

MZ140-24M

Modulating Thermo-electric Actuator



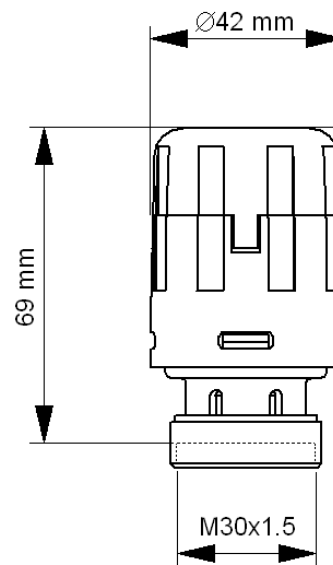
Product Description

The MZ140-24M is a thermoelectric actuator designed to provide modulating control together with the VZ*08* zone valve. The MZ140-24M actuator at power off or 0 Vdc control signal will ensure the VZ*08* zone valve is closed. With a control signal of 10 Vdc the actuator will fully open the valve.

Specifications

Nominal Power Supply	21.8...26.8 Vac 50/60 Hz
Control Signal	0...10 Vdc
Input impedance	95 k Ohms
Starting current	0.17A
Working current	75 mA
Power consumption	2 W
Opening/closing time	See fig. on page 2
Temperature working	2...50°C
storage	-45...60°C
Humidity	Max 95 % non condensing
Stem force	140 N
Stroke	2.5mm
MZ140-24M	
Coupling ring	M30x 1.5mm
Max. Ambient temperature	50 °C
Power cable	2m 3-pole cable (0.35 mm ²)
Material	
Fire-resistant case	Class V0
Protection class	
Vertical mounting	IP44
Horizontal mounting	IP41
Suitable for valves	See table on last page
Product conforms, for CE marking, to the following directives:	EMC 2014/30/EU according to the EN 61326-1 standard

Dimensions (mm)



Ordering Table

Part number	Type Designation	Description
MZ140-24M	MZ140-24M 2M44 00	24 Vac 50/60 Hz supply, 0...10 Vdc control signal

Function

The modulating MZ140-24M actuator is operated by a thermostatic wax element whose stem position is closely controlled internally by a closed loop feedback.

With 0 Vdc control signal, the actuator is fully retracted for a closed valve state. At 10 Vdc control signal, the actuator is fully extended for an open valve state.

After power up, a small dead band time is required before the actuator is operational.

A green light will slowly flash to indicate normal modulating action.

The valve and actuator stroke indication is visible through the yoke of the actuator, (fig. 2).

Mounting

Prior to the actuator being mounted onto the valve, follow good practice regarding the valve installation for instance, install the valve in the return loop from the heat exchanger to reduce excessive pipe fluid temperatures.

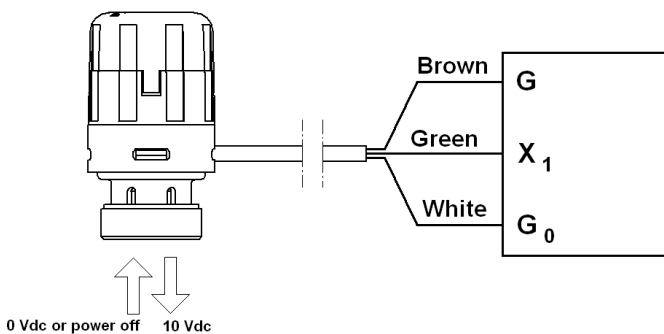
The valve adjustment cap, if present from system balancing and flushing, will need to be removed from the valve prior to actuator connection.

Actuator assembly onto the valve is completed by an M30 threaded ring nut. No tools are to be used as excessive tightening could cause damage the valve assembly.

The threaded ring nut allows for comfortable cable positioning at any 360° angle on the valve. The actuator is able to operate in any mounting position but it is advisable not to install it upside down.

For fluid temperatures above 80°C it is recommended to install the actuator horizontally rather than vertically above the media pipe work. Note the protection degree granted is IP44 for a vertical mounting and IP41 for a horizontal mounting.

Electrical Connections



Open Closing Time

Opening Time, Full stroke

Step change from 0 V...10 V control signal after initial power on. < 6 min.

Step change from 0 V...10 V control signal during normal operation: <4 min.

Closing Time, Full stroke

Step change from 10 V...0 V control signal: <7 min.

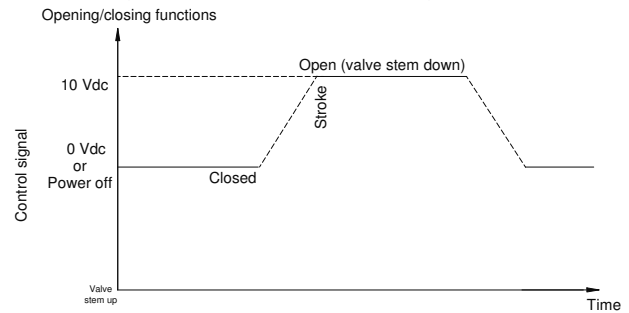


Fig. 1



Fig. 2

Part Number Ordering - Externally Threaded Valves



Two-way valves								
Size	Kvs		Part Number	Connection	Part Number	Connection	A-AB	
DN15	0.25		VZ208E-15BP01 SU 00	G1/2A	VZ208C-15BP01 SU 00	15mm	400	
	0.4		VZ208E-15BP02 SU 00		VZ208C-15BP02 SU 00			
	0.6		VZ208E-15BP03 SU 00		VZ208C-15BP03 SU 00			
	1		VZ208E-15BP04 SU 00		VZ208C-15BP04 SU 00			
	1.6		VZ208E-15BP05 SU 00		VZ208C-15BP05 SU 00		350	
DN20	2.5		VZ208E-20BP07 SU 00	G3/4A	VZ208C-20BP07 SU 00	22mm	150	
	4		VZ208E-20BP08 SU 00					
	6		VZ208E-20BP09 SU 00					
Three-way valves								
	Kvs		Part Number	Connection	Part Number	Connection	A-AB	B-AB
	A-AB	B-AB						
DN15	0.25	0.25	VZ308E-15BP01 SU 00	G1/2A	VZ308C-15BP01 SU 00	15mm	400	
	0.4	0.4	VZ308E-15BP02 SU 00		VZ308C-15BP02 SU 00			
	0.6	0.6	VZ308E-15BP03 SU 00		VZ308C-15BP03 SU 00			
	1	0.8	VZ308E-15BP04 SU 00		VZ308C-15BP04 SU 00			
	1.6	1	VZ308E-15BP05 SU 00		VZ308C-15BP05 SU 00		350	
DN20	2.5	1.6	VZ308E-20BP07 SU 00	G3/4A	VZ308C-20BP07 SU 00	22mm	100 40	
	4	2.5	VZ308E-20BP08 SU 00					
	6	4	VZ308E-20BP09 SU 00					
Three-way valves with integral by-pass (4 ports)								
DN15	0.25	0.25	VZ408E-15BP01 SU 00	G1/2A	VZ408C-15BP01 SU 00	15mm	400	
	0.4	0.4	VZ408E-15BP02 SU 00		VZ408C-15BP02 SU 00			
	0.6	0.6	VZ408E-15BP03 SU 00		VZ408C-15BP03 SU 00			
	1	0.8	VZ408E-15BP04 SU 00		VZ408C-15BP04 SU 00			
	1.6	1	VZ408E-15BP05 SU 00		VZ408C-15BP05 SU 00		350	
DN20	2.5	1.6	VZ408E-20BP07 SU 00	G3/4A	VZ408C-20BP07 SU 00	22mm	100 40	
	4	2.5	VZ408E-20BP08 SU 00					
	6	4	VZ408E-20BP09 SU 00					

* Nuts and Olives supplied with Valve

Close-off = Max differential pressure allowed across the valve seat for reliable operation.

