

Model	Stroke time			Power supply	Control
	16,5mm	25mm	45mm		
MVH56F	26s	40s	70s	24Vac/dc	prop.
	300/60s	300/60s	300/60s		3p



APPLICATION AND USE

MVH56F 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 a stroke between 9 and 50mm.

OPERATION

The actuators are equipped with bidirectional electrical motor, they self-adjust according to the valve stroke, granting a constant torque at the valve mechanical stroke ends regardless of their position. All models are also provided with a feedback output signal indicating the 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 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.

The manual control knob is placed on the front part of the actuator; the knob is in thermoplastic material.

The actuator is maintenance-free.

POSSIBLE COMBINATIONS AND CONNECTIONS

The actuator can be connected to any controller, providing that the relevant output signal complies with the requirements at "Technical Characteristics" paragraph.

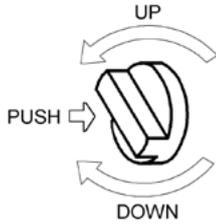
TECHNICAL CHARACTERISTICS

Power supply:	24Vac \pm 10%; 24Vdc \pm 20%;
consumption:	12 VA;
dimensioning:	15VA;
frequency:	50-60Hz;
stroke:	9-50mm;
stroke time:	see model table;
force:	1500N;
operation temperature:	-15T50°C;
storage temperature:	-25T65°C;
allowed room humidity:	Class R according to DIN 40040;
terminals:	screw-type, 1,5mm ² wires;
n. 2 cable glands:	plastic punchable, replaceable by PG13,5 compression glands;
protection degree:	IP 55 DIN 40050 (IEC 529); for highly polluted environments according to IEC 730-1(93)/6.5.3;
weight:	4kg;
control signal:	
- 3point control:	2 SPST contacts;
proportional control:	
- voltage:	0-10V (factory settings) 2-10V/4-7V, 8-11V/1-5V, 6-9V; see MVHFS5 accessory;
- currency:	G0-Y 2-10Vdc (max 2mA);
output indications:	
outside power supply output:	
- voltage:	G0-G1 16Vdc (max 25mA);

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

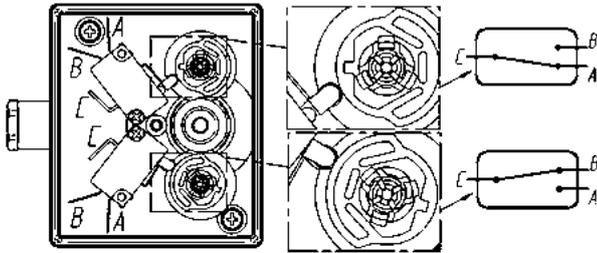
MANUAL OVERRIDE OPERATION

To use the manual control, it is necessary to push and hold down the knob; turn clockwise to move the valve stem downwards and counter clockwise to move it upwards (see figure below). Be careful not to force the manual control when the actuator stroke end is reached. Please note that you do not have to disconnect power supply to use the manual control.



ACCESSORIES

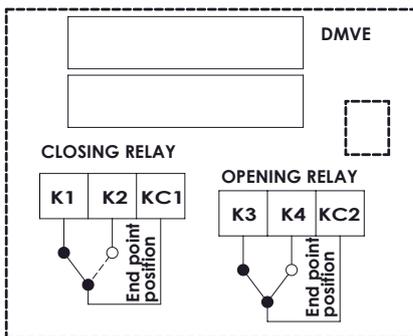
DMVH 2 auxiliary microswitches (SPDT 10 (3) A-250V~) adjustable on the whole stroke. Microdisconnection type 1B according to IEC 730-1(93)/6.4.3.2. It is possible to place the cams so that the microswitches act according to the required position. Keep in mind that when the lever is on the cam protruding 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, paying attention that, during operation, the cables do not interfere with the cams and the gears.

AG62 248 Kit per accoppiamento a valvole VMB e VSB Stem heater 24V~, 50W (for applications with fluid temperature <math>< 10^{\circ}\text{C}</math>);

DMVE End point auxiliary switches (electrical rate 24V AC/DC, 4A max);



MVHF55 Accessory for 4-20mA control signal. This accessory is factory-supplied with the actuator.

MVHT Valve body-actuator spacer reducing the actuator direct exposure in case of installation with high-temperature fluids. Dimensions: \varnothing 120mm; h = actuator height + 102mm;

GMVH Thermal insulation for MVH actuators.

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 $> 120^{\circ}\text{C}$) 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.

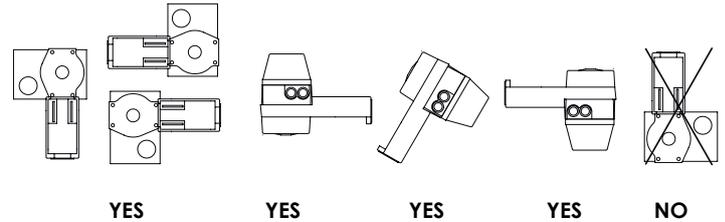
Carry out the electrical connections by removing the cover, in compliance with the rules in force. For valve mounting, follow the assembly instructions inside the package.

These actuators are factory-supplied with 0-10V- control signal. To select different ranges, move the "DIP" microswitches.

For 4-20mA range it is necessary to select 2-10V range and mount the resistance as shown on installation instructions of the actuator.

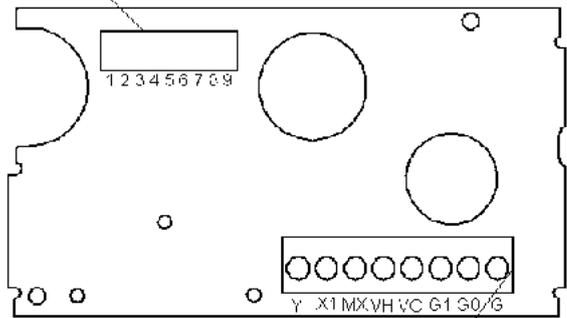
To reverse the action direction, move the DIP n. 7 from OFF to ON.

Mounting positions (fig 3)



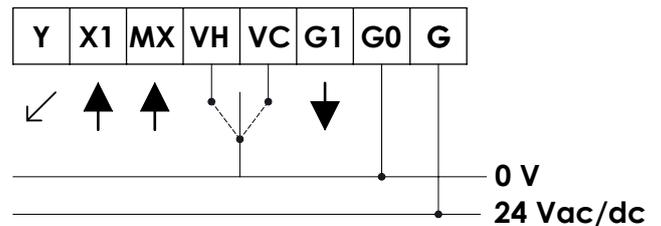
Electronic board

OPERATION MODE SELECTION (CONFIGURATION DIP)

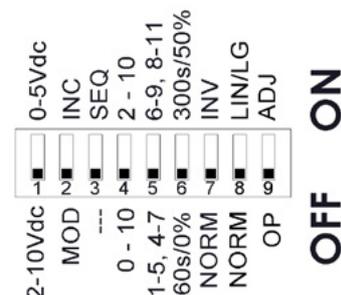


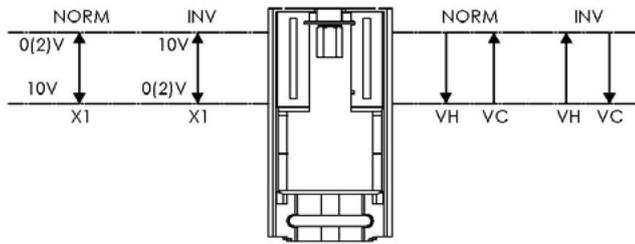
Terminal BOARD

Terminal



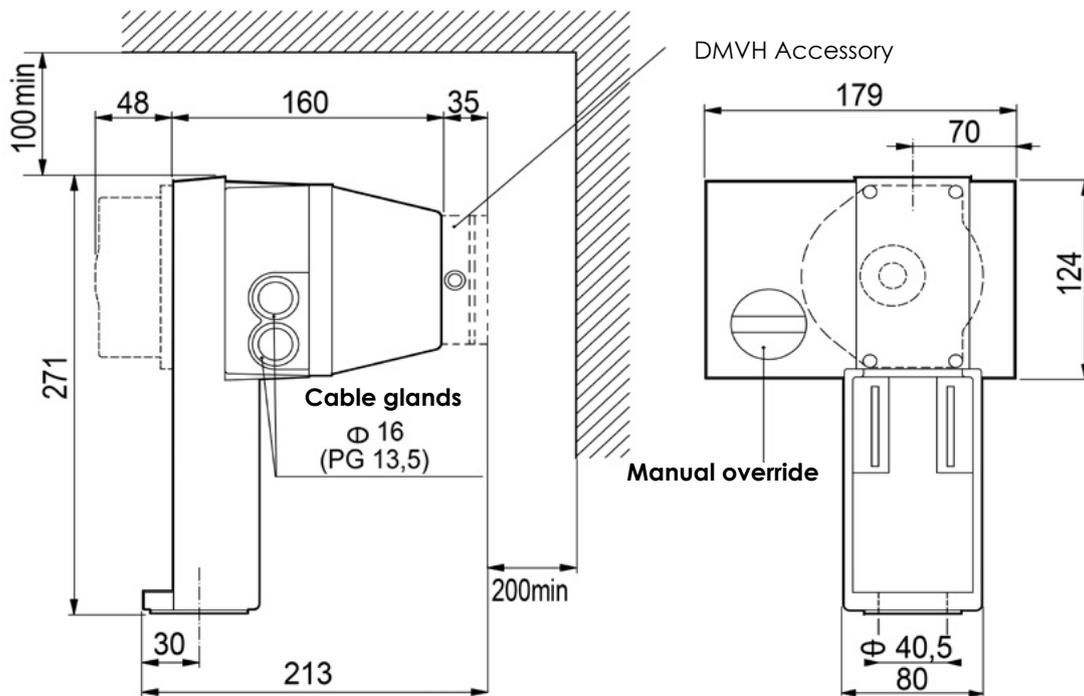
DIP switches - factory settings





Terminal	Function	Description
G	24Vac/dc	Power supply voltage
G0	24Vac rtn	
X1	Mod. Input (+)	Modulating control signal (0-10Vdc)
Mx	Mod. Input (-)	
Vh	Open input	Control signal short circuited on G0
Vc	Close input	
G1	16Vdc	Auxiliary power supply max. 25mA
(G0)	Common	
Y	2-10Vdc signal	Position 0-100% status indication
(G0)	Common	

DIMENSIONS [mm]



The performances stated in this sheet can be modified without any prior notice