All models are fitted with spring return device:

A: spring return with retracted joint (valve stem up)

C: spring return with protruding joint (valve stem down)

(*) The time for 1 mm joint movement is 1s. For timing related to different strokes use the following formula:

\[ \text{Time (s)} = 1 \times \text{stroke (mm)} \]

**APPLICATION AND USE**

MVHF actuators have linear characteristic (linear ratio between input signal and valve coupling joint movement). They are used for fluid control in air-conditioning and heating systems and in industrial processes. The control signal can be set as proportional or floating by acting on the dip switches. They are designed for direct coupling on all CONTROLLI globe valves and they may also be used easily on other manufacturers’ valves having different stroke between 9 and 50 mm.

**OPERATION**

The actuators are equipped with bidirectional electrical motor; they self-adjust if the valves have different stroke, granting a constant torque at the valve mechanical stroke ends regardless of their position.

They are provided with a spring device which, in case of power loss, makes the actuator return to the rest position.

All models are also provided with a feedback output signal indicating valve position.

**Note: do not use the actuator disassembled from the valve.**

**MANUFACTURING CHARACTERISTICS**

The actuator consists in a die-cast aluminium housing, which includes the mounting bracket for connection to valve body. Reduction gears supported by ball bearings. Movement is transmitted to a rack-and-pinion mechanism connected to the valve stem through a suitable joint. Internal electronic card with easily accessible terminals for electrical connections. Spring return device consisting of a flat spring placed outside the main shaft. The actuator is maintenance-free.

**TECHNICAL CHARACTERISTICS**

- **Power supply**: 24 Vac +25%/-20%, 24 Vdc ±20%
- **Consumption**: 15 VA / 7W*
- **Dimensioning**: 30 VA
- **Frequency**: 50...60 Hz
- **Stroke**: 9...50 mm
- **Stroke time**: See available models
- **Thrust**: 700 N
- **Temperature**
  - operating: -15T 50 °C
  - storage: -25T 65 °C
- **Allowed room humidity**: Class R according to DIN 40040

* Minimum required Watt value when powered by DC voltage: 20W

The product complies with EMC 2004/108/CE directive according to the EN 61326-1 standard.

**POSSIBLE COMBINATIONS AND CONNECTIONS**

All actuators can be connected to any controller, providing that the relevant output signal complies with the requirements at “Technical Characteristics” paragraph.

**ACCESSORIES**

DMVH 2 auxiliary microswitches (SPDT 10 (3) A-250V~) adjustable on the whole stroke. Microdisconnection type 1B according to IEC 730-1(93)6.4.3.2.

It is possible to place the cams so that the microswitches act according to the required position. Keep in mind that when the lever is on the cam protruding part, the contact is closed between b and c and open between c and a (see figure below).

Make the electrical connections in compliance with the rules in force. Attention: during operation, the cables must not interfere with the cams and the gears.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>POWER SUPPLY (Vac/Vdc)</th>
<th>CONTROL TYPE</th>
<th>Valve stroke (mm)</th>
<th>Stroke time (s)</th>
<th>Terminal board</th>
<th>Control signal</th>
<th>Output indication</th>
<th>Voltage outside power supply output</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVH56FA</td>
<td>24 V</td>
<td>floating</td>
<td>16.5</td>
<td>17</td>
<td>N. 2 contact</td>
<td>Floating</td>
<td>G0-Y</td>
<td>2...10 Vdc (max 2 mA)</td>
</tr>
<tr>
<td>MVH56FC</td>
<td>24 V</td>
<td>proportional</td>
<td>25</td>
<td>25</td>
<td></td>
<td>Proportional</td>
<td>G0-G1</td>
<td>16 Vdc (max 25 mA)</td>
</tr>
</tbody>
</table>

MVH56FA and MVH56FC Models

G0-Y: 2 SPST contacts

G0-G1: 2 SPST contacts

N. 2 conductor opening

Protection degree

IP 55 DIN 40050 (IEC 529)

For highly polluted environments according to IEC 730-1(93)/6.5.3

Weight

4 Kg

Control signal

Floating

Proportional

- voltage

0...10V (factory setting), 2...10V/4...7 V/8...11V/1...5V/6...9V

- current

see MVHFS5 accessory

Output indication

G0-Y

2...10 Vdc (max 2 mA)

Voltage outside power supply output

G0-G1

16 Vdc (max 25 mA)
Automatic control systems for:
air conditioning/heating/industrial thermal process.

ISO 9001

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