XSP: Pneumatic positioner

How energy efficiency is improved

Enables precise control of energy consumption using pneumatic actuators.

Areas of application

Can be used in combination with pneumatic actuators AK41 - 43 P and valve actuators AV43, AVP 142 plus AVP242 - 244.

Features

- Conversion of a continuous output signal into a defined position on the pneumatic drive
- The use of a positioner provides increased setting accuracy, range partition, changing direction
 of travel and an increase in positioning speed
- Housing of light-metal alloy
- Compressed-air connections with Rp 1/8" female thread
- Measuring connection for output pressure with M4 thread
- Measuring valve stroke using a measuring spring
- Complies with directive 97/23/EC Art. 3.3

Technical description

- Supply pressure 1.3 bar ± 0.1
- Linearity 1%

Туре	Description	Setting ranges in bar		Weight
		zero	span	kg
XSP 31 F001 f	itted with cover	0,21,0	0,21,0	0,1
Supply pressure 1)	1,3 bar ± 0,1	Connection diagram		A01666
Max. control pressure	1,4 bar	Dimension	drawing XSP 3	1 M274956
Max. air capacity	1000 l _n /h		-	
Air consumption	approx. 30 I _n /h	Fitting instructions		
Linearity	approx. 1%	XSP 31 o	n AVP 142, AV43	P MV 43143
•	••	XSP 31 o	n AVP 242244	MV 506039
Perm. ambient temperate	ure 070 °C	XSP 31 on AK4143 MV 5		MV 506088

Accessories

0274553 000 Restrictor Ø 0,7 mm for reducing the air capacity when the supply pressure is low. Assembly material: see drive data sheet, Section 71.

1) See Section 60 on regulations concerning the quality of supply air, especially at low ambient temperatures.

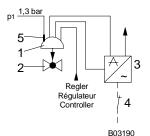
Operation

In the steady-state condition, the forces acting on the double-armed lever (measuring spring, input pressure and zero-point pressure) cancel each other out. If an imbalance arises (by a change in input pressure or in stroke), then the control element is activated, thereby changing the pressure in the drive until the balance is restored (force-compensation principle) via the stroke and the measuring spring. Stroke measurement on the XSP 31 is effected via a spring.

Engineering notes

Fitting pneumatic drives with the XSP 31 to valves with push-type plug (non-Sauter types)

If there is a necessity for the valve to close when the drive is not under pressure, and if the supply pressure can be switched off either due to a power failure or by a limiter, then an electro-pneumatic relay must be fitted between drive and positioner. This ensures that, whenever the supply pressure is switched off, the valve is closed by spring pressure within seconds (emergency function).



pneumatic drive, AV42 P10, function A
 non-Sauter valve, normally closed

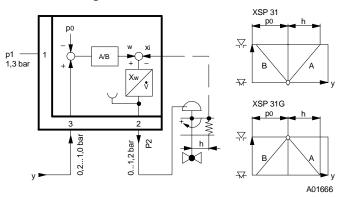
- 3) electro-pneumatic relay, RUEP
- 4) mains monitor
- 5) pneumatic positioner, XSP 31



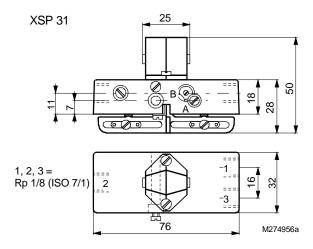




Connection diagram



Dimension drawing



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