

MODEL	STROKE TIME FOR CONTROLLI VALVES			POWER SUPPLY (Vac)	CONTROL
	16,5 mm	25 mm	45 mm		
MVH3K	26 s	40 s	70 s	24	Prop.
	300/60s	300/60s	300/60s		Floating



APPLICATION AND USE

MVH3K 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 50 mm.

The very high force of the actuator (3000 N) enables high performances.

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.

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

All actuators can be connected to any controller, providing that the relevant output signal complies with the requirements at "Technical Characteristics" paragraph. In particular they can be connected to CONTROLLI 500-line controllers, DIGITROLL 3000, and 200, 300, 400-line controllers and all MicroNet models.

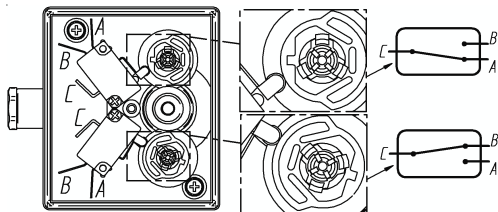
TECHNICAL CHARACTERISTICS

Power supply	24 Vac, +25%÷ -20%
Consumption	25 VA
Dimensioning	30 VA
Frequency	50...60 Hz
Stroke	9...50 mm
Stroke time	See available models
Thrust	3000 N
Temperature	
- operating	-15T 50 °C
- storage	-25T 65 °C
Allowed room humidity	Class R according to DIN 40040
Terminal board	screw-type 1,5 mm ² wires
N. 2 conduit opening	plastic punchable, replaceable by PG 13,5 compression glands
Protection degree	IP 55 DIN 40050 (IEC 529)
	For highly polluted environments according to IEC 730-1(93)/6.5.3
Weight	4 Kg
Control signal	
Floating	2 SPST contacts
Proportional	
- voltage	0...10V (factory setting), 2...10V/4...7V/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)

The product complies with EMC 2004/108/CE directive according to the EN 61326-1:2006 standard.

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.

248 Stem heater 24 V~, 50 W (for applications with fluid temperature <math>< -10\text{ }^\circ\text{C}</math>)

AG50 Linkage kit for VMB16/VBG/VSG (16,5-25 mm stroke) Controlli valves assembly

AG51 Linkage kit for VMB16/VBG/VSG (45-mm stroke) and SS/DS/3V/VSS/VBS/VMS/VBAA Controlli valves assembly .

DMVF 2 stroke end microswitches with electronic control, not adjustable.

MVHFS5 Accessory for 4÷20 mA control signal. This accessory is factory-supplied.

MVHT Valve body-actuator spacer reducing the actuator direct exposure in case of installation with high-temperature fluids.

Dimensions: \varnothing 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 $> 120\text{ }^\circ\text{C}$) in the valve body. For fluids over $160\text{ }^\circ\text{C}$ 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...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 1...5 V 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)

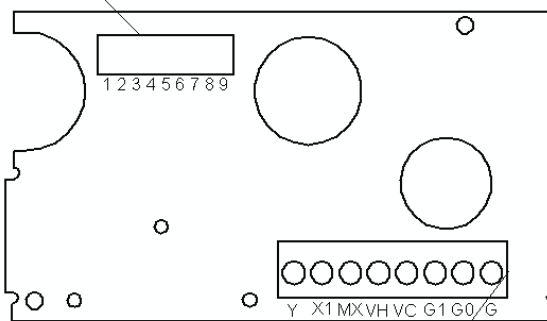


FIG. 1 TERMINAL BOARD

WIRING DIAGRAMS

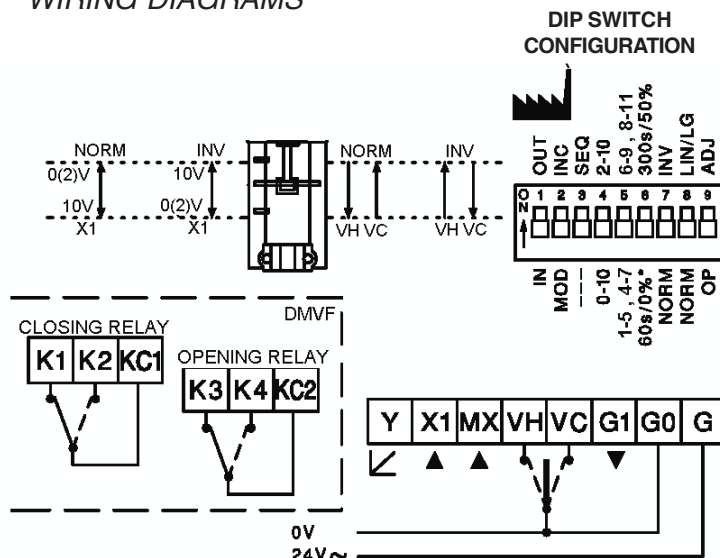


FIG. 2

MOUNTING POSITIONS

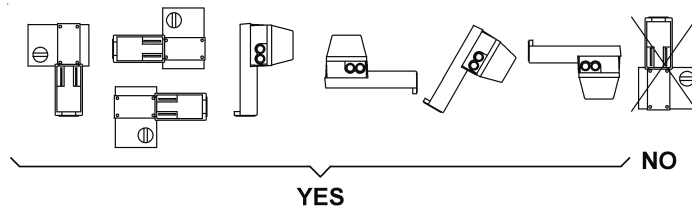


FIG. 3

DELTA P MAX (BAR) WITH CONTROLLI VALVES

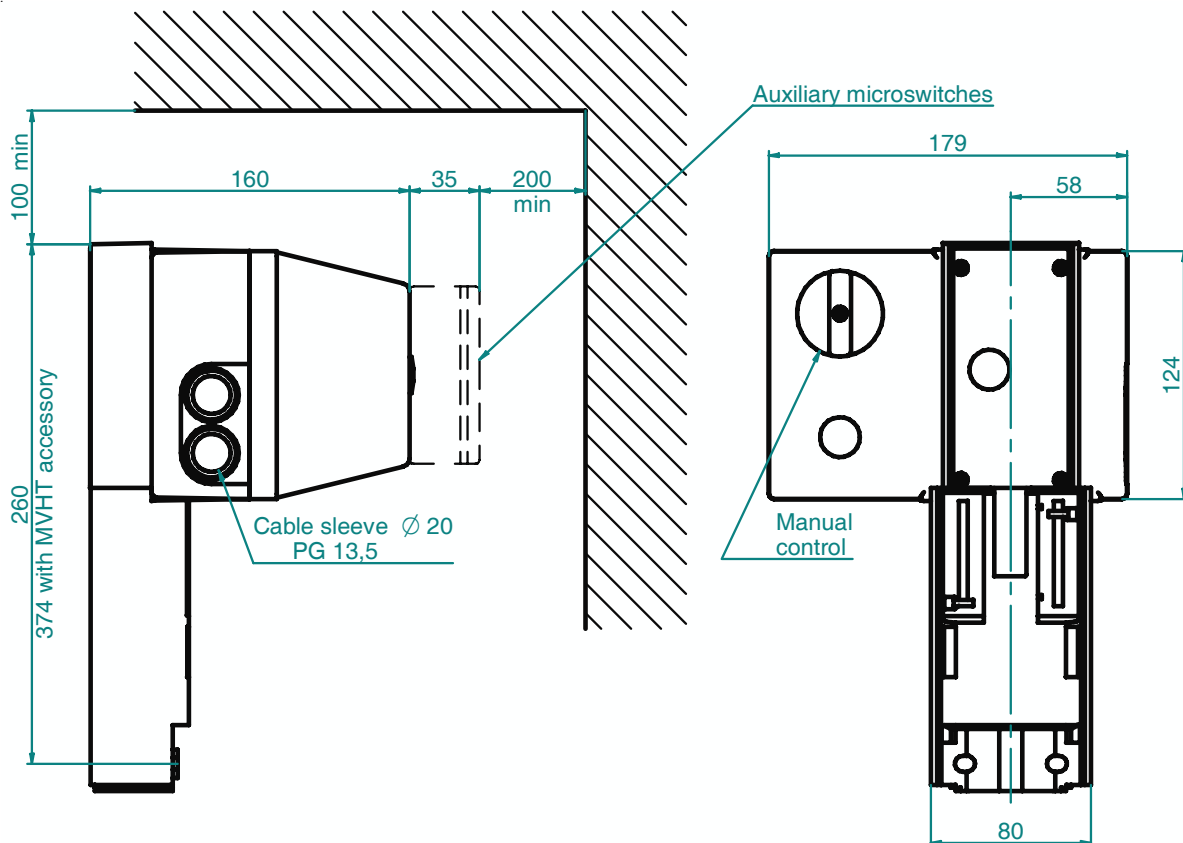
Two-way

	80	100	125	150
2FGA	5,5	3,5	--	--
2FAA/2FAAP	5	--	--	--
2FGB	5,7	3,7	2,3	1,6

Three-way

	80	100	125	150
3FGB	5,7	3,7	2,3	1,6
3FSA	5,5	--	--	--
3FSAS	5	--	--	--
3FAA/3FAAP	5,3	3,3	2,1	--

OVERALL DIMENSIONS (mm)



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

Rev. a

07/10

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DBL332E

CONTROLLI

by Schneider Electric

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

ISO 9000