BELIMO

Globe valves, 2-way, with flange PN16

- For closed cold and hot water systems
- For modulating water-side control of air handling units and heating systems

Type overview

Type	K_{VS} [m^3/h]	DN [mm]	Stroke [mm]	UP_S [kPa]
H665SP 4		65	20	1600
H680SP 5	0	80	30	1600
H6100SP 6	1	100	40	1600
H6125SP 7	2 0	125	40	1600
H6150SP 7	3 0	150	40	1600
H6200SP 8	520	200	40	1600
H6250SP 9	7 0	250	40	1600

Technical data

Functional data	Flow media	Cold and hot water, water with max. 50% volume of glycol
	Temperature of medium	0°C ... +150°C
	Rated pressure P_S	1600kPa (PN16)
	Flow characteristic	Control path A – AB: equal percentage (to VDI/VDE 2173) n(gl) = 3, optimised in the opening range
	Rangeability S_V	
	Leakage rate	Max. 0.0 % of kvs value (DIN EN 1349 and DIN EN 60534-4)
	Pipe connection	Flange to ISO 7005-2 (PN16)
	Stroke	See «Type overview»
	Valve V W H P H [W H Q G V	) O R Z G H F U H D V H
	Installation position	Upright to horizontal (in relation to the stem)
	Maintenance	Maintenance-free
Materials	Body	Ductile iron GGG40
	Valve cone	Stainless steel SS304
	Valve stem	Stainless steel SS
		Stainless steel SS304
		3 7) ( )) . 0
Dimensions / Weights		See «Dimensions and weights»

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Safety notes

- This globe valve 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. All applicable legal or institutional installation regulations must be complied with.
- The valve does not contain any parts that can be replaced or repaired by the user.
- The valve is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.
- The recognised rules should be applied when determining the flow characteristic of final controlling elements.

Product features

Mode of operation

The globe valve is operated by an SV, EV or RV series linear actuator. The linear actuators are controlled by a standard modulating or 3-point control system and move the cone of the valve, the throttling device, to the opening position dictated by the control signal.

Flow characteristic

An equal-percentage flow characteristic is produced by profiling the valve cone.

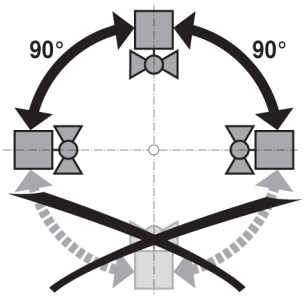
Manual operation

On the SV, EV or RV linear actuator, the valve stem can be actuated manually using a hexagonal key.

Installation notes

Recommended mounting positions

The globe valve may be mounted either **vertically** or **horizontally**.
It is not permissible to mount the globe valve with the stem pointing downwards.



Water quality requirements

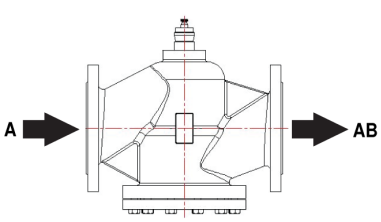
- The water quality requirements specified in VDI 2035 must be adhered to.
- Globe valves are relatively sensitive control devices. In order to ensure a long service life, it is advisable to fit **strainers.**

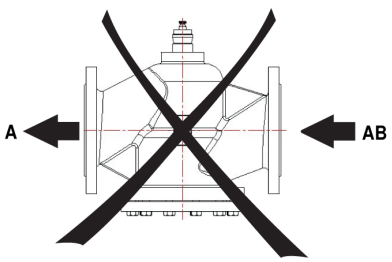
Maintenance

- The globe valves and linear actuators are maintenance-free.
- Before any kind of service work is carried out on actuator sets of this type, it is essential to isolate the linear actuator from the power supply (by unplugging the power lead). Any pumps in the part of the piping system concerned must also be switched off and the appropriate isolating fittings closed (allow everything to cool down first if necessary and reduce the pressure in the system to atmospheric).
- The system must not be returned to service until the globe valve and the linear actuator have been properly reassembled in accordance with the instructions and the pipework has been refilled in the proper manner.

Direction of flow

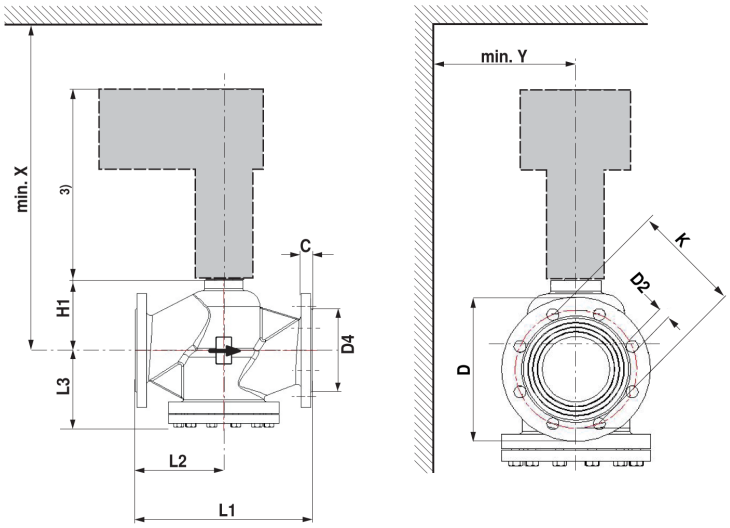
- The direction of flow, specified by an arrow on the housing, is to be complied with, since otherwise the globe valve can be damaged.





Dimensions and weights

Dimensional drawings



DN [mm]	& [mm]	D [mm]	D2 [mm]	D4 [mm]	K [mm]	L1 [mm]	L2 [mm]	L3 [mm]	H1 [mm]	X 2) [mm]	Y 2) [mm]	Weight [kg]
65	2	185	4-1	118	145	290	145	11	10	3	5	
80	22	200	8-1	132	160	310	155	13	1			
100	23	220	8-1	156	180	350	175	150	13			6
125	24	250	8-1	184	210	400	200	175	1			5
150	25	285	8-2	211	240	480	240		1	5	5	7
200	26	340	12-2	266	295	500	250	23				1
250	31	405	12-2	319	355	600	300	25	5			

2) Minimum distance with respect to the valve centre.

3) The actuator dimensions can be found on the respective actuator data sheet.

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Technical data sheet EV230A-TPC

Globe valve actuator for 2-way and 3-way globe valves
- **Actuating force 2500 N**
- **Nominal voltage AC 230 V**
- **Control Open/close, 3-point**
- **Stroke 40 mm**

Technical data

Electrical data	Nominal voltage	AC 230 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 85...265 V
	Power consumption in operation	5.5 W
	Power consumption in rest position	1 W
	Power consumption for wire sizing	9.5 VA
	Connection supply / control	Terminals with cable 1 m, 3 x 0.75 mm² (Terminal 4 mm²)
	Parallel operation	Yes (note the performance data)
Functional data	Actuating force motor	2500 N
	Manual override	with push-button, can be locked
	Stroke	40 mm
	Running time motor	150 s / 40 mm
	Sound power level, motor	56 dB(A)
	Position indication	Mechanically, 5...40 mm stroke
Safety	Protection class IEC/EN	II reinforced insulation
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	EMC	CE according to 2014/30/EU
	Low voltage directive	CE according to 2014/35/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Certification UL	cULus according to UL60730-1A, UL60730-2-14 and CAN/CSA E60730-1:02
	Certification UL note	The UL marking on the actuator depends on the production site, the device is UL-compliant in any case
	Mode of operation	Type 1
	Rated impulse voltage supply / control	4 kV
	Control pollution degree	3
	Ambient temperature	0...50°C
	Storage temperature	-40...80°C
	Ambient humidity	Max. 95% r.H., non-condensing
	Servicing	maintenance-free
Weight	Weight	3.6 kg

Safety notes

- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Outdoor application: only possible in case that no (sea) water, snow, ice, insolation or aggressive gases interfere directly with the actuator and that is ensured that the ambient conditions remain at any time within the thresholds according to the data sheet.
- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The switch for changing the direction of motion and so the closing point may be adjusted only by authorised specialists. The direction of motion is critical, particularly in connection with frost protection circuits.
- 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 device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Simple direct mounting
Simple direct mounting on the globe valve by means of form-fit hollow clamping jaws. The actuator can be rotated by 360° on the valve neck.

Manual override
Manual override with push-button possible (the gear is disengaged for as long as the button is pressed or remains locked).
The stroke can be adjusted by using a hexagon socket screw key (5 mm), which is inserted into the top of the actuator. The stroke shaft extends when the key is rotated clockwise.

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

Combination valve/actuator
Refer to the valve documentation for suitable valves, their permitted fluid temperatures and closing pressures.

Position indication
The stroke is indicated mechanically on the bracket with tabs. The stroke range adjusts itself automatically during operation.

Home position
Factory setting: Actuator spindle is retracted.
When valve-actuator combinations are shipped, the direction of motion is set in accordance with the closing point of the valve.

Setting direction of stroke
When actuated, the stroke direction switch changes the running direction in normal operation.

Restriction 3-point controller
It must be ensured that the pulsating 3-point controller stops when the end position is reached. If this is not possible on the system side, the multifunctional 24 V version of the actuator (EV24A-MP-..) must be used.

Accessories

	Description	Type
Electrical accessories	Auxiliary switch 2 x SPDT add-on	S2A-H

Electrical installation

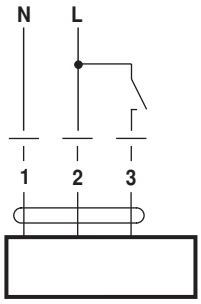
Notes

- Caution: Power supply voltage!
- Parallel connection of other actuators possible. Observe the performance data.
- Direction of stroke switch factory setting: Actuator spindle retracted (▲).

Electrical installation

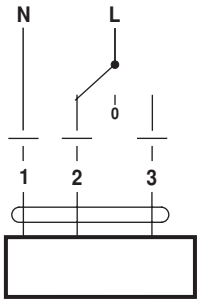
Wiring diagrams

AC 230 V, open/close



Cable colours:
1 = blue
2 = brown
3 = white

AC 230 V, 3-point



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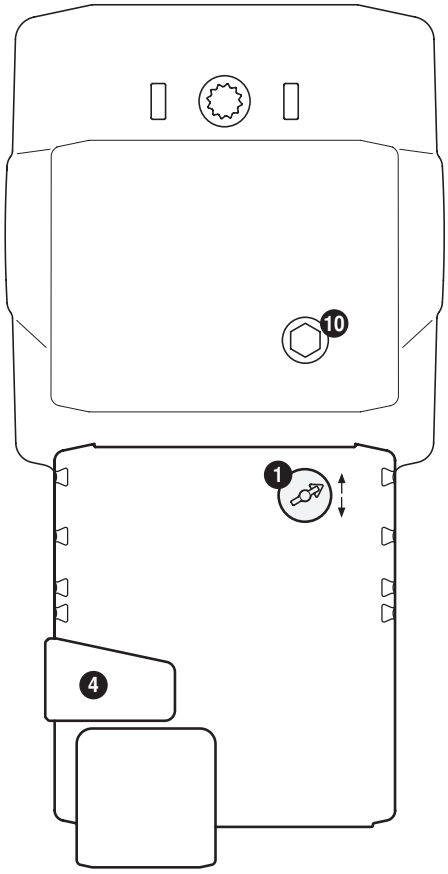
Operating controls and indicators



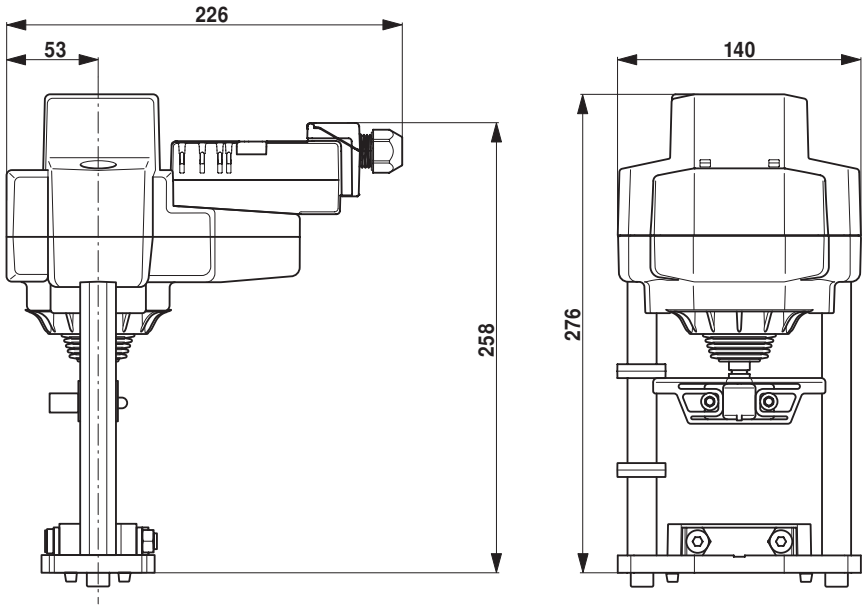
1 Direction of stroke switch
Switch over: Direction of stroke changes

4 Gear disengagement button
Press button: Gear disengages, motor stops, manual override possible
Release button: Gear engages, standard mode

10 Manual override
Clockwise: Actuator spindle extends
Counterclockwise: Actuator spindle retracts

Dimensions [mm]

Dimensional drawings



Further documentation

- The complete product range for water applications
- Data sheets for globe valves
- Installation instructions for actuators and/or globe valves
- Notes for project planning 2-way and 3-way globe valves
- General notes for project planning