

Linear actuator for 2-way and 3-way globe valves

- Actuating force 2000 N
- Nominal voltage AC/DC 24 V
- Control: 3-point
- including bracket and stem coupler for BELIMO valves



Technical data

Electrical data	Nominal voltage	AC 24 V, 50/60 Hz / DC 24 V
	Nominal voltage range	AC 19.2 ... 28.8 V / DC 21.6 ... 28.8 V
	Power consumption	In operation 4 W @ nominal force
		For wire sizing 10 VA
	Connection	Cable 1 m, 3 x 0.75 mm ²
	Parallel connection	Yes (note performance data for supply!)
Functional data	Actuating force	2000 N
	Closing force	2000 N
	Inhibiting force	1700 N
	Manual override	With hexagonal key, temporary
	Nominal stroke	40 mm
	Actuating time	7.5 s/mm or 3.75 s/mm, selectable
	Sound power level	Max. 35 dB (A)
	Position indication	mechanical 8 ... 50 mm stroke
Safety	Protection class	III Safety extra-low voltage
	Degree of protection	IP54
	EMC	CE according to 2004/108/EC
	Mode of operation	Type 1 (EN 60730-1)
	Rated impulse voltage	0.33 kV (EN 60730-1)
	Control pollution degree	3 (EN 60730-1)
	Ambient temperature	0 ... +50 °C
	Non-operating temperature	-40 ... +80 °C
	Ambient humidity	95% r.H., non-condensating (EN 60730-1)
	Maintenance	Maintenance-free
Dimensions / Weight	Dimensions	See «Dimensions» on page 4
	Weight	Approx. 2.9 kg

Safety notes



- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and 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 does not contain any parts that can be replaced or repaired by the user.
- 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

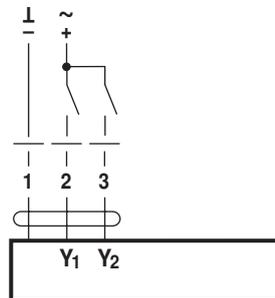
Mode of operation	The actuator is activated with a 3-point signal.
Simple attachment	A clamping strap on the bracket makes possible simple attachment on the neck of the valve. The actuator spindle is coupled to the valve stem with the valve stem coupling. The actuator can be rotated through 360° ↺ on the neck of the valve.
Manual override	The stroke can be adjusted in a voltage-free state by using a hexagonal key (5 mm), which is plugged into the actuator at the top. If the hexagonal key is turned in a clockwise direction, then the actuator spindle will extend from the actuator housing (pushing) and maintain the position until a nominal voltage is applied (the controller has first priority).
High functional reliability	The actuator is protected against short circuits, polarity reversal and overloading.
Function indication	The stroke is indicated mechanically on the bracket. The indicator adjusts itself automatically.
Combination valve/actuator	Refer to the valve documentation for suitable BELIMO valves, their permitted media temperatures and closing pressures. The retrofit actuator AV..-R is provided for third-party valves.

Electrical installation

Wiring diagram

Note

- Connect via safety isolation transformer.
 - Other actuators can be connected in parallel.
- Note performance data for supply.



Cable colours:

- 1 = black
- 2 = red
- 3 = white

Functions

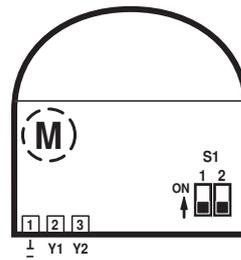
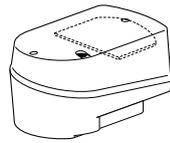
Alignment of the operating elements

The terminals for the cable connection and the operating element S1 are located under the cover of the actuator.

The actuator can readily be adjusted on-site to meet local requirements by adjusting the sliding switch S1, if the factory settings have been modified.

S1.1 Closing time

S1.2 Valve closing point



S1.1	Symbol
	7.5 s/mm →
	3.75 s/mm →
S1.2	Symbol
	▲ H4/5..B H6/7..N H6/7..R
	▼ H6..S H6..SP

Functional description

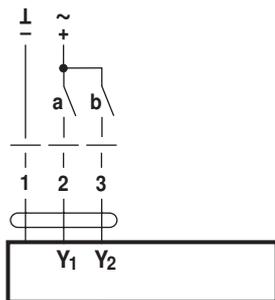
Function	Description	Switch		
Actuating time	The running time for full stroke varies as a function of the nominal stroke. (The running time for a 20 mm stroke and the standard actuating time is 150 s).	S1.1		
standard ¹⁾	Actuating time 7.5 s/mm	OFF	7.5 s/mm →	
fast	Actuating time 3.75 s/mm	ON	3.75 s/mm →	
Valve closing point	Closing point with actuator spindle retracted or extended.	S1.2	Symbol	Consequence
up ²⁾	The actuator spindle is retracted into the actuator and the valve stem is extended from the fitting.	OFF	▲	
down ³⁾	The actuator spindle is extended from the actuator and the valve stem is retracted into the fitting.	ON	▼	

¹⁾ Factory settings

²⁾ Standard setting for valves H4..B, H5..B, H6..N, H6..R, H7..N and H7..R

³⁾ Standard setting for valves H6..S and H6..SP

3-point control

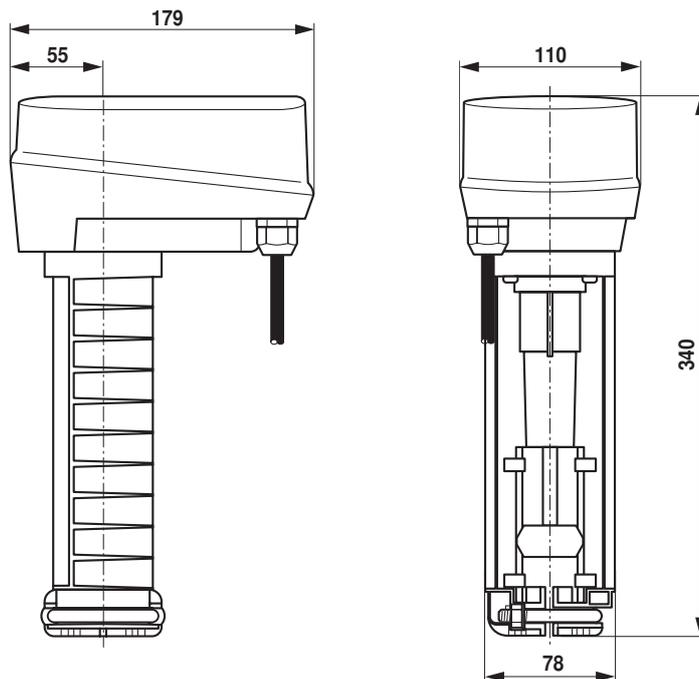


Note
The actuator spindle direction can also be reversed by inverting the Y1 and Y2 wires.

Symbols		Actuating time standard	Actuating time fast	Closing point up	Closing point down	Relay contact a (Y1)	Relay contact b (Y2)	Actuator spindle moves	
Actuating time	Closing point Valve							ccw	cw
		S1.1		S1.2		0	0	stops	stops
7.5 s/mm →	▲	OFF		OFF		1	0		OFF
	▼	OFF			ON	0	1	ON	
	▲		ON	OFF		1	0		OFF
	▼		ON		ON	0	1	ON	
3.75 s/mm →	▲					1	0	ON	
	▼					0	1	ON	
	▲					1	0		OFF
	▼					0	1		OFF

Dimensions [mm]

Dimensional drawings

**Further documentations**

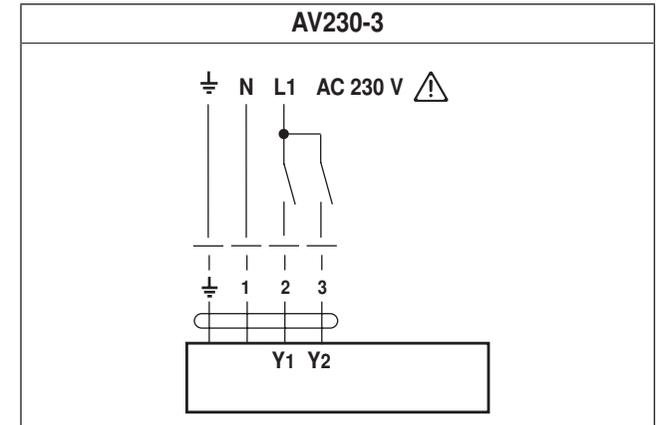
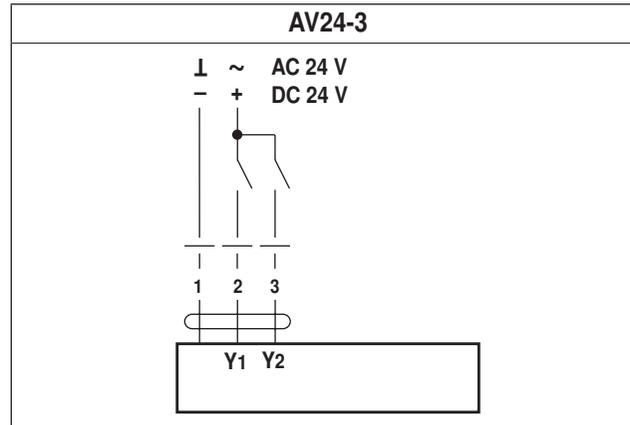
- Complete overview «The complete range of water solutions»
- Data sheets for globe valves
- Installation instructions for actuators resp. globe valves
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance etc.)

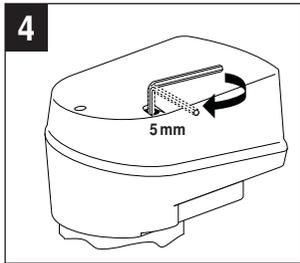
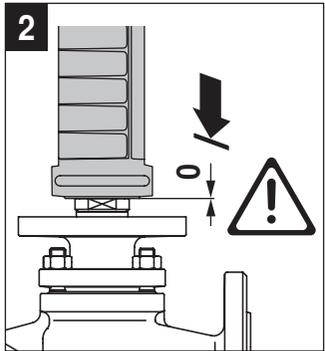
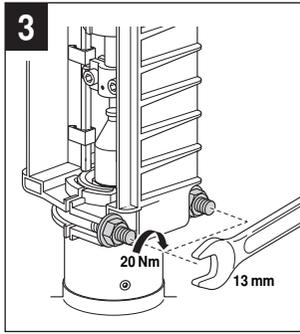
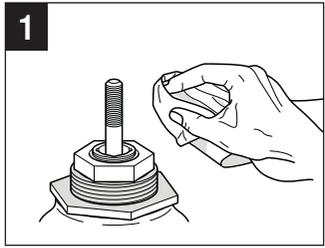
BELIMO



AV24-3
AV230-3

70771-00001.B





6

AV24-3

(M)

S1

1 2 3

1 2

ON

1

7.5 s/mm

3.75 s/mm

1 2 3

1 2

ON

2

S1.2

Symbol

H6/7..N

H6/7..R

H7..X..S2

H7..Y..S2

H6..S

H6..SP

H6..X..S(P)2

AV230-3

(M)

S1

1 2 3

1 2

ON

2

1 2 3

1 2

ON

2

Symbol

H6/7..N

H6/7..R

H7..X..S2

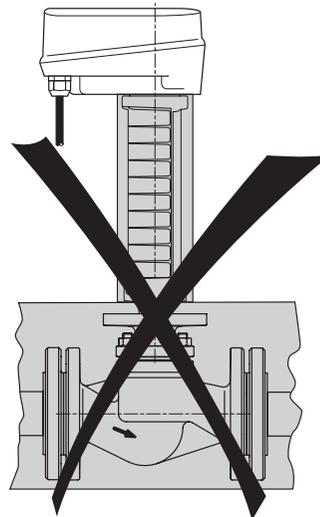
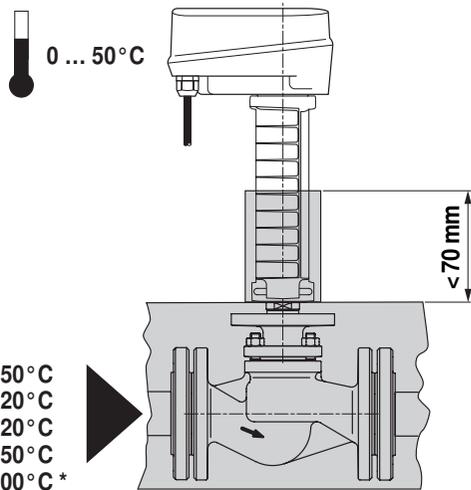
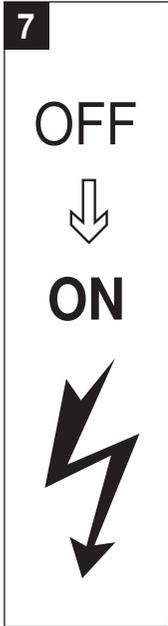
H7..Y..S2

H6..S

H6..SP

H6..X..S(P)2

! (Warning symbol)



- H6..S / H6..SP max. 150 °C
- H6..N / H7..N max. 120 °C
- H6..R / H7..R max. 120 °C
- H6..X..S2 max. 150 °C
- H7..X..S2 max. 200 °C *
- H7..Y..S2 max. 200 °C *

