MP200

Short Stroke Linear Actuator

Product Description

The MP200 is a compact electro-motoric actuator providing fine fluid control together with the VP223R pressure independent control valves

Versions are available as either 3 point floating or a selectable range of modulating voltage control signals.

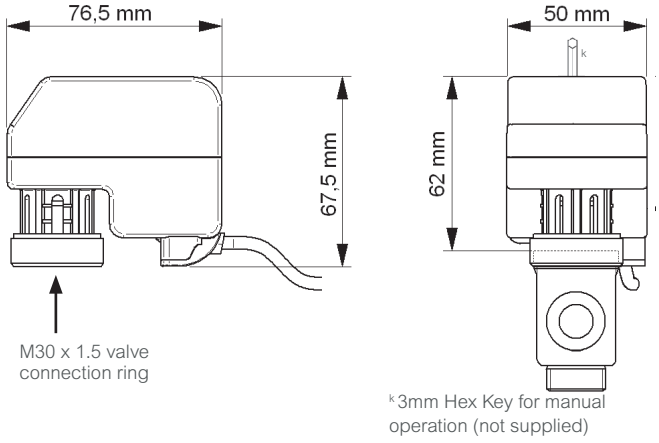
Stroke indication and manual override on all models.

Specifications

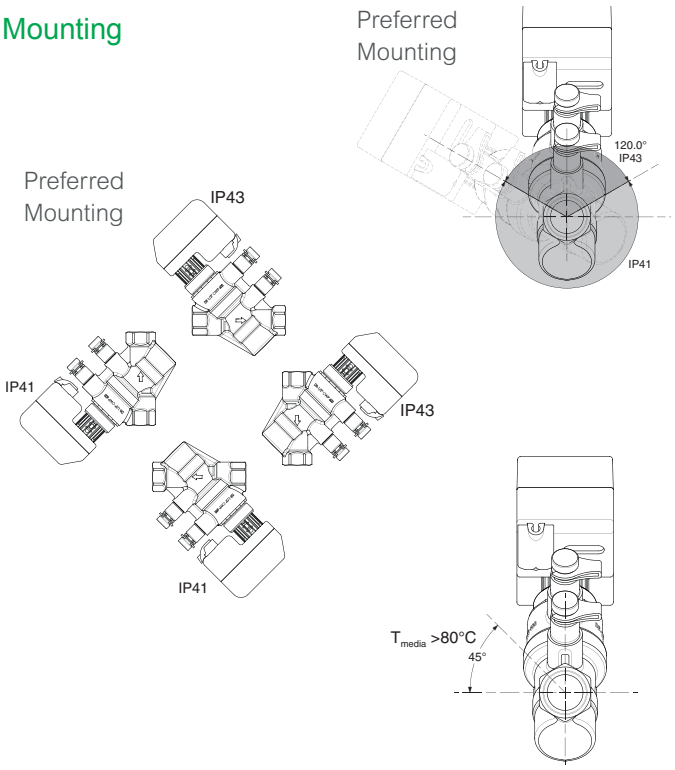
Part Numbers 0…10V Modulating Control 3 Point Floating, 24V 3 Point Floating, 230V	 MP200-24M MP200-24F MP200-230F
Stroke	3.5mm / 5mm
Speed	18s/mm (50Hz), 15s/mm (60Hz)
Connection cable	3 wire 1,5 m
Full stroke time on VP223R valve	63s (50Hz) 52s (60Hz)
Suitable for valve types	VP223R (DN15-32)
Recommended controller 'time out' function	120% of full stroke time (floating modules)
Supply Voltage MP200-24F/MP200-24M MP200-230F	 21.6…26.4 Vac (50/60Hz) 207…253 Vac (50/60Hz)
Power consumption MP200-24F MP200-230F MP200-24M	 0.6W (0.7VA) 1W (5VA) 1.0W (1VA)
Environmental Working temperature Storage temperature	 -5…55°C -25…65 °C
Protection class	IP43/IP41 (dependant on mounting orientation)
Sound power level	35 dBa
Weight	162 g
Humidity	Max 95% non-condensing
Standards CE marked according to the following directives:	 EMC 2004/108/CE to EN 61326-1. LVD 2006/95/CE to EN 61010-1 standard for 230V products.

Note: The floating actuators (MP200-24F / MP200-230F) have no end switches for automatic shut off when the valve is fully open or closed. These floating actuators are intended for use with controllers with a time out facility. If the floating actuators are to be used with an on/off thermostat, a separate delay off timer should be used to cut the driven power to the actuator.

Dimensions



Mounting



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Operation

MP200 actuators are electric floating or modulating. The valve stem movement is produced by rotation of a screw spindle connected, through a gear train, to a synchronous bidirectional motor.

An internal magnetic clutch limits the torque on the valve stem, avoiding the use of microswitches and protecting the actuator from overload. Under floating control the actuator should be set to operate at no more than 120% of the valves full stroke time to save on electrical consumption and noise.

The Modulating MP200-24M uses a micro-processor based high performance positioner to ensure accurate stroke position and flow control in the valve. The close-off position is self adjusting by means of an automatic synchronisation function. Synchronisation is carried out when power is switched on and the zero point calibrated when the valves end stop closing limit is reached.

All MP200 models allow manual override by means of a socket hex key (3 mm). The actuator has a detachable cable for 3-wire electrical connection. The actuator requires no maintenance.

NOTE: It is necessary to disconnect power to the actuator before operating the manual override.

Mounting and Checking the Flow Setting

Before the MP200 is mounted onto the VP223R pressure independent control valve, it is advisable, if not already done so, to set the flow to the required design flow rate.

If maximum flow rate has already been set, a valve tag/hanger ID should have been completed and attached to the valve.

If the maximum flow rate has been set using the hand flow setting knob, the top section of the valve tag should be completed, if the valve tag/hanger ID has the bottom section completed, presume a balancing engineer has finely set the flow on the valve already. In this instance the actuator should be mounted and commissioned as necessary.

If the desired flow through the valve is known, the flow can be set using the hand flow setting knob. The valve data sheet should be consulted for the setting position needed. Once done the upper portion of the valve tag/hanger ID should be completed and the actuator mounted and commissioned as necessary.

If the desired flow is not known and it is necessary to fit the actuator for commissioning purposes, then the actuator may be fitted but the valve tag/hanger ID should not be filled in and left for the balancing engineer at later stage.

The actuator can be mounted in any position but it is advisable to orientate the installation so that condensation or any potential water leaks can not enter the housing. A ring nut M30 x1.5 allows for easy hand coupling to the valve, tools are not necessary and must not be used.

Control Signal And Stroke Adjustment

The MP200-24M can be controlled by 7 different voltage control signals. The MP200-24M stroke can be adjusted to drive the 5mm stroke Optima Compact Valve from Frese.

Control Signal And Stroke Adjustment Switch

Factory Delivery:

- Switch 1-2 ON, Switch 3-8 OFF
- Function: 3.5mm Stroke, 0…10V.

NOTE: The lower voltage range will extend the actuator screw to close the valve.

0…10V is the default control signal for any conflict in switches 2-8.

Selection of control signal input is made by moving the applicable Dip. switch to ON. Only "one" switch between 2…8 must be on at the same time.

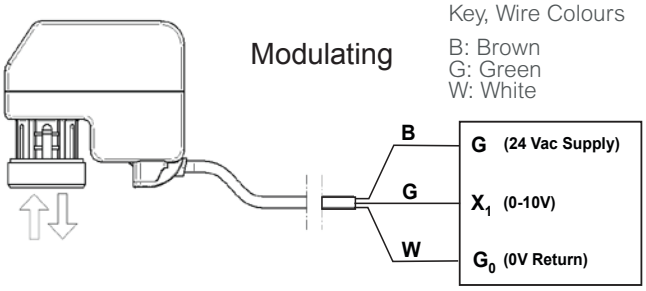
MP200-24M Version

ON	OFF	N. DIP.
3.5 mm	5.0 mm	1
0..10V	–	2
6..9 V	–	3
1..5V	–	4
2..10 V	–	5
4..7 V	–	6
6..10 V	–	7
8..11 V	–	8

Electrical Connections

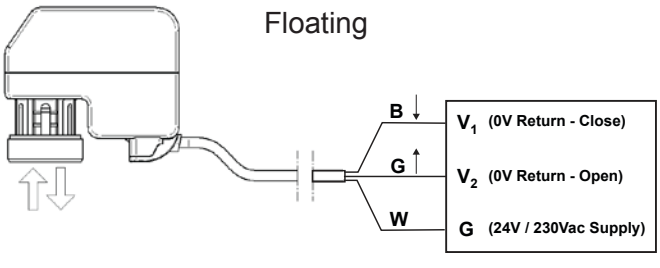
Key, Wire Colours
B: Brown
G: Green
W: White

Modulating



NOTE: VP223R valves are stem up open

Floating



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