

Linear actuator for

2-way and 3-way globe valves

- Actuating force 1000 N
- Nominal voltage AC 230 V
- 3-point control
- NV230-3 with cable connection
- NV230-3-T with terminal connection
- Brackets and adapter sets for third-party valves as accessories (UNV-..)



Technical data

Electrical data	Nominal voltage	AC 230V, 50/60 Hz
	Nominal voltage range	AC 198 ... 264V
	Power consumption	6 W @ nominal force
	Operation For wire sizing	7 VA
	Connection NV230-3 NV230-3-T	Cable 1 m, 4 x 0.75 mm ² Terminal connection
Functional data	Parallel operation	Yes (note performance data for supply!)
	Actuating force	1000 N
	Closing force	800 N
	Inhibiting force	
	Manual override	With hexagon socket screw key, temporary
	Nominal stroke	20 mm
	Actuating time	7.5 s/mm or 3.75 s/mm, selectable
	Sound power level	≤35 dB (A)
Safety	Position indication	mechanical 5 ... 20 mm stroke
	Protection class	I (with protective conductor)
	Degree of protection	IP54
	EMC	CE according to 2004/108/EC
	Low-voltage directive	CE according to 2006/95/EC
	Mode of operation	Type 1 (EN 60730-1)
	Rated impulse voltage	4 kV (EN 60730-1)
	Control pollution degree	3 (EN 60730-1)
	Ambient temperature	0 ... +50 °C
	Non-operating temperature	-40 ... +80 °C
Dimensions / weight	Ambient humidity	95% r.h., non-condensating (EN 60730-1)
	Maintenance	Maintenance-free
	Dimensions	See «Dimensions» on page 4
	Weight	approx. 1.5 kg with bracket UNV-002 (without valve)

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.
- Caution: Power supply voltage!
- 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.
Installation on BELIMO valves	<p>If a combination of actuator and BELIMO globe valve is ordered, then one UNV-002 bracket is included in the scope of delivery.</p> <p>If an actuator is ordered without Belimo globe valve, then the UNV-002 bracket (see «Accessories») must also be ordered.</p>
Installation on third-party valves	<p>Prior to installation on a third-party valve, a suitable bracket UNV-.. (see «Accessories») must first be screwed to the actuator. The adapter set integrated therein is comprised of a valve neck adapter and a valve stem adapter. The valve neck adapter, together with the clamping strap on the bracket, makes possible simple attachment on the neck of the valve. The valve stem adapter is mounted on the valve stem. The linear spindle can be coupled semi-automatically to the valve stem with the valve stem coupling.</p> <p>The actuator can be rotated by 360° ↺ on the valve neck.</p> <p>Retrofit actuators NV.. -R are also available which are equipped with a Retrofit bracket and which can be used with corresponding ZNV-.. (adapter set) for valves from a wide array of manufacturers.</p>
Manual override	The stroke can be adjusted in a voltage-free state by using a hexagon socket screw key (5 mm), which is plugged into the actuator at the top. If the hexagon socket screw 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).
Functional reliability	The actuator is protected against short circuits, polarity reversal and overloading.
Position indication	The stroke is indicated mechanically on the bracket. The stroke range adjusts itself automatically.
Combination valve/actuator	Refer to the valve documentation for suitable valves, their permitted media temperatures and closing pressures.

Accessories

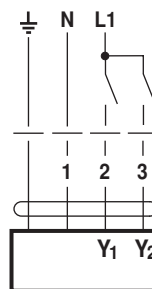
	Description
Mechanical accessories	Brackets and adapter sets UNV-.. see www.belimo.eu/retrofit

Electrical installation

Wiring diagram

Notes

- Caution: Power supply voltage!
 - Parallel connection of other actuators possible.
- Note performance data for supply.



Cable colours:

- 1 = blue
- 2 = white
- 3 = white
- ⊥ = yellow/green

Functions

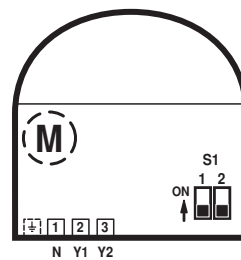
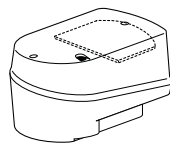
Alignment of the operating elements

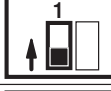

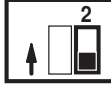

The terminals for the cable connection and the operating element S1 are located under the cover of the actuator.

By setting slide switch S1 it is possible to configure the actuator very simply on site to suit actual requirements.

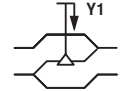
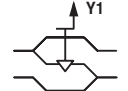
S1.1 Actuating time

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 H7..X...S2 H7..Y...S2
	H6..S H6..SP H6..X...S(P)2

Functional description

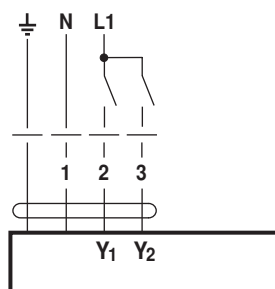
Function	Description	Switch		
Actuating time	The running time for full stroke varies as a function of the nominal stroke. (The running time for a 20 mm stroke and the standard actuating time is 150 s).	S1.1		
standard ¹⁾	Actuating time 7.5 s/mm	OFF	7.5 s/mm →	
fast	Actuating time 3.75 s/mm	ON	3.75 s/mm →→	
Valve closing point	Closing point with linear 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 linear 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, H7..R, H7..X...S2 and H7..Y...S2

³⁾ Standard setting for valves H6..S, H6..SP and H6..X...S(P)2

3-point control



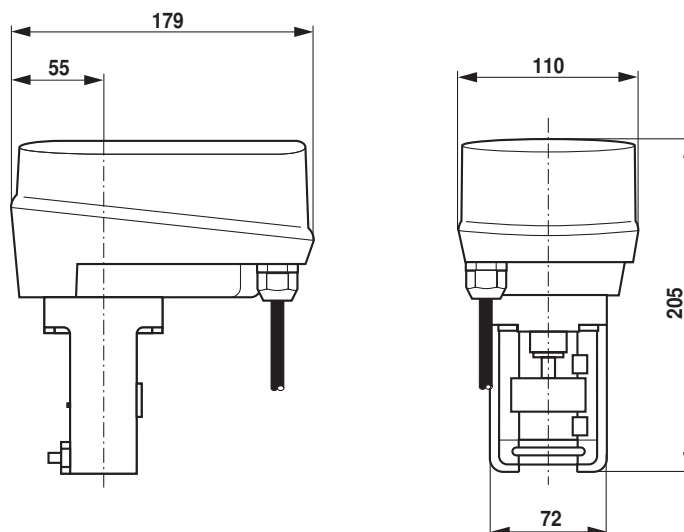
Symbols		Linear spindle moves							
Actuating time	Closing point Valve	Actuating time standard	Actuating time fast	Closing point top	Closing point bottom	Relay contact (Y1)	Relay contact (Y2)		
		S1.1		S1.2		0	0	stops	stops
<div>7.5 s/mm</div> <div>→</div>	▲	OFF		OFF		1	0		OFF
	▼	OFF			ON	1	0	ON	
						0	1		OFF
						0	1		OFF
<div>3.75 s/mm</div> <div>→→</div>	▲		ON	OFF		1	0		OFF
						0	1	ON	
	▼		ON		ON	1	0	ON	
						0	1		OFF

Note

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

Dimensions [mm]

Dimensional drawings



Further documentations

- Overview of brackets and adapter sets on www.belimo.eu/retrofit
- Complete overview «The complete product range of water solutions»
- Data sheets for globe valves
- Installation instructions for actuators and/or globe valves, respectively
- Notes for project planning (hydraulic characteristic curves and circuits, installation regulations, commissioning, maintenance, etc.)
- Specification texts

70340-00001.A



NV(D)230-3
NV24-3



NV230-3-R
NV24-3-R

