

MODEL	STROKE TIME (s) FOR CONTROLLI VALVES(*)			POWER SUPPLY (V~)	CONTROL
	16,5	25	45		
MVL26	22	33	60	230 V	3p
MVL36	22	33	60	24 V	pot.
MVL46	22	33	60	24 V	3p

(*) The time for 1 mm joint movement is 1,33 s.
For timing related to different strokes use the following formula:

$$\text{Time (s)} = 1,33 \times \text{stroke (mm)}$$

APPLICATION AND USE

MVL actuators have linear characteristic (linear ratio between input signal and valve coupling joint movement). They are used for fluid control in air-conditioning-heating systems and in industrial processes.

Three different control types are available:

- floating (3p)
- 165 Ohm proportional potentiometric (pot.)

They are designed for direct coupling on all CONTROLLI globe valves (add AG31 linkage for V.B valves) and they may also be used easily on other manufacturers' valves with 0..45 mm stroke for floating action models or 10..45 mm stroke for proportional action models.

OPERATION

Actuators are fitted with an asynchronous bidirectional motor and with a torque limit device that makes the actuators self-adjusting on valves with a different stroke, ensuring - moreover - a constant force to the valve mechanical stroke-ends regardless of their position.

Voltage/current proportional models are also provided with both a feedback output signal indicating valve position and a device to select direct or reverse action.

All models are equipped with a manual control in order to override the actuator in case of control and/or power supply failure.

MANUFACTURING CHARACTERISTICS

The actuator consists in a die-cast aluminium housing, which includes mounting bracket and removable fire resistant terminal cover with captive bolts.

Reduction gears supported by ball bearings. Movement is transmitted to a rack-and-pinion mechanism to which, through a suitable joint, the valve stem is connected.

Internal electronic card with easily accessible terminals for electrical connections. Micro end-switches operated by a limit torque device. Manual knob in thermoplastic material, fitted on the front side.

The actuator does not require maintenance.



TECHNICAL CHARACTERISTICS

Power supply	24, 110 and 230 V ~ ± 10%
Consumption	12 VA
Dimensioning	15 VA
Frequency	50...60 Hz
Stroke	
MVL26/46	0...45 mm
MVL36	10...45 mm
Stroke time	See available models
Thrust	1500 N
Working temperature	-15T 50 °C
Storage temperature	-25T 65°C
Allowed room humidity	Class R according to DIN 40040
Terminal board	screw-type for wires from 1,5 up to 2,5 mm ² max
N. 2 conduit opening	rubber-made punchable on hole D=16 mm, 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	3 Kg (4 Kg. with spring return)
Control signal	
Floating	2 SPST contacts
Proportional	
- potentiometric	165 ohm

Output indication (for MVL36 only)

- voltage	0...10 V- (2 mA max)
	10...0 V- (2 mA max)
- current	0...200µA

The product complies with EMC 2004/108/CE directive according to the following standards:

EN50081-1 for emission EN50082-1 for immunity.

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 the 200, 300 and 400-line controllers. The following accessories are available:

MODEL	DESCRIPTION
DMVL	2 auxiliary microswitches (SPDT 10 (3)A-250 V~) adjustable on the whole stroke. Microdisconnection type 1B according to IEC 730-1(93)/6.4.3.2
MVLPAA2	for MVL26 Electronic cards 1 auxiliary
MVLPAA4	for MVL46 1Kohm potentiometer
MVLHT	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 m m
245	Stem heater 24 V~, 50 W (for applications with fluid temperature <-10 °C)
AG31	Kit for VMB and VSB valve assembly

INSTALLATION AND MOUNTING

The actuator can be mounted in the positions shown in Fig. 2. It is advisable to equip the motorized valve with MVLHT 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 to existing standards. For valve mounting, follow the assembly instruction inside the package.

Models with electronic card for proportional signal

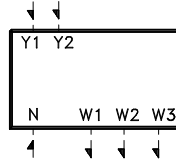
Potentiometric (MVL36)

To reverse the rotation direction, exchange the connections at M and V+ terminals.

TERMINAL BOARDS

MVL 26 (230 V~)

MVL 46 (24 V~)

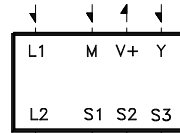


Power supply control | N-Y1 (**)
| N-Y2 (***)

(**) Joint moves upwards
(***) Joint moves downwards

W1 Auxiliary potentiometer MVL 26/46
W2 Central
W3

MVL 36



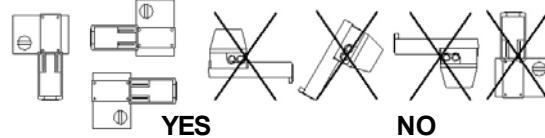
L1 Phase | 24V~ ±10% power supply
L2 Neutral

M Common
V+ +15 V Output (1)
Y Control signal (2)

S1 Analogue common
S2 0..10V or 0..200µA (3)
S3 10..0V or 200..0µA

- (1) For the model MVL36. Connect the central of the controller potentiometer (165 ohm) to terminal Y, one side to terminal M and the other one to terminal V+.
- (2) With jumper SW3 in A position and increasing control signal the joint moves upwards.
- (3) Connect the eventual indicator to the current input at terminals S3 (or S2) and S1 (max 2mA). Connect the indicator with voltage input to terminals S3 (or S2) and M (max 2mA). With joint up between M (S1) and S2 min. (between M (S1) and S3 max) voltage (current) value.

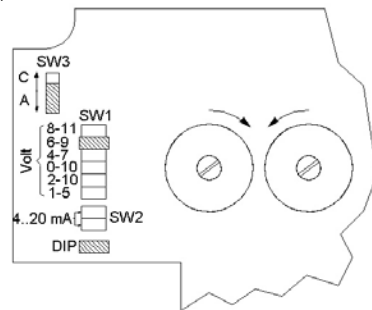
MOUNTING POSITIONS



N4009

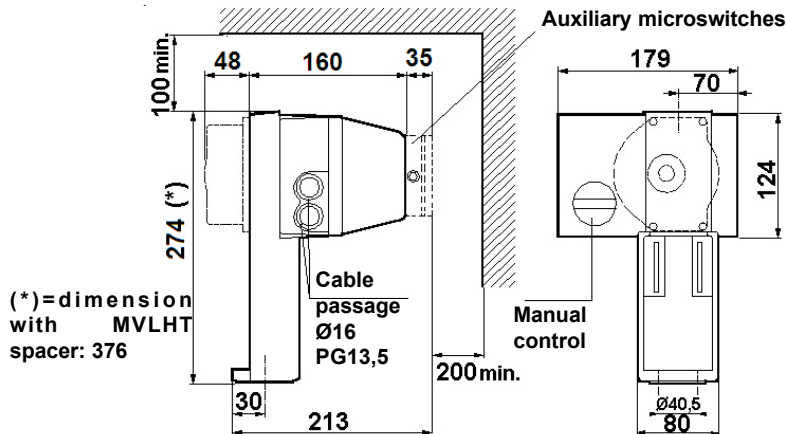
FIG. 2

ELECTRONIC CARD



N3012

OVERALL DIMENSIONS (mm)



N4008

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

