

## AVP 142: Pneumatic actuator

### How energy efficiency is improved

Accurate activation of valves with minimal air consumption.

### Areas of application

Actuation of through and three-way valves in the V6R, B6R product series in continuous control equipment or open/closed control.

### Features

- Silicone-free, can therefore be used in many areas
- Housing made of glass-fibre-reinforced plastic and mounting bracket in light metal alloy
- Long-term-stable rubber membranes
- Reverse direction of travel by fitting other way round on mounting bracket
- Stroke indicator for rapid determination of position of drive setting
- Compressed-air connection with Rp 1/8" female thread
- Complies with directive 97/23/EC Art. 3.3 on pressure equipment

### Technical description

- Control pressure 0 - 1.2 bar
- Effective drive surface 180 cm<sup>2</sup>

Type	Characteristic <sup>1)</sup>	For valves with stroke of 14 mm		For valves with stroke of 20 mm		Weight kg
		Spanne bar	Air consumption per stroke I <sub>n</sub>	Spanne bar	Air consumption per stroke I <sub>n</sub>	
AVP 142 F001	full	0.6	0.8	0.9	1.1	2.0
AVP 142 F002	bottom	0.3	0.7	0.45	0.9	2.0
AVP 142 F003	top	0.3	0.7	0.45	0.9	2.0
Control pressure <sup>2)</sup>		0...1.2 bar		Dimension drawing		M09477
Max. pressure		1.5 bar		Fitting instructions		
Effective area		180 cm <sup>2</sup>		Valve/drive		MV 505766
Permissible ambient temp.		-15...50 °C		Declaration of materials		MD 71.246
Temperature at the diaphragm		max. 70 °C				

### Accessories

- XSP 31 <sup>5)</sup> Positioner <sup>3)</sup> (see Section 79)
- XAP 1 <sup>5)</sup> Aux. contact unit <sup>3)</sup> (see Section 79)
- XAP 2 <sup>5)</sup> Potentiometer unit <sup>3)</sup> (see Section 79)
- XEP Electro-pneumatic converter <sup>3)</sup> for continuous signals (see Section 69)
- 0274730 001** Manual adjuster <sup>4)</sup> for AVP142; weight 0.6 kg; MV 505819

<sup>\*)</sup> Dimension drawing or wiring diagram are available under the same number

### Assembly material for valve series V6R, B6R

Drive type	XSP 31	XAP	XEP
AVP 142	0226504 002	0226512 003	0274700

- 1) Pressure-stroke curves: see valve data sheet, Section 76.
- 2) Needed in order to attain the actuating power.  
See Section 60 for regulations concerning the quality of supply air, especially at low ambient temperatures.
- 3) Of the accessories, only a positioner (XSP 31 or 31 G), a feedback unit (XAP) and an electro-pneumatic transducer (XEP) can be fitted. When fitting XSP 31 and XAP, the XEP must be screwed onto the fixing bracket at the side.
- 4) Can be used for minimum or maximum limitation of the stroke. Removable hand wheel.
- 5) Fitted to valve/actuator at the factory

### Operation

The control pressure acts via a diaphragm against a pre-tensioned pressure spring. When the former force is greater than the latter, the spindle starts to move. The actuator is reversible and can be fitted to the bracket in one of two ways:

Function A: 'normally extended' (the spindle retracts as the control pressure rises).

Function E (factory setting): 'normally retracted' (the spindle extends as the control pressure rises).

Used with the valves of the V6R, B6R series (vertical plug), the following applies:

Function A: (valve) 'normally open' (NO).

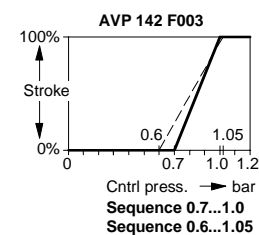
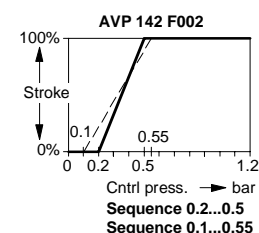
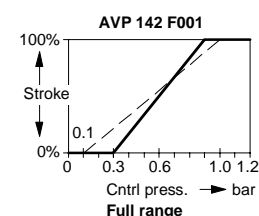
Function E: 'normally closed' (NC).



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**Engineering and fitting notes**

The drive springs can be used for fitting to the valve (14 or 20 mm stroke). The unit can be fitted in any position except facing downwards, and at temperatures (of the valve medium) of up to 240 °C.

Where the temperature of the medium exceeds 180 °C, it is recommended to fit the unit horizontally.

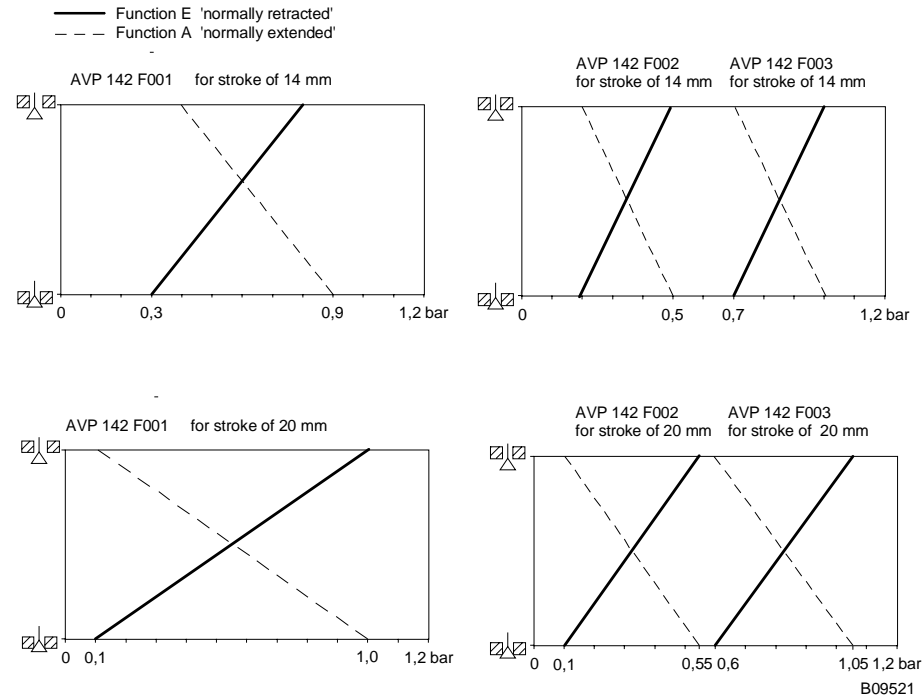
When used in combination with the AVP 142 actuator at temperatures above 130 °C, an accessory (no. 0361259) should be used. This piece can also serve as an extension when the drive needs to extend beyond the pipe insulation.

The ingress of condensate, dripping water etc., along the stem and into the drive should be prevented. When fitting the drive to the valve, care must be taken not to turn the valve plug in the valve seat, thus damaging the seal.

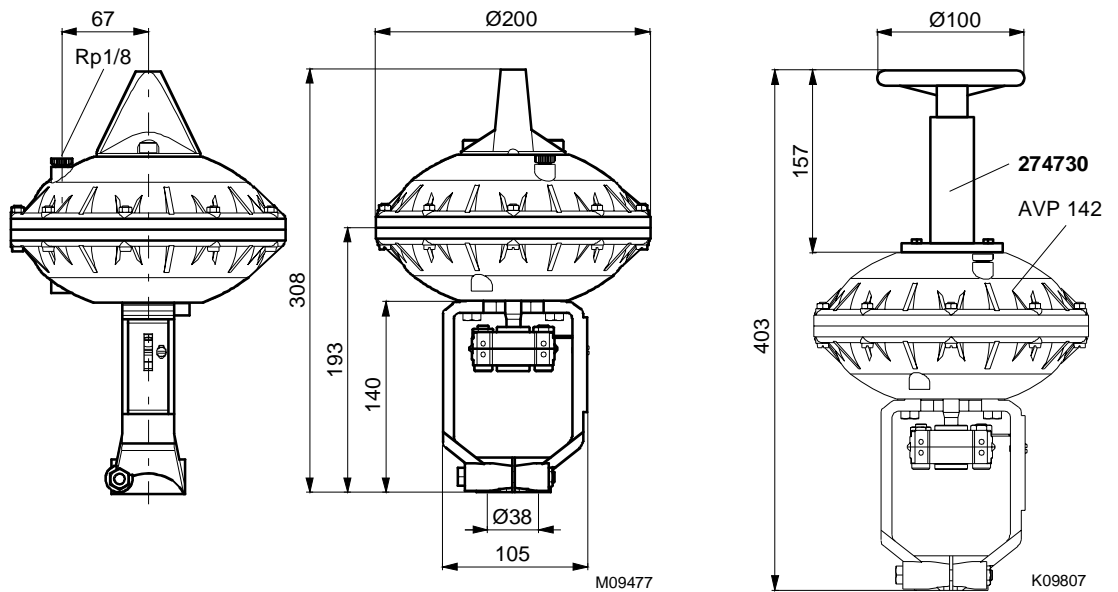
**Pressure–stroke characteristics**

Prepared for through valves with a stroke of 14 or 20 mm (see table of types).

Pressure–stroke characteristics, prepared for through valves.

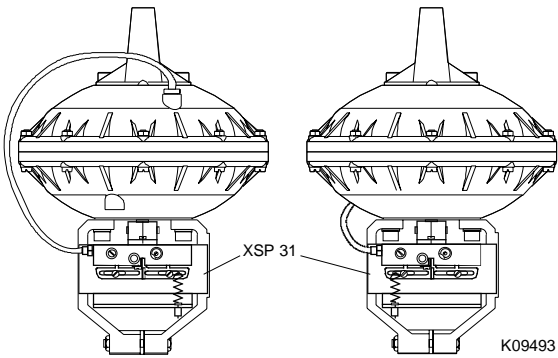


**Dimension drawing**

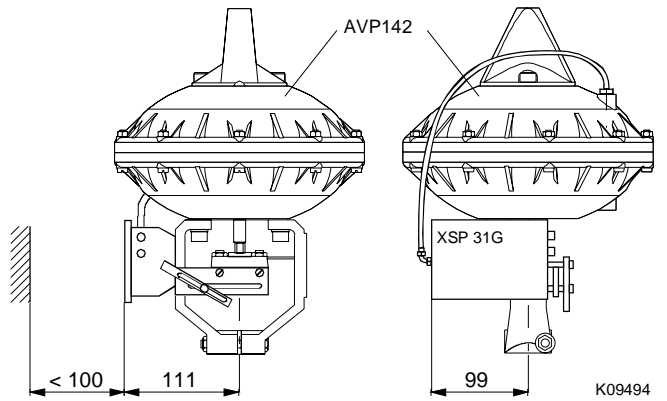


**Method of fitting: ancillaries**

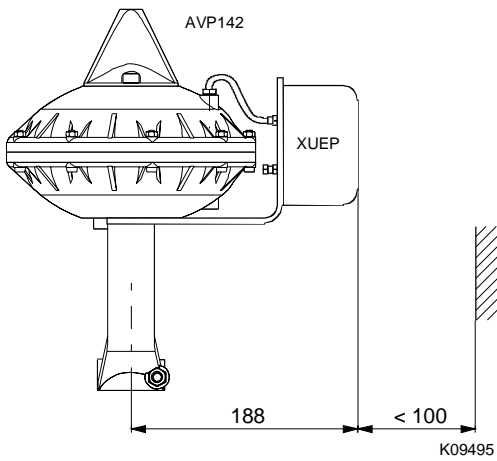
XSP 31



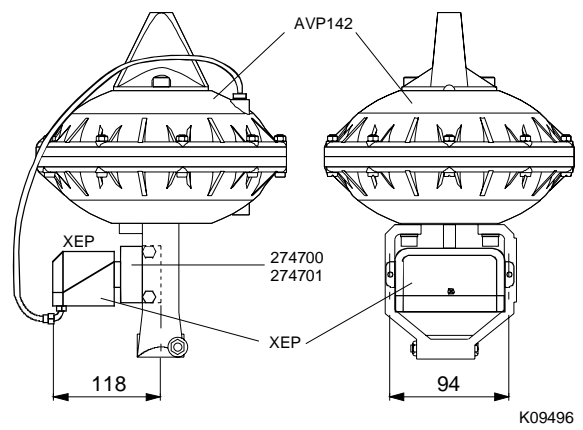
XSP 31 G



XUEP 1

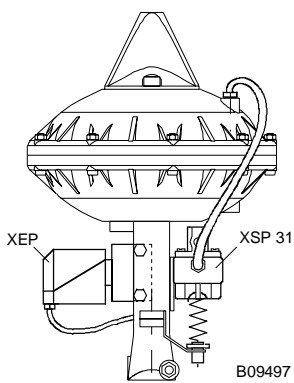


XEP

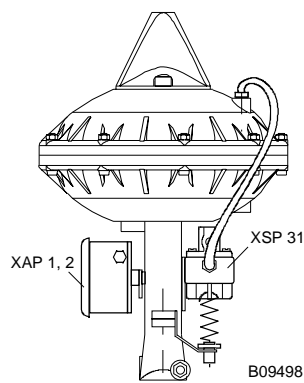


**Method of fitting: two ancillaries**

XEP + XSP 31



XAP + XSP 31



XEP + XAP

