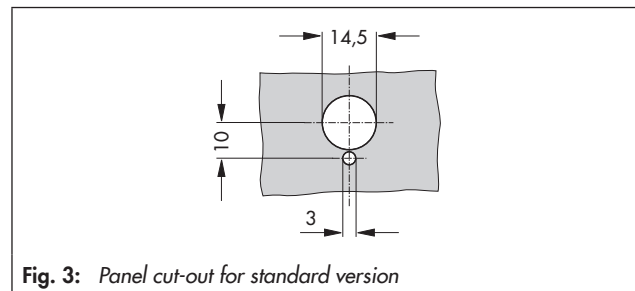


Fig. 3: Panel cut-out for standard version

