

MODEL	POWER SUPPLY (Vac/Vdc)	CONTROL	Valve stroke (mm)	Stroke time (s)		
				With motor	Spring return with load	Spring return without load
MVH56FA MVH56FC	24 V	floating or prop.	16,5	17	23	15
			25	25	35	23
			45	48	64	41



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:
Time (s) = 1 x 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

Terminal board
N. 2 conduit opening

Protection degree

Weight
Control signal

Floating
Proportional
- voltage

-current

Output indication

G0-Y

Voltage outside power supply output

G0-G1

screw-type 1,5 mm² wires
plastic punchable, replaceable by PG 13,5 compression glands
IP 55 DIN 40050 (IEC 529)
For highly polluted environments according to IEC 730-1(93)/6.5.3
4 Kg

2 SPST contacts

0...10V (factory setting), 2...10V/4...7V/8...11V/1...5V/6...9V
see MVHFS5 accessory

2...10 Vdc (max 2 mA)

16 Vdc (max 25 mA)

* 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.

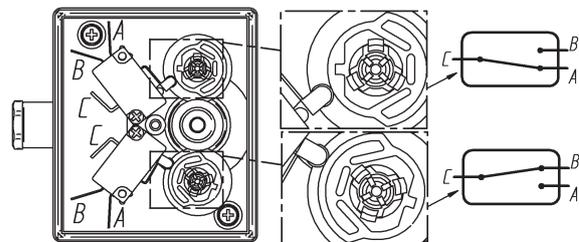
POSSIBLE COMBINATIONS AND CONNECTIONS

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.

- 244** Stem heater for valve with AG62
- 248** Stem heater 24 V~, 50 W (for applications with fluid temperature <-10 °C)
- AG50** Linkage kit for VMB16/VBG/VSG (16,5-25 mm stroke) valves
- AG51** Linkage kit for VMB16/VBG/VSG (45-mm stroke) and SS/DS/3V/VSS/VBS/VMS/VBAA valves.
- AG62** Kit for VMB and VSB valve assembly
- DMVF** 2 stroke end microswitches with electronic control, not adjustable.
- MVHFS5** Accessory for 4÷20 mA control signal. This accessory is factory-supplied with MVH56FA/C actuators.
- MVHT** Valve body-actuator spacer reducing the actuator direct exposure in case of installation with high-temperature fluids.
Dimensions: Ø 120 mm; h = actuator height + 102 mm

INSTALLATION AND MOUNTING

The actuator can be mounted in the positions shown in Fig. 3. It is advisable to use the motorized valve with MVHT spacer, in order to reduce the actuator working temperature in case of fluids at high temperatures (approximately > 120° C) in the valve body. For fluids over 160 °C avoid mounting the actuator in vertical position on the valve so as to avoid the direct exposure to heat sources.

Carry out the electrical connections by removing the cover, in compliance with the rules in force. For valve mounting, follow the assembly instruction inside the package.

These actuators are factory-supplied with 0...10 V- control signal. To select different ranges, move the "DIP" microswitches (see fig. 1 and 2).

For 4...20 mA range it is necessary to select 2...10 range and use the MVHFS5 accessory.

To reverse the action direction, move the DIP 7 from OFF to ON.

ELECTRONIC BOARD

OPERATION MODE SELECTION (CONFIGURATION DIP)

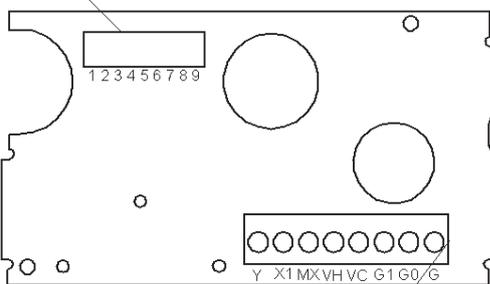
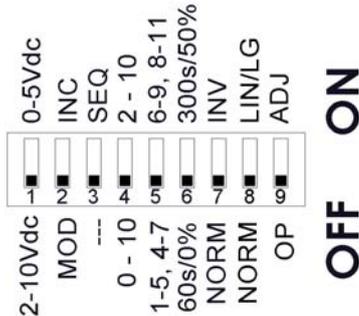


FIG. 1

TERMINAL BOARD

DIP SWITCH SETTING

FACTORY SETTING



WIRING DIAGRAMS

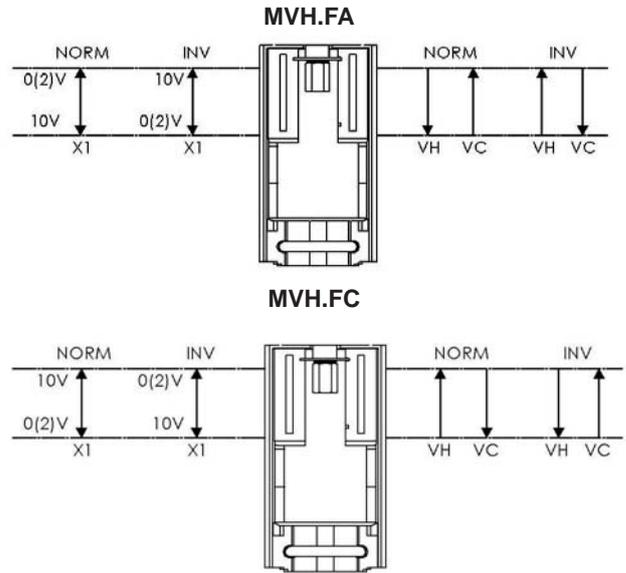
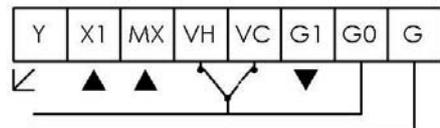


FIG. 2

DMVF

Control signal (Y)	Relay KC1	Relay KC2
0 ÷ 0,5V	KC1 to K1	KC2 to K3
0,5 ÷ 9,5V	KC1 to K2	KC2 to K3
9,5 ÷ 10V	KC1 to K2	KC2 to K4

TERMINAL BOARD



MOUNTING POSITIONS

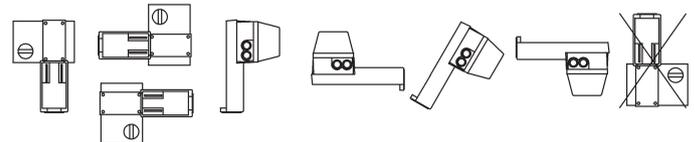
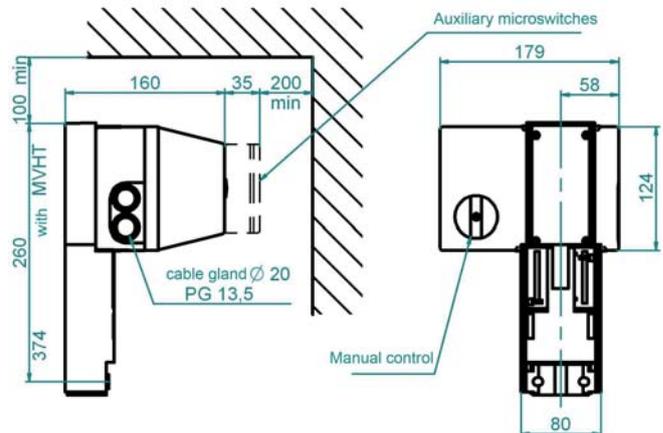


FIG. 3

YES

NO

OVERALL DIMENSIONS (mm)



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