Spring return actuator with emergency function for VRP-M system solution
- **Torque 20 Nm**

Technical data

Electrical data	Nominal voltage		AC 24 V, 50/60 Hz / DC 24 V (from controller VRP-M)
	Power consumption	In operation	7.5 W @ nominal torque
		At rest	3 W
		For wire sizing	10 VA
	Connection		Cable 0.5 m, with 6-pin plug (compatible with controller VRP-M)
Functional data	Torque	Motor	Min. 20 Nm @ nominal voltage
		Spring return	Min. 20 Nm
	Direction of rotation	Motor	Reversible with switch ↷ / ↶
		Spring return	Can be selected by mounting L / R
	Direction of rotation Y = 0 V		At switch position 1 ↷ resp. 0 ↶
	Manual override		With hand crank and interlocking switch
	Angle of rotation		Max. 95°∢, can be limited with adjustable mechanical end stop
	Running time	Motor	≤150 s / 90°∢
		Spring return	≤20 s @ –20 ... 50°C / max. 60 s @ –30°C
	Sound power level	Motor	≤40 dB (A) @ 150 s running time
		Spring return	≤62 dB (A)
	Service life		Min. 60,000 emergency positions
	Position indication		Mechanical
Safety	Protection class		**III** Extra low voltage
	Degree of protection		IP54
	EMC		CE according to 2004/108/EC
	Certification		Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14
	Mode of operation		Type 1.AA
	Rated impulse voltage		0.8 kV
	Control pollution degree		3
	Ambient temperature		–30 ... +50°C
	Non-operating temperature		–40 ... +80°C
	Ambient humidity		95% r.h., non-condensating
	Maintenance		Maintenance-free
Dimensions / Weight	Dimensions		See «Dimensions» on page 3
	Weight		Approx. 2.3 kg

Safety notes

- **The actuator is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.**
- **It may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly.**
- **The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.**
- **The cable must not be removed from the device.**
- **The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.**

Product features

Mode of operation
The actuator is controlled with the Belimo VAV controller VRP-M and travels to the position defined by the control signal.

Simple direct mounting
Simple direct mounting on the damper spindle with a universal spindle clamp, supplied with an anti-rotation strap to prevent the actuator from rotating.

Adjustable angle of rotation
The angle of rotation is adapted to the available setting range by the manufacturer of the damper by means of integrated, mechanical end stops.
Permissible range: from 33% in 5% steps.

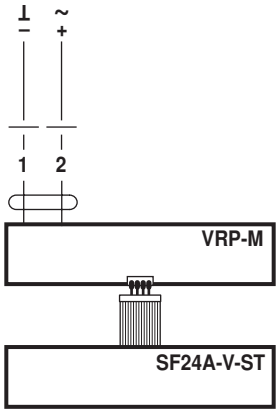
Adaptation to the available angle of rotation
This function detects the upper and lower spindle end stops and stores them in the actuator. The running time and the working range are adapted to the available angle of rotation. Detection of the mechanical end stops enables a gentle approach to the end position and protects the actuator and damper mechanisms. The first time the supply voltage is switched on, i.e. after initial startup or after manual adaption, the actuator first moves to the upper and then to the lower spindle end stop.

Manual adaption
Triggering an adaption may be effected by the direction of rotation switch. By four times changing over the switch, the adaption of angle of rotation will start.

High operational reliability
The actuator is overload-proof, requires no limit switches and automatically stops when the end stop is reached.

Electrical installation

Wiring diagram



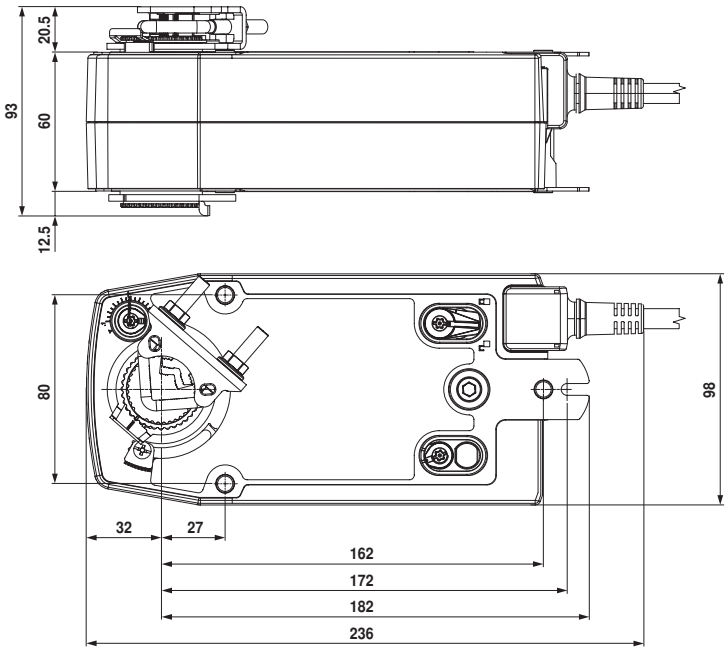
The ready-to-connect actuator unit is connected to the controller VRP-M with the 6-pin plug.

Accessories

	Description
Electrical accessories	Auxiliary switch S2A-F
Mechanical accessories	Various accessories

Dimensions [mm]

Dimensional drawings



Variant 1a:
¾“-spindle clamp (with insertion part) EU Standard

Damper spindle	Length	⌀	□	◇
	≥85	10 ... 22	10	14 ... 25.4
	≥15			

Variant 1b:
1“-spindle clamp (without insertion part) EU Standard

Damper spindle	Length	⌀	□
	≥85	19 ... 25.4 (26.7)	12 ... 18
	≥15		

Variant 2:
½“-spindle clamp (optional via configuration)

Damper spindle	Length	⌀	◇
	≥85	10 ... 19	14 ... 20
	≥15		

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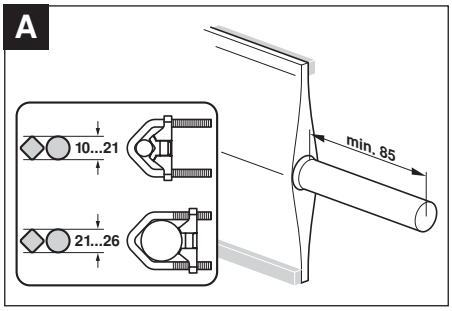
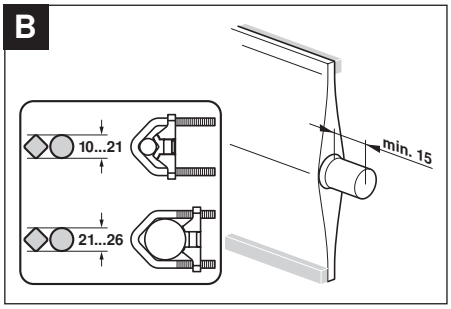
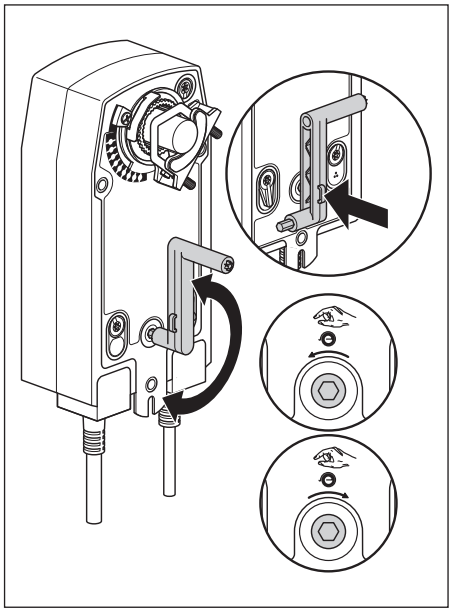
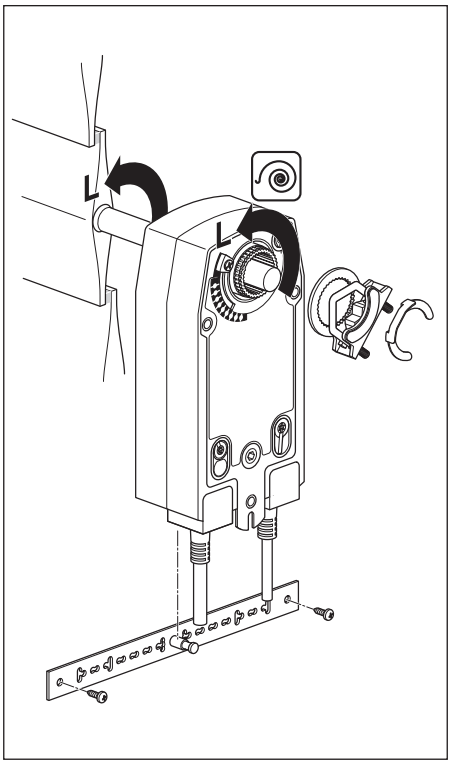
A

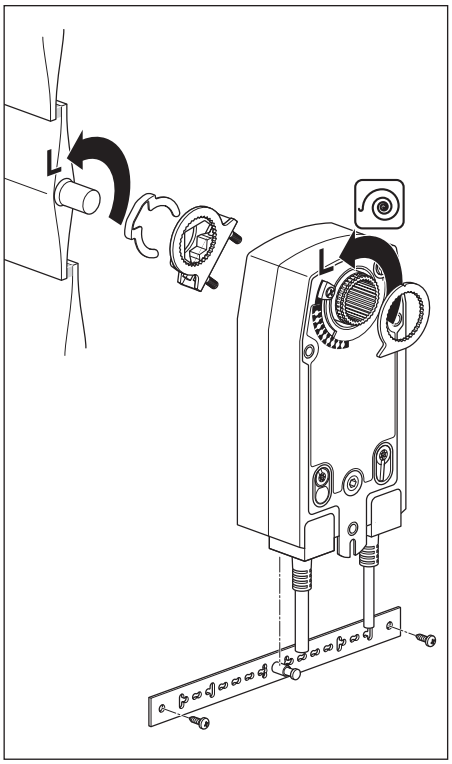


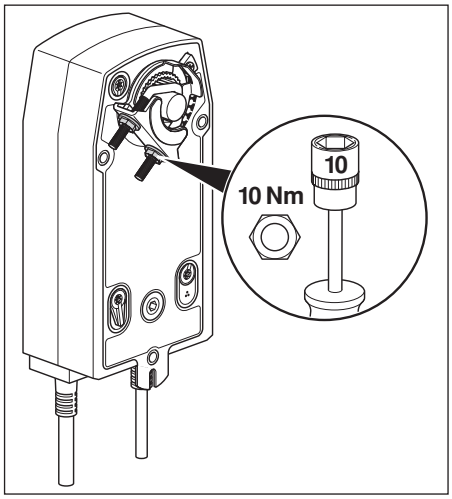
B

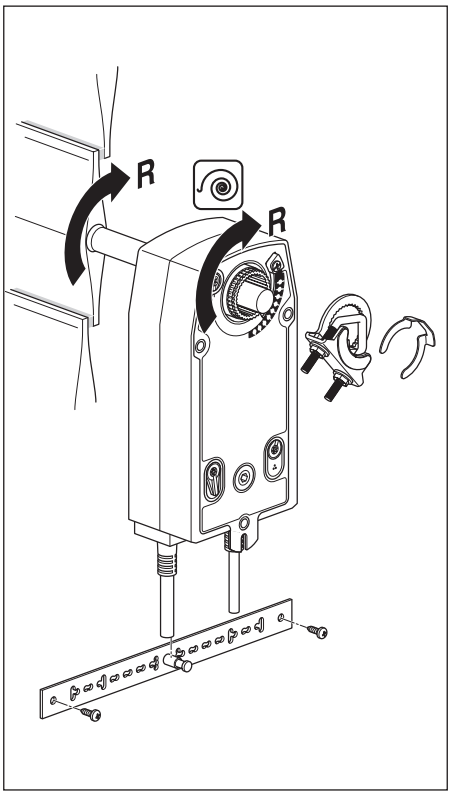


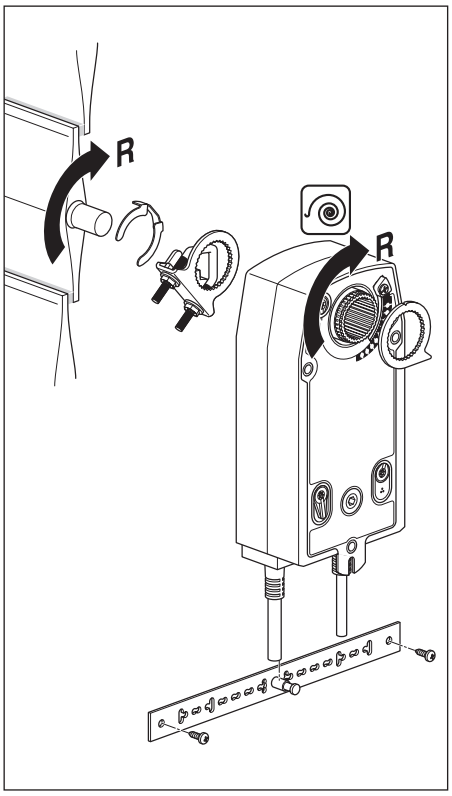


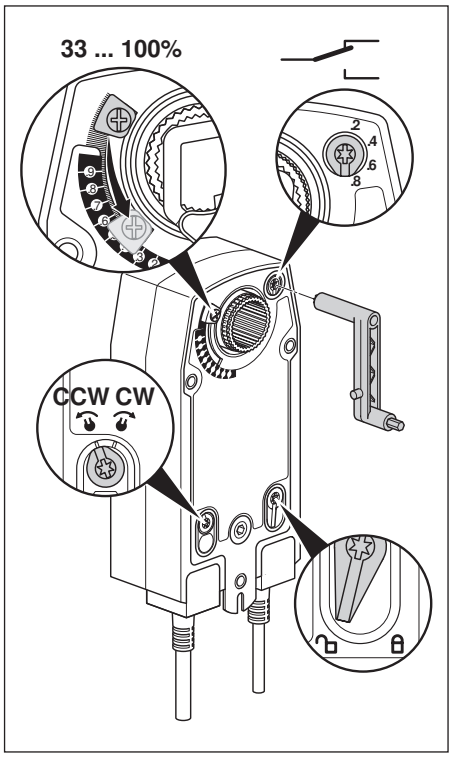


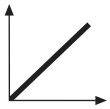




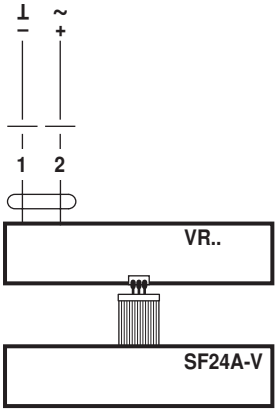




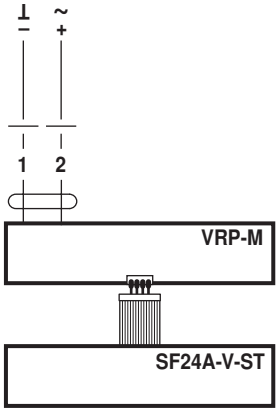




AC 24 V / DC 24 V



SF24A-V



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