

* OREH YDOYHV ZD\ ZLWK LQWHUQDO WKUHDG

- For open and closed cold and KRW water systems
- For modulating water-side control of air handling units and heating systems
- VAV reheat

7\SH RYHUYLHZ

| 7\SH | RYV [m³/h] | 1 [mm] | 6 WURNH U3V U3PD [mm] | [kPa] |
|-------|---------------|-----------|--------------------------|-------|
| + 6 * | 1. | 15 | 10 | 800 |
| + 6 - | | 15 | 10 | 800 |
| + 6 . | | 20 | 10 | 800 |
| + 6 / | | 25 | 15 | 600 |
| + 6 0 | 1 | 32 | 20 | 550 |
| + 6 1 | 2 | 40 | 20 | 700 |
| + 6 3 | | 50 | 20 | 500 |

UP_s will be variant depends on actuator selection.

7HFKQLFDO GDWD

)XQFWLRQDO

| | |
|----------------------------------|--|
| Media | Cold and hot water, water with max. 50% volume of glycol |
| Temperature of medium | 0°C ... +130°C |
| Rated pressure P _s | 2500kPa (PN25) |
| 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) |
| OHGLXP YHORFLW\ 0D[P V | |
| Pipe connection | Internal thread to ISO 7/1 |
| Stroke | See «Type overview» |
| Valve VWHP H[WHQG V)ORZ GHFUDVH | |
| Installation position | Upright to horizontal (in relation to the stem) |
| Maintenance | Maintenance-free |
| 0DWHULDOR | |
| Body | Stainless steel SS304 |
| Valve cone | Stainless steel SS304 |
| Valve stem | Stainless steel SS304 |
| Valve seat | Stainless steel SS304 |
| Stem seal | 37)() . 0 |
| 'LPHQVLRQV : HLJQ | Dimensions and weights |
| | See «Dimensions and weights» |

6 D I H W \ Q R W H V



- 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.

3 U R G X F W I H D W X U H V

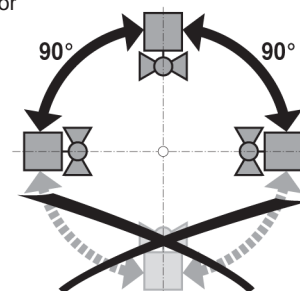
The globe valve is operated by an NV or SV series linear actuator. The linear actuators are controlled by a standard modulating or 3-point control system and move the cone of the valve, the throttling device, to the opening position dictated by the control signal.

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

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

, Q V W D O O D W L R Q Q R W H V

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



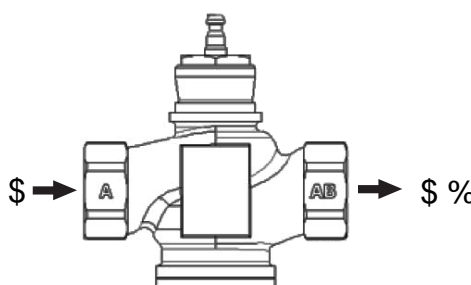
The water quality requirements specified in VDI 2035 must be adhered to.

Globe valves are relatively sensitive control devices. In order to ensure a long service life, it is advisable to fit the following:

- The globe valves and linear actuators are maintenance-free.

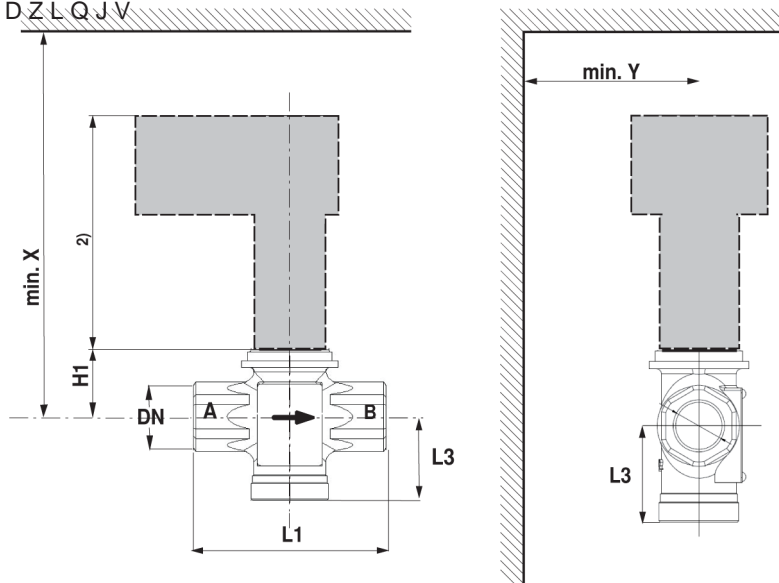
Before any kind of service work is carried out on actuator sets of this type, it is essential to isolate the linear actuator from the power supply (by unplugging the power lead). Any pumps in the part of the piping system concerned must also be switched off and the appropriate isolating fittings closed (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.
- The direction of flow, specified by an arrow on the housing, is to be complied with, since otherwise the globe valve can be damaged.



'LPHQVLRQV DQG ZHLJKWV

'LPHQVLRQDO GUDZLQJV



| 7\SH | '1 [mm] | / [mm] | + [mm] | / [mm] | ; ¹⁾ [mm] | < ²⁾ [mm] | :HLJKW [kg] |
|-------|------------|-----------|-----------|-----------|-------------------------|-------------------------|----------------|
| + 6 * | 15 | 8 | 2 | 3 | 296 | 100 | 1 |
| + 6 - | 15 | 8 | 2 | 3 | 296 | 100 | 1 |
| + 6 . | 20 | 8 | 28 | | 299 | 100 | 1. |
| + 6 / | 25 | 1 | 3 | 4 | 303 | 100 | 1. |
| + 6 0 | 32 | 1 | 35 | | 306 | 100 | |
| + 6 1 | 40 | 1 | 4 | | 311 | 100 | 2. |
| + 6 3 | 50 | 1 8 | | 6 | 318 | 100 | 3. |

1) Minimum distance with respect to the valve centre.

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

Modulating globe valve actuator for 2-way and 3-way globe valves

- Actuating force 1000 N
- Nominal voltage AC/DC 24 V
- Control modulating 0.5...10 V
- Stroke 20 mm



Technical data

| | | |
|------------------------|--|---|
| Electrical data | Nominal voltage | AC/DC 24 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 19.2...28.8 V / DC 21.6...28.8 V |
| | Power consumption in operation | 1.5 W |
| | Power consumption in rest position | 0.5 W |
| | Power consumption for wire sizing | 3 VA |
| | Connection supply / control | Terminals with cable 1 m, 4 x 0.75 mm ² (Terminal 4 mm ²) |
| | Parallel operation | Yes (note the performance data) |
| Functional data | Actuating force motor | 1000 N |
| | Operating range Y | 0.5...10 V |
| | Input Impedance | 100 kΩ |
| | Position feedback U | 0.5...10 V |
| | Position feedback U note | Max. 0.5 mA |
| | Position accuracy | ±5% |
| | Manual override | with push-button, can be locked |
| | Stroke | 20 mm |
| | Running time motor | 150 s / 20 mm |
| | Adaptation setting range | manual (automatic on first power-up) |
| | Sound power level, motor | 45 dB(A) |
| | Position indication | Mechanically, 5...20 mm stroke |
| Safety | Protection class IEC/EN | III Safety Extra-Low Voltage (SELV) |
| | 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 |
| | 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 | 0.8 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 | 1.1 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

| | |
|-------------------------------------|---|
| Mode of operation | The actuator is connected with a standard modulating signal of 0...10 V and drives to the position defined by the positioning signal. The measuring voltage U serves for the electrical display of the actuator position 0.5...100% and as slave control signal for other actuators. |
| 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 (4 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. The first time the supply voltage is switched on, i.e. at the time of commissioning, the actuator carries out an adaption, which is when the operating range and position feedback adjust themselves to the mechanical setting range. The actuator then moves into the position defined by the positioning signal. |
| Setting direction of stroke | When actuated, the stroke direction switch changes the running direction in normal operation. |
| Adaption and synchronisation | An adaption can be triggered manually by pressing the "Adaption" button. Both mechanical end stops are detected during the adaption (entire setting range). The actuator then moves into the position defined by the positioning signal. |

Accessories

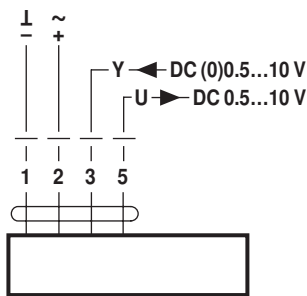
| | Description | Type |
|------------------------|----------------------------------|-------|
| Electrical accessories | Auxiliary switch 2 x SPDT add-on | S2A-H |

Electrical installation

| Notes |
|---|
|  <ul style="list-style-type: none"> • Connection via safety isolating transformer. • Parallel connection of other actuators possible. Observe the performance data. • Direction of stroke switch factory setting: Actuator spindle retracted (▲). |

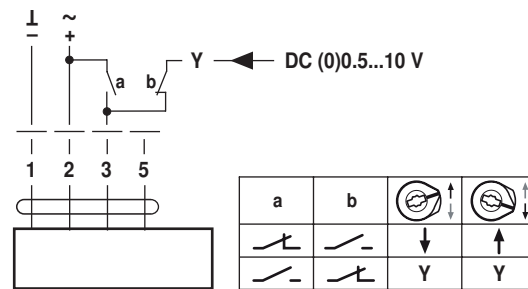
Wiring diagrams

AC/DC 24 V, modulating

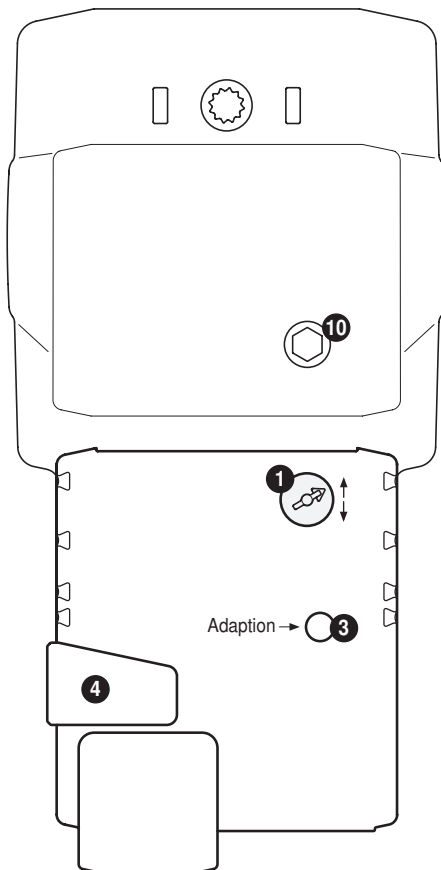


Cable colours:
 1 = black
 2 = red
 3 = white
 5 = orange

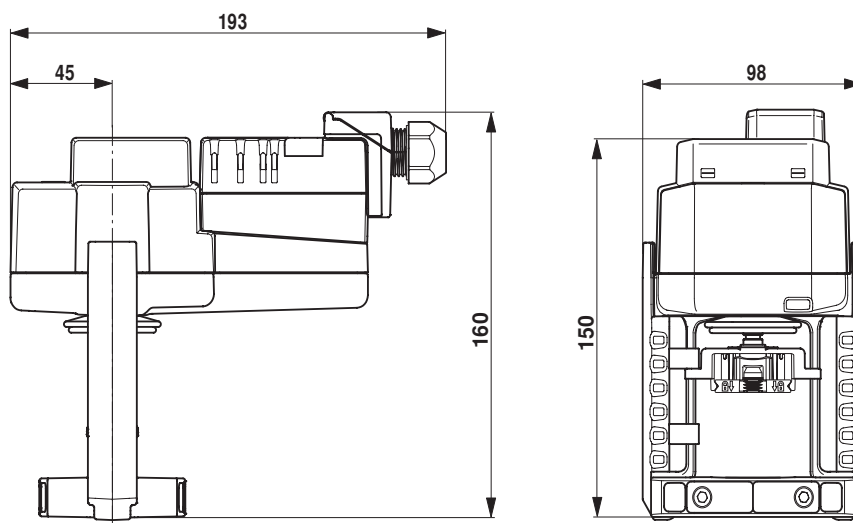
Override control (frost protection circuit)



Operating controls and indicators



- 1 Direction of stroke switch**
 Switch over: Direction of stroke changes
- 3 Push-button and LED display yellow**
 Off: Standard mode
 On: Adaptation process active
 Press button: Triggers stroke adaptation, followed by standard mode
- 4 Gear disengagement button**
 Press button: Gear disengages, motor stops, manual override possible
 Release button: Gear engages, synchronisation starts, followed by 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