

| Model | Control | Control signal |
|-------|----------------------------|----------------|
| MVA21 | On-Off (with cable) | 110÷230 Vac |
| MVA23 | On-Off | 110÷230 Vac |
| MVA41 | On-Off PWM (with cable) | 24 Vac |
| MVA43 | On-Off PWM | 24 Vac |



APPLICATION AND USE

MVA actuators are used in V.ZB globe valves coupling for cool/warm water control in two- and four-pipe terminal units and zone plants.

OPERATION

MVA actuators are of electro-thermal type and are controlled by an on-off signal or, for MVA41/43 only, by pulse width modulation too.

Actuators are powered by control signal; this causes the heating of a thermostatic element. Consequently a small piston comes out and, opposing to return spring, lowers the valve stem.

MVA23-43 actuators can be equipped with an auxiliary micro-switch mod. D41, which can be mounted by removing the side cover. The D41 micro-switch has the contact closed when the actuator is supplied. This is a particular application of fan-coil terminal unit since: the fan, connected to the microswitch contact on the actuator, operates with open valve and stops when valve is near to close position. This happens in order to avoid cool air throw.

MANUFACTURING CHARACTERISTICS

MVA actuators consist of a base and two thermoplastic (PA6 - 30% glass fiber) covers.

MVA21/41 models are equipped with supply cable.

Inside teh actuator there is a thermostatic element heated by a PTC thermistor.

Actuators are equipped with a guillotine system, located on the lower part, which allows an easy valve assembly by screw tightening.

TECHNICAL CHARACTERISTICS

| | |
|----------------------------------|--|
| Power supply (control signal) | |
| MVA21-23 | 110...230 V ± 10% |
| MVA41-43 | 24 V~ ± 10% |
| Consumption | 5 VA (working) 13 VA (fuse dimensioning) |
| Frequency | 50/60 Hz |
| Cold start timing | 2' (power-up to 1 st stem movem.) |
| Stroke timing | opening: 3' closing (cooling): 8' |
| Stroke | 4 mm |
| Force | 110 N |
| Temperature | |
| - working | 5T 50 |
| - storage | -25T 65 |
| Protection class | II (CEI 107-10) |
| Connection cable (MVA21/41) | two-wires 1.5 m (CEI 20-22/II) |
| Terminal board (MVA23/43) | screw type for 1,5 to 2,5 mm ² conductors |
| Nr. 1 conduit opening (MVA23/43) | rubber, with D=6 mm hole |
| Protection | IP 31 For environments with normal pollution according to IEC 730-1 (93)6.5.3 |
| Weight | 0.2 Kg |

Product conforms to EMC 89/336 directive with reference to the below-mentioned standards:

EN50081-1 for emission EN50082-1 for immunity

POSSIBLE COMBINATIONS AND CONNECTIONS

MVA actuators should be used with CONTROLLI V.ZB terminal and zone valves.

MVA21/23 actuators can be connected to any ON-OFF (110...230 V~) controller while MVA41/43 actuators can be connected both to any ON-OFF controller and to pulse width modulation controllers (24 V~); in particular with CONTROLLI RT700 series and DIGITROLL 7000 controllers.

ACCESSORIES (only for MVA23/43)

D41 SPST 2(5) A - 250 V aux. contact (contact closed when actuator is supplied)

INSTALLATION AND ASSEMBLY

For valve body assembly:

- Remove the plastic protection cover on valve spring.
- Place the actuator on the valve body oriented in the required (see Fig.1).
- Tighten A screw.
- Connect the cable following the diagram on the right and check the controllers electrical connections on the related data sheets.

CAUTION: do not supply the actuator when it is not mounted on the valve body.

Once coupling has been carried out, in order to ensure seal by valve closing, perform an operating cycle by supplying the actuator for a few minutes.

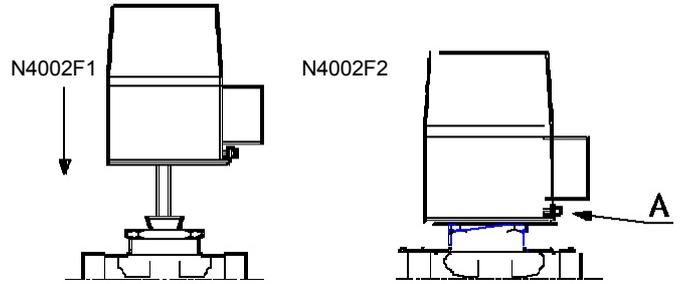
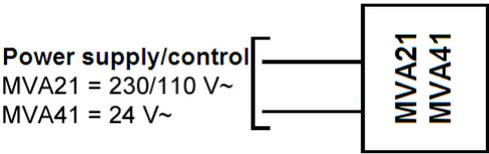
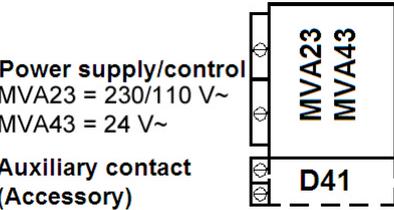


FIG. 1 **FIG. 2**

CONNECTION CABLE (MVA21/41)

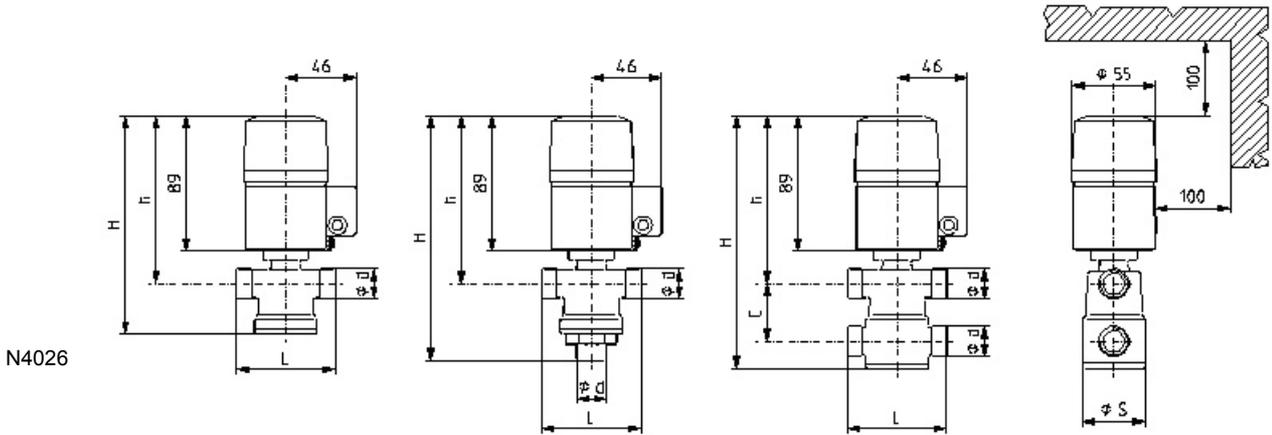


TERMINAL BOARD (MVA23/43)



N3049

ACTUATORS AND VALVE OVERALL DIMENSIONS (mm.)



| VALVE MODEL | Ø d | L | Ø S | C | H | h | Valve weight (kg.) |
|---------------------------|------|----|-----|----|-----|-----|--------------------|
| VMZ09B/10B/11B/12B/13B/1B | G1/2 | 66 | 42 | - | 169 | 112 | 0,45 |
| VMZ2B | G3/4 | 77 | 46 | - | 174 | 115 | 0,55 |
| VSZ09B/10B/11B/12B/13B/1B | G1/2 | 66 | 42 | - | 151 | 112 | 0,40 |
| VSZ21B/2B | G3/4 | 77 | 46 | - | 158 | 115 | 0,50 |
| VSZ11B/12BA/13BA1BA | G1/2 | 66 | 42 | - | 145 | 133 | 0,50 |
| VSZ21BA/2BA | G3/4 | 77 | 46 | - | 151 | 137 | 0,50 |
| VTZ09B/10B/11B/12B/13B/1B | G1/2 | 66 | 42 | 38 | 168 | 112 | 0,50 |
| VTZ21B/2B | G3/4 | 77 | 46 | 65 | 193 | 115 | 0,50 |

The performances stated on this sheet can be modified without any prior notice due to design improvement.



Automatic control systems for:
air conditioning/heating/industrial thermal process.