

## AK41...43 P: Pneumatic damper drive

For continuous or on/off control of air dampers, or similar, in ventilation and air-conditioning systems. The actuators of type AK41 and AK42 comply with EN 13463-1 and EN 1127-1 (Ex II 2 G T6) and can be employed in Zone 1 areas where there is a risk of explosion. Conforms to the regulations on pressure equipment (97/23/EG Art. 3.3).

Housing for AK41 and AK42 is of self-extinguishing plastic; AK43 is of light metal; membrane of silicon; drive spindle of stainless steel; Push-on nipple for connecting plastic tubing with internal diameter of 4 mm (AK41), compressed-air connection Rp 1/8, female thread (AK42, AK43).

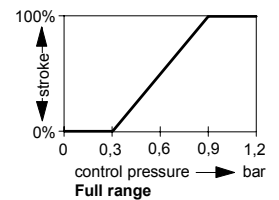


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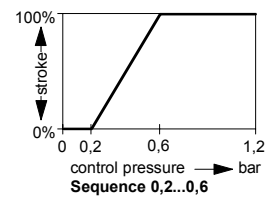
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AK41...43 P



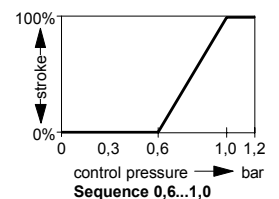
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AK41 P2



B00976

AK41 P3



B00977

Type	Operating range bar	Force at		Torque at		Permissible damper area <sup>1)</sup> m <sup>2</sup>	Weight kg
		0 bar N	1,2 bar Nm	0 bar Nm	1,2 bar Nm		
<b>AK41 P1 F003</b>	0.3...0.9	100	100	3	3	1	0.55
<b>AK41 P2 F003</b>	0.2...0.6	60	200	2	6	0.6	0.55
<b>AK41 P3 F003</b>	0.6...1.0	200	60	6	2	0.6	0.6
<b>AK42 P F003</b>	0.3...0.9	200	200	10	10	3	1.4
<b>AK43 P F002</b>	0.3...0.9	400	400	20	20	6	4.8

		AK41 P1	AK41 P2	AK41 P3	AK42 P	AK43 P
Control pressure <sup>2)</sup>	bar	0...1.2	0...1.2	0...1.2	0...1.2	0...1.2
Max. pressure	bar	1.5	1.5	1.5	1.5	1.5
Stroke	mm	63	63	63	100	100
Effective area	cm <sup>2</sup>	40	40	40	80	160
Length of lever for 90°	mm	44	44	44	70	70
Air consumption for 100% stroke	l <sub>n</sub>	0.5	0.4	0.5	1.7	3.5
Running time for 100% stroke <sup>3)</sup>	s	7	6	7	20	35
Permissible ambient temp. <sup>4)</sup>	°C	-10...70	-10...70	-10...70	-10...70	-10...70
Expl. protection		yes	yes	yes	yes	no
Degree of protection		IP 20	IP 20	IP 20	IP 20	IP 20
Dimension drawing		<a href="#">M274941</a>	<a href="#">M274941</a>	<a href="#">M274941</a>	<a href="#">M274942</a>	<a href="#">M274943</a>
Fitting instructions		<a href="#">MV 505518</a>	<a href="#">MV 505518</a>	<a href="#">MV 505518</a>	<a href="#">MV 505519</a>	<a href="#">MV 505520</a>

### Accessories

- XSP 31 Positioner (see Section 79)
- XAP 1 Aux. contact unit (see Section 79)
- XAP 2 Potentiometer unit (see Section 79)
- [0274354 000\\*](#) Rod, 600 mm long, Ø 10 mm, with ball joint
- [0370059 000\\*](#) Clamp-on lever for shaft Ø 8...18 mm
- Accessories for AK41 and AK42
- [0226518 003](#) Material for fitting XAP to AK41
- [0226519 003](#) Material for fitting XAP to AK42
- [0226521 002](#) Material for fitting XSP 31 to AK41
- [0226522 002](#) Material for fitting XSP 31 to AK42
- [0274586 000\\*](#) Straight ball joint with 2 nuts (M8) for fitting XSP 31 to AK4
- [0274587 000\\*](#) Fixing bracket for AK41
- [0274589 000\\*](#) Straight ball joint with 2 nuts (M8) for AK41
- [0274591 000\\*](#) Fixing bracket with screw Ø 5.5 × 13 (4x) for AK4
- [0274593 000\\*](#) Angled ball joint with 2 nuts (M8)
- [0274595 000\\*](#) Fixing console with screw (M8 × 30)
- [0274597 000\\*](#) Adaptor with nut (M8)
- [0370039 000\\*](#) Coupling nut with two locking nuts (M8)
- [0370040 000\\*](#) Rod with thread (M8) 500 mm long

### -Accessories for AK43

- [0226520 003](#) Material for XAP
- [0226523 002](#) Material for XSP 31
- [0274596 000\\*](#) Fixing console with screw (M10 × 40)
- [0274598 000\\*](#) Adaptor with nut (M10)
- [0274605 000\\*](#) Angled ball joint with 2 nuts (M10)

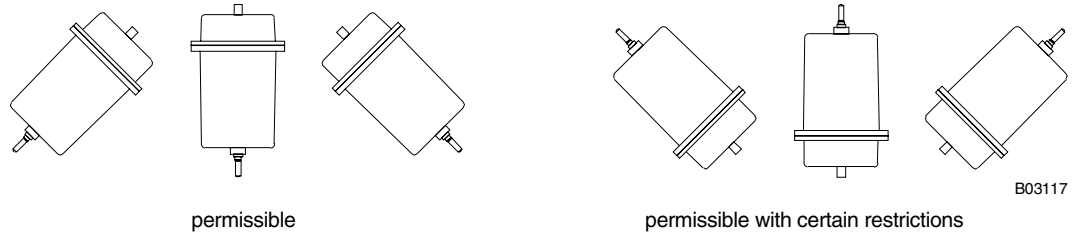
<sup>1)</sup> Dimension drawing or wiring diagram are available under the same number

- 1) Recommended value for equal-sided, smooth-action air dampers. When tight-sealing dampers (as per DIN 1946) are used, the increased actuating power needed to overcome the louvre seals must be taken into account.
- 2) Needed in order to attain the actuating power. See Section 60 on regulations concerning the quality of supply air, especially at lower ambient temperatures.
- 3) Based on the Centair air capacity (400 l<sub>n</sub>/h) and a line of 20 m length and 4 mm diameter
- 4) Down to -20 °C for short periods when used in fresh-air ducts

**Operation**

As the control pressure rises, the valve spindle extends; as the pressure falls, the spindle is retracted by the return spring. In order to attain the maximum actuating power at 0 and 100% stroke, the control pressure must change from 0 to 1.2 bar.

**Fitting position**



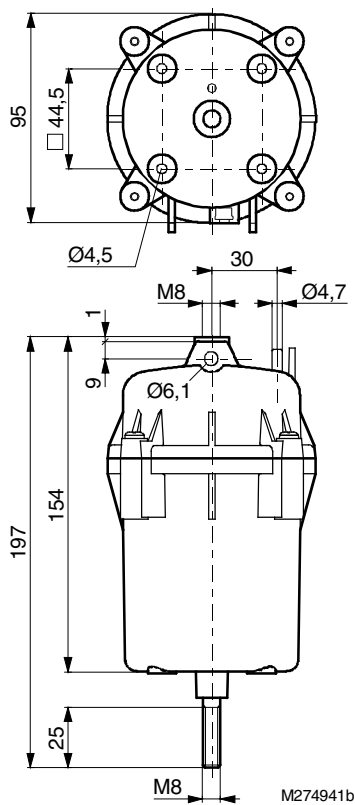
The ingress of condensate, drips etc. along the spindle and into the drive should be avoided

**Fitting methods**

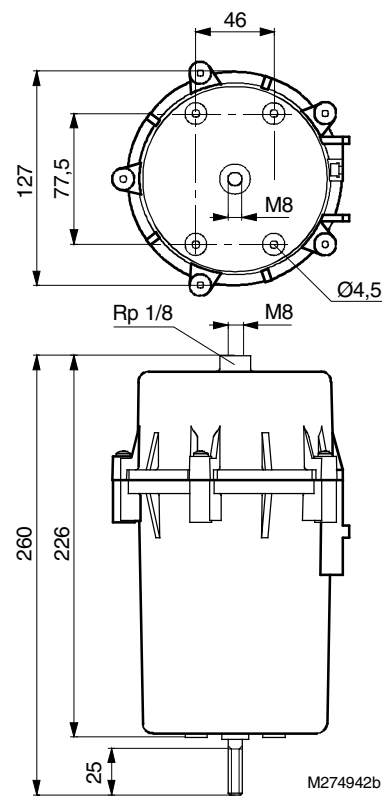
In all the examples, XAP 1 and/or XAP 2 can be also be fitted onto the drives. The XSP 31 can be fitted only in the examples shown: see pages 4 - 6.

**Dimension drawings**

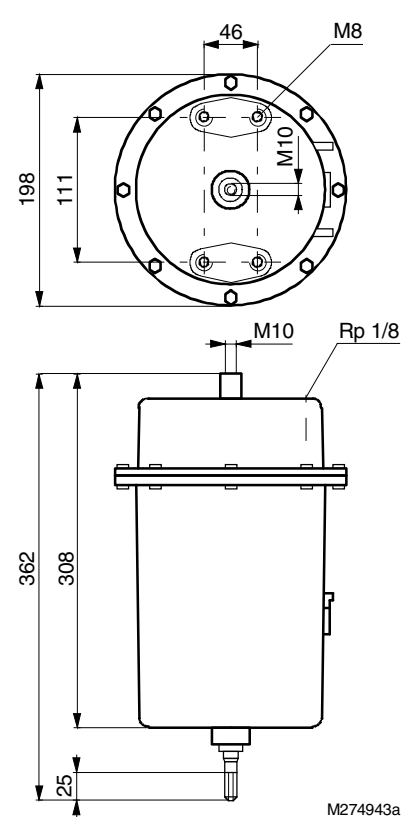
AK41 P



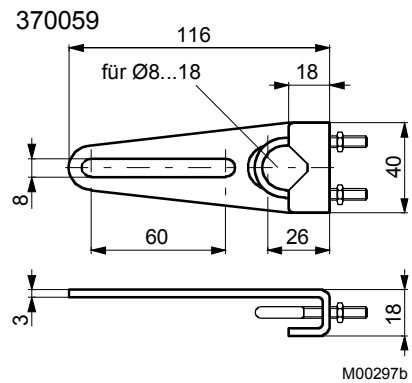
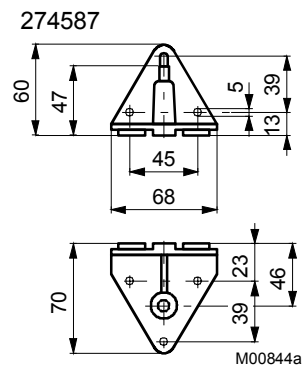
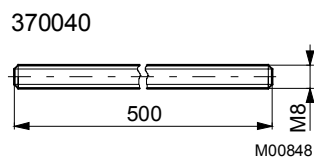
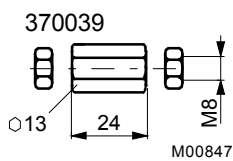
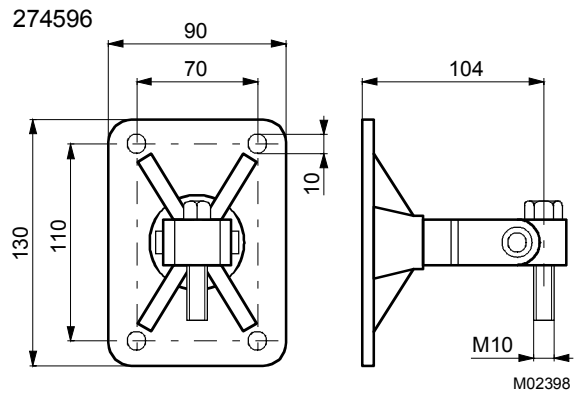
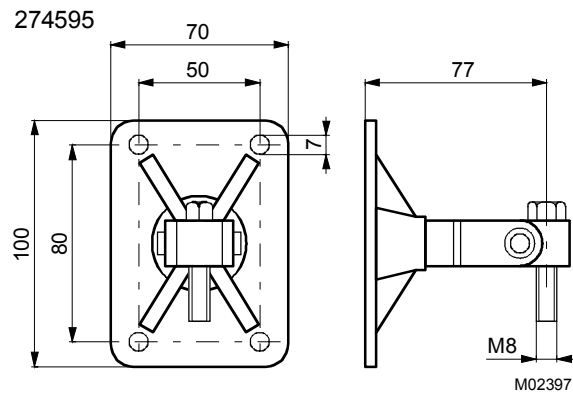
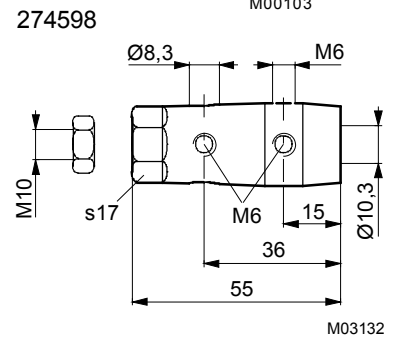
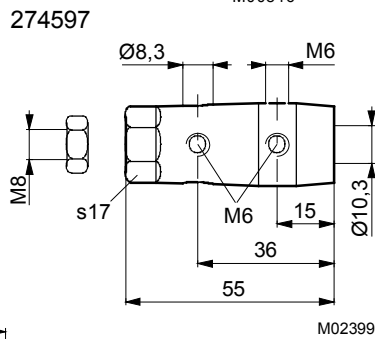
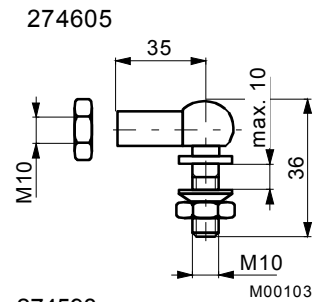
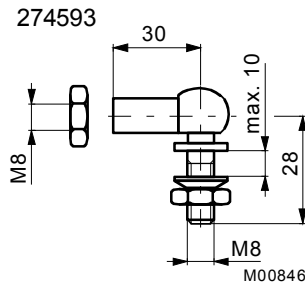
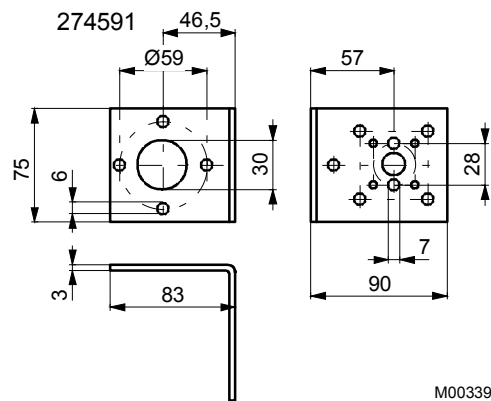
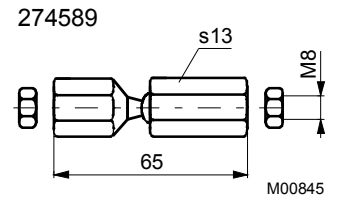
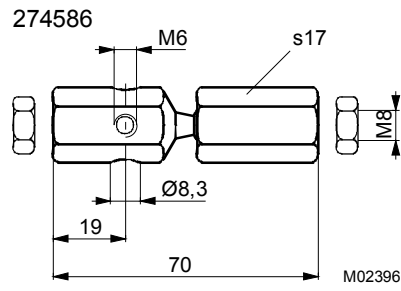
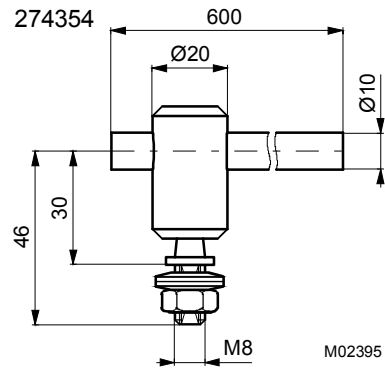
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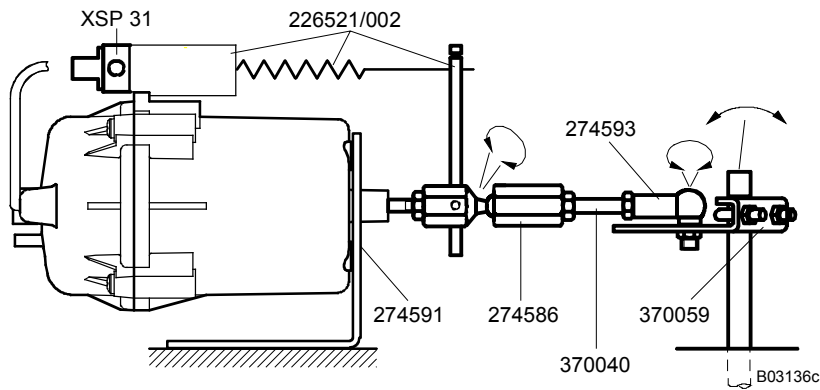
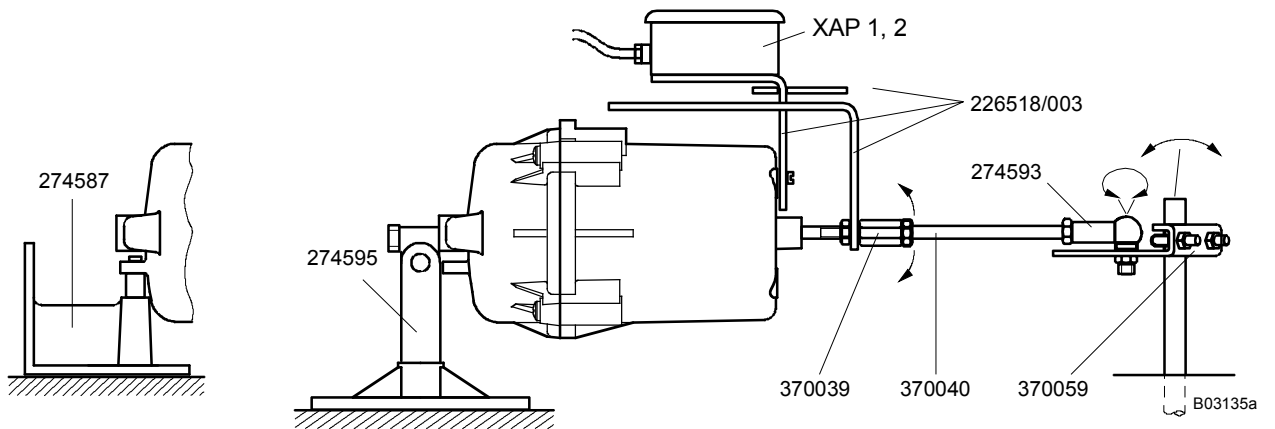
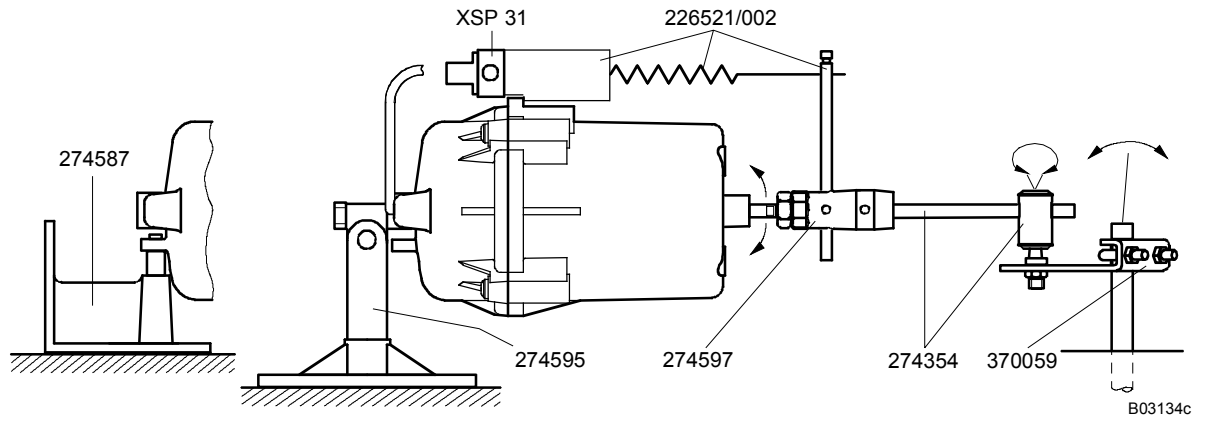
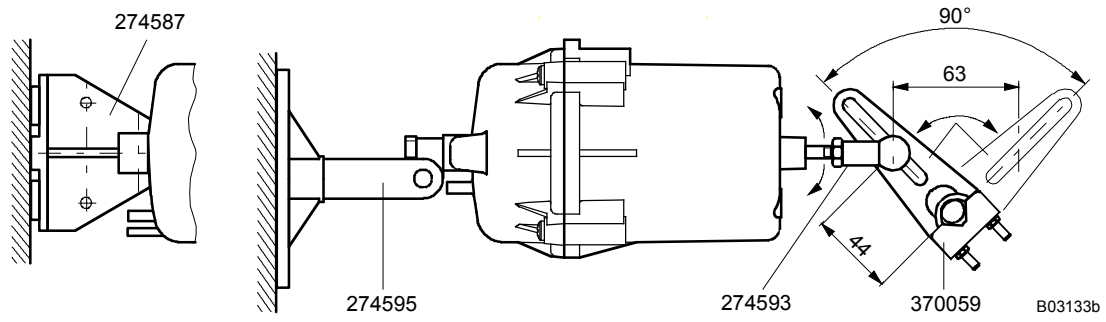
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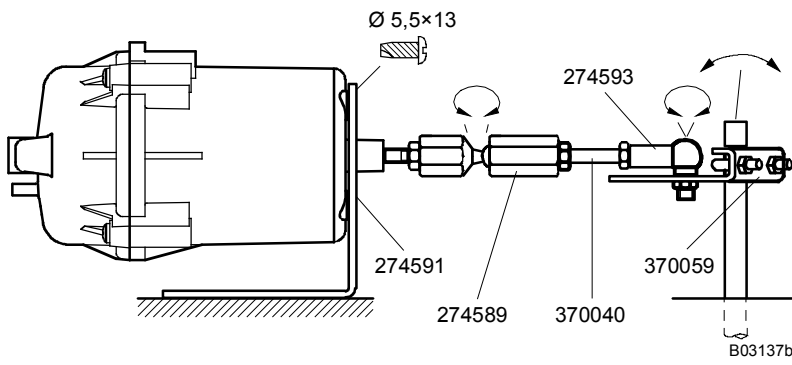
Accessories



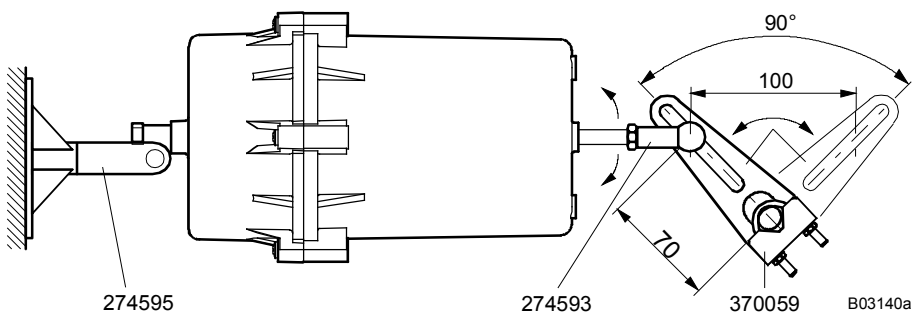
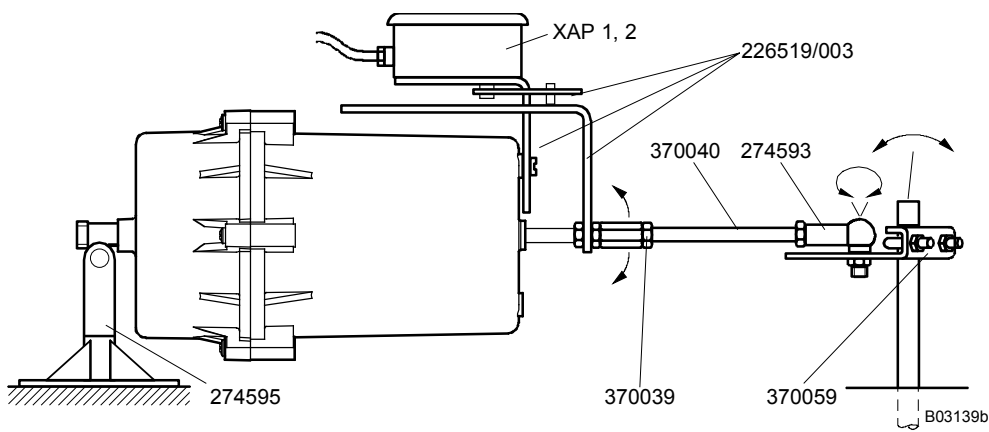
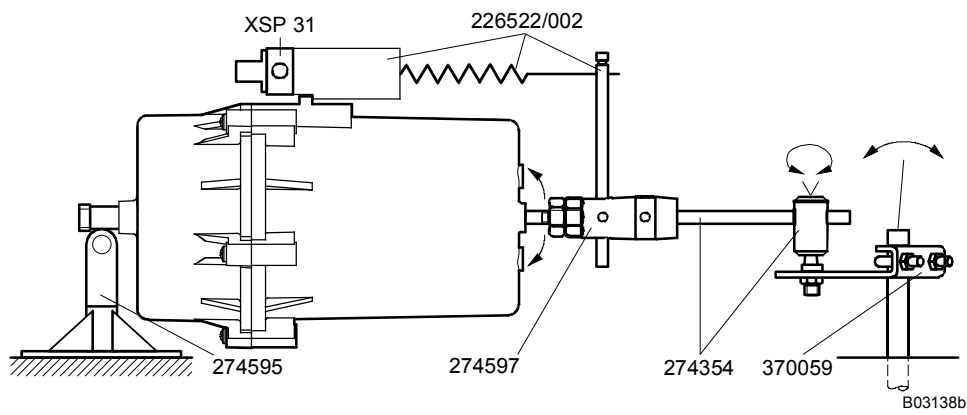
Fitting methods for AK41 P



Fitting methods for AK41 P



Fitting methods for AK42 P



Fitting methods for AK43 P

