

AK 41...43 P: Pneumatic actuators

Improving energy efficiency

Precise damper activation with only the slightest air requirement

Features

- ATEX-certified for use in areas of zone 1 where there is a risk of explosions
- Compliant with EN 13463-1 and EN 1127-1 (Ex II 2 G T6) with actuators of the AK 41 P and AK 42 P series
- Rolling diaphragms made of silicone; drive spindle in stainless steel with M8 male thread
- Plug nipple for connecting plastic tubing with an internal diameter of 4 mm (AK41)
- Compressed-air connection with Rp 1/8" female thread (AK42, 43)

Technical data

Parameters		
Control pressure		0...1.2 bar
Maximum pressure		1.5 bar
Ambient conditions		
Admissible ambient temperature ¹⁾		-10...70 °C
Construction		
Housing material		Fire-retardant thermoplastic (AK41, 42), light metal (AK43)
Standards and directives		
Type of protection		IP 20
Conformity		Directive 97/23/EC Art. 3.3 for pressure equipment

Overview of types

i Admissible damper surface area: Recommended value for equal-sided, smooth-running air dampers. The increased actuating force required to overcome the slat seals must be taken into account for tightly sealed air dampers in accordance with DIN 1946

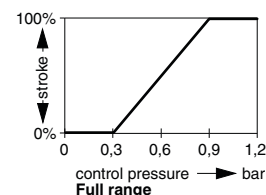
i Running time for 100% stroke: with reference to the centair air flow rate (400 l_n/h) and a supply line with a length of 20 m and a diameter of 4 mm

Type	AK41P1F003	AK41P2F003	AK41P3F003	AK42PF003	AK43PF002
Working pressure range	0.3...0.9 bar	0.2...0.6 bar	0.6...1.0 bar	0.3...0.9 bar	0.3...0.9 bar
Pushing force at 0 bar	100 N	60 N	200 N	200 N	400 N
Pushing force at 1.2 bar	100 N	200 N	60 N	200 N	400 N
Torque 0 bar	3 Nm	2 Nm	6 Nm	10 Nm	20 Nm
Torque 1.2 bar	3 Nm	6 Nm	2 Nm	10 Nm	20 Nm
Admissible damper surface area	1 m ²	0.6 m ²	0.6 m ²	3 m ²	6 m ²
Stroke	63 mm	63 mm	63 mm	100 mm	100 mm
Effective area	40 cm ²	40 cm ²	40 cm ²	80 cm ²	160 cm ²
Air consumption for 100% stroke	0.5 l _n	0.4 l _n	0.5 l _n	1.7 l _n	3.5 l _n
Running time for 100% stroke	7 s	6 s	7 s	20 s	35 s
Explosion protection	•	•	•	•	–
Lever length for 90°	40 mm	40 mm	40 mm	70 mm	70 mm
Weight	0.55 kg	0.55 kg	0.6 kg	1.4 kg	4.8 kg

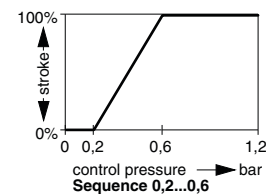
¹⁾ When used in fresh air ducts, temporarily -20 °C



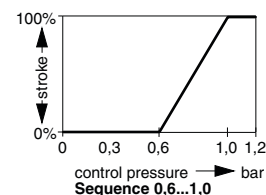
AK42PF003



AK41...43 P



AK41P2F003



AK41P3F003



Accessories

Type	Description
XSP31	Pneumatic positioner (see product data sheet)
XAP1	Auxiliary contacts (see product data sheet)
XAP2	Potentiometer unit (see product data sheet)
0274354000	Rod 600 mm long, Ø 10 mm, with ball joint

For AK 41, AK 42

Type	Description
0226518003	Assembly kit for XAP with AK41, separate delivery
0226519003	Assembly kit for XAP with AK42, separate delivery
0226521002	Assembly kit for XSP 31 with AK41, separate delivery
0226522002	Assembly kit for XSP 31 with AK42, separate delivery
0274586000	Straight ball joint with 2 nuts (M8) for XSP 31 with AK41
0274587000	Fixing bracket
0274589000	Straight ball joint with 2 nuts (M8)
0274593000	Angled ball joint with 2 nuts (M8)
0274595000	Fixing bracket with screw (M8 × 30)
0274597000	Adaptor with nut (M8)
0370039000	Coupling nut (M8), 2 lock nuts (M8)
0370040000	Threaded rod (M8), length 500 mm

For AK 43

Type	Description
0226520003	Assembly kit for XAP, separate delivery
0226523002	Assembly kit for XSP 31, separate delivery
0274596000	Fixing bracket with screw (M10 × 40)
0274598000	Adaptor with nut (M10)
0274605000	Angled ball joint for clamping lever with nut (M10)

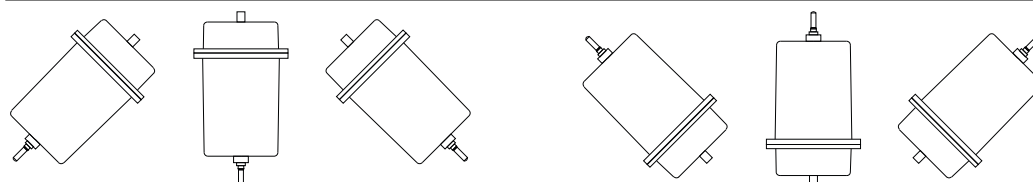
Description of operation

As the control pressure increases, the spindle is pushed out, when the control pressure decreases, it is pulled back by the compression spring. To achieve the maximum actuating power at 0 and 100% stroke, the control pressure must change from 0 to 1.2 bar.

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product documents must also be adhered to. Changing or converting the product is not admissible.

Fitting position

Admissible

Admissible with restrictions

Penetration of condensate, dripping water, etc.

along the spindle into the actuator must be prevented

Fitting methods

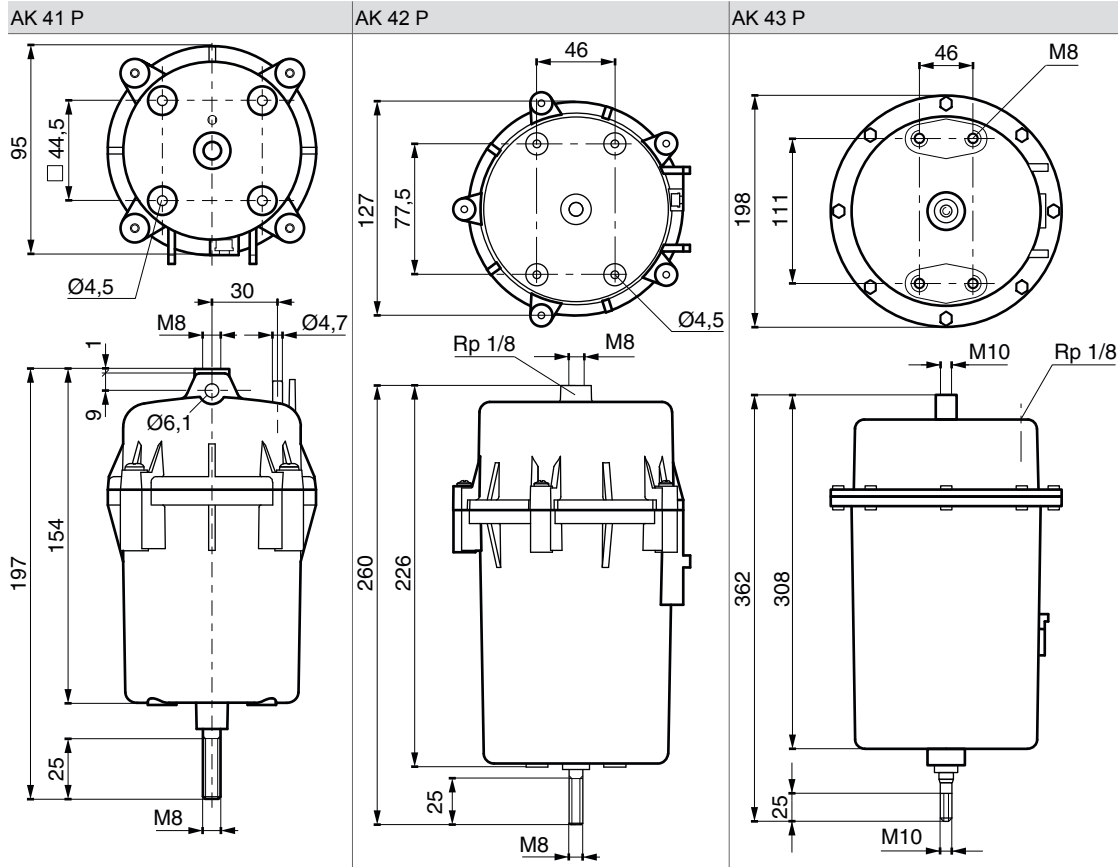
With all these fitting examples, XAP 1 and/or XAP 2 can also be attached. The XSP 31 positioner can only be attached in the fitting variants shown.

Disposal

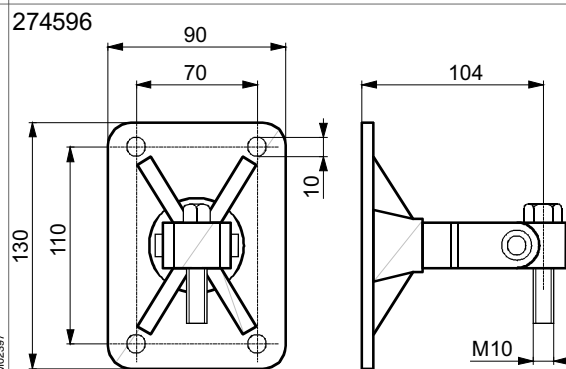
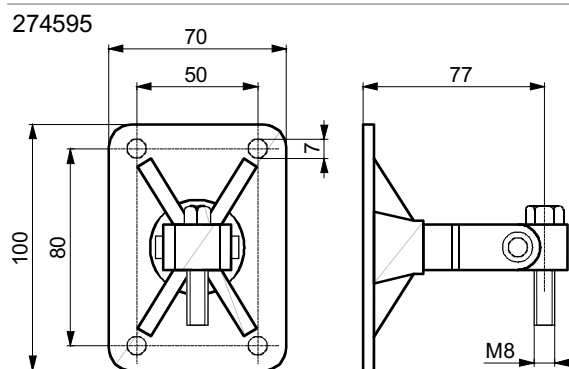
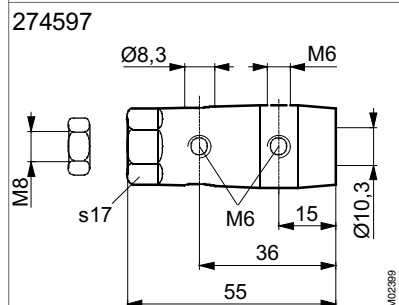
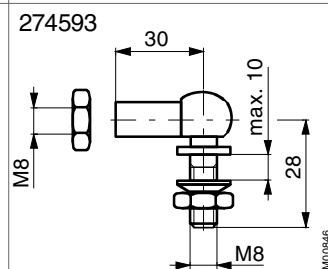
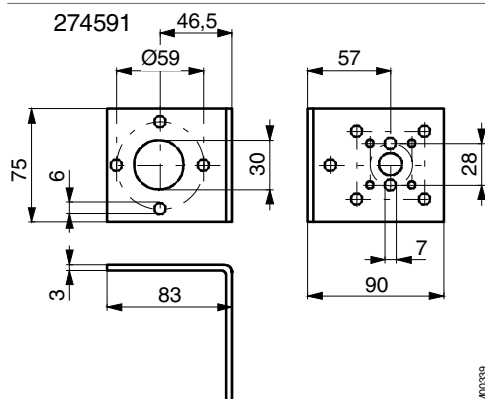
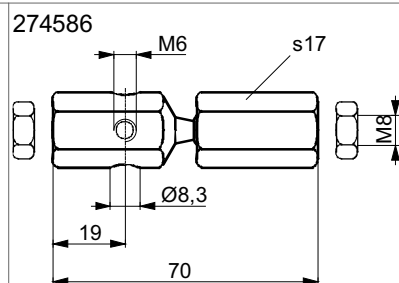
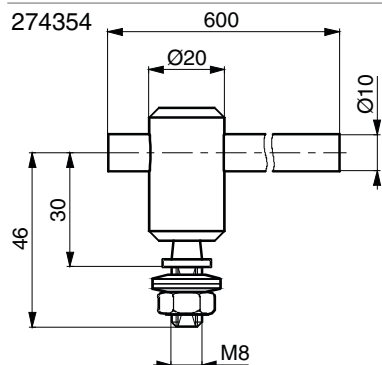
When disposing of the product, observe the currently applicable local laws.

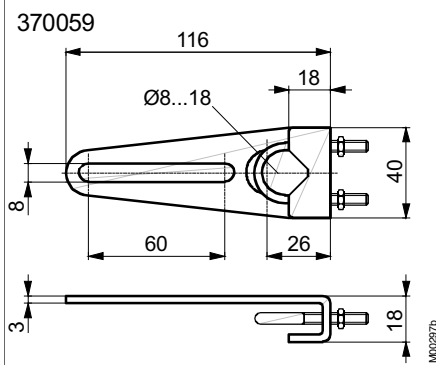
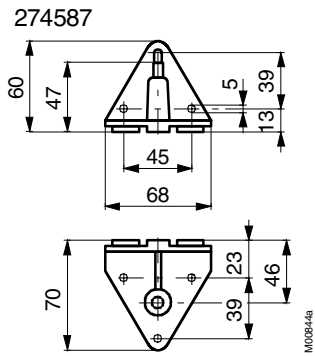
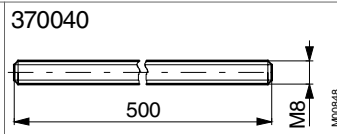
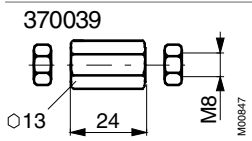
More information on materials can be found in the Declaration on materials and the environment for this product.

Dimension drawings

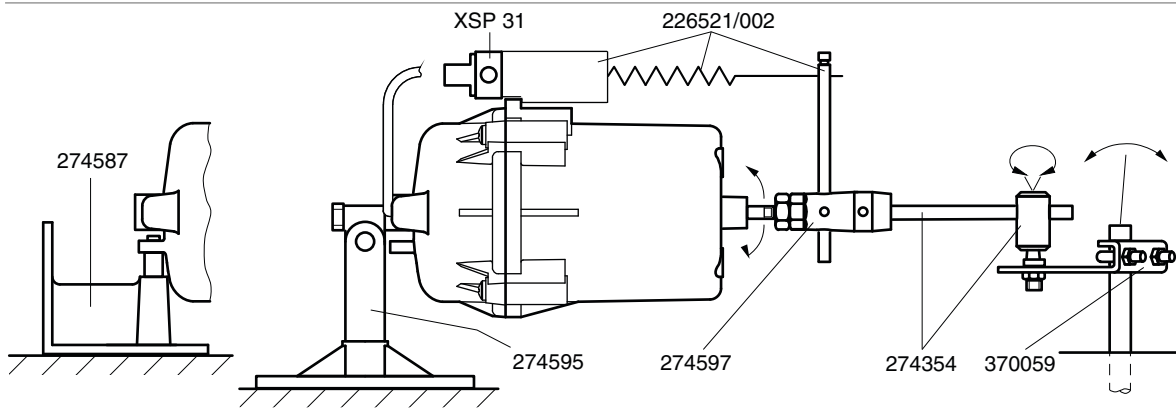
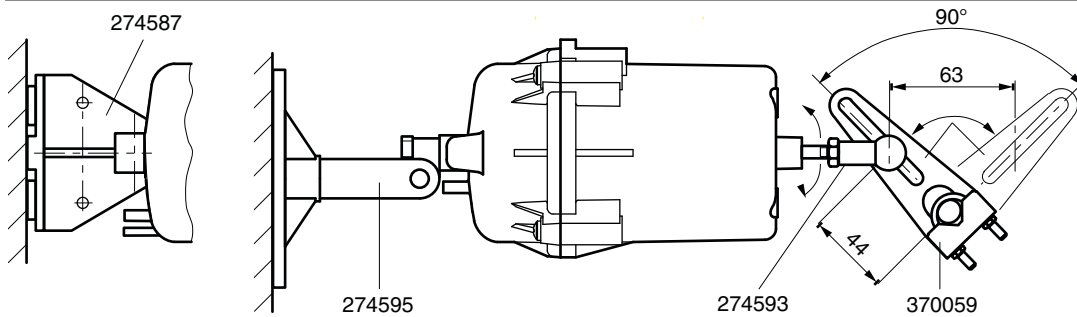


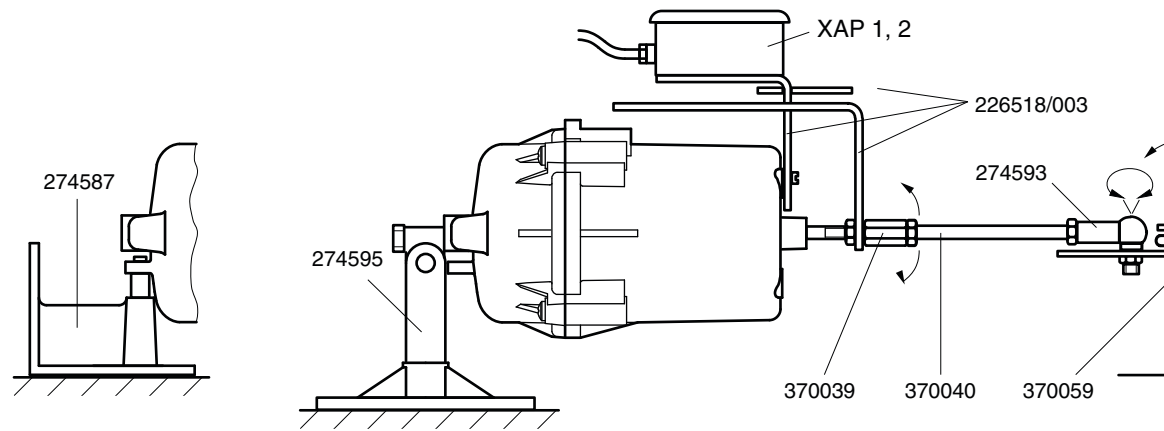
Accessories



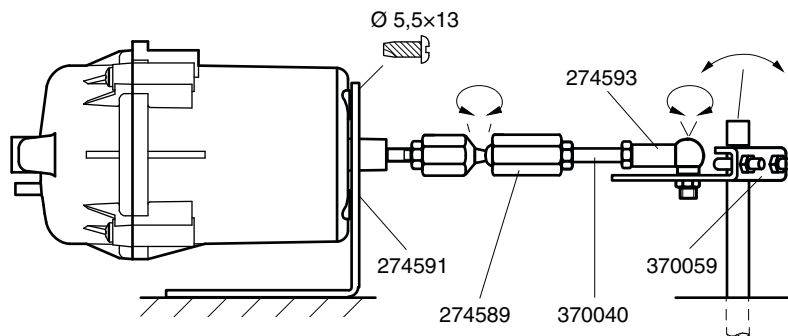


Fitting methods for AK 41 P

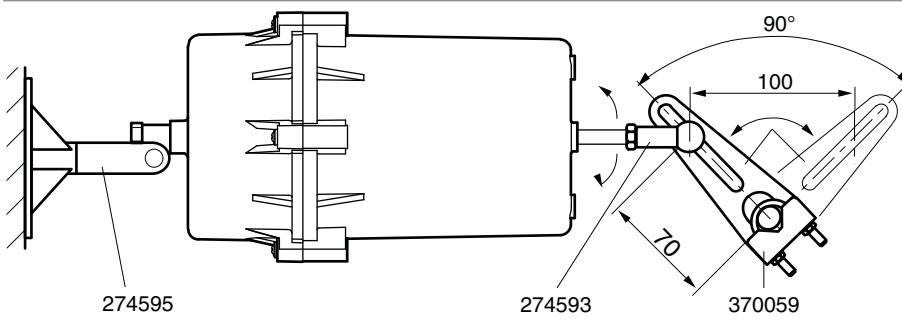
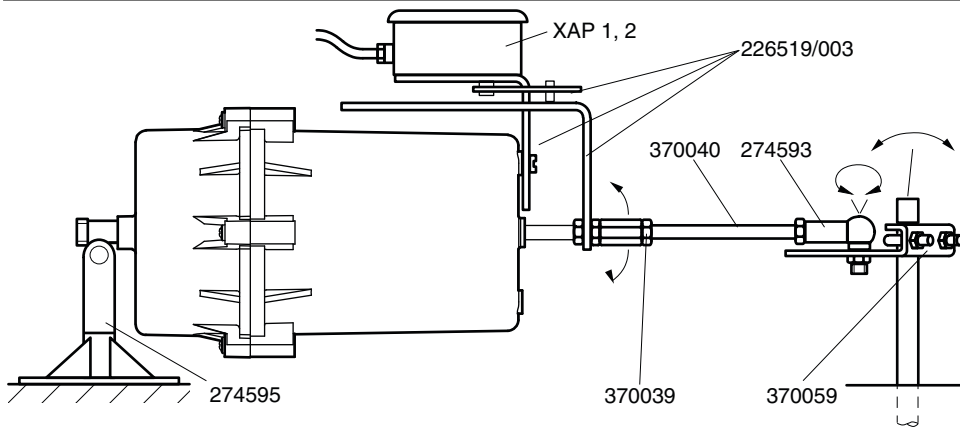
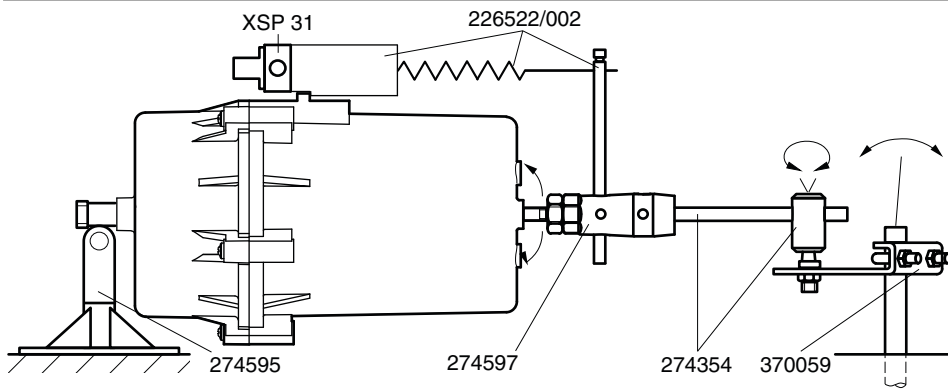




Fitting methods for AK 41 P



Fitting methods for AK 42 P



Fitting methods for AK 43 P

