



AZM 010

AZM 010 actuator is supplied
with adaptor to suit VZH valve

Features

- Control signal 0-10 Vdc
- Power supply 24 V
- Stroke 4.5 mm standard, on request 3.0 mm
- Regulation 30 s/mm
- Spring force 125 N
- Direction of operation selectable via wiring
- Including adaptor M30x1.5 to suit VZH valves
- Length of cable 2 m

Technical data

*Power supply	24 V 50/60 Hz (+20%)
Power consumption	
in operation	3 W
on starting	6 W
starting current	230 mA
stand-by current	25 mA
Control voltage	0-10 Vdc
Max operating temperature	+100°C at valve
Ambient temperature	-5 to +50°C
Ambient humidity	< 95% rH
Degree of protection	IP44
Protection class	III (IEC 60730)
Actuator travel	4.5 mm (standard) on request 3.0 mm
Running time	
**dead time	80 s
regulation	30 s/mm
Spring force	125 N
Weight	150 g
Cable length	2 m, 4 x 0.25m ²
CE conformity	
EMC directive	89/336/EEC EN 61000-6-1 EN 61000-6-2 EN 61000-6-3 Over-voltage category II EN 61000-6-4 Degree of Pollution II

* Direction of operation if power supply is interrupted:
normally closed

** After stand-by mode,
the dead time must be added to the running time

Description

For controllers with a continuous output 0-10 Vdc.
For activating valves of the VZH-series with thread M30x1.5.
Existing systems can be upgraded with this drive by employing
the adaptors. Housing of fire-retardant plastic in pure white
(as per RAL 9010); integrated position indicator.

Fitted to valve with bayonet ring M30x1.5 and bayonet nut.
Can be fitted in any position between the vertical and the horizontal.
White power cable (2 m in length on standard version, 4 x 0.25 mm²),
fixed to the housing.

Ordering

Type no.	Description
AZM 010	Actuator, 0-10 Vdc control with M30x1.5 adaptor for VZH valves

Operation

The actuator has an electrically heated, overload-proof expansion element which transfers its stroke direct to the valve. It works silently and requires no maintenance.

When the heating element is switched on from cold, the valve (after a warming-up period of about 80 seconds) starts to open, reaching the maximum stroke of 4.5 mm after about 85 seconds. When the drive is regulating, a movement of 1 mm is carried out in about 30 seconds; the stroke is monitored by a Hall sensor. The closing operation is similar (with regard to time) to the opening operation: the ex-pansion element cools down and the valve is closed by spring pressure.

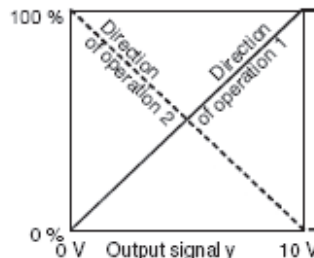
Running time (warming-up)

From cold, the drive requires a warming-up period of approx. 80 seconds. A similar period is also needed if the drive is in the stand-by position for more than 6 minutes. The drive is then ready for control operations.

Running time (control)

When the drive is in control mode, the stroke of 4.5 mm is attained in approx. 85 seconds. A change of 1 mm in the stroke can be attained within 18 to 30 seconds. This tolerance depends on how long the drive stays in one position, before the positional change is ordered.

Depending on the way it is wired up (see wiring diagram), the continuous drive can be used as 0-10 V (direction of operation 1) or 10-0 V (direction of operation 2). The output signal is then allocated line-arly to this effective stroke. The integrated positioner controls the drive as a function of positioning signal y . The continuous drive positions the valve and the position is held as soon as it has been reached. The drive goes to stand-by mode as soon as the control voltage falls below 0.3 V (in the case of direction of operation 1) or rises above 9.7 V (in the case of direction of operation 2). Afterwards, the dead time comes into effect before control can take place.



Direction of operation 1

Power is applied to wires 1 and 3a. As the output signal rises, the spindle retracts and opens either the VZH 2xx through valve or the control passage on the VZH 3xx / VZH 4xx.

Direction of operation 2

Power is applied to wires 1 and 3b. As the output signal rises, the spindle extends and closes either the VZH 2xx through valve or the control passage on the VZH 3xx / VZH 4xx.

The unused wire (red or white) should not be connected; nor should it come into contact with other wires. We recommend that it be insulated.

Split-range unit

The starting point U_0 and the control span U can be set via potentiometer. This means that the con-troller's control signal can be used to operate several regulating units in sequence or in cascade. The input signal (partial range) is amplified into an output signal of 0...10 V. This accessory cannot be fitted in the drive, but must be mounted externally in an electrical junction box.

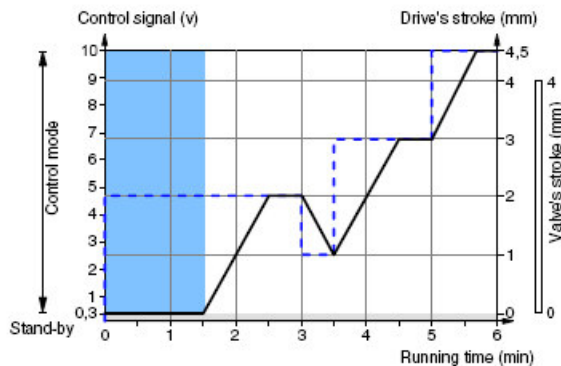
The drive can be ordered with an internal split-range function on request, in which case no accessories are needed. The following factory settings are possible: 0...4.5 V and 5.5...10 V.

Engineering and fitting notes

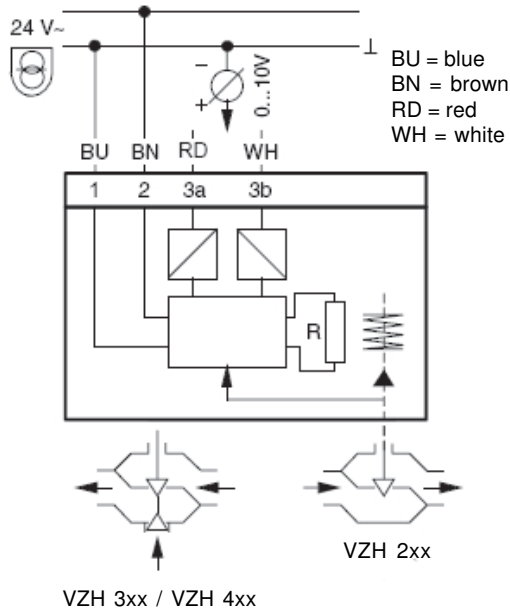
When choosing the switching contacts and the mains fuses, the start-up current of the heating element should be taken into account. The loss in power supply through the electric cable should not exceed 10%, otherwise the stated running time may not be attained. The drive is fitted onto the valve by means of the bayonet connector. To do this, the bayonet ring is screwed onto the valve first; then the drive with the bayonet nut is slotted on. No tools should be used to fit the drive onto the valve; tightening by hand is sufficient.

Fitting outdoors

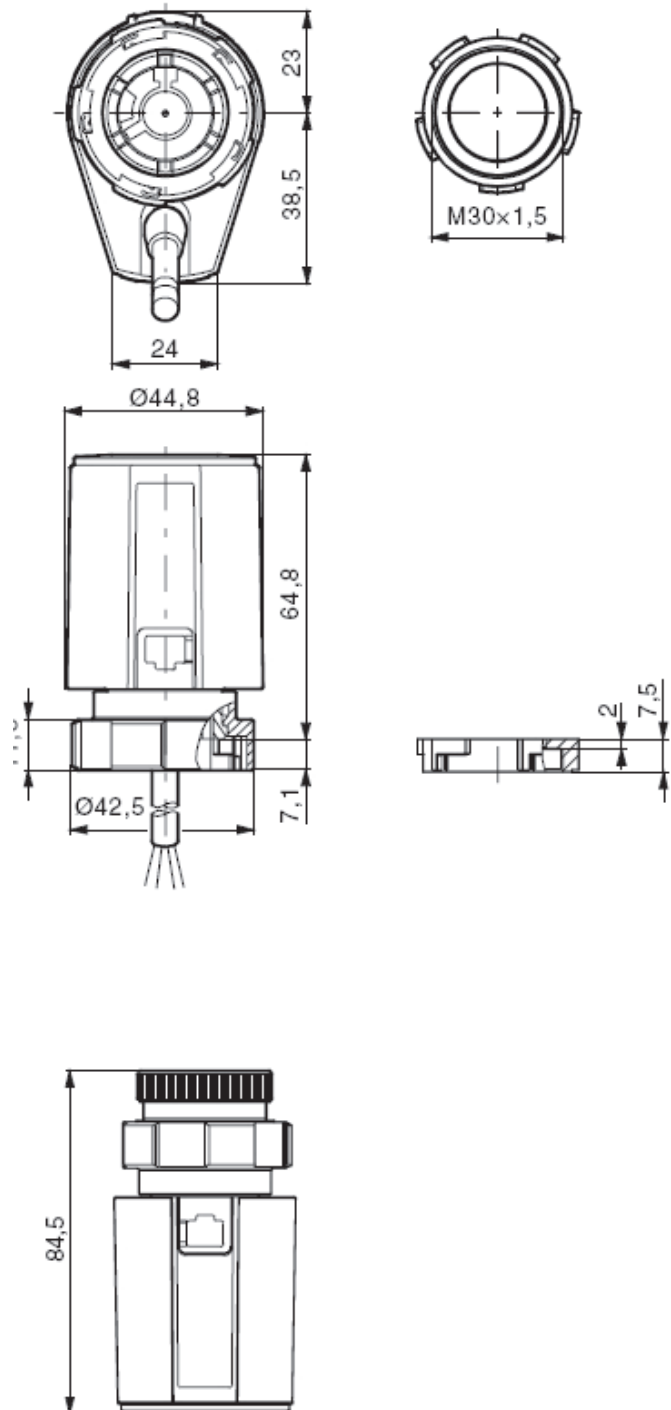
If the devices are fitted outdoors, we recommend that additional measures be taken to protect them against the effects of the weather.



Wiring



Dimensions



We reserve the right to make changes in our products without any notice which may effect the accuracy of the information contained in this leaflet.